



CONFERENCE PROCEEDINGS

EDAMBA 2015

INTERNATIONAL SCIENTIFIC CONFERENCE
FOR DOCTORAL STUDENTS
AND POST-DOCTORAL SCHOLARS

THE ERA OF SCIENCE DIPLOMACY:
IMPLICATIONS FOR ECONOMICS, BUSINESS,
MANAGEMENT AND RELATED DISCIPLINES

UNIVERSITY OF ECONOMICS IN BRATISLAVA, SLOVAK REPUBLIC
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for
Doctoral Students and Post-Doctoral Scholars**

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Implications for Economics, Business, Management
and Related Disciplines*

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Foreword by Rector of the University of Economics in Bratislava

Organised in the 75th anniversary of the establishment of the University of Economics in Bratislava as the most specialised Higher Education Institution in the field of economics, business and management in the Slovak Republic – located in the region of Central Europe and operating in the European Higher Education Area and the European Research Area – as well as in the context of science diplomacy and frontier research, the **International Scientific Conference for Doctoral Students and Post-Doctoral Scholars EDAMBA 2015** titled *“The Era of Science Diplomacy: Implications for Economics, Business, Management and Related Disciplines”* held at the **University of Economics in Bratislava** on **21 – 23 October 2015** aimed to provide a forum for exchanging state-of-the-art knowledge and findings of doctoral students and post-doctoral scholars.

The European Commissioner for Research, Science and Innovation Carlos Moedas emphasised the role of social sciences and humanities in his October 2015 speech *Trust in Europe: The contribution of the social sciences and humanities* as follows: “As you know my 3 priorities are Open Innovation, Open Science and Open to the World. As citizens or nations, universities or businesses – the digital age has brought us all closer. It has changed how we research and how we innovate. We now understand that the best research is conducted by the most diverse research teams. We now appreciate that innovation happens in spaces where disciplines collide and ideas combine. Open Innovation and Open Science in Europe cannot evolve without the social sciences and humanities’ contribution”. Furthermore, the *Open to the World* priority area can foster the European social science and humanities community in its contribution to improving global relations and solving global challenges based on consideration of the historical context, cultural understanding and visions for change – if Europe is to contribute effective solutions to global challenges such as climate change, resource depletion, migration, poverty, conflict and extremism, Commissioner Moedas continues.

A methodological account of multidisciplinary economics by Piet Keizer (2015) elucidates acceptance of reliable knowledge to a large extent as a social product – and, thus, of intersubjective nature (bearing in mind knowledge is a human product, which to some degree remains subjective) – accepted at least by groups of authorised experts, stressing that “[p]eople develop habits and conventions with respect to the way they frame and interpret their situation. This means that the choice of frame will always remain subject to debate [...]. In real life some frames dominate other frames. Historically, we see that some frames do not survive, others adapt and survive, and new frames emerge. In a liberal and democratic society, individuals are free to choose. For a scientific community this principle means the freedom to choose one’s own framework of interpretation. Fair competition and effective cooperation can be expected only if we are able to organize power-free communication between all people interested in scientific enquiry”.

May any of the *Open Innovation*, *Open Science* or *Open to the World* initiatives be central to your attention, we wish to facilitate interdisciplinarity also in the framework of the forthcoming **International Scientific Conference for Doctoral Students and Post-Doctoral Scholars EDAMBA 2016** titled *“Open Science & Open Innovation: Opportunities for Economics, Business, Management and Related Disciplines”* to be held at the **University of Economics in Bratislava** on **11 – 12 April 2016**.

Ferdinand Daño

Rector

University of Economics in Bratislava

Foreword by Chair Open to the World group

Few months ago the European Commission established Research, Innovation and Science Experts High Level Advisory Body. It is composed of four groups: Open Science, Open Innovation, Economics of Open Knowledge Markets and Open to the World. The task of the Advisory Body is to provide advice to the European Commission notably to its Commissioner for R&D Carlos Moedas and to the High Representative of the European Union for Foreign Affairs and Security Policy/Vice-President of the European Commission Federica Mogherini. Therefore, the follow-up forthcoming **International Scientific Conference for Doctoral Students and Post-Doctoral Scholars EDAMBA 2016** titled *“Open Science & Open Innovation: Opportunities for Economics, Business, Management and Related Disciplines”* to be held at the **University of Economics in Bratislava** on **11 – 12 April 2016** is extremely valuable.

Contemporary world – the best social structure humankind ever developed – is not sustainable and it is threatened by numerous instabilities. Expressed by the Doomsday clock at the front page of the Bulletin of the Atomic Scientists we are at 3 minutes to midnight. This is the worst condition since the clock was introduced in 1947 with the exception of 1953 when both the USA and the USSR exploded their hydrogen bombs and the clock was put at 2 minutes. Of course, both the USA and the Russian Federation have hydrogen bombs and a lot of them (enough to mutually destroy each other and the world, the so-called mutually assured destruction – MAD) and they are even planning to modernize within few decades their nuclear arsenal for the cost of one trillion dollars. It is much worse. Natural and human (including social) capitals are our most valuable capitals (several times more important than physical capital that we so much admire). Destruction of our natural capital (ecological footprint, climate change and approaching Sixth Extinction of species) and destruction of human capital (migration, unemployment and inequalities) will likely put the clock even closer to midnight. The 2015 COP21 Paris conference and the Iran Nuclear Deal helped to keep it at 3 minutes, but unless considerable improvements are accomplished in 2016 it might be the worst. We are faced with tremendous societal challenges: we have to identify them and to formulate appropriate questions and methods how to address them.

Scientific research is the main driving force generating our fast changing, global and interdependent world. Progress of science and its impact will even increase with time. It is important that science plays an important role in alleviating conflicts and threats. Science diplomacy has played and is now playing (e.g. Iran nuclear deal and the SESAME project in the Middle East) a very important role, and it is again very fitting that the **EDAMBA 2015 edition** titled *“The Era of Science Diplomacy: Implications for Economics, Business, Management and Related Disciplines”* held at the **University of Economics in Bratislava** on **21 – 23 October 2015** included science diplomacy.

Ivo Šlaus, FWA, MAE, FCA

Chair Open to the World group

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Offered IT solutions in CRM for small businesses in Slovakia

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Abstract:

Current economic situation and managerial awareness of the managers of small enterprises in the service sector does not create a favorable environment for active use of IT tools in Customer Relationship Management (CRM). Many companies are of the opinion that these solutions are expensive and inflexible. Therefore, in this article we will devote the availability of IT solutions offered in the domestic market for small businesses operating in the services sector. We will examine suppliers, time and financial availability of the offered tools and flexibility to customer requirements - from the perspective of a small business, by using multiple-criteria decision-making method including some expert sub-methods, which would help us to gain to the right decision about the appropriate CRM solution for our model company - Alfa Ltd. Finally the cost analysis by taking account of limited budget will lead us to the narrow choice with a limited amount of suppliers of the CRM system, from which will emerge in our conditions one solution.

Keywords: CRM, IT solutions, customer, options, small business
JEL classification: L19, M15, M31, M54

1. Introduction

The objective of this analysis was to find the most appropriate variant of CRM system from providers acting in the Slovak Republic for the model company Alfa Ltd. in the ratio of system requirements vs. budget of the company.

In the first part of this work we will define the basic concepts of CRM, and we will explore what goals has the company - micro-enterprise in the implementation of this system and which functionalities of the system requires.

The second part will be devoted to describe the selection criteria and the subsequent implementation of multiple-criteria decision-making method. Results of the analysis should contribute to a better orientation of any small business contributing in the area of B2B services in choosing the appropriate CRM software from a range of options that are available on the market.

1.1. The need a CRM system and goals for its implementation in the company Alfa

CRM represents all the tools, technologies and processes for improvement, or facilitating the sale, support interactions with customers and business partners. CRM systems can also be applied to the B2B environment, despite the fact that they were created for businesses which are customer oriented. Deciding on the implementation of CRM in the business is very important steps that significantly affect internal processes. By Pavel Cherkashin, director of the board of Adobe Systems in Russia, there are three basic scenarios when the company

begins to use CRM systems; they are Crisis, Development and Status. (Cherkashin, 2007). The primary objective of implementation of CRM in the company Alfa Ltd is to clarify B2B communication, have the smooth running of business processes, more individual contacts with clients, more time for the client, differentiation from the competition and improve the company's image, increase staff motivation, so it represents the development scenario.

1.2. Requirements for CRM software

In terms of information links CRM can be defined as an integration and coordination of marketing, sales, customer service and e-commerce. An important aspect of the functional CRM is its user friendliness, because the groups using CRM like businessmen, managers do not prefer too much administration. The current requirement of a CRM is the system to provide such comfort and utilities to facilitate work. Therefore, as one of the ideal CRM solution appears to be a link with Microsoft Outlook, as the most widely used tool for planning and communication and should be closely interconnected with other MS Office applications with which the vast majority of companies now handles the business data. The company that is choosing which CRM solutions can face the dilemma of whether to decide for a CRM system in the cloud or on-premise. CRM system in the cloud is a simple alternative that offers the possibility of introducing a CRM system without without the need of installing, with the possibility of logging from any location. Consequently, it does not require high technology, data or hardware complexity. The disadvantage is a safety hazard, under which we understand the fear of loss, or theft or abuse of data, while the advantage is definitely low cost of operation, maintenance and upgrade software.

On-premise solution is a fixed storage of the CRM system on the company's own server. Compared with the CRM system in the cloud it is definitely safer. Therefore it requires regular maintenance of IT technician, which represents an additional cost.

2. Research approach and methodology

Our analysis and consequential decision about the appropriate CRM system for the Company Alfa Ltd. is based on the testing of the specific CRM software. 11 CRM software from 13 suppliers were tested during the period from July to October 2015 in the company Alfa Ltd. through the demo versions with the test database.

During testing, the emphasis was placed on the requirements of the customer - Alfa Ltd. The emphasis was not only on modern concepts, user interface based on roles, where any user or group of users has set up specific desktop, but also the most commonly used functions, graphs and statistics that facilitate the monitoring of workflows and accelerate decision-making.

The following basic requirements for the CRM system defined by the company:

- Creating the database of clients with many attributes, including the preservation of the history of communications, digital copies of contracts, photographs etc.
- Solution of CRM system should focus on B2B sales, so it must contain the well-implemented modules - contacts, transactions and so on.
- The solution should support a larger number of communication channels with customers.
- The system should include at least a basic reporting module.
- Creation of reports and data sets suitable for operational management
- Ensuring of effective communication through various communication channels

- Tools for planning time and tasks
- Consistent protection of personal data and safeguard against misuse or loss
- Possibility of remote system access
- The system should not be complicated, since a larger number of potential users (employees of Alfa Ltd) is not very much experienced with the similar CRM software.
- The solution should be adjustable to the needs of the company.
- The system should be able to import data from the external programs.
- An advantage would be the possibility of adjusting the similar visual appearance to a visual of the company.

Due to the fact that this paper has limited space we will not deal with the description of the systems, attention will be focused on the result of the selection analysis with respect to the limited budget of the our company.

Following 11 CRM systems were tested:

- | | |
|---------------------------|----------------------|
| 1. <i>Aktiv.io</i> | 7. <i>RAYNET CRM</i> |
| 2. <i>CRM Leonardo</i> | 8. <i>Salesforce</i> |
| 3. <i>MiniCRM</i> | 9. <i>SORTIO</i> |
| 4. <i>IS Money S5</i> | 10. <i>LET.IS</i> |
| 5. <i>CRM Malina</i> | 11. <i>SAP CRM</i> |
| 6. <i>MS Dynamics CRM</i> | |

Among the research sample were the medium-sized enterprises, which develop, provide or mediate CRM software.

Also as a part of the research sample were the little startups enterprises, which only start their own business in this segment or a local market. Alongside them were the large companies such as Salesforce, SAP or MS Dynamics. They

They focus more on the large companies and offer robust solutions within CRM systems. Among the research sample were the one ERP software, CRM module, which in addition offers a complex information system and accounting software. Due to the fact, that the research sample contained different types of software from the various suppliers created a precondition for a more comprehensive assessment of the appropriate choice for the company.

Testing was provided in real conditions and results of the company were regularly updated by the new additions to the requirements of the company. Each of the suppliers had the same conditions for the presentation, communication and the opportunity to test the software implementation. For the possible high level of objectivity during selection, there were evaluated as the most effective method - multiple-criteria decision-making method which compared the providers of CRM systems in ten criteria.

2.1. Multiple-criteria decision-making method

Testing of the various CRM software should help us to make the decision about appropriate ones.

There are a number of ways, which bring us the key how to make the decision without the influences of the subjective factors. The chosen CRM system should fulfill the various criteria, which are defined by the company Alfa Ltd. This is the reason, why we choose the multiple-criteria decision-making method for its high degree of complexity. The multiple-

criteria decision-making method include in this case some sub-methods such as selection of criteria and setting the weights, the ranking method, pair comparison method (Fuller's triangle), rating of the variants and weighted sum method. These sub-methods led us to a shortlist of the suitable CRM systems by eliminating of the risk of subjectivity and minimize the mistakes.

The cost analysis by taking account of limited budget of the company Alfa Ltd. gave us the results, which are independent on the previous findings of the multiple-criteria decision-making method. Finally the appropriate choice for the company is the combination of multiple-criteria decision-making method and cost analysis.

2.1.1. Selection of criteria and setting the weights

For further progress in the method of multiple-criteria decision-making, it is necessary to have following selection of criteria and to define different weights to the selected criteria. The criteria are tools to examine the various options solutions. CRM software are evaluated by the grades after the selection of the criteria. The individual criteria are based on expert methods and should be assigned by scales that move them in the interval $\langle 0; 1 \rangle$ and express semantic importance of the criteria in comparison with other selected criteria in a file. In the final phase of multiple-criteria decision-making variants are evaluated CRM software under a set of scales to determine the top three CRM software, which seem to be most suitable for the company Alfa Ltd. Subsequently, among the top three CRM software, there will be chosen one based on the input cost and monthly fee per user system.

Table 1

The scale

Points	Verbal description of assessment	Points	Verbal description of assessment	Verbal description of assessment
1	cloud	0	bad	hard
2	on-premise	1	not very good	not very easy
3	cloud a on-premise	2	not good	not easy
		3	good	easy
		4	very good	very easy

Source: own processing

Table 2

Selection criteria of evaluation

s.n.	Criterion	Aktiv.io CRM	CRM Leonardo	CRM Malina	MiniCRM	IS Money S5	MS Dynamics CRM			RAYNET CRM	Salesforce	SAP	SORTIO	LET.IS
							Supplier 1	Supplier 2	Supplier 3					
1	Graphic design	3	0	3	2	1	3	3	3	4	2	2	3	1
2	User-friendliness	3	1	4	0	1	2	2	2	4	1	2	4	2

3	Adaptability of existing SW and HW conditions of a client	4	4	4	4	2	4	4	4	4	3	2	4	4
4	Basic software package	3	3	2	2	2	3	3	3	4	3	3	2	1
5	Ability to completion of extra modules according to the requirements of the client	3	3	2	2	2	1	3	3	3	2	3	0	2
6	The degree of complexity of implementation system	2	2	3	1	1	1	3	3	3	2	2	2	3
7	Technical design	1	3	1	1	2	3	3	3	1	2	3	3	2
8	Number of reference users	0	1	1	0	3	4	4	4	1	4	4	1	2
9	Access of provider	0	3	4	3	0	1	4	3	3	1	0	1	2
10	The possibility of a non-binding test	1	1	1	1	0	1	1	1	2	1	0	1	1

Source: own processing

- Criterion 1 Graphic design - first impression, color, similarity to previously used software work environment like MS Office, Windows, OS X, and other similar.
- Criterion 2 User-friendliness - ease of use, intuitive control of elements and logical arrangement of the working environment.
- Criterion 3 Adaptability of existing SW and HW conditions of a client
- Criterion 4 for the basic software package - at least we expect the database, calendar, to-do view, analysis, project tracking module, a global view on the start screen - wall, view individual business cases, levelisation of sign up.
- Criterion 5 Ability to completion of extra modules according to the requirements of the client - connectivity accounting software for CA, commenting active role in smart user devices, visual environment to user requests, pairing attendance system from the

HW Attendance third party device, reporting in the form of graphs and tables for example, a client request. Gant chart

- Criterion 6 The degree of complexity of implementation system - work with existing database companies, form and extent of training time allocated for implementation, the need to change software and hardware environment for the implementation of the system
- Criterion 7 Technical design - the ability to work fully and on smart devices. It also will focus on whether the system operator offers the cloud or on premise solution.
- Criterion 8 Number of reference users (in SR based on available info)
- Criterion 9 Access of provider - within the approach we will follow the speed and the communication method for the first contact and the subsequent refinement of business requirements.
- Criterion 10 The possibility of a non-binding test - the availability of databases and demo versions

2.2. The ranking method

The ranking method requires only ordinal information requirements to set out criteria by importance of order, the layout criteria to assign points; K-1; K-2; ... 2; 1. The most important criterion gets to assign a number (k = m = number of criteria), second to k-1 the least important criterion No. 1. In general, the i-th criterion is assigned by an integer b_i . Scale position of v_i i--th is counted by: (Křupka, 2011)

$$v_i = b_i / \sum_{i=1}^k b_i, \quad \sum_{i=1}^k b_i = k(k+1)/2, \quad \text{pro } i = 1, 2, \dots, k. \quad (1)$$

Table 3
Weights of criteria

No.	Criterion	Ranking	Opposite ranking	Scale
1	Graphic design	10	1	0,0181
2	User-friendliness	4	7	0,1272
3	Adaptability of existing SW and HW conditions of a client	5	6	0,1090
4	Basic software package	1	10	0,1818
5	Ability to completion of extra modules according to the requirements of the client	3	8	0,1454
6	The degree of complexity of implementation system	2	9	0,1636
7	Technical design	6	5	0,0909
8	Number of reference users	8	3	0,0545
9	Access of provider	7	4	0,0727

10	The possibility of a non-binding test	9	2	0,0363
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Source: own processing

Each criterion is assigned by a score from a selected scale consistent with how we evaluate the importance of each decision making criterion.

2.3. Pair comparison method (Fuller's triangle)

Pair comparison method known as the Fuller method respectively. method of Fuller triangle appears in several modifications in determining the preferential relations of criteria pairs. The simplest modification of the method of pair comparison measured the number of preferences given to the all other criteria (Křupka, 2011). The disadvantage of setting the weights of the criteria is that if a certain number of criteria preference is zero, its weight will be zero even though it may not be a completely insignificant criterion. However, compared with the weights via the order methods, this method is more accurate, as compared to each of all possible combinations of pairs of criteria from which one is selected as the "winner". Subsequently, the number of preferences is assigned to each criterion - "number of victories" p , which after substituting into the formula will help us to calculate the weights of criteria:

$$v_i = \frac{P_i}{\sum_{i=1}^k P_i} \quad (2)$$

After determining the weights, which are assigned to each criterion, will then assess the options of selected operators of CRM software. The best option from this view is weighted sum method.

2.1.1. The weighted sum method

This method is based on a construction of linear function of the benefit of structures on a scale of 0 to 1. The worst case scenario of the criteria will have the value 0 and the best option would equal 1. Other variations will have a value in the interval $<0; 1>$ (Křupka, 2011)

$$y_{ij}' = \frac{y_{ij} - D_j}{H_j - D_j} \quad (3)$$

The benefit of the certain options is calculated as the difference allocation of the options and the minimum value of the options considered within the criteria contained in the file, which then redo by the maximum value of options in the criteria considered in the file and the minimum value of the options considered within the criteria contained in the file.

Table 4

The scale of valuation

s.n.	Criterion	RAYNET CRM	MS Dynamics / Supplier 1	MS Dynamics / Supplier 2	CRM Malina	CRM Leonardo	Aktiv.io CRM	SAP	LET.IS	SORTIO	Salesforce	MS Dynamics / Supplier 3	MiniCRM	IS Money S5
1	Graphic design	0,067	0,050	0,050	0,050	0,000	0,050	0,033	0,017	0,050	0,033	0,050	0,033	0,017
2	User-friendliness	0,111	0,056	0,056	0,111	0,028	0,083	0,056	0,056	0,111	0,028	0,056	0,000	0,028
3	Adaptability of existing SW and HW conditions	0,111	0,111	0,111	0,111	0,111	0,111	0,000	0,111	0,111	0,056	0,111	0,111	0,000

	of a client													
4	Basic software package	0,156	0,104	0,104	0,052	0,104	0,104	0,104	0,000	0,052	0,104	0,104	0,052	0,052
5	Ability to completion of extra modules according to the requirements of the client	0,200	0,200	0,200	0,133	0,200	0,200	0,200	0,133	0,000	0,133	0,067	0,133	0,133
6	The degree of complexity of implementation system	0,178	0,178	0,178	0,178	0,089	0,089	0,089	0,178	0,089	0,089	0,000	0,000	0,000
7	Technical design	0,000	0,111	0,111	0,000	0,111	0,000	0,111	0,056	0,111	0,056	0,111	0,000	0,056
8	Number of reference users	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
9	Access of provider	0,033	0,044	0,033	0,044	0,033	0,000	0,000	0,022	0,011	0,011	0,011	0,033	0,000
10	The possibility of a non-binding test	0,022	0,011	0,011	0,011	0,011	0,011	0,000	0,011	0,011	0,011	0,011	0,011	0,000
		0,878	0,865	0,854	0,691	0,687	0,648	0,593	0,583	0,546	0,520	0,520	0,374	0,285

Source: own processing

Then the benefit to us is based on the variant which we put in compassion with designated weights and subsequent reports cumulative sum of the software of those of which we incur values to be evaluating CRM system as a whole in terms of usefulness for that company.

2.5. Analysis and summary of results

After the calculation of the usefulness of CRM system from our research scale by using the multiple-criteria decision-making method finally we created the final order of appropriate CRM software, which takes into account of the overall usefulness of selected software.

The multiple-criteria decision-making method gave these following results: first place - CRM RAYNET, second place - MS Dynamics CRM from the Supplier 1. and the third place - also MS Dynamic, but from the Supplier 2. Due to the fact the second and the third place belong to the MS Dynamic. In conclusion the third most successful CRM system is CRM Malina

Due the fact it is necessary to say, that during the ranking of the he different variants of CRM software played the role certain dose of the subjectivity. Pair comparison method for determining the weighting of the selected criteria significantly eliminates this fact, but cannot eliminate it completely.

Also, it should be noted that, in determining the balance through using the paired comparison with the reference criterion - number of the users has been assigned weight 0. So, this criterion does not in any way affect the determination of the most appropriate CRM software for the company. And from the point of decision-making it is not decisive.

Subsequently, we selected a set of CRM software compared purely by cost analysis. Costs will arise before and during CRM software implementation. The price factor did not enter into the calculation by using the multiple-criteria decision-making method.

Table 5

Evaluation of economic performance

CRM system	MS Dynamics Supplier	Annual operating costs in €	Implementation costs in €	Total Costs in €
LET.IS		N	N	N
SORTIO		1 404,00	N	1 404,00
Aktiv.io CRM		2 340,00	N	2 340,00
MiniCRM		2 388,00	400,00	2 788,00
RAYNET CRM		3 192,00	1 300,00	4 492,00
IS Money S5		3 058,00	1 760,00	4 818,00
CRM Malina		3 900,00	2 000,00	5 900,00
MS Dynamics CRM	Supplier 1	6 160,80	N	6 160,80
CRM Leonardo		2 340,00	6 200,00	8 540,00
MS Dynamics CRM	Supplier 2	6 160,80	4 800,00	10 960,80
SAP		13 884,00	N	13 884,00
MS Dynamics CRM	Supplier 3	6 160,80	10 000,00	16 160,80
Salesforce		15 163,20	4 500,00	19 663,20

Source: own processing

At first glance it is obvious that some of the CRM system suppliers did not provide us the cost data for implementation. So, that the calculation of the total costs could not be done.

The calculation was based on the costs - monthly fixed fees for the use of CRM software (13 users, one year). Also we can see the cost of implementation and adaptation of software, including training for the company. The budget of the company Alfa Ltd. is limited to the amount of 5000, - EUR.

Taking into account the combining this facts about the costs and also the results of the previous multiple-criteria decision-making method clearly emerged as the most suitable and also an affordable CRM software for our company Alfa Ltd. - RAYNET CRM. In addition interesting may be a solution MiniCRM or Money S5 IS from the point of cost, but they did not reach the overall evaluation best multi criteria results. Moreover IS Money S5 ERP system and their implementation would mean a complex transition to this system, including changing accounting software, other systems and additional staff trainings. The result from our research is that we can suggest the CRM system - RAYNET in the terms of functionality costs and difficulty of implementation as the best solution for micro or middle-sized companies like Alfa Ltd.

3. Conclusion

Alfa Ltd as a dynamic emerging company is always looking for new ways and solutions of building its position on the market. One of them is the idea of creating the CRM system that would be the bearer of well-chosen CRM software. CRM system create conditions for active building of existing or new customer relationships in a long term perspective. The undisputed fact is also that the implementation of CRM system significantly facilitated and simplified processes already established in the company Alfa Ltd. It will also help to prevent mistakes caused by human factors for example communication failure, or failure of technologies such as using inconsistent and duplicate software without compatibility.

Though CRM system is primarily designed for B2C companies also is a solution for companies based on the B2B model. However, it is appropriate for micro and middle-sized companies during the selection of optimal CRM system take into account some specifics like less contacts database, smaller sales volume, the longer the time required to build relationships, easy integration of a CRM system with other software products, simplicity, flexibility and personalization.

Within the vision of the company Alfa Ltd. is necessary to analyze the client portfolio, suppliers and the market environment in which the company is located. This analysis of the external environment create conditions for the categorization of clients, suppliers, other business partners to the individual segments. Also it would be advisable connect individual employees to the CRM system, which also facilitates their individual assessment, allocation of tasks and decision making follow-manager of the company. Also, it should be assumed with the fact that every employee should within their competence and the inclusion of access to the CRM system only to the extent that it allowed him to perform and streamline its work and the work of their colleagues. The follow-up will be necessary to define a business strategy and a common message. An essential task is testing trial versions of each CRM software and subsequent adoption of possible measures to be broken up into sub-projects (specific tasks, timing, cost, resources and responsible persons). The planning concept of CRM will subsequently results in drawing up the budget.

The basic requirements for CRM software will need to take particular account of user-friendliness facilitate and streamline company processes and creating close links with other applications and software. After implementation of multiple-criteria decision-making method in demanding professional use methods for evaluation and weighting criteria and calculation of the usefulness of the various CRM software and subsequent costs. When implementing and operating the CRM software to a fixed budget clearly came out as the best and most reasonable solution RAYNET CRM.

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Clustering Creative Industries in Europe

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Abstract

Since 90's, when creative industries first became point of interest of economists in the USA, almost 20 years passed away. The interest in the topic has continuously risen up in Europe as well, especially in recent years. Even though there are strategic documents and programs adopted on the EU level, creative industries in European countries vary a lot. This difference applies to both - the economic performance of the creative industries as well as program support basis. Goal of presented paper is to describe this variety and the process of changes since 2010, when the Green Paper on Unlocking the Potential of Creative Industries was adopted. Using cluster analysis, we divided EU countries into clusters according to selected macroeconomic indicators – gross value added, total revenue, number of enterprises in the sectors and total employment in the sectors. Clusters offer picture about current status of creative industries in European area and create background for future policy making and financing of European creative economy.

Keywords: *creative industries, cluster analysis, European Union*

JEL classification: *Z11, O52*

1. Introduction

In recent years, support of creative industries in Europe has been rising. Creative Europe as well as Europe 2020 only represent common supportive programs for all EU countries, in some cases directly dedicated to specific areas or goals. However, EU countries are very different. This concerns not only area, population, macroeconomic indicators, but also the status of creative industries. In the present, any complex study mapping creative industries in all EU countries absents. EY published in 2014 a study focused on economic contribution of selected industries on the EU economy. This does not bring the knowledge about how good are creative industries practicing in particular countries.

In the presented paper, our goal is to divide the EU countries on the basis of selected criteria according to the fact, where the contribution of creative industries to the European economy is the most significant. For this, we have chosen cluster analysis. Cluster analysis represents method, which distributes set of objects into several subsets (clusters) in the way that objects belonging to one cluster are the most similar while clusters each other should be as different as possible.

2. Theoretical background of the research on creative industries

Theoretical background of the research is represented by Hokwins (2013), Florida (2002, 2004) and the sectorial approach of Department of Culture, Media and Sport of the UK. (1998). Howkins is one of the authors that started creative revolution. First edition of his Creative Economy – How people are making Money from Ideas was published in 2001. With

this book, Howkins brought first complex view on creative economy and people working in creative sectors. His understanding of creative industries is very practical. He focuses on creativity as a base of creative industry and as a process of using new ideas to produce ideas. However, he claims that creativity itself does not have an economic value. It gains the economic value in its products. Howkins' most significant contribution is the distinction between creativity and talent. While we are born with talent, creativity can be taught. This is also the basic idea behind supporting creativity and creative industries.(Howkins, 2013).

Florida's approach is focused on creative people, so called "creative class". Florida created 3T index measuring technology, talent and tolerance. These 3 are considered to be the driving force of creative industries. His research was done in the USA; therefore, it is often an object of criticism, because it does not fit the European condition. However, Florida adjusted 3T and created European creativity index. Creative industries are really dependent on people. People carry creativity and without people, no creative good will be produced.

Another approach to creative industries is the sectorial one. Department of Culture, Media and Sport of UK was the first to determine particular creative sectors. It was also the first one, who did mapping on creative industries. UK was therefore first European country who adopted concept of creative industries. The first mapping was done in 1998, which is now already 17 years ago. (DCMS, 1998). In the 90 's, the term creative industry was absolutely unknown in Europe. This has changed rapidly. Nowadays, almost every country of EU adopted some kind of policy or supportive program of creative industries. However, some countries consider creative industries as a future corner store of their economies; some does not consider these industries import.

The most significant changes on approach to creative industries in Europe happened after adoption of Green Paper on Unlocking the Potential of Creative Industries in 2010. (Európska komisia, 2010). It is the first time, where creative industries were explicitly characterized in the EU official document. It distinguishes between culture, cultural industry and creative industry. Until Green Paper was adopted, there was basically no difference in the perception of culture and creative industries. Document often talked about culture, cultural heritage, but there was no reference of creative industries. Green Paper (Európska komisia, 2010) also sets out a number of measures, such as:

- creation of place for experiments, innovations and creative activities;
- reconciling the needs of cultural and creative industries;
- improve access to finance;
- develop local and regional dimension;
- support mobility of creative class.

Brand new European supportive program is Creative Europe 2014 – 2020. (European Commission, 2011). It basically represents connection of two separate programs – Culture and MEDIA. Inclusion into one coherent program should better reflect the needs of creative industries and reflect its specific problems.

It is then obvious, that importance and recognition of creative industries is continuously rising. Therefore, the goal of presented paper is to analyze current situation of creative industries in EU countries and to divide them into clusters according to selected macroeconomic data. This division then creates map of groups of countries with some specific characteristics. Such a map could be used to determine countries with high potential of further developing of creative industries and to better transfer financial and program support. It also brings a complex view on each country separately.

2.1 Methodology

In our analysis, we have used the sectorial approach of DCMS of the UK. We have selected specific sectors of creative industries, based on the division of NACE Re. 2 codes. We have combined industries defined by DCMS with the data that were available. Data were loaded from EUROSTAT database. Following categories and subcategories were included:

- J.58 – Publishing activities
This includes subcategories J58.1 – J58.2.9 represented by publishing of books, magazines, newspaper, software publishing and PC game publishing.
- J.59 – Motion picture, video and television program production, sound recording and music publishing activities
This includes subcategories J59.1 – J59.2 represented by production of films, videos, TV programs, supportive activities, preparation and publication.
- J.60 – Television programming and broadcasting activities
This includes subcategories J60.1 – J60.2 represented by TV and radio broadcasting.
- J.62 – Computer programming, consultancy and related activities
This includes subcategories J62.0.2 – J62.0.9 represented by support activities and other services related to PC and its facilities.
- J.63 – Information service activities
This includes subcategories J63.1.1 – J63.9.9 represented by data processing, services of web portals, and other information services.
- M.71 – Architectural and engineering activities; technical testing and analysis
This includes subcategories J71.1.2 – J71.2.0
- M.72 – Scientific research and development
This includes subcategories J72.1.1 – J72.2.0 represented by research and experimental development on biotechnology, research on social sciences and humanities, natural sciences and engineering
- M.73 – Advertising and market research
This represents subcategories M73.1 – M73.2 including also sales of airtime.
- M.74 – Other professional, scientific and technical activities
This includes subcategories M74.1.0 - M74.3.0

Selection of specific NACE categories of economic activities was dependent on several factors. First one was the theoretical approach of DCMS. However, our division does not absolutely copy the division of DCMS. The reason is the lack of statistical data basis in EUROSTAT. Therefore, it has not been possible to include the categories R.90 – R.93 capturing arts, entertainment and recreation. Although we consider art as one of the core sectors of the creative industries in all Member States, for the consistence of the research, this was not included in the cluster analysis.

3. Model

For the analysis of the status of the creative industries in the EU, we selected following variables:

- Gross value added of the sectors (V1);
- Total turnover of the industries (V2);
- Number of businesses operating in the sectors (V3);
- Total employment in sectors (V4).

For cluster analysis, we used statistical software XL Stat. We chose a hierarchical cluster analysis, namely hierarchical agglomerative clustering. Hierarchical system of clusters is characterized by creating such decomposition of the initial set of objects in which each of the partial decomposition is the refinement of the following (ie. agglomerative clustering) or previous (ie. divisional clustering) decomposition. In addition, agglomerative clustering is a bottom – up approach, which assembles clusters irrelatively into larger units. We also tested k-means, which requires determining the number of clusters. This method, however, only confirmed the optimal results of hierarchical clustering.

A set of input data was represented by 4 variables accounted for 28 member countries of the Union for the year 2013. For cluster analysis, we selected the Euclidean distance which is given by:

$$\sqrt{\sum_{i=1}^N (X_i - Y_i)^2}$$

X_i - the value of x for the i- th object

Y_i - the value of y for the i- th object

N - number of attributes

Ward's method of minimum variance was used. Ward's method says that the distance between two clusters, A and B, is how much the sum of squares will increase when we merge them. Before doing the cluster analysis, it was necessary to analyze input data. Since the data were not in the same measurement scales, we performed standardization. In general, data with correlation ≥ 0.9 should not enter cluster analysis. In our case, there's no such a correlation, therefore it was not necessary to carry out factor analysis, although results in KMO would allow this, if necessary (KMO > 0, 5).

3.1 Results

Table 1

Correlation matrix

(PEARSON CORRELATION)				
Variable	1	2	3	4
V1	1			
V2	-0.077	1		
V3	0.819	-0.166	1	
V4	-0.074	0.452	-0.154	1

Determinant of the matrix = 0.249700986577986
 Bartlett's statistic = 34.5 (df = 6; P = 0.000000)
 Kaiser-Meyer-Olkin (KMO) test = 0.51285

Source: author's calculations in XLstat, data from EUROSTAT

Results of the analysis are following clusters:

- Cluster 4: Italy;
- Cluster 3: Germany, France, United Kingdom;
- Cluster 2: Czech Republic, Spain, the Netherlands, Poland, Sweden;
- Cluster 1: Belgium, Bulgaria, Denmark, Estonia, Ireland, Greece, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Austria, Portugal, Romania, Slovenia, Slovakia and Finland.

The centers of individual clusters are Bulgaria (1), Netherlands (2), Germany (3) and Italy (4). Distance between centers is given in Table 2.

Table 2

Distances between centers of clusters

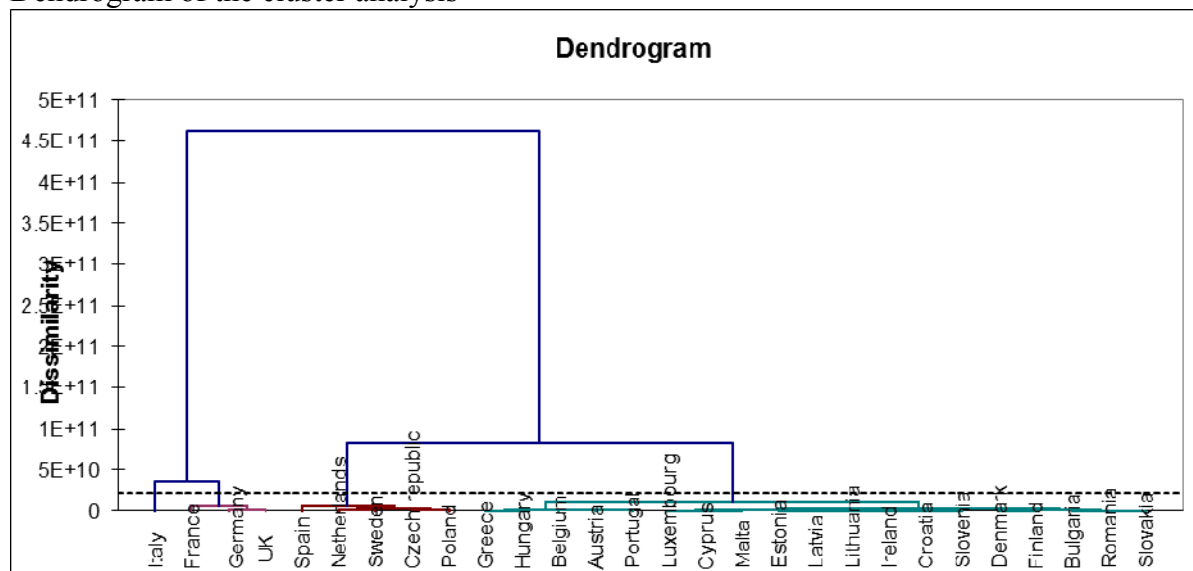
Cluster	1	2	3	4
1	0	144138,978	392487,075	447692,637
2	144138,978	0	269438,902	304047,552
3	392487,075	269438,902	0	218740,368
4	447692,637	304047,552	218740,368	0

Source: author's calculations in XLstat, data from EUROSTAT

Following dendrogram illustrates the formation of clusters bottom – up that is from the level where the objects in a cluster are most similar agglomerative to a single unit. Clusters 1 and 2 are closer to each other than Clusters 3 and 4.

Figure 1

Dendrogram of the cluster analysis



Source: author's calculations in XLstat

Clusters 3 and 4 consist of Member States with the best results in selected macroeconomic indicators. Cluster 4 consists of only one Member State, namely Italy. Italy's position in this analysis is very specific. From the dendrogram it can be seen that Italy is at the higher level most similar to Cluster 4 consisting of Germany, France and the UK. The reason why Italy fell into separate cluster is the high indicator of the number of enterprises in selected creative sectors. The number of companies operating in the creative industries in

Italy is considerably higher compared to other countries from the analysis. In all other variables, Italy ranked worse than countries of Cluster 3. Therefore, Germany, France and the United Kingdom are thus the most significant contributors to the added value of creative industries in the EU, total turnover and total employment. Positive results are also influenced by factors such as:

- Size of the country;
- Stable support from the government;
- Strategies and supportive documents;
- Academic research in the field of creative industries;
- Open society that accepts different views;
- Coexistence of subcultures and "street life".

Important position among the countries with the best results has the United Kingdom, which confirms the importance of creative industries for the UK economy as well as its strong position as a country – inventor – of the concept of creative industries.

Cluster 2 consists of Czech Republic, Spain, the Netherlands, Poland and Sweden. They represent kind of center between the clusters of countries with the best and the worst results in selected macroeconomic indicators. Is the policy in these countries better than in Cluster 1? Not in all. In the case of Sweden, we do not find any coherent policy of supporting creative industries, although partially there is number of smaller programs running actively. In the Swedish academic spheres, however, attention to creative industries is very strong. Two important authors – Power, D. and Nielsén, T. – dedicated their research to creative industries. Although Sweden decided to develop their policies to support the creative industries adopting the French approach, that means approach focused on cultural industries, it seems that the country has created favorable conditions for the operation of creative industries. Dutch creative industries are based primarily on its success story in the field of painting and literature, the Netherlands is also the largest exporter of television formats. Spain, as well as Sweden, has developed a comprehensive strategic document to promote creative industries. Spanish creative industries are very similar to the Italian – they are based on former cultural traditions. So, the concept of creative industries is more or less equal to the culture in these countries. Cluster 2 also includes two Visegrad countries, Poland and the Czech Republic. Czech creative industries are the most developed among the V4 countries. The country has successfully operated several creative incubators and creative industries will be concentrated in several cities.¹ We suppose Poland was included in the cluster only because of the size of the country. It is thus the worse country among V4 regarding the program support of the industries.

4. Conclusions and policy implications

From the cluster analysis, we can conclude:

- There is no geographical pattern in status of development of creative industries;
- Size does not always matter – in some cases, smaller countries contributes to European creative industries more;²
- Supportive programs, existence of government agencies and cooperation between public and private sector are important factors. However, according to the analysis it seems that there are some exceptions (Poland, Spain).

¹ e.g. Creative clusters and incubators in Brno, Zlín, Pilsen and Pardubice, KRAKER, Meetfactory

² e.g. the Netherland, Czech Republic

Assumption that the countries that build their creative image, will be clustered together as best performers, was partially confirmed. Cluster groups of best results also consisted of countries with no coherent support. On the other hand, cluster group 1 with the lowest values includes countries, where creative industries are long-term supported. Also, we see no sign of any geographical key as well as the division according to the size of the country.

Our findings showed that even the countries of smaller area achieved better indicators, in this case, mainly due to long-term conceptual support, well-developed strategic plan, active work of agencies for the development of creative industries and of course the support and cooperation of public and private sector.

Cluster analysis creates map of creative industries in the EU. The division of the countries could serve as a base point for policy implication. Each group consists of countries with specific features and therefore needs also specific handling of the problems of creative industries. This division can also serve as an indicator for channeling financial support. When providing the financial support, two approaches can be adopted. First is to put real effort into boosting creative industries in potential countries – countries with significant macroeconomic indicators of these sectors. Second one is to look more complex on problematic of creative industries – history, tradition, potential factors positively or negatively influencing development and functioning of creative industries and focus help and support to countries, where creative industries are just on its way to develop.

In the future it will be crucial to focus further research on detailed analysis of several factors influencing creativity, creative environment and creative production.

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Causes of the Ukrainian conflict and its foreign trade consequences in the European Union, Ukraine and Slovak Republic

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Abstract

In 2013, a conflict between Ukraine and Russia was ignited mainly due to negotiations over a possible Association agreement between European Union and Ukraine. Political and economic parts of agreement were signed by Ukrainian president Petro Poroshenko. Although the ongoing conflict raises issues ranging far beyond trade relations, one important question is, what impact will the economic sanctions imposed by the EU have on foreign trade with Russia. The continuing crisis in Ukraine means that the EU's relationship with Russia has reached critical point. Foreign trade between the EU and Russia has fallen dramatically. EU's economic sanctions and counter-sanctions imposed by Russia as a reaction to them intensifies political tension over the Ukrainian conflict. The aim of this paper is to examine the historical and economic development of relations between Ukraine and Russia and their impact on trade relations between the European Union, Ukraine and Slovak republic and to analyze their future development by 2020.

Keywords: *foreign trade, economical development, economic sanctions*

JEL classification: *F17, F51, F63*

1 Introduction

Ukrainian crisis broke out in late November 2013 and the situation that persists until today recalls period of the Cold War. The conflict, that has caused contradictions between Russia and NATO countries led by the EU and the US, has the character of economic and information war in global environment of the 21st century. From a historical-sociological perspective, the crisis can be described as the next stage of complications in different stages of development of independent Ukraine since the collapse of the Soviet Union. A country that has, considering its natural and demographic conditions¹, favorable prerequisites to become a successful European economy owes its position mainly to unstable internal political situation, unfortunate history in the Soviet Union and the negative influence of powerful oligarchs.² Two decades after the collapse of the Soviet Union and impact of the Russian Federation, country takes on a new direction and it is starting to focus on the European Union. However, it is not a simple process, because the Ukrainian economy is still heavily dependent on Russia. The conclusion of an Association Agreement with the EU should help Ukraine to facilitate and increase trade with the EU and also help to catch up the EU structures.

1.1 The development of the Ukrainian-Russian relations and the gradual formation of orientation to the EU

Conclusion of the Association Agreement, however, denotes a problem for Russia and Russian-oriented Ukrainian citizens, who, by the Kiev Institute of International Sociology, make up 12% of the

¹ KAŠŤÁKOVÁ, E. – RUŽEKOVÁ, V. (2014). *Zahraničnoobchodné vzťahy EÚ s vybranými tretími krajinami III (Južná Kórea, Kanada, Ukrajina a Rusko)*. Bratislava: Publishing EKONÓM. 2014. pp. 91. ISBN 978-80-225-3940-1.

² TVARDZÍK, J. (2014). *Ukrajina mala byť bohatá krajina. Nešťastná poloha a história ju potopili*. <http://www.etrend.sk/ekonomika/ukrajina-mala-byt-bohata-krajina-nestastna-poloha-a-historia-ju-potopila.html>, [accessed 3.10.2015].

total Ukrainian population.³ Since the 18th century, Ukraine was part of the Russian Empire and later the Soviet Union as well. Establishment of the independent Republic occurred on December 1, 1991. However, the Russian Federation is still making an effort to maintain the status of post-Soviet area leader. It has already prompted several thoughts and tendencies towards formation of some kind of economic integration in a common unit. In 1991 it founded the Community of Independent States - a free bundle of 12 republics of the former USSR. Another important effort was the establishment of the Eurasian Economic Community (EurAsEC), in which the customs union between Russia, Kazakhstan and Belarus has been established.⁴ However, it should be noted, that the integration tendencies in the post-Soviet area were not very successful. One of the main factors of this failure was the negative attitude of Ukraine to participate in the integration of these structures. Although it has been economically dependent on Russia, it is focused mainly on the European Union and is interested in the EU membership. The approach of the EU towards Ukraine is clear: Ukraine is considered as an important part of building a free and safe Europe.⁵

1.2 The Association Agreement and the outbreak of the Ukrainian crisis

As the real beginning of active relations between the EU and Ukraine it is considered to be 1994, when the Partnership and Cooperation Agreement was signed. It had anchored the basics of foreign trade relations between the partners. It entered into force in 1998. Over time, however, this agreement was becoming obsolete and was replaced by the Association Agreement. The Association Agreement, which includes the Deep and Comprehensive Free Trade Area agreement (DCFTA), represents a new contractual framework between the EU and Ukraine.⁶ It was concluded in order to increase the volume of trade in goods and services between the EU and Ukraine. Increase of trade should be ensured by a progressive reduction of tariffs and harmonization of the Ukrainian legislation with the European one in selected industrial sectors and on agricultural products. The political part of the Association Agreement was signed on 21 March 2014. The remaining DCFTA was signed on 27 June 2014.⁷ Actually, the signature of the Association Agreement was the trigger event that can be overall called the Ukrainian crisis.

Dissatisfaction of the Ukrainian citizens with the direction of the country had had a long-term character. The vision of improvement of the situation leaned precisely on signing of the Association Agreement with the EU. However, the Ukrainian President Viktor Yanukovich, unexpectedly refused to sign this agreement in 2013. Pro-European Ukrainian citizens had started to protest and these series of protests are called Euromaidan. Extension of these protests into other cities of Ukraine led to the resignation of Yanukovich and into the formation of a new, pro-European oriented government of Arseniy Yatsenyuk. Part of the population living in eastern Ukraine, on the other hand, demanded the pro-Russian orientation and in response to it, announced a series of protests called Antimaidan in support of Viktor Yanukovich. This opinion difference has led to multiple political and military conflicts.

The most serious of these was the Crimea crisis. In response to the deposal of Viktor Yanukovich and the establishment of an interim government, protests broke out in the east and south of Ukraine and in the Crimea. The majority of the Crimean population is Russian-oriented. Crimean pro-Russian rebels captured the local offices and they appointed their own officials. The Crimean parliament gradually began to prepare a referendum on affiliation to Russia. After its clear result, the declaration of independence on Ukraine was announced. Russia has recognized it and on 21 February 2014

³ KIIS. (2015). *How relations between Ukraine and Russia should look like? Public opinion poll's results.* <http://www.kiis.com.ua/?lang=eng&cat=news&id=237> [accessed 3.10.2015].

⁴ DRIENIKOVÁ, K. – ZUBALOVÁ, E. (2013). *Zahraničnoobchodná politika EÚ v meniacich sa podmienkach globálneho hospodárskeho prostredia.* Bratislava: Publishing EKONÓM, 2013. pp. 96. ISBN 978-80-225-3622-6.

⁵ BIKÁR, M. (2014). The Ukraine Economy in the Time of Political Instability. In: *International Journal of Science Commerce and Humanities.* vol. 3, no. 5. http://www.ijsch.com/journaluk/images/frontImages/THE_UKRAINE_ECONOMY_IN_THE_TIME_OF_POLITICAL_INSTABILITY.pdf [accessed 3.10.2015].

⁶ KAŠŤÁKOVÁ, E., DROBCOVÁ, L. (2014) *Vývoj vzájomných zahraničnoobchodných vzťahov EÚ s Ukrajinou vplyvom globálnych geopolitických zmien.* In: *Studia commercialia Bratislavensia.* issue. 7, no. 27. pp. 358. ISSN 1337-7493.

⁷ MISSION OF UKRAINE IN THE EUROPEAN UNION. (2015). *Ukraine – EU Relations.* <http://ukraine-eu.mfa.gov.ua/en/ukraine-eu/relations>. [accessed 3.10.2015].

annexed the Ukrainian peninsula of Crimea, which violated the international law. It was also a violation of international agreement known as the Budapest Memorandum, where, among other signatories undertook to respect the territorial integrity of Ukraine.⁸ One hundred of UN members have not recognized the Russian annexation of Crimea.⁹

Russian annexation of the Crimea subsequently strengthened the separatist tendencies in other regions of southeastern Ukraine - Donetsk, Kharkiv and Luhansk, where the most numerous Russian minorities live. They have accused the Ukrainian government that it denies their rights. Therefore they call for the strengthening of their rights, in extreme cases call for secession from Ukraine and integration with Russia. In April 2014 they started a violent attempt to occupy the local authorities. Protesters gradually managed to occupy offices in Donetsk, where they declared Donetsk People's Republic and Luhansk, where they also declared independent Luhansk People's Republic. In response to this, Ukraine sent an army into those areas. Its intervention and resistance of separatists have claimed the human sacrifices and the conflict has gradually escalated into a civil war.

A call for a peaceful solution of the conflict nor sanctions have not produced the desired effect and open military conflict occurs in Ukraine.¹⁰ The conflict has so far claimed more than 6,000 victims among soldiers and civilians. Number of injured has reached tens of thousands. Hundreds of thousands of people were forced to leave their homes as they had escaped from the combat zone to the Ukrainian inland or to Russia.¹¹

1.3 Reaction of the Western countries and the reaction of Russia as a result of the Ukrainian crisis solution

EU, US, Canada, Australia and Norway have applied sanctions against Russia because of its behaviour in Ukraine and restrictive measures against the Crimea and Sevastopol.

The first significant step that the EU took action against Russia, was the interruption of bilateral negotiations on visa liberalization and the "New agreement" governing economic relations, as well as the suspension of the G8 summit in Sochi. These steps, however, did not prompt Russia to withdraw its troops from Ukraine, and therefore the EU decided to issue a travel ban and freeze the assets of Russian and Ukrainian officials responsible for the annexation of the Crimea on 17 March 2014. In July 2014, there came the next phase of sanctions in the form of restriction of access of certain Russian subjects to western financial markets and restrictions on trade in selected sectors. At the same time, there have been adopted restrictive measures on trade and investment in the Crimea and Sevastopol. The EU has banned trading with shares, bonds and other securities of major financial institutions originating in Russia. The next procedure consisted of imposition of embargo on export of arms and related material for the arm industry in Russia, the ban of export and import of other military technologies. Areas affected by restrictive measures have also become the export of certain equipment and technologies related to Russian energetic sector. In September 2014 there was a re-expansion of the sanction list of persons to 119. At this time, it covers 37 companies and 150 individuals from Russia and Ukraine.¹² EU sanctions concern particularly:¹³

- restrictions on access to financial and capital markets of the EU for Russian entities;
- an embargo on the import and export of weapons, military and related materiel to Russia;

⁸PIFER, S. (2014). *Ukrainian crisis impact on nuclear weapons*.<<http://edition.cnn.com/2014/03/04/opinion/pifer-ukraine-budapest-memorandum/>>[accessed 7.10.2015].

⁹VOTÁPEK, V.(2015). *KOMENTÁŘ: Výročí okupace Krymu je pro Evropu varováním*. http://zpravy.idnes.cz/komentar-vladimira-votapka-dfe-zahranicni.aspx?c=A150316_085458_domaci_jw. [accessed 7.10.2015].

¹⁰TELEGRAPH.CO.UK.(2015). *Ukraine crisis:timeline of major events*. London. <http://www.telegraph.co.uk/news/worldnews/europe/ukraine/11449122/Ukraine-crisis-timeline-of-major-events.html>, [accessed 4.10.2015].

¹¹LIDOVKY.CZ.(2015). *Brutální mučení a vraždy. Zpráva ukazuje, jak se válčí na Ukrajině*. http://www.lidovky.cz/zlocinu-se-dopousteji-obe-strany-donbaskeho-konfliktu-uvadi-amnesty-international-gm3/zpravy.svet.aspx?c=A150522_124425_in_zahranicni_mct>.[accessed 4.10.2015].

¹²IHNED.CZ.(2015). *Evropská unie prodloužila ruské sankce. Spojené státy ještě přitlačily a rozšířily seznam*<http://zahranicni.ihned.cz/evropa-slovensko/c1-64542660-evropska-unie-prodlouzila-ruske-sankce-spojene-staty-jeste-pritlacily-a-rozsirily-seznam>, [accessed 4.10.2015].

¹³EUROPEAN UNION.(2015). *Consolidated list of persons, groups and entities subject to EU financial sanctions*. http://eeas.europa.eu/cfsp/sanctions/consol-list/index_en.htm, [accessed 8.10.2015].

- ban of exports of goods and dual-use technologies to Russia;
- restrictions on exports of certain technologies for the mining industry.

The EU has adopted several decisions in response of the non-recognition of the annexation of the Crimea and Sevastopol by Russia and it has restricted trade with these areas. The EU has also banned the import of goods from these areas; investment in them; limited technical and financial assistance, brokering, construction and engineering services related to the energy sector, telecommunications and infrastructure, etc.¹⁴

The sanctions and restrictive measures against companies and individuals had to run until September 2015. EU leaders, however, in view of the development in Ukraine have decided to extend the sanctions until 15 March 2016. A second group of more severe economic sanctions package is valid until January 2016. Restrictive measures on Crimea and Sevastopol are going to last until 23 June 2016. The application of sanctions is being continuously monitored and according to the development of the situation, can be reassessed or extended.¹⁵

In response to the introduction of sanctions by the EU, Russia issued actions which restrict or prohibit the importation of certain agricultural products coming from countries that have adopted or joined sanctions against Russia. A ban on imports of beef, pork, poultry meat and meat products has entered into a force since August 7, 2014. It also covers imports of fish, shellfish, dairy, fruits, vegetables and other commodities to Russia. Anti-sanctions are not applied just on the agricultural products. They are also applied on imports of selected engineering products and light industry products. The anti-sanctions, except the EU, also cover countries such as USA, Australia, Canada or Norway. The list of countries has recently been extended for Albania, Montenegro, Iceland and Liechtenstein. Russia responds to the sanctions of western countries on the principle of reciprocity.¹⁶

2. Foreign trade among Russia and Ukraine and European Union

Foreign trade between the European union („next" EU) and Russia is very asymmetric, when we compare foreign trade relations between the EU and Ukraine, same between Russia and Ukraine. Based on these facts, in 2013 and 2014 the EU was Russia's main trading partner representing 53% of Russian export and 39% of Russian imports (in the first half of 2015 - it was 53.7% of exports and 41.8% of imports). EU export to Russia presented just 2.6% of the total (EUR 120 billion) in 2013 and imports from Russia 4.6% of the total (EUR 207 billion).¹⁰ Approximately 4.5% of the Russian exports and 5% of its imports were traded with Ukraine, whilst EU trade with Ukraine was very low (just 0.5% of EU exports and 0.3% of EU imports in 2012).¹¹

When you take Ukraine in relative with Russia and the EU has the same meaning in relation to business partners for significant example is, that in 2012 about 25% of Ukraine's exports and more than 30% of its imports were traded with either Russia or EU. These major differences arise from marketable commodity composition of goods determined to export, which are much more "sophisticated" than those exported to the EU. These significant differences are based on the considerable differences that emerged from the political influence of the EU and Ukraine through the EU / DCFTA and Russia through the Customs Union.¹² Regardless of economic maturity and volume of trade conflicts are the result of Ukrainian bilateral trade and economic sanctions between the European Union and Russia and between Russia and Ukraine. The economic impact of these sanctions is very negative for Russia (which is more dependent on the EU market than vice versa).¹⁷

According to these facts, it is known that the Russian economy is significantly smaller, accounting for a fifth of the GDP of the EU and even if you take purchasing power parity, which indicates that

¹⁴ EUROPEAN UNION.(2015). *Consolidated list of persons, groups and entities subject to EU financial sanctions*. http://eeas.europa.eu/cfsp/sanctions/consol-list/index_en.htm. [accessed 8.10.2015].

¹⁵ CROFT, A. (2015). *EU agrees to extend Russia economic sanctions by six months*. 2015.<http://www.reuters.com/article/2015/06/17/ukraine-crisis-eu-sanctions-idUSKBN0OX1EO20150617>, [accessed 4.10.2015].

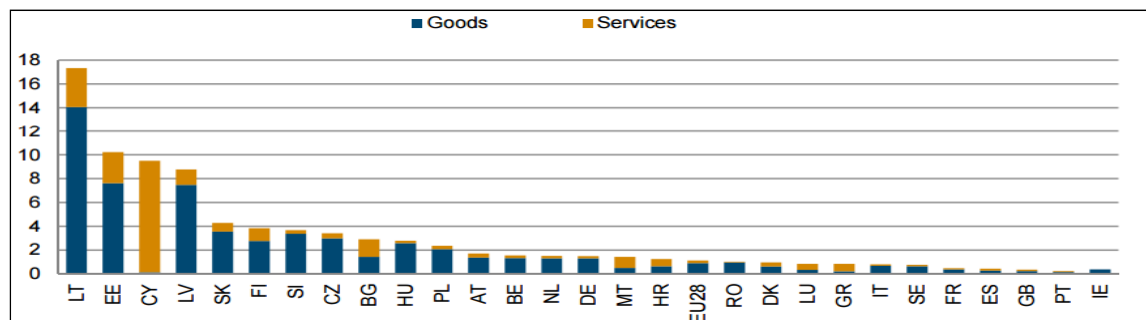
¹⁶MPO CZ,(2015). *Přehled sankcí EU vůči Ruské federaci*. <http://www.businessinfo.cz/cs/clanky/prehled-sankci-eu-vuci-ruske-federaci-61587.html>, [accessed 8.10.2015].

¹⁷PWC CZ,(2015). *Svet do roku 2050*.<https://www.pwc.com/...economy.../world-in-2050>, [accessed 10.9.2015].

Russia needs the EU to cover the importation of modern technology in order to modernize its economy. Russian trade with the EU, which represents trade with countries such as Finland, the Baltic States (Lithuania, Latvia) (representing 1.6% of GDP Austria exported to Russia), by other exporters are Cyprus, Greece, Great Britain, Portugal and Spain, which already represent such a significant turnover. These facts we see in the Figure 1, which is the territorial distribution of exports to Russia in% of GDP.¹⁸

Figure 1

Share of gross exports to Russia in % of GDP, for average season 2010-2015

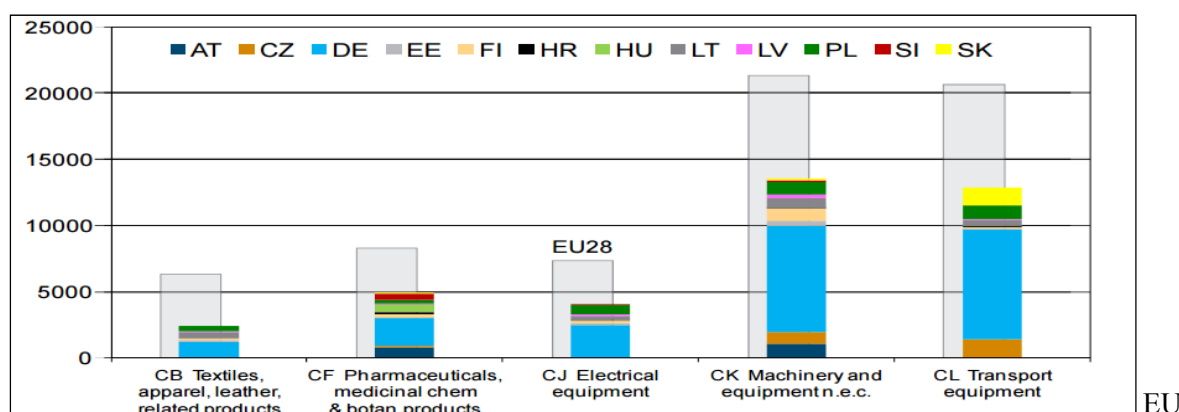


Source: processed by authors according Eurostat statistics

When, by contrast, we look at the expression of the commodity structure of the trade, we see the most represented sectors industry according to NACE statics, where the share of exports to Russia was higher than 3%. Those are textiles, pharmaceuticals, electrical equipment, machinery and vehicles. When we look at Figure 2, we see the share of 12 selected EU countries on exports to Russia. Based on Figure 2, we see that the machines and vehicles represent the most important EU’s export industries (each with a share of more than 20 billion EUR in 2013). The other items are electrical equipment. The most significant exporter to the Russian market is Germany. It’s neighbor, Austria exported machinery and equipment (6%), pharmaceuticals (11%), which play a key role in exports to Russia. We can’t forget to mention that an important result of the Russian-Ukrainian conflict is retaliation from 7 August 2014, which indicates that the EU can’t export food products to Russia or the Baltic States. (especially the Baltic States and Poland – see below).

Figure 2

EU gross goods exports to Russia: 5 key industries, 12 major exporting countries in EUR million, for average season 2010-2015



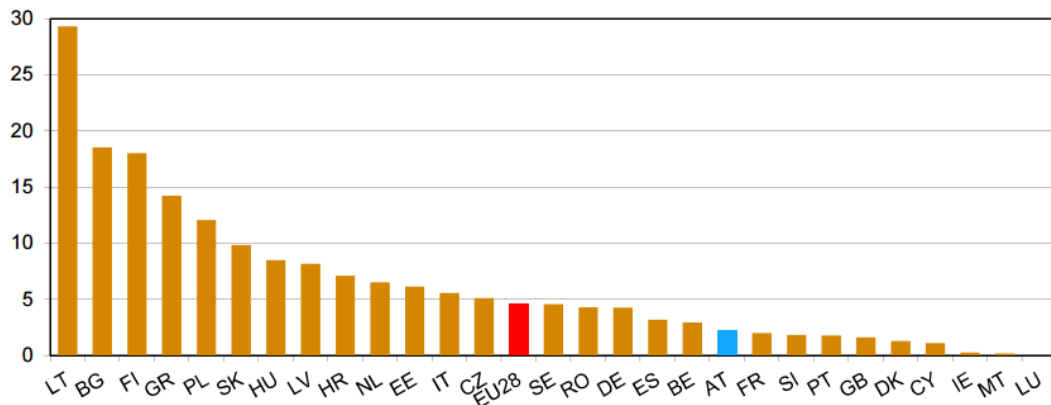
Source: processed by authors according Eurostat statistics

When we look at the trade in services, data available from Figure 3 indicate, that the tourism and transport, which make exports to Russia, are important. Especially the ones exported from European countries such as Cyprus, Lithuania, Estonia, Bulgaria and Greece.

¹⁸CER ORG.(2015).Zahraničný obchod medzi Ruskom a Ukrajinou. http://cer.org.uk/sites/.../frozen_sanctions-10787, [accessed 6.9.2015].

Figure 3

Share of Russia in EU gross imports, in % of total goods imports, for average season 2010-2015

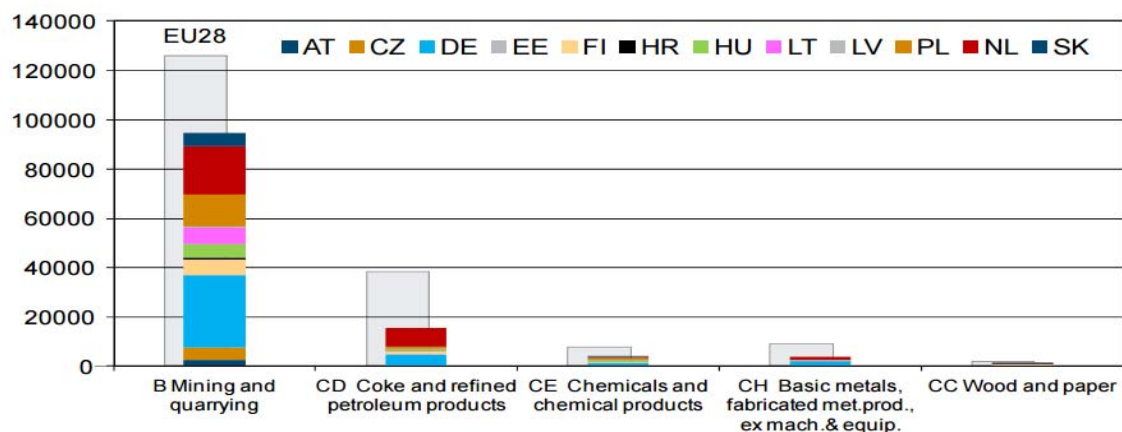


Source: processed by authors according Eurostat statistics

When we look at Figure 4, which shows us the export of goods from Russia to the EU-28, we see that the individual exports of goods from Russia vary widely. Based on this fact, very prominent example is: Lithuania, which imports almost 30% of total their imported goods. The bulk of these imports from Russia into the EU is on average - 80% and consists of energy (oil, natural gas and refined petroleum products).

Figure 4

EU imports from Russia: 5 key industries and 12 major importing countries in EUR million, for average season 2010-2015



Source: processed by authors according Eurostat statistics

2.1 Economic impact of the conflict in the EU, Slovak republic and Ukraine

The economic impact of sanctions is not easy to quantify standalone, it is necessary to emphasize the impact of the conflict separately for each EU and Russia. It is well known that the sanctions are one of the tools of the EU, which supports the objectives of the common foreign and security policy. On the other hand, if we look at the effectiveness of Western sanctions against Russia, we can see that they have a negative economic impact on Russia. However, they also have a negative impact on the Ukraine, because Russia, as the revenge against them, still continues the military intervention in the southeast of Ukraine.¹⁹

¹⁹DIANA WEDNESDAY.(2015).*World economy*.<http://www.dianaswednesday.com/2015/10/global-economy-2015/>,[accessed 10.10.2015].

When we look at Russia, sanctions have negative impact on the economy and they are supported by low economic development stemming from the combined effect of the vicious circle of working sanctions, that we have a significant impact on the deteriorating investment climate, which has a further significant impact on the rate of ruble and capital and on the basis of continuing reform setbacks. These facts are presented in Table No. 1. We note, that Russia had already been in negative numbers before the Ukrainian conflict and its current economic situation is stagnating." Considering this background, growth prospects for the Russian economy for the period 2016-2017 have been reduced by 1 percentage point compared to the pre-crisis forecast, which represented a decrease of 0.18 percentage points. Quantified economic loss of Russia for the year 2014, in relation to GDP, is nearly 20 billion euro. In 2015, the loss is more than EUR 30 billion.²⁰

Table 1

Presupposed impacts of sanctions on Russia for season 2013-2016

	2013	2014	2015	2016
wiiw Forecast Report Spring 2014 (March)				
(1) GDP, RUB bn, current prices	66689	70000	74800	80500
(2) GDP, EUR bn, current prices	1576	1555	1626	1713
(3) Annual change in % (real)	1.3	1.6	2.3	3.0
(4) Exchange rate, RUB/EUR	42.3	45	46	47
(5) GDP, EUR bn, at 2013 prices and ER	1576	1601	1639	1688
wiiw Forecast Report Autumn 2014 (November)				
(6) GDP, RUB bn, current prices	66755	72000	77500	83000
(7) GDP, EUR bn, current prices	1578	1440	1462	1509
(8) Annual change in % (real)	1.3	0.5	1.3	1.9
(9) Exchange rate, RUB/EUR	42.3	50	53	55
(10) GDP, EUR bn, at 2013 prices and ER	1578	1583	1603	1634
Costs of the conflict, annual, EUR bn [based on difference between March and November forecasts lines (5)-(10)]	.	18	36	54

Source: Estimates and projections processed by authors according ec.europa.eu

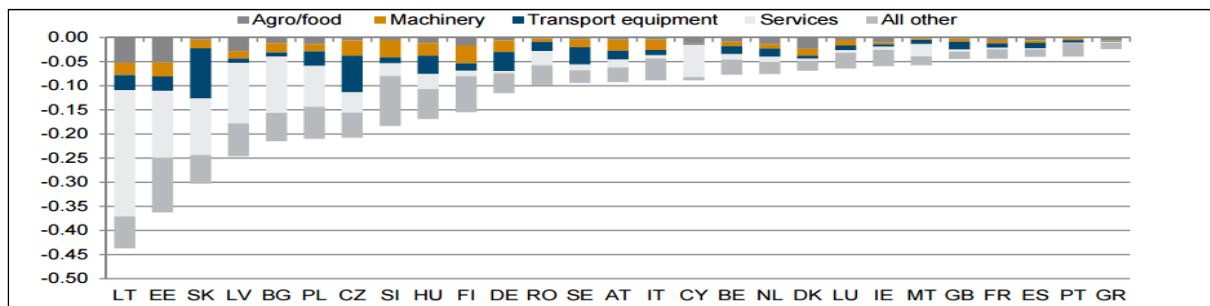
Impact of the Russian-Ukrainian conflict and the resulting sanctions by EU, Ukraine or Russia on the national economies of the EU are affected in very different stages of development, which depend on the size of foreign trade with Russia or Ukraine. Based on this differentiation, the economic impact is explained by heterogeneous stance on sanctions against Russia or Ukraine. This attitude can be seen in Figure No. 5, which shows the effect on the economic-political development where we see that the Baltic states are more affected by the sanctions to be economic-political impacts. Through these facts, it is known to the Baltic countries, led by Poland adopted a very tough stance unlike other EU-28 countries namely than Hungary, Bulgaria, Slovakia and the Czech Republic as well as Austria, Greece and Cyprus. When we express it in numbers, we can see that the economic impact of the conflict expressed varying business exposure of individual EU countries towards Russia, which, as we see not detract from the positive direction. Based on these facts, we must take into account the changing business exposure of individual EU countries towards Russia, on the basis of which exports to Russia decreased by 10%. The estimation results, in terms of percentage losses to various sectors of the economy of the EU as a result of the Ukrainian-Russian conflict and the resulting individual sanctions in 2014, are shown in Figure 5.²¹

²⁰EC. EUROPA.(2015).*Russia sanction*.http://ec.europa.eu/agriculture/russian-import-ban/index_en.htm, [accessed 08.10.2015].

²¹FAS.ORG.(2015).*Sanctions on Russia: Economic implications*. www.fas.org/sgp/crs/row/R43895.pdf, [accessed 04.09.2015].

Figure 5

Estimated loss of GDP (in %) if gross exports to Russia drop by 10%, for season average years 2010-2015



Source: processed by authors according eurostat statistics

When we look in the figure 5, we can see, that the penalties for gross exports of goods and services in 2014 caused an estimated loss of GDP of individual export sectors of the economy of the EU and specifically Slovak Republic (0.3% of GDP), Lithuania (0.4 % of GDP), Estonia (0.4% of GDP). Conversely, on the other hand, Austria lost less than 0.1% of the GDP. When we express this situation in absolute figures, which reflect the loss of influence of times those sanctions, as well as the value of the loss of the Austrian economy to GDP stood less than 300 million; and for the whole EU it meant the loss of more than 11 billion Euros.²²

2.2 Impact of the conflict on foreign trade European Union

Currently ongoing Ukrainian crisis bears serious implications not only for Russia and Ukraine, but also pose a potential threat to the still fragile post-crisis economic recovery in Europe.

Apparently, Ukraine has been the main victim of the conflict. In Donbas, which used to account for 16% of Ukraine's GDP and a quarter of its exports, the war-related damage is currently estimated at some EUR 6 billion (or 6% of GDP), and industrial production has nearly come to a standstill, largely as a result of power cuts and railway disruptions. On the top of that, the enacted ban on exports of military and dual-use goods to Russia has further contributed to the export decline. At the same time, domestic private consumption has been eroded by the spike in inflation and the IMF-imposed austerity measures. All in all, Ukraine's economy may contract by 8% this year, and the stabilization prospects are unclear. In Russia, the country which was 'stuck in transition and stagnation' already before the Ukraine crisis, the impact of the conflict is increasingly felt as well. The Western (first of all financial) sanctions and the related heightened political risks are hampering investments, economic growth and modernization still further. A crude estimate of economic effects – lower GDP growth by about 1 percentage point compared to the pre-conflict scenario – yields a loss of Russian GDP close to EUR 20 billion in 2014, and more than EUR 30 billion in 2015 and EUR 50 billion in 2016. The effects on the individual EU countries differ depending on their varying exposure to the Russian (and Ukrainian) markets.²³

On the other side, despite the relatively low EU trade exposure to Russia (and especially Ukraine) on average, there are EU countries which trade quite a lot with Russia: the Baltic States (in particular Lithuania; part of it is transit trade), other stats EU-28 and also Finland. Austria is not overly exposed: just 1.7% of Austrian GDP was exported to Russia in 2013 (and only 0.6% of Austrian GDP in terms of domestic value added of exports, respectively). Cyprus, Greece, Great Britain, Portugal and Spain have very low trade with Russia, though the two former have extensive exposure in tourism and finance. For the EU as a whole, there are five industries where the share of Russia in total exports exceeds 3%: textiles, pharmaceuticals, electrical equipment, machinery and transport equipment. For example, Austria has the key role in exports to Russia in machinery equipment and pharmaceuticals.

²²Gros, D. – Alcidi, C. (eds.). (2013). *The global Economy in 2030: Trends and Strategies for Europe*. [online]. Available at: <<http://europa.eu/espas/pdf/espas-report-economy.pdf>>. [accessed 08.10.2015].

²³ENCYKLOPEDIA.(2015).*Ukraine*. <http://www.encyclopedia.com/topic/Ukraine.aspx>,[accessed 04.10.2015].

Food products (banned by Russia as a retaliatory measure since August) do not feature prominently among EU exports to Russia. In EU services exports, travel (tourism) and transportation are important, and the number of Russian tourists has already suffered a blow in 2014, by 20% in some cases. The import exposure of individual EU countries to Russia differs as well: Lithuania imports nearly 30% of all goods from Russia, Bulgaria and Finland nearly 20%, Greece 14%. The bulk of these imports – 80% on the EU average – consist of energy: crude oil, natural gas and refined petroleum. On the assumption of a 10% loss in gross exports of goods and services to Russia, the estimated GDP loss would be in the order of 0.5% for Lithuania, 0.4% for Estonia, and less than 0.1% for Austria. In absolute figures, Germany might lose more than EUR 3 billion, followed by Italy (EUR 1.4 billion), France and Poland (EUR 0.8 billion each).²⁴

Base on this scenario Austria could lose about EUR 300 million. The estimated impact of Russia's ban on meat, dairy products, fruit, vegetables and fish imports from the EU imposed in August 2014 is expected to be the highest in the Baltic States. The banned products amounted more than EUR 5 billion of EU exports to Russia. Lithuania, Poland, Germany and the Netherlands are affected the most in absolute terms. For example, Austrian exports of banned agro-food products amounted only EUR 100 million in 2013. In the case of an escalating spiral of sanctions, trade disruptions would result in bigger losses for the EU. Though this situation, Russia might consider imposing an embargo on car imports from the EU, restrict state purchases of pharmaceuticals or even freeze some Western assets as a retaliatory measure. These losses are incurred so far are undoubtedly painful, yet manageable (a decline in trade bigger than 10% would obviously lead to correspondingly greater losses). The very important question is whether these losses are justifiable and will achieve the desired effects – to change Russia's behavior in Ukraine and to European Union.²⁵

3. Conclusions and policy implications

Even in 2015, Ukrainian crisis presents the major security threat which escalation could have undesirable geopolitical consequences. It may result in the destabilization of regions where is, despite the different problems, quite high political, economic and security stability. The fundamental reason to prevent the escalation of the Ukrainian crisis is constantly increasing number of victims of the conflict and large economic damage that the crisis causes.

Specifically this situation, which currently takes place between Russia and Ukraine has a very negative impact on foreign trade not only between Russia and the European Union and Ukraine, but it can possibly have far-reaching negative impacts on foreign trade. As a result of the conflict, stakeholders damages arise directly related to military conflict. The damage, however, also arise to those parties who are not directly involved in the conflict. They are related to the consequences of US and EU sanctions against Russia on the one hand, and retaliatory actions by Russia on the other. These losses can have over time negative impact not only on Russia and the EU, but also on the global economy. A method of solving this crisis must be political and must respect the interests of all participants.

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²⁴CIA.GOV.(2015).*Country comparison to the World*. https://www.cia.gov/library/publications/the-world-factbook/fields/print_2116.html, [accessed 06.10.2015].

²⁵BOWGROUP.ORG.(2015). *The sanctions on Russia*. BOW Group research paper. [online]. Available at: <<http://www.bowgroup.org/sites/bowgroup.uat.pleasetest.co.uk/files/Bow%20Group%20-%20Sanctions%20on%20Russia%20-%20Adriel%20Kasonta.pdf>>. [accessed 06.10.2015].

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Impact of ICT on the economy of the country

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Abstract

The object of this paper is to find out possibilities of quantification of impact of ICT on the economy of the country. Evaluating of the impact of ICT in Slovakia will be achieved by the selected index of ICT. The core feature is the ICT Development Index (IDI), which ranks countries' performance with regard to ICT infrastructure, use and skills. This paper provides an objective international performance evaluation based on quantitative indicators and benchmarks. ICTs were becoming more powerful, more accessible, and more widespread. They were playing a key role in enhancing competitiveness, enabling development, and bringing progress to all levels of society.

Key words: ICT, indexes - IDI, NRI

JEL Classification: O16, O31

1 Introduction

There are some basic indices for the countries competitiveness evaluation in the field of ICT. The main instrument of measuring ICT is the ICT Development Index. Some indices evaluate ICT just as one factor of the country's overall competitiveness, others prioritize on ICT monitoring. Nowadays using ICT has become inevitable for success of individuals in the labor market and also for the success of companies in a competitive environment. ICT is the way to improve the conditions of public institutions and the country's competitiveness. The aim of this contribution is to find out the quantification possibilities of the ICT's impact on the country's economy, including Slovakia.

1.1 Methodology

The main objective of this contribution is to quantify the impact of ICT on the country's economy through indices and simultaneously evaluate the progress of ICT's implementation in the selected countries – including Slovakia.

To fulfill the objective we have set the following research questions:

Research question no. 1: Is the impact of ICT on the country's economy measurable?

Research question no. 2: What is the progress of Slovakia's development in ICT in the recent year?

In this contribution more theoretical scientific methods were applied, including general (logical) methods and special methods. Within the general methods were used methods as analysis, comparison and synthesis. When processing the theoretical state the method of scientific analysis was applied to get deeper knowledge about the main focus of the contribution – finding the impact of ICT on the country's economy. We have been using

secondary sources from domestic and foreign publications. We have created tables and graphs by processing secondary quantitative data. Comparative method was applied when comparing the relations and differences between selected ICT indices. The results are deduced and formulated into interim partial conclusions. Afterwards, by the method of scientific synthesis we combined partial analytical findings into a whole and identified the development of ICT implementation in the selected countries. In order to better understand the relation between ICT development index, economy, geography and population the following variables were selected for each country:

- Urbanization: the population living in the cities – expressed as a percentage of the total population, which is defined by national statistical offices.
- Population density.
- Population size.
- Size of the country: refers to the total area of the country excluding inland waters such as rivers and lakes.
- Gross national income (GNI)¹ (ITU, 2014).

2 Results and debate

ICT Development Index (IDI) is a composite index of ICT which combines 11 indicators into a single scale, they are used to monitor and compare the ICT development in the country. These 11 indicators are included in three sub-indexes: access², use³ and ICT skills⁴.

IDI Index was created in 2008 in the International Telecommunication Union (ITU). It was first published in 2009. The index was created in accordance with the requirements of the ITU member states. The requirement was to develop the ICT index and its regular publication.

The main objective of IDI is to measure:

- The level and development of ICT in different countries.
- The development progress of ICT in developed and developing countries. The index should be global and reflecting the undergoing changes in countries at different levels of the ICT development.
- The digital divide: differences between countries with different level of ICT development.
- The development potential or intensity with which countries use ICT to support their growth and development in accordance with their abilities and skills (ITU, 2014).

¹ GNI is total primary income derived by resident units of the observed area (usually a country) for the reporting period (usually a year).

² Consists of 5 indicators: fixed-telephone subscriptions, mobile-cellular telephone subscriptions, international Internet bandwidth per Internet user, households with a computer a PC and households with Internet Access.

³ Consists of 3 indicators: individuals using the Internet, fixed (wired)-broadband subscriptions and wireless-broadband subscriptions.

⁴ Consists of 3 indicators: adult literacy, gross secondary enrolment (the literacy level of the youth aged 12-17 years) and gross tertiary enrolment (the literacy level of youth aged 17-25 years).

According to the annual report – Measuring the Information Society Report, processed by ITU in 2014, we can identify key ICT, monitor costs development and affordability of ICT services in accordance with the internationally accepted methodologies.

According to this report the index aims to measure the performance of individual countries regarding infrastructure and ICT skills usage. This report is intended to provide objective international performance based on quantitative indicators and benchmarks as a crucial input into the political ICT debate in ITU member states.

In the end of 2014 almost 3 billion people used the Internet and in comparison with the end of 2013 it was only 2.7 billion people. While mobile Internet connection is slow, mobile broadband connection is the fastest growing market segment. Overall rate of its penetration is 32% - five years earlier four times higher penetration was recorded. In the years 2001 to 2013 the international bandwidth has significantly increased up to 45% per annum. The share of developing countries in total international bandwidth has also increased from about 9% in 2004 to nearly 30% in 2013.

On the first places in the evaluation of index IDI – 2013 outcome were the following countries: 1. Denmark, 2. Korea, 3. Sweden, 4. Ireland, 5. England, 6. Norway, 7. Finland, 8. Hong Kong, 9. Luxembourg, 10. Japan, 11. Australia, 12. Switzerland, 13. United States. In this year almost the majority of the total 166 countries, which are involved in this index, have improved their values. Despite this encouraging progress there are important digital divides which need to be resolved. For example 4.3 billion people are not online, 90% of them are living in the developing world. Penetration of fixed broadband in developing countries is 6% and for comparison in developed countries the penetration is on the level of 27.5%, while the growth rate is slowing down. Mobile broadband is rapidly growing but the difference between developed and developing regions remains high. In countries where is low broadband the share of population living in rural areas is very high. Between the urban and rural area this digital divide arises. According to the Measuring the Information Society Report ICT progress is faster in countries with higher proportion of population living in cities because there is better access, usage and skills in ICT infrastructure. Nonetheless, ICT could be significantly affected by poor and rural areas (ITU, 2014).

The new analysis presented in this report, shows that many Millennium Development Goals (MDGs) indicators recorded significant correlation with the index IDI, mainly those which are related to reducing poverty and improving health. The report also shows that the progress in ICT development is linked to the progress of some MDGs indicators. One reason for limited access to ICT in developing world is the price of the service, which is often unaffordable for the poor population. While the worldwide prices of fixed and mobile services are generally falling, in most of the developing countries cost plan for fixed and mobile broadband connection signifies more than 5% of GDP per capita and mobile broadband connection is six times more affordable in developed countries than in the developing countries. Income inequalities within certain countries are one of the reasons why broadband, especially fixed broadband remains unavailable for large segment of population. Brahim Sanou, director at Telecommunication Development Bureau (BDT) ITU states that in 40% of countries basic broadband represents more than 5% of household's income (ITU, 2014).

Table 1

Development of the index IDI in selected countries in 2008

Country	IDI 2008	The cost of broadband 2009 (% of annual GDP p. c.)
Sweden	1	0,84
Luxemburg	2	0,59
Korea	3	1,41
Estonia	22	2,24
Slovenia	26	1,09
Hungary	34	2,84
Lithuania	35	1,54
Czech Republic	37	3,13
Slovakia	38	2,36
Poland	40	1,39
Latvia	41	2,52
Bulgaria	43	3,24
Romania	44	1,1

Source: ITU, 2010; own processing

From the perspective of overall level of development - International Telecommunication Union ranks us to a global 38th place among the average post-socialistic tens. This index assesses 11 indicators such as spatial and financial affordability of the Internet and the level of Internet skills. Slovakia has problems with high costs of broadband Internet. Costs are already twice as high as in some monitored countries (SARIO, 2011).

IDI and the progress of MDGs

We are facing more and more initiatives in the field of ICT development which shows potential impact on the economic development of the country. However quantitative evidence of the impact is still limited and strikes beyond measuring this economic impact.

Millennium Declaration was issued in 2000. ICT experienced unusual growth which underlined its potential for socio-economic development. Potential of ICT was further underlined on the World Summit on the Information Society (WSIS). The first phase took place in 2003. On the summit, social and economic development was promoted. ICT's potential to achieve the international development goals and the need to expand access to ICT was also pointed out (ITU, 2014).

Table 2

Comparison of IDI in the years 2002-2013

Country	IDI 2002				IDI 2013				Average change 2002 - 2013	Average change 2002-2013
	Average	Min.	Max.	Range	Average	Min.	Max.	Range		
World	2,52	0,41	6,07	5,66	4,88	1,03	8,86	7,83	2,37	94,10 %
Developed	4,12	1,96	6,07	4,1	7,25	4,72	8,86	4,14	3,13	75,90 %
Developing	1,85	0,41	5,92	5,51	3,9	1,03	8,85	7,81	2,05	110,80 %

Source: ITU, 2014, own processing

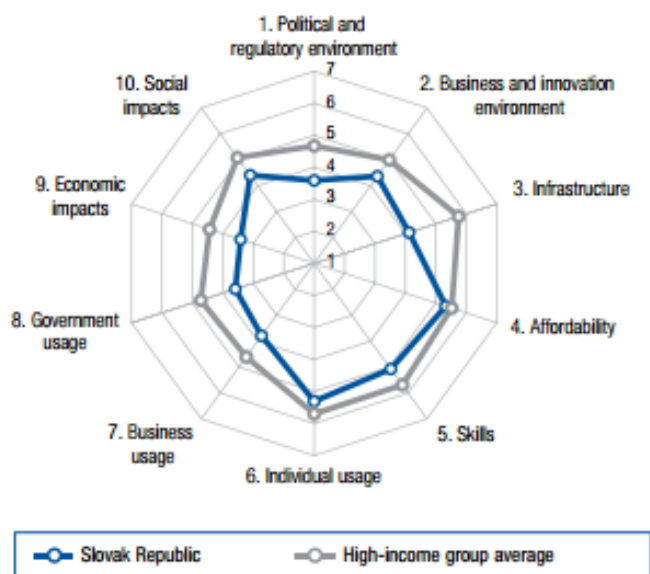
Based on data in Table 2 can be stated that the average IDI index value of 2.52 from 2002 till 2013 increased to 4.88, which means 2.37 points, that show a progress of ICT level in every country, but with different growth-rate (the lowest index increased from 0.41 to 1.03; the highest from 6.07 to 8.86). Differences of index IDI between developed and developing countries are displayed. The highest index values are achieved obviously by developed countries. The most significant change in developing countries was reported in the period from 2002 to 2013 – 3.13 points. IDI minimum value achieved by the group of developing countries increased only slightly by 0.62 points compared with IDI maximum value which was 1.89 points. These figures show that developing countries are moving with different speed.

The Networked Readiness Index

For the evaluation of countries in the field of ICT the index - Networked Readiness Index (NRI) is also used. This index is part of the Global Information Technology Report which is published by The World Economic Forum (WEF). It is the most complex index and used to measure the ICT development level in countries.

Graph 1

Indicators of Index NRI in Slovakia compared with the averages for 2015



Source: WEF, 2015

NRI monitors 54 parameters in total. They are grouped into 10 indicators forming 4 sub-indices, these indexes measures:

- ICT environment (political and legal, business and innovation),
- Preparedness of the society for ICT usage (infrastructure and digital content creation, affordability and skills),
- The actual use of ICT (by individuals, businesses and by public administration),

- The impact of ICT on the economy and the society (economic, social impacts), (WEF, 2014).

NRI reflects the country's ability to effectively use opportunities significantly affecting the economy's competitiveness offered by ICT. NRI seeks to better understand the impact of ICT on the nation's competitiveness. It is published annually. Index value varies from 1 to 7. From the indexes of the monitored countries a ranking is compiled annually which reflects the maturity and development of the countries in the field of ICT.

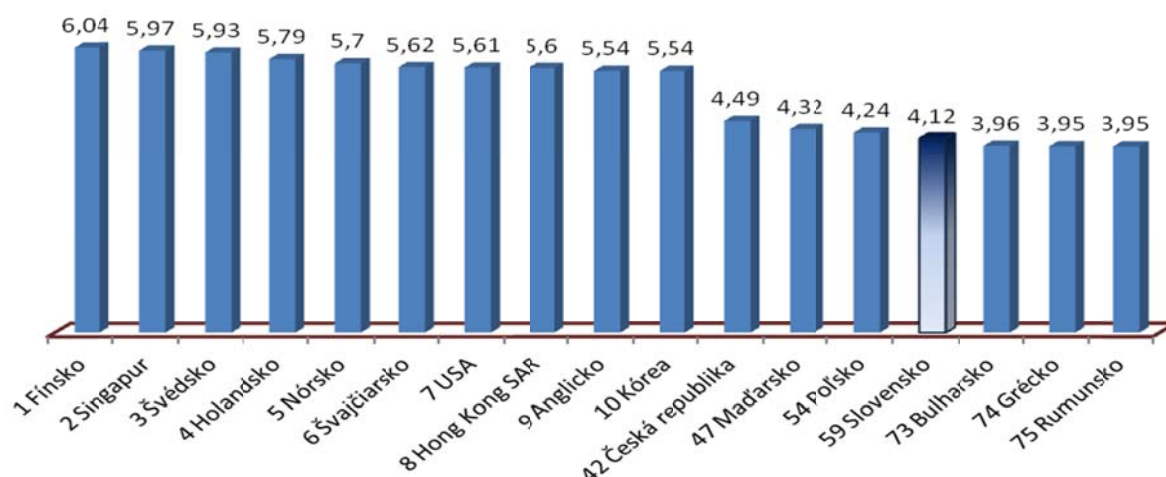
There are more reasons of unflattering position of Slovakia in this NRI index. According to the World Economic Forum in 2015 Slovakia's weaknesses are: economic implications, government use, political and regulatory environment, social impacts, business application, business and innovational environment, infrastructure, skills, individual usage and availability.

The NRI index value for Slovakia was 4.2 in 2015. Slovakia ranked 59th place out of the 143 countries (WEF, 2015). In 2013 the index value was 4.0 and ranked 61st place. In 2014, out of 148 countries the top ten countries were the northern European countries: Finland, Sweden and Norway, hereinafter the Asian tigers: Singapore, Hong Kong and South Korea, as well as the Netherlands, Switzerland, USA and Great Britain. Slovakia's ranking compared to 2013 improved by two positions with 4.1 points (59th place). The last places after V4 countries include Romania, Greece and Bulgaria (see Figure 2), (WEF, 2014).

According to Frenđáková from 2011, Slovakia's position declined in 2011 compared to 2010, when Slovakia ranked 55th place and in the next year dropped to 69th place. In the period 2006-2007 the country ranked 41st place. Therefore, from 2007 to 2011 the overall decline was up to 28 positions. From the V4 countries Czech Republic also worsened its position (4 points fall) and also Poland (3 points fall). In 2011 Sweden was the leader followed by Singapore, Finland, Switzerland and USA etc.

Graph 2

NRI in selected countries in 2014



Source: WEF, 2014; own processing

The results of Slovakia in the NRI index are not favorable. The weakest results in the years 2007 to 2010 are in parameters such as ICT's usage by the government, readiness of the

government and the government success in promoting ICT. Weaknesses in 2011 were like: individual readiness (102nd place from 133 countries), readiness of the government (again 102nd place) and ICT's usage by the government (95th position). On the worst place was the government's success in promoting ICT, which means the 120th position (SARIO, 2011).

Table 3

Development of NRI index in the selected countries in the period 2009-2010

Country	NRI 2009-2010	Change compared to years 2006-2007
Sweden	1	+1
Singapore	2	+1
Denmark	3	-2
Switzerland	4	+1
USA	5	+2
Estonia	25	-5
Slovenia	31	-1
Czech Republic	36	-2
Lithuania	41	-2
Hungary	46	-13
Latvia	52	-10
Slovakia	55	-14
Romania	59	-4
Poland	65	-7
Bulgaria	71	+1

Source: SARIO, 2011; own processing

Table 4

The countries ranking in the NRI index and their GDP per capita in 2014

Country	NRI	GDP p.c. in USD
Finland	1	49 541,3
Singapore	2	56 286,8
Sweden	3	58 887,3
Netherlands	4	51 590,0
Norway	5	97 363,1
Czech Republic	42	19 553,9
Germany	47	13 902,7
Poland	54	14 422,8
Slovakia	59	18 416,5

Source: Worldbank, 2015; own processing

The above table shows the NRI index and GDP per capita in the selected countries – data for 2014. Finland ranked no. 1 in the index with GDP per capita 49 541.3 USD. Slovakia

ranked 59th in the NRI index with GDP per capita 18 416.5 USD. It is evident that countries ranked higher in the NRI index also have higher GDP per capita.

Conclusion

ICT is considered to be a very important part of Slovakia's economy. Their significance increase year by year but compared to other developed countries and also to EU, Slovakia is constantly behind. In Slovakia insufficient attention is paid to ICT. Slovakia's ranking and development index value indicates the same fact.

Several ICT indexes enable to support all the three pillars of sustainable development: social development, economic development and environmental protection. ICT improve the access to education, public administration and healthcare, moreover they enable to improve people's skills by providing communication platforms and hardly measurable indicators. The significance of ICT is growing also in the investor's eyes who besides cheap workforce, built logistic network and governmental benefits, take into account factors such as broadband coverage or population's computer literacy. In addition to foreign investor's arrival and GDP growth ICT usage and promotion deal with questions according to the labor market. ICT's level is improving still very slowly despite the fact that Slovakia has the potential for ICT – some requirements are fulfilled. For example in spite of the low Internet availability the Internet is used by above-average number of Slovaks. Computer literacy is also on a higher level, which at least compensates the average of EU27 and the EU15.

Measuring the ICT's impact on the country's economy is very difficult. To quantify the country's competitiveness in ICT there are various indexes. Each of the indexes is based on different methodologies. Implementation and usage of ICT is measurable through these indices. The following countries have the most developed ICT (2013): Denmark, Korea, Swede, Ireland, England, Norway, Netherlands, Finland, Hong Kong, Luxembourg. Although, developed countries are making major progress in ICT's development, developing countries are progressing faster in ICT's implementation.

It turns out that countries with the highest NRI ranking have also the highest GDP per capita. These are mostly the developed countries such as Scandinavian countries, Japan, USA and so on, which have the greatest progress in ICT's use while they also have the highest GDP per capita.

Slovakia ranked 59th in the NRI index with 4.2 points in 2015. A year before Slovakia also reached the 59th place with 4.1 points. In 2013 it was the 61st place with total 4.0 points. In the years 2006-2007 Slovakia had better ranking – 41st. That was the highest ranking of Slovakia in the NRI index. After this period the crisis had broken out which had a negative impact on the ICT's development. Due to this fact in the following years the ranking declined; in 2011 compared to 2007 by 28 places. Despite this fall we can say that Slovakia is moving forward with small steps year by year – we can observe it through the NRI index.

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The Role of Alumni Relations in Higher Education Marketing Strategies

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Abstract

Alumni provide a valuable marketing conduit for educational institutions to not only share the positive experience and atmosphere of the university but to illustrate the competencies learned that are positively impacting employers. Alumni who are interested in giving back need channels through which they can remain connected to their alma maters. The connection of alumni, the university and the labour market fill a critical need in an economy where competition increases, traditional student population decreases and budgets tighten. One of the approaches of the alumni - academy relationship is the use of institutional advancement strategies - building lifelong relationships with stakeholders including alumni offers a higher education institution a strategy to increase support for an institution and to yield other residual benefits. Implementing alumni relations management in the marketing strategies of the universities is inevitable and universities have wide range of marketing instruments including communication mix and database marketing to engage alumni.

Keywords: Marketing, Higher Education, Alumni, Competitive Advantage, Marketing Strategies

JEL classification: M 31

1. Introduction

Alumni represent their alma mater, both consciously and unconsciously, through the contribution that they make to society. An alma mater leaves an imperishable mark on an alumnus/alumni both in the cognitive domain with knowledge, skills and critical thinking and in the affective domain with nostalgia, loyalty and fond memories. If the university adopts a model of building lifelong alumni relationships there is potential to gain wider, meaningful benefits from the alumni constituency. By educating students, alumni and the institution itself, the benefits of an institutional advancement practice can become embedded within an institution's values and management practice.

Too often alumni slip away after graduation if a means is not provided to connect them to the university. Higher education institutions must use various tools and communication channels to identify the individuals and groups that influence the university target publics positively. The educated and satisfied alumni are one of the best ways to promote the university. Their satisfaction, their positive opinion and their positive promotion in their environment is in terms of word-of mouth marketing very significant. Alumni relations are common part of the communication activities of the universities, they have alumni clubs, meet regularly, they are proof of their alma mater, they cooperate actively and they support the institution in various ways (business – academia relations, lectures, guest speakers, internships, fundraising, conferences, ambassadors, promotion) (Barron, 2015).

1.1 Methodology

The objective of the article was to make a comparative analysis of the different approaches towards managing alumni relations as an important issue within marketing strategies of higher education institutions. The literature search was concentrated mainly on international resources e.g. textbooks on alumni marketing, articles from reviewed journals, proceedings from conferences and internet sources. The methods of abstraction, deduction and comparison were applied.

The critical literature review suggests further need for research and importance of following all the aspects and the impact of the marketing approach of the higher education institutions. In conclusion, summarization of benefits, generalization and final evaluation of results are drawn.

2. Alumni Relations in Marketing Higher Education

Alumni provide a valuable marketing channel for universities to use – they have very valuable impact on all the publics the institution has to cooperate with. Higher education institutions can benefit greatly from building bridges with alumni – alumni relations are the constant part of the overall marketing strategies.

2.1 Marketing approach for Higher Education

The role of higher education in the modern society has three main dimensions: providing education of the highest level, it is base of research and development potential of the country and provides other specific services usually connected with the development of society, region and community. Currently in the period of fast introduction of changes in the education market the higher education institutions must adapt to these changes, developments and trends, the needs of labour market, demographic changes, new information and communication technologies, increasing competition and expectations of the customers. European Higher Education and Research Area enables universities to cooperate in the education, research and project activities and makes higher education more transparent but on the other hand more competitive.

Marketing approach enables to analyse the needs and desires of the customers, identifies institution's strengths, weaknesses, opportunities, and threats. It's a way of continuing monitoring of the external and internal marketing environment. The building of the positive image and systematic communication with all stakeholders is extremely important. Marketing and its instruments have to be included in the overall development strategy if the institution – it is inevitable to develop and retain the competitive advantage and to communicate it to all publics of the institution (Lesáková, 2010).

Marketing succeeds only when all departments work together to achieve goals. To address all these different shifts, marketers are practicing new approach of holistic marketing.

Holistic marketing is the “development, design, and implementation of marketing programs, processes, and activities that recognize the breadth and interdependencies of today's marketing environment” (Kotler & Keller, 2012, p. 18). Four key dimensions of holistic marketing are:

1. Internal marketing - ensuring everyone in the organization embraces appropriate marketing principles, especially senior management,

2. Integrated marketing - ensuring that multiple means of creating, delivering, and communicating value are employed and combined in the best way,
3. Relationship marketing - having rich, multifaceted relationships with customers and other stakeholders,
4. Performance marketing - understanding returns to the business from marketing activities and programs, as well as addressing broader concerns and their legal, ethical, social, and environmental effects.

Education is - in the sense of marketing classification of products - a service that is provided to satisfy the customers and stakeholders. The essence of each organization, also the higher education institution, is not the sale of the products, but the solving of problems, desires and demands of its customers. Educational services do not have the character of pure services – they contain both the intangible and tangible component (Světlik, 2009). Services provided are perceived as the competitive limitation between institutions in terms of their superiority in creating unique experiences. Teaching is a service while learning is an experience. Dichotomizing the two complicates what it is to define quality education (Yeo, 2008). Four distinctive service characteristics greatly affect the design of marketing programmes: intangibility, inseparability, variability, and perishability. The typical attribute of educational services is the inevitable cooperation of customers – they play an active role in its delivery (Kotler & Keller, 2012, p. 363).

It is important also to remark the existence of the opposite opinions regarding marketing approach in the educational sector, mentioned by Kotler (1982) and many other authors (Czarniawska & Genell, 2002; Bruhn, 2005; Maringe & Gibbs, 2009). The application of marketing tools might be perceived as incompatible with the primary mission of the institution – the goal of education is to bring knowledge, analytical skills, critical and rational thinking, and not to behave as an entrepreneurial subject shaped by the market. From the pedagogical point of view the position of the student as the customer might not be acceptable. Currently there is a change in the nature of the relationship between the teacher and the student – the teachers are not the only source of wisdom and information anymore - it is more like partnership, the focus is on students and their collaboration in the learning process (learning outcomes). The education should not be commoditized. It is both a process and product of interaction between the student, the material of learning, the instructors or facilitators of learning, and the variety of resources used to aid the learning process (Maringe & Gibbs, 2009). Marketing as a concept goes beyond the ordinarily accepted views of advertising and promotion – marketing is about the exchange and delivery of value between those who provide the educational service and those who seek to benefit from it. It is a process of building relationships based on trust and aimed at empowering the clients or customers of higher education.

Understanding product in the higher education context

There are several opinions how to understand the definition of the product as one of the elements of the marketing mix depending on the target group on the demand side (Kotler & Fox, 1995; Catebury, 2000; Štefko, 2003). The product can be the education itself (product for students), the graduate of the university (outcome of the educational system to be prepared for the industry and society - product important for the labour market) and other public and community services and the outputs of business activities (product for the community, society or business sector). In that sense the student is the customer and the product of the university at the same time. Sociologists suggest (Catebury, 2000), that higher education institutions operate as „total institutions“ (similar to e.g. hospitals, prisons, monasteries) - all members are involved in the providing the services and in the life of institution (including accommodation,

board, safety, counseling, networking, spending leisure time), they are creating them together and they have influence on their whole life.

Educational quality is defined as the exclusivity of experiences students engage in as part of their whole-person development. As such, an orientation towards the inner satisfaction of students is insufficient; quality excellence should encompass the outer performance of an inner quest to satisfy a wider experience. This level of satisfaction goes beyond the intellectual by considering the social and professional (Yeo, 2008).

In planning market offering – educational service in case of higher education – the institution needs to address the product levels. Besides the three traditional ones there are, according to Kotler and Keller, another two - expected and potential product. Each level adds more customer value, and the five constitute a customer-value hierarchy (Kotler & Keller, 2012, p. 326):

1. **the core benefit** - the fundamental level, the service or benefit the customer is really buying (e.g. education).
2. **the basic product** (e.g. study programme).
3. **an expected product** - a set of attributes and conditions buyers normally expect when they purchase the product (e.g. library, sport facilities, dormitories).
4. **the augmented product** - exceeds customer expectations. Here is where institutions search for new ways to satisfy customers and distinguish their offer.
5. At the fifth level stands the **potential product**, which encompasses all the possible augmentations and transformations the product or service might undergo in the future.

The student's educational experience is a result of university activities (e.g. library facilities, parking, services) and departmental activities associated with the studies (teaching quality, subjects and trainings offered, advising, preparation for the labour market, international experience). The student satisfaction is a function of meeting the expectations at both of these levels. The importance of satisfying students' expectations has grown and with increased competition in the sector of tertiary education might be the core element of competitive advantage of the university.

2.2 Implementing Alumni Relations in the Marketing Strategies of the Higher Education Institutions

The term „**alumnus**“ (fem. is alumna, plural alumni, fem. plural alumnae) means: 1. one that has attended or has graduated from a particular school, college, or university (usually used of a man in the singular but often of men and women in the plural). 2. one that is a former member (as of an organization), employee (as in an office), contributor (as to a magazine), or inmate (as in a penitentiary) (Encyclopaedia Britannica, 2015). The word comes from Latin, it means "pupil", literally "the nurtured" (origin: alere: nurture). Originally students of a so-called "alumnat", a boarding school, were called alumnae/alumni. First known use in 1640s at Harvard University.

Today the term alumnae/alumni refers to the graduates of a university or a similar educational institution. However, when actually used, the meaning of the term depends on the thematic context and the individual point of view. In a narrower sense it may refer to a group of graduates of a university or, in broader sense, to everybody connected to a university (University of Stuttgart, 2015). Since decades alumni societies have existed at universities in the United States and some European countries. Especially in Great Britain and France there is a long tradition of alumni societies. In Europe alumni societies have been established not before the late 1980s.

Marketing communication with Alumni

Alumni relations can have also other objectives: re-establishing contact with older alumni, taking feedback and ideas from alumni on various issues connected with the institution, or cooperation activities between the worlds of science and research and the labour market.

The continues communication with alumni might also solve the uncertainty of graduates after leaving the school – the are not sure if their choice of the higher education institution was the right one because the effects – positive or negative – might appear long after the graduation - after the “purchase” of the service. The student could experience dissonance from noticing certain disquieting features or hearing favorable things about other institutions and will be alert to information that supports his or her decision. Marketing communications should supply beliefs and evaluations that reinforce the student’s choice and help him or her feel good about the “brand”. The marketer’s job therefore doesn’t end with the purchase of the service. Marketers must monitor postpurchase satisfaction, postpurchase actions (Kotler & Keller, 2012, 172).

The *marketing communications mix* consists of eight major modes of communication, that can be adapted to the needs of communication with alumni (Kotler & Keller, 2012, p. 478): advertising, sales promotion, events and experiences, public relations and publicity, direct marketing, interactive marketing, word-of-mouth marketing and personal selling. Marketing communication with alumni can use various means of communication according to the target group, the contents of the communication, desired speed of transmission and the budget. There are of course various approaches and model of managing alumni relation with the university. Alumni strategy should cover at least (Manchester Metropolitan University, 2015; Barron, 2015):

- Managing the Alumni Association,
- Managing the Alumni website,
- Communication with Alumni – e-mails, e-bulletins, social media,
- Organization of events/reunions,
- Managing the alumni database,
- Fundraising activities,
- Sponsoring activities,
- Managing university's originals e-shop.

Other activities with alumni might include, e.g.: project bank, publishing challenge (proofing drafts, securing publishers, co-author articles), guest speakers in webinars or seminars, organizing internships for students, mentoring or writing references.

Social networking

Social media allow customers to become engaged with a brand at perhaps a deeper and broader level than ever before. Social networks are one of the largest Internet developments in the 21st century. They are considered as a new medium of direct marketing and they represent one of three of cyber communities (beside blogs and chat systems). Its main purpose is making new friendships or maintaining those that already exist (Gregurec, 2011). Helping former students stay connected is just one reason universities are turning to social media - fundraising is another, and there are many more. There are several ways higher education can use the power of social media to engage alumni (Lavrusik, 2009): *helping alumni find jobs, collaboration and connecting with students* (smoothing the transition from being a student to becoming an alumnus by helping the two groups connect and collaborate with each other) *fundraising, training alumni to use social media* (for many alumni social media is still brand

new), *providing tools to spread information*, *alumni-generated content* (another way universities are engaging alumni is by allowing them to produce their own content), *mobile reunions* (a way to save on printing costs and environmentally friendly), *connecting the dots: Google maps* (class reunions are all about reconnecting to old classmates and the university. Alumni who received a flyer can check it in on a Google map on the website).

Information and data management and analytics are becoming critical success factors for alumni associations as they segment programmes and become more market-focused. Shifts to centralized systems that provide key core services and outcomes reduce costs, improve efficiencies, and facilitate high-value alumni programming and communications.

Database marketing

Marketers must know their customers. And in order to know the customer, the organization must collect information and store it in a database from which to conduct database marketing. A customer database is “an organized collection of comprehensive information about individual customers or prospects that is current, accessible, and actionable for lead generation, sale of a product or service, or maintenance of customer relationships. Database marketing is the process of building, maintaining, and using customer databases and other databases (products, suppliers, resellers) to contact, transact, and build customer relationships” (Kotler & Keller, 2012, 143). The institution has to notice at the same time that not all customers want a relationship with the organization. When it works, a data warehouse yields more than it costs, but the data must be in good condition, and the discovered relationships must be valid and acceptable to consumers (Kotler & Keller, 2012, p. 145).

The idea behind creating a database, in case of educational institution is to identify potential customers - students, defining the students/alumni who will receive personalized offers, and increasing the loyalty. Maintaining the customer database for marketing purposes is very useful to enhance marketing productivity, to develop a student/alumni-academy relationship and to create a sustainable competitive advantage. The development of information technology together with the growth of the Internet importance have caused lower productivity of mass marketing, increased marketing responsibilities and increased interest in customer relationships (Gregurec et al., 2011). Creating a database affects the ability of institutions to follow the entire lifetime of customers, their current and future behaviour. Effective implementation of database marketing depends primarily on quality of customer data.

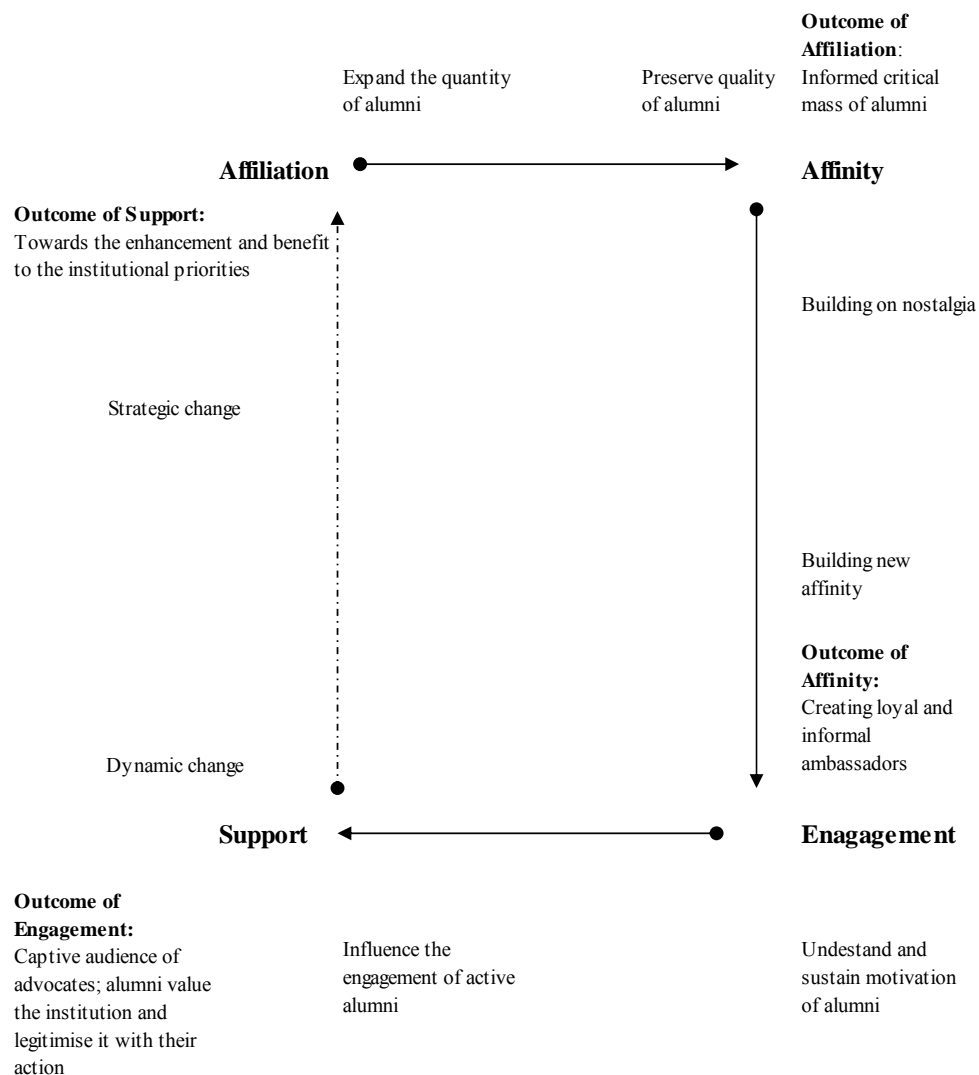
2.3 Institutional advancement strategies

One of the approaches that offers a deeper understanding of the alumni–academy relationship is using institutional advancement strategies. **Institutional advancement strategies** are according to Gallo (2012) defined as an approach to building relationship with stakeholders - including alumni - to increase support for an institution. Universities build relationships with graduates (alumni) to form a foundation for wider institutional support, which may include philanthropy at a later stage. Since a higher education institutions initiate the conditions and apply institutional advancement strategies for alumni relationships, the task is on alumni themselves to decide to embrace or ignore this approach from their alma mater to develop a lifelong connection. Students-turned-alumni have a vested interest in the reputation of their alma mater as it defines their intellectual journey and the value of their qualification. Also, the discourse of the student as a customer ascribes to a short-term student–institution relationship, terminated once the educational “product” is accessed or consumed. Institutional

advancement strategies concentrate on building long-term alumni - university relationships instead of alumni as only a potential financial return.

A fundamental aspect of institutional advancement strategies is building and managing relationships. The role of the university is to use institutional advancement strategies practice to initiate action at each stage of the relationship-building cycle: define affiliation, build affinity, foster engagement and secure support (Figure 1).

Figure 1
Relationship-building cycle



Source: Gallo, 2012, p. 50

Each stage of this paradigm describes the progress of alumni through the relationship from virtual stranger to close friend. Certain components of institutional advancement strategies are most likely to operate at each stage: communication is linked to affinity; alumni relations to engagement; and fund-raising to support. An institution manages all stages simultaneously, recognising that each alumnus/ alumna is at a different stage in the relationship with their alma mater. An alumnus/ alumna progresses in a logical sequence, one stage at a time from affiliation through to support, or disengages from the cycle by no longer

connecting with the institution. Equally, an alumnus/alumna may re-engage in the cycle, usually by renewing an affinity with the institution.

To manage the thousands of alumni, the institution invest in a contact management system to maintain individual alumni records. This database is updated as the alumni community changes: adding new graduates from the student database, identifying deceased graduates and creating links between family members. There is little direct interaction with alumni at this initial stage in the process, instead the institution sets a foundation for tracking alumni affiliations inherited from a student record system (Gallo, 2012). The support stage is not the end of the process. Ideally, the cycle continues as the institution changes, improves and identifies new priorities. The cohorts of alumni are continually informed on these renewed advancements, with the opportunity to gain new affinity, engagement and support to benefit the institution.

2.4 Current Trends in Alumni Relations

The newest trends in alumni relations comprise mainly (Napa Group, 2015):

- **Alumni associations** are rebranding themselves as the lifelong link between alumni and the university, shifting perceptions of the association's role and its importance within the university. As alumni seek meaningful relationships with their universities, alumni organizations are positioning themselves as "portals" between alumni and alma mater, through programming and communications. As an entry point for alumni into the university, the association's website typically provides news and information about the university, multiple options for engaging alumni with each other (including social media), activities that interest alumni throughout their careers and lives, events on campus and regionally, career services, connections to state legislatures for advocacy work, and ways to give back to the university through involvement and donations.
- Increasingly alumni communications offices are refocusing their activities on **strategic priorities** versus simply reacting to and serving all the organization's communications demands.
- The **reputation of alma mater and the increasing equity of their diplomas** are key motivators for connectivity. Alumni seek to connect through career, social, and business networking provided by alumni associations. They are interested in learning more about their institution's academic strengths, how it educates graduates for careers, exciting developments in student-faculty collaborations and research, and opportunities to be exposed to new things and be prepared for a complex and changing world.
- Alumni associations use various forms of **market research** to identify their key value to their alumni and reinforce that value consistently throughout all forms of communications – print, online and through personal visits, events, and presentations.
- Integrating **alumni communications** into overall advancement and/or institutional marketing communications offices is increasing as universities have become more market-focused.
- The rapid rise of **new technologies**, such as social media and mobile communications, are powering alumni networks. This requires that alumni professionals understand how best to use them strategically within the overall marketing mix, including targeting alumni segments. Multiple communications channels are designed to reach alumni according to their communications preferences (lifestyle, age, geography, etc.).
- Despite the high-tech rage, **alumni magazines** have value at many institutions and are becoming more strategically focused to boost loyalty, participation, and giving.

- Both private and public universities are recognizing **the need for private support** and re-evaluating membership models as state and federal resources decline and educational costs rise.

3. Conclusions and policy implications

Higher education institutions which involve their alumni in further education, research, and also in the cultural and social activities, have the possibility to benefit from the experience in order to gain new impulses to improve research, teaching and university culture and there are also positive aspects of potential fundraising and sponsoring activities, and other active forms of cooperation with alumni. Satisfied alumni can be the best ambassadors for the university in times of negative demographic developments, the potential students (post graduate or life long learning students), and the partners for various forms of cooperation. Helping former students stay connected might help to deal with the possibilities of dissonance after purchasing the educational service and communicate the information that supports their decision. Thanks to alumni societies they have also the chance to stay in contact with their university and with former fellow students as well as to make use of the offers for professional and scientific further education.

As a student focussed organizations, universities have to support the strategies that provide tangible benefits to all parties involved while promoting alumni success and student persistence in positive ways. It also serves as a reminder that well-crafted educational experiences change lives in ways that drive alumni to desire to remain connected and to give back, and that an institution can serve as a mediator to leverage this positive potential to the benefit of all stakeholders without exorbitant costs. Implementing alumni relations management in the marketing strategies of the universities is inevitable and universities have wide range of marketing instruments including communication mix and database marketing to engage alumni.

Applying of alumni relations strategies has to be built on existing experience and research while it is important also to study existing situation, environment and trends taking into account the different historical backgrounds and developments of different systems of education.

Acknowledgement

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Trends of the intra-union trade in comparison to world trade

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Abstract

The conference article is dealing with the trends prevailing in the trade between the member countries of the European Union. The author is comparing the situation in the world and the intra-union trade. The results of the article show, whether there are some obvious typical trends for the union level of trade, different to the world trade. The article analyses the intra-union trade with merchandised goods, with services, trade in various sectors of economy, the intra-sectoral trade and other factors.

JEL classification: F10, F15, F40

Keywords: European Union, Intra-EU trade, world trade, recent trends

1. Introduction

European Union (EU) is one of the greatest actors of the world economy. It produces the biggest GDP in the world and as the largest exporter and second largest importer in the world it has an important influence on the world trade. EU contributes by 20 % to the world trade only by its internal trade and more than 30 %, when the extra-EU trade is added.¹ But EU, as an integration group made up by 28 member state, is functioning differently than a unitary state. What consequences does this fact have on the intra-EU trade and if there are some trends in the intra-EU trade different from the world trade, is the aim of the examination of this article. Another aim of the article is to demonstrate and quantify the EU's position in world trade.

EU is being described as a very open economy, which supports the free trade and the liberalization of the world trade. It is also the biggest importer of good (except of fuels) from the developing countries.² More of the EU's member states belong to the biggest traders in the world, for example Germany, France and Netherland.

The trade within the EU (intra-EU trade) is defined by the basic characteristics of the Single Market. The Single European Market - one of the biggest achievements of the integration in the European Union has its most significant contributions in the area of trade. It has had a huge impact on the development of the intra-EU trade between the member states. Under the Single European Market we understand the area without internal borders where 4 freedoms can be identified: free movement of goods, services, people and capital. The statistics of the intra-EU trade enable us to evaluate the growth and the state of the Single Market. What is also worth mentioning in the introduction, when comparing the intra-EU and

¹ Just to compare, the trade in NAFTA is about 6% of the world trade and the trade within East Asia 13%.

² European Commission. (2014). EU position in the world. <http://ec.europa.eu/trade/policy/eu-position-in-world-trade/>

the world trade is, that EU member states have unified trade policy, which influences their relations with the non-EU countries.

Why do we examine the trade volumes and trends? Trade can help to speed up the GDP creation, as it is one of the determinants of the economic growth. The economic growth is what the world and especially the European Union needs in this time of the recovery after the financial and Eurozone crisis. Several analysis prove, that the creation of the Single Market helped to boost the economic growth, and even during the financial crisis it helped the recovery, because it has a positive impact on the exports and foreign direct investments. Thanks to these forces was the GDP growth approximately 2-3%.³

1.1 Methodology and Data

The data used in the article are mostly the data published by the WTO, as the international organization responsible for the global trade liberalization and it collects the trade statistics. WTO is also in charge of monitoring of the trends in the world economy. We also used the data from the Eurostat that are used by the European institutions and statistics collected by Unctad.

The main method used to reach the aim of the article is comparison. We also used analyses and synthesis, to evaluate the comparison of the statistical data collected from different databases, and with help of descriptive method we summed up the findings and the results of the article.

2. Specifics of the Intra-EU trade

2.1 Intra-EU trade in goods

The trade in goods in the European Community have been liberalized as first and it was also the easiest agreement as part of creating and as the base of the Single Market. The liberalization of the intra-EU trade was one of the incentives in the whole integration process, because the fragmentation of the European market and the differences in the commercial policy were one of the biggest disadvantages in comparison to other large economies, e.g. United States. The integration in Europe started with the sectoral approach in the field of the trade with coal and steel and then it had successively spread to other areas of the industry.

The tariffs within the European Community had been gradually reduced. Since 1968, the Customs Union has been established with no tariffs applicable between the member states. This date could be labeled as the real launch of the free movement of goods.

But according to the White Paper from the 1985, there were still many barriers to the free trade in the form of physical (border checks), tax and technical barriers to trade within the Community, which hampered the creation of an efficient free market. In the Single European Act, the EUs member states have decided to create the Single Market until the year 1993 without all of these remaining barriers. They agreed to reduce quantitative restrictions, to harmonize standards and safety requirements and further liberalize the trade. Despite of the fact, that some experts don't agree with reaching this target in the desired time, many important steps and processes have been launched. But the construction of the Single Market was not ended in this time for sure. Till these days many new initiatives are being undertaken, which should help the functioning of the Single Market. There are always areas, where the cooperation and harmonization between the member states could be improved.

³ VETTER, S. (2013): The Single European Market., p. 9.

2.2 *Intra-EU trade in services*

Sector of services represents in the structure of the economy of developed countries the greatest share and employs the majority of the labor force. But the liberalization of trade in this sector is much more difficult and the progress is slower, than the liberalization of the trade with goods. Also in the EU the situation is similar. The transposition of the European Commission's directives proceeded quite slowly, and the free movement of services was not completely reached until the 1993. There is still much room for improvement. The latest directive about services was adopted in 2006. From the point of view of deepening of the Single Market, it is important to concentrate on the liberalization of the services sector.

But apart from the state of liberalization of this sector, almost all the countries of the Western Europe belong to the biggest traders with services in the world. EU is a net exporter of services. Almost 29 % of all the extra-EU export was created by services.⁴ Services could be described as the engine of the modern economies, what is proven not only by the efforts of their liberalization in the EU, but they are becoming more often an important part of the newly agreed free trade agreements.

3. Comparison of the intra-EU trade with the world trade

When comparing the trends of the intra-EU trade with the world trade, we have to remember, that the EU is made up only of developed countries, because the development is one of the factors that influence the character of the trade. Of course, also in the EU there are differences between the member states in their level of development, and their participation in the intra-EU and also in the world trade is specific. As the EU trend we will try to consider either the average of EU or the feature that is typical for all the member states.

On the world trade level, the trade between the developed countries represents approximately 30 % (decreasing in favor of developing countries in the last decades), the trade between developing countries 30 % as well, and the trade between developed and developing countries 40 %.⁵ There is also a tendency observed in the world trade, that the goods and services exchange is realized in greater volumes in the borders of the same region or integrational group. EU is the best proof of this, because in its borders the most trade is exchanged. Almost 62 % of the merchandise exports of the EU end in other member state. It confirms a very high share of the intra-EU trade. No other part of the world has such a big trade within its borders. The second part of the world, with almost 57 % of merchandise trade exchanged within the region, is Asia (especially East Asia). But compared to the past, the intra-EU trade has shrunk.⁶ The share of intra-union trade in commercial services is little bit smaller, reaching only around 55 %.

We can see the intensity of the intra-EU trade also in the first figure, which shows that when the intra- and extra-EU exports of goods are analyzed by the individual member states, all member states, except of three (Greece, United Kingdom and Malta), export clearly most of their exports to other member states in the EU. The importance of the intra-EU trade is most visible by the smaller countries that joined the EU later. Slovakia is on the top of the list recently, exporting more than 83 % of the goods into the EU. The bigger countries make up the majority of the intra-EU trade, as their absolute volumes of exports are much bigger. Compared with the period of time 10 years earlier, all the member countries (except of

⁴ Eurostat. (2015). Statistics explained: International trade in services. http://ec.europa.eu/eurostat/statistics-explained/index.php/International_trade_in_services

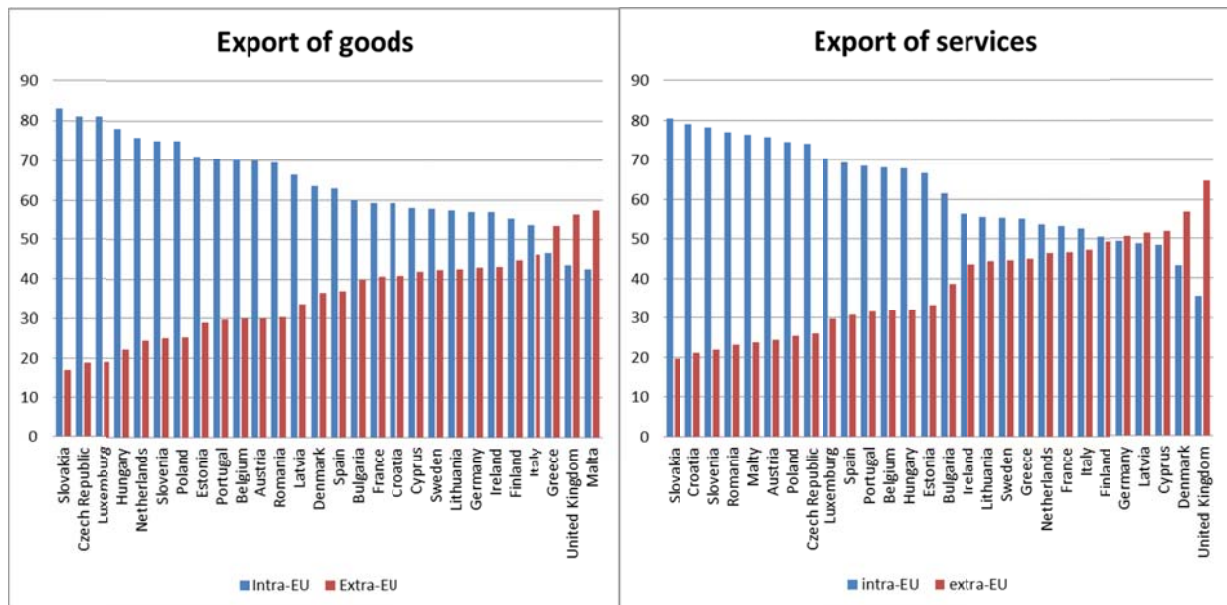
⁵ Unctad. (2014). Key Trends in International Merchandise Trade.

⁶ Eurostat. (2015). Statistics explained: Intra-EU trade in goods - recent trends. http://ec.europa.eu/eurostat/statistics-explained/index.php/Intra-EU_trade_in_goods_-_recent_trends

Cyprus) have decreased their share of the intra-EU trade, what reflects the overall decrease of the intra-EU trade.

Figure 1

Intra-EU exports of goods and services compared with Extra-EU exports by Member State, 2013 (% share of total exports)



Source: Author's calculation on based on the data from <http://ec.europa.eu/eurostat>

By observing the exports of services, we can conclude with similar results, as by the trade with goods. There are 5 countries that export more services outside the EU, which are Germany, Latvia, Cyprus, Denmark and United Kingdom. In case of intra-EU trade with services, its trend is not so negative, because in the last decade, the share of the intra-EU exports on the total exports of the 13 member countries have increased (Croatia, Czech Republic, Finland, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia, Sweden).

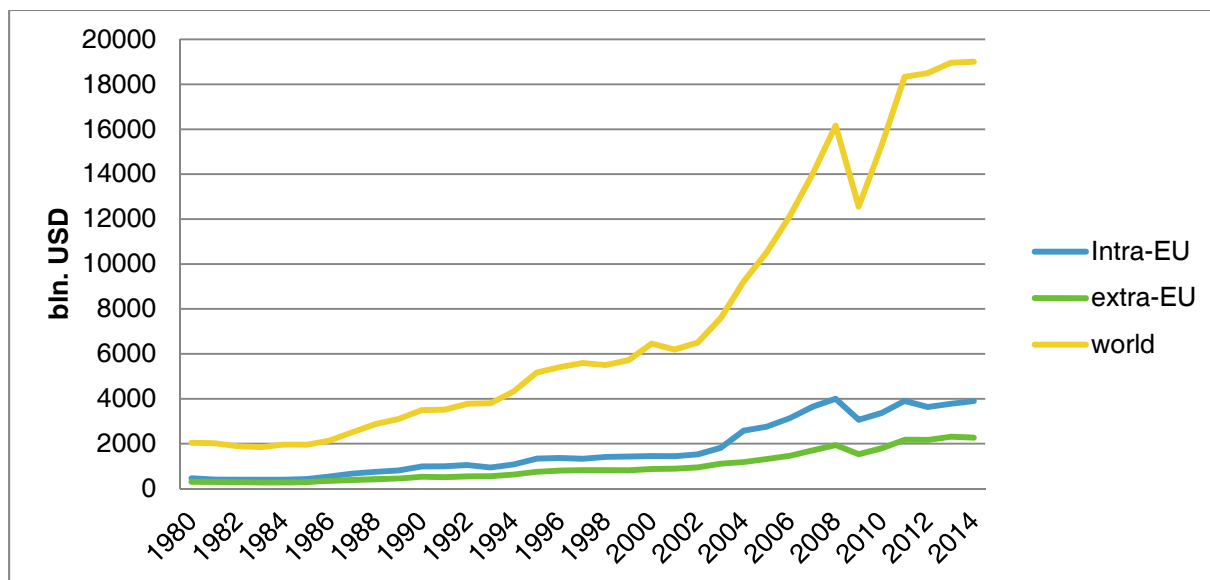
The amount of total merchandise that was traded in the world in the year 2014 is 18.3 trillion USD. The amount of the services traded in this year was 4.6 trillion USD. World merchandise exports grew by 2,5 % in value terms in 2013 while exports of commercial services increased by 6 %. EU exported in 2013 by 1,5 % more merchandise, than in the previous year. The trade with goods was strongly hit by the crisis, and because of the weak demand, the exports and also the imports declined significantly. This was the trend how in the world, as well as in the EU. The biggest drop was recorded on the world level in 2009, when the exports were lower by 22 % than in previous year. The exports between the EU countries declined by even more – 23 %, and the extra-EU exports decreased by 22 %. So the crisis hit more the intra-EU trade as the extra-EU trade in goods. But when the EU and world level is compared, the EU and its exports (intra and also extra-EU) are recovering slower, than the world exports. The intra-EU exports, contrary to world and extra-EU exports, still didn't reach the level of the pre-crisis export.

The growth of the trade in services is the result of the recovery of EU, because it's export of services grew by 7 % in 2013, which was the second highest growth in the trade with services from all the regions, after Commonwealth of Independent states. But what is very important is the recovery of Europe in the area of services exports, because back in 2012 the decline of 2 % in the services exports had been recorded. In 2013 Europe exported 47,2 % of

the worldwide exports of the commercial services. This share was a little bit lower than before the crisis.

Figure 2

Exports of merchandised goods in billions of USD (1980-2014)

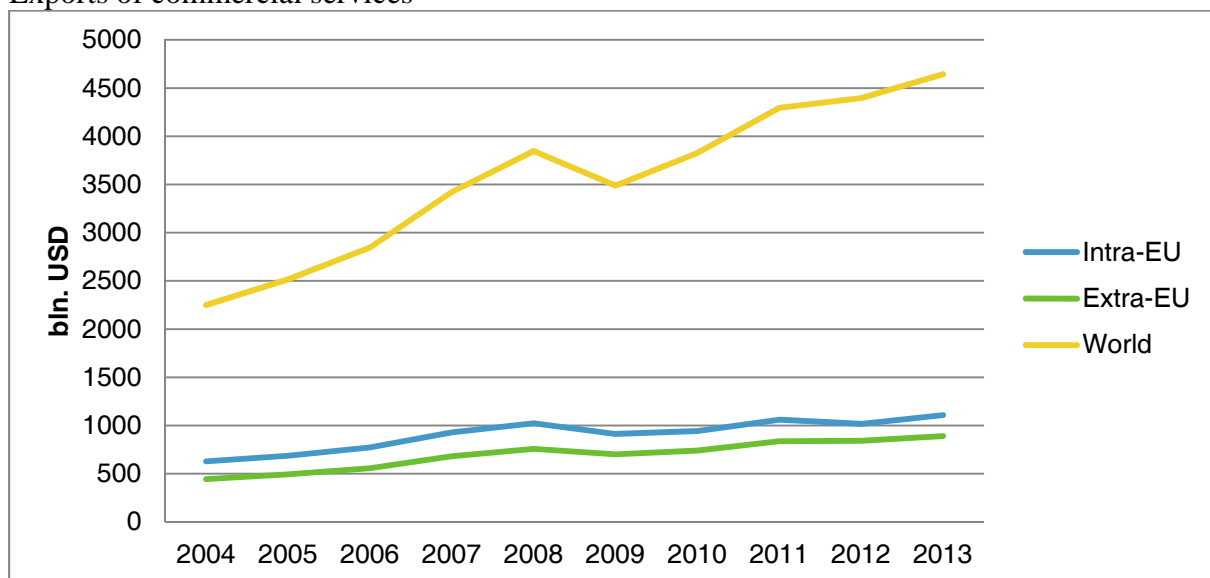


Source: Author's calculations based on the data from <http://stat.wto.org/>

The trade with commercial services was not so strongly hit by the crisis as the trade in goods, but they reflex the similar proportions as the trade with goods. The world exports dropped by 9 %, and the intra-EU exports (almost -11 %) more than the extra-EU exports (-7 %). Fortunately, the development in this area is more dynamic, and the pre-crisis level is already surpassed.

Figure 3

Exports of commercial services



Source: Author's calculations based on the data from <http://stat.wto.org/>

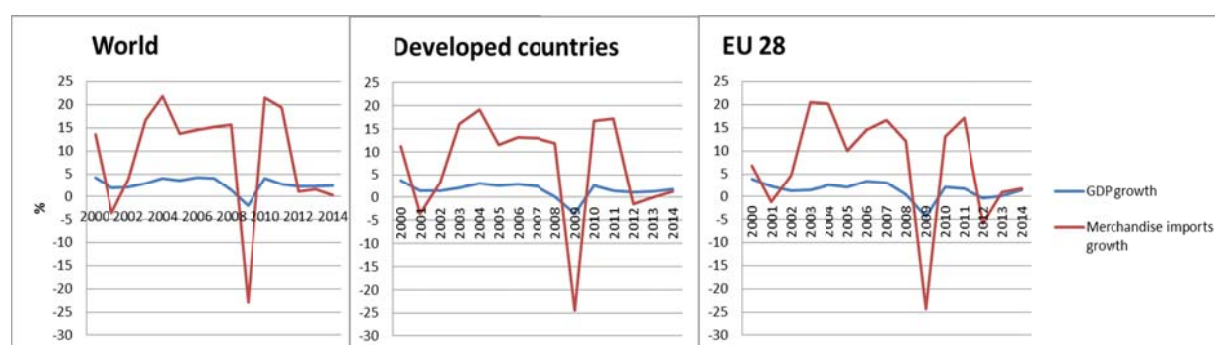
When the trade in goods and trade in services is compared on the intra-EU level, the trade in services still lags significantly behind the trade in goods and its historical development is

also much less dynamic than the growth of the intra-union trade in goods. The trade with services represents only about 23 % from the total trade conducted in EU. But compared with the worldwide proportions of the trade, EU and its trade with services is better off, because on the world level, the services accounts for only about 20 % of the trade. If we would measure the trade in services in the value added terms, it would represent more than 40 % of the global trade. For the EU, the share of services would be more than 50 %.⁷ This difference is caused by the fact that many services needed for manufacturing processes are included in the sale prices of goods and therefore are counted in the statistics of international trade with goods.

The experts often discuss the relationship and the mutual influence of the GDP growth and the growth of the trade on each other. In time of economic prosperity, the growth of trade is much higher than the GDP growth. In time of recession, the slump of international trade deepens the decline in economic performance. During the recession in 2008/2009 the serious problem of many economies was an insufficient demand. The recession in the euro area, has led to weak import demand.

Figure 4

GDP growth and the growth of merchandise imports



Source: Author's calculations based on the data from <http://unctadstat.unctad.org/>

Notes: All 28 EU's member states taken into account since 2000.

As we can see on the previous figure, developed countries and also the EU were affected by the trade slump during the crisis more than the whole world, because the developing countries mitigated such a huge decrease. From 2009 a sharp recovery of the trade growth had been recorded, but in 2011 came another decline, where the EU has reduced the volume of its trade more than the global average. European countries imports from outside Europe are currently more than 7 % below the levels of 2008, and their imports from other European countries are also 8 % lower than the levels of 2008.⁸ After the outbreak of the global financial crisis, lot of countries adopted temporary protectionist measures on international trade and investment. Among others, this step was also criticized by the EU⁹ as leading to restriction of trade flows and slower recovery from the crisis. But important is that the current trend (2014) in the trade growth in EU is better than the growth of trade in the world.

It is interesting to compare also the structure of the trade in the EU and in the world by products. The trade in goods in the internal market is mainly with manufactured products.

⁷ WTO. (2013). International Trade Statistics 2013. p. 183-185

⁸ United Nations. (2015). World Economic Situation and Prospects 2015. New York: United Nations. http://www.un.org/en/development/desa/policy/wesp/wesp_archive/2015wesp-ch2-en.pdf,

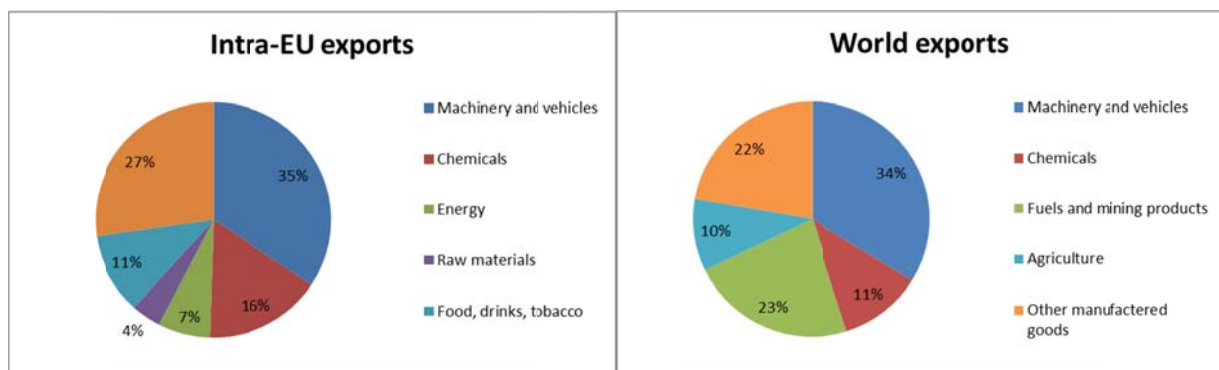
⁹ European Commission. (2012). Ninth Report on Potentially Trade Restrictive Measures. http://trade.ec.europa.eu/doclib/docs/2012/june/tradoc_149526.pdf

Their share in 2014 of the exports in the world trade was almost 65 % and in the total intra-EU export just over 77 %. Trade between developed countries mainly encompasses trade in chemicals, motor vehicles and various machinery, which collectively make up around 40 % of the developed country exchanges. On the other hand, the agricultural, textile, apparel and tanning sectors do not feature so prominently in trade between developed countries. In general, the export pattern of developed countries tends to be similar irrespective of whether goods are destined to other developed countries or to developing countries, with exception of fuel.

This can be identified to a large extent also in the intra-EU trade. The biggest share in the intra-EU trade belongs to the trade with machinery and vehicles (34 %), and this share is only 1 % higher than in the world trade. But the trade with chemicals, which is on the second place of most traded goods in the EU, is much more significant, as on the global level. On the other hand, when the fuels and in general the raw materials are taken into account, this category has a much smaller representation in the export mix, as the bigger amount of the fuels and energy material consumed in the EU is imported from outside its borders. The exchange of agricultural products and especially food is quite high in the EU, on the level of 11 % from all products traded.

Figure 5

Export by the product category (2014)



Source: Author's calculations based on the data from http://ec.europa.eu/eurostat/statistics-explained/index.php/Intra-EU_trade_in_goods_-_recent_trends (for the EU) and https://www.wto.org/english/res_e/statis_e/its2014_e/its2014_e.pdf (for the world)

The share of trade with primary products in the EU, where except of agricultural products belongs also energy products, had increased significantly.¹⁰ Contrary, the share of manufactured goods has decreased. The last decade has seen an overall increase in the importance of primary products in world trade.¹¹ This increase was especially recorded by energy-related products in the world, but also in the EU. It was supported by an increase in demand of emerging markets and also in the increase in prices of these commodities.

The intermediate product represents around 40 % of all merchandised products traded worldwide.¹² In the last decade and the half, this number has tripled, as the trend of outsourcing had begun to be used more. That's why worldwide the share of developing economies on the export of these kinds of products has risen. As the substantial part of the

¹⁰ Eurostat. (2015). *Statistics explained: Intra-EU trade in goods - recent trends*.

http://ec.europa.eu/eurostat/statistics-explained/index.php/Intra-EU_trade_in_goods_-_recent_trends

¹¹ Unctad. (2014). *Key Trends in International Merchandise Trade*.

¹² Unctad. (2014). *Key Trends in International Merchandise Trade*.

trade with intermediates is intraregional, with the exception of the bigger share of East Asia, to which exports are realized from other parts of the world, the situation in EU is pretty much the same. The EU is the biggest exporter of the intermediate goods, from which one third is exported outside EU and two thirds are sold in the EU. In 2011 EU exported 36 % of all intermediate good in the world (WTO, 2013). This fact demonstrates the great level of integration of EU in the global value chains.

4. Conclusion

The main finding of the article is that the development and the trends of the intra-EU trade are very similar to the development of the world trade, especially the characteristics of developed countries, as all the member states of the EU belong to this category. The EU is a major global player and with 16 % share on world trade only with its intra-EU trade and it also have a great influence on the world trade trends.

The exports of merchandise were strongly hit by the crisis and are slowly recovering now. The crisis affected more significantly the trade in goods than the trade in services, but the exports of services are growing faster. This is true for the world and also for the EU-level. But worth mentioning is the fact that the intra-EU trade declined little bit more than the global world trade, and even more than the extra-EU trade.

The sector of services is becoming more important in the world trade, but also in the intra-EU trade, where it has a bit bigger share as on the global level. It rises in comparison with the share of the trade with merchandise goods. EU is also globally very active in the trade with services. It is a big exporter of services to other countries. The increase of the Europe's services export has a positive impact on the boost of global economy last year.

When the export by the product categories were compared on the EU and world level, the worth-mentioning categories are chemicals, which are exported more by EU than is the world level and on the other hand the fuels and raw material, that EU lacks and needs to import them.

Very interesting is the developments in the trade with intermediate goods, as they have a 2/5 share on the world trade and EU exports a biggest part of these product, to its member states, but also to other non-EU countries.

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The Prospects for Diversification of Slovak Export to Asia

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Abstract

The centre of gravity of international trade has been shifting eastwards; 2 of 3 largest economies come from Asia. It witnessed 6.9% growth in 2014, much above the 2.6% on the global level. Credit goes in full to continent's hard working population. It is presumed that 90% of the global growth within the next 10 - 15 years will be generated outside Europe; majority of it in Asia. By 2050 a half of the global GDP will be generated there. Asia represents the global model in promoting R&D and innovations; it has become the key trading partner of the EU, with strategic partners in China, India, Japan, and South Korea. Numerous EU's FTAs are being negotiated, hopefully eliminating remaining barriers of trade. The contribution focuses on prospects which are emanating for Slovakia and the Western liberal economic model vis-a-vis state control. It discusses the China's economic downturn as a risk but also as a new opportunity. Slovak prosperity is vitally interlinked with the performance of export. It disproportionately depends on the EU. Out of the first eight countries within Slovakia's negative trade balance statistics, six come from Asia. Thus Asia should imperatively facilitate diversification of Slovak economy. The paper attempts to establish a frank and open picture of the state of the game, with right balance between theory and authentic professional experience of author. It assesses key Slovak strengths and weaknesses, identifies opportunities and offers a "food for thought".

Keywords: Slovakia, Asia, export, diversification, trends

JEL classification: E 66, F10, F50

1. Introduction

The economy of Slovakia is the most open among the V4 countries and after Luxembourg (event. also Ireland) the second (or third, respectively) most open within the European Union. From this perspective it remains ahead of numerous other smaller economies of the Eurozone, such as Malta, Cyprus, Latvia, Estonia or Slovenia (Morvay, 2015). In 2014 the Slovak foreign trade increased by 1% to €64.8 billion. The openness of the economy, as the proportion of foreign trade with commodities related to the Gross Domestic Product (GDP) of the country (in 2014 the GDP increased by 3.5%) stands at 167% (compared to 172% in 2013).

The discourse about the need for Slovak export diversification has existed not least since the beginning of the global financial crisis in 2008. The incentives for a more significant profiling of the Slovak economy abroad have repeatedly been embedded in national strategic economic documents. A plethora of measures designed to diversify export has been adopted, even though their effectiveness is, to say the least, limited: the share of Slovak export to the EU oscillates in the long term around the „magical“ figure of 85%. In 2014 export to other

EU countries reached again 84.1% share – with the full knowledge of discrepancies in domestic and foreign statistics (cars – the dominant export commodity – are in many cases re-exported to markets outside the continent via European carmakers' headquarters).

What are the causes? What other measures must the state adopt in its economic policies in order to mitigate the vulnerability to even the smallest fluctuations in the European economic area? Would the continued weakening of the Euro help to increase activities of the private sector in non-Eurozone and, particularly, non-EU markets? Or will it more likely weaken the trade balance through more expensive import, since the Slovak passive trade balance is dominated by partners outside the EU (with Asia representing the first seven: South Korea – €4.27 bil., China – €3.27 bil., Vietnam – €1.77 bil., Japan – €661.4 mil., Malaysia – €449.2 mil., Taiwan – €426.2 mil. and India – €202,2 mil.). The prospects for a higher trade dynamics are not supported by economic forecasts for 2016: economic growth exceeding 2% is not expected in the Eurozone or in Germany – our key trade partner. The „EU 27“ share on the added value until 2003 constituted 29%, whereas in 2011 it was just 24% (Svocáková, 2014).

2. Asia: What it Offers Now, Perspectives, Megatrends

The centre of the world trade is irreversibly shifting towards the East, despite the abundance of challenges, which the continent has faced throughout the last three decades. In the aftermath of the Second World War the majority of Asian states struggled with extreme poverty, they were recovering from the fallouts of the war with the need to rebuild infrastructure while having to confront their colonial past (most often it was the combination of all three factors). Since then the situation has dramatically changed: two of the three largest economies come from Asia (China in second and third-placed Japan). China (the highest growth forecasted in steel, household goods, finance sector and construction) should overtake the United States as the world's largest economy by 2030; while India should claim the second place (the growth expected particularly in IT, services, pharmaceuticals and car industry) in the next decade (World Development Indicators, 2015).

South Asia as well as East Asia and Pacific have in 2014 experienced an average economic growth of 6.9%, well above the world's rate of 2.6% (The World Bank Annual Report 2015). The credit for this advancement should unhesitatingly be accorded to the notorious Asian work ethics – 20th century witnessed the rapid industrialisation of Japan in the 1950s, followed by Hong Kong, Taiwan, Singapore and South Korea by the 1960s, or China in the 1970s (perhaps only by coincidence during authoritarian regimes). Hong Kong or Singapore based their economic policies on the liberalisation of trade and financial services, while Taiwan, South Korea and, especially, China on manufacturing. Flirting with socialist economic models has in countries such as, China, India or Indonesia proved inefficient – China has since had these approaches reformed, while others have relinquished them. The continent comprises the population of 4.5 billion (half of which come from China and India), which constitutes up to 60% of the world's population (IMF Data Mapper, 2015).

It is estimated that 90% of global economic growth in the next 15 years will be generated outside Europe, mostly in Asia (World Development Indicators, 2015). The Asia Development Bank (ADB) estimates that Asia will have produced 50% of the world's GDP by 2050. Currently – in 2014 – Asia and Pacific share constitutes 41.7% (IMF World Economic Outlook). By long-term active balance with the West Asia has accumulated more than half of the world's currency reserves – exceeding \$4 billion. Perhaps even more importantly, the Far East plays a leading role in promoting R&D and innovation.

In the light of the above, it comes as no surprise that Asia has become the EU's key trade partner. The Union has so far concluded four strategic partnerships (with China, India, Japan and South Korea). Trade liberalisation continues and includes negotiations of numerous new free-trade agreements (with Brunei, Fiji, Indonesia, Japan, Malaysia, Vietnam, and, to more limited extent, with India and Thailand) hopefully resulting in the elimination of remaining, particularly non-tariff, trade barriers. Since 2011 the FTA with South Korea already in force covers 70% of mutual trade; FTA with Singapore has since 2012 encompassed not only trade and services, but also the "green" agenda. In 2008 – 2012 the trade between the EU and Asia grew annually on average by 5.8%. In 2012 the trade with Asia amounted to 21.4% in the EU exports and 29.8% in its imports, surpassing the likes of USA and China. The list of EU's top 10 trade partners (EU-Asia Security Factsheet, 2014) now contains 2012 data of China (12.5%), Japan (3.4%), India (2.2%) and South Korea (2.2%). The EU is an equally important investor in the East – for instance in 2010 the 17.2% of the EU's outward investment went to Asia (EU-Asia Security Factsheet, 2014). The opportunities are also, undoubtedly, provided by the regional economic integration – ASEAN¹, SAARC², APEC³, and instruments, such as, the recently negotiated Transpacific Partnership Agreement (TPP), or dialogues, such as East Asia Summit or Asia-Europe Meeting (ASEM).

The EU member states continue to strengthen their visibility on the continent; they are opening new embassies (with the attention on e.g. the new Asia „tiger“ Vietnam or re-opening Burma/Myanmar), consulates-general and trade offices in the region (mostly in China), while political „obstacles“ (e.g. human rights issues) are being overlooked for the benefit of supporting economic/trade activities. This diversification trend with special and systematic focus on the Asian markets is currently also observed in geographically similar countries in the European Economic Area (EEA), for example Denmark, the Czech Republic, Switzerland, Sweden, etc.

There is a downside, however, for the rapid economic growth is logically associated with many risks. The Asian continent has for a long time been politically, historically and economically one of the most complicated regions, as George Friedman eloquently observes: „Asia is a place of perpetual changes and many things, which currently appear constant, will within the next ten years go through a deep transformation“ (Friedman, 2011). While economic interdependence in Asia is further deepened, there is a growing number of frictions and instability stemming from the absence of mutually agreed "code of conduct" and relevant security infrastructure. From the point of view of international trade, the critical question remains the need for freedom of navigation. Around 90% of the world trade depends on the maritime transport, while its precariousness is salient especially in this region with several critical channels and straits, such as the Strait of Malacca; relevant, though to a smaller extent, is also the competition for maritime mineral resources or fishery. The basic equation of this strategic situation is increasingly defined by highly competitive China, which is claiming the role of the US as the region's principal power. The new emerging regional phenomenon is the increasing nationalism and raising of historical grievances in bilateral relations.

Since, as stated above, Asia is one of the main engines of global growth, any slowdown of its economy will significantly affect the shape of the world's economy. Simultaneously, it is evident that the prosperity of the region is – next to the growing domestic expenditure – largely dependent on external environment, considering the export-oriented economies of the majority of the countries in the region.

¹ The Association of Southeast Asian Nations.

² The South Asian Association for Regional Cooperation.

³ Asia-Pacific Economic Cooperation is a forum for 21 Pacific Rim member economies that promotes free trade throughout the Asia-Pacific region.

The interdependence is in itself one of the risk factors – its deficiencies were most evident in the Asian financial crisis of 1997, initially invoked by the currency speculations in Thailand and rapidly spreading to affect others (South Korea, Indonesia, Hong Kong, Malaysia, Singapore – in contrast to Japan and Taiwan, which „navigated“ through the crisis relatively unharmed).

Special apprehension is raised by (predictably, according to the author) the slowdown of the Chinese growth multiplied by the fall of the prices of shares and properties (the return to double-digit values from the past appears unlikely). Especially in respect to China, the viability of “western” economic model raises several question marks. The confrontation is apparent in enforcing the acceptance of Yuan/Renmimbi as a fully convertible trade currency (Pauhofová – Svocáková, 2014)⁴, in the creation of the Asian Infrastructure Investment Bank (vs. Asian Development Bank), countering liberalisation by concluding free trade agreements with the EU or TTP with the US and through initiatives, such as, the New Silk Road – One Road, One Belt, China + CEE16⁵, etc. As a consequence of the global financial crisis the role of state in economy is regaining importance, not only in China, which links its national security, inter alia, with increased state control in accessing the sources of energy. “...China seeks to fulfil through foreign investment not only the strategic goals of securing more effectively the needs of its future generations, but by doing so also consolidates its growing role as one of the global hegemons” (Pauhofová – Svocáková, 2014).

The heaping currency reserves hardly diffuse worries of potential manipulation with key global currencies, including the Euro. From the perspective of the local markets, for European exporters – in particular smaller countries lacking exquisite excellency of production (read: non-existence of products of global appeal) – the absence in Asia of stronger middle class with disposable wealth, due to the remarkably unequal distribution of economic growth remains important (on the one hand the biggest proportion of billionaires, on the other the sources of income of average household remain much lower than in the US or Western Europe – average European household has a disposable income of \$220.000, while Chinese just about \$72.000).

Equally important as one of the risk factors is the continent’s susceptibility to natural disasters (seismic activity, tsunami, typhoons, climate change, etc.).

3. The Current Economic Position of Slovakia in Asia

Slovakia’s export is, in comparison with other comparable countries - as Table no. 2 demonstrates - dependent mostly on the EU, despite the fact that it lies on its very Eastern border. Although the share of Asian exports (Table no. 1) corresponds with the values of neighbouring Czech Republic and Hungary, it significantly lacks behind other countries. From the perspective of commodities structure (unequivocally dominant is the export of cars) and the specifics of Asian demand (mostly luxury goods, including cars), with the emphasis on the production of Slovak carmakers, the volatility of our export stems from the production programme of Volkswagen; in other words the higher the share of premium production, the higher export to the East. This fact remains a key attribute of our active trade balance with the majority of Asian states.

⁴ „In international perceptions one of the most meaningful Chinese strategies is the question of currency policy. China seeks to increase the importance of its currency in international context by reducing the dependence on US Dollar through re-directing the autonomous trade streams. It is expected that Chinese Yuan will become Asia’s main currency and soon a fully-convertible global currency”

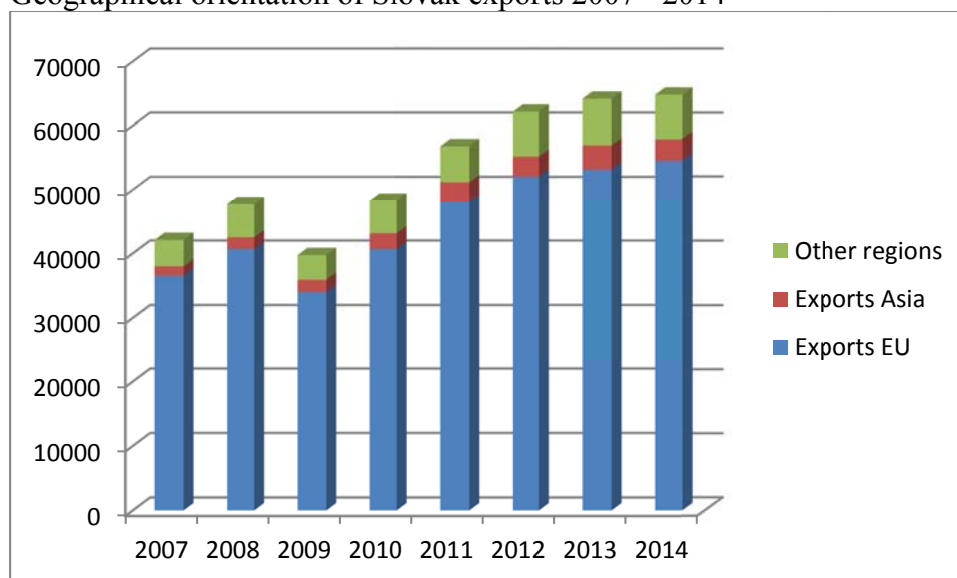
⁵ 16 countries of Central and Eastern Europe.

Table 1
Trade position of Slovakia in Asia

Year	2007	2008	2009	2010	2011	2012	2013	2014
Σ Export (mil. €)	42091.0	47720.0	39715.6	48272.1	56783.2	62144.0	64172.3	64800.9
Share the EU	86.7%	85.2%	85.7%	84.2%	84.7%	83.7%	82.8%	84.1%
Share Asia	3.5%	3.9%	4.6%	5.2%	5.4%	5.1%	5.9%	5.2%

Sources: The Statistical Office of the Slovak Republic, Ministry for Economy of the Slovak Republic, Ministry of Foreign and European Affairs of the Slovak Republic

Chart 1
Geographical orientation of Slovak exports 2007 - 2014



Sources: The Statistical Office of the Slovak Republic, Ministry for Economy of the Slovak Republic, Ministry of Foreign and European Affairs of the Slovak Republic

Table 2
Geographical structure of exports – the EU and Asia - in similar countries⁶

(in % points)	AT	BE	CH	CZ	DK	FI	HU	HR	NO	NL	SE	SI
EU	67.2	70.1	54.8	81.0	57.4	53.4	77.0	59.1	81.7	72.8	56.1	76,3
Asia	13,0	11,0	35,5	5,2	ca.20	12,0	5,3	n/a	8,4	n/a	12,5	4,6

Sources: WTO Trade Profiles, 2014; Statistics Austria; Swiss Federal Statistical Office; The Statistical Office of the Republic of Slovenia; Statistics Sweden; Statistics Belgium; Finnish Customs

⁶ AT-Austria; BE-Belgium; CH-Switzerland; CZ-Czech Republic; DK-Denmark; FI=Finland; HU-Hungary; HR-Croatia; NO-Norway; NL-Netherlands; SE-Sweden; SI-Slovenia.

3.1. Trade Balance of Slovakia with leading Asian countries

With respect to turnover, there is an unequivocal dominance of trade with China. The dynamics of import-strengthening has not experienced any trepidation, not even during the global crisis. In contrast with Japan, containing more technology-dominated import, import from China consists primarily of goods designed for final consumption. The share of cars imports stands at significant 67.3%. With the exception of 2014 export has grown, while the passive balance still amounts to just below €3.3 billion.

In the world's second most populous country – India, trade with Slovakia has been underperforming; indicating our quasi departure from the territory – with turnover of just €264 million. The share of cars on overall export is here at its lowest (6.6%).

South Korea is the leader – given almost €2 billion of investments (imports mostly inputting local manufacturing processes) – in the ranking of the Slovak negative balance (€4.2 billion), even though in the past year we have experienced a slight decrease (import at 84.7% in comparison with 2013, juxtaposed with 30.3% increase of export – large disproportion between the import and export gives no reason to celebrate). The dependence on the car industry is at 40%.

Japan is leading in share of cars – up to 75%. Trade turnover with Slovakia in 2014 reached €871 million; import exceeding export more than sevenfold. Following the post-crisis growth on both sides of trade a partial slowdown ensued in 2014 (Merényi, 2015).

In respect to Southeast Asia (i.e. ASEAN), Vietnam remains our most important trade partner. The Slovak Ministry for Economy omitted its position within the summary of negative trade balances - €1.7 billion, which puts Vietnam at the 4th place (Postavenie malých a stredných podnikov ..., 2014). This is mostly due to import of components for Samsung Electronics.

Table 3

Trade between Slovakia and ASEAN (millions of €)

Year	2010	2011	2012	2013	2014
Import	78	76	104	92	94
Export	750	859	1048	1929	2639
Turnover	827	934	1152	2021	2732
Balance	-672	-783	-944	-1837	-2545

Source: Ministry for Economy of the Slovak Republic

4. What's next for Slovakia in Asia

The aim of this paper is to present an authentic view on the available, yet in many cases provoking, solutions to (albeit belated) entry of Slovakia to the ever-growing stream of goods exchange between Europe and Asia, while drawing inspiration not only from theoretical and practical knowledge, but also from the author's 5-year personal experience in promoting Slovak economic interests in the region.

In revising it is necessary to recall that the awareness about Slovakia in the eyes of Asian public is extremely limited. Where still possible, it is strongly suggested to build on (the remaining) positive ties from the period of Czechoslovakia (the phenomenon is salient particularly in former partners within the now ceased Council for Mutual Economic Assistance). According to the Nations Brands (Nations Brands 2015, 15), the value of brand „Slovakia” decreased by 9% compared to year 2014.

On the continent, whose economic growth is based largely upon (cheap) production, it is impossible to compete by producing regular commodities – the goods must be truly remarkable for their high quality, distinctiveness and story. The position of Slovak entrepreneurs in Asia will benefit from efficient Slovak promotion adapted to local conditions (the view of Orava's pastures will, undoubtedly, warm every Slovak's heart, yet it will not encourage Asian tourists to visit our country – Slovakia must be promoted as a modern and, in some respects, a unique place). The complementarity of tourism promotion to trade is obvious. A Chinese customer owning an Audi Q8 is proud of the car's German origin despite the fact that it was manufactured in Devínska Nová Ves. The absence of a single unique product, which the majority of Asian public would associate with Slovakia, constitutes perhaps the greatest obstacle to our wider visibility in the region. It is necessary to utilise all the available instruments to change this status quo: perhaps to build a campaign based on - in Asia phenomenally popular - folk ensemble Lúčnica, or the Slovak orchestral music; from the perspective of innovations the leadership in IT security - ESET, developers of Sygic for Android and, perhaps, in a first place, on the unique project of flying car (AeroMobil, by Štefan Klein, the constructor). The opportunity for success lies also in the area of Slovak modern glass-art, crafts, fashion, design and architecture. The visibility of Slovakia in Asia would grow proportionally through increasing the involvement of Slovakia (political, sports, etc.) on the continent even in ostensibly unrelated areas. In this regard, however, it is necessary to respect the Asian mentality, history and specifics and adapt our modern, efficacious presentation accordingly.

The share of large companies on export to the non-EU countries in 2013 constituted more than four fifths (81.9%) of the whole (Postavenie malých a stredných podnikov ..., 2014)⁷. Considering autonomous trade policies of foreign investors in Slovakia/transnational companies operating in Slovakia, support of pro-export activities must focus largely on small and medium enterprises.

The small and medium enterprises (SMEs) sector is symptomatic by limited export experiences, especially outside of Europe. Exporting to more distant territories naturally incurs additional expenses, linked to the transport, transport insurance, trade-loans risks preventions, know-how of local markets, overcoming the tariff-barriers, etc.

5. Conclusions

Taking into consideration all the aforementioned facts and ideas, in author's view, to adapt to the current global trends, it is advisable that Slovakia considers implementing the following measures:

- **Organisation of educational workshops** for SMEs (Postavenie ...,2014) with the aim of getting to know trade and socio-cultural specifics of Asian countries. Identification of **instruments for supporting SMEs marketing** efforts when expanding to non-European, less traditional markets. Provision of **incentives** - direct and indirect – **to create new jobs** linked to export to countries outside the continent. Facilitation and cooperation in **building first-hand contacts** (B2B).
- Geographical dis-balance between Slovakia and its Asian partners can in some instances be improved by **joint efforts** to promote national interests **within the Visegrad 4 group (V4) or the EU**. Slovakia should also consider **a more**

⁷ Part 4.2.2.: Vývoz MSP do krajín mimo EÚ.

proactive participation within regional integration initiatives (MH SR..., 2014), such as, in the economic sphere, the Asia Infrastructure Investment Bank (AIIB), or Asia Development Bank (ADB) – initially at least as observers; and in initiatives, such as One Road, One Belt, and platforms China + CEE16, V4+Japan, V4+Korea, ASEAN, ASEM, etc.

- With regard to key countries of the region (India, Japan, South Korea, Indonesia, Vietnam...), further measures could include **drafting similar analyses as the June 2015 „Report on the status and possibilities of economic cooperation with China“** (Informácia ..., 2015) and submitting it to the Government’s Council for Export and Investments. **Focusing on sectorial parallels** between Slovak export and requirements of Asian markets (for example in the case of China – negotiations with CEFC⁸ – energetics, etc.). Elaborate on prospective areas, in which improvement of cooperation between Slovakia and Asia in sectorial politics is feasible (without further analyses, but with concrete steps) – a large sectorial project beyond the transnational corporations.
- **Strengthen the Exim-bank⁹ toolbox** when expanding on less traditional markets. **Development of standard bank instruments** in new territories.
- **Adapting the network of Slovak embassies to specific requirements of Slovak entrepreneurs** (for example in China, India, Vietnam – strengthening our presence in the regions – through our embassies and their branches, Consulates-General, offices of the Slovak Agency for Development of Investments and Business/SARIO, etc.; innovation centres in Japan, South Korea, etc.).

Table 4

Comparison: diplomatic representations of similar European countries¹⁰ in Asia and the Pacific

	AT	BE	CH	CZ	DK	FI	HU	HR	NO	NL	SE	SK
Embassies in Asia	12	13	17	17	16	13	11	5	16	11	15	9

Source: Respective MFAs webpages

- Make greater **use of the Slovak diaspora** – particularly so-called “brain drain” for asserting economic and business interests of Slovakia in areas of R&D and innovation. **Utilise the Asian** potential in the spheres of **R&D, innovations, start-up** promotion (cooperation between universities, research centres, applied research, etc.).
- In the on-going **free-trade agreements** negotiations with Asian partners (including inter-linkages with other regional frameworks – for example the newly drafted TPP has the ambition to cover 40% of the global economy) take into account the **strategic interests of Slovakia** – after their conclusions the

⁸ CEFC China Energy Company Ltd.

⁹ Export – Import Bank, a state-run institution to promote foreign trade e.g. by providing export credits and insurance

¹⁰ AT-Austria; BE-Belgium; CH-Switzerland; CZ-Czech Republic; DK-Denmark; FI=Finland; HU-Hungary; HR-Croatia; NO-Norway; NL-Netherlands; SE-Sweden; SI-Slovenia.

agreements will define the limits of mutual trade and export performance of Slovakia for decades to come. Emphasis not only on the traditional sectors.

- **New possibilities arising in green technologies, biological agriculture and climate agenda** in general.
- Undoubtedly complementary is the **development of partnerships** that aim to **decrease transportation costs** (seaports, shipping companies, etc.) including securing transport routes.

For the sustainable prosperity of Slovakia, it is becoming more and more imperative to reshape the existing predominant orientation on the automotive industry and the EU markets (reaching apparently its peak), diversifying country's pro-export capacity (sectorally as well as geographically). Obviously, Asia's say on the global economy will continue to grow. At the same time, shifting our focus on this region fully corresponds with the strategy – or to be more precise the necessity – to profile the country in smart technologies. Exploration of new territories is undoubtedly associated with various risks of different nature. The author, however, believes – and the experiences of similar countries have had this assumption proven – that opportunities abound are worth overcoming the initial shyness. A few success stories would then likely wide-open the door for a more adequate, robust Slovak trade with the Asian continent.

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Effective government policy for successful innovations

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Abstract

The aim of the article is determine effective government policy for promoting innovations. Innovations an important part of the modern public policy of the state, but, in the same time, it is an independent tool Over the past three decades, the issues related to how, when, where and why innovation occurs in the capitalist economy and how government policy can enhance innovation, came in first place among economic research. Although much has not yet been confirmed but one conclusion of the confidence we can make: effective government policy is a vital foundation for successful innovations and the state plays an indispensable role in promoting (or deceleration) of innovation. Innovations can not simply be put on the market for two main reasons.

Firstly, successful innovation activity requires the creation and support of complex knowledge bases and infrastructure, which can not be provided by firms acting alone. As this infrastructure is built is determined by state policy.

Second, innovations are characterized by investment liabilities increased risk and uncertainty, so the incentives structure and risk management processes are needed and, in turn, they are one of the most critical forms of public policy. In this paper we will try to determine effective government policy for promoting innovations.

The study uprise from a necessity to explain the differences in policies that governments can provide to promote innovations. In the present study, systemic, functional and semiotic theory and methodology were used to go further then the earlier approach of identifying correct government innovation policy.

New types of policies are needed to maximize innovation activities, particularly policies directed to networking and improving firm R&D activities. To promote capability and competitiveness effectively, government policy should focus on sectors in which the economy specialize.

JEL classification: J58, O38

Keywords: government policy, innovation policy

1. Introduction

The process of developing and implementing public policy is multifaceted i versatile, so exploring it can not be used templates i cliché because every problem requires individual fit. For the analysis in the social sciences often used theoretical classification approaches, schemes and models. In fact, the goal of the state policy in the field of innovation should be aimed at improving productivity – "innovation system".

The study uprise from a necessity to explain the differences in policies that governments can provide to promote innovations. In the present study, systemic, functional and semiotic theory and methodology were used to go further then the earlier approach of identifying correct government innovation policy. An approach combining systemic, functional and

semiotic theory and methodology because in this case research could take into account the complexity of meanings generated in different researches and during long period of time.

All the basic theories and all empirical analyzes of economic development explain innovation as an important factor in long-term growth. But innovations are based on the comprehensive capabilities that go far beyond those businesses that they own, and it requires long-term investments expressed in terms of risk and uncertainty. These characteristics of the innovation market often cause system crashes. That is why successful innovation economy possible only with quality of public policy.

2. Main aspects of public policy for successful innovations

Innovation policy is an important part of the government's economic policy, but at the same time it has its own character and it is a dynamic instrument of state management and entrepreneurship.

Innovation policy is aimed at creating favorable conditions for the development of innovative processes; the concentration of financial resources in priority areas of science, reducing the risk of private companies in developing new high-tech products; forming targeted R&D technical programs; creating a market for innovation; cost reduction for companies engaged in research and development; spreading scientific-technical knowledge as the most important economic resource (Anderson, C, 2008).

The basic principles of state innovation policy are:

- government support for basic research;
- innovation priority over classic production;
- freedom of scientific and technical work;
- legal protection of patents and intellectual property;
- integration of scientific activities and technical education;
- support competition in the field of science and technology innovation;
- concentration of resources on priority areas of research and development;
- general business creation, innovation climate; promoting the capital recovery, special privileges when implementing new, not previously used in production, types of equipment, raw materials and energy;
- encourage the development of backward regions and curb the growth of existing agglomerations;
- training and retraining for new and emerging industries;
- promoting international scientific cooperation;
- efficient innovative processes.

The priority of innovation over the classic production involves the recognition of the leading role of science in the system of productive forces. Only use in practice the results of scientific research can provide the most competitive products and enterprises. **Main activities to conducting innovation policy can be divided into four groups.**

1. Providing research and development:

- to ensure innovation and thus create new knowledge, primarily in engineering, medicine and natural sciences;
 - the labor force improvements, for example, through individual learning (education and training of the manpower for activities in R&D). It includes a system of public education and informal learning.
2. **Activities aimed at creating demand for innovative products:**
- the creation of new markets;
 - the development of new quality requirements for products based on the needs and requirements of consumers innovative products.
3. **Create elements of the innovation system:**
- the creation and restructuring of enterprises and organizations needed to implement innovation. Encouraging entrepreneurs to create new businesses and establishing multilateral cooperation in the field of innovation, diversification of existing companies and create new scientific-research organizations, political organizations etc.;
 - the establishing national innovation networks through market and other mechanisms, including interactive learning between different organizations potentially involved in the innovation process. This means integrating new elements and knowledge developed in various fields and innovation system coming from outside, with elements already existing innovative enterprises;
 - to create and change institutions – for example, intellectual property, tax laws, environmental protection and safety regulation investments in R&D, cultural norms, etc. – influencing innovative enterprises and innovation processes, providing incentives and removing barriers for innovation.
4. **Support the activities of state innovation system:**
- the measures to ensure access to facilities and administrative support for innovation;
 - to finance innovative processes and other activities that can contribute to the commercialization of knowledge and innovation;
 - the advisory services relating to innovation processes, such as technology transfer, commercial information and legal advice.

Each of these elements is an integral part of a successful innovation policy but, at the same time independent activity that requires separate consideration.

Providing research and development with necessary knowledge. Research and development includes creative work done on a systematic basis in order to increase the stock of knowledge, including knowledge of man and society, and use this body of knowledge to develop new inventions (Frascati Manual, 2002). According to the Frascati (2002) term R&D covers three activities: basic research, applied research and experimental development. Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge without a specific application purposes. Applied research is also original development to acquire new knowledge, but is mainly aimed at achieving a particular goal or practical task. Experimental development is a systematic work based on existing knowledge, accumulated from research and practical experience, aimed at creating new materials, products or devices for the implementation of new processes, systems and services or significant improvement of

existing ones (Frascati Manual, 2002).

The results of R&D is an important base for some innovations, particularly strong progress in technology, medicine and science. Such studies leading to serious innovation traditionally partially funded and implemented by NGOs and the state. This applies to basic research and applied research in the country, carried out in universities and other public research-research organizations.

Because innovation processes are evolutionary in nature and depend on the chosen policy there is a risk of negative impact, ie innovations that lead to lower technology leads to low growth and declining employment. Potentially successful innovation policy may not materialize and the whole variety of innovations can be reduced. In such situations, the state should promote new experiments and methods used subsidies and public procurement for innovation, for example, possible alternatives for supporting winning technologies (Edquist et al., 2004).

Thus, the state can influence innovation differently starting from funds for specific scientific-research activities in universities and public research centers to stimulate alternative technologies through grants to innovative enterprises.

Qualitative innovation actively possible only if the specialized staff and experts are exist. This includes the processes and activities associated with the ability to create, absorb and exploit knowledge for individuals and organizations. Obviously, this includes a system of public education and informal learning, the last has a vital importance for innovation processes, and, therefore, an important part of innovation processes and innovation system as a whole.

In most countries, education and training, which are important for innovation processes mainly provided by public institutions, universities, special schools and others. However, some elements of the training conducted in enterprises through learning by doing, learning by using and learning by interaction which are informal activities. Capacity may increase the human capital, that is, the question of individual learning, the result of which is controlled by individuals.

There is little systematic knowledge of how the organization of education and training influences the development and dissemination of innovations. Since labor, including skilled labor is the least mobile factor of production, domestic education system remains one of the longest elements innovation policy.

Activities aimed at creating demand for innovative products. The state should intervene in the market on the demand side for two main reasons: markets for certain products and services may not exist, or users of goods and services may not be interested enough to provide the necessary feedback to manufacturers for new needs.

Often exist uncertainty at the earliest stages in the consumer market is there new areas of innovation. A good example was the belief that the general computer market amounted to four or six computers in the 1950s. Sometimes markets developing spontaneously or even destroying unexpectedly (Robert D. Atkinson et al, 2012).

One example of creating a market in the invention is the creation of intellectual property by patents, which gives a temporary monopoly on the patent owner. It promotes the commercialization and facilitate the purchase and sale of technical knowledge. Politicians may also encourage the creation of markets, creating legal guarantees and protection.

In some cases, the instrument of public procurement for innovation is important for the formation of the market. In other words, the market has arisen because the public sector

demanded products and systems which did not exist in government procurement in innovation. It was and remains an important tool in the defense sector in all countries. Public procurement has also been important in the development of infrastructure (telecommunications, railways, etc.) in many countries. Public policy can also affect demand and thereby stimulate innovation as public organizations require some complex solutions, such as the minimum share of energy from renewable resources or cars running on fuel cells.

Creating new markets often associated with the creation of requirements for quality products which can be considered as another form of innovation policy. Development of quality requirements, which are based primarily on demand for certain characteristics of new products is essential to the innovation process and makes the processes of innovation in certain directions. Much of this activity is carried out spontaneously based on customer requirements, resulting in interactive collaboration between innovative companies and their customers. However, the requirements for product quality can also be the result of social activities, such as regulation of health, safety and the environment or development of technical standards. Public procurement for innovation typically include functional specification of the product and it is certainly a significant impact on research.

Creating innovative elements of the system. As noted above, organizations are seen as key components in systems innovation. Attracting and ban organizations to participate in innovation processes – important measures to promote innovation changing the system itself. Organizations include not only businesses but also universities, research institutes, financial bodies and so on.

Creation and reorganization facilitates innovation system for the development and dissemination of innovations can be implemented in the wake of entrepreneurship through the development and diversification of existing enterprises through the establishment of intercommunication between them. Public policy can contribute to this by simplifying the rules for businesses and the establishment of relevant laws and regulations. The merger between the organizations also have organizational changes. New organizations (research organizations, universities) and innovation policy can also be created through political decisions.

The important role of policy is to increase assistance and support. Compared to existing elements of the innovation system, new members are characterized by different possibilities and they can be socioeconomic bearers of innovation. They bring new ideas, products and processes. Thus, the state should create favorable conditions for entry for new enterprises. The operation and development of such enterprises often require permanent (or at least several) of innovation, especially in high-tech industries.

Increasing entrepreneurship and multilateral partnerships can be a way to support changes in the structure of production towards a more innovative new products. There are three mechanisms by which the structure of production can be changed for new products, existing companies can diversify their production (for example, Japan and South Korea) (Marsh, P., 2013); create new specialized companies (such a mechanism inherent in the US) (U.S. Census Bureau, 2011); foreign firms can invest in new areas of production (e.g. Ireland) (Theil S, 2010).

Adding new products to existing products is important as demand for new products often growing faster than the old-accompanied by the creation of jobs and economic growth. New products are often characterized by high rates of productivity growth. In this regard, the government can create opportunities and incentives for changes in the structure of production. Policy issues in this context is how public policy can help develop alternative models of learning and innovation, and develop new sectoral systems of innovation.

In any system innovation important to find out whether the existing organizations promoting innovation. As organizations need to be changed or improved to innovate? This organizational dynamics is critical approaches to innovation systems and innovation policy, both in theory and in practice. The creation, liquidation and change in organizations were very important in the development strategies of successful Asian economies, and they play a crucial role in the ongoing transformation of Central and Eastern Europe. Thus, organizational changes, especially important in situations of rapid structural change, which, in turn, related to capacity building for the implementation of these changes.

As already mentioned, the relationship between the components of the innovation system (i.e. organizations such as universities, community organizations and institutions, such as established practices, rules and laws) is a major component of innovation. Facilitating interactive learning, which in turn is the basis for innovation. The innovative, emphasizing the interdependence and non-linearity, based on the understanding that the organizations generally do not innovate in isolation and interact with others through multilateral relationship that is often characterized by interdependence of multilevel mechanisms and feedback. Innovative processes do not only affect components of the systems, but also on the relationship between them. This confirms nonlinear features innovative processes and is one of the most important characteristics of the innovation system.

The interactive nature of learning and innovation activity suggests that this interaction can be directed much more direct than usual in innovation policy today. Innovation policy should not only focus on the organization of systems, but also – and perhaps primarily – on the relations between them. The relationship between organizations can occur through markets and other mechanisms that provide for the integration of new knowledge developed in various areas of innovation coming from outside the system and with existing knowledge in innovative enterprises.

Much of the interaction between the organizations involved in the innovation process occurs spontaneously when necessity occurs. Universities and government research organizations are also involved in cooperation with enterprises in the process of creating and using new knowledge. Long-term innovation organizations in knowledge-intensive industries highly dependent on the interaction between enterprises, universities and R&D institutions. If such interaction is not chaotic, but there is enough time – these interactions should be regulated by means of policy. This raises the importance of institutions about how it will go on.

Relations between universities and government research institutes, on the one hand, and enterprises on the other market relations are coordinated only to a limited extent. Government policy promotes the coordination of relations in different ways and to varying degrees, this is due to differences between innovative systems that are sometimes not coordinated at all. This means that the public sector can create organizations to foster innovation. At the same time, it could create the rules and laws that govern these organizations what's mean create state institutions (Edquist et al. 2004).

3. Conclusion

Justification of innovation policy is to solve or mitigate the problems of policy. If the system works very well, thanks to its spontaneous work (on the basis of the actions of private companies), then there is no problem and government intervention in the form of policy is needed. Such intervention is only necessary when the system is bad – in a relative sense.

New types of policies are needed to maximize innovation activities, particularly policies

directed to networking and improving firm R&D activities. To promote capability and competitiveness effectively, government policy should focus on sectors in which the economy specialize and be specific about where to locate and support facilities, institutions, and resources to support these key sectors. These policies give prominence to high levels of co-patenting, co-publication and personnel mobility, and implement intellectual property rules. The national innovation systems is not effective one-size-fits-all, — the best economic policy for the design and development of a national innovation system.

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The Importance of Monitoring and Recording of Costs Incurred For Patient Care

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Abstract

The aim of this paper is to highlight the need for monitoring and recording levels of costs incurred for the care of the patient to the various departments in hospitals. The application part is devoted to calculations of costs from particular department of the existing hospital. Subsequently, the costs are compared with actual costs reported by the patient in the hospital and with the payment provision of individual health insurance companies. The result is an evaluation of whether the payments reported by hospitals really reflect the real cost to the patient, and whether the payment for the performance is adequate, that covers the cost of the patient. The proposal of measures represents the conclusion, which may solve the current state of reimbursement of medical services.

Keywords: cost calculation, hospitalization case, insurance company

JEL classification: M21, K20

1 Introduction

Allocating the cost is the process by which costs are assigned to a specific object. The aim is to "refine the cost information relating to an object with regard to the major decision-making role to be solved (KRÁL, 2010). "

In the process of allocating the costs, even in the case when subject provides health care, we determine which costs are for certain decision relevant. It is necessary to respect the relationship of costs to the subject and also the role, which will be addressed by this assignment. For proper allocation there are some specific principles (JAIN. P.K., 2000). The most effective is the principle of context that comes from the fact that every performance should allocated (assigned) only those costs, which generated it. Other principles are the principles of "bearing capacity of costs", which is mainly used for tasks addressing price. Its objective is to assess what the maximum cost of the product can be assigned. The last method is the principle of averaging. This principle shall apply in cases where we cannot use the principle of causality. This is a calculation of the average costs allocated per unit performance - patient, as is the objective of our paper (KUHNAPFEL. A., 2007).

1.1 Model and Data

This paper is aimed to calculate the total cost per patient in the Department of Anesthesiology and Intensive Medicine (DAIM) in hospital operating in the Žilina region. The data were provided by the hospital, which does not want to be further specified. For the calculation we used the data freely available on the Internet, such as directives, regulations, newsletters and more. Another source of data was prices of the hospital performances, which have been reimbursed by insurance companies. Based on the data we performed the calculation of the total cost of the patient. Our calculated values were then compared with the

price that has a hospital in their internal records, and with the payment, which the hospital obtains from insurance companies.

When determining the input data of this department we used internal data from hospitals that are shown in the Table 1.

Table 1

Summary of hospitalizations for each department for 1 calendar month

Departments	Num ber of beds	IN		OUT			Number of care days	Daily number of patients	Average period of care	Population in %
		Accep t	Take over	Admit	Die	Transfer				
<i>Chirurgical</i>	60	161	6	145	3	13	1269	42	7,74	67,43
<i>ACCH</i>	40	125	4	118		16	636	21	4,84	62,65
<i>Pediatric</i>	25	106		106			342	11	3,23	45,8
<i>Gynecological</i>	50	231	1	226			787	26	3,44	58,21
<i>Medical I.</i>	56	233	16	203	15	33	1531	51	6,12	84,07
<i>Medical II.</i>	24	94	11	82	9	16	692	23	6,53	90,38
<i>Neonatalogical</i>	25	93		98			401	13	4,2	65,84
<i>Neurological</i>	40	159	3	141	3	19	982	33	6,04	85,24
<i>DAIM</i>	7	8	12	2	5	14	138	5	6,73	68,58
<i>DLS</i>	60	9	52	2	2	2	1337	45	20,41	68,47
<i>Palliative</i>	25	44	10	18	18		355	12	6,7	59,02
<i>HNC</i>	25	22				2	755	25	35,95	98,44

Source: Internal documentation of hospital

Notes: ACCH – accident chirurgical department, DAIM – department of anesthesiology and intensive medicine, DLS – department long stay, HNC house of nursing care

The above table has subsequently formed the input to our calculations, which are shown in the Table 2.

Table 2

Basic data researched object

Department	Department of Anesthesiology and Intensive Medicine
Number of Beds	7
Number of patients:	Monthly:
- VZP	12
- Dôvera	6
- UNION	2
Population	69,00%
Average period of hospitalization (PDH) (days)	7

Source: Own processing

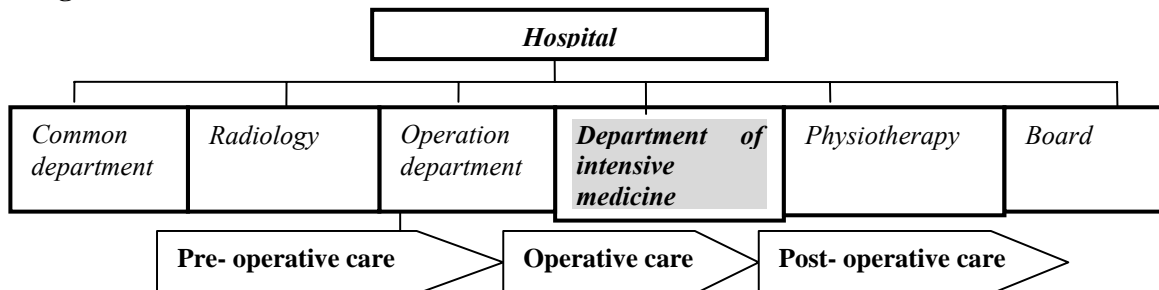
Based on the above data, we subsequently included calculation of the total cost of hospital patients in the department DAIM.

2 Cost calculations of patients in the hospital department DAIM

Hospitals are a specific type of organization, whose role is to provide healthcare services as a species. Hospitals are characterized by their functional structure where departments can represent cost centers (LUTZ-HECHT et al., 2002).

"Cost center means the place, person or equipment for which costs can be calculated, which subsequently is subject to control. The cost center is a group of activities that accumulate costs. Cost center groups the activities which lead to the calculation of the cost of products or activities, "which is shown in the following figure (MCGRAW-HILL, 2000).

Figure 1



Source: Own processing

In the Figure 1 is highlighted Intensive Care Medicine department, which is in monitored hospital named as Department of Anesthesiology and Intensive Care, and our aim is to calculate the total cost per patient for present department using the following information.

2.1 Staff costs of DAIM

The first group of costs covers staff costs, which include costs for nurses, hospital attendants and doctors. The assumption of gross salary nurse amended by regulation no. 62/2012 Z. z. is 692 €, while at the department can operate sisters with different wage levels. We decided for wage valid for the third stage (6-9 working years)¹.

The calculation of costs is based on the assumption that one nurse is able to serve two beds, which is based on a valid normative according to the Bulletin of MZSR 32-51 of 2008. For full day operation are 3 nurses necessary for 1 patient so that the working coefficient is calculated as the 1 nurse/2 beds * 3 nurses during day = 1/2*3=1,5.² In operation also works head nurse, whose cost per patient ratio is 0,15 (1 nurse / 7 patients). The calculation includes the cost of labor (CPS), which is 935,56 €

The calculation of the labor cost (CPS) of nurse is shown in the Table 3.

¹ Nurses wage claims by seniority are shown in the table. We decided for a value for the third stage, because in a hospital operate nurses with various wage claims, and based on the number of nurses at the department and their individual wage claims we have come to value approximating wage level 3.

Stupeň	Počet rokov praxe	Minimálny mzdový nárok (euro mesačne)	Stupeň	Počet rokov praxe	Minimálny mzdový nárok (euro mesačne)
1	0	640,0	7	od 18	796,8
2	od 3	666,2	8	od 21	822,9
3	od 6	692,2	9	od 24	849,0
4	od 9	718,4	10	od 27	875,3
5	od 12	744,5	11	od 30	901,4
6	od 15	770,7	12	od 33	928,0

² In shift works 3 nurses for 8 hours, 1 nurse works in the morning shift: data obtained from internal materials hospital.

Table 3
Labor costs of nurse

Full time job	Premium rate of employee/employer	Employee	Employer
Health insurance company	4% / 10%	27,68 €	69,20 €
Social insurance company			
Sickness insurance	1.4% / 1.4%	9,68 €	9,68 €
Old age insurance	4% / 14%	27,68 €	96,88 €
Disability insurance	3% / 3%	20,76 €	20,76 €
Unemployment insurance	1% / 1%	6,92 €	6,92 €
Reserve fund insurance	0% / 4.75%	0 €	32,86 €
Guaranty insurance	0% / 0.25%	0 €	1,73 €
Accident insurance	0% / 0.8%	0 €	5,53 €
Sum of social insurance	9,4%/25,2%	65,04 €	174,36 €
Sum of insurance	13,40% / 35,20%	92,72 €	243,56 €
Income tax			
Tax base		599,28 €	
Monthly nontaxable part of income		316,94 €	
Adjusted tax base before taxes		282,34 €	
Tax	19,00%	53,64 €	
Tax bonus on a child		0 €	
Net income		545,64 €	
Labor cost	Computation: 243,56+692		935,56 €

Source: Own processing

Calculating the cost of nurse for one patient:

$$\text{CPS} * (1,5 + 0,15) * (\text{PDH} / 30 \text{ days}) = 935,56 * (1,5 + 0,15) * (7 \text{ days} / 30 \text{ days}) = 360 \text{ €}$$

Other costs, which are included in our calculation, are costs of *hospital attendants*. According to the normative 1 hospital attendant is able to serve 10 beds. In operation there operates 2 hospital attendants in day and night shift together, which are 2 hospital attendants for 7 beds (MZSR Bulletin 32-51, 2008), which is cost coefficient **0,30** (2 hospital attendants/7 beds). The assumed gross salary of hospital attendant is 469,58 €³. The costs for hospital attendant's work (CPS) calculated in the same way as the labor cost of nurse's work and CPS of hospital attendant will be **634,96 €** reflecting the Table 4.

Table 4
Labor cost of hospital attendant

Full time job	Premium rate of employee/employer	Employee	Employer
Health insurance company	4% / 10%	18,78 €	46,96 €
Social insurance company			
Sickness insurance	1.4% / 1.4%	6,57 €	6,57 €
Old age insurance	4% / 14%	18,78 €	65,75 €
Disability insurance	3% / 3%	14,09 €	14,09 €
Unemployment insurance	1% / 1%	4,69 €	4,69 €
Reserve fund insurance	0% / 4.75%	0 €	22,30 €
Guaranty insurance	0% / 0.25%	0 €	1,17 €
Accident insurance	0% / 0.8%	0 €	3,75 €
Sum of social insurance	9,4%/25,2%	44,13 €	118,32 €

³The minimum of gross wage of hospital attendant valid for 2015 is obtained from the available Internet sources.

Sum of insurance	13,40% / 35,20%	62,91 €	165,28 €
Income tax			
Tax base		406,77 €	
Monthly nontaxable part of income		316,94 €	
Adjusted tax base before taxes		89,83 €	
Tax	19,00%	17,06 €	
Tax bonus on a child		0 €	
Net income		389,71 €	
Labor cost	Computation: 469,58+165,28		634,96 €

Source: Own processing

Then substituting into the formula we get the cost of patient hospitalization from personnel costs for hospital attendants.

$$\text{CPS} * 0,30 * (\text{PDH} / 30 \text{ days}) = 634,96 * 0,30 * (7 \text{ days} / 30 \text{ days}) = 44 \text{ €}$$

Last direct staff costs, which enter into the calculation, are the costs of *medical personnel*. In the case of doctors, we must also build on the existing norms which indicate that 1 doctor accounts for 4 patients (MZSR Bulletin 32-51, 2008).

We assume that, in the morning shift is needed least 1 doctor to ensure emergency services, which represents cost coefficient **0,15** (1 doctor/ 7 patients = 0,15). To ensure 24 hour medical care are still needed another 6 doctors, which is **0,75** doctor per 1 bed (6 a doctor in work, in one shift affects 2 doctors per 7 patients, which means that during one shift one doctor deals with 4 patients => 1 doctor / 4 patients, with the result that, in one shift is 1 doctor deals with patient with a coefficient of 0,25, because doctors work 24 hours and for one patient would be three doctors for 24-hour operation so the coefficient is calculated as 0,25 * 3 doctors during the day = 0,75). Another assumption is that at the department works 2 attested and 4 unattested doctors with gross wage: attested doctor earns a minimum gross wage 1 688 € and unattested doctor earns a wage 1 005 €. In practice, at the departments often operate unattested doctors, thereby reducing the cost per patient thus reducing the overall staff costs of the hospital. For the above reasons, we calculated the average gross wage to 1 400 €⁴.

Based on already above calculation, we calculated that the total labor costs of doctor (CPL) is **1892,79 €** (Table 5)

Table 5

Labor cost of doctor

Full time job	Premium rate of employee/employer	Employee	Employer
Health insurance company	4% / 10%	56,00 €	140,00 €
Social insurance company			
Sickness insurance	1.4% / 1.4%	19,59 €	19,59 €
Old age insurance	4% / 14%	56,00 €	196,00 €
Disability insurance	3% / 3%	42,00 €	42,00 €
Unemployment insurance	1% / 1%	14,00 €	14,00 €
Reserve fund insurance	0% / 4.75%	0 €	66,50 €
Guaranty insurance	0% / 0.25%	0 €	3,50 €
Accident insurance	0% / 0.8%	0 €	11,20 €
Sum of social insurance	9,4%/25,2%	131,59 €	352,79 €
Sum of insurance	13,40% / 35,20%	187,59 €	492,79 €
Income tax			

⁴The wage of 1400 € was determined as the average of the available data on wages in this department, stated gross salaries to doctors, the minimum wage applicable to a year.

Tax base		1 212,41 €	
Monthly nontaxable part of income		316,94 €	
Adjusted tax base before taxes		895,47 €	
Tax	19,00%	170,13 €	
Tax bonus on a child		0 €	
Net income		1 042,28 €	
Labor cost	Computation: 1400+492,79		1 892,79 €

Source: Own processing

Upon subsequent substituting the data into the formula we get to medical costs due on staff in hospital for patient.

$$\text{CPL} * (0,75 + 0,15) * (\text{PDH} / 30) = 1892,79 \text{ €} * (0,75 + 0,15) * (7 \text{ days} / 30 \text{ days}) = 397 \text{ €}$$

In the case of staff costs the calculation of the overtime should be taking into account. In practice, however, we faced often with the fact that doctor's overtime is not payable, or is reimbursed only part from the length of overtime service. Total staff costs without working overtime for patients in the DAIM department represent 802 € (360 € +44 € +397 €).

However, considering the overtime work under the Labor Code, which states that the maximum number of hours worked during the week as overtime is 8 hours and the total number of hours of overtime per month is 32 hours (Labor Code § 121). Average worked hours we estimated for 192 hours. Taking into account these factors should overtime work constitute **426, 93 €**.

In those staff costs are not included, however, other staff costs, which are costs of cleaning staff and other support staff, administrative staff costs, which should also enter into the price of health performance.

2.2 *Material's costs of DAIM*

Another group of costs are material costs, which constitute a substantial component of costs of the monitored department. We counted to those costs only necessary costs for patient care and those are basic medicaments, blood derivates, special medical supplies and other supplies, the price is **1 235 €** Prices of drugs are presented in the Table 6.

Table 6

Calculation of drug prices

Drugs/ medicaments	578 €	Infusion, anticoagulants, analgesics, glucose and more
Blood derivates	471 €	Average price of blood
Special medical supplies	156 €	Artificial airways, syringes, gauze bandages, feelers, infusion blocks and more
Other supplies	30 €	Disinfection, protective means and supplies and more
SUM		1 235,00 €

Source: Own processing

But if we have count on the real cost of the material there would be other items in our calculation, such as imunopreparates whose value can range from 30€ up to 2 250 €, further it can be expensive antibiotics, which price may be in the range for 1 500 € up to 2 000 € and many others. If the price of special drugs shall take account, the final calculations of the cost of the patient will be substantially higher. In our case, has reached the value of material cost

⁵Calculation method: gross salary / number of worked hours x number of overtime's hours

692/192*32+469,96/192*32+1400/192*32= 426,93 €

Source: <http://hnporadna.hnonline.sk/poradca-156/priklady-vyuctovania-nadcasov-455101>

3 380, 50 € (the price includes the above mentioned drugs valued at 1 235 € with average prices of drugs as expensive antibiotics (average 1 000€) imunopreparates (average 1 800€) etc.

2.3 Depreciations of DAIM

Another cost item is depreciation. Depreciations have passed from 2015 changed and even in the case of hospital facilities and equipment have changed depreciation groups. Originally the equipment was depreciated in the first depreciation group (4 years), but after the change in amortization method is hospital equipment moved to the second depreciation groups and is now depreciated six years. Since individual devices are not used in the patient during the entire period of hospitalization it was necessary to modify the depreciation rate of the equipment, which reflects the use of the device during the patient's hospitalization in a given department.

Individual devices and their depreciation are shown in the Table 7.

Table 7

Depreciation of DAIM equipment

Device	Cost of acquisition	Number of depreciation years	Yearly depreciation	Months	Days	Daily depreciation	Days of hospitalization	Ratio of usage	Depreciation
Defibrillator	1750	6	291,6667	12	30	0,8102	2	0,04	0,06
Mobile RTG device	3 215	6	535,8333	12	30	1,4884	2	0,04	0,12
Monitoring centre	150 000	6	25000,0000	12	30	69,4444	7	1	486,11
Ventilator	25 000	6	4166,6667	12	30	11,5741	7	0,66	53,47
Monitor	18 000	6	3000,0000	12	30	8,3333	7	1	58,33
Injectomat	2 000	6	333,3333	12	30	0,9259	7	0,5	3,24
Infusion pump	2 400	6	400,0000	12	30	1,1111	7	0,66	5,13

Source: Own processing

In case of using the monitoring centre, which is a device that combines a number of devices, whether by an ECG monitor, the monitor arterial blood pressure, to monitor breathing efforts. This device obviously has a higher cost, thus higher costs in the form of depreciation. Total costs in the form of depreciation is **120, 18 €** (53, 47€+ 58, 33 € + 3, 24 € + 5, 13 €), if we take into account only the basic instrumentation in the form of a monitor, ventilator, injectomat and infusion pumps. If monitoring centre entered in the calculation and other monitoring equipments, the costs would be significantly higher.

2.4 Operating expenses and food at DAIM

The last group consists of operating expenses and food for the patient, which in itself already includes the cost of other areas, whether common hallway, living room, operating administrative costs of the worker management etc. Since the hospital does not record the cost of the separate self, but only the total cost of individual operating expenses. We based on data provided to us by the hospital and according to its estimates, 70% of the costs are the cost of hospital management and operation departments. The remaining costs are costs that are paid from the rental of areas as a private clinic, specialty shops and more.

Calculation of costs by patient therefore had to be based on comprehensive cost data provided by a coefficient 0,7. We subsequently calculate the cost per day and the costs for 1 patient, based on the average number of hospital patients per day- 310 patients.

Based on the above data, we determine the cost of the patient presented in the Table 8.

Table 8
Individual operating expenses at the department DAIM

Art	Yearly costs	Ratio	Yearly costs	Days in the year	Daily costs	Average number of patients on one day	Daily costs on a patient	Number of hospitalization days	Costs for hospitalization of patient
Water	142 635	0,7	99844,5	365	273,55	310	0,8824	7	6,18
Gas	374585	0,7	262210	365	718,38	310	2,3174	7	16,22
Electricity	244 098	0,7	170869	365	468,13	310	1,5101	7	10,57

Source: Own processing

Into the calculation enters also the price of food for the patient. For this calculation, we used the total cost of food, to which we have added the cost of the kitchen staff and we came to calculating costs valued at € 18 per day⁶. As we included into the calculation the cost of food the total overhead costs per patient represent 50,98 €. The result of our individual calculations is the total calculation for the patient shown in the Table 9.

Table 9
Cost calculations for patients in the department of DAIM

	<i>Personal costs</i>	<i>Material costs</i>	<i>Depreciations</i>	<i>Operating costs</i>
Nurse	360,19 €			
Hospital attendant	44,45 €			
Doctor	397,49 €			
Overtime work	426,93 €			
Sum	802,12 €			
Sum*	1 229,05 €			
Drugs		578,00 €		
Blood derivatives		471,00 €		
Special medical supplies		156,00 €		
Other supplies		30,00 €		
Infusion*		273,00 €		
Antibiotics*		250,00 €		
Antikoagulatics*		35,00 €		
Analgesics*		109,00 €		
Antianaemics*		471,00 €		
Glucose*		7,50 €		
Imunopreparates*		1 000,00 €		
Sum		1 235,00 €		
Sum *		3 380,50 €		
Ventilator			53,47 €	
Monitor			58,33 €	
Injektomat			3,24 €	

⁶Data is based on internal materials of hospital.

Infusion pump		5,13 €	
Defibrillator*		0,06 €	
Mobile RTG device *		0,12 €	
Monitoring centre*		486,11 €	
Sum		120,18 €	
Sum*		486,30 €	
Water			6,17 €
Gas			16,22 €
Electricity			10,58 €
Food			18 €
Sum			50,98 €
Costs on a patient	In the case of the necessary costs on a patient		2 208,28 €
Costs on a patient	In the case of the expensive prepares, special medical supplies and other techniques		5 146,83 €

Source: Own processing *items that would increase the overall cost calculation

The result of the calculation is the price for hospitalized patients, which reflects the unavoidable costs of patient hospitalization, and it is **2 208,28 €**. If we also take into account other costs entering into the calculation, the costs of the department DAIM are moved to **5 116,81 €**. These costs, do not include all costs in a hospital, there are also other costs called stand-by, that represents standby mode (staff and individual beds at the department must be prepared, although at the department are not hospitalized patients). In calculations we do not take account of different detergents, disinfectants and other necessary preparations for cleaning the areas, but also for washing uniforms, bed linen etc.

2.5 Comparison

According to our previous calculation we have come to the following results and that is 2239,26 €. The hospital in its statements shows the data that are close to our calculated price. Staff costs in the hospital are approximate prices calculated by us and it represents 1229,05 €. If we look at the material costs at the department DAIM there are some considerable differences in the amount of monthly reporting of drugs and ŠZM. The average price of the material of our hospital is 1 455 €. Overhead costs and meals were calculated from real data, at 50,98 €. In the case of depreciation, the depreciation costs of the patient at this department are 138,88 €.

The Table 10 shows the individual values of costs that recorded in its internal hospital documents.

Table 10

Calculation of the costs of the DAIM department from hospital data

Art	Price	Source
<i>Personal costs</i>	1 229,05 €	Computation of personal costs
<i>Material costs</i>	1 455,00 €	Amount from the internal hospital documentation
<i>Overheads and food</i>	50,98 €	Amount from the internal hospital documentation
<i>Depreciations</i>	138,88 €	Amount from the internal hospital documentation
<i>Sum</i>		2 873,91 €

Source: Own processing

In the Table 11 below we compare the prices reported by the hospital with our calculated prices with payments from insurance companies.

Table 11
Comparison of DAIM

<i>Art</i>	<i>Our computation</i>	<i>Hospital's computation</i>	<i>UNION</i>	<i>VŠZP</i>	<i>Dôvera</i>
<i>Costs</i>	2 208,28 €	2 873,90 €	2 698,00 €	2 697,00 €	2 610,00 €
<i>Comparison</i>		<	>	>	>

Source: Own processing

The above table shows that the calculated price is lower than the price reimbursed by health insurance, and however we should realize that the price which we calculated is just the price of standard care in the department DAIM, which is also currently reimbursed by individual health insurance. In our calculation, we take into account the costs that arise in that department, however, the insurance companies do not repay this amount, so we took into consideration the other scenarios costs that may arise in the department. In this case the costs of department DAIM are substantially higher and can move up to about 4000 € - 7000 €. Health care costs in the department OAIM vary by the type of medical device. If it is a faculty hospital, the average price in the department DAIM is around 4 500 €, in case of a university hospital the price is around 7 500 €. For hospitals with health centers, the price for this department is about € 2,700. Our examined hospital belongs to the hospital with health centers, so the price that we calculated reflects the costs that insurance companies reimburse but we must point out that the price is just basic care and insurance companies do not pay the costs that are higher than contracted price by the insurance companies and hospitals.

3 Conclusions and policy implications

From the above calculations we suggest that the price agreed between the insurance companies and the hospital differ significantly. Hospitals in light of the future introduction of the DRG system should specify the recording of costs for individual performances in departments, when the resulting lump sum price would reflect all cost and yield inputs of the department, which the price for performance would be created. The ideal solution would be to provide customized healthcare to patients, called case mix, but due to the complexity of the records of all the performances of the patient, this step is impracticable. An important step for the Slovak public health is not only the introduction of the DRG system (HESSE.S. et al., 2014), as well as finalization of the implementation of eHealth (eHealth, 2014), which was introduced in Slovakia for several years. Timely and accurate information allows to medical personnel respond promptly, that will minimize mistakes and the efficiency in the provision of healthcare (TAN. S.S. et al., 2009).

Slovak hospitals are willing to accept changes, but also for the introduction of eHealth and DRG are facing problems of inadequate technical equipment which is essential for effective and coherent functioning this complex information systems absolutely necessary. Therefore it is important to ask whether changes that take place in the Slovak health care plans are not only reported "on paper" and their actual implementation in Slovakia is not in sight.

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The role of CFOs in sustainability business

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Abstract

The main objective of article is to identify changes in financial management, especially from CFOs perspective, which is needed to achieve a sustainability business. This objective is based on the assumption that the CFOs play an important role in matters of sustainability business. This is main idea, which is discussed in this article. First part of article deals about traditional view on the role of CFOs which is confronted with current problems faced by CFOs. One of this modern issue is sustainability business, which is proven in the next part of article via relation between sustainability business and financial performance. The last part of article discusses how CFOs can influence sustainability business, how he can help during achieving this, what part of his work is key for this.

Keywords: *role of CFOs, sustainability business, financial performance, changes in financial management*

JEL classification: *M 14, G 32, L 25*

1. Introduction

Traditionally, sustainability issues have fallen outside the jurisdiction of the Chief Financial Officer. CFOs ran the numbers, letting others handle soft issues such as social responsibility and corporate citizenship. But situation has been changed. The changes stem partly from a realization by institutional investors that climate change and sustainability issues often bear directly on companies' risk profiles, their reputations and their financial performance.

But more important is fact that sustainability business influence financial performance, there is proven positive correlation. So if sustainability business can be key factor to achieve positive financial results of the enterprise, CFOs should not ignore this issue. Therefore, it arises question: what can CFOs do in this area, what is under their competence?

1.1 Methodology

Used methods are basic scientific methods like analysis, synthesis, inductions, deduction, composition, abstraction, generalization. These methods are methods ordinary used for data processing, respectively for whole exploring and research cycle. Purpose of these methods is analyse available data, studies and researches in the area of role of CFOs and their changes related mainly with the sustainability business and then processing this information to achievement of set aim.

2. Traditional vs. modern view on the role of CFOs

Too many CFOs have failed to heed Drucker's advice and keep their knowledge up-to-date. They remain prisoners of dysfunctional systems and mental models that were developed for a role that is fast becoming obsolete. [6, p.1] They settle the books and look after regulatory compliance, without taking any bigger role in steering company strategy. CFOs analyze the financial impact of a company's moves after they're made - not when they're still being planned. They stay in traditional position of CFOs.

Traditional CFOs and financial organizations tend to focus on historical results, or looking backward. That includes closing the books, reporting financial results and comparing those financial results with previously established targets. There is no question that companies have to have strong compliance and internal controls, and CFOs have to be held accountable for them. Strategy, on the other hand, is all about looking forward, and figuring out how to create additional shareholder value. [7]

CFOs in traditional view were seen as unhelpful, always demanding answers to trivial questions about budget variances or expense claims. But nowadays CFO must put to the front and center of strategic direction of the company. CFOs became key person of business success.

Importance of the CFO can be explained by words of Bernard Katompa (an international business leader now with Heritage Insurance Company Limited), he says: "The CFO has to be the brain of the organization and get the other parts of the body be healthy and grow. The CEO is the head and the head needs a brain in." [9]

Operational excellence, in the traditional roles of transaction processing and financial reporting, is now taken for granted. The rules of the game have changed for CFOs, reflecting a more uncertain, dynamic and global economic environment in which their businesses operate. This is compounded by an extraordinary rate of technological change. There are identified nine key issues and emerging priorities affecting [8, p.14]:

1. Regulation requirements are increasing and CFOs have an increasingly personal stake in regulatory adherence.
2. The challenges of globalisation are creating a need for finance leaders to develop a finance function that works effectively on the global stage and that embraces diversity.
3. Technology is evolving very quickly, providing the potential for CFOs to reconfigure finance processes and drive business insight through 'big data' and analytics.
4. The nature of the risks that organisations face is changing, requiring more effective risk management approaches and increasingly CFOs have a role to play in ensuring an appropriate corporate ethos.
5. There will be more pressure on CFOs to transform their finance functions to drive a better service to the business at zero cost impact.
6. Stakeholder management and relationships will become important as increasingly CFOs become the face of the corporate brand.
7. There will be a greater role to play in strategy validation and execution, because the environment is more complex and quick changing, calling on the analytical skills CFOs can bring.
8. Reporting requirements will broaden and continue to be burdensome for CFOs.
9. A brighter spotlight will be shone on talent, capability and behaviours in the top finance role.

Combine traditional and modern role of CFOs can be summarized into four faces: steward, operator, strategist and catalyst. The two traditional roles are steward, preserving the assets of the organization by minimizing risk and getting the books right, and operator, running a tight finance operation that is efficient and effective. It's increasingly important for CFOs to be strategists, helping to shape overall strategy and direction, and catalysts, instilling

a financial approach and mind set throughout the organization to help other parts of the business perform better. These varied roles make a CFO's job more complex than ever. [3]

Table 1

Four faces of the CFO

CFOs as	Description of role
STEWARD	CFOs work to protect the vital assets of the company, ensure compliance with financial regulations, close the books correctly, and communicate value and risk issues to investors and boards.
OPERATOR	CFOs have to operate an efficient and effective finance organization providing a variety of services to the business such as financial planning and analysis, treasury, tax, and other finance operations.
STRATEGIST	CFOs take a seat at the strategy planning table and help influence the future direction of the company. They are vital in providing financial leadership and aligning business and finance strategy to grow the business. In addition to M&A and capital market financing strategies, they can play an integral role in supporting other long-term investments of the company.
CATALYST	CFOs can stimulate and drive the timely execution of change in the finance function or the enterprise. Using the power of their purse strings, they can selectively drive business improvement initiatives such as improved enterprise cost reduction, procurement, pricing execution, and other process improvements and innovations that add value to the company.

Source: Deloitte. (2015). *Four faces of the CFO*.

3. Impact of economic changes on CFOs

In today's hyper-competitive global and still changing economy senior executives, especially CFO, often have to wear more than one hat to help their organizations reach their full potential. With the constant need to drive innovation and growth, coupled with their more traditional financial responsibilities like managing costs, CFOs are under increasing pressure to take on an even broader role within their organizations. This evolving role is also caused by changing external environment, actually such as lower global demand, low interest rates, increased bureaucracy and norms, changing of business partners etc.

For example, below are three specific economic changes in India and description of their impact on role of CFO: [11]

CFO and Goods and Services Tax (GST): The Key amendment with the implementation of GST will be that rather than taxing the sale and purchase of goods the bill seeks to tax the supply of goods and services. In this context CFO has to revise the tax structure for manufacturing and withdraw all the exemptions or conversions of deferrals for excise and value added tax exemptions which are currently being availed.

CFO and General Anti Avoidance Rule (GAAR): By introducing GAAR, most of the foreign investors investing in India by means of avoidance of tax rather than doing genuine business, tax authorities have the power to disregard such transactions and hence include the earning in the assesses income. Main implication of this for CFOs are: ensure that tax functions have the right skills and capabilities, adopt a global approach to tax planning and the management of risk and controversy, respond to the growing global challenge of resource nationalism, ensure best practice on transfer pricing, adopt a proactive approach to aligning tax planning and risk management with strategic decision-making.

CFO and International Financial Reporting Standards (IFRS): With the Implementation of IFRS (and GAAP too) there would be additional costs involved which would not be embraced by the CFOs. There are specifically two areas that would be directly impacted: a company's financial reporting and its internal control systems. Another cost involved in the

transition and change to the IFRS is the public's perception of the integrity of the new converged set of standards. The SEC reporting requirements will also have to be adjusted to reflect changes of the converged system. The CFOs would also take care of the fact that implementation of IFRS would benefit the Corporate Management as the change will allow the opportunity to raise capital via lower interest rates while lowering risk and the cost of doing business.

4. Sustainability business and financial performance

Sustainability has evolved considerably over the last number of years. The economic, social and environmental challenges facing businesses today are unlike any that organizations faced in the past.

At first, organizations were just trying to be good corporate citizens, focusing on 'green' initiatives which weren't deemed central to the business such as energy conservation. Today many business leaders have begun to view sustainability as a more integral component of their business strategy, linking it with opportunities to enhance revenue, reduce costs, improve margins and strengthen brand value. [5] Sustainability as strategy will encompass all aspects of triple bottom conception - economic, social and environmental.

Primary problem for enterprises is issue of costs, the financial and economic performance. In traditional corporate cultures, social and environmental concerns have typically been considered to conflict with financial goals. Therefore, despite the general recognition of the importance and necessity of CSR and sustainability, there remains a protracted debate about the legitimacy and value of corporate responses to CSR concerns.

Realization of sustainability requires a more extended timeline for return on investment (ROI). This fact is marked as the most negative aspect of realizing sustainability for enterprises. However, many authors do not identify with this idea. They see many benefits of sustainability for enterprises that are inherently reflected in the financial results.

Several authors and institutions have been concerned with benefits of sustainability business. The results of their researches, as a clear summary of the proven benefits of sustainable business, can be seen in the following table:

Table 2

Benefits associated with corporate sustainability by research study

Benefits \ Author year	Aras and Crowther 2009	IFC 2004	MIT SMR 2009	EXCEL Parthnership 2005	Lee and Sean 2012
Better image of the corporate and/or product	✓	✓	✓		
Increased sales and revenues	✓	✓			✓
Cost savings	✓	✓	✓		✓
Increased productivity	✓	✓	✓		✓
Lower staff turnover	✓	✓	✓		✓
Improved relationship with stakeholders		✓	✓	✓	✓
Easier access to finance	✓	✓	✓	✓	✓
Health and safety benefits		✓		✓	
Effective risk management			✓	✓	✓
Innovation of products and business models			✓		✓

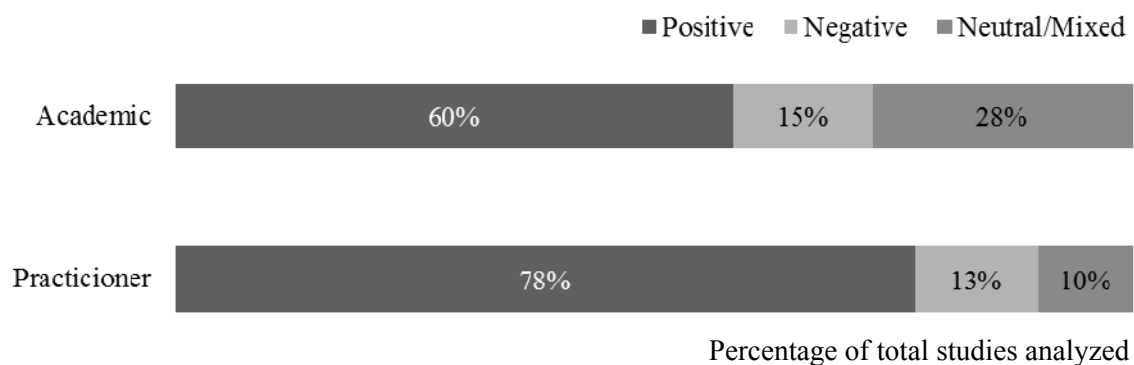
Source: WELLS, G. 2013. *Sustainable Business: Theory and Practice of Business under Sustainability Principles*. Cheltenham: Edward Elgar Publishing, 2013. p. 235. ISBN 978-1-78100-185-1.

It is increasingly recognized that incorporating corporate sustainability into business makes good business sense and creates unique business value. Benefits of corporate sustainability initiatives include improved company reputation, enhanced employee morale, and strengthened competitiveness, amongst others. These factors are reflected to the financial and economic performance by different intensity.

Correlation between sustainability and financial performance is issue for many years, next figure compiles the results of 159 studies (from 1972 to 2008). Most of the studies are drawn from academic sources (128 articles) and 31 come from the practitioner literature. Results from these studies show a positive relationship between sustainability and financial performance (63%). [1]

Figure 1

Correlation between sustainability and financial performance



Source: Network for Business Sustainability. (2008). *Valuing Business Sustainability: A Systematic Review*.

These historical studies confirms more actual research (2014) - interviews of 150 sustainability leaders at UK firms across 20 industry sectors. One of question was “How important is sustainability to the financial success of your firm” and 51% of respondents answer “Sustainability describes energy, environment and sustainability factors that will impacts our firm’s financial performance in the next two years”. [2]

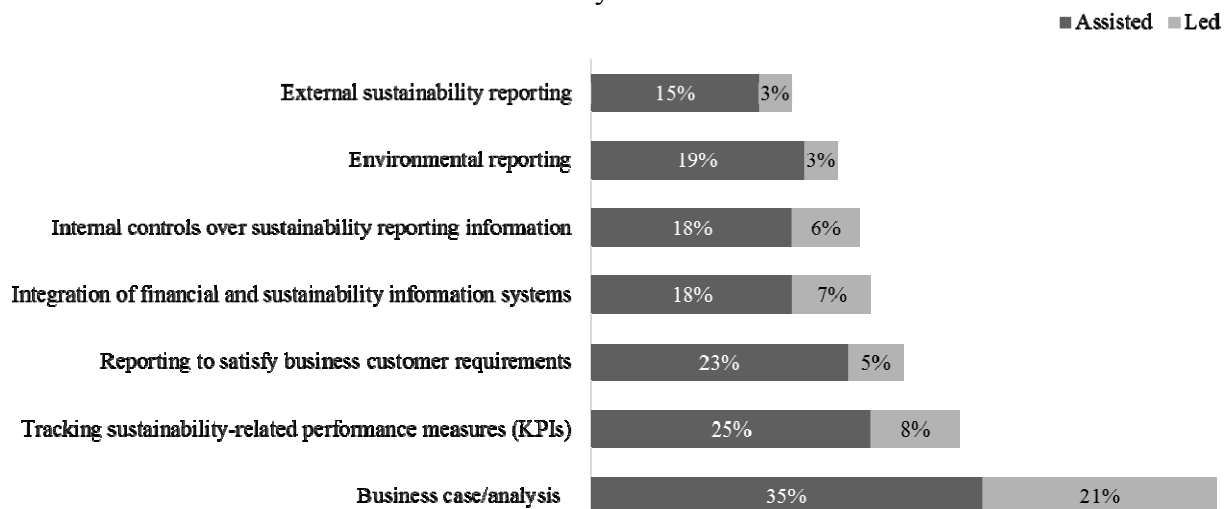
5. Importance and key function CFOs in sustainability business

Traditionally, sustainability issues have fallen outside the jurisdiction of the CFO. Today the CFO, as a leader and key strategic decision maker; and the finance function, as a central department, have important roles to play in sustainability business.

Company Ernst&Young made a research (2011) [4] about the integration and importance of CFO in sustainability. According to this survey, about one in six respondents (15 %) said their CFO was "very involved" with sustainability, while 52% said the CFO was "somewhat" involved. This means that about 65% of CFOs are now engaged in sustainability issues. Respondents cited cost reductions (74%) and managing risks (61%) as two of the three key drivers of their company's sustainability agenda along with increased monitoring of shareholder resolutions. Other research describes more specific CFO functions influenced successful strategy of sustainability business:

Figure 2

Finance function involvement in sustainability business



Source: Accenture - Chartered Institute of Management Accountants. (2011). *Sustainability performance management: How CFOs can unlock value*.

These research find out that CFOs and the finance function can provide the impetus required to maximise business value of strategy of sustainable business, they should take the following steps: [1]

1. Make it strategic, not just tactical - finance has the skills and ability to support the business to ensure sustainability initiatives are strategic rather than tactical in nature.
2. Apply a financial mindset - link sustainability to business performance - CFOs and the finance function have unique skills and knowledge which can help define the business case for sustainability strategies and initiatives.
3. Use the right metrics, consistently - finance professionals can identify value drivers within a business and ensure focus on the right set of metrics is maintained.
4. Improve the process of data collection, analysis and reporting - finance professionals bring the rigour and discipline used in accounting to the collection, analysis and reporting of sustainability data. They must however, work closely with sustainability professionals to understand what information needs to be captured and how it is to be used.
5. Integrate with business planning and reporting - CFOs and the finance function are best placed to incorporate meaningful sustainability metrics into business planning and reporting processes.

6. Conclusions

Today's hyper-competitive global and still changing economy (changing external environment) pressures to evolving role of CFO, they face to new challenges. Combination of traditional and modern role of CFOs can be summarized into four faces: steward, operator, strategist and catalyst.

Based on selected results described in this article, we can clearly claim that sustainable business is currently an important topic that should be in the interest of financial management also. Main reason is positive correlation between sustainability business and financial performance. This positive correlation proven 78% of practitioner 60% of academic researchers from 159 studies realized from 1972 to 2008. These historical studies confirms more actual research from 2014 with results 51% of respondents saw positive relationship. So sustainability approach can brings to financial management positive influences on key financial factors.

Other benefits of business sustainability initiatives include improved company reputation, enhanced employee morale, and strengthened competitiveness, amongst others. These factors are reflected to the financial and economic performance by different intensity.

Sustainability issues and financial performance have begun to intertwine. CFOs are getting involved in the management, measurement and reporting of the companies' sustainability activities. This involvement has expanded the CFO's role in ways that would have been hard to imagine even a few years ago. It can be stated, that role of the CFO has steadily evolved away from the singular role as the corporation's financial gatekeeper towards a more comprehensive role in management strategies that has been influenced by the way businesses are now viewing sustainability. The key areas where sustainability trends have influenced the role of the CFO are in investor relations, external reporting, and financial risk management.

Acknowledgement

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Social Quality and Working Poverty

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Abstract

Social quality in Slovakia is not very well-known phenomenon, although in year 2000 became the strategy for the EU. Its concept has undergone 18 years of debate, however, has not solved some dilemmas related to the theory and methodology. Through dimensional analysis attempts to determine not only the relationship between them, but also to outline the process of quantification, important for the formation of normative, needed to measure and assess the potential social pathologies in the process of forming a new quality of society.

Keywords: social quality, working poverty, conditional factors

JEL classification: A14, B49, Z13

Introduction

The year 2000 was for the European Union an important milestone. The concept of social quality became part of the European social policy represents a new perspective of perception not only social but also economic, political, ecological and cultural aspects of human existence. Social quality has undergone more than 10 years of development and has become a never-ending process, refilling of innovation, wider and deeper knowledge on the part of scientists and politicians, on the methodological, theoretical, empirical as well as political level. It is considered to be a scientific framework but, also a political project. As a scientific problem forms the conceptual scheme on the basis that analyze social reality and as a political project is a strategy to promote the social dimension of Europe.

The concept of working poor is closely related to the concept of social quality. Social quality is a measure of quality of society. Reduction of poverty in Europe is one of the most important objectives of the EU. The Strategy 2020 is one of the priority objectives: reduce the number of people at risk of poverty and social exclusion by at least 20 million. The aim of the paper is to identify the correlation between them. The fact that we have defined this relationship, it is necessary to examine the interactions between conditional factors of social quality and working poverty.

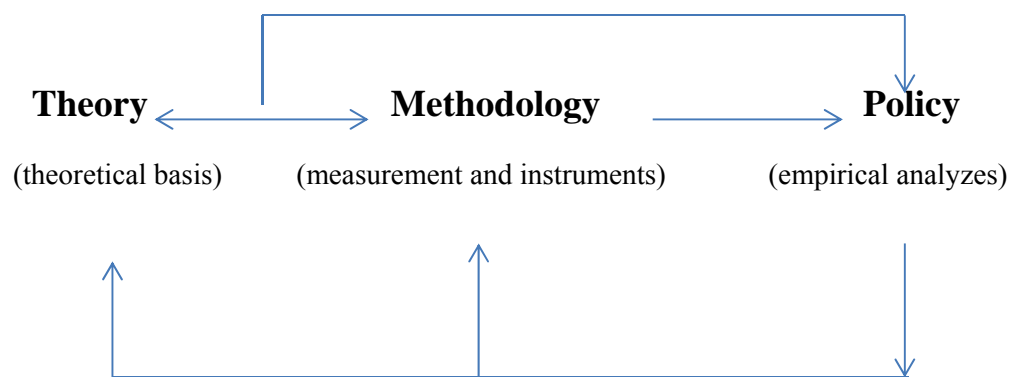
1.1. Origin and Definition of Social Quality

The concept of social quality consists of the four phases. In the first phase the concept of social quality was formulated in the first book of 'Social Quality of Europe', composed by 25 scientists from all over Europe. This is a preliminary launch of a comprehensive theory of social quality. In June 1997 in Amsterdam European scientists presented the 'Declaration of social quality', which aimed to achieve respect of the concept of social quality in the political decisions of the European Commission. That declaration of social quality was to remind

policy makers and citizens of the Western European approach that includes economic development as well as justice and solidarity.

At the end of the first phase was published second main study of social quality: 'New Vision for Europe'. The second book elaborated the idea of interplay of two basic tensions delivering the context for the main dialectic resulting into 'the social'. This is the dialectic between processes of self-realization of human beings and the formation of collective identities. These two tensions define a theory about the relationship between the world of systems and people's everyday lives. During the second phase of development it has occurred the conditional factors of social quality. In 2005 was realized a large project Network Indicators of social quality (ENIQ). The first part of the research consisted of the development and application of the indicators of social quality. Social quality indicators formed the basis for a holistic theoretical approach to social quality. In the second phase of social quality they are also defined the three types of factors (constitution, conditionals and normative).

ENIQ had regarding the theoretical and political objectives the creation of a rational theoretical definition of the concept of policy at national and European level and to combine theory with public policy in such a way that the level of social quality was to be measured. This can be illustrated on the next scheme.



Thanks to the results of the second phase of social quality, scientists from Europe began to prepare for the third phase of the concept of social quality. The third book of social quality was published at the beginning of the fourth phase. The book was published in 2012 under the name of Social Quality from Theory to Indicators. In the third phase, it has established successful cooperation with scientists in Asia and Australia.

In the fourth phase of social quality started cooperation between the European Foundation of Social Quality (EFSQ) and the Asian Consortium for Social Quality (ACSQ). In this newsletter also the following relevant issues are discussed: The preparation and operationalization of the surveys in Australia and six Asian countries to apply and test the indicators of social quality. The subject concerned the outcomes or consequences of changes in societal circumstances in these regions due to new trends for socio-economic security, social cohesion, social inclusion and social empowerment.

Social quality is defined by authors W. Beck, Laurent J.G. Van Der Maesen, A. Walker as "the extent to which people are able to participate in social relationships under conditions which enhance their well-being, capacity and individual potential". It refers to a new understanding of 'the social' as the result of the productive and reproductive relationships of people. This provides a significant basis for a new vision on the main dimensions of societal life by distinguishing and enhancing:

- the objective conditions of daily life, including the socio-economic conditions people are living in, the social cohesion they experience in their communities,

social inclusion to realize their civil rights and the extent of their social empowerment to enable them to play responsible roles in society and in the processes of societal change.

- the subjective conditions of life, as the degrees of personal security and social recognition, social responsibility and their personal capacities to combat situations and feelings of alienation, exploitation, discrimination and degradation.
- the normative conditions of life: social justice and equity; solidarity at community, national and international level; to promote the equal value of all people and to defend and enhance their human dignity. These also form the basic orientation to judge the outcomes of the linking of the objective and the subjective conditions.

According to the theory of social quality is the social world realized in the interaction (and interdependencies) between the self-realization of individual people as social beings and the formation of collective identities which occurs in the context of both basic tensions. Four basic conditions determine the opportunities open for these processes or social relations to develop. People must have the capability to interact (social empowerment); the institutional and structural context must be accessible to them (social inclusion); they must have access to the necessary material and other resources that facilitate interaction (socio-economic security); and the necessary collective accepted values and norms, such as trust, that enable community building (social cohesion). On the next picture we can see conditional factors of social quality.

Figure 1

Conditional factors of social quality

Socio-economic security	Social cohesion
Institutions	Community
Organization	Group
Social inclusion	Social empowerment

Source: Van Der Maesen, L. J. G. – Walker, A. (2005). Indicators of Social Quality. Outcomes of the European Scientific Network. p. 16.

The social quality defines three types of factors (constitutional, conditional and normative) that shown in the following Table 1.

Table 1

Factors of social quality

Constitutional factors (processes)	Conditional factors (opportunities + contingencies)	Normative factors (orientation)
Personal (human) security	Socio-economic security	Social justice (equity)
Social recognition	Social cohesion	Solidarity
Social responsiveness	Social inclusion	Equal value
Personal human capacity	Social empowerment	Human dignity

Source: Herrmann, P. (2007). A Positive Approach Towards Social Policy – The Re-foundation of Social Policy. p. 4.

1.2. Working Poverty

Poverty as a social phenomenon is permanent and continue growing problem occurring not only in developing countries but also in economically developed countries of the world. Poverty is accompanied by low social status of people, who find themselves due to the material deprivation on the margins of society. It being necessary to consider the fact, that the existence of poverty are violated of human rights.

Poverty is often associated with inequality. The redistribution process in the market economy generates economic and social inequality. Low labor intensity, unequal access to various sources, in other words, unequal share of the distribution of the results leads to the exclusion of certain population groups. Poverty can be understood as an expression of extreme inequality. In today's world, the inequality and poverty still generate a rift between rich and poor, which is increasing, both at national and transnational level.

A certain level of inequality as incentives for individual performance is necessary. This inequality is an important factor, which determines why and how intensity will people to offer their workforce on the labor market and why increasing their qualification. In this sense it is especially wage as external stimulation. Inequality both in terms of income distribution becomes explanation of the economic and financial consequences of the own decision of human. It is therefore necessary to maintain inequality, to stimulate and legitimize the position of the redistribution of resources, shares the position of economic wealth and to contribute to improving economic performance. Unanswered question still remains what should be the level of inequality, to stimulate a person to do? However, in the present is the inequality rather discouraging, as not lead to stimulation.

Working poverty is a hybrid concept combining the issues of poverty and employment. This immediately makes it a complex concept, combining an individual and a household level of measurement into a common concept. Poverty is generally seen as a household concept, while employment relates to an individual situation. Working poverty thus means usually counting individual workers living in a poor household. There are different definitions of the working poor in international academic literature (Peña-Casas and Latta, 2004). Its variety depends on how both terms of the concept are defined: the status and level of participation in employment for someone to be considered a 'worker' and the convention adopted to be seen as 'poor'. (Fraser – Gutierrez – Peña-Casas, 2011)

Working poor are thus defined as individuals having work (either waged employees or self-employed) for at least seven months in the year prior to the survey, and who are members from households whose annual equivalised disposable income is below the poverty threshold. People are considered to be poor when they face a risk of social exclusion through

income inequality, in that their living conditions fall substantially below the typical standard of living in their country of residence at a given point in time. Indeed, this relative concept of poverty is probably more distant from a basic needs concept in countries where per capita income is relatively high than it is in lower income countries. This must be borne in mind in any international comparisons of poverty. However, it should also be underlined that in the EU framework, if the emphasis is in the first instance on the monetary dimension of poverty, as after all in market economies the lack of income impairs access to a whole range of basic goods and services, the concept of poverty encompasses also a broader multidimensional understanding in terms of social exclusion and insufficient access to employment, education, housing, healthcare, and covers also the degree of satisfaction of basic needs and the ability to participate fully in society (Fraser – Gutierrez – Peña-Casas, 2011).

2. Comparison of the Correlation between Social Quality and Working Poverty

In the past, poverty was associated with inactivity or laziness people. Currently, it's no surprise that large numbers of the poor are also found among the working population, respectively households, whose income is below the subsistence minimum.

In this context, it is necessary to distinguish between two groups of working poor. And the working poor, whose income is above minimum standards, but the existence reasons other household members find themselves at risk of poverty and material deprivation. In the second group are the working poor, whose income is below the minimum standard and thus not sufficient to ensure everyday needs. However, poverty in the second group can be avoided if other household members have sufficient income to reduce income inequality. In the first group of working poor are more affected by poverty and the need on social welfare state (Kuhn, 2002).

It can be concluded that to reduce in-work poverty is essential to achieve a high level of socio-economic security in quadrant 1, which includes the financial resources, housing and environment, health and social care, labor therefore the necessary conditions for optimal living. (look at the Figure 1). Thus achieving a high level in one quadrant is a necessary prerequisite for the ensuring of the necessary resources and the prevention of poverty. However quadrant 1 is not only necessary preconditions for reducing in-work poverty, but also 'Social inclusion' in quadrant 3 (civil rights, labor market, social networks) and quadrant 4 as 'Social empowerment' (knowledge base, labor market, openness and institutional support) in figure 1. Inclusive labor market, building a knowledge society based on excellence in knowledge and skills are a prerequisite for effective reduction of poverty in Europe. Based on the results of the EU-SILC, people with low levels of education are at greater risk of poverty than people with higher education.

Combating social exclusion is mentioned in Article 3 of the Treaty on European Union and Articles 151 and 153 of the Treaty on the Functioning of the European Union. The Lisbon European Council in March 2000 concluded that "the number of people living below the poverty line and in social exclusion in the Union is unacceptable" and that "the new knowledge-based society offers tremendous potential for reducing social exclusion" (Presidency conclusion No 32). The Social Policy Agenda (COM (2000) 379 final) also addressed the issues of poverty and social exclusion. The main objective is "to prevent and eradicate poverty and exclusion and promote the integration and participation of all into economic and social life" (Section 4.2.2.1). It is also one of the main objectives of the concept of social quality.

The poverty risk (indicator: at-risk-of-poverty rate) is measured in terms of the proportion of the population with a balanced disposable income below 60 % of the median balanced disposable income in each country.

Median income is preferred to the mean income as it is less affected by extreme values of the income distribution. The relative median at-risk-of-poverty gap is defined as the difference between the at-risk-of-poverty threshold (cut-off point: 60 % of median balanced disposable income) and the median balanced disposable income of persons below the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold. This indicator is a measure of the intensity of poverty risk.

The following Table 2 shows a comparison of social quality and in-work at risk of poverty in percentage terms. The data are drawn from the OECD and Eurostat in 2009.

Table 2

Comparison of social quality and in-work at risk of poverty

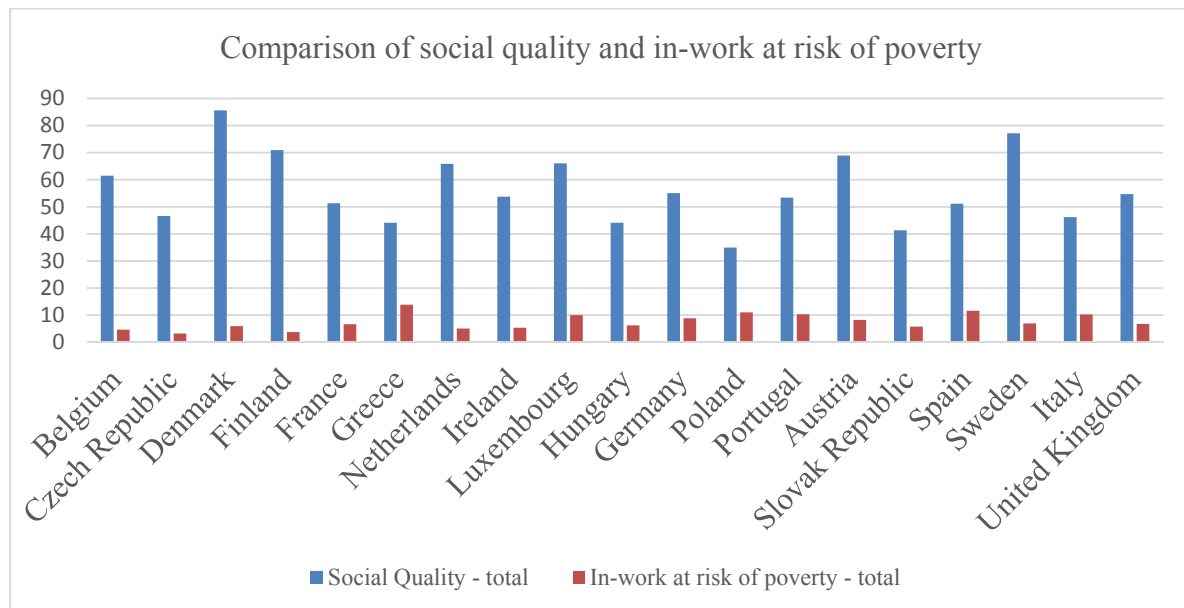
Countries of Europe	Social Quality – total in %	In-work at risk of poverty – total in %
Belgium	61,51	4,6
Czech Republic	46,62	3,2
Denmark	85,62	5,9
Finland	70,98	3,7
France	51,34	6,6
Greece	44,14	13,8
Netherlands	65,88	5,0
Ireland	53,76	5,3
Luxembourg	66,06	10,0
Hungary	44,14	6,2
Germany	55,04	8,8
Poland	34,92	11,0
Portugal	53,4	10,3
Austria	68,98	8,2
Slovak Republic	41,32	5,7
Spain	51,14	11,57
Sweden	77,16	6,9
Italy	46,19	10,2
United Kingdom	54,72	6,7

Resource: own processing by OECD, 2009.

Table for better representation is converted into a Graph 1.

Graph 1

Comparison of social quality and in-work at risk of poverty



Resource: own processing by Eurostat, 2009.

Between the concepts of social quality and poverty there is inversely correlated. If a higher level of social quality, so the level of risk of poverty is lower. This relationship also applies opposite. If the level of poverty is higher, so the level of social quality is lower. It is a simplified definition of the relationship.

If we look at the graph of countries such as Greece, Italy, Spain, Poland, Portugal we see that they have a low level of social quality and a high level at risk of working poverty. The Nordic countries have a high level of social quality and low working poverty. However, there are countries for example Luxembourg that are economically developed and have high level of social quality and still achieve higher level of poverty. Further, countries such as Slovakia, Hungary have relatively low levels of social quality, and lower levels of working poverty. It is for that reason this relationship is very general and should be taken into factors such as the established of subsistence, (which different from country to country), the number of inhabitants of the country and quality of life. However, in general we can say that inversely correlated between the two phenomena that actually paid.

3. Conclusion

Social quality is a multidisciplinary phenomenon, which is a part of many disciplines. It is the result of the interplay between social, economic, health and environmental conditions that determine its level, and in this regard the social quality measure of success of social policy. The level of social quality is a reflection of the quality of the whole society.

Social quality is often recalls especially in international instruments of the EU. In Slovakia it does not pay adequate attention. While we believe that the concept of social quality represents our future. However, internationally, the concept of social quality covers many well-known scientists from major universities and authors who stand behind the emergence of the concept of quality, for example. A. Walker, W. Beck, Laurent J.G. Van Der Maesen, P. Herrmann.

The development of the concept of social quality is not finished and is still ongoing. It is necessary to take a closer focus on exploring social quality at the micro level and also identify interdependencies among other factors, social quality therefore constitutive and normative factors, which relate directly to the micro level.

Social quality and working poverty are closely related. It is inversely proportional relationship between them, which is a result of research. Increasing number of working poor is a problem for the whole world. In the past, the poverty was the problem not working people, but with the development of new technology and frequent economic fluctuations are increasingly touches and working groups. It is therefore necessary to change the attitude of the whole society to this undesirable phenomenon and improve conditions for the development based of knowledge-society.

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In-depth Analysis of Czech Systems of Sickness and Health Insurance

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Abstract

The paper examines the sickness and health insurance systems in the Czech Republic. The aim of the paper is to highlight and discuss the main features of these systems. The sickness insurance system was significantly reformed in 2009, when employers started to be involved in the system and began paying wage compensation in the first 14 calendar days of an employee's sickness. This led to a decrease of the average percentage of temporary incapacity for work; however, the average length of sickness grows. The structure of sickness insurance benefits has changed over the years as the ratio of sickness benefit decreases. The study further examines the revenues and expenses of the sickness insurance system, their values usually resulting in a surplus. The health system in the Czech Republic is described with emphasis on financing. The expenses on health as % of GDP are on a low level when compared to EU countries, reaching approximately 7 %. The Czech Republic is one of the leading countries in terms of utilizing public sources. In 2013, the ratio of public sources reached 85 % of all sources, from which the main part represents the collection of premium by the health insurance companies.

Keywords: health insurance, sickness insurance

JEL classification: I1, H4

1. Introduction

The systems of health and sickness insurance are separate in the Czech Republic. Both systems benefit mainly from collection from wages (e. g. employees), or different basis of assessment (e. g. self-employed persons). The premium on health insurance totals 13.5 %, while on sickness insurance, which is included under premium on social insurance it amounts to 2.3 %. However, the rate (unlike health insurance) has been changing over the years. The following text briefly describes both systems and analyses their development on the basis of empirical data.

The paper is a brief introduction to the more complex study which will look for advantages and disadvantages of the connected systems of sickness and health insurance.

1.1 Model and Data

In preparation for this study, it was necessary to study a number of laws and Acts. Due to the analysis in different time periods, variations of Acts valid in the past also had to be studied, since these could influence the performance of the systems.

When examining the ratio of paid premium by the payer of health insurance, the annual reports of health insurance companies were used. There, collection from employers, self-employed persons and persons without taxable income was summarized. Collection for state insured persons was calculated by the author by annual collection of premium for 1 state

insurance (based on an Act) multiplied by the average number of state insured persons (in annual reports).

The most significant source for the paper was the Institute of Health Information and Statistics of the Czech Republic, from which data for analysis of health insurance were acquired. This source provides a great deal of valuable information and cooperates with World Health Organization (WHO), Eurostat, the Organization for Economic Co-operation and Development (OECD) and others, meaning that the Institute of Health Information and Statistics of the Czech Republic collects health statistics of the Czech Republic along with those of other countries.

1.2 Aim

The aim of the paper is to define the main features of the systems of health and sickness insurance with emphasis on the financing of these systems. These features will be found e.g. on the basis of analyzing the calculation of sickness benefits and the systems described (mainly on the basis of Act No. 589/1992 Coll., on Social Security Premium and Contribution to State Employment Policy, and Act No. 592/1992 Coll., on Premiums for General Health Insurance Contributions). From the results, conclusions will be drawn and the main features of the Czech systems will be described.

2. Format Guidelines

The first part of the paper deals with sickness insurance system, the second part is devoted to health insurance system.

Sickness Insurance

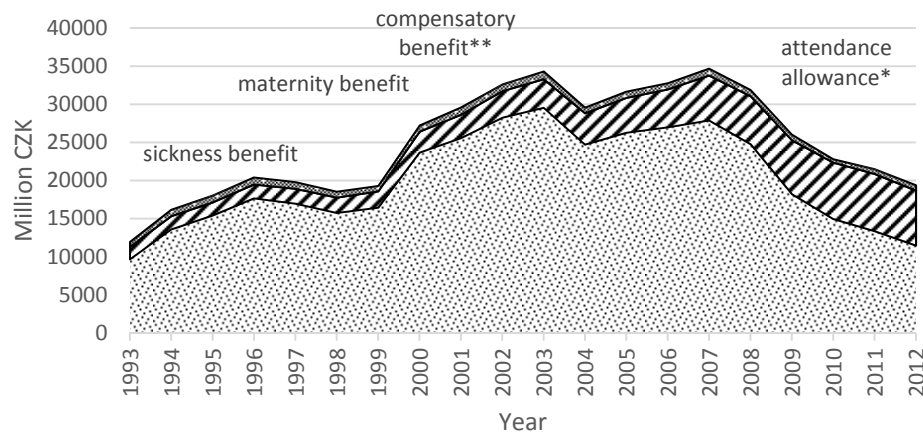
Before 1st of January 2009, only the state (specifically Ministry of Labour and Social Affairs) participated in the payment of sickness insurance benefits. For this purpose, the state used so called large organizations (firms with more than 25 employees), but the amount the large organizations paid was returned to the organization by the state. In the beginning of 2009, the legislation on the Czech sickness system changed. Act No. 187/2006 Coll., on sickness insurance, replaced Act No. 54/1956 Coll., on employees' sickness insurance, which was in effect for more than 50 years. The most significant change brought by the new Act was the introduction of payment to persons temporarily incapable of work by the employer in the first period of sickness. Specifically from the 4th to 14th (21st in years 2011 – 2013) calendar day of temporary incapacity for work. This payment is equal to 60 % of reduced average earnings and is paid according to Act No. 262/2006 Coll., Labour Code. Since 2009 a change has been made, with the first period of sickness being paid by the employer, who a compensation wage; the amount paid is not refunded by state in 100 %. In other words new cost was developed to employers. This does not mean, that costs connected with sickness insurance increased (will be explored further on in the text). The division between the employer, who takes care of employees financially in the first period of sickness, and state, who pays sickness insurance benefits in case of longer sickness, can be seen as the first feature of the sickness insurance system.

From sickness insurance 4 benefits are provided (§4 of Act No. 187/2006 Coll.), these are: sickness benefit, maternity benefit, attendance allowance (before 2009 known under the name "family member care benefit"), and compensatory benefit in pregnancy and maternity. Domestic employees are entitled to all 4 of the above mentioned benefits. If a self-employed person or a foreign employee decides to participate in sickness insurance, they are entitled only to the sickness benefit and maternity benefit (Ministry of Labour and Social Affairs,

2013). Entitlement for benefits develops after the fulfillment of conditions specified in the Act (so called obligations of entitlement) and it does not depend on the will of the person who should receive the benefit. All the person needs to do is to hand in the application for the benefits to the employer. The structure of sickness insurance benefits is shown in following graph (Figure 1).

Figure 1

Sickness insurance benefits



Source: Ministry of Labour and Social Affairs, 2013, s. 68

Notes: *before 2009 known as family member care benefit, **the whole name is compensatory benefit in pregnancy and maternity

While compensatory benefit in pregnancy and maternity is not visible in the graph (Figure 1) because of its size (from 1996 in the millions of CZK), maternity benefit's ratio to the total sum of benefits paid increases by what sickness benefit loses. However, sickness insurance still participates in total expenses with the biggest ratio (Ministry of Labour and Social Affairs, 2013). In 2005, the ratio of sickness benefit to total expenses was 82.94 %. After the new Act on Sickness Insurance came into effect, this ratio has experienced a decrease. In 2012, the total sum paid on sickness insurance benefits equaled 19,377 million CZK, from which 59.17 % went into the sickness benefit. Considering the ratio of each benefit to total sum paid on benefits, the present paper will not be dealing with attendance allowance and compensatory benefit any further. The reason why the ratio of sickness benefit decreases is clear. In the first 14 (21) calendar days of sickness, a compensation wage is paid by the employer and not by the Ministry of Labour and Social Affairs. As written above, firms have a new expense – compensation wage. On the other hand the rate of premium for sickness insurance decreased (more details below) and together with that it was possible (in some periods) to deduct half of the amount provided for compensation wage. If this led to an increase or decrease of costs connected with sickness insurance cannot be said for certain. But one fact is undisputable: the state passed on a part of the responsibility to firms and burdened them with extra work (e.g. time spent on calculating the benefit amounts, managing of sick employees, etc.).

The calculation of sickness insurance benefits goes as follows (Ministry of Labour and Social Affairs, 2013):

1) Determination of the daily basis of assessment

Daily basis of assessment is calculated, when the basis of assessment is divided by the number of calendar days in the reference period (§18, section 1 and 2 of Act No. 187/2006 Coll.). The Ministry of Labour and Social Affairs (2013) defines the reference

period as “period of 12 calendar months before the calendar month, in which the temporary incapacity for work originated.”

2) Reduction of the daily basis of assessment

For the purpose of reduction of the daily basis of assessment 3 reduction levels are used. They are listed in the announcement of the Ministry of Labour and Social Affairs every year. In 2013, the reduction levels were noted in announcement No. 336/2012 Coll. Specifically, the first reduction level was 863 CZK, the second reduction level 1,295 CZK, and the third reduction level 2,589 CZK. In §21, section 1, letter a), of Act No. 187/2006 Coll., it is stated that from the figure belonging to the 1st reduction level, the daily basis is calculated with 90 % of the amount (in case of maternity benefit 100 %), from the figure belonging to the 2nd reduction level 60 %, from the figure belonging to the 3rd reduction level 30 %, and the figure which reaches higher than the 3rd reduction level, is not taken into account.

If an employee has a daily basis of assessment 4,000 CZK, then the reduced daily basis of assessment represents 1,424.10 CZK ($863 \cdot 0.9 + (1,295 - 863) \cdot 0.6 + (2,589 - 1,295) \cdot 0.3$).

3) Determination of the sickness benefit amount (per day)

§29 of Act No. 187/2006 Coll. states, that sickness benefit equals 60 % of the reduced daily basis of assessment (maternity benefit 70 %). Employee from the previous point would receive 60 % of 1,424 CZK per calendar day, which is 854 CZK.

4) Sickness benefit for time spent in temporary incapacity for work

If an employee has been temporarily incapable of work for 30 calendar days, they would receive sickness insurance for 16 calendar days (first 14 days they would receive compensation wage). In the above mentioned example, the employee would receive $16 \cdot 854$ CZK, which equals 13,664 CZK.

On the basis of the above described calculation a significant feature of sickness insurance, solidarity, was uncovered. Because reduction levels allow lower percentages in case of higher income, the insured persons with higher income are solidaristic to people with lower income. Without the financial aspect, it can also be seen as solidarity between the sick and the healthy.

Another important aspect is voluntariness, or rather obligation to take part in sickness insurance. Sickness insurance is mandatory for employees (§5, letter a) of Act No. 187/2006 Coll.). However, 2 conditions have to be fulfilled (§6 of Act No. 187/2006 Coll.): (1) place of work performance is on the territory of Czech Republic or the place of work performance is abroad, but the employer resides in the Czech Republic, (2) contractual income, which the employee receives in one calendar month amounts to at least 2,500 CZK (valid in 2015). Before 2014, there was another condition: the required length of employment had to be at least 15 days. For self-employed persons sickness insurance is voluntary.

Sickness insurance is financed continuously from the state budget. That means that expenses on benefits, which “leave” state budget, are covered by revenues from premiums, which flow to budget (Ministry of Labour and Social Affairs, 2013). Premium on sickness insurance is regulated by Act No. 589/1992 Coll., on Social Security Premium and Contribution to State Employment Policy. Premium represents a percentage from the basis of assessment. The basis of assessment varies for different groups of people. E.g. the basis of assessment for employers equals the sum of his/her employers’ basis of assessment (§5a of Act No. 589/1992 Coll.), i.e. the sum of taxable income (§5, section 1 of Act No. 589/1992 Coll.).

As table (Table 1) shows, sickness insurance rate changed over time:

Table 1
Premium on Sickness Insurance (v %)

	1993-1995	1996-2008	2009-2010	2011-2013	2014-2015
Employer	3.60	3.30	*2.30	2.30 (*3.30)	2.30
Employee	1.20	1.10	0	0	0
Sum	4.80	4.40	*2.30	2.30 (*3.30)	2.30
Self-employed person	4.80	4.40	1.40	2.30	2.30

Source: Ministry of Labour and Social Affairs, 2013, p. 18, adjusted by the author

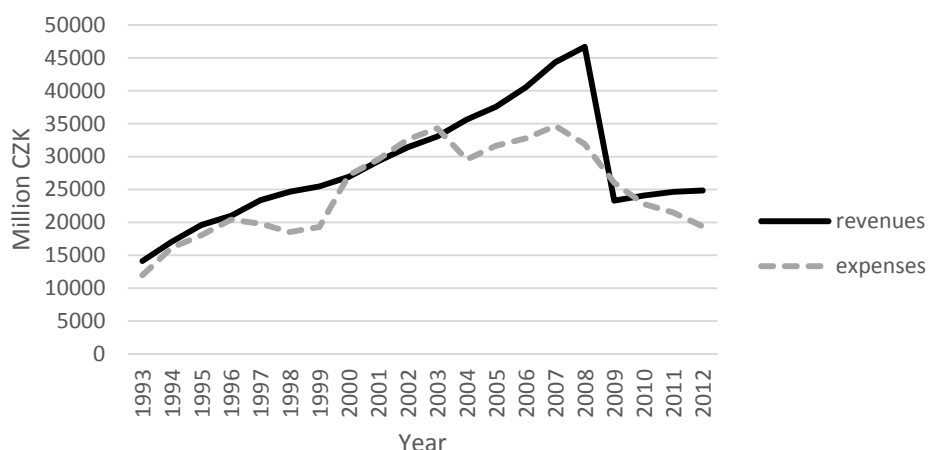
Notes: * it was possible to deduct the half of compensation wage from the premium

From the table (Table 1), it is clear that employees have not had to pay premium on sickness insurance since 2009. The Act made a compromise for employers: on one hand, they have a new expense (compensation wage in the first 14 (21) calendar days), but, on the other hand, premium rate on sickness insurance has decreased (change from 2008 to 2009 was 1 a percentage point (pp) decrease). It cannot be assessed whether the costs for companies would decrease or increase (*ceteris paribus*).

Self-employed persons and foreign employees have to consider, if it is beneficial for them not to take part in sickness insurance. In comparison with employees they do not receive a compensation wage, so financial support flows to them from 15th (21st) calendar day of sickness. Maternity benefit is the same as for employees.

How money flows to the system of sickness insurance and on what benefits it is used was described above. The following graph (Figure 2) quantifies total revenues and total expenses of the sickness insurance system, with revenues being considered as revenues from premium (from employers, employees and self-employed persons) and expenses considered as expenses on sickness insurance benefits.

Figure 2
Revenues and expenses of the sickness insurance system



Source: Ministry of Labour and Social Affairs, 2013, s. 68

As seen on the graph (Figure 2), in most years, the revenues were higher than expenses. The opposite occurred only in 2000 – 2003 and 2009. According to the Ministry of Labour and Social Affairs (2013) the reason for deficits in the period from 2000 was the setting of reduction levels for the daily basis of assessment, which in comparison to previous years

allowed payment of bigger benefits. In 2004, economical measures came into effect (Act No. 421/2003 Coll.). These led to the removal of the increases in reduction levels and in the first reduction level, when calculating sickness benefit, the percentage was changed to 90 % instead of 100 %. In the graph (Figure 2) there is a noticeable spike in 2009, when revenues decreased by 50 % because of the decrease of premium on sickness insurance by 2.1 percentage points and the increasing unemployment (in 2008 4.4 %, in 2009 6.7 % (CZSO, 2015)).

The expenses have been decreasing since 2008, when waiting period came into effect (though not throughout whole year). The main cause of the decrease in expenses was compensation wage, which replaced the payment of sickness benefit in the first 14 (21) calendar days of temporary incapacity for work. The decrease in 2011 and 2012 could be caused by the change of the sickness benefit amount. While in 2009 and 2010, the sickness benefit grew with the duration of incapacity for work (from 15th to 30th day 60 %, from 31st to 60th day 66 %, and longer illnesses 72 %), from 2011 to 2013 the amount was set as 60 % of the reduced daily basis of assessment and was paid from the 22nd calendar day of sickness onwards.

The new Act influenced the sickness rate. The average percentage of people in temporary incapacity for work decreased, but simultaneously the length of sickness increased (CZSO, 2014). For employers, the new Act coming into force was beneficial due to the facts described by the Czech Social Security Administration (Ministry of Labour and Social Affairs, 2013). The reason why the average length of illness grows is that short-term illnesses are decreasing, while long-term illnesses stay on the same level. Thus employees produce more product.

A few features of the sickness system have been described so far: the division of financing of benefits between employer and state, obligations of entitlement, solidarity, and obligation of insurance. Of course there is a number of other features. However, those cannot be examined further due to spatial constraints.

Health Insurance

In the second part of the paper, attention will be devoted to the Czech health system. Health insured persons based on §2 of Act No. 48/1997 Coll., on Public Health Insurance, are: (1) persons with permanent place of residence on the territory of the Czech Republic, and (2) persons, which do not have a permanent place of residence on the territory of the Czech Republic, but are employed by an employer, who has a permanent place of residence or headquarters on the territory of the Czech Republic. Health insurance is mandatory in the Czech Republic. The obligation of insurance is the first feature of the health system. But that does not mean, that every person sends money from their own pocket (described further in more detail).

According to Bryndová et al. (2009), the health system of the Czech Republic is based on the mandatory registration to some health insurance company. Based on §11 of Act No. 48/1997 Coll., an insured person has a right to select a health insurance company, which there were 7 of in 2015 (Ministry of Health, 2014). Health insurance companies have a duty to “pay providers..., who provided paid services.” (§40, section 2 of Act. No 48/1997 Coll.) Section 7 of §40 of Act No. 48/1997 Coll. states that they also have duties to health insured persons. Health insurance companies have to secure a place and time availability of paid services to its insured persons.

Bryndová et al. (2009) state that financing is performed through single companies. The main item on the revenue side of health insurance companies is payment of premiums from health insured persons, employers of health insured persons, and self-employed persons.

Other revenues are (*Souhrnné hodnocení předpokládaného vývoje...*, 2014) revenues from state budget (for state insured persons), sanctions, revenues from foreign insurance companies and the Ministry of Defence, revenues from taxable activities. Act No. 592/1992 Coll., on Premium for General Health Insurance, states in its 2nd paragraph, that it is conscripted 13.5 % from the basis of assessment. The premium rate has not changed since the formation of the Czech Republic. There exist four payers: employers (who pay premium also for employees), self-employed persons, persons without taxable income, and state.

The fact that the state is a payer, who guarantees payment of premium for persons defined in the Act (e.g. retired persons, unemployed persons or students), is another feature of the system. In 2012, 10,405,527 persons were insured, from which 6,097,414 (58.6 %) were insured by the state. The following table (Table 2) allows the identification of differences between the payers. It lists the basis of assessment, minimum basis of assessment (in words and in CZK), minimum collection, and average collection from insured persons values listed by the General Health Insurance Company of the Czech Republic (VZP) in 2013. That year, there was a change in minimum wage in August; in November there was an increase in the basis of assessment for state insured persons.

Table 2
Premium on Health Insurance

Insured person	Basis of assessment	Minimum basis of assessment	Minimum basis of assessment [CZK]	Minimum monthly collection [CZK]	Average collection from insured person by VZP [CZK]
Employee	Sum of wage-earning income	Minimum wage	8,000/8,500	1,080/1,148	3,120
Self-employed person	50 % of income after deduction of expenses	50 % of average wage	1,2942	1,748	1,843
Person without taxable income	Minimum wage	Minimum wage	8,000/8,500	1,080/1,148	1,109
State insured person	Specified in the regulation	Specified in regulation	5,355/5,829	723/787	734

Source: Act No. 48/1997 Coll., on General Health Insurance; Association of SME and self-employed persons of the Czech Republic, 2015

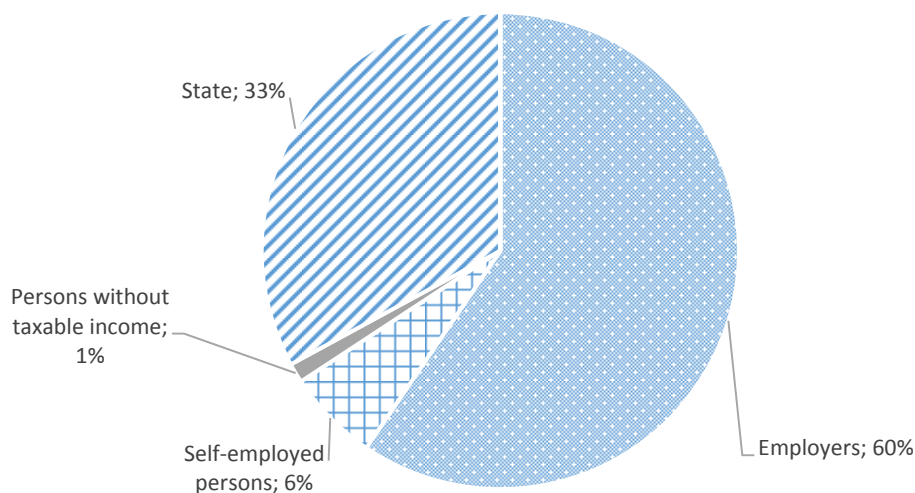
Notes: Columns in CZK work with 2013 data.

Based on average collection, the most is paid for the employee, for whom the employer pays 3,120 CZK monthly (from this figure 1/3, which equals to 1,040 CZK, is paid by the employee). Self-employed persons pay 1,843 CZK monthly on average. In comparison to employees (who become state insured in case of loss of their job and the announcement to that effect to the health insurance company) they have to pay even in the case when their income is equal to 0 CZK. From the table (Table 2), it follows that in the health system, the

high-income persons are solidaristic to the low-income ones. If a person needs treatment by the doctor, the same care will be provided to all persons no matter how much they paid on premium.

The following graph (Figure 3) shows how above mentioned payers contribute to the system. Data used is taken from VZP (2013).

Figure 3
Premium of VZP payers



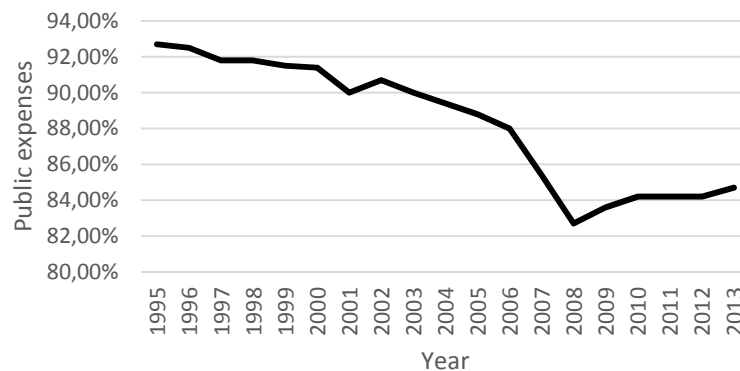
Source: VZP, 2014

Notes: Data represent 2013 data.

But how is it with the number of these insured persons? Does the ratio in graph (Figure 3) correspond to number of persons? Based on information from the table (Table 2), it is clear that it does not, since every person has a different basis of assessment and must pay different amounts. The revenues of premium were shown above. The paper will now move on to expenses of the health insurance system. The main expenses are (*Souhrnné hodnocení předpokládaného vývoje...*, 2014) expenses on health services, operational expenses, expenses on investment from fond of reproduction of property, and expenses on taxable activity. In 2012 95.96 % of expenses was spent on health care, 3.80 % represented operational expenses, and the rest equaled 0.24 % and thus is negligible (ÚZIS, 2013).

The health services in the Czech Republic are financed mainly from public sources, especially from the state budget, where the money from above mentioned payers flows (e.g. ÚZIS, 2007 or ÚZIS, 2013). Private sources are represented mainly by out-of-pocket expenses (e.g. direct payment for purchase of remedies over the counter, co-payment on prescribed remedies, fees for prescription of remedies and various health services). The following graph (Figure 4) shows what the ratio is between private and public expenses on health.

Figure 4
Ratio of public expenses in total expenses on health



Source: ÚZIS, 2001; ÚZIS, 2007; ÚZIS, 2013

Graph (Figure 4) can be divided into 2 parts. The first is until 2008 and the second one from 2009 onwards. In the first period, the ratio of public expenses in total expenses decreases. The most significant drop in the use of public sources came in the years 2006 – 2008, when the ratio decreased by almost 6 percentage points. The lowest point came in 2008, which was caused by the setting of regulatory fees (necessity to pay for the visit with examination at the doctor's, for issuing of prescribed remedies, for stay in a hospital, and for visits to the outpatient department (Act No. 261/2007 Coll., on stabilization of public budgets). In the second period, since 2009, public sources were in the region of 84 % and a decrease is not expected, since in 2015 regulatory fees were canceled based on Act No. 256/2014 Coll.

It is the significant ratio of using public sources, which is the next characteristic feature of the Czech health system. In 2012, public expenses equaled 83.7 % and private expenses 16.3 %. The Czech Republic is one of the countries with the lowest use of private sources (ÚZIS, 2014).

3. Conclusions and policy implications

In the paper two systems were described: sickness and health insurance. The sickness system went through significant change when the employer started to be involved in the reduction of sickness by having to pay compensation wages in the first period of sickness. This influenced the health insurance expenses, which decreased between 2008 and 2009. Simultaneously with the decrease of expenses on sickness benefits there was a decrease of revenues, which was the result of a 2.1 percentage point premium decrease. In the paper, 4 features of sickness insurance were presented: division of financial support between the employer and the state depending on the length of sickness, obligation of insurance, solidarity, and obligations of entitlement. Obligation of insurance means that for some groups of citizens (employees) the necessity of insurance originates directly from the law. Solidarity is based on reduction levels, which calculate with lower percentages on benefits with increasing income. The last feature is obligation of entitlement, which means that entitlement originates without the consideration of the will of the person in question.

Health insurance in the Czech Republic is built on the following principles: obligation of insurance, state guarantee, solidarity, and the use of mainly public sources. Obligation of insurance means that in order to participate in health insurance, it is sufficient to have a permanent place of residence on the territory of the Czech Republic, or to be employed by an

employer who resides in the Czech Republic. State guarantee means that for some persons (retired people, students,...) the state is a payer. In the health system, it does not matter how much a single person has paid. They will be offered the same health care. This feature is called solidarity. The last of the presented features was the use of public sources, which represent 84 % of the total expenses (2012), with the majority of public sources consisting of the payment of premium.

The paper is to be taken only as a synopsis of the most important features mainly from the perspective of the financing of the system.

Acknowledgement

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The perception of the international migration in selected Western European countries before 2011

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Abstract

The aim of the paper is to analyse the attitude of the receiving society towards immigrant integration within selected European countries – France and United Kingdom, to become familiar with a particular method of implementation of integration policies in those countries before the Syrian civil war in 2011 and to deduce the success rate of the application of each integration model. The paper provides a theoretical explanation of basic terms associated with international migration, explanation of the causes of negative attitudes of public opinion towards immigrants and it contains the characteristics of different models of integration. The next section is devoted to the historical overview of the application of these models of integration in selected countries and to the evaluation of the efficiency of their integration policies to March 2011. Moreover, the work deals with the comparison of the results of an opinion poll for the analysed countries and the familiarization with the attitude of domestic population of France and United Kingdom towards immigrants and the deduction of the efficiency of the application of each integration model in those countries.

Keywords: migration, integration models, integration policy

JEL classification: F 22, J 11

1. Introduction

International migration is a phenomenon that has been involved in the shaping of human history from its inception to the present. Its origin is also possible to associate with the period when people begin to apply territorial claims. The current globalization processes and technological improvements contribute significantly to its development and facilitate the movement of people from one place to another. In terms of European countries, however, it brings more problems and tensions arising from the religious, cultural and other differences. Politicians are trying to solve this issue by adopting a different, less or more effective measures of migration policy with the aim of integration of foreigners into the major society.

The main aim of paper is to analyse the attitude of the receiving society in France and the United Kingdom, the two Western European countries with historical experience with immigration. The attitude of political elites in each country manifests itself through the implementation of mutually different integration policies. Integration policy implemented by the country affects public opinion and their perception of immigrants. However, it is important to realize that public opinion has an impact on the politicians in the process of creation of migration policy.

Further, the paper approximate the reasons for the negative attitude of public opinion towards immigrants. Here we define eight different explanations for the spread of anti-immigration sentiment.

Later we analyse the causes of the adoption of different integration policies by selected European countries. This part includes the aim to determine a specific method for implementing integration policies. Therefore we considered important to focus on the historic development of the application of integration models. Then we evaluate the success of integration policies of the countries by MIPEX index.

In the last part, we evaluate the attitude of public opinion on specific issues relating to the current problems associated with immigration. In order to achieve this aim we compare the results of an opinion poll of the Transatlantic Trends: Immigration 2011 for the analysed countries.

1.1 Reasons of anti-immigration sentiments

The number of international migrants increased from 150 million in 2000 to 240 million in 2010. (IOM, 2011) A significant change occurred in perception of international migration by inhabitants of developed, Western countries. They are growing fears of a loss of national identity, culture and the decline of the possible negative impact on their society. After the experience with many terrorist attacks, the concept of migration is increasingly associated just with this threat. These concerns are based on the ideas of the domestic population that migration is uncontrolled process in which migrants do not share values of mainstream society.

In 2009 E. Rustenbach elaborated eight different explanations for the spread or increase anti-immigration sentiments. The first is the theory of cultural marginality or cultural differences, according to which negative attitudes towards immigrants reinforced when the culture of majority does not have any features in common with the culture of immigrants (language, religion, customs or history). Human capital theory examines the impact of level of education. People with less education are more likely to have anti-immigrant attitudes. Political involvement is another important factor that affects the formation of attitudes towards immigrants. The degree of social integration derives from the level of mutual trust in human society and it affects whether the individual has his own family. Interpersonal trust is the weaker when the society is ethnically diverse. A sense of neighbourhood safety may disappear by the presence of immigrants who bring elements of uncertainty. According to the theory of contact the negative attitudes arise if the population is in contact with immigrants composing correlation. Among the members of the majority prejudice and suspicion towards foreigners is increasing. Foreign investment also affects the vision of people in the field. People through the media receive information on the living conditions faced in their country of origin. This knowledge can help to increase the degree of understanding and mitigating the anti-immigrant sentiment in the country. The last theory is the theory of economic rivalry under which justifies discrimination against immigrants, the fact that less qualified immigrants compete with the resident population.

1.2 MIPEX index

Migrant Integration Policy Index (MIPEX) is one of the best known tools to evaluate and compare integration policies of countries within the European Union (EU), the European Economic Community, as well as Canada and the United States. Assessing the 148 indicators in seven main areas: mobility in the labour market, right to family reunification, political participation, conditions for obtaining permanent residence, access to citizenship and area of anti-discrimination. Each of the indicators of the immigrant integration can be assessed up to

three points depending on whether the measure complies with the requirement of equal treatment. The results of MIPEX index can be graphically illustrated by an octagon, which represents seven peaks - seven evaluation issues and the eighth top shows the total result for the country. Based on the established conclusions can be compared the effectiveness of the integration policy of the country.

2. Integration policy in selected Western European countries

In the next part of the paper we concerned to the application of integration models for selected European countries – France and United Kingdom. As a typical example of a country which is characterized by assimilative model is France and in the United Kingdom dominate a multicultural approach to the integration of immigrants.

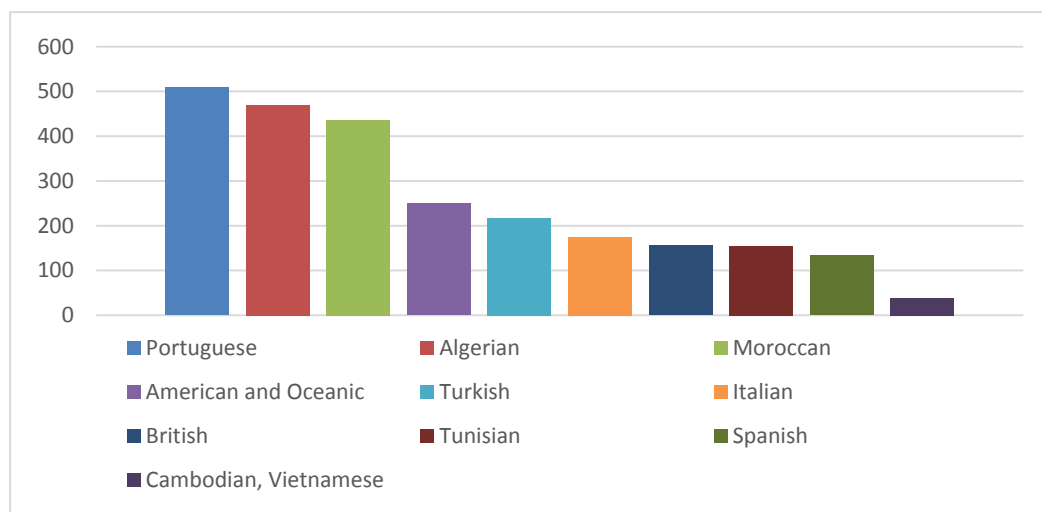
2.1 France

The development of migration in France has been largely influenced by the existence of the colonial system and its long tradition of receiving foreign workers from their African and Asian colonies and the neighbouring countries. Although France has become a country of immigration rather than the other European countries, not in the case of talking about immigration society. France is not closed or xenophobic country. But the politicians wish to reduce labour migration, introduce stricter selection of foreign students, and more attention will be given to family- based immigration.

In 2010 the number of immigrants coming to France was 251 200 and there were located 3,8 million people who own other than French citizenship. (Eurostat, 2011) According to data from the French National Institute for Statistics and Economic Studies INSEE, in 2010 the largest group of immigrants made up the immigrants with citizenship of Portugal, Algeria and Morocco. More detailed information on the ethnic composition of immigrants in France in 2010 are presented in Figure 1.

Figure 1

Ethnic composition of immigrants in France in 2010 (in thousands)



Source: Own processing based on data from INSEE: Répartition des étrangers par nationalité. http://www.insee.fr/fr/themes/tableau.asp?reg_id=0&ref_id=etrangersnat.

2.1.1 Development of integration models in France

French immigration policy and the principle of immigrant integration are based on the assimilationist approach. The republican model of integration does not distinguish immigrants according to their origin, race, culture or religion, and its origin dates to the French

Revolution. However, the models of integration have gone through a certain evolution of models in which a variety of integrative approaches have been applied.

In the 1970s, it was assumed that migration of foreigners has only temporary character. The restriction of immigration after 1974 due to the oil shocks and continuing immigration from the former colonies draw attention to the issue of integration of these immigrants. There had been a politicization of immigration and integration. A model of integrating immigrants was introduced, based on a multicultural approach. They has refrained from providing temporary immigration and immigrants has been recognized right to be different (*droit à la différence*). They should be guaranteed equality in the field of culture, religion, politics, labour, social security and the right of association in the form of various migratory organization and policy initiatives. France in the words of President Mitterrand became a pluralistic society.

This change in the perception of migrants did not last long. Already in the second half of the 1980s there has been once again to revive the Republican model of integration. This was due to the consequences of the French Revolution, the rise of the bourgeoisie, the requirement of active political citizenship, achieve equality of all French citizens and create a direct link between the citizens and the State. Instead of the right to be different in this model applies the principle of indifference (*droit à l'indifférence*), the right to be treated as equals. Cultural, ethnic, religious and other differences could be manifested only in private, the public called for neutrality and uniformity.

In the 1990s, the assimilation model has been replaced the anti-discrimination model, in which the obligation of assimilation of immigrants to become part of the society shall be replaced by the responsibility of major society for their integration and elimination of discrimination. The answer to the system ignoring the differences of ethnic minorities and not solving the particular problems of poverty, long-term unemployment or discrimination were numerous riots in the suburbs of large French cities in 2004.

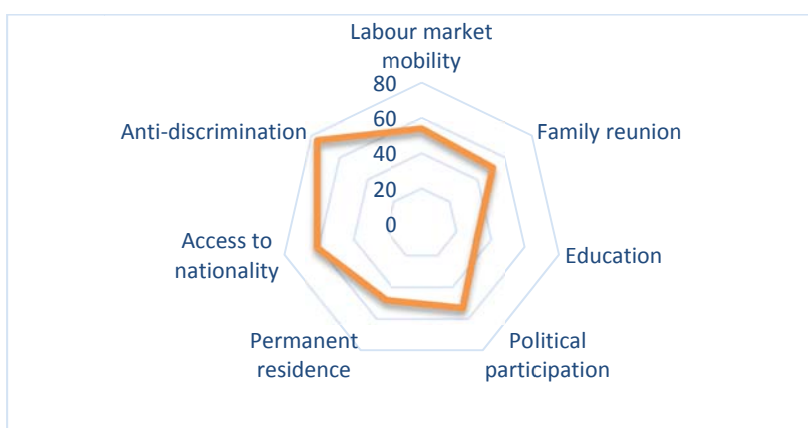
At the beginning of the 21st century, France has again returned to the assimilation model. In this case, we cannot talk about the Republican approach, but we can talk about the conflict of Republican, multicultural and Universalist models.

2.1.2 Evaluation of the integration policy of France by MIPEx index

France has with its integration policy placed by the ratings MIPEx in 2010 to 15 place out of 31 countries evaluated, and the results of the considered area can be seen in the Figure 2.

Figure 2

Evaluation of France's integration policy by index MIPEx



Source: Own processing based on data from MIPEx: France. 2011. <http://www.mipex.eu/france>.

Among the countries with the largest number of immigrants are immigrants in France faced the least favourable and conflicting measures of integration policies. The worst rating is in the area of education. The measures aimed at education of immigrants children are inadequate and are at an initial stage. Also lack of specialised centres to help foreigners who do not speak French. In the sector of political participation it is negatively assessed the fact that, despite the fact that foreigners have relatively easy access to citizenship, France is not recognized them the right to vote in municipal elections. This limitation relates to immigrants coming from countries outside the EU. France lags behind most European countries also in the number of permit granted long-term resident status to foreigners. In the labour market is non-European citizens with a residence permit denied access to the various sectors. These measures are in ratings below the European average and is the second least favourable after Cyprus and the Slovak republic. Foreigners have limited opportunities to find a job that matches their skills and qualifications. Inaccessible is for them the employment in the public sector, private sector and fifty occupations such as veterinary surgeon, pilot or tobacconist, lawyer, doctor, architect or pharmacist. The estimated total number of inaccessible working position is seven million which constitutes 30% of all employment in France. (Huddleston, 2011) Approach to the process of unification of families is very liberal. Families have the best legal guarantees to join life of its members. However, the restrictive conditions are still in place in this area in order to benefit from their unification. These are labour, language requirements, integration requirements, and many others. In terms of access to citizenship is France on the ninth place among the countries reviewed. The citizens should be treated as equals, dual citizenship is guaranteed for all, its granting is possible after five years of residence. The problem is a large freedom of departments in considering applications for citizenship. In other countries, citizenship is granted on the basis of legally defined, fixed terms. The best rating has an area of anti-discrimination, which is headed by France, along with countries such as Canada, USA, United Kingdom, Belgium and Sweden, thanks to the improvement of legislation.

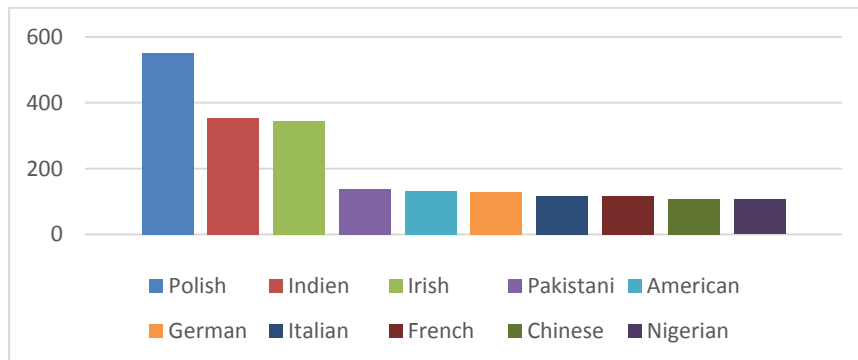
2.2 United Kingdom

The United Kingdom (UK) was the first European country to recognize the presence of several ethnic groups in its territory and has become a multicultural society. The reason was history in which Britain had a large empire composed of different races whose mutual relations had to be managed. Similarly, as France, UK has a long history of post-war immigration, which after the Second World War faced immigration from its former colonies. This phenomenon is known in the literature as the phrase “the empire strikes back”.

According to Eurostat data, the number of immigrants coming to the UK in 2010 was 591 000 immigrants, which is more than in other EU Member States. In January 2011 33,3 million people was in EU without citizenship of the country in which they reside. In the UK, it was situated 4,5 million of immigrants. The largest group of immigrants in the country currently consist of immigrants from Poland. Followed by immigrants from India and Ireland. (OECD, 2012) More detailed information on the ethnic composition of immigrants in the UK are presented in Figure 3.

Figure 3

Ethnic composition of immigrants in the United Kingdom in 2010 (in thousands)



Source: Own processing based on data from OECD. International Migration Outlook 2012. <http://www.npdata.be/BuG/165-NV-A-migratie/OECD-Migration-Outlook-2012.pdf> pp. 371.

2.2.1 Development of integration models in the United Kingdom

Immigrants have been from the beginning considered as a part of the British crown and they had the right to settle here. In 1948 was passed a law which guaranteed the same legal, political and social rights to all inhabitants of the UK, and should also ensure to UK the leadership in Commonwealth. In the 1950s, there was a tightening of immigration policy since the society was growing resentment against immigrants. The basis of the new immigration policy has become limitations and integration. Strict checks of immigrants from former colonies have been introduced, particularly from India, Pakistan and the Caribbean. (Scholten, 2011)

In the 1960s, when the first integration policy of the country was formulated, the most important task was to improve relations between different racial groups. The British government took for a model the American civil rights movement, which was a response to race riots in the United States. UK wanted to prevent similar acts of racial awareness and therefore adopted a number of anti-discrimination laws. The multicultural model referred to the multicultural British society and not on the connection between Britain and other cultures. Until 1999, Britain was seen as “a community of communities”. The aim of British multiculturalism was primarily to improve relations between different racial groups, promote their equality and equal opportunities. The role of the State in the UK was limited to maintain public order. The solution was the integration of immigrants into the already existing institutions of the welfare State and access to its support in the fields of education, work, accommodation and health care.

In recent years, they were beginning to discover the elements of the assimilation model in the British multicultural model of integration. The main reason is its contribution to racial segregation, growing religious awareness and activism of British Muslims. In 2002 the Government has adopted a memorandum of integration policy which is moving away from multiculturalism. The document set out to strengthen the concept of British citizenship and national identity. Learning of English has become essential in the integration process and more conditions have been introduced for obtaining citizenship through naturalization.

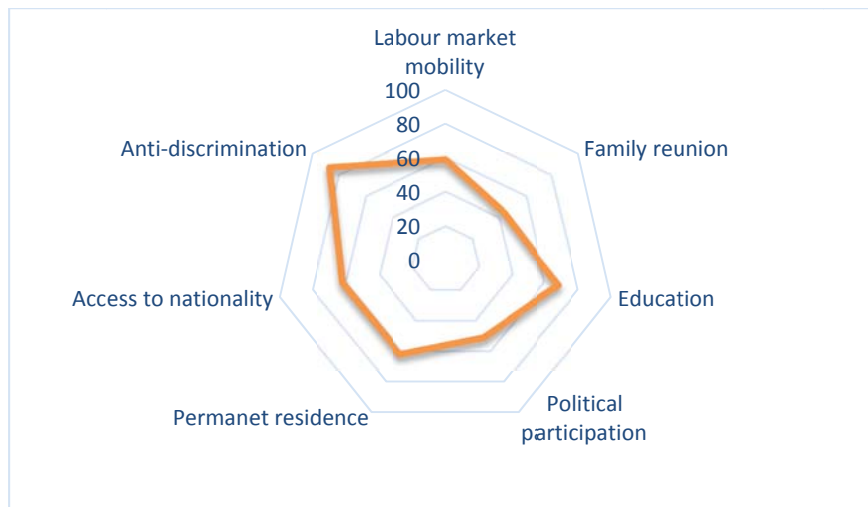
2.2.2 Evaluation of the integration policy of United Kingdom by MIPEX index

In 2010 the UK is in ratings MIPEX index placed on the 13 place out of 31 countries evaluated. Integration policy of the country was therefore positive and overall ranking

included the two positions higher than France. Its graphical representation is shown in Figure 4.

Figure 4

Evaluation of the integration policy of the United Kingdom by MIPEX index



Source: Own processing based on data from MIPEX: United Kingdom. 2011. <http://www.mipex.eu/uk>.

In the field of granting the permission for permanent residence has been one of the main advantages of integration policy, the granting of a stay for an indefinite period for non-European Union citizens after five years of residence. Whereas, in contrast to the inhabitants of the EU countries, they do not have the right of permanent residence. The conditions which have to be fulfilled to receive such authorization is in principle not different from those in other countries under review. Very important was knowledge of the English language, way of life and a close relations with the country. The adoption of the draft law of 2009 on citizenship and immigration led to a decline in ratings in this area. UK policy in the area of granting a residence permits to citizens of non-EU countries would be among the weakest countries in Europe and North America. According to the draft of this law by immigrants after five years of residence acquired citizenship test, which can be replaced with full citizenship in the case of getting the necessary number of points for volunteerism and civic activism. Britain, which was the model for the reform for the system of granting citizenship of the European countries, could by this extended period and other requirements discourage immigrants from efforts to integrate. Not all immigrants have the opportunity to participate in the political life of the country. The municipal elections are open for all EU and Commonwealth citizens. A large number of organizations established by immigrants is supported by the Government, but they are not accepted as advisory bodies. Policy of families association is also not very favourable to social integration. EU citizens can live with their families under EU law, but for the rest of citizens in 2008 was established an age limit for marriage with the intention of reducing the number of forced marriages. According to the British government it has implemented most forced marriages to 21 years of woman's age. After 21 years, the victim of coercion know better defend and refuse to establish such a union. Other families must meet conditions that are common in other European countries. The mobility in labour market is average compared to other European countries. The working immigrants are treated just like employees of British origin. Sector of the economy is open for immigrants but they have no access to support which would help them to integrate into the labour market or to social security system. The British system of education provides children of immigrants the best preparation for life in a diverse society. The success of measures depends on whether schools and local government units will be eligible to apply for the

offered financial aid, support and training. Anti-discrimination laws in the country are very strong and effectively help immigrants and minorities to achieve equality of opportunity in real life. Illegal discrimination is based on race, ethnic origin, religion or nationality. The Commission for Equality and Human Rights, which was established in 2006, is responsible for enforcing the law of equality and anti-discrimination laws in England, Scotland and Wales.

3 Public opinion on the migration

In 2011 the organisation Transatlantic Trends has provided a survey of public opinion on the topic of immigration 2011 in the USA, UK, France, Germany, Italy and Spain. The main themes of the questions raised by the public was the economy, unemployment and solve problems that Europe emerged from the Arab Spring. According to the survey, Europeans see immigration as a problem remains, are still in favour of a centralized immigration policy, sympathize with the victims of forced migration, tend to overestimate the number of immigrants and prefer highly qualified immigrants. Population is concerned primarily about the state of the economy and unemployment, migration is the next in sequence. The central theme in Europe, however, were concerned about the movements of people from North Africa and the broader Middle East as a result of the Arab Spring riots. For the purpose of paper we compare the results of the survey of Transatlantic Trends: Immigration 2011 for the analysed countries – France and United Kingdom.

According to the European Agency Frontex, the number of people illegally crossing the border increased from 104 000 in 2010 to 141 000 in 2011, representing a 35% increase. (Frontex, 2012) The largest number of illegal migrants came from Tunisia whose final destination was France. Most of illegal migrants from Afghanistan was detained in Greece and migrants from Pakistan were heading to Greece, Germany, Belgium, Italy, UK and France.

An important finding of the survey, Transatlantic Trends: Immigration 2011, was that despite the increase in the movement of people from North Africa and Middle East, perceptions of migration by the Europeans remained unchanged and continue to consider it as a minor problem. Fears of too high number of immigrants presented by the political scene had little impact on public opinion. The attitude of the UK population remains the most pessimistic, where up to 68% of respondents consider immigration is more of a problem as an opportunity. In France, it is on the edge.

Another objective of the survey was to determine the perception of the number of immigrants in the country. With the statement that their country has too many immigrants identified UK. Respondents from France have increasingly tended towards the view that there is a lot but not too many immigrants. The conclusions of the survey also showed that the major society tends to overestimate the number of immigrants living in their country.

According to the survey, the public care with the immigrants, that were forced to leave from their home countries for various reasons. The feeling of empathy is stronger when it comes to the causes of forced migration, such as: poverty, ethnic or religious persecution, armed conflict or consequences of natural disaster. Most respondents agreed that migrants should be allowed to enter the country because of escape from armed conflict or natural disaster, and also sympathize with the victims of persecution. However, as regards poverty as a reason for migration, British and French respondents expressed the least compassion among all European countries included in the survey.

The results of the public opinion also showed that the public appreciates the state of integration of immigrants into their society, particularly with regard to immigrant children born in the country, also called second generation migrants. In general, the degree of integration of immigrants rated most positively in France and the least favourably ranked them in the UK.

On the question of how to help the countries of North Africa and the Middle East overcome the consequences of the riots, respondents reacted positively to the opportunity to help others through liberalization of trade in strengthening or development assistance programs. The countries expressed less support to the possibility of opening the labour market for migrants. The largest number of respondents who refused to open their labour markets was from UK.

The majority of respondents agreed that the stay of migrants should be only temporary. With the increased number of people relocating to Europe after the Arab Spring is related to the question of who should bear the costs involved. 80% of respondents agreed that the costs to be borne by the EU as a whole and not countries that migrants have chosen as the aim of their movement.

Another issue, examining survey is also the support of the EU authorities in determining the number of immigrants they should be taken by each of the members. Within the EU Member States in 2011, the strongest was in southern European countries. In England, where only 18% of the respondents in favour of centralization. Opinion polls also confirm that the native population prefers the influx of immigrants with higher education. The greatest resistance to the adoption of other low-skilled foreigners expressed by English respondents. It is for the survey participants in the compared countries important that immigrants actually had a job since before immigrants with a high level of education without a job offer prefer workers with less education.

4 Conclusion

International migration represents an issue in Europe, which is getting more and more attention. It is the content of the political debate at national and European level and has impact to inhabitants of its countries. Whereas the countries of Europe are strongly linked to their history and heritage, it is difficult for them to adapt to the differences that bring with them immigrants. With the intensification of migration flows after the Second World War, the number of anti-immigrant sentiments increased in European countries. The origin population is particularly concerned about the loss of economic or social benefits and the decline of their culture at the expense of immigrants. There is also growing concern about the increasing number of Muslim immigrants who are currently associated with the spread of riots. A central issue and at the same time challenge is the integration of legal immigrants into the host society, because their unequal status is one of the causes of the spread of conflicts.

On the basis of the results that we have obtained we can say that integration models implemented in selected countries are strongly influenced by their historical experience. However, the ideal solution for the integration of immigrants does not offer either one of them. In the United Kingdom, we could observe moving away from the multicultural model due to the tense relations between major society and immigrants. And public dissatisfaction with the policy conducted in the field of migration policy. The cause of the negative attitude of the British population may be based on the economic consequences which flow from the presence of immigrants. On the other hand, immigrants in France do not have equal status in society and, therefore, chosen models of integration are failed.

The starting point is in the association with the central coordination of migration policy and regulation of the number of immigrants annually immigrating to European countries, implemented within the EU. But it is not possible to ignore the unique history of countries and it is important to implement projects aimed at the integration of immigrants from the lowest degrees of the educational process, respecting the terms and conditions of each country.

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China on the way from one bubble to the next boom

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Abstract

Over time China has become one of the most important players of the world economy that regularly reports around three times higher GDP growth than Euro Area. However, its long-term positive development coupled with wide range of reforms, privatization and foreign investments resulted in the bubble, which burst at the end of 2007. In spite of several specific moments compared to the theoretical model of financial bubble, we can exactly talk about the boom with significant volatility of stocks on Shanghai Stock Exchange. Nowadays China is recovering from another financial shock accompanied by a devaluation of Chinese currency. We have been able to notice another boom in its stock market, but not of that magnitude as the previous bubble. This article aims to explain behaviour and background of Chinese stock bubble, linked to the current situation in this country.

JEL classification: G 01, G 15, G 18

Keywords: the bubble creation on Shanghai Stock Exchange, Chinese crisis, monetary and government intervention

1. Introduction

China poses as a leader of emerging markets region and was ranked in the top of BRICS countries with more than 50 percent share of their GDP. These economies are similar in size and in potential to have a significant impact on the world economy, but they are experiencing a period of recession and fluctuations in financial markets especially in previous few years. For example in terms of Russia we meet with inflation, depreciation of national currency or capital outflows. Although China is the world's biggest exporter and second largest economy¹, we could remark adverse trends there as well.

These trends might mean threat for more or less dependent countries. However even huger volatility compared to last boom in stock and real-estate market in China we could observe before the outbreak of global economics crisis. In this article we aim to outline the background of this stock bubble, its contexts and the crisis that China currently faces.

2. Process of Chinese stock bubble in 2005 – 2008 and its root

There are lots of definitions of the term “bubble” in the field of finance, but simply we could explain it as a growth in market prices of assets over their internal, real value. This growth is often connected with some speculation and the bursting of a bubble usually goes hand in hand with instability of financial system and resulted into the crisis. Vogel (2010) characterizes the bubble as a speculative madness driven by available quantity of money and loans that encourages and enables extreme wide public participation.

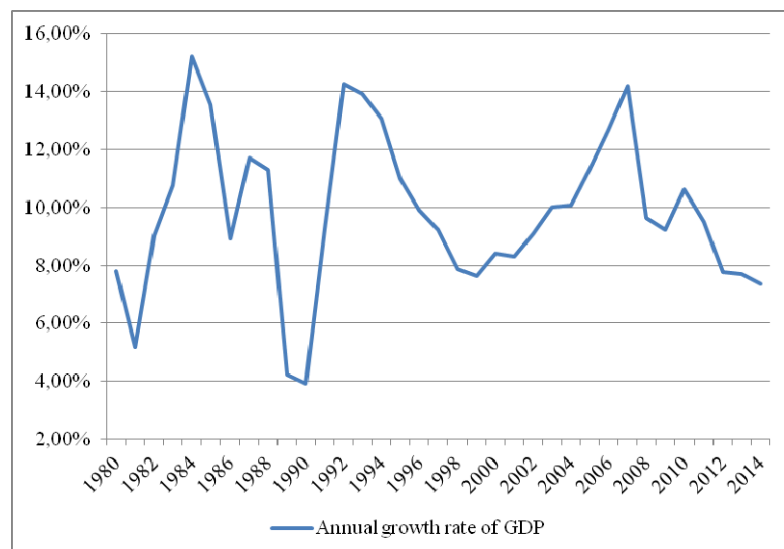
¹ According to purchasing power parity.

Process of the stock bubble on Shanghai Stock Exchange before the global recession took relatively a short period of time, but the boom and subsequent slump have been of even bigger magnitude and there were factors of its formation for even longer time. Its beginnings date back to the last century after the political era of communist revolutionary and dictator Mao Ce-tung, who was called as a “father” of People’s Republic of China and has been influenced by ideas of Marxism and Leninism. After his death Chinese economy started to develop very fast thanks to reforms of Teng Siao-pching, which involves China’s opening to foreign investment and reforms of free trade. His program of economy reforms called “four modernizations” (Žídek, 2006) consisted of changes in the fields of industry, agriculture, military and science and technology. Principles of these reforms were experiments, which are refused in case of their failure.

In 1980s private business has been allowed by liberalization. One decade later, the most important moments were the abolition of price controls and regulation, policy of protectionism, development of capital markets and related beginning of trading on Shenzhen and later also on Shanghai Stock Exchange, which belongs to the ten largest stock markets in the world. Up to 48% of state-owned enterprises went to private ownership between 2001 and 2004 (Colombo, 2012). All of these factors including development of infrastructure and urbanization caused empowerment, growth of the quality of life and of the economy as a whole. It annually grew, except of slowdown between 1989 – 1991, by more than 8% (see Figure 1).²

Figure 1

Annual growth rate of GDP at market prices from 1980 to 2014 – China



Source: own processing, data extracted from World Bank, [online] available at:
http://data.worldbank.org/country/china#cp_wdi

Chinese economy has been growing by an extremely high rate for three decades and was characterized by huge amount of savings that outcomes from their culture. These characteristics were the reason that this country became one of the world’s fastest growing

² Slight decrease in the growth of Chinese GDP at the turn of the millennium was caused partially by the epidemic of SARS, but most of all by the Asian financial crisis, the essence of which was moral hazard and financing of long-term actives from short-term sources.

economy at that time and there have occurred first signs of its overheating and speculations. Those aspects were the basic factors of a bubble creation in Chinese stock market.

2.1 Phases of the stock bubble in China

Although this bubble is definite boom connected with an increase in stock prices above their fundamental value, we could observe several differences compared to the theoretical model of the bubble formulated by Doctor J.P. Rogrigue³. After the Stealth Phase we miss the Awareness Phase, because the stock prices have been slightly decreasing during this period of about two years. The “bear trap” connected with first sell off we could find only in the Mania Phase. Since the beginning of 2006 the Shanghai Composite Index, which involves every stock traded on same-named stock exchange and represents Chinese stock market, started to rise enormously, namely by 10% to 20% per month. The bubble reached the peak in October 2007, P/E⁴ was almost at the level of 70, the index grew to nearly 6000 (see Figure 2) and GDP at market prices has increased by 14% YoY. Compared to the value in the same month but one year before, index has changed almost by incredible 224%.

Figure 2

Development of Shanghai Composite Index from 2002 to presence



Source: own processing, data extracted from Yahoo! Finance. (2015). [online]. Available at: <<http://finance.yahoo.com/echarts?s=000001.SS+Interactive#>>.

Stock market of this large economy collapsed before the real-estate bubble in United States has transformed to the global financial crisis. In only one year the index of Shanghai Stock Exchange fell by 71%. As we can see on the Figure 2, Mania and Blow off Phase seem to be flipped. How much the index gained during the enthusiasm, so much it lost during the same long period. However, these phases last, as we mentioned, for unusually short time, namely the Chinese stocks have earned and consequently erased gains within two and a half year.

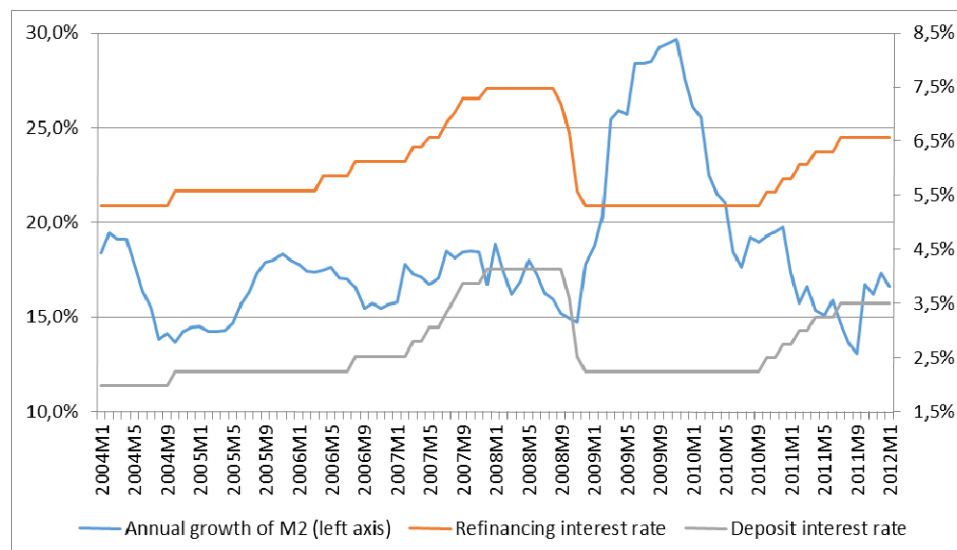
³The process of the financial bubble has been divided by Dr. Jean-Paul Rogrigue into 4 phases: Stealth, Awareness, Mania and Blow off Phase. There are same typical moments that characterize each phase. Detail outline of this model is available on the website: http://people.hofstra.edu/jean-paul_rodrigue/images/Manias%20Bubbles.pdf

⁴ P/E – price to earnings ratio. It means how many times the price of the share outmatches its relevant net profits. Normal value of this indicator is at the level of 14 – 16.

Because China is highly export-oriented, the government was afraid of negative impact of global recession on its economy and social stability. To avoid a significant slowdown, the government decided for a massive stimulus of 586 billion USD at the end of 2008, which was aimed at development of countryside or housing and investment into public infrastructure (Colombo, 2009). This might be one of the reasons that the stock market recorded little correction on the steep way down and did not slump to get to the stadium of despair. Conversely, it started to move in strong bull trend again.

Figure 3

Key interest rates of People's Bank of China and annual growth of monetary aggregate M2



Source: own processing, data extracted from International Monetary Fund, [online], available at: <<http://data.imf.org/?sk=dac5755f-a3bb-438a-b64f-67c687e2cfd5&sId=1393557311041&ss=1390030109571>>

Not only proactive-oriented fiscal policy, but also released monetary policy had got a share on this positive tendency. People's Bank of China has immediately reduced its key interest rates by around 2 percent points within one year, namely refinancing and deposit rate (see Figure 3). Expect of that, the central bank proceeded to reduce the required minimal reserves and to the removal of credit ceilings, which caused credit expansion. As Boros (2009) reports, a removal of credit ceilings and government pressure on expand of credit lending has the effect, that there have been granted three times more loans in the first half of 2009 than in the same period of the previous year, which means that the amount of new loans has doubled compared to whole year 2008. Of course, rapid changes might be seen at monetary aggregate as well. Annual growth of aggregate M2 was less than 15% at the end of 2008, twelve months later this growth rate has been doubled (see Figure 3). Increase in money supply has stimulated investment activity in China. Real estates, investments in the market with cars and, certainly, stock market were the target group for most of new loans. Index of Shanghai Stock Exchange got over its average value, it appreciated by more than 71% within half a year and there appeared thoughts of repeated financial bubble. In this part Chinese bubble is different from the theoretical model again. The consequent worldwide bearish trend and the subsequent tightening of monetary policy in terms of interest rate augmentation (see Figure 3) have stopped the stock prices in raise. There have been no significant fluctuations in stock market in China until the last months.

3. Current situation in China and next boom in its stock market

The mentioned bubble has appeared in times of high rate of economic growth when a little bit later the policy of People's Bank of China has been defined as "prudent" with target inflation at the level of 3,5% and two other objectives, namely restraint and reform (The Economist, 2014). We could understand it as not too much tightening and nor too much easing. In reality, the authority has inclined to fine tightening due to overheating real-estate market and increasing total debt, which nowadays attacks 250% of GDP.

3.1 Another boom, interventions and market reaction

In the second half of previous year, values of main index of Shanghai Stock Exchange started to escalate again. Few months later, YoY growth of stock prices attacked the level of 120% and they got a character of boom peaked in May 2015 (see Figure 2) after the straight road up without any "bear trap". In process of this bubble we do not identify any Stealth or Awareness Phase, however compared to previous bubble in this country, this one is accompanied by economic downturn, that China suffered since 2010. Due to long-term economic slowdown the China's government and central bank acceded to actions in order to reach sustainable economic growth. The government decided to make several interventions in terms of its goal of annual economic growth at level of 7,5%. Capital requirements on banks have been eased with intent to make loans more available. In addition, Chinese yuan renminbi⁵ has been devalued more times. However, in recent months inflation in China has been decreasing continuously under level of 2%⁶ and there occurs deflation tendency, respectively deflation spiral considering the slow economic growth and low level of consumption. All these abovementioned facts have forced the central bank to ease the monetary policy. One of the steps was to lend 1 trillion yuan to state-owned China Development Bank and to launch the "medium-term lending facility" amounting to 769.5 billion yuan at the end of 2014 (The Economist, 2014). People's Bank of China also cuts the base lending interest rate five times since November 2014, namely from 5.6% to 4.6%⁷ in August this year. However, the last cut together with third cut of the bank reserve-requirement ratio was realized as a reaction on the rapid slowdown of stock market. Blowing and bursting of this last bubble has been mainly caused by large state companies, which were heavily in debt and to which funds from central bank flowed. Because of that the central bank had to change his policy to steer funds to more productive parts of the economy. To do this, the bank started a trial enabling commercial lenders in several provinces in China to borrow from the bank with their loan assets as collateral (Wei, 2015).

We can conclude that most of these interventions have effect on stock prices, not on real economy. Currently China is aimed at stimulating of consumption and private business, no more at export and support of investment. Shanghai Composite Index is now after the bursting in the stadium of capitulation. 24. August is called as "Black Monday" in China's economy, because the stock prices fell by 8,5% and this index does not remember such a decline since 2007. This one-day downturn has wiped away several trillion USD in market capitalization. Nowadays the index is recording a small return to "normal" as a slight correction. This bubble lasted even shorter period of time, however it is not over right now, and was not of that magnitude than the big boom in previous decade.

⁵ Legal currency of China.

⁶ According to data from tradingeconomics.com, available on website: <http://www.tradingeconomics.com/china/inflation-cpi>

⁷ According to data from global-rates.com, available on website: <http://www.global-rates.com/interest-rates/central-banks/central-bank-china/pcb-interest-rate.aspx>

4. Conclusions and policy implications

To sum up, as factors which influenced Chinese stock bubble that peaked in 2007 we consider:

- liberalization of business and trading;
- high volume of savings that might be invested exclusively in domestic economy;
- growth of quality of life and reforms in the form of privatization;
- proactive fiscal policy and interventions against impacts of global recession;
- released monetary policy and abolition of credit ceilings;
- speculations.

The last boom in Chinese stock market was affected mainly by:

- fiscal stimulus;
- devaluation of yuan;
- monetary easing and cutting of bank reserve-requirement ratio.

As we could see, monetary and government interventions have got a significant effect on stock markets. Large fluctuations of prices in the form of financial bubble are associated with interventions of governmental nest and central bank. Because of that the question appears, whether these authorities should let market mechanism compensate and eliminate high volatility in markets rather than immediately react and provide large stimulus to economy that accelerate financial markets. In addition, such a large economy as China can greatly influence the situation in world economy and if Chinese yuan will be included to the world's reserve currencies, its force becomes greater. That is the reason why Chinese authorities should make decisions more carefully and predict their impacts.

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Economic bubbles' occurrence in selected markets

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Abstract

The term economic bubble is very popular in last decades, especially after global economic and financial crisis of this century. This term represents a specific market phenomenon characterized by increases in asset prices to levels significantly above the fundamental value of that asset or an economic cycle characterized by rapid expansion followed by a contraction. The paper focuses on the identification of specific economic bubbles in selected partial markets in the world economy during the last decade. The paper deals with basic characterization of economic bubbles' creation and their occurrence on the market. The result of the article is a summary of main attributes of economic bubbles and their identification on the international derivatives' market.

Keywords: economic bubbles, market

JEL classification: G15

1. Introduction

The global economic and financial crisis of this century made the term economic bubble even more popular. The main aim of the contribution is to define crucial economic bubble's attributes and to identify some examples of the economic bubbles on selected specific markets. For these purpose we decided to focus on international derivative's market in the period of last 15 years. Our contribution and economic bubble characterization is based mainly on the works of the authors as Minsky, Kindleberger, Shiller and Garber.

1.1 Economic bubble's definition

The phenomenon of an economic bubble in the market has been present in the development of the world economy for centuries (for example the Dutch tulipmania in 17th century, South Sea Bubble on 18th century, Japanese asset price bubble in 20th century or Dot-com bubble in the beginning of 21st century). Another terms used in the history to describe this phenomenon are usually a speculative bubble, a market bubble, a price bubble, a financial bubble or a speculative mania. Kindleberger (2011) distinguishes between the word "mania" and "bubbles" in context of the behavior of the market. While the word "mania" emphasizes irrationality, the term "bubble" represents any significant increase in the price that cannot be explained by fundamentals. In context of this article we will use mostly the term economic bubble.

According Garber (2001) in economics and finance the bubble is a concept with lacking a solid operational definition. However, he adds that the most often used definition is connected with an unexplainable asset price movement that is based on fundamental values. From this point of view we can characterize this market phenomenon by surges in asset prices

to levels significantly above the fundamental value of that asset. (Nasdaq, 2015) To complete this most used approach to economic bubble's definition Chorafas (2008) explained that bubbles are defined as exponentially increasing deviations of the price of a commodity, such as an equity, index, barrel of oil, or ton of steel, from what is considered to be its real value level – the latter being determined by fundamentals and macroeconomic variables. One of the severe impacts of economic bubble's occurrence is the fact that skewed asset prices during bubble phase have an important effect on resource allocations. Stiglitz (1990) emphasize the situation of weakened efficiency of market allocations of investment resources because the asset prices do not reflect fundamentals well.

To identification of the economic bubble in the market and in the world economy is inevitable to recognize its basic attributes. The first very important and often described attribute (Kindleberger, 2011; Garber 2001; Chorafas 2008) is its unsustainability from the long-term perspective. The characteristic feature of every economic bubble is the fact that the bubble at some point bursts. According Chorafas (2008) speculative bubbles are before bursts typically maintained by self-fulfilling prophecies and by the disregarding or warnings provided by chartists and risk controllers.

The other attribute is connected with its establishment influenced by the psychology of crowd (Garber 2001; Shiller 2000). In Garber's preface (2001) in his work *Famous First Bubbles: The Fundamentals of Early Manias* he highlights bubbles' emplacement at the intersection between finance, economics, and psychology. He also describes bubbles as outburst of irrationality and self-generating surges of optimism that pump up asset prices and misallocate investments and resources to a huge extent that a crash and large economic distress inevitably follow. The behavior of market's subjects and the psychology of crowd is a crucial feature of every economic bubble. Stiglitz (1990) also puts the basic intuition of the existence of bubble in the behavior of market's subjects [investors] as follows: if the reason that the price is high today is only because investors believe that the selling price will be high tomorrow then a bubble exists.

Moreover, the feature of the connection with psychology of crowd is present also with the feedback theory of bubbles. According Shiller (2000) there are at least two versions of feedback theory. The first one relies on adaptive expectations that mean feedback takes place because past increases generate expectations of further price increases. The second version of feedback theory explains that feedback takes place because of increased investor confidence in response to past price increases. The process of bubble's establishment according this theory can be explained in following simple way. Past asset prices' increases create the enthusiasm of investors that leads to the demand increase and consequently to current prices' increase. The high demand for these assets is caused due the memory of public (or market) about the high past returns and that optimism generates the increase in present revenues. The feedback principle is a sign of a bubble that significantly increase the pressure on skewing the price discovery in the market.

To sum the basic attributes of economic bubbles up we can identify the economic bubble as:

- a specific phenomenon, when after a sharp prices' increase will eventually follow a sharp decline of prices.
- an exponentially increasing deviations of the price of a commodity from its real value level, which is being determined by fundamentals and macroeconomic variables.
- an unsustainable phenomenon from a long-term perspective and the bubble at some point bursts.
- a possible impact of speculative behavior of subjects for their purpose of capital gains.

- associated in many cases with credit expansion, exogenous shocks, unsustainable increase of indebtedness, and application of new innovative financial instruments on the market.
- characterized by outbreak of irrational behavior in the market which generates very optimistic expectations, followed by the asset prices' growth that leads to incorrect investment and resources' allocation. (Drutarovská, 2013)

1.2 The economic bubble's model

In Kindleberger's work *Manias, Panics and Crashes* is described the anatomy of a typical crisis based on Minsky's model of credit cycle, often referred as five basic stages of bubble development – displacement, boom, euphoria, profit taking and crashes or panic. Minsky (Kindleberger, 2011) highlighted that the changes in the supply of credit were pro-cyclical and increased when the economy was booming and decreased during slowdowns. For the purpose of further bubbles' identification we describe briefly particular stages of bubble's stages according Kindleberger-Minsky's model: (Kindleberger, 2011)

1. *Displacement*. The first assumption of the model is that a bubble or crisis begin with a displacement (or innovation), some exogenous shock to the macroeconomic system. The first stage of economic bubble is linked to the sufficiently large and pervasive shock, such as an innovative new technology or anticipated profit opportunities that improve at least one important sector of the economy. The reaction of business sector and individuals is borrowing to take advantage of the increase in the anticipated profits in this sector.

2. *Boom phase*. The boom phase is fueled by expansion of credit. Firstly, the increasing prices are following a displacement but then the growth is driven by greater optimism of market's subjects. The increase in the demand in this stage often presses against the productive capacity. Very rapid increase in profits attracts more investment as well as more participants in the market. Positive feedback helps to increase additional investment and enlarge the boom phase.

3. *Euphoria*. This phase is closely linked to previous stage and usually appears and develops during the boom phase. Euphoria means that everybody in the market becomes aware that he/she can profit after the engagement in the booming sector. This phase includes speculative activities about increases in the prices, an overestimation of prospective returns and excessive forms of leverage. The main problem of the euphoria phase is the fact that bubble tend to be very sharp but so brief that it gives investors almost no chance get out of their positions. (Investopedia, 2015) The prices are rising in exponentially manner and speculators take advantage from sell and buy at the same time.

4. *Profit taking*. In the highest stage of euphoria there are appearing the warning signs – some investors are selling out their positions and taking profits. At this point it is very difficult to estimate the exact moment when a bubble is due to collapse (burst) and it is also extremely dangerous for one's financial health – on one side enormous profits are possible as well as damaging loses for investors. (Investopedia, 2015)

5. *Crashes and panics*. This stage represents a reverse development to the boom phase – the prices decrease as sharp as they increased previously. In terms of an economic bubble, at the point where supply overwhelms demand, the asset prices react to this fact very quickly. When we compare the bubble cycle with non-bubble driven development the main difference are the more extreme changes in terms of time are also tend to be more sudden. When bubble bursts prices are falling drastically and suddenly. (Thomsett-Kahr, 2007)

According the previous characterization of particular stages of an economic bubble we will focus on following research questions:

1. How long did the boom phase last in particular cases?
2. How sharp was the value increase from the beginning of the boom phase until the end of euphoria's phase?
3. How did the bursting bubble influence the values in particular cases (what was the value in the crash/panic phase)?

2. Examples of economic bubbles in selected markets

In this part of article we decided to describe one of the most suitable environments for the occurrence of economic bubbles as the example of their current existence on the market – international derivatives' market. The environment of financial derivatives offers a wide range for rapid development of new innovative financial instruments. Trading derivatives on over-the-counter¹ provides a suitable space for application of new instruments without any obstacles (in comparison with exchange-traded instruments). According previously mentioned theory on economic bubbles, the first assumption of the model of a bubble's creation is a displacement (or innovation), some exogenous shock to the macroeconomic system. We consider according this assumption OTC market as the right place for bubble's identification. According author's research in the area of financial instruments on the global financial markets we focuses on the derivative's trading over-the-counter in the period of last 15 years.

2.1 Characteristics of data sets and methodology

The analysis of the derivatives trading on OTC is based on data taken from the database of the Bank for International Settlements. The database provides data and information on the OTC derivatives market, which accumulated data from central banks, respectively other institutions. The regular OTC derivatives market statistics are currently reported by more than 50 major reporting dealers in the G10 countries. The overall coverage of the market is fairly comprehensive, as OTC derivatives activity is highly concentrated, so BIS database is able to capture about 96% of global activity in OTC derivatives trading. (BIS, 2009)

We focused on the indicator Notional amounts outstanding in all researched categories. Nominal or notional amounts outstanding provide a measure of market size and a reference from which contractual payments are determined in derivatives markets. (BIS, 2009) According BIS methodology (2009) this indicator is defined as the gross nominal or notional value of all deals concluded and not yet settled at the reporting date. On OTC we analyze the bubble's occurrence among derivative's instrument by market risk category (foreign exchange, interest rate, equities, and commodities) and by type of instrument (forwards, swaps, and options).

2.2 Results of economic bubbles' identification

We identified at least three different bubbles among particular categories of derivatives traded on OTC – in the markets of Equity-linked contracts, Commodity contracts and Credit default swaps. Figures 1-3 provide graphical presentations of identified bubbles and Table 1 summarize the answers on research questions of this contribution:

¹ Financial derivatives' trading is generally organized in two basic forms - trading on exchanges and trading on over-the-counter (OTC). We can define exchanges as meeting places where traders can come together to purchase and sale financial instruments. Exchanges are regulated central organized markets and provide more standardized financial instrument than OTC markets. Over-the-counter or off-exchange trading is a decentralized market, without a central physical location where market participants directly create agreements and defines the terms of contract. In general, the total volume of OTC traded derivative contracts is significantly higher (in average 8 times) than the total volume of derivatives traded on exchanges. In 2013 the total value of derivatives traded on OTC was more than 710 trillion USD. The maximum value of derivatives traded on exchanges was 78 trillion USD in 2007. (BIS, 2014)

1. How long did the boom phase last in particular cases?
2. How sharp was the value increase from the beginning of the boom phase until the end of euphoria's phase?
3. How did the bursting bubble influence the values in particular cases (what was the value in the crash/panic phase)?

The longest lasting boom phase occurred in commodity derivatives' market from December 2014 until June 2008. All occurred bubbles in OTC market had appeared in pre-crisis period (in year 2004 or 2005) and all bubbles burst during crisis period (in 2008). The question in these cases remains what is the purpose of the bubbles in particular identified markets and if it is not only the situation of the pre-crisis booming economy of that decade.

The second question was dedicated to the detection of the sharpest price increase during boom or euphoria's phase (in our cases it is the total value of chosen indicator – notional amount outstanding of particular derivatives' category). The comparison of the total value of amounts outstanding in the beginning of increase with the highest achieved value proved that the sharpest value increase was reported also in commodity derivatives' market (increase to more than 915 % of previous value). The price increase during the boom phase in identified bubbles on credit default swaps' market exceeded 900 % of previous value and on equity-linked derivatives' market exceeded 200 % of previous value.

The third question involves value decrease after bubble bursts and we found out that the most severe decrease was noticed on commodity derivatives' market. In case of commodity derivative's market the total value of notional amounts outstanding reported immediately in period after bubble's burst was 66,53 % lower than the original value during euphoria's phase. In cases of equity-linked derivatives' market and credit default swaps' market the value decrease was more moderate (Table 1).

Table 1

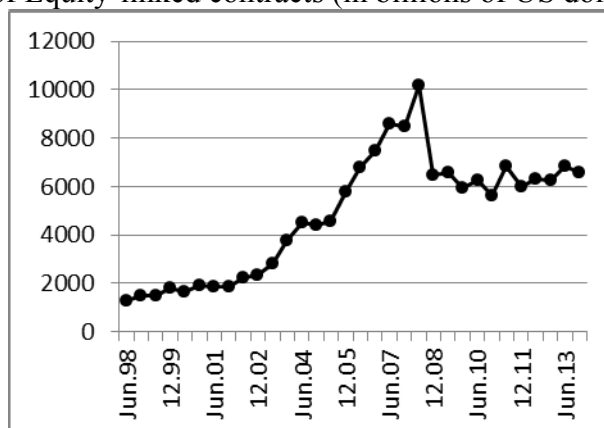
Summary of bubble's process in particular markets

Category/Question	(1) Lasting of boom phase	(2) Value increase in euphoria's phase	(3) Value decrease after bubble bursts
Equity-linked derivatives	36 months	223,64%	36,42%
Commodity derivatives	42 months	915,76%	66,53%
Credit default swaps	36 months	910,66%	28,10%

Source: Author's calculations according data from BIS database, 2014.

Figure 1

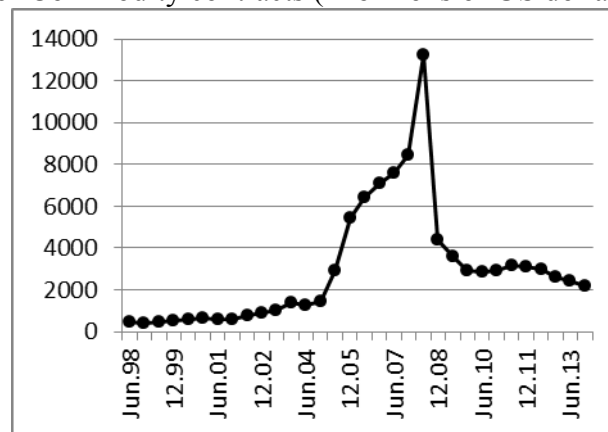
Amounts outstanding of Equity-linked contracts (in billions of US dollars)



Source: own processing, data extracted from BIS database, 2014.

Figure 2

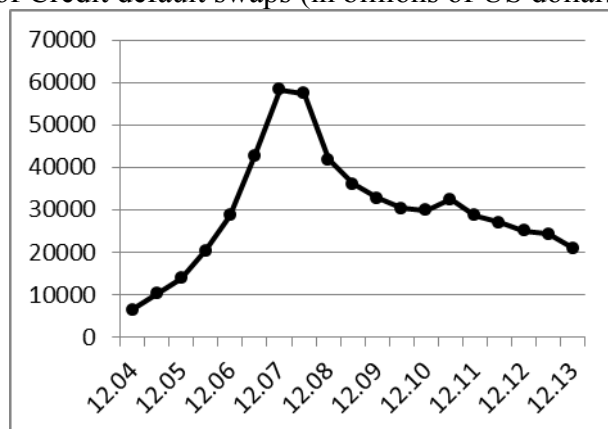
Amounts outstanding of Commodity contracts (in billions of US dollars)



Source: own processing, data extracted from BIS database, 2014.

Figure 3

Amounts outstanding of Credit default swaps (in billions of US dollars)



Source: own processing, data extracted from BIS database, 2014.

Notes: For this category data set was available from year 2004.

Conclusion

To conclude our findings during identification of the economic bubbles on OTC market in different categories of derivative instruments we can claim that the most obvious bubble appeared on the commodity derivatives' market. On this market the most severe value increase in euphoria's phase was noticed as well as the sharpest value decrease after bubble bursts was reported. These facts can be caused and explained by the longest lasting boom phase of this market among three chosen markets with the bubble's occurrence.

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Transport Road Accidents and Safety Issues in the Central and Eastern Europe: Recommendations for Public Funds Allocation

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Abstract

Deaths and injuries as a result of road accidents are among the pressing questions considered within the concept of the European safety. In order to coordinate the actions of EU road safety programs, the special European Transport Safety Council (ETSC) was created. The main tasks of the ETSC are: the development of scientific and practical recommendations towards the formation of pan-European and national road safety strategies and the efficient allocation of the public funds for the safety in the roads. In the article the analysis of the frequency, traumatism and mortality of road accidents has been carried out at the regional level for the countries of Central and Eastern Europe. Based on an analysis of these indicators we have introduced the evaluation of an integrated safety level for regions of the countries of Central and Eastern Europe. This allows us to estimate the complex influence of the risks and their consequences road accidents on the level of safety for certain regions or groups of regions. The results of the research which has been conducted can be used for the improvement of national and regional programs of road and transport safety and for the development of strategies of efficient public funds allocation.

Keywords: road accidents, public funds, cluster analysis

JEL classification: C 38, H 00, R 41

1. Introduction

Deaths and injuries as a result of road accidents are among the pressing questions considered within the concept of the European safety (Whitelegg, J. and Haq, G., 2006). Periodic reports of the World Health Organization (WHO, 2004) pay particular attention to the problem of the rates of mortality and injury as a result of road accidents in different countries of the world by means of a comparative analysis of these indicators. According to Eurostat more than 100 people daily, or about 40 thousand inhabitants of the European Union annually, die as a result of road transport accidents (RTA). Within the last decades the countries of the EU have managed to achieve a certain amount of progress in decreasing traumatism and mortality on roads; thus in 1972 the quantity of road accidents resulting in death came to more than 93 thousand, and by 2008 this quantity had decreased to 39 thousand, i.e., by more than 50% (WHO, 2004).

The European Union (EU) allocates the major part of its total budget for the development of road networks and other relevant interventions to its member states. In the period 2000–2006, the total amount allocated to road-related projects was €35 billion; 77% of this amount was allocated to its member states (approx. €27 billion) and 23% (approx. €8 billion) to other non-EU countries worldwide. Similarly, in the period 2007–2013, about €40 billion (87% of

its total budget of €46 billion for road-related projects) is to be spent in EU member states, leaving €6 billion to be spent in third countries (Pantealis, S., 2010).

In order to coordinate the actions of EU road safety programs, the special European Transport Safety Council (ETSC) was created in 1993. The ETSC unites more than 40 national organizations for road and transport safety from EU countries, Switzerland and Norway; more than 200 independent experts from more than 30 European countries participate in ETSC work (WHO, 2004). The tasks of the ETSC are: the development of scientific and practical recommendations towards the formation of pan-European and national road safety strategies; a complex investigation of indicators of mortality and injury rates as a result of the use of vehicular transport of all kinds; the identification of zones of increased risk of road accidents and the provision of effective measures for its decrease; the setting up of programs to create safe infrastructure for roads and transport, and to provide for the safety of vehicular traffic; the carrying out of educational programs for road users, police structures, paramedical and emergency medical services, etc.

Over the past few years some large-scale European programs for decreasing the risk of mortality and injury rates on roads were carried out in EU countries. The most well-known programs are the following:

1. PRAISE – Preventing Road Accidents and Injuries for the Safety of Employees. The program was begun in 2009 in EU countries in order to provide an exchange of examples of best practice between all workers dealing with road and transport safety, and to create recommendations for the relevant national structures of EU countries.

2. ShLOW - "Show me How Slow". The program was initiated in 2008 and its tasks included training students for work with the local population on problems of drivers' exceeding the speed limit in built-up areas.

3. Roads to Respect. This program has been under way for four years and is aimed at supporting actions by local authorities to provide a safe road transport infrastructure.

4. Safe and Sober and Drink Driving Policy Network. This program was aimed at the activation of social advertising at local, regional and national levels against excessive alcohol intake among various groups of the population. The program set itself the task of decreasing the chance of a road accident connected with alcohol and drug use, and to increase the responsibility of drivers and pedestrians.

5. SEC Belt. This program took root in 2004-2006 and was urged to improve safety in the countries of the Central, Eastern and Southern Europe. The program was concentrated on six principal areas: the behavior of road users; vehicle technology and safety; road infrastructure; road technologies; information and databases on road accidents; and the assessment of national policy on ensuring road safety.

6. VOICE – Vulnerable Road User Organisations In Cooperation Across Europe. The project was implemented in 2006-2008 and was aimed at fulfilling the requirements and maximising the safety of ordinary road users.

7. Enforcement Programme. This program was realized in 2004-2007 for monitoring the system of road and transport regulation in EU countries.

Due to the importance of safety problem on roads in EU countries, especially in the former post-socialist countries such as Poland, Slovakia, Hungary, etc., there are numerous research programs aimed at the clarification of the situation and the identification of the risks of road accidents and their consequences, at national, regional and local levels. At the same time, for the development of complex safety strategies on roads at the national and local

levels it is necessary to define the risk factors and to estimate the safety level by means of an integrated characteristic.

1.1 The purposes of research

In this paper the purpose is to study the dynamics of injury and death rates due to RTA was set through the example of 6 CEE countries (Germany, Austria, the Czech Republic, Poland, the Slovak Republic and Hungary), with all regional features taken into account. The following objectives are: to estimate the level of risk of road accidents and their consequences at the regional level using six CEE countries; to determine the safety level at the regional level using the same six CEE countries; to formulate, on the basis of the research and on the experience of the CEE countries, general recommendations for the reduction of road accident risk factors and for ensuring a higher level of safety on roads.

1.2 Model and Data

Eurostat data served as the basis data, reflecting RTA frequency, RTA injury and death rates for 84 NUTS2 regions of the designated CEE countries over a period of 2001-2010. This research applies methods of comparative analysis, methods of mathematical statistics and spatial econometrics and methods of multidimensional statistical analysis (cluster analysis with the use of the k-means method and taxonomic methods based on the calculation of integrated indicators). For calculations such packages as Statistica, R and Excel were used (Boyko, V. et al, 2013, Boyko, V., Dubrovina, N, 2015). As the fundamental data set we used the statistical data of Eurostat, materials of reports and articles devoted to problems of injuries and mortality as a result of road accidents, an assessment of possible risks and so forth.

2 Main Results of Research

2.1 The Statistical and Spatial Econometrics Analysis of Road Transport Accidents in CEE Countries

Reduction of death rate of population due to death on the accident spot or due to injuries received due to RTA should be provided on account of implementation of complex goal-oriented programs, concerning issues of organization and timely rendering emergency medical care to the injured in road traffic accidents, as well as additional critically important work area of road transport and public utilities. According to a number of studies, the cause of RTA is not only a human factor (driver error, insufficient driving experience, irresponsible behavior of drivers and pedestrians on the road, driver fatigue, alcohol or drug intoxication, etc.), but also a condition of road transport and public utilities (WHO, 2004). Thus, road traffic accidents often happen due to incorrect land-use planning, when the roads with heavy multilane traffic are located close to social facilities (dwelling-houses, kindergartens, schools, educational establishments, shopping malls and cultural centers, etc.). The causes of RTA are: low level of road traffic control, absence of underground passages and road signs, poor condition of road surfaces, insufficient lighting of the roads in the hours of darkness, poor technical condition of vehicles, etc. (Soušek, R. and Dvorak, Z., 2009)

It should be noted that death rates due to RTA have a prominent regional character, i.e. in a number of regions due to different social and economic, technology-related and natural factors death rates are several times higher than in other regions.

In paper published by Boyko V. et al (2013) the distributions of road accident mortality rates (per 100 thousand population) for the NUTS2 regions of the studied CEE countries during 2001-2010 were analysed, and it was shown that there were significant differences in road accident mortality rates, both between countries, and in some cases between regions.

Comparing road accident frequencies in the specified countries and in their regions, it should be noted that these indicators differ by factors of up to several dozen. The highest number of registered road accidents per 100 km is observed in Germany and the Czech Republic. In addition, there is a clear substantial increase of road accident frequency in the capitals or the capital regions, where there is daily heavy traffic of vehicles and pedestrians and limited possibilities of traffic intersections. There are also quite high rates of road accident frequency in metropolitan regions and in the regions located at crossing points of intensive transport communications. The lowest values of road accidents mortality rates are noted in Germany and Austria (up to 2% of the number of victims), and the highest in Poland (up to 12%).

In methods of spatial statistics and econometrics we used for the analysis of the spatial distribution of road accident frequency indicators and the percentage of participants injured and killed in road accidents (Boyko, V. et al, 2013, Boyko, V, Dubrovina, N, 2015). As it is known spatial statistics and econometrics provide the advanced statistical and econometric techniques for analysis of spatial data, spatial effects and regimes. The spatial data are used geostatistical information elaborated in different geographical information systems (GIS), such as: GEODA, ArcView, ArcGIS, etc. Spatial data are those data, which combine attribute information (e.g. name of the spatial object, population density, productivity, etc.) within location information (spatial coordinates). One of the important definitions of the spatial econometrics is spatial autocorrelation. The spatial autocorrelation reflects possible dependence between spatial data. For the estimation of the spatial autocorrelation the different indices can be used, such as Moran I coefficients, Geary's C statistics, etc. The spatial autocorrelation can be positive or negative. If spatial autocorrelation is positive, we expect high (low) values to be surrounded by high (low) values. If spatial autocorrelation is negative, we expect high (low) values to be surrounded by low (high) values. (Kopczewska, K., 2006).

For the frequency of road accidents per 100 km we calculated the Moran coefficients, characterizing the degree of spatial autocorrelation, for the 84 NUTS2 regions of the six CEE countries. In 2010 the Moran coefficient came to 0.35, pointing to moderate spatial correlation for road accident frequency. The Moran coefficient for the indicators of injuries in road accidents came to 0.42 in 2010, which also testifies to the existence of moderate spatial correlation of these indicators. A visual analysis of maps distinctly showed the existence of clusters formed by groups of NUTS2 regions with higher or lower numbers of road accident injuries.

In order to study the features of the spatial distribution of these indicators it is necessary to analyze the spatial modes for regions or their separate groups. Here we distinguish four types of spatial régimes: "HH" – regions with quite high rates, surrounded by regions with high rates; "HL" - regions with high rates, surrounded by regions with low indicators; "LL" – regions with low indicators, surrounded by regions with quite low indicators; "LH" – regions with low indicators, surrounded by regions with high rates (Kopczewska, K., 2006).

In Figure 1 the spatial régimes for indicators of road accident deaths (as a percentage of those involved and per 1 million inhabitants) are presented for the NUTS2 regions of the CEE countries. For these calculations we used data from 2010.

In figure 1 we can clearly see the "HH" zones in the territories of Poland, Hungary, Slovakia and the Czech Republic where the regions with quite high rates of people killed in

road accidents (both as a percentage of those involved and also per 1 million inhabitants) are surrounded by regions with the same high rates. On the contrary, the "LL" zones are located in the territory of western Germany and Austria. The analysis of areas with the transitional régimes "HL" and "LH" is also of interest.

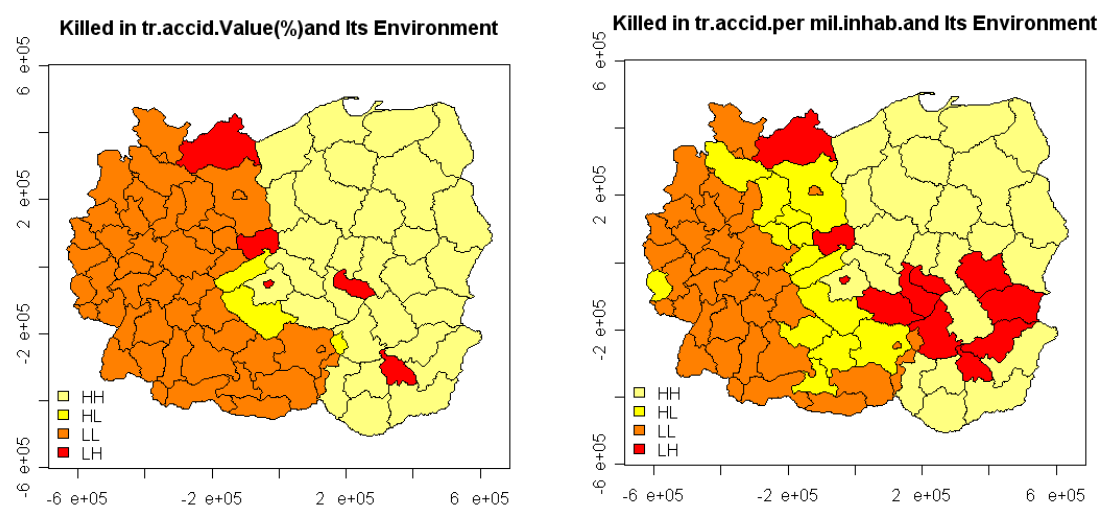
For more detailed characteristics of regions and for the risk analysis of traumatism and mortality as a result of road accidents we used four indicators: 1) the number of road accidents per 100 km of roads (VAR1 variable); 2) the mortality percentage of victims and people injured in road accidents (VAR2 variable); 3) the number of people killed in road accidents per million inhabitants (VAR3 variable); 4) the number of people injured in road accidents per million inhabitants (VAR4 variable).

Cluster analysis (a method of *k*-means) was used to group the regions taking into account several indicators characterizing the risk of trauma and mortality as a result of road accidents. As a result four clusters were distinguished: statistical characteristics of the observed clusters are provided in Table 1.

Of the 84 NUTS2 regions of the six CEE countries (Germany, Austria, the Czech Republic, Poland, Hungary and Slovakia), 28 regions came into the 1st cluster; 3 into the 2nd cluster; 18 in the 3rd, and 35 in the 4th.

Figure 1

The spatial distribution of those killed in road accidents (as a percentage and per 1 million inhabitants) for the NUTS regions of the six CEE countries



Source: data of Eurostat are processed by author in the program R

Table 1

Means and standard deviations of the VAR1-VAR4 variables for the four clusters

Variable	Cluster 1		Cluster 2		Cluster 3		Cluster 4	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
VAR1	150.04	83.49	4489.83	1511.32	113.6	72.98	95.25	439.64
VAR2	1.12	0.37	0.3	0.07	1.13	0.28	5.54	2.74
VAR3	49.57	17.09	14.94	4.08	66.15	15	88.71	25.48
VAR4	4350.89	422.69	4881.05	514.97	5808.81	602.45	1713.72	553.31

Source: results of authors' research according to Eurostat data

Of the 40 NUTS2 regions of Germany, 28 came into the 1st cluster; 3 in the 2nd and 11 in the 3rd. Of the 9 regions of Austria, 7 came into the 3rd cluster and 2 into the 4th. In the former post-socialist countries (the Czech Republic, Poland, Hungary and Slovakia) all regions appeared in the 4th cluster.

On the basis of the results of separating the regions into clusters it is possible to conclude that in regions of Germany and Austria the risks of road accident injuries and mortality are described by the characteristics of clusters 1-3, while for the regions of the four Visegrád group countries the indicators are located in the 4th cluster.

2.2 Calculation of Road Safety Index for Regions of CEE countries

For the analysis of a generalised measure of risk we calculated an integrated indicator incorporating the frequency of accidents and the measure of injuries and deaths. The idea behind this is based on methods of taxonomy and it is described in detail in works by the Polish scientists Hellwig, Pluta and Młodak, etc. (Młodak, A., 2006). In our calculations we used an approach based on the method of an integrated indicator with an artificial standard (etalon) whereby among all the standardized values of the variables VAR1-VAR4 the best ones are chosen; these are coordinates of etalon points in multidimensional space, and the Euclidean distance of standardized values from the etalon point is calculated. As different indicators can have different contributions to the formation of an integrated indicator, we noted in our calculations the weighted distance of the standardized values from the etalon for the evaluation of the total risk measure. The detail description of the safety level calculation is given in paper by Boyko, V., Dubrovina, N. (2015).

Table 2 gives the results of the distribution of the calculated values of the safety level in the NUTS2 regions of the six CEE countries.

Table 2

Results of the distribution of the calculated values of the safety level $I(SI)$

	Country	Min. value	Lower quartile	Mean	Median	Upper quartile	Maxim. value
1	Austria	0.2008	0.2264	0.2991	0.2710	0.3169	0.5855
2	Czech Republic	0.2203	0.2821	0.3266	0.3310	0.3643	0.4300
3	Germany	0.2443	0.3214	0.3606	0.3559	0.4094	0.5047
4	Hungary	0.2657	0.2837	0.3277	0.3145	0.3485	0.4495
5	Poland	0.03488	0.1013	0.1752	0.1577	0.2310	0.3452
6	Slovakia	0.3181	0.3591	0.3854	0.3837	0.4100	0.4561

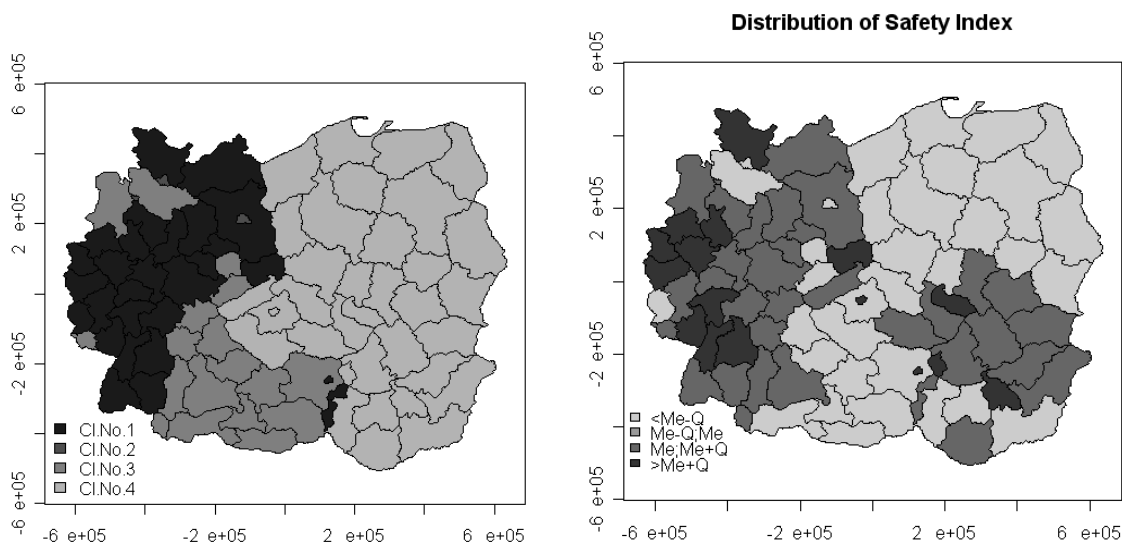
Source: results of calculations made by author according to Eurostat data

The values of the Safety Index vary in the range from 0 to 1. The closer the index $I(SI)$ is to 1, the safer is the situation in the region from the point of view of road accidents and their consequences. And, on the other hand, values of $I(SI)$ close to 0 characterize the lowest level of safety.

In Figure 2 we present the spatial distribution of regions, clustered according to the integrated Safety Index.

Figure 2

The NUTS2 regions of six CEE countries clustered by risk of road accidents and the spatial distribution of the Safety Index $I(SI)$



Source: data for calculations are processed by author in the program R

As seen from the maps presented in Figure 2, the lighter areas, corresponding to the fourth cluster of road accidents risks and to the lowest values of the integrated Safety Index, fall in the regions of Poland and partially in Hungary. The safest regions are located in the dark colored zone, belonging to the first and third clusters according to their risk characteristics, and these are the western regions of Germany. It is also seen that in the regions containing the capitals of Austria, the Czech Republic, Slovakia and Hungary, we observe higher rates of the Safety Index. In Germany (Berlin) and in Poland (Mazowieckie voivodeship), on the contrary, safety indicators are rather low.

2.3 Model of Optimal Allocation of Public Funds for Reducing Mortality and Injury Risks in the Roads

Due to the calculation of the Safety Index and results of cluster analysis it is possible to reveal groups of target regions, where general and partial score risk factors are higher. For example, it is simple approach for evaluation of general risk factor based on the vales of Safety Index. The partial score risk factor can be estimated for each variables, namely: VAR1 (the number of road accidents per 100 km of roads), VAR2 (the mortality percentage of victims and people injured in road accidents), VAR3 (the number of people killed in road accidents per million inhabitants) and VAR4 (the number of people injured in road accidents per million inhabitants). Score estimations of partial risk factors can be given by experts or evaluated due to the analysis of the features of distribution of the related variables, VAR1-VAR4. These score estimations can be used as coefficients in the objective functions for the model of the allocation of public funds for reducing risk of mortality and injury in the roads for target groups of regions in the certain country.

The simplified model of allocation of public funds can be formulated as optimization problem. The objective function can establish the preference to finance regions with the higher partial risk factors and the constraints can reflect the capacity of planned funds for certain regions and possible funds for measures directed to reducing of indicators described by VAR1-VAR4. For example, the main measures can be connected with such important

spheres as: 1) improvement of transport and road infrastructure (green wave at traffic light, lighting of pedestrian crossing, traffic calming (humps and chicane), 30 km/h zones with traffic-calming measures, increase in use public transport, etc); 2) technology (safer vehicles, safer roads, special equipment and technologies in the hospitals and trauma centers for resuscitation of injured); 3) education (education of children in school, road-safety education at high school, awareness and education of adults, education of emergency staff); 4) regulation (increase in fines, penalties and sanctions, push for full helmet use for cyclists and motorcyclists, etc.); 5) enforcement (speed control devices, special information, communication and control campaign, etc.). Such measures can directly or indirectly influence to mortality and injury risks in the road. It is very important to estimate the effectiveness of these measures and provide cost-efficiency analysis. Another problem is concerned with task how to effectively allocate public funds. Such problem can be solved by linear programming model. In this paper we developed such model as illustration for the one of possible approach for solution of optimal allocation funds problem.

The model of optimal allocation of public funds for reducing of mortality and injury risks in the roads is given below.

$$\text{The objective function is } \sum_{i=1}^{Nk} \sum_{j=1}^4 a_{ij} \cdot z_{ij} \rightarrow \max \quad (1)$$

Subject to:

$$F_i^{R-} \leq \sum_{j=1}^4 z_{ij} \leq F_i^{R+}, \text{ for } \forall i, i = 1, 2, \dots, Nk; \quad (2)$$

$$F_j^{M-} \leq \sum_{i=1}^{Nk} z_{ij} \leq F_j^{M+}, \text{ for } \forall j, j = \overline{1, 4}. \quad (3)$$

In this model coefficients a_{ij} are the partial score risk factors for indicator $j, j = \overline{1, 4}$ and target regions i, Nk is number of target regions for certain country. Decision variables z_{ij} are amounts of funds for financing measures reducing each kind of partial risk (namely, the number of road accidents per 100 km of roads; the mortality percentage of victims and people injured in road accidents; the number of people killed in road accidents per million inhabitants; the number of people injured in road accidents per million inhabitants) in the target regions for the certain country. Parameters in the constraints F_i^{R-} and F_i^{R+} describe the minimal and maximal financial means which need in the regions for the implementation of public road safety programs. Parameters in the constraints F_j^{M-} and F_j^{M+} describe the minimal and maximal items of the expenditures in the budget of donors organizations or external funds (EU funds, etc) for financing measures directed for the reducing of partial risk factors in the roads.

3. Conclusions and policy implications

The analysis of the frequency, traumatism and mortality of road accidents has been carried out at the regional level for the countries of Central and Eastern Europe and has made it possible to draw conclusions regarding certain spatial features of the distribution of these indicators and on the non-random nature of the location of their values on maps of the CEE regions featured in the study. On the basis of methods of spatial statistics and econometrics we have demonstrated the existence of a spatial structure in the distribution of the risks and

consequences of road accidents in the various regions. Cluster analysis has enabled us to distinguish uniform clusters of regions categorised by the risks, traumatism and mortality rates of road accidents. Based on an analysis of these indicators we have introduced the evaluation of an integrated safety level for regions of the countries of Central and Eastern Europe. This allows us to estimate the complex influence of the risks and their consequences road accidents on the level of safety for certain regions or groups of regions. Due to the analysis of general and partial risks factors it is possible to reveal target regions, with higher level of transport accidents, mortality and injury risks. The results of such analysis and identification of risk factors, application of linear programming models allow to more rational allocate public funds for reducing mortality and injury in the roads.

Thus, the results of the research can be used for the improvement of national and regional programs of road and transport safety, and for the development of strategies and actions aimed at reducing the risks and consequences of road accidents in certain regions. It is necessary to establish in more detail the reasons underlying the emergence of these factors at the local, regional or national levels and, by taking these reasons into account, to develop a complex of target actions; according to the recommendations of the Program of the World Health Organization presented in 2004 and devoted to the problem of ensuring road and transport safety, such actions have to be based on interactions between the following five components: 1) tasks for the government; 2) tasks for the health system; 3) tasks for vehicle manufacturers; 4) tasks for representatives of funds and charitable organizations; 5) tasks for representatives of the local population, local social groups and public organizations.

The coordinated work of these major components will accord higher status, in the eyes of the state and of the public, to the ensuing road and transport safety programs and will enhance their social and economic efficiency.

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Lessons learned from the Greek debt crisis – is Europe prepared for a fiscal union?

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Abstract

This paper deals with the implications of the (mis)management of the Greek sovereign debt crisis on the debate about the European economic governance. The eurozone has always been criticized for its strange architecture – i.e. for creating a monetary union without centralized fiscal policy. Despite the criticism of economists a political approach prevailed – the leaders of the EU, especially Helmut Kohl and Francois Mitterrand declared the Euro to be a question of future peace in Europe and hoped that a deeper fiscal and political integration will follow. The current situation in the eurozone, especially debates about a possible Grexit, revived the discussion about the necessity of further fiscal integration. The economic logic of a centralized fiscal policy stands against the political unwillingness of the majority of member states of the EU. A transfer union where some countries will permanently finance the lack of competitiveness of others is currently an unacceptable notion. Besides of its economic implications, the loss of national sovereignty can also promote a strong populist and right wing reaction. Euroskeptic forces in European governments would lead to a less dynamic Europe and bring the integration process to a halt. Milton Friedman warned already in 1997 that a monetary unity imposed in unfavorable conditions will prove a barrier to the achievement of political unity. These words proved to be prophetic. The question for discussion is whether the management of the debt crisis in the eurozone brought the Fiscal Union closer or made it even less thinkable.

Keywords: *fiscal union, eurozone, debt crisis*

JEL classification: *F02*

1 Introduction

As the EU is recovering from the worst financial and economic crisis since WW II, debates about the shortcomings of its institutional, political and financial architecture arise. The quick fixes applied during the crisis showed the eurozone's fragility in terms of responding effectively to external shocks and the necessity to reinforce the foundations of the European Monetary Union (EMU). Eurozone is a currency union *sui generis*¹, a monetary union not accompanied by a genuine fiscal union. The control over fiscal policy is considered central to national sovereignty (no taxation without representation), and in the world today there is no substantial fiscal union between independent nations. Nevertheless, there is a widely shared idea that further fiscal integration is the only way of making the single currency workable in the long term. The fact, that even an economy as small as Greece can bring the whole eurozone near to a break-up, illustrates the fragility and the deeply flawed architecture

¹ Eichengreen (2008) argues that there is no historical precedent for Europe's monetary union. It cannot be compared neither to multinational currency unions of the past (e.g. Scandinavian currency union of 1873-1924) nor is it a national currency union like the US.

of the EMU. Still, due to different conceptions on fiscal federalism and due to rising skepticism about the whole euro project among the European citizens, a fiscal union seems to stay a dream of a part of European political elites.

2. The euro dream – politics versus economic theory

Ever since the presentation of the Delors' plan in 1989 and signing the Maastricht Treaty (MT) in 1992 there was a widespread belief that the single currency for Europe was primarily a political project that ignored economic fundamentals. As Helmut Kohl stated: "*A common currency is more than the money you pay with. Nations with a common currency never went to war against each other.*" (EU observer, 2013). There is also some evidence that the introduction of a European currency was President Mitterrand's condition for France agreeing to Germany's unification in 1990. This claim has been repeatedly denied by several German officials,² nevertheless, even if it was true, the French plan to weaken the reunited Germany, backfired. But the heated debate surrounding the MT showed that the idea of a more integrated Europe was less popular than Kohl or Mitterrand thought (Bering, 1999). Skepticism resounded especially from Great Britain that decided not to join the common currency, reflecting the warnings of prominent economists and its own bad experience with its participation in the European Exchange Rate Mechanism (ERM). Margaret Thatcher, an outspoken opponent of the common currency, saw the euro condemned to become a great economic, political and social disaster (Thatcher, 2003). She argued that it would end up with bailouts of the poorer countries losing their competitiveness because of a currency not reflecting their economic performance. The German anxiety about the weakening of the anti-inflation policy of Bundesbank would also be a problem in times when greater inflation is inevitable (Thatcher, 1993).

As already mentioned, most economists were also skeptical towards the single currency, usually using the theory of optimum currency areas to point out the crucial shortcomings of the proposed architecture of the EMU. Milton Friedman (1997) argued that Europe's common market is not well-disposed to creating a common currency area. Separate nations speaking different languages and feeling more loyal to their own countries than to "Europe", goods, capital and people being less mobile and wages/prices more rigid as well as different national fiscal policies create a situation not favorable to create a common currency, thus Friedman predicted political tensions which would prove a barrier to the achievement of political unity. Feldstein (1992) warned that: "*...an artificially contrived economic and monetary union might actually reduce the volume of trade among the member countries, and would almost certainly increase the average level of unemployment over time.*" In 1997, he predicted that any gains from the single currency resulting from facilitating trade and capital flows among its member would be outweighed by adverse effects on inflation and unemployment.

But skepticism was not reserved to economists overseas. More than 60 German professors of economics signed already in 1992 a manifest named: *The monetary resolutions of „Maastricht“: A danger for Europe*. They predicted that the economically weaker European states would face increased competitive pressure under a common currency, which would eventually lead to unemployment due to lower productivity and competitiveness. Transfer payments for compensation would be necessary but without a political union, there will be no system with sufficient democratic legitimacy to regulate this process. Therefore they did not see any reason to impose a monetary union from above on a Europe that is not yet united

² It was affirmed by the then President of World Bank Robert Zoellick in 2011. Zoellick headed the US delegation in the negotiations about Germany's unification in 1989-1990. Theo Weigel (then Minister of Finance) or Wolfgang Schäuble (then Minister of the Interior) are flatly denying this interpretation until this day.

economically, socially and politically. In 1998, a new manifest was published, signed by more than 160 German economists, named “*The Euro starts too early*” in which the slow consolidation of public budgets, the worsening structural problems of Europe, halfheartedly applied convergence criteria or missing liberalization of inflexible labor markets were criticized. The manifest proposed either to postpone the introduction of euro or to start the monetary union with a smaller group of countries.

Despite of all these warnings, the EMU was completed and a common currency launched in non-physical form in 1999. Euro notes and coins were introduced in 2002. But within a decade the euroskeptic voices saw themselves vindicated by the events of the eurozone crisis (Krugman; 2012, 2015a) and the theory of Optimum currency area experienced its revival.

2.1 Eurozone as an Optimum currency area

The theory of the Optimum currency area (OCA) was formulated by Mundell in 1961. According to Mundell regions should use a single currency only if their economies are alike enough that a single currency, and hence a single monetary policy, will work for all. He argued that a single currency was more likely workable in areas with high factor mobility (especially labor mobility) and in areas where national sovereignty is being given up. The disadvantage resulting from the loss of flexibility in exchange rates should be compensated by advantages of a common currency which are reduced transaction cost, elimination of currency risk, greater transparency and competition (Krugman, 2012). Countries joining a single currency area are especially vulnerable to asymmetric shocks. As their main adjustment mechanism (flexible exchange rates) is not available any more, their only way to respond is a painful process of internal devaluation (lowering wages and prices). The theory was further developed in 1963 by McKinnon who emphasized the degree of openness as an important criterion for joining OCA and Kenan (1969) who introduced the necessity of production diversification as a criterion for OCA. The possibility of introducing a single European currency was discussed in economic theory and politics alike long before the MT introduced a plan for completing the EMU. Mundell’s work was cited on both sides of this debate. His first model of OCA as described above (known as OCA with stationary expectations) was used as an argument against the optimality of the eurozone, whereas his second model - OCA with international risk sharing (described 1969 in a less cited paper *A plan for European currency*) was more favorable to the concept of a common European currency, which he saw as a possible instrument of protection from further expansion of the USD.

The OCA theory offers a set of criteria for assessing a country's suitability for membership in a currency union. These can be divided in two groups (Jager, Hafner; 2013). Criteria that reduce the exposure of member countries to asymmetric shocks (1-3) and criteria that facilitate the adjustment to asymmetric shocks (4-7):

- (1) **Extent of trade** - a country is more likely to benefit from joining a currency union if the union's economy is closely linked to its own, through savings in transactions costs and eliminating currencies risks. As a result of the Single Market the intra-EU trade was generally high even before the introduction of euro and there is some evidence for a positive impact of euro on further trade increase. However, the impact was less significant than expected, according to latest studies it amounts to 7-10% only (Gunella, 2015).
- (2) **Similarity of the economic structure and business cycles** - there are considerable differences within the eurozone in terms of production structure, labor force qualification and capital stock. While the north is generally highly equipped with skilled labor, capital and a high-quality production structure, the south disposes from a less innovative and

specialized manufacturing structure, less capitalization and a smaller number of qualified labor (Fürrutter, 2012). Regarding the problem of diverging business cycles, Frankel & Rose (1998) argue that historically, integration results in more synchronized cycles, i.e. countries are more likely to satisfy the criteria for entry into a currency union ex post than ex ante (known as the endogeneity aspect of a monetary union).

- (3) **Production diversification** – as Kenen argued (1969), the impact of sector-specific shocks is relatively small if countries produce a wide range of products. Persson (2011) concludes that industry portfolios of eurozone countries became more specialized and that production moved to countries with a relative advantage in the production of certain goods. Consequently, EMU member countries became less alike in their sensitivity to macroeconomic turbulence, and the EMU's vulnerability to asymmetric shocks increased.
- (4) **Degree of labor mobility** – the ability of labor mobility to ease the negative effects of asymmetric shocks within the eurozone is limited as a result of persisting labor market rigidities and low labor mobility (due to cultural barriers, e.g. different languages or institutional arrangements, e.g. the possibility to transfer pensions throughout the region). For this reason labor mobility is no indicator in favor of the EMU (Fürrutter, 2012).
- (5) **System of risk-sharing** – the annual EU budget constitutes only approximately 1 % of Union's GDP (Fürrutter, 2012). A decentralized fiscal policy restricts the eurozone's ability to act, especially in times of crisis. A policy of fiscal transfers to redistribute money to less developed areas of the single currency area is generally accepted among economists but politically difficult to achieve.
- (6) **Homogeneous preferences** – the optimal size of a monetary club is given by the requirement of somewhat homogeneous preferences over the use of money (Casella, Frey; 1992). A consensus on how to deal with asymmetric shocks does not exist, there are widely differing preferences regarding fiscal policies in the EU (Jager, Hafner; 2013).
- (7) **Solidarity** – the debt crisis fully unmasked the lacking solidarity within the eurozone and revealed the differences in terms of approaching the trade-off between solidarity and sovereignty. Whereas Nordic countries prefer greater sovereignty in order to support the "domestic solidarity" (generous welfare state provisions), southern and central European countries support a higher degree of integration in exchange for greater solidarity (Hayward, Wurzel; 2012).

The concerns resulting from the fact that eurozone was far from constituting an optimal currency area were largely dismissed by the founding fathers of euro. They believed that two factors would make the adjustment problems manageable (Krugman, 2012). The adoption of sound fiscal policies would reduce the incidence of asymmetric shocks and structural reforms would make labor markets flexible enough to cope with asymmetric shocks if they occur despite of these sound policies. It proved to be wishful thinking.

3. The role of euro in the sovereign debt crisis of several eurozone's members

The sovereign debt crises in several eurozone economies is connected to the Great Recession, which began as a subprime mortgage crisis in the United States in 2007, spreading to other parts of world economy as a financial and banking crisis and eventually leading to a global recession. Until then the euro was presented by European political elites as a success story. The launch of the euro gave the European economic integration a huge push and moved it into a premier position of global finance, becoming the second largest reserve currency in

the world.³ But the aftershocks from the Great Recession brought the obvious shortcomings in political and financial architecture of the eurozone to light. The euro offered easy access to relatively cheap credit in a value-stable currency, and economic subjects, in particular those from countries that were catching-up, made ample use of this opportunity (Hübner, 2013). With the abolition of exchange rate risks between the eurozone members all quality risks of financial assets and liabilities disappeared. Rising private and public debt led to an inflationary boom in several countries within the eurozone. Due to rising prices and wages these countries lost their competitiveness and their balances of payment came under pressure. National programs to rescue the shattered national banking industries resulted in further increases in public debt (Sinn, 2012). In late 2009, some of the most exposed euro area economies (Ireland, Greece and Portugal) could no longer sustain their soaring debt and confront the financial crisis simultaneously. That resulted in a 'sovereign debt' crisis. Financial markets lost confidence in those countries' ability to pay back their debts and in their overall competitiveness. The interests of government bonds became so high that the countries could no longer borrow on the financial markets by selling new bonds. Since a share of those bonds was held by investors in other euro area countries — for example banks — the crisis became a much wider problem (contagion risk).

How did eurozone respond to the crisis? European Council and the European Central Bank (ECB) made a first bail-out attempt of Greece in May 2010. The European Financial Stability Facility (EFSF)⁴ was created as a temporary crisis resolution mechanism in June 2010. A permanent rescue mechanism, the European Stability Mechanism (ESM)⁵ started its operations in October 2012 and it is currently the sole mechanism for responding to new requests for financial assistance by euro area member states. The Fiscal Compact⁶, an intergovernmental treaty was introduced as a new and stricter version of the Stability and Growth Pact. These rescue measures have relieved the eurozone's acute financial distress, but at a high cost. They enabled investors to avoid paying for their poor decisions and gave the overpriced European countries the opportunity to defer real depreciation in the form of a reduction of relative prices of goods (Sinn, 2015). During this critical situation it turned out that the governance structure of the eurozone was not at all prepared to deal with the challenges ahead. Only provisional or short term solutions were provided. The lack of a transfer mechanism between countries became visible and heated debates about the further fiscal federalization arose once again. Also, the debate falsely concentrated on the fiscal aspect of the crisis, whereas economists alerted that this has never been a fiscal crisis at its roots, basically it should be seen as a balance of payment problem resulting from the capital flooding south after launching the euro, leading to overvaluation there (Krugman, 2015b).

The whole mismanagement of the eurozone crisis can be demonstrated best by the example of Greece. The Great Recession fully unmasked the structural weaknesses of the Greek economy - overspending, tax evasion and inadequate economic policies in combination with rigid market structures and the influence of powerful interest groups. When the Greek government admitted in 2009 that its public deficit was much higher than previously reported, a sudden crisis in confidence among lenders erupted. With debt levels rising to unsustainable levels and capital markets freezing in 2010, Greek government was not able to handle the situation on its own. Without the possibility to devalue, with monetary policy in the hands of

³ The share of euro in global foreign exchange reserves is 22 % (in constant exchange rates), more information on trends see: <https://www.ecb.europa.eu/pub/pdf/other/euro-international-role-201507.en.pdf>

⁴ The EFSF has provided financial assistance to Ireland, Portugal and Greece.

⁵ The ESM provided loans to Spain and Cyprus.

⁶ The Treaty on Stability, Coordination and Governance in the Economic and Monetary Union signed in 2012 by all member states of the (EU), except the Czech Republic, the United Kingdom, and Croatia.

the ECB and fiscal transfers among eurozone members not allowed (the so called no-bail-out clause of the MT), Greece was caught in a trap. During and endless spree of hastily called summits the EU came up with ad-hoc solutions but nothing seemed to work for Greece in the long run. In contrary, the severe economic and social consequences of strict austerity measures imposed on Greece led to civil unrest and riots. After the First and the Second Economic Adjustment Program for Greece proved to be insufficient, the situation culminated in 2015, when a new left-wing government came to power in snap elections. The government led by prime-minister Alexis Tsipras had committed to end the austerity policy and requested for hair-cut instead, going on a collision course with the rest of the eurozone. A compromise on the conditions for extension of the second bail-out program had not been achieved and so on June 30, 2015 Greece failed to make an IMF loan repayment (as first developed country in the history). After another two weeks of political controversies, including a referendum held on July 5⁷, the Greek government eventually agreed on a third bail-out program, saving Greece from bankruptcy.

In order to understand the stunning inability of the euro area to reach a compromise with Greece one has to apprehend the serious dilemma that eurozone was facing. There were actually four ways how to respond to the crisis but each of them was associated with serious complications (Sinn, 2015). First, Europe acting as a transfer union, with the north giving more and more credit to the south. This would, however, prevent the troubled economies from regaining competitiveness. Second, the south could deflate, with the consequence of pushing many debtors into bankruptcy. Third, the north could inflate, at the cost of expropriating its savers. Fourth, countries that are no longer competitive could exit the monetary union and depreciate their new currency, possibly causing contagion effects via capital markets and forcing policymakers to introduce capital controls. Considering these four alternatives, the earnestness of the whole situation becomes obvious. Consequently, what followed, was a debate about the extent of solidarity which should be exercised within the eurozone.

4. Fiscal union as an answer?

Considering the implications of the eurozone crisis, the policy makers had to admit that the economists' concerns accompanying the introduction of euro were more than relevant. Admitting that preventing unsustainable policies and absorbing shocks did not work well before or during the crisis, a roadmap towards a complete economic and monetary union (Juncker et al., 2015) was introduced this year. The roadmap defines that progress must happen on four fronts: (1) **Economic Union** – stronger coordination of economic policies, better implementation of Macroeconomic Imbalance Procedure, creation of a system of Competitiveness Authorities; (2) **Financial Union** - completing the Banking Union, launching the Capital Markets Union and reinforcing the European Systemic Risk Board; (3) **Fiscal Union** – introducing a new European Fiscal Board that would provide an assessment of eurozone member budgets and finally (4) **Political Union** that provides the foundation for all of the above through genuine democratic accountability, legitimacy and institutional strengthening. However, the implementation of this plan would require far-reaching revisions of EU Treaties, which is not possible without the democratic legitimacy provided by European citizens. Considering the variety of opinions on further European integration, this is not an easy task. Following the debate about the nature of further fiscal and political integration, we can identify several approaches or concepts, with dividing lines running not only among but also within individual countries.

⁷ The bailout conditions proposed jointly by the “Troika Institutions” (European Commission, International monetary fund and European Central Bank) were rejected by a majority of over 61%

First, there is the idea of United States of Europe, which would require a **genuine fiscal and political union**, supported e.g. in France, Italy or Spain. Within days of the eurozone achieving a deal to keep Greece in the currency area, the French Minister of Finance Emmanuel Macron called for a strong European government with its own budget and parliament to oversee national economic and fiscal policies. His proposal foresees that this government would have responsibility solely for the interests of the entire currency area. It could ensure necessary financial transfers if a country is in crisis or push through reforms to avoid discrepancies between economies. The Euro Government would be led by a Commissioner with wide-ranging powers, acting as a minister for the eurozone, allocating investment funds and having a say in labour market policy (Telegraph, 2015).

Second and opposed to the French idea of European economic government, there is the German notion of a **fiscal union as a framework of strict fiscal rules and without transfer union** (kind of European economic constitution) - German government has made it clear that it is against any kind of a transfer union, in which wealth is redistributed among member states and it also remains adamantly opposed to the mutualisation of debt in the form of Eurobonds. The German notion of a fiscal union is more about strictly set fiscal rules (Fiscal Compact), automatic sanctions and independent decision making bodies (Wohlgemuth, 2015).

Opponents of the first two possibilities as well as skeptics doubting the capability of the EU/eurozone to make some far-reaching reforms assume that the **muddling through** strategy of previous years will prevail, with provisional solutions, only made under the pressure of a crisis. The negative consequences of this approach is the moral hazard problem and the huge amounts of money necessary to artificially maintain balance within a structurally unbalanced economic and political order.

There are also some profound euroskeptic opinions (to be found in euroskeptic or right-wing populist parties, like the French *Front National* or German *Alternative for Germany*), seeing the only solution in **dismantling the eurozone**, considering its architecture as deeply flawed and irreparable. Nevertheless, this would be seen as capitulation of the Europeans and is connected with huge transaction costs and severe economic, political and social consequences. It could even endanger the EU project as such.

There is also a proposal of a more **flexible eurozone (a breathing eurozone)**, with the possibility of a temporary exit, which would enable the troubled country to devalue, regain its competitiveness within the ERM II system and then reenter the eurozone (Sinn, 2013).

Still, there are some experts who do believe that in order to move the eurozone closer to an optimal currency area, a **fiscal union is neither necessary nor desirable** (Varoufakis, 2011). Against the generally accepted idea of a fiscal policy cushioning the economic shocks, there is some empirical evidence that integrated capital markets (as proposed in the roadmap for a genuine EMU) play a far larger role (Weidmann, 2015). As the public and political support for further transfers of national sovereignty to European level is dropping, a fully-fledged fiscal union may not be an available solution and thus the mutualisation of debt has to be preceded by shifting fiscal control and intervention rights to the European level. Otherwise, the eurozone would face severe moral hazard problems.

Putting the economic logic of these proposals aside, the main problem that EU is facing is not the lack of alternatives but the lack of democratic legitimacy. Broad-based public support across EU member states is essential for further fiscal integration but little is known about the European citizens' opinions towards such far-reaching changes (Daniele, Geys; 2014).⁸ The

⁸ According to a recent study (Daniele, Geys; 2014) the debate over fiscal integration is not only a debate among countries but there is also a deeply divided public opinion within countries. There is a substantial intra-

Greek debt crisis has frayed the nerves of all subjects involved and strengthened euroskepticism which seems to become a kind of a new cultural trend across Europe.

5. Conclusions and policy implications

Margaret Thatcher saw the common currency as an attempt to usher in federation through back doors. The sad irony is that instead of cementing European unity, the euro has become a threat for the EU as such. The founding fathers of euro decided to ignore the severe concerns expressed by economists and hoped instead for the euro acting as a tool of discipline, forcing countries to undertake structural reforms in order to make themselves more competitive. The opposite happened. Capital that was steering towards southern Europe created an inflationary credit bubble. Consequently, the rising wages and prices robbed these countries of their competitiveness. When the crisis hit the eurozone and the bubbles burst, the EU lacked the tools to address these imbalances. The euro crisis vindicated the profound skepticism of economic theory as well as several countries, above all Great Britain, about the wisdom of the single currency. Today, the question of political integration cannot be avoided any longer. So what are the lessons Europe has learned during the crisis? The main lesson is that countries cannot just skip a level of integration without risking economic and political trouble. The attempt to create a currency union *sui generis* failed. The euro may be saved for now but if the political conclusions are not drawn, eurozone can face another crisis very soon. Another important lesson is that the EU has to face the problem of its democratic deficit. Such an important integration step like introducing a common currency was made without an explicit approval of the European citizens.⁹ Public debates were concentrating mainly on the benefits resulting from the practicability of the euro for individual economic subjects. European citizens have been told for long that it is possible to enjoy the benefits of euro without sacrificing part of their sovereignty. Today, a debate about minimizing the risks resulting from using a common currency is inevitable.

The eurozone needs to be reshaped but the question how has to be answered not only by policymakers and experts. This time, the EU should seek for political legitimacy in advance, not just ex post, in times of crisis, when nations concentrate on defending their own interests while attempting to benefit from a free-rider tactics. Historically, monetary unions either have been dissolved or they have moved towards constituting political sovereignty. Regardless of the eventually chosen integration concept, there is one alternative Europe should avoid – namely the strategy of doing nothing, the muddling through approach of last years. The EU cannot avoid a crucial decision on its future form because another external shock could bring its current fragile architecture to a break-up.

generational divide across young citizens of euro debtor and creditor countries. The latter are much more hesitant with regard to further measures of European fiscal integration (Eurobonds or national budget consultations), though they are less opposed to less invasive means of ensuring fiscal discipline (e.g. automatic penalties). This can be explained by the asymmetric impact of the expected costs of EU-imposed fiscal austerity measures. As citizens of Euro debtor countries have traditionally been pro-EU, this shift in its younger generations towards a more skeptical attitude may have important implications for the future of European integration.

⁹ A referendum on the issue was held in Denmark (2000) and in Sweden (2003), both failed.

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Applying the Corporate IQ principles focus on the Slovak startups

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Abstract

The article is focused on the identification one of the current phenomena of the small enterprises with the high share application of innovative elements within the business strategies - startups. The aim is to present the application of the effective strategic thinking and the business entity management with the application on the Slovak startup conditions. The implementation of the principles of the intelligent and innovative business entity creating – so-called Corporate IQ is one of the possibilities how to increase effectiveness and competitiveness of the business entity and economic development of national economy.

Keywords: Corporate IQ, Innovations, Small enterprises

JEL classification: M13, O30

1. Introduction

The success of enterprises is lately based on their capabilities to adapt to constantly changing conditions arising from competitive pressure of local and global organizations or based on changing preferences and needs of consumers. It is the perception, interpretations, reaction and adaptation of entrepreneurs to socio-economic changes that became the base of the concept of Corporate IQ (CIQ). Unrelenting development of the level of intelligence of companies speeds up the transformation of knowledge to commercial value and thus the need to measure intelligence value of companies. The measuring of corporate IQ emerged from the perception that enterprises are “alive organism” – Corporate personality (Zorkóciová, 2007). CIQ can be used as a tool to achieve organization’s goals or as a platform for comparing performance of respective competing companies. The concept of CIQ enables the companies to gain relevant information about options to improve and increase efficiency in their commercial activity. It points out problematic areas and proposes solutions. These measures result in successful operations of the company in international competitive environment.

1.1 Methodology

The article is focused on the identification one of the current phenomena of the small enterprises with the high share application of innovative elements within the business strategies - startups. The aim is to present the application of the effective strategic thinking and the business entity management with the application on the Slovak startup conditions. The implementation of the principles of the intelligent and innovative business entity creating – so-called Corporate IQ is one of the possibilities how to increase effectiveness and competitiveness of the business entity and economic development of national economy.

Regarding various perceptions of the essence of CIQ among the professional public, this article emerges from three basic theoretical foundations. These lead to the definition of the CIQ. Based on the approach of J. Underwood, we define single elements of CIQ and place them into spheres using the method of scientific analysis. Then, using the method of scientific

synthesis, we appoint relative connections between elements and spheres and their meaning in balanced evolution and their role in the success in the marketplace. The method of scientific abstraction is applied in order to differentiate insignificant qualities and context and appoint the important ones (Underwood, 2004). The second approach by R. Weijermars, defines the essence CIQ from the point of view of efficient management and reaction to the changes in the environment with emphasis on human capital and gaining information and applied knowledge. This part will be completed by the problematic of the learning organizations on the background of particular dimensions of CIQ by J. Lufmana. In this case we apply similar practices and scientific methods as in the previous approach (Weijermars, 2011). In the third approach we use exact scientific method. Our efforts will be to point out to the possibility of a quantitative definition of CIQ by specific calculation.

2. Results and discussion

Professional public referring to the phenomenon of CIQ points out the popularity of intelligent management in the international entrepreneurship environment. They also stress the importance of CIQ in the strategic management. Companies are forced to seek out constantly new, creative and complex solutions for improving efficiency and success of their activities under the pressure of the competitive environment and continuous impacts of the financial crisis (Zorkóciová, Vanková, 2015).

Global economy is going through evolution phases. Since the emergence of globalization and its relative factors, global economy has gone through many severe changes with significant impact on the current market place and its conditions. In the current phase with stress on the know-how, information and knowledge, and under the influence of the concept of New economy, the companies need to realize the changes in the global business environment and be flexible in their reactions. Intelligent entrepreneurship – seen as quick and flexible reaction to the modifications in the socio-economic competitive environment - plays an important role in the transformation of commercial subjects and their adaptation to the changes and trends in the evolution of global economy. American economist J. Underwood points out this trend. Underwood divided companies into three respective groups based on the facts above:

- companies over 100 years old
- companies with the strategy and profile to survive 100 years and more
- companies that are not going to exist more than 100 years.

In the first two cases the ability to remain on the market is linked to the long term interest of the public in their globally recognized and respected products. What is the difference between them? Companies, that exist over 100 years remain on the market thanks to constant demand for their products which brings them sufficient turnover and profits. These products were ground-breaking and till nowadays they are hard to replace. We can find examples in the pharmaceutical industry, such as aspirin. On the other hand the companies set to stay on the market over 100 years do not carry indispensable products even if they might be recognized international brands. Their success is based on constant improvements – whereas we are talking about management of products themselves. Organizations working in this frame are considered to be modern companies and they report over 20% higher ROI than other two groups (Underwood, 20014).

The process of the development of CIQ began in these circumstances. CIQ reflects the ability of the companies to react and respond to the modifications of national, but more importantly international markets. The main function of CIQ is to transform the data and information into knowledge, skills and abilities and then use them for innovative and

intelligent commercial decisions bringing added value reflecting the current events in international environment. If existing customers are losing interest in products or services, if employees are not motivated and business partners lower the volumes of business activities that the intelligence of the companies is stagnating or even going down. This situation requires considerable interventions and corrective measures of the concept of CIQ (Zorkóciová, Vanková, 2015).

Intelligent companies are characterized by several basic features (Underwood, 2004):

- flexible corporate culture – adaptive, opened to critics
- regular and continuous education of employees at all levels of the business (self-educations, education regulated by the company)
- regular control and evaluation of the performance of individual employees (of managers and all the others alike)
- fluent and flexible information system, relevant regarding to the latest innovation
- motivational systems of rewarding and service to employees, reinforcement of the team and working engagement
- open and innovative approach in all the business operations, applying latest techniques in management, decision making, production...

In the current conditions we can consider start-ups to be the intelligent companies. They are characterized by new, young and tech oriented features in management. Start-up, as many other terms emerging these days, is not clearly defined. Steve Blank defines start-up as “temporary organization created in order to find replicable and scalable business model” (Blank, 2010). Based on this perception, start-up product is the company itself – either business intention itself or the team standing behind it. Eric Ries, one of the best students of Steve Blank, came with his own definition of start-up and his philosophy of Lean Start-up (also known as Ries’ understanding of start-up). Ries sees start-up as “human institution designed to create new product or service in the conditions of extreme insecurity” (Švač, 2013). British programmer and co-founder of American accelerator Ycombinator Paul Graham characterized start-up as a company predicted to grow and progress quickly compare to its competitors. According to financial dictionary start-up can be any newly up and coming project or emerging company often in the stage of creation of business intention characterized by the following aspects: (according to BusinessDictionary)

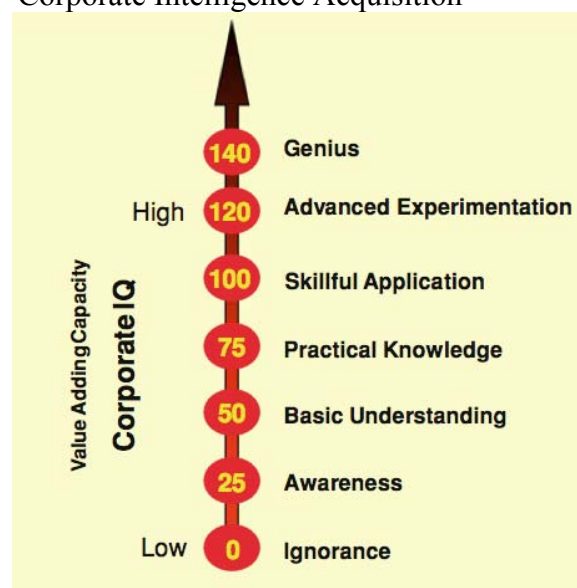
- low initial investment (this is why the term start-up is often linked to social networks, games, web applications etc),
- higher risk (higher than at so called standard companies),
- potentially higher return on investment in the case of successful establishment of the company in the market.

Start-ups became strong competitor in the frame of the international business environments regarding to their innovation, high integration of intelligent features of management at the level of human capital, technologies, working processes and other entrepreneurial activities. Only such an intelligent company can measure and evaluate their CIQ via accessible methodology. The measurement of CIQ itself is not only providing a figure. It also points out weaknesses in corporate strategy, processes and activities and it tries to analyze the cause of these discrepancies and propose innovative solutions and reach maximum efficiency. R. Weijermars, one of the authors studying CIQ, characterized so called 4 evolution phases of CIQ. His objective was to point out the constant development of companies and to stress their intelligence profess up the knowledge curve (Weijermans, 2011). R. Weijermars proposed a system to evaluate efficiency of CIQ via questionnaire. The questionnaire contains 140 questions regarding all the aspect of the company – internal as

well as external. The goal of this questionnaire is to verify the competences and skills of the companies needed for efficient learning and at the same time unfold weaknesses in all the corporate strategy which can negatively impact the learning of the organization. R. Weijermars then linked the questionnaire to the phases of CIQ. The first phase – empiric IQ – contains four key areas. Each of these areas is covered by 10 questions. In this phase he observes the needs of the organization, its knowledge, knowledge networks and connections, particles of learning organisation and management of its knowledge capital. The second evolution phase – context IQ – is created by three key areas covered by three questionnaires with 10 questions each. These questions are focused on quality and form of team management and adoption of the organization’s vision, level of education and learning and teaching between the teams as well as implementation of innovation and creative solutions. The third phase – the component IQ – consists of three key areas dedicated to intelligent decision making, strategies and scenarios and administration and management of portfolios. The emotional evolution phase is the fourth one, but not the last one. IQ management is continuous process and the organization needs to opt out for constant improvement, observation and higher efficiency. The emotional phase consists of four key areas. The questionnaire covers Corporate Governance, external communication, negotiation and the level of adoption of challenges and new trends. Once the questionnaire filled it and its evaluation, the final data are saved in the “cumulative score card” and the company is positioned in the learning curve based on the final figure. For each “yes” answer the company gains one point, the sum of the points dedicates the position of the company on the intelligence curves as shown in the graph 1.

Figure 1

Scaled Learning Curve - Corporate Intelligence Acquisition



Source: own processing by WEIJERMARS, R. 2011. Building Corporate IQ: Moving the Energy Business from Smart to Genius. London : Springer, 2011. s. 248. ISBN 978-0-85729-679

2.1 Corporate IQ one of the most successful Slovak start-ups - ESET

Slovakia, with the goal of economy based on innovation and discoveries, supports the innovative intentions of start-ups with high potential of growth. Slovakia creates appropriate conditions enabling the development of start-ups. These contribute to the development of the sectors with high added value, regional competitiveness and creation of working opportunities for qualified work force. Slovakia considers start-ups with high growth and innovation

potential to be the main factor not only for intelligent and inclusive economic growth, but also for attracting foreign investment.

1st July Slovak republic took over the governance of the V4 for one year and will dedicate part of this program to the reinforcement of the cooperation of countries in the fields of support of innovation and innovative companies (start-ups). V4 is currently in one of its most productive and dynamic periods in its history and it stresses common presentation of the innovation potential of V4 abroad. The countries of V4 together signed significant contract regarding innovation and entrepreneurship. This contract will enable the countries of the Central Europe present themselves as economies with dynamic “start-up ecosystems” and emphasis on innovation. In June 2015 Slovakia accepted a concept supporting start-ups and development of start-up ecosystem. Its purpose is to support young innovative companies and entrepreneurial culture in Slovakia. The measures are 18 in total and they are implemented and realized step by step. Due to this operation the collaboration in the frame of the V4 was reinforced, especially in the field of innovation and support of entrepreneurship. Slovakia also contributes to the development of the start-ups. One of the measures in line with improving the efficiency of the support is the mentioned collaboration with other countries in the region in the common presentation of their innovation potential abroad, attraction of the global investors and creation of international teams as well as support of the sales of products and services created by the local start-ups.

In the conditions of the severe competition in the international business environment we saw a great number of start-ups emerging from the Slovakia. They are successful not only locally but abroad alike. One of the most successful Slovakian start-ups is and IT company ESET dedicated to the creation of safe software and fighting global IT threats. (Startitup, 2014) After 10 years on the market, ESET is ranked among fastest growing companies in Europe, Middle east and Africa according to Deloitte Technology Fast 500 EMEA. The magazine Trend appointed ESET the company of the year three times in the row. ESET is currently running a wide network of partners and retailers in more than 180 countries globally and counts around 1200 employees, 400 of them in Slovakia. ESET serves over 100 millions of its customers via quality network of distribution centres, branches and points of sale. Base on its global expansion ESET achieved stunning growth of 389%. This result gains ESET solid position in the fastest growing companies in the region of Europe, Middle East and Africa. ESET offers antivirus of high quality to its private and corporate clients. The company stresses efficiency and easy maintenance and relentless improvements of its product via new technologies. ESET is able to develop its own technologies in their research and development centres. The base of the research and developments remains in Bratislava, in the headquarters of the company. Another research activity is run in Russia. (ESET, 2016)

“Thanks to the relentless efforts to innovate in the field of IT safety we have developed a network of technological incubators where developers work with gathered data, test advanced detection methods and optimize products in the network system.” (Hospodársky klub, 2009)

ESET is one of the most successful IT company in Slovakia and belongs among the fastest growing companies in the sector of technology in Central European region (increase of 1500% in the past five years). Through investments into development ESET constantly increases its competitiveness and expands successfully on international markets. Every year ESET confirms its dominant position in the market of antivirus software. This is proved by many awards. Since 1998 ESET received the most awards VIRUS BULLETIN. Another of successes of ESET was its integration into Magic Quadrant for Endpoint Protection Platforms by prestigious analytical company Gartner.

The success of ESET arises from its attachments to basic principles of responsibility, reliability and relentless innovation of its product portfolio. Appliance of these principles in

daily activities of the company is the basic determinant of its growth and performance. ESET focuses its attention to its talented and qualified employees and especially on internal communication. Based on creative dialogues regarding innovation and improvements ESET manages to win over the biggest competitors in the sector and keep its position of the leader in the constantly changing market of IT industry. Efforts are made also in creating corporate culture including principles of fairness, decency and openness in the relationship to co-workers and clients alike. Basic vision of the company emerges from the importance of creative, technologically savvy employees creating specialized teams developing products in line with demands and expectations of the clients.

Regarding the above mentioned information we have decided to apply the concept CIQ on the one of the most successful Slovak company – ESET. The concept of CIQ helps the efficient connection of all the components of enterprise with the goal of gathering important data, analyze them and based on the results of various measurements evaluate the ability of the company to be flexible in the reaction on the external trends and modify them into strategy of the company. The possibilities to measure quantitative IQ of a company are limited in nowadays quickly changing environment. One of the most complex methods to measure intelligence of a company is the concept proposed by R.Weijermars based on the questionnaire observing 4 elementary evolution phases in the frame of evolution of the company. The questionnaire with its 140 questions was answered based on data about ESET from various resources. We have evaluated the results of the questionnaire in the cumulative score card as seen in the Table 1.

Table 1

Score card CIQ of ESET company

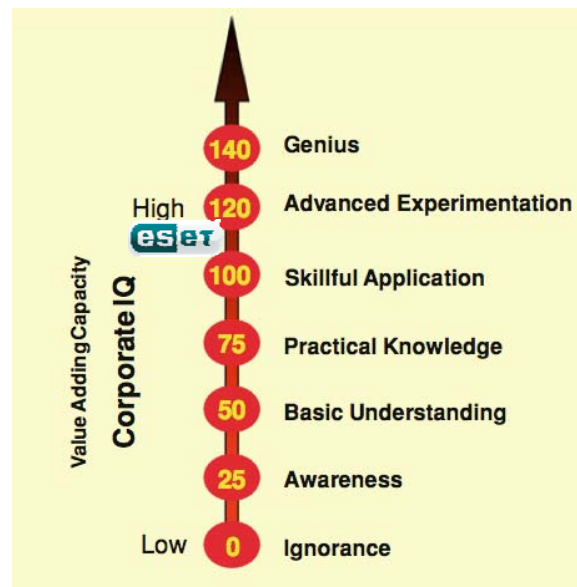
Chapter	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Individual Scores	10	9	9	8	10	8	9	7	6	8	4	5	5	8
Block Scores	Experiential IQ				Contextual IQ			Componential IQ			Emotional IQ			
	Total Score Ch. 1-4 (max 40 points)				Total Score Ch. 5-7 (max 30 points)			Total Score Ch. 8-10 (max 30 points)			Total Score Ch. 10-14 (max 40 points)			
	36				27			21			22			
Total Score	Overall Organizational or Corporate IQ													
	Total Score Chapters 1 to 14 (max 140 points, see IQ scale)													
	106													

Source: WEIJERMARS, R. 2011. Building Corporate IQ: Moving the Energy Business from Smart to Genius. London : Springer, 2011. s. 261. ISBN 978-0-85729-679-5.

In our research ESET gained CIQ 106 and we have carried out relevant conclusions. In order to provide visual interpretation of our conclusions we have positioned ESET in the graphic diagram of levels of CIQ below (Figure 2).

Figure 2

Scaled Learning Curve - Corporate Intelligence Acquisition in ESET company



Source: own processing by WEIJERMARS, R. 2011. Building Corporate IQ: Moving the Energy Business from Smart to Genius. London : Springer, 2011. s. 248. ISBN 978-0-85729-679-5.

ESET gained 36 points out of 40 in its empiric phase. They gained this high score thanks to their realization of the basic needs of education in coherence with the reaction to the latest trends in the field of antivirus software. Internal information system secures flow of information between all the levels managed by the manager of knowledge capital. The internal system also guarantees development and storage of the important data. With the goal of the development of international knowledge networks ESET focuses its attention on implementation of innovative solutions requesting continuous education of employees and implementation of the latest technologies.

In the context phase the company gained 27 out of 30 points. Arising from the knowledge gathered in the empiric phase ESET sets adequate and innovative goals in the frame of all the business strategies and implements appropriate methods of management, internal communication of teams and corporate culture.

Component IQ is ranked 21 out of 30. It declares intelligent approach to the decision making at all the corporate levels and high rate of awareness about the coming changes of all the employees. ESET creates short-term and long-term scenarios with the purpose of correct value propositions. ESET works for the optimal adaptation of the company to the ever changing demands of the market, identifies risks and design crisis scenarios.

The least successful was the emotional phase. ESET reached 22 out of 40 points. Insufficient is the manner of communication of ESET to its external partners and its clients. The question remains. Does ESET need to communicate about its products?

In total ESET gained 106 points. It signals that the company is in the transition from the phase where it's trying to maximize the utility of its skills and knowledge capital to the phase of progressive experimenting. In this phase they will focus their attention to pilot projects using innovative technologies and solutions.

4. Conclusions and policy implications

Despite of unseen scientific and technical progress the only real resource of success among start-ups is efficient and optimal use of their knowledge and skills. ESET is currently one of the most successful and fastest growing tech companies in the Central Europe. Regarding our conclusions based on the research we carried we can confirm their focus on increasing the intelligence coefficient and this maximizing the efficiency and reinforcing their competitiveness.

Despite the fact that CIQ became of interest of economists in the end of the last century in the light of constant globalization its meaning in nowadays environment keeps its role and gains on importance. Although there co-exist different definitions of CIQ, its essence remains. CIQ is the ability of a company to sense, interpret and optimally react to the changes of global environment. Phenomenon of CIQ closely relates to adaptability and more than ever also to aggression, which are factors influencing the companies' absorption of changes and their forces to push through. Innovations are often key aspect in reaching the above stated goals - not only the innovations of the products, but innovations of the production processes and management. The essence of the company is well educated employee, human capital. Employees are the most important part of management and decision making and future direction of the company. Human capital is considered the main source of innovation and thus competitive advantage of each and every company.

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Restructuring of a company in the Slovak and the Czech condition

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Abstract

The article deals about company bankruptcy and solving of the company bankruptcy in the Slovak and the Czech conditions through formal and informal restructuring of a company from financial-economic point of view. One of the important issues is proper time to establish restructuring measures in a company. The article focuses also on basic stages of a restructuring process in Slovakia in compare with restructuring process in the Czech Republic and proposal, approval and beginning of the company restructuring what results into the ending of the restructuring. Both laws have common and different features of the company restructuring in Slovakia and the Czech Republic and advantages and disadvantages of the restructuring process in these countries as well.

Keywords: company bankrupt, restructuring, reorganization

JEL classification: G33

1. Introduction

Every business may carry a different cause of economic failure with it. Many enterprises are not able to manage the increasing risk of making business and avoid insolvency. If a business subject finds itself in a situation facing insolvency or is already in it. This article deals with bankruptcy, its root cause, possible solutions in the Slovak and Czech conditions. We used a method of comparison where we examined the restructuring of the Slovak legal conditions in comparison with the Czech conditions; in particular we focused on restructuring process and the differences in its application and duration in Slovakia and the Czech Republic.

The aim and the fundamental purpose of restructuring is a business recovery without having to cause the termination of a debtor's business. The whole article deals with the advantages and disadvantages of differences in the legal processes in the Slovak and the Czech condition.

2. Insolvency processes in Slovakia and the Czech Republic

Many problems that ultimately cause the bankruptcy are also caused by the so-called overtrading or overstating. Overtrading is a large quantity of unreasonably and improperly closed transactions that lead to losses. Entrepreneurs carry their business more than it is appropriate, forgetting a very important need in their company - the need for working capital. If the business does not provide a sufficient financial resources, whether their own or others, sooner or later it will become insolvent, what can lead to the existential problems of the company. According to the Law on bankruptcy and restructuring the debtor is insolvent if it is insolvent or extended. Insolvent is the one who is unable to adhere 30 days overdue at least two financial liabilities to more than to one creditor. Extended is the one who is obliged to

keep accounting according a special regulation, has more than one creditor and the value of its liabilities exceeds the value of its assets.

In Slovak conditions, the insolvency law is defined by the Act No.7/2005 Coll on bankruptcy and restructuring. The Slovak law is divided into eight sections including bankruptcy, restructuring and debt elimination. In each of these sections the insolvency is treated by a chosen way beginning with a draft submission to the completion of the process. The core solutions of insolvency include:

- Bankruptcy as a liquidation process by which an enterprise terminates, a business ends and creditors recover their debts from a debtor in these proceedings. The procedure is permitted only under the condition that a debtor has more than one creditor. Otherwise, a creditor may enforce his claim (or claims) in the basic execution proceeding.
- Restructuring, which compared to a bankruptcy is a non-liquidation process where an enterprise is maintained and continues in business.

We believe that from an economic point of view the process of restructuring is much more acceptable form of insolvency for a business because there is no termination of an enterprise. Restructuring offers another chance to make business and it leads to gradual debt relief.

In the Czech law, an insolvency solution starts with filling in the insolvency petition regardless of how it deals with the insolvency of the company. There is a possibility to fill in the insolvency petition in case of imminent insolvency as well. Subsequently there comes the launch of the insolvency process and a court decides on insolvency. Following the insolvency petition a court decides on insolvency. The insolvency court together with the decision on bankruptcy decides also on the method of resolving insolvency – announces bankruptcy, if a debtor is excluded from the reorganization or debt elimination; allows reorganization, if a debtor shall submit a restructuring plan which had been agreed with creditors (or the way will be decided later if there are no previous cases mentioned). This new adaptation of the Czech Law teamed way of resolving insolvency while the old update addressed bankruptcy or settlement procedures separately - similarly the Slovak law is governed like that and the process of bankruptcy, restructuring and debt relief is addressed separately. The proposal may be submitted by the debtor or creditor. The debtor is obliged to submit the proposal immediately after he learned of his bankruptcy in the form of insolvency, in case of liquidation and if it is prolonged. As regards to the condition of insolvency, we see this as a disadvantage of this matter because many business owners often fall into insolvency which may not be long-term and gradually get out of it. Therefore, the Slovak law restricts the obligation of the debtor and orders the debtor to submit a proposal only if it is prolonged. A new aspect in the Czech act after major amendments is the possibility of insolvency proposal in the case of imminent bankruptcy, what the case law in Slovakia is unfortunately missing. We consider this a very sensible step by the Czech lawmakers because the ability to submit a proposal and to restructuring earlier than the debtor bankrupts is of great benefit to the debtor and increases the likelihood of successful restructuring. The sooner the restructuring process proceeds the greater the chances for its successful management. In this case, the person qualifying to submit a proposal is only the debtor to avoid pressure from creditors to debtors to submit the proposal and finally, only the debtor has relevant information about their economic situation which the creditor does not have access to and is not able to assess in real debtor's financial situation. During this process, the debtor is significantly restricted to dispose freely with their property, should it be a big intervention in the structure of assets. The creditor has the right to submit an insolvency proposal if he refers he has a matured claim against the debtor. If the debtor does not agree with that proposal, he has the right to submit a proposal for a moratorium. The moratorium gives the debtor the opportunity to score with the

creditor before the court decides on bankruptcy and to avert bankruptcy by their own forces. During the period of moratorium court must not issue a decision on bankruptcy. It is a kind of protection for the debtor and the opportunity to avert bankruptcy, if he is able to cope with the creditor. The moratorium lasts for such period as it is specified in the proposal but not more than three months. The possibility of a moratorium is considered to be a huge advantage in the Czech law compared to the Slovak one because if the creditor in Slovakia proposes for bankruptcy or restructuring and bankruptcy trustee determines that the debtor is in bankruptcy, the debtor has no chance to deal with creditor, the bankruptcy proceeding begins which can no longer be avoided. If the court finds out that the debtor is insolvent, it shall issue a decision on bankruptcy and creditors can submit their claims within the time fixed by the court - at least 30 days, no more than two months. In our opinion, it is not a very good solution that the bankruptcy is decided by court. Yet it is largely financial - economic issue, not legal and it is the extra work for the court and prolongation of insolvency process. In Slovakia bankruptcy is determined by a trustee (unless a proposal for bankruptcy or restructuring was not submitted by the debtor because if so, it automatically takes the view that the debtor is insolvent). A debtor may appeal against the decision of the bankruptcy. If a bankruptcy is certified, a court has no reason to change this decision.

The first difference between the Slovak and Czech modification, what may be considered as an advantage too, is in the definition of bankruptcy where the Czech law adds a definition of imminent bankruptcy, which the Slovak law lacks - the imminent bankruptcy occurs when regarding all the circumstances we can reasonably assume that the debtor will not be able to properly and timely perform a substantial part of its financial obligations. It is useful to use liquidity indicators here that tell us about the entrepreneur's ability to meet their obligations properly and on time, i.e. its ability to pay. According to Kotoučová (2010), the concept of imminent bankruptcy was introduced in order to prevent the negative consequences associated with the later finding of bankruptcy. The advantage in the Slovak case law is an extension of the definition prolongation from 1.1.2013 which states that in defining the prolongation it should be based on accounting or report of the expert who is prior to accounting. In both jurisdictions the prolongation may be just corporate entity or individual as an entrepreneur. Schelleová (2008) explains this as well saying that the general extension for individuals who are not and have never been entrepreneurs should not have a practical significance, because the prolongation definition shows that this can only be for people who have an obligation to keep accounting. Czech law also defines prolongation as insolvency and it appoints situations where the debtor is unable to meet its obligations, among which it specifies that the debtor is insolvent (bankrupt) if it fails to comply its obligations for more than three months overdue. This period is compared to the 30-day period in the Slovak law declared more sophisticated since 30 days overdue is little to assess whether the debtor has been insolvent for a longer period. The method of resolving insolvency or imminent decline in the Czech Republic means: bankruptcy, reorganization, debt relief, special methods of resolving insolvency which the law provides for certain subjects or certain cases types.

Slovak and Czech laws have some features in common. First of all it was the dissatisfaction of both parties with the old arrangement of law and in both countries the major amendments to the Act were acceded. Another common feature is the actual length of the bankruptcy process. In both countries, these processes are quite difficult, we cannot talk about the very simplicity, and that is also the reason for their long duration. Last but not least it is the orientation of the Law on the interests of creditors and debtors. In both cases, based on past experience, where the position of the creditors in the bankruptcy process was highly weak, the law is oriented to the creditors and approaches to protecting the interests of creditors and strengthens their position.

3. Restructuring in Slovakia and the Czech Republic

If a company decided to go via restructuring, it is important to define the appropriate time for it. It is important to distinguish between informal and formal restructuring, because from the financial - economic point of view, the formal restructuring should follow the informal one, representing various internal business processes which improve a company financial situation. The basic aim is to reverse the bad financial condition of a company and consequently avert bankruptcy. A proper time for informal restructuring is when the company failed in introducing of revitalizing measures and did not eliminate market stagnation; it ceases to make a profit and its financial problems starts to be more serious. It is a first impulse for company to be aware that if it there will be not needed restructuring measures, sooner or later, a company is going to bankrupt and then a restructuring will be needless. If a company fails to successfully restructure informally, a formal court-supervised restructuring follows. The basic situations in a company that tell us about the need to apply informal restructuring measures we consider: change of the trends in the business sector, decrease of the market share decreasing profitability, secondary insolvency, increasing the debt etc. If a company fails to improve the unfavorable situation that is constantly getting worse, it's time for a formal restructuring which represents a radical solution in case of a company bankruptcy. Among the basic situations in a company with the need to apply a formal restructuring measures we include: long-term inability to adapt to changing trends in the business sector, reduction of market share to a minimum, reduction of income to a minimum, the threat of reporting losses, initial insolvency, extremely high debt, prolongation, pressure from creditors on the company. In this case time plays very important role and a company must be aware of its serious financial situation, otherwise it is harder and harder to realize restructuring. The common feature of restructuring in the Slovak and Czech conditions is a common thought and common goal of restructuring: to avert bankruptcy and subsequently ensure company recovery, not least to provide the opportunity to the entrepreneur to continue their business. Compared to bankruptcy, restructuring is a non-liquidation process, the entrepreneur continues its business and gradually reliefs the debt. For all restructuring processes the executions are stopped by law enforcement which can be regarded as protective elements of the debtor. As reported by Ďurica (2010), the common feature of all restructuring processes is to provide protection of debtors from creditors. Many creditors see the provision of such protection negatively, they would rather prefer bankruptcy, but often do not realize that this protection is their protection as well because the satisfaction of their claims in restructuring should be always higher than in bankruptcy.

In Slovakia, the bankruptcy law is governed by the Act on bankruptcy and restructuring no.7/2005Z.z.as amended. In the Czech Republic a bankruptcy solution is managed by Act no. 182/2006 Coll. on bankruptcy and ways of its solution (the Insolvency Act). The structure of the Act on Bankruptcy and Restructuring compared to the Czech law on bankruptcy and ways of its solutions (Insolvency Law) is diametrically different. Slovak law is divided into 8 sections including bankruptcy, restructuring and debt elimination. Each part addresses the bankruptcy by the chosen method of submission of the proposal to the completion of the process. There are several stages of restructuring proceedings in Slovakia:

- 1) Delegate a trustee administrator to develop a restructuring review – if the debtor finds out he is threatened by bankruptcy or is in bankruptcy in the form of insolvency or indebtedness, he can solve this situation either submitting a proposal for bankruptcy or for the authorization of restructuring. This submission is preceded by the finalization of a restructuring opinion by an administrator. In this part of the report, it is especially important to evaluate the liquidity indicators that tell us about the debtor's solvency and debt ratios which inform us about the capital structure. In the case of authorization of

- restructuring a greater extent of creditors' satisfaction as by the bankruptcy declaration can be reasonably assumed
- 2) Proposal for the authorization of restructuring – in practice, courts more often face the proposal by the debtor himself
 - 3) Start of a restructuring procedure – If the court finds out that the proposal for the authorization of restructuring meets the statutory requirements, no later than 15 days following proposal receipt, it is decided to initiate restructuring proceedings, otherwise the proposal is rejected in the same order. With this decision the impacts of initiation of this proceeding are connected, including for example ban of the execution start on the debtor's property and all initiated executions are stopped
 - 4) Authorization of restructuring – If the statutory conditions for the authorization of restructuring are fulfilled, the court decides by order on the authorization of restructuring no later than 30 days from the restructuring proceedings
 - 5) Beginning of restructuring – starts with the authorization of restructuring
 - 6) Assets registrations – in this stage, creditors register their assets
 - 7) Creditors meeting convocation – is convened by a trustee, its meaning lies in the opinions of the individual creditors while a creditors' committee is elected, which will continue to work with the debtor.
 - 8) Working out the restructuring plan – if a debtor submitted a proposal for restructuring, the plan is prepared and submitted by him, if a plan is proposed by creditor, a plan is drawn up for approval by a trustee. When developing the plan, predictive financial analysis (ex ante) in the financial terms of is very important which predicts a financial crunch of the. The plan must be drawn up so as to ensure the highest satisfaction of creditors.
 - 9) Proposal and approval of the plan – Proposal must be submitted for approval to the creditors' committee which will decide on approval of the plan within 90 days of the authorization of the restructuring plan and subsequently the plan is being approved by the court.
 - 10) Confirmation of the plan by court – if there are any reasons for rejecting the plan, the court, on a proposal of plan submitter confirms and approves the plan within 15 days of receipt of the submission. In that order, the court shall also decide on the termination of the restructuring under court supervision and may subsequently lead to economic recovery of debtor. The court may reject a plan for a variety of reasons, for example creditors do not approve the plan for cheating, if it finds out that the plan is in contrary to the interests of creditors and there would be no satisfaction of claims as much as in bankrupt or higher degree, or because of the above-mentioned conversion to audition.
 - 11) End of restructuring – all suspended proceedings are stopped and the function of the creditors' committee and trustee functions extinct. After formal restructuring the plan is going to be fulfilled.

In the Czech Republic restructuring is governed by the Law no. 182/2006 Coll. About the bankruptcy and ways to solve it (the Insolvency Act), as amended. In 2008 there was a major amendment to the Act and for the first time introduced the concept of reorganization. Since it could not be bind to the previous case law and legislative provision, the concept of reorganization came of the U.S. Bankruptcy Law of 1978, which was modified according to European legislation - the German and Austrian adjustments. In the Act the reorganization is a new institution which should help the economic operators to assist in the continuation of the company and continue their business. Czech act has common as well as different features from Slovak adjustments. Czech law precisely defines what reorganization is. In the Slovak case law, the definition of restructuring is missing. Another major difference is when the restructuring or reorganization is permitted. In Slovak conditions restructuring review

mentioned above is very important, whereby a trustee either recommends a restructuring or not, the court will be usually inclined to the opinion, and then allows or denies a restructuring. In Czech conditions it is different, by the definitions of reorganization law clearly defines the conditions under which reorganization is permissible - if the debtor's total turnover for the last financial year amounted to at least 100 million Czech crowns or if the debtor has at least 100 employees. If, however, the debtor present to a court reorganization plan adopted by at least half of the creditors, previous condition does not apply. Here we see a strong pro- creditor orientation and empowerment but also a great limitation for the debtor. In our view, it is questionable whether the determination of these conditions was correct because they significantly weaken the position of the debtor by the fact that the debtor with smaller turnover or a small number of employees cannot reorganize until the reorganization plan is approved by creditors. It is a debtor's huge limitation. The following situation may occur: Company A has a turnover of over one million Czech crowns; Company B has a smaller turnover. At the same time, company A has huge debts, high amount of outstanding commitments while Company B is insolvent but its financial problems are of easier character as in the case of company A. Creditors were presented a restructuring plan but they decided not to agree with it and reorganization plan was not approved. By law, company A has the right to reorganize irrespective of the nature and seriousness of its financial problems because it has a turnover of over one million Czech crowns while company B does not get this chance, if there were not the legal conditions, perhaps it would get out of their financial problems thanks to reorganization and could continue to exist in the market which would ultimately have a positive impact on the overall economic environment. Thus, this company has been declared bankrupt and the debtor can no longer continue its business, there is a sellout of assets, the relative satisfaction of the creditors and the company ceases to exist. Another problem in this restriction is that the turnover criterion is defined generally for all sectors. But sales largely depend on the industry in which the debtor operates. As well, there may occur a situation we mentioned above because it can happen that some business in the steel industry has a high turnover and more serious financial problems such as a business e.g. in the food sector where the turnover is much lower. The law certainly did not look at the economic aspect of the matter. Therefore, we believe that the determination of these conditions should take into account all economic aspects and on the basis of their assessment to determine the optimal conditions for admissibility reorganization. Reorganization process in the Czech conditions is as follows:

- 1) *Submitting a proposal for authorization of reorganizing* – to submit the proposal is the right of debtor as well as creditor, similarly as in Slovakia
- 2) *Decision about the proposal for authorization of reorganizing* - the court shall follow the same way as when deciding on a solution of bankruptcy as we mentioned above, so makes a decision of authorizing or refusing together with the decision of the bankruptcy or the individual decision or on the basis of decision of the creditors who issued the order on the creditors' meeting where the matter was discussed. Authorizing decision has essentials, including challenge to the debtor to present a restructuring plan within 120 days, which represents another difference between the Slovak and Czech act adjustment.
- 3) *Creation of reorganizing plan* – the debtor has a preferential right to draw up a plan unless the creditor meeting yielded to a solution in which creditors expressed their disapproval. In Slovakia, if the debtor submitted a proposal for restructuring, the plan is presented and drawn up by the debtor, if the plan is submitted by a creditor; it is presented and drawn up by the trustee.
- 4) *Specification of the way of reorganizing* – the Slovak law lacks ways how to carry out restructuring, in the Czech Republic, these methods are defined in the Act, for example

forgiveness of certain debts to the debtor by the creditor, the sale of assets, merge of debtor and other. All these methods that are to be made are set out in the plan.

- 5) *Discussion and acceptance of the plan on creditors' meeting* – similarly like in Slovakia, as was already mentioned, the plan is voted according to established groups of creditors. Then the court decides on the approval.
- 6) *Plan fulfillment* – the fulfillment is controlled by a trustee and creditors 'committee.
- 7) *The end of reorganization* – either by conversion to bankruptcy or successful plan fulfillment which is the end of reorganization.

3. Conclusion

Causes of financial problems result from insufficient liquidity, failure of financial management, high debt, overtrading which causes losses in the company etc. Company should primarily use informal methods instead formal because they are associated with lower expenditures. However, the company often cannot handle this and falls into bankruptcy. Slovak and the Czech adjustment of resolving insolvency have common and different features as well. Both countries have acceded to the major amendments to the Act, because the previous Law on Bankruptcy had not worked in any of them. Hence the amendment of the Act took place which introduced a new institution – the restructuring, reorganization in the Czech Republic, which is another way how to deal with bankruptcy. Common feature is to avert bankruptcy and then proceed to the company recovery. The basic difference is the method of its solution. In the Czech law, the solution begins with submitting insolvency proposal, no matter which way the bankruptcy will be addressed. The insolvency management comes, as unified management, in which the court decides on bankruptcy and then it is solved by the chosen way. Slovak law is divided into several sections, including bankruptcy, restructuring and debt elimination. Each part addressed the bankruptcy by the chosen method from submission of the proposal to the completion of the process. In conclusion we can say that both countries have their advantages and disadvantages of bankruptcy procedures. In the Czech Republic we consider moratorium to be a great advantage. From our perspective, every debtor should be able to cope with the creditor before the bankruptcy or restructuring occurs and this avert bankrupt.

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Performance of Local Government in the new environment

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Abstract

The paper deals with the relationship between performance of local governments and two of many potential exogenous determinants of the environment, size of the municipality and aging index. Measuring the efficiency of selected municipal services is conducted by Data envelopment analysis (DEA), and further correlation analysis. The sample consists of 193 municipalities from three different Slovak regions. There were no strong correlation found among efficiency scores and chosen exogenous factors, however, there has been discovered interesting thing about the smallest municipalities, which in this combination of services, show almost the same efficiency, like the biggest size category in the sample (from 20 to 50 thousands of inhabitants), which might contribute to the discussion about amalgamation.

Keywords: *efficiency, DEA, local government, economy of scale, operation environment*

JEL classification: *H11, H21, H72*

1. Introduction

Public finance, debt, size of the government, are still permanent focus of policy debates. Not only national, also the local government recently is being a subject of many studies in terms of inefficiency, resulting from high territorial fragmentation. Especially today, when we are more and more confronted with the changes in the environment, such as demography, new technologies, even climate change and their consequences. A lot of discussions deal with so called “shrinking” or “aging” regions, which is a new condition changing the needs of citizens, especially in terms of social infrastructure. All of these have a direct local impact on municipalities, may affect the municipal budgets, service provision and performance in positive or negative way, while all will require huge amount of investment, in the attempt to adapt to the changing conditions. In this paper, we are about to ask question, such as “Could one municipality have better results using the same resources or could it have the same results with lower expenses, and does it somehow relates to the environment? We try to answer the question, which municipalities of the sample are effective and what features are connected to their level of performance. First we compare the efficiency score with size of municipality and confront it with the theoretical hypothesis, about the shape of the relationship between the size of municipality and the cost of municipal service provision. While Holzer (2009) suggest a U – shape relation between population size and expenses per capita, we expect inverted U – shape relationship related to efficiency scores. We basically test the hypothesis, if the municipalities of different sizes “copy” the shape of the theoretical assumption. Secondly, we test efficiency scores according to aging index. Aging population may affect the municipality in several ways. On one hand reshaping needs of citizens, such as demand for new social services, changes in housing, safe sidewalks, parks or other facilities, on the other hand, there might be some relationship connected to lower purchasing power, poverty, ability to pay a

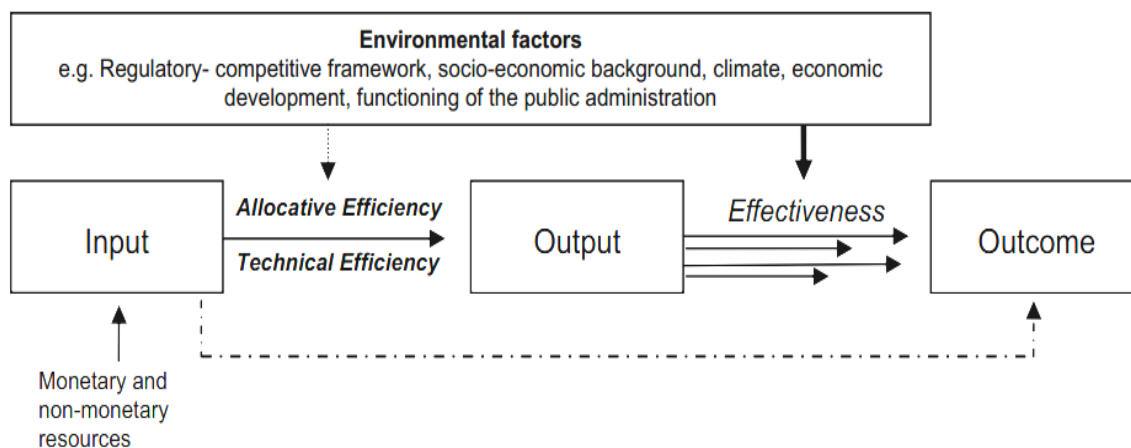
local taxes and that way, potentially influencing not only outcome, but input part (municipal budget) of the performance framework.

1.1 Measuring performance in public sector

The central idea behind performance measurement is clear and simple: „a professional organization formulates its envisaged performance and indicates how its performance may be measured by defining performance indicators“ (Hans de Bruijn, 2007; p. 8). Performance evaluation consists of the analyzing efficiency and effectiveness and the relationship between inputs, outputs and outcomes. These are influenced by environmental factors, which actually have an influence at the needs required by the society, in our case, by the inhabitants of cities and villages (Figure 1).

Wider definition of performance framework, according to Bouckaert and Halligen (2008) would also need to consider the relationship between outcomes/effects and trust toward the public organization. For the purpose of this paper we mostly focus on the efficiency, and rather to find out how municipality can increase its output by simply increasing its efficiency, without absorbing further resources.

Figure 1
Conceptual framework of efficiency and effectiveness



Source: Mandl, U., Dierx, A., Ilzkovitz, F. (2008)

The most basic measure of efficiency is the input-output ratio. The common “production function” relates inputs (x_i) to output (y):

$$y = F(x_1, x_2).$$

It incorporates the idea of the production possibility frontier, which indicates feasible output levels given the scale of operations, so typically there are several outputs, $(y_1, y_2, \dots) = F(x_1, x_2, \dots)$ and their joint production depends on several inputs (Afonso, 2005). The greater the output for a given input or the lower the input for a given output, the more efficient the activity is (Mandl, U. – Dierx, A. – Ilzkovitz, F., 2008).

The effectiveness is more difficult to assess than efficiency, since the outcome is influenced by political choice and often linked to welfare or growth objectives and therefore may be influenced by multiple exogenous factors. It may be influenced by outputs themselves. Bouckaert and Halligen (2008) call this disruption The Grand Canyon, and according to them, it is caused by variety of reasons, for example the absence of market

mechanisms, politicians, that over- or undergrade outcomes, and citizens, that inhibit the attainment of outcomes because of their reactions.

The performance measurement has developed along several dimensions. In changing conditions it became more extensive, more intensive and more external (Pollit – Bouckaert, 2011). In the late 1980s, there was new emphasis of performance management, as a result of fiscal deficit and rising pressure of „lean state” ideologies. The main objective of performance measurement therefore became identifying how to increase efficiency and/or to cut spending (Bovaird – Löffler, 2009). Spread of performance measurement came actually hand in hand with information technologies (Bellamy – Taylor, 1998; p. 68-70), which have had an impact on developing new methods of measuring. Beside well known methods such as EFQM, CAF, TQM, BSC and many others, there were developed metrical and statistical techniques such as Stochastic Frontier Analysis (SFA), a parametric statistical technique by which the service production function is estimated from a priori specified manner, while allowing for some variation by the inclusion of random variables (Bovaird – Löffler, 2009). Among non-parametric methods, which do not involve the condition of specified outputs, commonly used in the literature for measuring, mostly, efficiency belong Free Disposal Hull (FDH), and Data Envelopment Analysis (DEA). According to several authors (e.g. Afonso 2005; Marques, 2014) both should take into consideration so called non-discretionary inputs, in other words, inputs, that are not in control of the municipality itself. Therefore, some studies use also second stage/or second step analysis – tobit or bootstrap – to consider control for various factors (Afonso, 2005; see e.g. Marques – da Cruz, 2008). For the purpose of this article, we will focus on DEA.

1.1.1 Data Envelopment Analysis

Data Envelopment Analysis, originating from Farrell’s (1957) seminal work and popularized by Charnes, Cooper and Rhodes (1978), assumes the existence of a convex production frontier, a hypothesis that is not required in the FDH approach. The production frontier in the DEA approach is constructed using linear programming methods. The terminology “envelopment” stands for the fact that the production frontier envelops the set of observations. (Afonso, 2005).

DEA allows the calculation of technical efficiency measures that can be either input or output oriented. The purpose of an input orientation is to evaluate by how much input quantity can be proportionally reduced without changing the output quantities. Alternatively, by computing output-oriented it suggests how much output quantities can be proportionally increased without changing the input quantities (Afonso, 2005). These measures provide the same results under constant returns to scale but give different values under variable returns to scale. Nevertheless, both output and input-oriented models will identify the same set of efficient/inefficient decision-making units.

When measuring efficiency, a distinction can be made between technical and allocative efficiency, where the first one measures the pure relation between inputs and outputs taking the production possibility frontier into account and searching for a “best practice”. However, not every form of technical efficiency makes economic sense, and this is captured by allocative efficiency, which introduces costs and benefits. Allocative efficiency reflects the link between the optimal combination of inputs taking into account costs and benefits and the output achieved (Mandl, U. – Dierx, A. – Ilzkovitz, F., 2008).

When we get back to municipalities and evaluating the performance, we may consider several reasons to do it. Evaluating the consequences of public administration reform, especially territory consolidation reforms (e.g. Australia), so ex post evaluation, or looking for the arguments supporting or declining the benefits for the “economy of scale” driven

consolidations. Simultaneously, there are basically two types of studies, which are trying to estimate overall efficiency of the local governments, and then those of evaluating single service, according the competencies the local government is in charge of.

Table 1

Overview of three similar studies conducted on topic of overall municipal performance evaluation

Author, Country, year	Da Cruz and Marques (2014) Portugal	Dong (2007) Korea / US	Drew, Kortt, Dollery (2015) Australia
Model	DEA, tobit, bootstrap	DEA, ANOVA, tobit	DEA, 5 Models
Inputs	Staff Capital expenditures Other operational expenditures	Per capita expenditures, per capita public employees	Staff (nr.) Staff (\$) Capital (material costs) Borrowings
outputs	population, length of local roads, urban waste collection, drinking water supplied, waste water treated, the amount of “infrastructure”, (e.g., number of schools, sporting facilities, and so forth)	Per capita revenues, water services, sewage services, road surface, social welfare facilities, public parks, cultural facilities	Number of businesses in the municipality Number of households in the municipality total length of roads (in km) maintained by the local government Population
2nd stage, exogenous factors	Littoral zone, Tourism Crime rate, Illiteracy Mandatory education, Voter turnout, Corporatization, Ideology, New government Area, Density and nr. of parishes, Constraint Demographic Economic Technical/Infra. Aging index, Concentration, Population density, Average payment period ...etc.	Economically active citizens, employees in manufacturing industry, low income households independent Revenue source, Per capita expenditures of intergovernmental grants, Mayors polit. Pref., Pop. Size, Pop. Density, Degree of consolidation, Degree of competition, public employees	Ex post analysis of territory consolidation, revision of economy of scales. Result: Some of the consolidated municipalities are do not anymore gain returns to scale

Source: author

In the Table 1, there are several examples of studies in different countries, using different methods and approaches for choosing inputs, outputs and exogenous factors, which served us as an example for creating a dataset. Inputs are usually given by the expenditures and number of staff, outputs are given by the size of population served and services, as we mentioned. Exogenous factors, according to comprehensive overview of Marques and Da Cruz (2008) we may divide in four groups, natural determinants, citizen related determinants, institutional and legacy determinants. These determinants might be of demographic, socio – economic, technical, infrastructure, spatial or resources and constraint type.

1.1.2 Economy of scale and municipalities

In the literature, many authors discuss the U-shaped curve between municipal size (population) and cost per capita to deliver municipal services. The cost per capita measure is a general indicator of efficiency (rather, the inverse of efficiency). The U-shape suggests that in

the smallest governments, there are greatest costs or inefficiencies, and there are some gains in efficiency (costs savings) as size increases, but these level off in the middle ranges of size, and for the largest municipalities some inefficiency returns (Holzer et al., 2009). "The consensus among researchers who have studied consolidation efforts is that nearly 80 percent of municipal services and activities do not possess economies of scale beyond a population of approximately 20,000 residents." (Katsuyama, 2003) The 1987 report "The Organization of Local Public Economies" reviewed the studies of several researchers and concluded that per capita costs generally fall with increasing size for municipalities with populations up to 25,000, remain fairly constant for those up to 250,000, but then rise significantly (Holzer et al., 2009). There is an inverted U-shaped relationship between size and efficiency on a general level. The most important finding other than the inverted U-shaped curve was the difference in the relationship between size and efficiency in capital based services as opposed to labor-intensive services. Efficiency gains are related to size for capital or infrastructure intensive services such as sewer and water. There is also an effect of contracting, sharing, or receiving specialized services from a larger entity, which can make selected services more efficient (Holzer et al., 2009).

1.1.3 Data, sources and methods

Because of the limitation in available data, we have decided to take into consideration part of the municipal services and accordingly, only part of the municipal expenditures. Analysis is performed on a sample of 193 municipalities from three different Slovak (self-governing) regions: Bratislava, Košice and Banská Bystrica. We gave up evaluating general public services, education, social services, defense and public safety, but focused on the measurement of economic affairs, housing and development, environment protection and culture, recreation and sport activities. We do not conduct control for exogenous variables, but after DEA analysis we make several correlation analysis in order to analyze the relationship between efficiency scores, population size and aging index, which according to us, are factors, that may influence the level of municipal performance.

Before conducted DEA analysis, we had to prepare the data set, and remove extreme values. Imbalances in the data magnitudes within a data sets has been carried out by the *mean normalization*. The process to mean normalize is taken in two steps. First step is to find the mean of the data set for each input and output. The second step is to divide each input or output by the mean for that specific factor.

Single DEA was performed in R studio, using "Benchmarking" package by Peter Bogetoft and Lars Otto (2015) with orders (using 4 variants RTS "crs"/"vrs", ORIENTATION "in"/"ou"):

```
e <- dea(x,y, RTS="crs", ORIENTATION="ou", main="DEA municipalities, x=inputs,
y=outputs")
np <- get.number.peers(e)
lambda€
eff(e)
dea.plot(x,y)
print(e)
```

Some of the indicators were available at the Slovak Statistical Office - DataCube, gathered from Databases of other central bodies and some are still necessary to be collected by questionnaires from the municipalities (See Table 1)

Table 1
Indicators overview

Indicators	
Input (1)	- Expenditures for the Cofog categories 4, 5, 6, and 8 – Economic affairs, Housing and development, Environment protection and culture, recreation and sport activities (average amount for 2010 – 2013)
Outputs/ Outcomes (9)	<ul style="list-style-type: none"> - local roads (in km)(Source: Questionnaire, 2014) - waste water treatment – connected (%)(Source: Plán rozvoja verejných vodovodov a verejných kanalizácií, 2013) - water consumption (m3)(Source: DataCube, 2013) - grave sites in cemetery(nr.)(Source: Questionnaire, 2015) - annual waste collection(t.) (Source: Questionnaire, 2014) - public greenery(m2)(Source: Questionnaire, 2014) - public lightning(points/nr.)(Source: Questionnaire, 2014) - Number of cultural events organized or co-organized by the municipality(nr.)(Source: Questionnaire, 2014) - Cultural facilities-museums, galleries, theatres,cinemas, libraries etc.(nr.)(Source: DataCube,2013)
Exogenous Factors (2)	<ul style="list-style-type: none"> - Size – number of inhabitants (Source: DataCube) - Aging index ($\text{Pop}_{.65+}/\text{Pop}_{.0-19} * 100$ (%)

Source: Author

2. Results

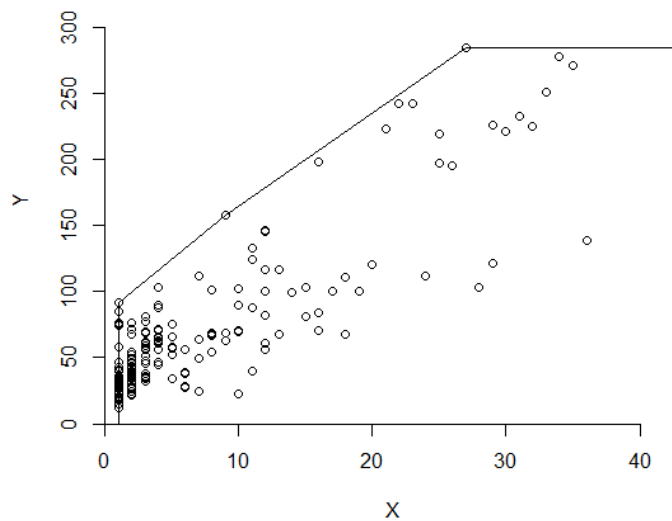
The results for each Decision making unit (DMU) is visible in the ANNEX 1. For us, there are more important results for VRS – variable returns to scale, than CRS – constant returns to scale, because it applies the convexity. Therefore, we have more efficient units in VRS model – 53. As we mentioned above, these municipalities may serve as “best practices” or as “peers” for those others – inefficient ones – but appropriate for benchmarking according to the scale.

The average efficiency score in CRS model (input oriented) were 0,475437 while in VRS model it was 0,714198, which is much higher. Technically efficient unit is the one, which has reached the value 1 (values range from 0 – 1). These decision units create the production frontier. All other units are considered to be inefficient.

Figure 2 represents plot (dea.plot), where X – stands for Inputs (in our case municipal expenditures of COFOG categories 4, 5, 6 and 8) and Y – stands for 11 outputs. Efficiency frontier is created by 53 VRS efficient DMUs.

Figure 2

DEA – Production possibility frontier of 193 municipalities



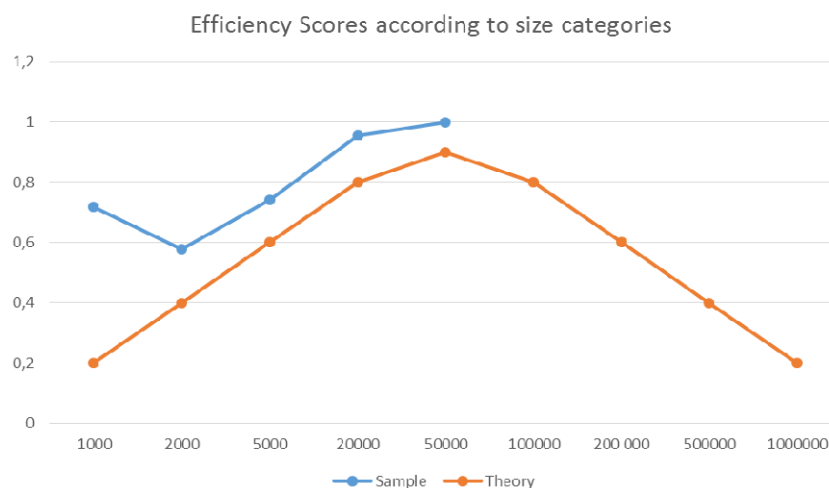
Source: author

Further analysis have not shown a correlation between efficiency scores and size of the population (Pearson's r 0,199169), between efficiency scores and aging index (Pearson's r 0,195133), not even we controlled these two independent variables among each other (Pearson's r -0,1228) in this sample, which is a bit surprising, because the sample was created by the majority of small municipalities, which usually suffer from shrinking and aging.

Further, we have decided to test the hypothesis about the relationship between the size of municipality and efficiency - the inverted U shape. We have computed average values of efficiency scores from VRS, input oriented model for several size categories up to 1 000, from 1 000 to 2 000, from 2 000 to 5 000, from 5 000 to 20 000, from 20 000 to 50 000 inhabitants. We have created a hypothetical inverted U shape, where we have suggested the most efficient municipalities from 20 000 to 100 000 inhabitants, however some authors range this interval until 250 000 inhabitants (Figure 3).

Figure 3

Efficiency and municipal size: comparison sample vs. theory



Source: author

The municipalities over 2 000 to municipalities to 50 000 inhabitants, more or less copy the inverted U shape. Municipalities of less than 1 000 inhabitants do not, and acquire almost the same scores like the municipalities of population from 5 – 20 000 inhabitants. This might be caused by several reasons. Most likely, some of them has gave up providing the service, and “delegated” some of the competences to the larger units via so called SOU – common municipal offices, therefore, some of them might be outsourcing the service other way, or profit from the proximity to larger cities. We have tried to divide scores for aging index into the intervals as well. The results haven’t shown any relevant relationship or trend in the relationship between efficiency and aging population.

3. Conclusions and implications

Techniques to measure efficiency have improved by the time and become more frequent, in private sector however, the measurement of efficiency and mostly effectiveness of public spending remains a conceptual challenge. Therefore, we have to summarize the results of this paper very carefully, due to possible biases, caused by the set of indicators or other activities connected to questionnaires or methods used, we may conclude that results of the paper are surprising. Small municipalities are expected to be less efficient due to lower economies of scale coming mostly from fixed costs of “hard infrastructure investments” or high administrative cost – such as operating the Offices (COFOG 1 – general Public Services), but also expenditures for elected individuals, expenditures for materials, etc., which may easily cross the 50% of the municipal budgets. However, therefore are smaller municipalities forced to join with others – in public service provision, or to outsource the service, which in many cases comes hand in hand with lower expenses. Weak correlation between aging index and performance is also interesting, and however, we haven’t included social expenditures or social indicators, we have expected more significant relationship. On the other hand, municipalities over 1 000 inhabitants up to 50 000 and their efficiency scores seem to be supporting the theory of returns to scale. The necessity for the further analysis is to carefully study the features of those effective ones. Questions remaining open are how efficient are municipalities in other types of services, how the efficiency scores will look like after real overall estimation of the government competencies, including all expenditure and indicator categories, or if we evaluate each service separately? How could efficiency scores change after considering more exogenous factors, using for example tobit or bootstrap methods for controlling? Does different services have different optimal sizes? Can we really find an argument for amalgamation other than expenditures in general public services?

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Annex 1

DEA Efficiency scores, according to input/output orientation and constant of variable returns to scale

	input		output		Peers #		input		output		Peers #
DMU	CRS	VRS	CRS	VRS		DMU	CRS	VRS	CRS	VRS	
1	0,47589	0,5781	0,47589	0,5781		98	0,1767	0,8817	0,1767	0,8817	
2	0,42635	0,5	0,42635	0,5		99	0,50946	1	0,50946	1	2
3	0,18733	0,4446	0,18733	0,4446		100	0,50451	1	0,50451	1	
4	0,33882	1	0,33882	1	4	101	0,94265	1	0,94265	1	55
5	0,20931	1	0,20931	1	2	102	0,40533	0,5	0,40533	0,5	
6	1	1	1	1	3	103	0,1689	0,4071	0,1689	0,4071	
7	0,36226	0,5	0,36226	0,5		104	0,77103	1	0,77103	1	
8	0,19136	0,4296	0,19136	0,4296		105	0,22625	0,2341	0,22625	0,2341	
9	0,41607	0,5186	0,41607	0,5186		106	0,48038	0,6296	0,48038	0,6296	
10	0,5	0,5	0,5	0,5		107	0,75	0,875	0,75	0,875	
11	0,40064	0,415	0,40064	0,415		108	1	1	1	1	29
12	0,5033	0,583	0,5033	0,583		109	1	1	1	1	34
13	0,09309	0,2361	0,09309	0,2361		110	0,26572	0,5	0,26572	0,5	
14	0,22082	0,2941	0,22082	0,2941		111	0,20031	0,212	0,20031	0,212	
15	0,10172	0,1392	0,10172	0,1392		112	0,50808	0,5116	0,50808	0,5116	
16	0,28364	1	0,28364	1	4	113	0,36735	0,5	0,36735	0,5	
17	1	1	1	1	48	114	0,12121	0,1273	0,12121	0,1273	
18	0,39148	1	0,39148	1	7	115	0,6085	1	0,6085	1	
19	0,45437	0,5375	0,45437	0,5375		116	0,51482	0,5223	0,51482	0,5223	
20	0,52526	0,5369	0,52526	0,5369		117	0,18943	0,372	0,18943	0,372	
21	0,17203	0,5564	0,17203	0,5564		118	0,60213	0,6186	0,60213	0,6186	
22	0,26023	1	0,26023	1	1	119	0,47489	1	0,47489	1	10
23	0,15646	0,1667	0,15646	0,1667		120	0,24586	1	0,24586	1	11
24	1	1	1	1	35	121	1	1	1	1	7
25	0,68242	1	0,68242	1		122	1	1	1	1	58
26	0,12963	0,2406	0,12963	0,2406		123	0,11905	0,1429	0,11905	0,1429	
27	0,13778	0,2049	0,13778	0,2049		124	0,35798	0,3665	0,35798	0,3665	
28	1	1	1	1		125	0,49923	1	0,49923	1	1
29	0,39545	0,5427	0,39545	0,5427		126	0,43177	0,4784	0,43177	0,4784	
30	0,83352	1	0,83352	1		127	1	1	1	1	36
31	0,21946	0,4015	0,21946	0,4015		128	0,90179	1	0,90179	1	
32	0,73513	1	0,73513	1		129	0,95514	1	0,95514	1	1
33	0,5	0,5	0,5	0,5		130	0,77861	0,9163	0,77861	0,9163	
34	0,66724	1	0,66724	1		131	0,95005	1	0,95005	1	58
35	0,18946	1	0,18946	1	3	132	0,1441	0,1667	0,1441	0,1667	
36	0,71591	1	0,71591	1		133	0,83333	1	0,83333	1	
37	0,56814	1	0,56814	1	5	134	0,95451	1	0,95451	1	1
38	0,47514	0,5	0,47514	0,5		135	0,31398	1	0,31398	1	27
39	0,54444	1	0,54444	1		136	0,59031	0,6096	0,59031	0,6096	
40	0,1998	0,3563	0,1998	0,3563		137	0,16561	0,4618	0,16561	0,4618	
41	0,25824	0,4433	0,25824	0,4433		138	0,76036	1	0,76036	1	1
42	0,39755	1	0,39755	1	2	139	0,33333	0,5	0,33333	0,5	
43	1	1	1	1	28	140	0,14583	0,1764	0,14583	0,1764	
44	0,22468	1	0,22468	1	2	141	0,62875	1	0,62875	1	
45	0,19693	0,7155	0,19693	0,7155		142	0,5	0,5471	0,5	0,5471	
46	0,5063	0,5143	0,5063	0,5143		143	1	1	1	1	19
47	0,55451	1	0,55451	1		144	0,52424	1	0,52424	1	
48	0,18588	1	0,18588	1	1	145	1	1	1	1	12
49	0,15958	0,1732	0,15958	0,1732		146	0,44318	0,8631	0,44318	0,8631	
50	0,74919	0,8211	0,74919	0,8211		147	0,62875	1	0,62875	1	
51	0,86303	1	0,86303	1		148	0,17183	0,4561	0,17183	0,4561	
52	0,28293	0,3183	0,28293	0,3183		149	0,20602	1	0,20602	1	1
53	0,204487	0,6323	0,204487	0,6323		150	0,59507	0,7016	0,59507	0,7016	
54	0,5	0,5737	0,5	0,5737		151	0,18955	1	0,18955	1	1
55	0,22222	0,2333	0,22222	0,2333		152	0,42436	0,4993	0,42436	0,4993	

56	0,33474	0,4555	0,33474	0,4555		153	0,61301	0,6331	0,61301	0,6331	
57	0,38889	0,4118	0,38889	0,4118		154	0,5954	1	0,5954	1	
58	0,90076	1	0,90076	1		155	0,42598	0,8776	0,42598	0,8776	
59	0,45668	0,5	0,45668	0,5		156	0,22922	0,6929	0,22922	0,6929	
60	0,58569	0,6166	0,58569	0,6166		157	0,50125	1	0,50125	1	3
61	0,71004	0,766	0,71004	0,766		158	0,20327	1	0,20327	1	1
62	0,40762	0,533	0,40762	0,533		159	0,31373	0,3333	0,31373	0,3333	
63	0,70472	1	0,70472	1		160	0,28962	1	0,28962	1	12
64	0,18826	0,5898	0,18826	0,5898		161	0,45505	0,5	0,45505	0,5	
65	0,41667	0,4376	0,41667	0,4376		162	0,68543	1	0,68543	1	
66	0,33153	1	0,33153	1	14	163	0,3744	1	0,3744	1	2
67	0,85455	1	0,85455	1		164	0,28332	0,33	0,28332	0,33	
68	0,34722	1	0,34722	1	4	165	0,60417	0,6582	0,60417	0,6582	
69	0,375	0,4634	0,375	0,4634		166	0,07061	0,1	0,07061	0,1	
70	0,90909	1	0,90909	1		167	0,16596	1	0,16596	1	1
71	0,43063	0,5	0,43063	0,5		168	0,17424	0,4119	0,17424	0,4119	
72	0,25352	0,3119	0,25352	0,3119		169	0,37953	0,7048	0,37953	0,7048	
73	0,88095	1	0,88095	1		170	0,25232	0,4592	0,25232	0,4592	
74	0,24	0,2444	0,24	0,2444		171	0,94722	1	0,94722	1	
75	0,19312	0,9034	0,19312	0,9034		172	0,54122	0,5451	0,54122	0,5451	
76	0,29543	0,333	0,29543	0,333		173	0,5874	1	0,5874	1	4
77	0,16871	0,414	0,16871	0,414		174	0,64394	1	0,64394	1	
78	0,76724	1	0,76724	1	1	175	0,37665	0,4397	0,37665	0,4397	
79	0,24655	0,9442	0,24655	0,9442		176	0,90769	1	0,90769	1	
80	0,18217	1	0,18217	1	3	177	0,71122	0,7979	0,71122	0,7979	
81	0,17821	0,3312	0,17821	0,3312		178	0,5125	0,516	0,5125	0,516	
82	0,83333	1	0,83333	1		179	0,24847	0,7244	0,24847	0,7244	
83	1	1	1	1	32	180	0,3001	0,8928	0,3001	0,8928	
84	0,47971	1	0,47971	1	4	181	0,57139	0,9171	0,57139	0,9171	
85	0,51397	0,5197	0,51397	0,5197		182	0,34734	0,5	0,34734	0,5	
86	0,48435	0,615	0,48435	0,615		183	0,2095	0,628	0,2095	0,628	
87	0,18681	0,1942	0,18681	0,1942		184	0,94898	1	0,94898	1	11
88	1	1	1	1	69	185	0,30044	0,3333	0,30044	0,3333	
89	0,41775	0,5	0,41775	0,5		186	0,52113	0,5272	0,52113	0,5272	
90	0,44886	0,5057	0,44886	0,5057		187	0,12561	0,2154	0,12561	0,2154	
91	0,17362	0,5324	0,17362	0,5324		188	0,47441	0,5	0,47441	0,5	
92	0,21321	1	0,21321	1	2	189	0,24686	1	0,24686	1	5
93	0,92949	1	0,92949	1		190	0,28692	1	0,28692	1	2
94	0,33333	0,5	0,33333	0,5		191	0,5976	0,6405	0,5976	0,6405	
95	0,18126	1	0,18126	1	1	192	0,3456	1	0,3456	1	11
96	0,90971	1	0,90971	1		193	0,15427	0,3173	0,15427	0,3173	
97	0,83333	1	0,83333	1							

Intercultural differences in destination marketing

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Abstract

Tailored marketing incorporating intercultural differences has become a common trend today, yet it is impossible to implement without taking into account the marketing activities in domestic and international markets. Each nationality perceives other nationalities through a cultural prism and this varies across countries. They like different foods, have different customs and travelling goals, some traveling for fun, others for culture and knowledge. This paper deals with the issue of intercultural differences in destination marketing, with a focus on the methods Slovakia uses to communicate with British and German clients. Knowledge of their behavior, motivations for their visit and image of Slovakia as a destination should help improve the efficacy and streamline marketing activities towards the countries concerned.

Keywords: destination marketing, Slovakia, Germany, United Kingdom

JEL classification: M31, Z33

1. Introduction

Nowadays, thanks to the globalization process, the number of multinational companies whose brand became known throughout the world has exploded. Coca-Cola, McDonald's, Sony or Kia have experienced a new economic boom in recent decades, and have become generally accepted. Precisely for this reason, the ability to communicate across cultures has become indispensable.

The term "intercultural communication" was first used by ET Hall in 1959. He was the first who attempted to distinguish culture based on the sending and receiving of expressions.

The topic of intercultural communication has been the focus of communication experts since the 1960s. Samovar and Porter (1985) define intercultural communication as the condition where the news producer is a member of one culture and the recipient of the second. For Collier and Thomas (1988) intercultural communication is contact between persons who consider themselves to be part of distinct and separate cultures. These contrasting definitions - first expressing that cultural competence is determined by the environment, the second turn that person is herself subscribes to a given culture - led to many disagreements among experts. Some experts tend to consider intercultural communication as a special case of interpersonal communication and focus on the group of similarities and differences in general, rather than an individual approach to them. The concepts of *intercultural* communication and *international* communication should not be confused. Intercultural communication involves communication between people of different cultures. International communication takes place between nations rather than governments than individuals, it is also characterized by formality and rituals such as the UN negotiations. (Šajgalíková et al., 2008)

Intracultural communication is defined as communication between members of the same culture. People of the same race, politics and religion interact intraculturally.

Since all international business activities include communication, it is important to prepare candidates with the ability to communicate interculturally to successfully compete in the international environment.

Awareness of the importance of understanding of the diversity of meaning of words is a first step towards intercultural communication competence. (Šajgalíková et al., 2008)

2. Tourists from the UK

Since 1991, outbound tourism from the United Kingdom has showed continual growth. In the years 2000–2008, outbound tourism from the UK grew on average by 2.5% per annum; but in 2009, due to the financial crisis, this decreased by 15.1%. The economic crisis has contributed to the increase in unemployment and decline in value of the pound especially against the USD and EUR, which resulted in a sharp drop in trips from the UK to countries in those areas, in the US and in the euro zone. During this period, thanks to favorable price, the number of trips to holiday destinations in Turkey, Egypt and Morocco increased. The following table shows the development of outbound tourism from the UK between 2009 an. 2013.

Table 1

Outbound tourism United Kingdom in the period 2009 - 2013

	2009	2010	2011	2012	2013
Outbound travelers (mil.)	58,614	55,562	56,836	56,538	58,507
Yearly increase/decrease (%)	-15,1	-5,3	+2,3	-0,5	+3,5
Overnight stays (mil.)	614,5	607,0	594,7	584,2	611,5
Yearly increase/decrease (%)	-12,6	-1,2	-2,0	-1,8	+4,7

Source: Office for National Statistics

The average expenditure of the UK population for one trip abroad in 2013 was 596, - GBP (day 57, - GBP). Holidaymakers spent during a single stay abroad 628, - GBP and business travelers 688, - GBP. The minimum was expenditure on traveling to visit family and acquaintances (420, - GBP). The average length of stay abroad this year was 10.5 nights.

Table 2

Expenditure of visitors from the United Kingdom on tourism abroad (except the transport expenses) for the period 2009-2013

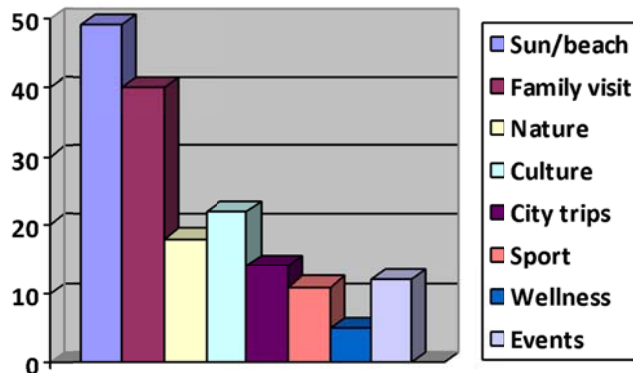
	2009	2010	2011	2012	2013
Total expenditures (mil. GBP)	31 694	31 820	31 701	32 450	34 900
Yearly increase/decrease (%)	- 14,0	+0,4	-0,4	+2,4	+7,6

Source: Office for National Statistics

The following figure mentions the main reasons British travelers give for going on holiday in 2013. Sunny beach for their holiday wishes 49 %; visiting the relatives 40 %; seeing nature, such as mountain, lakes, landscape is the reason for 18 %; cultural activities, including religion, gastronomy, arts - 22%; surprisingly only 5 % of travelers travel for the purpose of wellness, spa or health treatment; what is more, 12 % travel to attend specific events (sport event, festival).

Figure 1

The main reasons of British travelers for going on holiday in 2013



Source: Preferences of Europeans Towards Tourism - European Commission report (2014)

According to the European Commission report (2014), the reasons why the UK tourists would come back to the same holiday destination are as follows:

1. Natural features (landscape, weather conditions, etc.) – 49 %
2. The quality of the accommodation – 41 %
3. The quality of activities/services available (transport, restaurants, leisure activities, etc.) – 31 %
4. Cultural and historical attractions – 35 %
5. The general level of prices – 29 %
6. How tourists are welcomed (e.g. services for children, customer care, “pets-welcomed policy”, etc.) – 21 %
7. Accessible facilities for people with special needs (e.g. disabled, elderly, children with prams) – 8 %

3. British tourists in Slovakia

Table 3 provides an overview of numbers of British tourists visiting Slovakia from 2004 to the present. The number of British visitors to the territory during this period increased by 46%. The number of arrivals from the United Kingdom to Slovakia in 2013 confirms the growing trend of 2012 - the number of guests was higher by 7.7% and the number of overnight stays by 4.3%. In 2013, visitors from the UK spent an average of 2.1 nights in Slovakia.

Table 3

British visitors to the Slovak Republic, compiled on the basis of statistics reported by the accommodation providers.

	Number of accommodated guests	Yearly increase/decrease (%)	Number of overnight stays	Yearly increase/decrease (%)
2009	42 315	-36,5	95 184	-36,0
2010	40 961	-3,2	95 216	-0,03
2011	39 476	-3,6	84 808	-10,9
2012	46 641	+18,2	100 067	+18,0
2013	50 255	+7,7	104 418	+4,3

Source: Statistical Office of the Slovak Republic (2014)

Taking a long vacation clearly remains the most common motive of the UK citizens traveling abroad. The key trend in outbound tourism in United Kingdom, in common with many other countries, is the shortening period of stay abroad.

3.1 Tourist profile

The most desirable products on the market over the last five years are seaside holidays, family holidays and city breaks. It was a trend here also to travel shorter distances. Since Slovakia takes only 2-3 hours to fly to (depending on the location of the departure airport in the UK) it is highly competitive within the tourism market in Europe.

Tourists from the United Kingdom particularly show interest in areas of natural beauty, shopping, visits to museums, art galleries, theaters and gardens, walking the streets and viewing historic buildings and monuments, while they were motivated to visit the country seeking a sense of authenticity. Maintaining of cultural and natural heritage in Slovakia, while high quality infrastructure, services and their selection at international level are key factors for the visit of tourists from the UK. Gradually the trend to increasing tourist interest in outdoor activities at all levels is growing, particularly hiking, sports and adventure tourism. In recent years in the UK, fitness and healthcare have become popular. Favorite leisure activities have become yoga, swimming, cycling and billiards. The United Kingdom is the fourth largest source market for health tourism and wellness, with the British annually taking 3.6 million trips abroad for wellness and spa visits. Slovakia, being a country with lots of natural springs, should increase their competitive advantage in this area by clearly communicating to the British market with targeted marketing.

Another important motivating factor for traveling people of the countries of the United Kingdom is golf. Indeed, Britain alone has the highest number of golfers among European countries (around 1.5 million), approximately half of them taking a golf vacation. The offer of golf packages in Slovakia is annually expanding with a positive prospects for the British market.

Likewise, weddings for the UK citizens affect the growth of outbound tourism, as many British people plan their wedding and/ or honeymoon abroad; 40% of them can be booked through a traditional travel agent. Depending on the type of holiday tourists from the United Kingdom choose their accommodation. When choosing accommodation, the preference is for hotels of higher standards (63%) and luxurious city-break hotels, with a tendency to rent holiday villas or apartments. Many remain in hostels, or stay with family and acquaintances. For the British it was very important to get some sleep and rest, which places high demands on the quality of service and hygiene standards. Weddings alone in Slovakia especially for

foreign clients has potential. Not only high-quality hotels, but even the range of delightful castles and manor houses are a good place to organise weddings or other similar events.

According to the Office for National Statistics the number of men and women passengers from the UK to Slovakia is fairly balanced in 2013: 51% were men, and 49% of the remaining were women. Most of the passengers in the age group of 26-50 years have a complete further education. Demographic changes in society will in future play a key role in tourism as the UK population is aging. The highest increase in the coming years will be in the age group of those over 50 years, consisting of so-called Baby Boomers born in the postwar era. Suppliers in Slovakia will thus be forced to adjust their offer to this target segment. On the demand side, several changes occur - there will be a drop in interest in low cost holidays on crowded beaches and a steep increase in demand for stays in the quality facilities on the coast, near a lake or in the mountains, as well as city breaks and package holidays in expensive remote destinations. An important market segments are DINKs (Double Income No Kids). Many couples are delaying the arrival of the children later, allowing them to easily travel abroad. In recent years, the number of people living in households alone has increased.

The British are very lucrative market for domestic and foreign tourism, both in terms of local and the remote destinations. They are mature and experienced travelers with a great desire to travel and a tendency to search for new and unknown places. Slovakia is still relatively unknown destination with lots of interesting places to explore. The most important source region for outbound tourism in the United Kingdom is southeast Britain. London attractions are concentrated close to the biggest and richest part of the British population that has the highest demand for travel abroad. The region also has the best communication infrastructure for international tourism at Heathrow, Gatwick, Stansted and Luton. British travelers are relatively wealthy and increasingly demanding. They have the opportunity to travel to any destination in the world thanks to the wide range of possible routes compared to other nationalities. English is a global language, which only helps to increase trips abroad. The law follows the British entitled to 28 days of leave per year, which allows them to travel on holiday several times a year and they make full use of this possibility.

Slovak Tourism Agency (2014) defines on the tourism market of the United Kingdom the following market segments:

- *Adventurers* - these are considered to be single people with a wide range travel outside homeland. They dream of places and people that they are eager to visit (but often they fail to fulfill those dreams). They are quite young, whether in physical age or spirit, have a limited sense of responsibility and quite often belong to higher socio-economic groups. They do not want to be on vacation; they organise everything themselves preferably, and when they travel through a travel agent, they obtain the provision of basic services only. They prefer air transport.
- *Controllers* - when on vacation they want to be responsible for themselves, they can plan and organize it alone. They are treated as independent travelers and are quite authoritative. When it comes to offering more competitive prices with the possibility of some flexibility, they are willing to buy a vacation with a travel agency.
- *Prisoners* - these people are trying to move up to one of the previous two groups, but there are limitations in the choice of destination and type of leave for personal reasons (financial or family). They have a dream vacation and waiting for the day when a traveler's dream will be able to be met. They belong to the lower socio-economic groups with lower earnings.

- *Traditionalists* - these are vastly different from the Adventurers. They require comfort, safety and affinity. Tend to like the same type of holiday, they are happy to leave the whole burden of organising the holiday to the travel agency, and would otherwise feel completely lost. There are cosmopolitan, yet everywhere they travel, they carry their own mentality and customary habits. These are mostly older age and lower income group people with lower education.

Using the same approach on the market in the United Kingdom, one can produce the following segmentation (STB, 2014):

- *Nature lovers* - they desire to be surrounded by beautiful and peaceful nature, where they can observe the game, enjoying the open spaces, clean and healthy environment. They prefer standard accommodation facilities and want to experience the healthy lifestyle, additionally they may want to experience holiday in the countryside, without taking advantage of modern technology and conveniences. This segment consists of the unmarried, people living together in one household and married couples.
- *Athletes* - they are attracted to outdoor sports, especially skiing and snowboarding. They find lodging in the classic accommodation establishments, they are interested in the traditions and customs.
- *Cultural search engine* - their stay is oriented to exploring the unique culture of the visited country, going to museums, art galleries and theaters. They seek historical attractions, as well as modern culture. They like to have fun and enjoy the night life, like clubbing and a live performance. During their stay they try to see and experience as much as possible, seek the company of local people and interact with them. They enjoy shopping at the local supermarkets as they seek to get to know local raw materials, food and home cooking. This group usually include couples whose children have left home and are living alone, unmarried and divorced.
- *Resort fans* - holidays in luxury hotel resorts are the most popular type of family holiday in the United Kingdom, especially among young families. Popular activities include sunbathing and other beach activities, and they want to be able to choose from a wide range of leisure activities.
- *Traveling for relaxation* - they savor the relaxing atmosphere of the holiday. Throughout the journey they want to feel comfortable and safe, and try to escape from the duties of everyday life. They desire a clean and healthy environment, and choose locations that could be subsequently recommend to friends (after returning they boast about their interesting experiences). This segment is dominated by young people and families.

4. German tourists

In 2014, there was a significant increase in the number of exits from Germany abroad. According to estimates of BMI (Business Monitor International), in this year alone Germans took 79.7 million foreign trips, ie. the expected annual increase of trips is 2.7%. One reason for the low annual increase is that the market for German outbound tourism is already extremely high. The slow growth of trip numbers during this period is affected by the downturn in consumer spending of households, which is reflected for example in lower sales

volumes of products of luxury tourism compared with the assumptions, as well as increased interest in travel in their home country.

Table 4

Outbound tourism Germany in the period 2009 - 2013

	2009	2010	2011	2012	2013
Outbound travelers (mil.)	72,3	72,0	72,9	73,5	77,6
Yearly increase/decrease (%)	-1,0	-0,4	+1,3	-0,8	+5,6

Source: UNWTO, Deutsche Zentrale für Tourismus e. V.

Notes: Outbound travels with min. 1 overnight stay

According to the results of Reiseanalyse in 2014, 55% of Germans had already clarified travel plans for the next holiday, yet only 11% of Germans decided not to travel. The majority of respondents have set the same budget as the holidays last year, 11% of respondents planned to spend more money, 8% less. German visitors spend considerable resources on travel and have long defended their title of "world champions in traveling." Yet despite the value of German overseas travel market in 2012 amounting to 64.9 billion EUR, they were in fact moved to the third position globally- losing their place to tourists from China and USA. Expenditure by Germans in one trip abroad remained at the same level as the previous year, ie 906, - EUR. Despite high expenditures on travel of German tourists, they consider tightly managed budget as very important. In the situation where they would have to cancel the holiday for financial reasons, Germans would rather change the holiday destination to affordable one, or they would shorten the holiday. Expenditure on material purchases constitutes a significant item of expenditure for Germans traveling abroad.

Table 5

German visitor spending on tourism abroad in the period 2009 - 2013

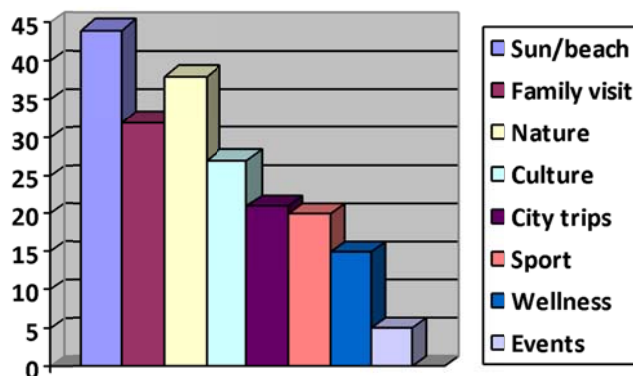
	2009	2010	2011	2012	2013
Total expenditures (mil. EUR)	58 200	58 900	61 700	64 900	64 900
Yearly increase/decrease (%)	- 6,0	+1,2	+4,8	+5,2	0

Source: DRV

Figure 2 below mentions the main reasons given by German travelers for going on holiday in 2013. Sunny beach for their holiday was given by 49 %, visiting relatives 35 %, nature (such as mountain, lakes, landscape) is the reason for 32 %, culture (including religion, gastronomy, arts) - 23%, surprisingly only 21 % of travelers travel for the purpose of wellness, spa or health treatment, what is more 4 % travel to attend specific events (sport event, festival).

Figure 2

The main reasons of German travelers for going on a holiday in 2013



Source: Preferences of Europeans Towards Tourism - European Commission report (2014)

According to the European Commission report (2014), the reasons why German tourists would travel back to the same holiday destination are following:

1. Natural features (landscape, weather conditions, etc.) – 49 %
2. Quality of the accommodation – 35 %
3. Quality of activities/ services available (transport, restaurants, leisure activities, etc.) – 32 %
4. How tourists are welcomed (e.g. services for children, customer care, „pets-welcomed policy“, etc.) – 23 %
5. Cultural and historical attractions – 21 %
6. General level of prices – 21 %
7. Accessible facilities for people with special needs (e.g. disabled, elderly, children with prams) – 4 %

5. German tourists in Slovakia

The degree of knowledge Slovakia is still uneven among the inhabitants of the former "East" and "West" Germany. German visitors generally described Slovakia as a destination in the following positive and negative terms (STB, 2014).

Positives:

- Lower price levels compared to those in Germany
- Traditions (spas)
- Wide range of supply of tourists sites (nature, cultural heritage)
- Positive experience (own and mediated)
- Slovak hospitality in personal contact with ordinary people, Gastronomy

Negatives:

- Language barrier (eg accommodation and catering facilities at bus and railway stations, while visiting monuments etc.)
- Unauthorized fines by police for traffic violations
- Hygiene in accommodation and catering establishments and in public toilets
- Poorly developed transport infrastructure (motorways, railways)
- Insufficient level of services

- Non-complex services (lack of supplementary services)
- Fear of crime (petty theft and stealing passenger cars)
- Lack of professionalism in culinary services
- Long waiting times at the tills (ski resorts and castles)
- Unreasonably high prices for taxi services in Bratislava

Table 6 provides an overview of the development of the visiting Slovak German visitors since 2004. Of the countries immediately bordering with Slovak, Germany is the strongest partner for the Arrival of tourism in Slovakia. German clientele is the second largest group of foreign guests of the spa in Slovakia, in 2013 held 16% share of foreign visitors.

Table 6
German visitors in Slovakia

	Number of accommodated guests	Yearly increase/decrease (%)	Number of overnight stays	Yearly increase/decrease (%)
2009	133 989	-18,6	527 821	-22,6
2010	131 674	-1,7	490 780	-7,0
2011	133 431	+1,3	462 503	-5,8
2012	135 897	+1,8	443 663	-4,1
2013	153 814	+13,2	466 577	+5,2

Source: Statistical Office of the Slovak Republic

5.1 Tourist profile

German visitors are traditionally among the group with the longest length of stay on vacation. The average length of stay was 12.4 days in 2013. This year a record number of Germans undertook at least one holiday abroad for a period of five or more days - 78% of the population aged 14-70 years, accounting for 55 million people. Travelling couples took 47% of all holidays. Germans are generally demanding clientele who travel with considerably large amount of funds, and therefore expect adequate quality and scope of services. Travel is for them an integral part of life and travel on vacation several times a year. Each trip is exhaustively prepared in advance, preferring prior organisation to spontaneity. With a focus on Travel & Tourism as Slovakia Slovak Agency for Tourism (2014) on the German market it defines several basic segments of visitors:

- *Age group 50+ and seniors* - this is the strongest and the most attractive group of travelers for tourism operators; this group is large and is continuously growing due to demographic changes. They seek to invest in health and knowledge; and because they live in a stable economic situation and have enough disposable free time, use the opportunity to travel. When they have positive experiences in the place visited, they return repeatedly. They are characterized by a conservative approach and a sense of nostalgia. The most attractive tourism products for them in Slovakia are (1) spa tourism (there are spas in Piešťany, Bojnice, Trenčianske Teplice, Turčianske Teplice, Sliach, Dudince, Smrdáky, Rajecké Teplice, where they spend an average of 15 nights for curative stays, and preventative stays typically lasting 7-14 nights) and (2) group sightseeing tours focusing on the history and culture (rather, Bratislava, Malé Karpaty) and nature (High Tatras, Low Tatras, Mala Fatra, Slovak Paradise). Spa hotels put increasing emphasis on the level and quality of accommodation due to the length of stay. When they travel as a group, they are accommodated in hotels and bed and breakfasts where they require complex services, in this case they use organized

transport (bus and charter flights), for individual journeys they are using cars and rail transportation.

- *People of working age* - this large group comes to Slovakia in order to explore and relax. Within the population structure is a middle generation, which often consist of families with children. Their financial resources are relatively limited and can travel for about 7 days. In the case of trips for recreation and sports they choose stays focused on summer and winter tourism (the same region as the previous segment), popular with summer caravanning, hunting, fishing and thermal spas. A new product with good prospects for the future is golf, but needs increasing promotion. When participating in explorational tourism, the visitor is looking for diversity and recognizes comprehensively Slovakia - they are searching for urban conservation and castles, monuments registered in the UNESCO-air museums. They use all types of accommodation - hotels, cottages, private accommodation and campsites. Organized groups transport by bus or rail, and the individual uses cars, buses, rail or airoplanes.
- *Young people, students, teenagers* - relatively the smallest group. This unpretentious clientele has limited financial resources and the window of opportunity to travel is during the holidays in summer and winter. They like guided tours (programs in school trips and organized groups in Bratislava and its surroundings with a combination Vienna-Bratislava-Budapest, for 3-5 days) and sport: tourist visits are planned during summer as well as winter (High Tatras, Low Tatras, Slovak Paradise, Little Fatra, approximately 7 days), cycling and extreme sports. They prefer cheaper accommodation types, ie Youth hotels and hostels, cottages, private accommodation and camping with the possibility of evening entertainment and discos. The transport is managed using bus and rail transport, as well as individual short trips, aviation transport is only at the cheaper tariffs.
- *Business travelers* - are demanding clientele relatively free of financial constraints. Emphasis is the quality of services. They prefer short stays. The motive of their trips are business trips mostly to major cities (Bratislava, Banská Bystrica, Košice, Nitra, Žilina, Trnava) for the purposes of trade negotiations and participation in fairs and exhibitions, and incentive tourism (meetings, seminars, congresses and conferences). Preference is given to hotels and accommodation falls into the higher price categories and individual travel, whether by car or plane to Vienna.

Travel is an integral part of the lifestyle of Germans and is one of the leading places within the value chain. Given the relatively high number of public holidays, school holidays structures as well as sufficient funds available Germans are accustomed to take journeys of discovery and rest several times a year.

6. Conclusions

According to the profiles of both British and German tourists groups, it is necessary to adjust the destination marketing in Slovakia. Marketing communication should clearly inform clients about a personalized message for them. This is particularly pertinent towards the upper end of the market and when dealing with more discerning customers, where products can be seen in terms of luxury goods. To understand and operate in such markets, a keen sense of the factors underlying intercultural communication is essential.

Table 7

Intercultural differences in destination marketing of Slovakia in the UK and Germany

	United Kingdom	Germany
Location	1500 km to the closes port Dover	400 km from the south-east border of Germany
Reasons to travel to SR	family visit, nature, culture, events	family visit, nature, culture,wellness
Number of potential visitors	more than 50 000	more than 150 000
Number of potential overnight stays	more than 100 000	more than 450 000
Potential age groups	26 - 50	50 +
Language	English	German
Currency	Pound	Euro
Potential Slovak toruism products	nature, culture, high quality services, golf, weddings	nature, culture, high quality services, wellness
Prices	Slovakia is cheaper than the UK	Slovakia is cheaper than the Germany

Both German and British travel markets has a strong potential for Slovakia. The figures published by Statistical Office of the Slovak Republic from the first half of 2015 show that 9,5% of all tourists were from Germany (69 865 tourists). They traditionally love to visit Slovakia and enjoy their holiday here. On the other hand there is the strong potential that Slovakia can attract more British tourists in future, by focusing on offering new personalised luxury tourism products – weddings and golf holiday packages.

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Changes in management

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Abstract

A lot of companies are now in a period of rapid and continuous changes. They are exposed to challenges and more and more are faced with an ever increasing market requirements and customers expectations. The paper recognized the possibility of innovation management, which creates constructive conditions for the development of human creativity and inventiveness as a properties required for enterprises with the ability to learn and evolve over time in response to changing conditions.

Keywords: *management, changes, human resources, company, innovation*

JEL classification: *M 20, O 30*

1. Introduction

In our turbulent world, there is nothing more permanent than change. Companies face the continuous prospect of change as they fight to stay afloat and compete in an increasingly competitive and globalized economy. The need to change is driven by the ever increasing requirements of competitive markets and then try to improve your business to them its competitive position. Change management is a response to the development of technology, the newly established economic and ecological needs, adapt to changing conditions, improving existing or brings something new. The aim of innovation management is constantly bringing improvements and the flexibility to meet the growing demands of customers. Change and innovation would now have more continuous character to continuous improvement and the innovation process should involve all employees, to which should help open access to information intensive feedback and team spirit.

These characteristics, which we find at the same time in the characteristics of a learning organization, suggest that the innovative spirit of enterprise should be a part of corporate culture, which is known to change the corporate culture is a difficult and long process. Modern societies must therefore actively seek their own development, and open to surroundings, search the opportunity to change and use them to advantage. An important tool is therefore becoming innovations that the company can keep pace with the dynamically evolving market, but it is mainly a means to constantly be one step ahead of the competition.

It is important to create a climate in which it will naturally occur from innovation. Innovation management as a comprehensive management tool for effective management of innovation processes, the role of rational and effectively manage innovation is therefore now becoming one of the main tools of increasing competitiveness.

The question is how do organizations manage this change? This article provides a short brief overview of change theory, identifies major focus areas of change such as people change and cultural change as a main assumption for effective management of change followed by a

discussion about relationship between psychological empowerment and commitment to change.

1.1. Change theories

It is not secret, that change has an impact on daily activities. It not only affects life today, but also future opportunities of the companies and also living conditions. But what actually causes change? It is in many cases the innovations. So, at first is needed to define innovations to fully understand to change theories.

Innovation to affect to daily activities. Not only affect life today, but as well future opportunities and living conditions. The word innovation comes from the Latin *innovare*, which means, restore, make new change.

The concept of innovation has many definitions, according to J. A. Schumpeter, who is considered the founder of the theory of innovation, the basic idea is according to Turekova et al. (2003), that entrepreneurs will seek to use technological innovation, new product or service or a new process for their production, when the gain strategic competitive advantage.

Innovation understood as the application of developmental changes in the activity of the company, it means developmental changes directly in production and in the market. Innovations, according to Schumpeter, are base of cyclical development of the economy, because innovations not a continuous but periodic. Implementation of innovations also requires overcoming of the resistance of society which is particularly strong against something new and unusual. The views of economists on whether innovations causes of business cycles, or are they just its consequences are divided. I personally am inclined to believe, that innovations are the result of economic cycles. In my opinion, innovations are created on the basis of already pulse of the changing economical and economic environment and it is necessary to adjust to it, either in advance or immediately upon posting.

Eric et al. (2000) has developed a theory for changing the organizations without *pain*. The author states that to change successfully, companies should impress major change initiatives among carefully paced periods of smaller change, using *tinkering and kludging*. He adds that company can manage change with an approach called dynamic stability. Dynamic stability is a process of continual small change efforts that involve the reconfiguration of existing practices and business models rather than the creation of the new ones. Tinkering is concerned with the minor changes in the products, motivating the existing manpower of the organization.

Kludging is tinkering but with a college, respectively formal education. It takes place on a large scale and involves many more parts. Organizations that have consistently avoided changes may need to undergo rapid, destructive change. He adds that the companies already changing rapidly face a different challenge, it means, that they must learn to shift down from highly destabilizing and disruptive change to tinkering and kludging. This thinking helps an organization to change without pain.

Another author, Pattanayak et al. (2000), thinks that with the changing business environment, organizations must focus on their employees in order to ensure that they move ahead together. He states that focus today is on becoming learning organization where new concepts like Business Process Reengineering, Total Quality Management, Benchmarking etc. are practiced. He found that reengineering of organization behaviour can be achieved by a thorough understanding of an organizational culture, its effect on organizational change, employee empowerment and by integrating Human Resource Management with corporate strategy. In a very tight competitive world like today, organization needs to change according to the demands also of the environment, but not every organizational change program was successful.

Etschmaier et al. (2010) found in his researches, that there are even more than 50% organizational change was not succeeded. In this regard, change won't be successful if they were not supported by the employees, or it can be said that it should be commitment from the employees. It is also need of mention, there are many variables that can influence the success of organizational change. According to Walker et al. (2007) it is the content of change, the process of change, the context of the organization, and the characteristic of the individual.

Organizational context, such as organizational culture or organizational climate, has stated to have an important contribution to the success of organizational change. In this regard, as organizational change will create chaos, and ambiguity this condition will lead to the lack of trust to the management and organization, and as a result will have a negative impact to the success of organizational change. In this connection, organizational trust is important to be there in order to establish commitment to change. Furthermore, as it was mentioned previously, during organizational change, people will feel insecure about the organization, their future and about themselves, in this regard, feeling of self-efficacy is needed to overcome the situation during organizational change. This kind of feeling of self efficacy will be measured through psychological empowerment, which consists of feeling of meaning, competence, determination and impact.

From the literature, it is found that managing change successfully in an organization requires changes in various interconnected areas. The important areas are technology, structure, systems, people and culture. In connection with the above mentioned context, the more detailed attention will be paid to the people and culture in the organization.

1.2 People Change

Change in people refers to changes in employee attitudes, expectations, perceptions, or behaviour. The human dimension of change requires a workplace committed to the organization's objectives, targets and vision. The greatest effort involved in making change in an organization is to change the mindset of employees at all levels. The mindset represents a shared way of thinking and behaving within an organization and that mindset is institutionalized in vision, value and mission. As an organization becomes mature, it has a relatively fixed mindset, and becomes a liability.

With time, its intensity may hinder the ability to change. In an interview with Jaques Naseer, CEO of Ford Motor Company, Wetlaufer et al. (1999) has discovered that no company driven by rapid changing customer needs and tastes can survive without having competent leaders capable of fast decision making. It has been emphasized by CEO that need of the organization is to make quick changes in the fundamental approach. Employees should think like shareholders, and the company as a whole must be able to respond swiftly to the customer's needs. All this is possible through a change in the mindset of people. It is further added that change in mindset is possible by involvement and commitment of top management, sharing their views and vision with the people of the organization. Carr et al. (2001) have referred the notion of unconsciousness contextualized as psychodynamics relevant to managing people.

According to the authors, the concepts of identity (individual, group and organizational), groups, culture, motivation, emotion, rationality, ethics, leadership, commitment, psychological contract, role, power, and conflict acquire a deeper meaning when enriched with psychoanalytic insights and help in getting success in an organization. Friedman et al. (2002) has studied the role of individual in organizational change.

Organization learning occurs when individuals within an organization experience a problematic situation and enquire about it on organization's behalf. Further, involvement of people results in change of individual's mindsets as well as organization culture. He has further stated that programmes like TQM and reengineering transform people at all levels into agents of organizational change.

1.3 Cultural Change

Organizational culture denotes a system of shared meaning within an organization that determines to a large degree how employees behave. New systems or patterns of values, symbols, rituals, myths, and practices have evolved over time in the industry. Organizations around the world are experiencing changes in the culture, and the trend is towards even more changes as countries continue to undergo changes in the cultural composition of their general populations.

For culture to change, we have to disturb the repetitive patterns holding it in place. Part of it lives outside of us and part within us. A Challenger approach to change embraces experimentation, so it feels appropriate to finish this article by suggesting a small personal experiment that might be helpful in revealing more. According to Rickayzen et al. (2014), to begin it, it is needed to ask yourself this question (both from a personal and organisational perspective) what do I already know I would not be allowed to do? This might help you to witness the establishment both inside yourself and around you.

2. Relation between psychological empowerment and commitment to change

Characteristics of the individual, in this regard whether employees have strong psychological empowerment was assumed to have positive relation with commitment to change. Study done by Malik et al. (2013) showed, that psychological empowerment has correlated with organizational commitment. Also, the study by Gunawan and Viyanita et al. (2012) found that psychological empowerment has positive and significant correlation with affective organizational commitment.

Those findings based on the study between psychological empowerment and organizational based on various concept of organizational commitment and not with the concept of commitment to change. Although, based on the findings from another authors like Rashid and Zhao et al. (2010) showed that organizational commitment had positive and important connection with commitment to change. It can be supposed that psychological empowerment has positive and major relationship with commitment to change.

Furthermore, study conducted by Lin et al. (2013) showed that psychological empowerment has positive and important correlation with behaviour in organization. So, it can be said that organizational commitment has correlated with commitment to change. Based on that, the theory about the positive impact of psychological empowerment on commitment to change was established.

In addition with this, it is needed to mention organizational trust. Trust in organization is defined by Cummings and Bromiley et al. (2008) as *“the expectation that another individual or group will:*

- *make a good faith effort to behave in accordance with commitments – both explicit or implicit;*
- *be honest in whatever negotiations preceded those commitments, and*

- *not take excessive advantage of others even when the opportunity exists.”*

Those two authors also mentioned that trust has three dimensions as follows:

- Predictability such as the keeping commitments dimension.
- Integrity, which means negotiating honestly dimension
- Benevolence as avoid taking excessive advantage dimension.

Relationship between organizational trust and commitment to change organization with high trust of employees will have high competitive advantage compares to other organization that have lack of trust, according to Saha and Kalyal et al. (2008). In this view, it can be supposed that when employees trust the organization, they will be more motivated to work together in the organization. Based on this, Salamon and Robins et al. (2008) found, as well as have a sense of responsibility to give their best to the organization. These attitudes and behaviour is expressed by lowering their absenteeism and turnover, creating innovation, managing change effectively, according to Robins et al. (2004), and creating creativity.

Kaneshiro also stated that employee will have more positive attitude toward the organization, and as a result creating high organizational commitment. In terms of organizational trust, previous study also supported that trust is important in organizational change. Kalyal and Saha in their study showed that trust with the management has positive effects on the effective people's reaction toward change, as well as to affective commitment to change. Based on the above discussions, it can be concluded that organizational trust can develop positive attitude and behaviour of the employee towards the organizational change which in return will develop commitment to change, and as a result, employee is willing to spend their time and efforts for the success of organizational change. On the bases of these discussions, in this research the theory about the positive impact of organizational trust on commitment to change was established.

The results of the research by Mangundjaya et al. (2015) also show that some of demographic variables such as age or position have impacted the score of commitment to change. The results showed that the older employees, the higher positioned employees or people working longer in the company, are more loyal to the organizational change. This result is quite contradictory with the beliefs that younger people are more adaptable to changes with their attitude to be more open to new ideas. It can be said, that position and lengths of work had positive and important correlation with all three variables such as commitment to change, psychological empowerment and organizational trust. It can be concluded that the more senior people in terms of tenure or position, they will be more committed to the organizational change, had higher psychological empowerment and had higher trust to the organization.

3. Conclusion

Creating a vision for change enables the people most affected to appreciate the need for it and how it benefits them. People are most likely to accept change that has a compelling reason or an obvious direct benefit. It is needed to communicate the change. Through the words and examples, leaders can motivate and persuade staff to adopt and maintain new and better ways of working. Managers need to inspire and empower staff to change the way they think about and do their work. It can be managed through short-term wins, according to population report (2004).

Change and innovations are worldwide considered as one of the ways to accelerate the transition from post-crisis economy on a stronger and more sustainable economy. Although it is not a solution to all the world's problems, it provides the basis for new industries, businesses and jobs, are therefore necessary for increasing of competitiveness, diversification of economic activities and the movement towards activities with higher added value. Innovations affect already to each activity in the life. Not only affect lives today, but also the future opportunities and living conditions. Globalization is on the one side shrinking the world, on the other side is growing market and the number of strong competitors. Support of innovative and change activities of enterprises and their involvement will create conditions not only for growth of competitiveness and economic growth, but also for raising the living standards of the population.

Change often takes time, but this setting up and meeting shorter-term goals can help staff stay motivated. Recognizing people who help achieve these goals can help keep staff on track for the longer term. Finally, for change to be successful, the new ways of working should become a part of the norms and values of the organization. Economic growth and progress today wants more than ever, support of innovations and creating the right tools to support them. Support should focus in education, training and employment policies. On the other side need to support companies in their individual innovation activities and links between business and scientific sectors.

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Implications of World War I For the History of International Economy in the 20th Century

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Abstract

World War I has left its tracks deeply buried in the economy of the 20th century. The 20th century saw four phases of convergence and divergence in terms of globalization. In particular, capital markets were severely hit and their reconstruction took several steps, among which the introduction of Gold Standard institution, which turned out to be a mistake. A lack of monetary policy in the after-war period with no complement of fiscal policy made protection inevitable. The only way how to implement any policies was through trade. However, fear drove politicians to impose very high tariffs that yet caused more harm to the already destroyed economies. Possibly, we can argue that the non-economic implications of the war, such as the rise of extreme nationalism, communism, etc. were even worse than the economic ones. On a positive note, innovations brought technological advances and ideas to preserve peace led to the creation of many regional and world integration organisations, leading to a world convergence in the late 20th century.

Keywords: World War I, convergence, divergence, tariffs, Gold Standard, Great Depression

JEL classification: F15, F59

1 Introduction

“Everywhere in the world was heard the sound of things breaking” (Findlay *et al.*, 2009). World War I, a world-wide conflict between 1914 and 1918, had not left any aspect of life unchanged. Its long term implications are still visible in today's economy. Directly after the First World War globalization and convergence ceased, and in 1914 the market collapsed. The whole period after the World War I was a struggle to reconstruct the pre-war global economy. The world system imposed between 1880 and 1914 was highly perturbed and the world powers were weakened after the war. Indebted, not able to invest on foreign markets, and having the burden of reparations on Germany's shoulders and strict conditions of the Treaty of Versailles¹, they entered a new epoch- an epoch of protectionism, economic recession, market collapse and Great Depression, and yet another World War. The United States became a new great power and the representative of democracy. In other parts of the world there was a rise of dictatorships in Japan, Germany, and Italy. The implications of World War I include economic (desinflation, debts, reparations, disruption on labor markets, rigid prices and wages, changes in production patterns and specialization), political (protectionist policies, rise of trade unions, revolutions, increased role of governments), social

¹Peace Treaty between Allied and Associated Powers, and Germany. More information available at: <http://foundingdocs.gov.au/resources/transcripts/cth10_doc_1919.pdf>.

(migration, anti-semitism, nationalism, communism) and other (technological advance, innovations) characteristics.

The first chapter introduces the 20th century and focuses on the divergence caused by World War I. The second chapter will look at the impact of the gold standard and the global capital market collapse. Following, the third chapter is devoted to the impact of tariffs and the role of international trade. Since the implications of World War I are not only of economic character, the last chapter will state the non-economic effects on the international economy.

2 20th Century Synusoid of Convergence and Divergence

Convergence² of countries in terms of per capita income is closely related to the concept of globalization. According to The Economist, globalization refers to high dependency, interaction and integration of markets and market players, characterising huge growth in international trade, mass migration, capital flows, spread of liberalism and free trade. Globalization and convergence are positively correlated. World War I brought a divergence to the international economy, having long lasting implications that are still felt.

The 20th century is divided into four periods, confirming the sinusoid shape of development of international economy: first phase of globalization, post-war deglobalization, 1950's reglobalization and 1970's divergence. The first period began in the 19th century. It brought high investments and trade flows and lasted until 1913. This was the last period of high international economic integration and at the same time, the first period of 20th century convergence. Yet, in the second period "convergence stopped between 1914 and 1950 because of deglobalization and the retreat to autarky" (O'Rourke, 1999). The economy entered the phase of the lowest 20th century growth, with the Great Depression and World Wars greatly retarding economic activity and having a profound protectionist impact on global economy with high divergence and deglobalization effects. Another convergence came in the third epoch, in 1950 and lasted until the first oil shock in 1973. This is considered to be the phase with the highest growth, liberalization of economy, and facilitation of trade thanks to signing Bretton Woods Agreement³ and the General Agreement on Tariffs and Trade (GATT)⁴. In the 1970's, the fourth and final period of divergence of 20th century began, with stagflation taking place, global per capita growth rates falling to rates similar to those at the turn of the century, and exchange rate instability threatening the world economy.

3 Disintegration of Global Capital Markets and Gold Standard

Capital flows diminished during the 1920's and following the Great Depression. The disintegration of capital markets during the interwar period was due to technological, political, and institutional factors. The technological inventions, such as telegraph, had a direct impact on capital market integration by speeding up the transfer of information. Politics directly promoted international lending and without this the recovery from World War I would not have been possible. Politics also facilitated cooperation among central banks. Financial innovations were responsible for an increase in capital market integration by declining short-

²Convergence (or catch-up effect) is a hypothesis that poorer economies' per capita incomes will tend to grow at faster rates than richer economies leading to eventual convergence of countries in terms of per capita income.

³ Agreement signed in Bretton Woods Conference in 1944. For more information see: <<http://teamlaw.net/BWAgreements.pdf>>.

⁴ Multilateral Treaty signed in 1947 to facilitate world trade and abolish trade barriers. For more information see: <<http://www.worldtradelaw.net/uragreements/gatt.pdf>> .

term and long-term interest rate differentials for developments in the life insurance, mortgage and national securities markets (O'Rourke, 1999).

Another financial institution is stressed to play a key role, the gold standard. The gold standard was a fixed exchange rate system that enhanced capital mobility in an already liberal age, exposing countries to the risk of industrial crisis and depression through the implementation of common monetary policies. It fixed their interest rates to the same level and made it impossible to cope well with a crisis. Furthermore the loss of an automatic stabilizer in the recession, which is the exchange rate movement, made the after-war recession even worse.

There are numerous examples how countries suffered joining the gold standard. Many of countries could not afford to repay debts, because even though they were solvent in the longrun, they lacked cash to repay debts due today. The market's lack of liquidity made the default inevitable. Germany was forced to keep high interest rates to stay on gold standard, while its inflation was raising and needed reparations concessions. On the top of that, with no foreign borrowing, the German state was forced to cut back expenditure. Since it was losing gold, government suspended cash payments and raised taxes. When the situation was not sustainable anymore, the country imposed capital controls. Britain continued to lose its gold reserves because it was running a trade deficit and could not borrow money, so it was forced to export gold. Directly after World War I, the United States stopped lending money to Europe. In 1928 high U.S. interest rates lowered investment and gold was flowing from Britain to the U.S. This vicious circle of disputes about interest rates changes had to be resolved. The only solution for countries was to abandon the gold standard, adjust their interest rates to the needed level, and reconstruct their economies. The sooner the countries left the gold standard, the sooner they recovered from the impacts of the first World War.

This step was, however, done a little too late when the Great Depression had already began. The divergence caused by World War I made the inter-central bank cooperation difficult and the states' inter-connection through the gold standard helped to spread the negative shocks to all economies. Higher tariff rates caused disequilibrium in the countries' balances of payments. Prices did not reach the equilibrium of the times before the Great Depression and their declining level correlated with declines in output and inside money stocks (Bernanke, 1995). Because of unionized labor, wages and prices were very rigid⁵. All of these factors caused disinflation in many countries and lead to their default in the 1930's. A lack of monetary policy with no complement of fiscal policy made the protection inevitable. The only way how to implement any policies was through trade; hence, trade played a key role in the post-war period.

4 Trade Collapse and the Role of Tariffs

Until 1913, the rise of the gold standard and the fall in transport costs were the main trade-creating forces. As of 1929, the reversal was driven by higher transport costs. In the 1930s, the final collapse of the Gold Standard drove trade volumes even lower (Estevadeordal, 2002).

On the eve of the economic collapse of the early 1930s, the US—as the newly risen great power—enacted the Smoot-Hawley Tariff Act⁶, which is associated with an outbreak of worldwide protectionism and with the collapse of world trade (Irwin, 1998). This measure

⁵ For detailed information see Appendix, Figure 1 and Figure 2.

⁶ Smoot-Hawley Tariff Act: a raise of tariff rates on 20,000 imported goods to the US.

was first designed to protect U.S. farmers from agricultural overproduction in 1920's as a result of World War I. Firstly, this happened because people feared difficulties in surviving, and secondly because of huge loss of population in battles. Declines in prices followed and economies like the U.S. started to protect their markets. The fact of imposing such high tariffs did not help to overcome the Great Depression, but it actually made it worse. It became a symbol of the "beggar-thy-neighbor" policies⁷ during 1930's but at the same time it was the beginning of the end of major U.S. protectionism in the 20th century.

The Tariff-Growth Paradox arose in the 20th century economy. Protection in the inter-war period was associated with fast growth, but with a low growth thereafter. There was also a strong regional asymmetry: while the tariff-growth association was positive in the core⁸ and rich New World, it was typically negative in the poor periphery⁹. One explanation could be the different commodities traded and countries' specialization. We know that after the World War I, Europe changed its production patterns, turning from agricultural production to industrial one. This also occurred because of raised agricultural production of Argentina, which lowered the prices of goods to uncompetitive levels. Another explanation is the trading partners' reaction to a country's rise in tariff. If a country raises its own tariff after 1950, it hurts its growth. This would not have happened if partners' tariffs were higher as well. There is a clear paradox between the positive association between protection and growth before 1939 and negative association after 1950 (Clemens & Williamson, 2001).

Protection and growth are directly linked to trade. The period of divergence after World War I is known for its large decline in international trade that followed. U.S. imports from Europe declined from 1929 to 1932 to one third, while U.S. exports to Europe fell by one fourth in the same period.¹⁰ According to recent statistics we know that world trade fell by 14% due to declining income, 8% due to tariff increases, 5% due to deflation effect and 6% due to other factors (Madsen, 2001). The world trade was disorganised by profound disequilibriums caused by the World War. Exporting countries of primary goods suffered from overproduction, which pushed down the prices and lowered the purchasing capacity; lack of exchangeable currencies put brakes on the importations of many European countries. Together with aggravation of protectionism and exchange rate instability, the insufficient demand led to a decline in trade.

In the 1940's, the first multilateral treaties were signed and subsequently led to the liberalization and facilitation of trade. These could have been considered as positive implications of World War I on one hand. However, on the other hand, without the war happening, there would not have been any need to facilitate trade, because the markets in the late nineteenth century were liberal and well integrated.

5 Non-Economic Implications

One consequence of the massive redrawing of borders by the Treaty of Versailles was a large number of European refugees. Ethnic minorities made the frontiers rather unstable and this led to the expulsion of some groups, such as the Sudeten Germans. Therefore, the war gave birth to ideas of national self-determination of many ethnic minorities, such as Kurds, Basques, Chechnya, which were oppressed during the conflicts. Even today, we can see the results of minorities fighting for independence.

⁷ „Beggars-thy-neighbor“ policies means: policies designed to improve one's own lot at the expense of others.

⁸ Core: European countries

⁹ Periphery: New World, mainly Latin American countries

¹⁰ „Smoot-Hawley Tariff“. About.com. Available at: <http://americanhistory.about.com/od/greatdepression/f/smoot_hawley.htm>.

The Russian Revolution was also an impact of World War I because the war established the opportunity for Communists to rise to power. The communist regime would have never been considered a possibly valid form of government if it were not for the World War I and the consequent communist revolutions and movements all around the world. The war allowed the development of propaganda, when governments, empowered largely with competencies, used media to influence people. This led not only to the mentioned rise of communism, but also fascism and nazism. Nazi propaganda fed on the general German view that the Treaty of Versailles was unfair to them, bringing Adolf Hitler to power. The rise of extreme nationalism of Germany, Italy, and Japan is directly traceable to World War I events. On the other side, there was the isolationism passivity of the US, France, and the UK. Along with the devastated economies, unrest¹¹ and unhappiness with the ending of first World War, the two sides entered the second World War, which roots are found in the first one.

However, the 20th century brings also improvements in standards of living and a narrowing of global income inequality. Innovations and technological advances made during the World Wars pushed the international economy ahead, spreading the Industrial Revolution to the developing world. Countries were motivated to cooperate and to start regional and world integration, to avoid another disastrous wars such as the World War I. Many international organisations have been set up, such as UN, NATO, European Union, trade blocks, etc. This happened not only to preserve peace, but also to better cooperate in terms of commerce since more trading implies less fighting. The late 20th century brings openness and convergence.

Conclusion

Human losses were the most painful during and immediately after the war, but the financial and monetary costs of the war and the consequences were particularly heavy and long lasting (Benichi, 2008). World War I disrupted the preceding order in the global economy and led the world to divergence. The gold standard caused an even more profound recession and longer lasting recovery of countries from the following Great Depression as if they were not on the gold standard. Trade fell, inflation rose to unprecedented heights, capital markets collapsed, and countries began to implement protectionist policies with high tariffs to protect domestic production from the world's overproduction. Besides the economic impacts, the non-economic impacts had a profound economic implications as well. World War I gave birth to movements such as Communism and Nazism and brought ideas of self-determination of ethnic minorities and separated the previously integrated world into many groups, which built hatred that led to another World War. On the positive note, innovations brought technological advances. Ideas to preserve peace led to the creation of many regional and world integration organisations, leading to a world convergence in the late 20th century. Therefore, the World War I had very negative implications in the aftermath of the war, that caused an economic divergence, but at the same time bringing an impulse for economic convergence later on in the century.

Acknowledgement

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¹¹ Efforts made to establish the League of Nations in 1919 by US president Woodrow Wilson to preserve peace were not successful.

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Appendix

Figure 1

The Price Level, Nominal Wage, and Real Wage during the Great Depression

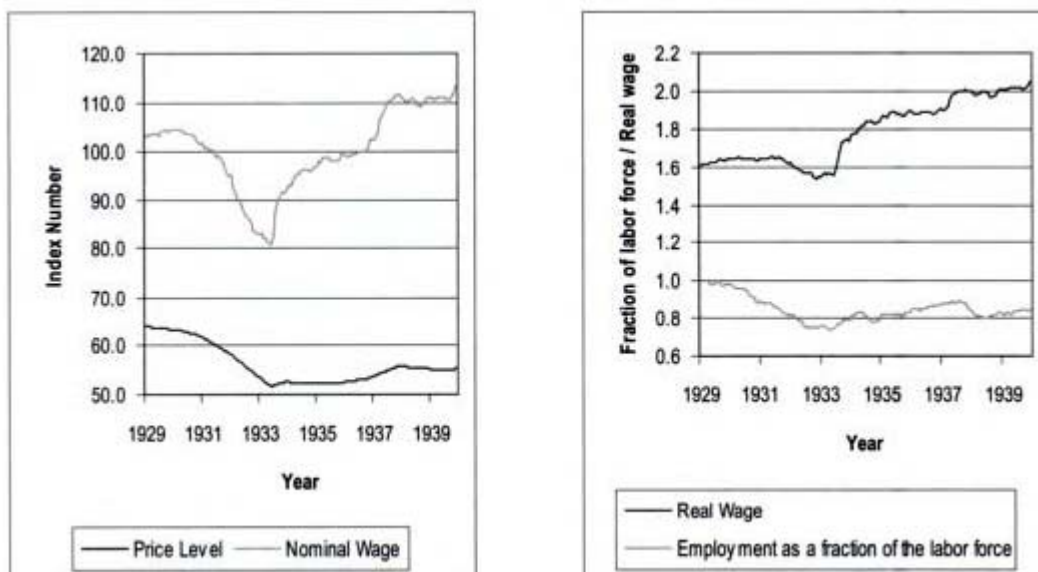
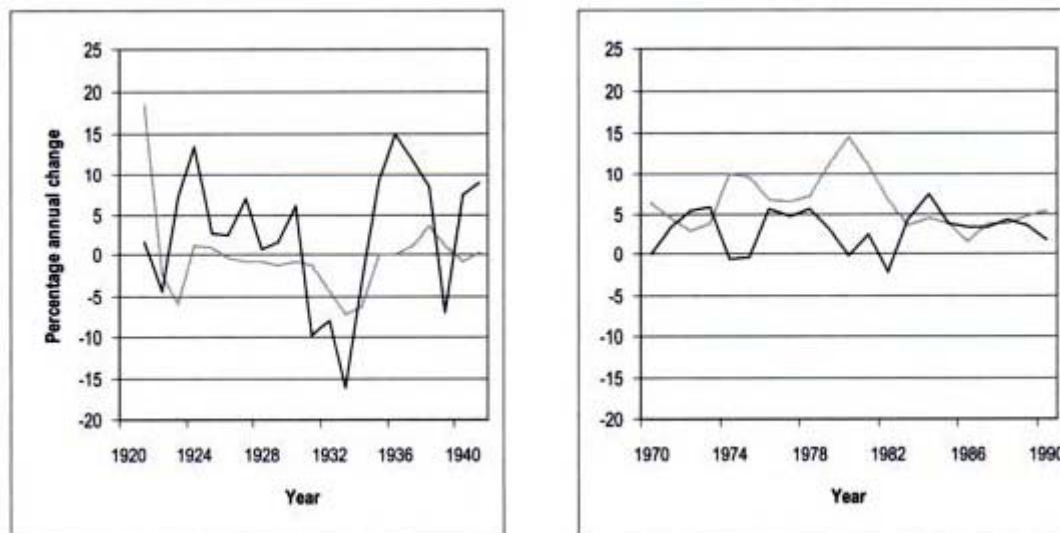


Figure 2

Output Growth and Inflation, 1920-1940 and 1970-1990



Source: KNOOP, T. A. (2004). *Recessions and Depressions: Understanding the business cycle*. Greenwood Publishing Group, 2004. pp.57-58. [online]. Available at: <http://books.google.sk/books?id=Ak_PQO2NprUC&pg=PA56&lpg=PA56&dq=table+great+depression+wages+prices&source=bl&ots=_qJNhFFQUE&sig=ejizlG7Nr2pCyONE84aJlfAGg8&hl=sk&ei=NtXITryPA4T14QSxkeEk&sa=X&oi=book_result&ct=result&resnum=9&ved=0CHwQ6AEwCA#v=onepage&q=table%20great%20depression%20wages%20prices&f=false>. [accessed 18. 10.2015].

Note: Darker lines in the Figure 1 and Figure 2 indicates percentage annual change in GDP/GNP. Lighter line indicates percentage annual change in price level (CPI minus food).

Corporate social responsibility: the key issues of implementation in Ukraine

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Abstract

Globalization process and environment variability lead to the transformation process and the search for new instruments of competitive advantage in the economy. One of these solutions could be a corporate social responsibility (CSR) – process, that takes into accounts responsible actions of enterprises to major stakeholders and aimed to establish the relationship between them. Effectively implemented CSR strategy not only allows corporations to implement a positive contribution to social welfare and environmental sustainability but also enhances business effectiveness and sustainability. The fact, that majority of the world's largest corporations are leaders in CSR is an indirect evidence of the positive impact of CSR on business performance. Thus, the Ukrainian companies should have a better policy in the sphere of CSR as they effect on both development of individual regions, and the GDP of the country as a whole. The author has researched process of implementing principles of CSR activities of Ukrainian companies. It was determined that this process is still at the stage of CSR development and adoption not as a PR instrument but as complete strategic decision. The author held a systematization of the existing features of the CSR implementation process in Ukraine. The article identifies basic factors of stimulation of CSR implementation and constraints of the process. Results of the research uncover recommendations about enhancing the effectiveness of CSR implementation within sectors of economy. Author proposed recommendations for increasing the effectiveness of the CSR implementation in the activities of Ukrainian enterprises based on practice of world leading companies.

Keywords: corporate social responsibility, sustainable development, stakeholders

JEL classification: A140, M2, F6

1. Introduction

The problem of social responsibility in Ukraine as well as in the world is inextricably linked with the problems of preserving of achieved position and increasing competition in the modern enterprise due to constantly changing environment. For today, the increasing of international competition and the development of the international market are objective facts that every enterprise has to take into account.

Among the factors that lead to higher levels of uncertainty and risk are globalization of economic processes; attempts to find a balance between state intervention in the economy and

its self-regulation; worsening environmental and social problems; accelerated development of new technologies; changing public attitudes and preferences. The situation is complicated by the fact that these factors affect all sectors of the global economy.

We can not carry out the research of corporate social responsibility without comparative characteristics of the models of interaction between public and private sectors of the national economy of developed countries because the system of social responsibility has comprehensive nature and affects the interests of all participants of socio-economic relations.

The analysis makes possible the identification of specific features of the formation of practical models in European countries, to determine the efficiency of their operations and to forecast national trends in this area.

1.1 Methodology

Conducting the research, we considered works of leading scientists, who worked in the field of formation and development of CSR processes in global and Ukrainian area (for instance, S. Goncharova, P. Drucker, M. Krichevsky, S. Turkin, M. Porter, M. Friedman etc.).

However, issues related to socially responsible motivation of Ukrainian enterprises; the reasonability their social activity increase; analysis of the current state policy in CSR issues were not considered in practical and theoretical terms. Therefore, it is considered necessary to continue further research of formation of methodological and practical foundations of the CSR institution in Ukraine, taking into account the leading international experience.

We have reviewed the analytical and statistical material of rating agencies in order to identify the factors that stimulate and restrict CSR development in Ukraine.

The author also proved differentiation is CSR structure within sectors of economy and provided recommendations about further implementation of the strategy CSR in the activity of Ukrainian companies.

2. The development and establishment of corporate social responsibility in Ukraine

Corporate social responsibility is a form of corporate self-regulation integrated into a business model. Corporate social responsibility is a set of targeted strategic measures address on socio-economic, environmental, legal issues, issues of industrial safety in the interests of both the company and stakeholders by investing in relevant activities. It allows an assessment of their implementation with a focus on getting the long-term benefits which can be estimated both in the form of a increasing performance, as well as a social impact or indirect benefit for businesses (using quality indicators) (Gorokhova and Chernata, 2011).

The aim of CSR is to take responsibility for actions of businesses and stimulate a positive impact within environmental protection, consumers, employees, local communities, stakeholders and other members of the public sphere.

In our opinion, CSR principles can be considered as additional tool of the organization activity as well as interaction of management and stakeholders. Social activity of companies that improve life of the local community can be also used in their own interests due to benefits provided by participation in society. More prosperous society in social terms has more favorable conditions for business activities. More over, the short-term social costs are high, but in the long term, it can stimulate revenue, because of forming a more attractive image of the company at the local community.

CSR is still at the stage of formation in Ukraine. Foreign companies and biggest Ukrainian enterprises are the most active in this area implementing international CSR principles into Ukrainian economic background.

It should be noted that it is too early to talk about complete social partnership in all sectors of economy regarding social issues in Ukraine; we observe the lack of substantiation of social activity, that contributes to more significant problems of the regional and national level.

After research and analysis of the current state of implementation of CSR in business activity we have selected the main features of CSR, which are inherent to modern Ukraine.

Table 1

Key problems of CSR development in Ukraine

Aspect of analysis	Characteristic
1	2
Legal aspects	Regulatory framework is not enough developed There is not clear state policy, and strategy in the field of CSR. There is no single coordinating authority that regulates CSR
Economic aspect	Still not well-developed methodological framework of assessment of strategy implementation CSR, even at the availability of practical opportunities of implementation of CSR. No-Financial Reporting tools are in process of development. Legal and regulatory framework are not finished, usefulness of non-financial reports publishing is not estimated enough. The reports are focused more on shareholders and partners, state than the local community
Ethical responsibility	Considered in most cases as PR, there is no consideration as strategic activity. It is associated with charity and philanthropy, applied for internal projects, which are focused on the staff
Public perception	Weak constructive interaction of equitable functioning in CSR projects exists. Stereotype of public perception of business i.e. unidirectional socially responsible business operations without the active participation of the community
The interaction of government, business and the public	A single complex program of interaction of CSR projects is absent. Multidirectional efforts are present.

Source: own processing, data extracted from UNU (2012), UCCSRD (2015)

In terms of environmental variability, the state as a subject of corporate relations should do the following:

- to develop and adopt national strategies of social responsibility;
- to fix on legislative and regulatory level CSR principles;
- to create the United agency of CSR coordinating, which would be also responsible for regulation of requirements for maintaining social reporting

- to implement the principles of social responsibility at all levels of government agencies;
- to develop a complex of measures which stimulate socially responsible companies (tax incentives, grants and other forms of support);
- to promote the establishment and development of funds of socially responsible investments;
- to create training programs for preparing of qualified personnel in the field of CSR.

2.1 The peculiarities of CSR implementation in enterprise activity

The main problem of CSR implementation in Ukraine, in conditions of transitive economy, is the absence of perception of CSR as a strategic function of companies management for sustainable development.

Therefore, the process of socialization of the corporate sector in Ukraine is connected with the transition to the voluntary adoption of social standards and norms of business policy under the state control. Further building of the national model CSR should be based on the adaptation of elements of already existing models to conditions of our country.

Analyzing the pace of CSR concept implementation in business practices in Ukraine, it should be mentioned a superficial understanding of the process and using mainly in PR. Foreign consulting companies perform only monitoring of social reports, which sometimes does not reflect the objective reality of business practices.

According to «Ernst & Young» (2013) research the specialists for the implementation and consultation in CSR research are absent in our country. Most of them are involved to projects in Ukraine from other countries. Only 21% of enterprises in Ukraine are ready to pay market price for this service that is complicating the situation. About 40% of Ukrainian companies do not care about CSR issues. This situation is caused by the dominance of thesis in economy and society that the primary purpose of any business is a profitable activity.

However, according to the monitoring of the domestic market that was held by Ukrainian rating magazine “GVardiya” (2013) a number of companies engaged in open CSR activities. They are SCM, DTEK, Kyivstar GSM, Nemiroff Holding, concern NIKO, etc. Evaluated social reports, the level of information openness, in particular the area of charity were estimated, while rating was formed. It is worth noting that most of these companies are also members of the UN Global Compact.

In 2013, the Ukrainian Center for CSR Development published a survey conducted among 600 Ukrainian companies which represented various industries. According to the results for the last five years, the share of Ukrainian companies that implement particular CSR strategy has increased from 33% to 57%. 19% of companies have a special budget for social responsible activity. The policy of social responsibility of Ukrainian enterprises is primarily directed at labor practice (but only 29.4% of companies have adopted codes of conduct) and measures of health protection and safety of consumers. The practices of energy saving technologies and sorting and recycling waste are also very common (26%).

The survey results also point to reasons why the remaining 43% of companies do not follow CSR strategy. Approximately 61% of respondents say that faced financial difficulties implementing CSR (they would implement CSR principles if could afford it), 16% have never thought about CSR and 11% of respondents say that social responsibility should fall on the shoulders state (UCCSRD, 2013 and EY, 2013).

Thus, the deficit of financial resources is a major restrictive factor of social responsibility in Ukraine.

Based on up mentioned, we suggest the next possible ways to overcome these barriers:

- relationship with stakeholders within implementation of social and environmental projects;
- investments in permanent projects based on long-term relationships with companies with good reputation. For instance, instead of a single charitable donation the company can implement a permanent program of support through charitable foundation with a positive reputation and allocate budget for these contributions.
- concentration and prioritization of programs that correspond CSR strategy of the company. CSR strategy must not conflict with the overall business strategy, it is important that management maintained and encouraged CSR strategy;
- conducting fundraising for CSR projects among the employees.

As a result of our studies, we have identified a number of priority factors of CSR strategic development implementation in domestic enterprises, within sectors of economy (Table 2).

Table 2

The objectives of CSR strategies implementation within sectors of economy in 2013, %

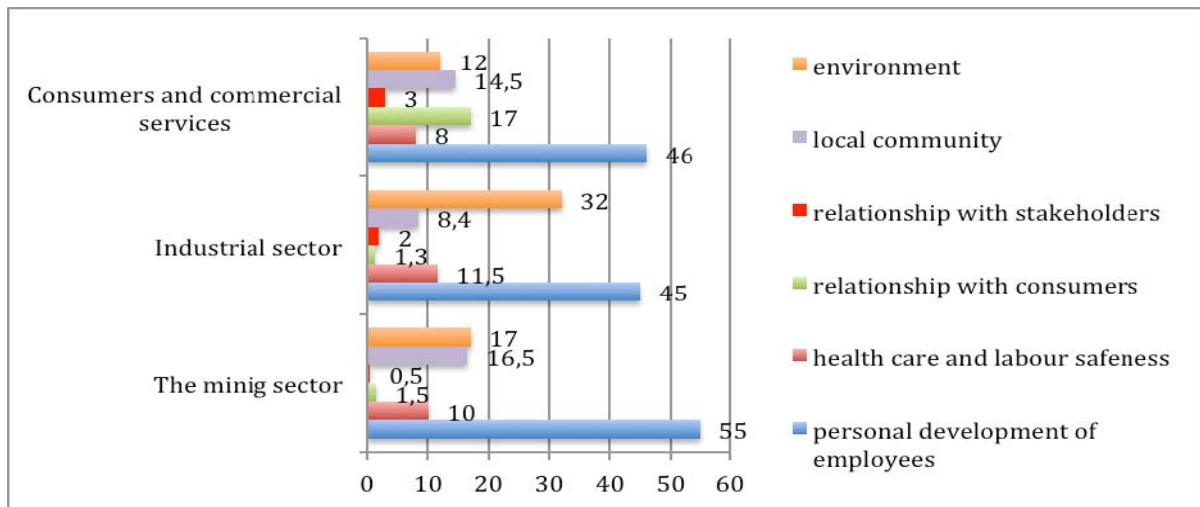
Sector	Objectives			
	Reducing risk	Reputation	Competitive advantages	Other
The mining sector	25	22	45	8
Industrial sector	25	26	48	1
Consumers and commercial services	16	32	47	5

Source: own processing, data extracted from UCCSRD (2013)

As result of a comprehensive analysis of corporate social investment, based on a quantitative approach that included measurement of financial spending of company on social programs and initiatives (data indicators included diagnostics of absolute and relative quantities of money allocated by companies in social programs), we determined that sectoral affiliation of companies has a significant effect on the cost structure of CSR (Figure 1) (CRM, 2015).

Figure 1

The structure of social investments in 2013, % of total social investment



Source: data extracted from UCCSRD (2013)

Based on the results of the analysis we received a following conclusions:

1. The development of CSR in domestic business as a whole starts in accordance with the worldwide trend of integration of CSR in the overall business strategy.
2. In recent years, leading enterprises of Ukraine have actively studied the international experience and have accumulated own experience in CSR.
3. The structure of social investment is still focused on “internal” stakeholders, primarily personnel, as opposed to “external” stakeholders.
4. In spite of the difficult crisis, CSR policy does not lose relevance. Enterprises implement sustainable development strategies.

From our point of view, further development of CSR and better functioning of enterprises should be considered a corporate social activity as a complete innovative system that provides companies a sustainable competitive advantage.

An important component of the successful implementation of strategic decisions is constant interaction with both “internal” and the “external” stakeholders. Balanced beneficial relationship with them should be regarded as the most important resource of sustainable development of companies (European Commission, 2010).

Also a priority, for example, in the field of environment, is the reduction of production processes impact. In the fight against global climate change one of the priorities is the improving methods of monitoring greenhouse gas emission (energy and carbon intensity of production), biodiversity protection, energy saving, land reclamation, waste management, and so on.

Thus, environmental protection, active measures of working conditions improvement, investment in clean technologies, cooperation with local community – all that would be able to improve the economic stability of the company.

Achieving economic benefits will contribute the stability of financial investment, growth and competitiveness legislative encourage responsible corporate behavior.

3. Conclusions and policy implications

The article determined features of foreign and domestic approach of implementing responsible policy principles in enterprises. The comparison of existing CSR models within regions of the world, including models of European countries based on mental individualities was conducted.

Formation model of CSR in Ukraine related on national characteristics, undergoes transformation and changes in its formation and currently is in the process of gradual implementation.

Transformational changes of modifications of economic system and business structures are determined, which is caused by the policies aimed at long-term sustainable development, that also takes into accounts different stakeholders of enterprises.

The main factors and barriers of implementing socially responsible principles in the activities of domestic companies were grouped. The author determined primary factors CSR implementation within sectors of economy. We have found that the industry identity of enterprises significantly affects the CSR cost structure.

We have proved that the process of socialization of corporate governance in the Ukraine is related on the transition to the concept of sustainable development as a balance between the needs of the current generation considering adapting the environment, economic and social spheres to the existing conditions of functioning enterprises, without prejudice to satisfy similar needs future generations.

The growing competition in domestic and international markets, in addition to traditional economic aspects of the requirements of social and environmental issues from stakeholders and process of constructive interaction with them, encourages Ukrainian enterprises to consider it in their activities. Thus it is necessary to implement the algorithm in the transition of Ukrainian enterprises to the status of socially responsible and steps of implementation of CSR in the activity of individual enterprises (different ownership, fields and size), and the country as a whole.

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The efficiency of answer switching in multiple choice tests in international economics

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Abstract

The present paper uses multivariate analysis to identify patterns of answer switching in multiple-choice tests on a sample of 1,285 tests from International Economics taken by students of the University of Economics in Bratislava between the academic years 2008/2009 and 2013/2014. It shows that for each answer change that leads to loss of points more than two changes that increase test score are made. Answer switching is beneficial not only for the best students, but also for the majority of students whose final test score is low. Gains from switching answers are positively correlated with test score. Even though it generally brings additional test points, students often see answer switching as counter-productive, because their perceived confidence is higher than the success rate of answer switching.

Keywords: international economics, multiple-choice test, answer switching

JEL classification: A20

1. Introduction

Multiple-choice tests are the most commonly used format of assessing knowledge of students (Lau et al., 2011). They are popular mainly due to their high reliability, ease of administration, minimal bias in scoring (Handelman, 1977), and high consistency of performance (Bowen and Wingo, 2012). They have been widely used to replace problems, essays or oral questions (Douglas, Wilson and Ennis, 2012) in a response to growing numbers of students and budget constraints (Becker and Johnston, 1999). Yet the use of multiple-choice tests is controversial: While some studies have shown that they are only capable of indexing superficial, fact-oriented learning (Williams and Clark, 2004), other papers indicate that a well-constructed multiple-choice test can assess critical thinking and the understanding of abstract concepts (Wallace and Williams, 2003). This controversy is a fertile ground for research.

The aim of this paper is to provide an answer to the question of efficiency of answer switching in multiple-choice tests. Our approach differs from the previous studies in several points. First, it is the first test conducted in Central Europe. The vast majority of previous tests focused on Western students, yet as showed by Milia (2007) there might be regional differences. Second, our data extends over period of six academic years and over different groups of students, which allows us to verify robustness of the results. Third, this is the first test conducted in the field of international economics. It will be shown that answer switching is beneficial for the majority of students (across all test scores), and that for each answer change that led to loss of points more than two changes that increased test score were made. Gains from switching answers are positively correlated with test score, which indicates that students with better knowledge gain more points from switching answers than their less prepared peers.

In the following section, brief literature review is presented. Section 3 shows the methodology and research approach applied. Section 4 analyzes and discusses results. Finally, the last section concludes.

2. Brief literature review

Abundant research exists in the field of multiple-choice tests. Some of the most discussed topics include multiple-choice test grading schemes, the importance of different types of test feedback and other psychological aspects of testing such as student confidence.

A variety of grading schemes can be applied to multiple-choice testing. These have been debated extensively by numerous authors in a wide range of settings and from different perspectives (see for example Ben-Simon, Budescu and Nevo, 1997 or Di Battista et al., 2009). In the basic approach called “number correct scheme”, points are awarded for each correct answer. This method does not discourage guessing when students are not sure about their answers. As a result, many alternate schemes have been proposed, which correct for this issue. These include liberal testing (students are allowed to select more than one answer), elimination testing (students are expected to select incorrect answers), confidence marking (students assign confidence levels to their answers), probability testing (students allocate 100 points among all given alternatives), complete ordering (students rank alternatives according to their degree of plausibility) and partial ordering (students are expected to select one correct answer, but are allowed to rank alternatives according to their degree of plausibility if not sure). Alternate schemes increase the variance of test scores and allow identifying the brighter and the weaker performers more easily than the conventional method (Ng and Chan, 2012). Another option is to introduce correction for guessing, where a percentage of mark is deducted for incorrect answers. This leads to a higher number of questions left unanswered and – similarly to other non-conventional grading schemes, to lower test scores (Betts et al., 2009).

Even more important than choosing the right grading scheme is choosing the most efficient feedback type so that students’ errors do not persist. It has been argued that feedback is most useful when there is a delay between answering a question and receiving feedback (Butler, Karpicke and Roediger, 2007), i. e. feedback is not provided during the testing or immediately after it. While this might appear theoretically unfounded, it is a result of anticipation of the upcoming feedback and is significant especially when the feedback is provided after unpredictable time duration (Mullaney et al., 2014). Concerning the types of feedback, Marsh et al. (2012) have shown that verification feedback (labeling students’ answers as correct or incorrect) is less efficient than answer feedback (providing students with correct answers), but it still “help[s] participants narrow down the possible answers and identify specific lures as false.” This is a key difference from short-answer tests, where verification feedback does not improve students’ performance on later tests.

Another branch of researchers has been focusing on student confidence. In an interesting study Curtis et al. (2013) asked students not only to select the most correct answer for each question in the multiple-choice test, but also to indicate their confidence in it for each question. Identifying both correctness and confidence allowed them to distinguish between uninformed (incorrect and not confident) and misinformed (incorrect but confident) responses. Their results show that students were misinformed much more often than uninformed. Extensive research has also been conducted in the areas of cheating on exams (Nath and Lovaglia, 2009), optimal number of alternatives (Bruno and Dirkzwager, 1995), the role of gender differences in testing (Ng and Chan, 2009), etc.

Prevalent method of testing requires participants to choose one alternative from among all options. As a result, participants know that only one answer per question is correct and if

unsure they are under constant temptation to change their original selection. These answer changes can lead to three types of events: (1) change of an incorrect answer to the correct one, (2) change of an incorrect answer to a different, yet still incorrect option, or (3) change of the correct answer to an incorrect one. After the test students usually appear not to remember the correct changes they had done; however, if a change was made from the correct answer to an incorrect one, they are sure to notice. This leads to an often heard complaint that “if I had not made the change, I would have passed the test”. As a result, the initial answer is widely believed to be the correct one (Benjamin, Cavell and Shallenberger, 1984). But is it really the case that a disproportionately large share of answer changes is incorrect, or is it just an erroneous subjective feeling of students?

There have been a few studies researching the impact of answer switching. Milia (2007) used a sample of almost 3 thousand students to find that more than half of the participants changed at least one answer; approximately 50% of these changes increased students’ test score and 25% decreased it. No significant gender differences were identified. Similar results had been reported by Kruger, Wirtz and Miller (2005), Nieswiadomy (2001) or Geiger (1996). Their studies indicate that for each point lost, two points were gained; hence the answer-changing behavior is beneficial.

3. Research approach and methodology

The paper uses multivariate analysis to identify patterns of answer switching in multiple-choice tests. Our research is based on 1285 tests from International Economics that were taken by students of the University of Economics in Bratislava between the academic years 2008/2009 and 2013/2014. The dataset includes all students that took the course and attended final exam in the mentioned 6-year period. The tests contained 20 multiple-choice questions with four options each and exactly one correct answer per question. Students did not know their results were recorded for research purposes; however, as this was an important part of their final evaluation, each student had a motivation to achieve the highest possible score. A number correct scheme of grading was applied with no penalization for incorrect answers. Maximum attention was paid to ensure participants do not cheat – each student was sitting at a separate desk and the group was under constant supervision. Different variants of the test were prepared, all of them containing similar questions and having similar degree of difficulty. Each row of students in classroom received a different variant of test.

Table 1
Descriptive statistics

Academic year	Number of tests	Males	Females	Average score	Median score	Min score	Max score	Std. dev.
2008/2009	102	50	52	16.96	17	11	20	2.15
2009/2010	121	44	77	17.14	18	7	20	2.07
2010/2011	199	63	136	14.14	14	7	20	2.80
2011/2012	217	75	142	14.00	14	5	20	3.00
2012/2013	534	178	356	14.05	14	3	20	2.92
2013/2014	112	26	86	14.84	15	8	20	3.07
All data	1285	436	849	14.65	15	3	20	3.02

Source: own research.

Time allowance for the test was 30 minutes. This was generous and no student indicated that the time was short and he/she were in a need of additional time. All questions were

straightforward in a sense that they did not include any ambiguous options. All tests were corrected manually by two teachers using the same key.

Summary statistics of the data set show that out of the maximum value of 20 (1 point for each question), median score reached 15 (Table 1). This varied between academic years as a result of a different composition of classes, possibly also because of differences in test difficulty. In line with general trend in economics education in Slovakia, gender balance has changed over time from a balanced state to a state with the majority of female students. The number of test participants differed widely among years, depending on the number of students and the number of course cycles offered.

To minimize mistakes, dataset for the present research was created by a single person (the lead author) and double-checked by the co-author. For each test, academic year, gender, final score, number and types of answer changes were recorded. The research distinguishes between three types of answer changes: change of an incorrect answer to the correct one ($I \rightarrow C$), change of an incorrect answer to an incorrect answer ($I \rightarrow I$) and change of the correct answer to an incorrect one ($C \rightarrow I$). On some occasions, one item was changed more than once, for example from the correct answer to an incorrect answer and then to another incorrect answer. This case was always considered as a $C \rightarrow I$ change. Classification of all other multiple self-corrections was straightforward.

In a hypothetical situation where participants had no knowledge of the tested subject, the probability of choosing the correct option would equal 0.25 for each item. Under the same setting, if a participant decided to change his/her original choice, the probabilities of the occurrence of the three events would be $P_{(I \rightarrow C)} = 0.25$, $P_{(I \rightarrow I)} = 0.50$, and $P_{(C \rightarrow I)} = 0.25$. Obviously, in reality, participants are expected to have decent knowledge of the tested subject, and hence the probability of choosing the correct option is much higher than 0.25. As a result, $P_{(I \rightarrow C)}$ is expected to be the highest from among the three types of events.

4. Results and discussion

Overall results show that 41 % of participants made no answer changes (Table 2). A total of 1347 answer changes was recorded, which implies an average of 1.05 changes per test; if switch-free tests are excluded the average increases to 1.79. Answer changes increased average test score of participants by +0.36 points, which is a clear indication that changing answers was not a contra-productive activity. More than 50 % of all switches led to changes of an incorrect answer to the correct one. For each change that led to a loss of score, at least two changes that led to a score increase were made.

Table 2
Overall results

	Number of tests	Average score	Median score	None	Total changes	$I \rightarrow C$	$I \rightarrow I$	$C \rightarrow I$	Score change
Males	436	14.40	14.50	184	476	56.1 %	18.1 %	25.8 %	+0.33
Females	849	14.77	15.00	349	871	58.2 %	19.5 %	22.3 %	+0.37
All data	1285	14.65	15.00	533	1347	57.5 %	19.0 %	23.5 %	+0.36

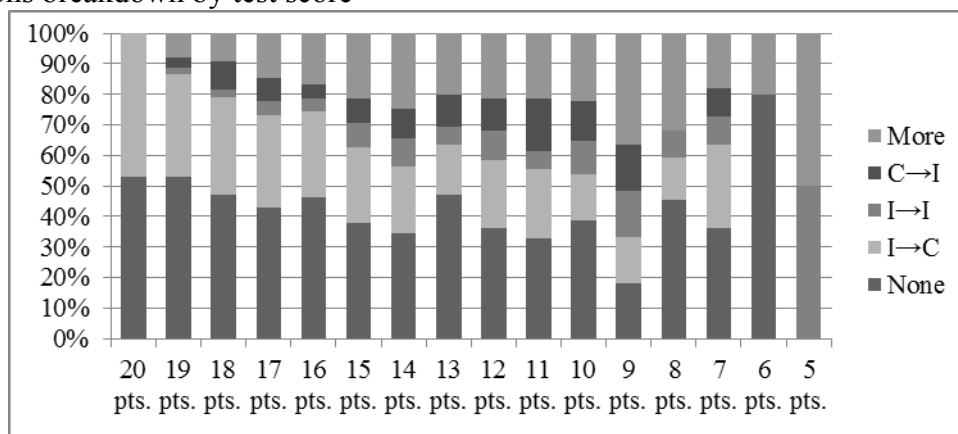
Source: own research.

Note: "None" is the number of tests with no answer changes. "Total switches" is the total count of answer changes in all tests.

While it appears that male participants were more inclined to switch answers and made incorrect changes more often than female participants, the differences are not statistically significant.

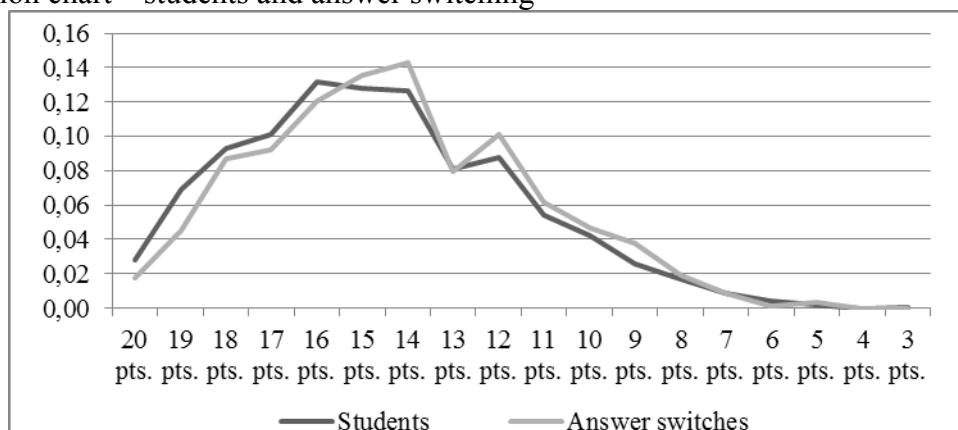
An interesting pattern can be observed when breaking down the data by test score (Figure 1). It is not very surprising to see that students with a higher test score made better answer-switching decisions; indeed, it is one of the reasons behind their high score. However, it is less expected to see that the share of participants with no answer changes is positively correlated with test score ($\rho = 0.65$). Students with better test results appear to be more confident about their answers and consequently make fewer changes. Answer changes are not distributed uniformly within the sample, but obviously are more concentrated with lower-performing participants (Figure 2). This is interesting especially when considering that answer changes were found to have a positive impact on overall test score, and as will be shown later in the paper (Figure 4), they are beneficial not only on average, but also for low performers.

Figure 1
Corrections breakdown by test score



Source: own research.
Notes: C – correct answer, I – incorrect answer.

Figure 2
Distribution chart – students and answer switching



Source: own research.

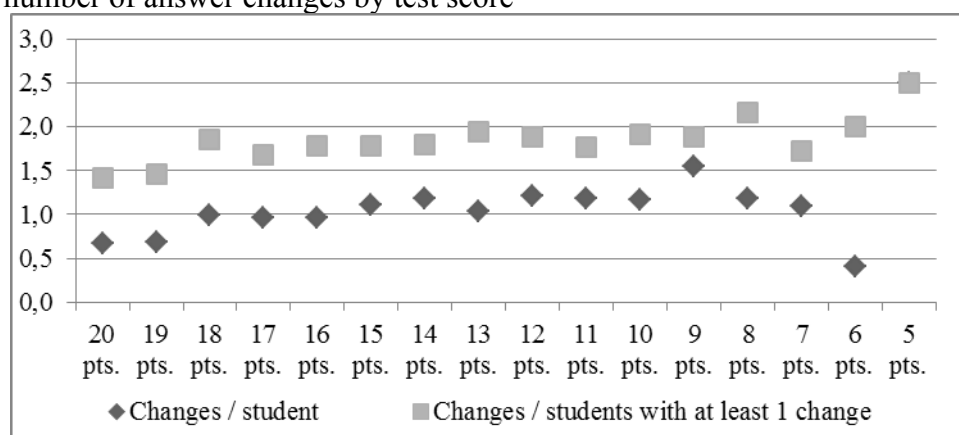
A medium level of negative correlation can be observed between test score and the share of participants who made more types of answer changes ($\rho = 0.41$). 40 % of the students made

answer changes of only one type – the majority of them changed to the correct answer (25 %), 8 % to an incorrect answer and 7 % went from an incorrect to another incorrect answer. Further 18 % of the participants made answer changes of multiple types, the most common being a combination of several correct with one incorrect change. Similar to the overall results, more than a half of the students (54 %) gained points from their changes, while less than a fifth (17 %) lost them and the rest achieved a neutral outcome. 3 % of the total sample made all three types of changes.

Average number of answer changes is negatively correlated with test score (Figure 3; $\rho = -0.49$). Students who made more answer changes were found to reach a lower score. For example, students who scored 9 points had on average 1.55 answer changes per test, whereas those who scored 19 points had an average of 0.69 per test. The correlation is even stronger when the averages are calculated from participants with at least one answer change ($\rho = -0.75$).

Figure 3

Average number of answer changes by test score



Source: own research.

However, one must be careful not to interpret the high correlation in a causal sense. It would be erroneous to think that more answer changes lead to more mistakes and a lower test score. First, Pearson correlation coefficient for test score and number of answer changes is very low and insignificant (-0.11) if calculated from the whole sample, as opposed to the coefficient calculated from average data grouped by test score. Moreover, students who made higher number of answer changes actually gained more points by doing so than students who made a lower number of changes (Table 3), although average gain per change was not necessarily higher.

Table 3

Points gained by answer changes (breakdown by number of answer changes)

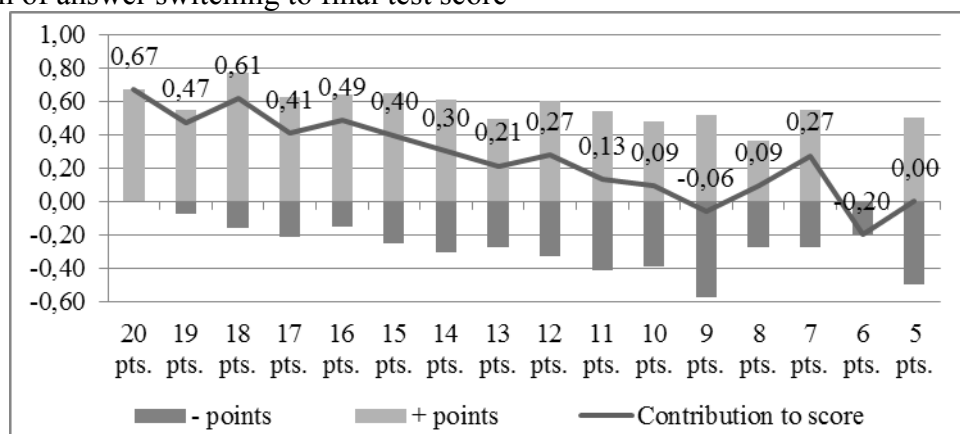
Number of switches	0	1	2	3	4	5	6	7
Number of students	533	406	184	102	43	10	4	3
Total points gained	0	142	133	93	60	14	-3	18
Points gained per student	0.00	0.35	0.72	0.91	1.40	1.40	-0.75	6.00

Source: own research.

Switching answers led to improvements in test score of three fifths of participants. For 20 % the result was neutral and for the remaining 20 % answer switching was a detrimental activity. Importantly, average contribution of answer changes was positive for all test score groups with two minor exceptions (Figure 4). This means that even those students whose knowledge was relatively low gained points from changing answers, even though their gain was lower when compared to students with higher level of knowledge. Correlation between total score and points gained by switching answers is low (0.15), but positive and highly statistically significant. The average number of points gained by switching answers increased along with total score. This is evidence that students with better test score (which is primarily a result of their better knowledge, not a result of better luck in guessing) do better decisions when they decide to change answers. There is a score threshold under which participants tend to lose points by switching answers – in our sample the threshold appears to be 9 to 10 points, yet in general it depends on test difficulty and participants' characteristics.

Figure 4

Contribution of answer switching to final test score



Source: own research.

To test the robustness of results, statistical analyses were run separately on data for each academic year in our sample (Table 4). We have already shown that summary statistics of our data set differ over time; each year included a different number of participants, had a different gender structure and the tests might have differed in difficulty. Although several indicators (such as the share of students with no answer changes, or average number of changes per test) differ widely across academic years, the main conclusions remain valid: more than half of the answer changes were beneficial, their average contribution to test score was positive and there is a significant positive correlation between test score and the gain from switching answers.

Table 4
Results by academic year

	Number of tests	None	Total changes	I→C	I→I	C→I	Score change
2008/2009	102	58 (56.9 %)	74 (72.5 %)	63.5%	13.5%	23.0%	+0.29
2009/2010	121	64 (52.9 %)	88 (72.7 %)	67.0%	12.5%	20.5%	+0.34
2010/2011	199	50 (25.1 %)	278 (139.7 %)	53.6%	23.4%	23.0%	+0.43
2011/2012	217	77 (35.5 %)	251 (115.7 %)	56.2%	17.5%	26.3%	+0.35
2012/2013	534	234 (43.8 %)	545 (102.1 %)	57.1%	19.4%	23.5%	+0.34
2013/2014	112	50 (44.6 %)	111 (99.1 %)	60.4%	18.0%	21.6%	+0.38

Source: own research.

Note: “None” is the number and share of tests with no answer changes. “Total switches” is the total count and share of answer changes in all tests.

The robustness of results is important especially when considering the share of females among participants, which has increased considerably from 2008/2009 (51 %) until 2013/2014 (77 %). While it is not the aim of the present paper to study gender-based differences, there are several studies that show psychology-induced differences in multiple-choice test (see for example Ben-Shakhar and Sinai, 1991; Walstad and Robson, 1997; Ng and Chan, 2008; or Taylor and Lee, 2012). However, our results do not show any significant differences in the efficiency of answer switching between individual academic years, hence no role of gender was directly observed.

Returning to the original motivation of this paper, why do students always complain that the majority of answer changes on multiple-choice tests is incorrect? We have seen that their suspicion is false and on average, answer changes lead to better test scores. The problem might lie with confidence. Research of Curtis et al. (2013) indicates that students are confident in more answers than are actually correct. Even though answer switching itself is a sign of a lower level of confidence, it is probably the case that this perceived confidence is still higher than the success rate of answer switching. If a student expects his/her answer to have a higher chance of being correct than is really the case, a negative memory might get associated with answer switching. For example, a student who expects 65 % of the answer changes to be correct will be disappointed to find out that only 57 % are. As a result, they will see answer switching as contra-productive, even if it might have actually increased their test score. This assumption was confirmed in 20 post-exam interviews with participants.

Several other participants whose final score was one point below the passing mark (14 points) expressed their dissatisfaction and blamed their poor result on switching answers, not realizing that even though it is true that they lost one point due to an answer change, they also gained one or more points thanks to other answer changes. Therefore, the negative general attitude towards answer switching appears to be a result of psychological factors rather than of real losses.

5. Conclusions

The present paper has explored efficiency of answer switching in multiple-choice tests based on a sample of 1285 tests in international economics. It was shown that for each answer change that led to loss of points more than two changes that increased test score were made. Moreover, answer switching proved to be beneficial not only for the best students, but also for students whose final test score was low, even though their gain was lower than the gain of the former group. The conclusions are consistent over time and appear to be independent from

gender. Similar results had been reported by other researchers based on data from different courses in various countries (e. g. Milia, 2007; Geiger, 1996).

The results have important educational implications. The belief that the initial answer is the correct one (Benjamin, Cavell and Shallenberger, 1984) is not always true, and it appears that when in doubt, it might be better to change answer. Obviously, this does not mean that students should be encouraged to do so. However, it should be clearly communicated to them that there is ample evidence that test scores and gains from switching answers move in the same direction, and if they are confident in the majority of other test items, chances are it will pay off to make changes in the items they are not confident about.

Even though every precaution was taken to prevent cheating, students are smart and they always seem to be one step ahead of teachers. Therefore, it cannot be ruled out that our results are slightly overestimated and a part of answer changes was induced by cheating. Another factor that could be taken into account is the share of answers participants considered changing, but decided not to; this would be an important next step for further research to make the picture more complex.

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Bond Portfolio Management Strategies

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Abstract

The aim of this working paper is to provide an overview of bond portfolio management strategies. Bonds are fixed-income instruments or debt instruments, which evolved from straight bonds with simple cash flow structures to securities with increasingly complex cash flow structures. These financial instruments have their important place in investors' portfolios. In order to manage them effectively it is necessary to correctly assess the wide range of risks which are connected with bonds and, at the same time, to foresee the future market situation.

Key words: bonds, risks, portfolio management

JEL classification: G11, G12

1 Introduction: Bond Portfolio Management Specifics

A portfolio can be defined as a mix of various investments. It is created in order to minimise risks connected with investing and, at the same time, to find the best ratio between revenues and risk (Chovancová, Žofčák, 2012).

Bond portfolio management is a specific type of portfolio management, whose features are based on the properties of bonds as fixed-income financial instruments. Bond portfolio management is based on managing fixed income investments in pursuit of a particular objective, usually maximizing return on investment. This is achieved primarily by minimizing risk and managing interest rates.

This type of portfolio management has to take into account risks connected with bonds. The overview of these risks is stated in the Table 1.

Bond portfolio strategies can be classified as either **active strategies** or **passive strategies** (Fabozzi, 2009). Essential to all active strategies is specification of expectations about the factors that influence the performance of an asset class. Passive strategies involve minimal expectational input.

Strategies between the active and passive extremes have sprung up that have elements of both extreme strategies.

Table 1

Summary of Risk Factors of Bonds

Risk Factors	Risk Factor Measurement	Market Changes that Affect Risk Factors
Market Risk	Duration	Change in Yield Levels—Parallel Change in Yield Curve
Yield Curve Risk	Convexity/Distribution of Key Rate Durations (Bullet, Barbell, Ladder, et al.)	Change in Slope and Shape of Yield Curve
Exposure to Market Volatility	Convexity <ul style="list-style-type: none"> Negatively convex assets (e.g., callables)/portfolios are adversely affected by volatility Positively convex assets (e.g., putables)/portfolios are benefited by volatility 	Market Volatility <ul style="list-style-type: none"> Historical, based on past actual prices or yields Expected, as indicated by implied volatility of options
Sector Allocation	Percent allocation to each macrosector, microsector, and security and the option-adjust spread (OAS) of each	Change in option-adjusted spreads (OAS) of macrosectors, microsectors, and individual securities
Credit Risk	Average credit rating of portfolio and its sectors	Changes in credit spreads (e.g., spread between Treasuries versus AAA corporates; or spread between AAA corporates versus BBB corporates); also specific company rating changes
Liquidity Risk	Typically measured by the bid/ask price spread—that is, the difference between the price at which a security can be bought and sold at a point in time The liquidity of a security refers to both its marketability (the time it takes to sell a security at its market price, e.g., a registered corporate bond takes less time to sell than a private placement) and the stability of the market price	Different securities have inherently different liquidity (e.g., Treasuries are more liquid than corporates). The liquidity of all securities, particularly riskier securities, decreases during periods of market turmoil.
Exchange Rate Risk	Changes in the exchange rate between the U.S. dollar and the currency in which the security is denominated (e.g., yen or euro)	Volatility in the exchange rate increases the risk of the security. For a U.S. investor, a strengthening of the other currency (weakening of the U.S. dollar) will be beneficial to a U.S. investor (negative to a U.S. investor) who holds a security denominated in the other currency

Source: Fabozzi, F., J., Martellini, L., Priaulet, P.: *Advanced Bond Portfolio Management: Best Practices in Modeling and Strategies*, John Wiley & Sons, Inc., 2006.

2 Passive Bond Strategies

The simplest method of the creation of a bond portfolio is **buy and hold strategy** (Chovancová, Žofčák, 2012). The main feature of this strategy is that the asset manager buys bonds and holds them until they mature.

Sometimes, **modified buy and hold strategy** is used. In this case specific bonds are bought and held in portfolio until they reach the investment horizon. The manager has the possibility to sell them prematurely and in exchange he gets bonds with a higher quality.

The next strategy is known as **indexing**. It is a method when the asset manager creates a portfolio whose performance tracks the performance of a selected market index (e.g. JP Morgan EMBI Index), which is also called the **benchmark**. In this method the portfolio of bonds exactly copies the structure of the market index. The successfulness of this method is evaluated by how exactly the bond portfolio performance tracks the evolution of the index. The difference between them is called as the **tracking error**.

The tracking error is calculated as follows:

Step 1: Compute the total return for a portfolio for each period.

Step 2: Obtain the total return for the benchmark index for each period.

Step 3: Obtain the difference between the values found in Step 1 and Step 2 = active return.

Step 4: Compute the standard deviation of the active returns, which is the tracking error.

Calculations computed for a portfolio based on a portfolio's actual active returns reflect the portfolio manager's decisions during the observation period. We call tracking error calculated from observed active returns for a portfolio **backward-looking tracking error**. It is also called the **ex-post tracking error** and the **actual tracking error**.

Given a manager's current portfolio holdings, the portfolio's current exposure to the various risk factors can be calculated and compared to the benchmark's exposures to the factors. Using the differential factor exposures and the risks of the factors, a **forward-looking tracking error** for the portfolio can be computed. This tracking error is also referred to as **predicted tracking error** and **ex-ante tracking error**.

We can think of active versus passive bond portfolio strategies in terms of forward-looking tracking error. In constructing a portfolio, a manager can estimate its forward-looking tracking error. When a portfolio is constructed to have a forward-looking tracking error of zero, the manager has effectively designed the portfolio to replicate the performance of the benchmark.

Passive strategies require no forecast of future market changes - both the portfolio and benchmark respond identically to market changes. The scale of tracking errors is mentioned in the following table.

Table 2:
Magnitude of Tracking Errors

TE	Strategy
0%	Passive Portfolio (Indexed)
1%–2%	“Index plus” strategy
2%–4%	Moderate risk strategy
4%–7%	Fairly active strategy
Over 8%	Very aggressive strategy

Note: TE measured in terms of the number of standard deviations.

Source: Fabozzi, F., J., Martellini, L., Priaulet, P.: Advanced Bond Portfolio Management: Best Practices in Modeling and Strategies, John Wiley & Sons, Inc., 2006.

3 Active Bond Strategies

While a buy-and-hold strategy can provide income from a bond portfolio, the strategy for getting the optimal potential out of any bond portfolio is active management. Active strategies are based on a forecast, because the portfolio and benchmark will respond differently to market changes. In an active strategy, the portfolio manager must decide in which direction and by how much the risk factor value of the portfolio will deviate from the risk factor value of the benchmark on the basis of expected market changes.

The goal of an actively managed portfolio is to achieve greater risk-adjusted returns than a buy-and-hold strategy. As bonds have become an even more important asset class, associated with reducing overall portfolio risk, the technological advances, modeling techniques and rapid data dissemination have grown in the business. The business of active bond-portfolio management has evolved, and the styles of management have become more sophisticated.

The main difference between passive and active management is the assumption that the portfolio manager, whether it is a large institution or an individual, has the ability to either predict the direction of interest rates or exploit mispriced securities.

Types of active bond strategies:

- valuation strategy,
- interest rates anticipation,
- yield spreads,
- bond swaps.

3.1 Valuation Strategy

This type of strategy is based on the portfolio manager's ability to identify and buy *undervalued* securities and avoid those that appear to be *overvalued*. This technique necessitates some experience and in-depth knowledge of bond markets.

3.2 Interest Rates Anticipation

Interest rate anticipation is one of the most common - and probably riskiest - strategies, since it relies on forecasting. The aim is to achieve a profit based on a good prediction of interest rates evolution. When forecasting interest rates, the portfolio manager buys bonds if he expects the decline in interest rates, because the price of bonds will go up and, vice versa, the investor sells the bonds when he expects the rise in interest rates and thus the price of bonds goes down.

Since *duration* is a more accurate metric to measure volatility, it is used to adjust the portfolio. Duration is lengthened in an effort to capture an increase in value when the prediction is that interest rates will fall. Conversely, if interest rates are expected to rise, the move would be to shorten the duration of the portfolio to preserve capital and potentially reinvest in shorter-term bonds when rates are presumed to be higher.

This technique is based on a close monitoring of the monetary policy of central bank and fiscal policy of government, based on which it is possible to anticipate the future evolution of inflation and changes of the interest rates environment.

3.3 Yield Spreads

This is an active bond strategy which is based on the correction in temporarily abnormal spreads. Yield spread strategies involve positioning a portfolio to capitalize on expected

changes in yield spreads between sectors of the bond market. Swapping (or exchanging) one bond for another when the manager believes that the prevailing yield spread between the two bonds in the market is out of line with their historical yield spread, and that the yield spread will realign by the end of the investment horizon, are called intermarket spread swaps (Fabozzi,2009). Credit or quality spreads change because of expected changes in economic prospects. Yield spreads are determined by the pricing of bonds in various segments of the market. The unique characteristics of the bonds relate to the varying prices and related yields.

3.4 Bond Swaps

The key to a bond-swap strategy is to simultaneously sell one bond and purchase another for the sole purpose of improving the portfolio's return. Investors engage in bond swapping with the goal of improving their financial positions. Bond swapping can reduce an investor's tax liability, give an investor a higher rate of return or help an investor to diversify a portfolio.

3.5 Leverage Bond Strategies

The manager can use this type of strategy in order to enhance portfolio returns. A portfolio manager can create leverage by borrowing funds in order to acquire a position in the market that is greater than if only cash were invested (Fabozzi,2009). The funds available to invest without borrowing are referred to as the "equity." A portfolio that does not contain any leverage is called an unlevered portfolio. A levered portfolio is a portfolio in which a manager has created leverage.

The basic principle in using leverage is that a manager wants to earn a return on the borrowed funds that is greater than the cost of the borrowed funds. The return from borrowing funds is produced from a higher income and/or greater price appreciation relative to a scenario in which no funds are borrowed.

Leveraging is a necessity for depository institutions (such as banks and savings and loan associations) because the spread over the cost of borrowed funds is typically small. The magnitude of the borrowing (i.e., the degree of leverage) is what produces an acceptable return for the institution.

4 Matching Strategies (Match-Funding Strategies)

These strategies are a combination of active and passive bond strategies. They are used to create a bond portfolio that will finance specific funding needs. If the timing and cash flow amounts of these needs can be predicted, then a matching strategy can be used to support them. The main aim of the strategy is to minimise the effect of interest rates volatility. This strategy involves matching a "liability" with an asset, a bond investment. The two most commonly used matching strategies are *cash flow matching (dedicated portfolio)* and *immunization*.

4.1 Cash Flow Matching

This technique is used to secure a particular group of liabilities. The cash flow of bond portfolio is timed so as to cover these liabilities. There are two types of this strategy: *accurately timed dedicated portfolio* and *reinvesting dedicated portfolio* (Chovancová, Žofčák, 2012). An accurately timed dedicated portfolio is a portfolio whose cash flow of coupons and principal repayments cover the volume of liabilities. A reinvesting dedicated portfolio is also balanced with the maturity of liabilities, but not as strictly as in the previous

case. Bond cash flow due before the maturity of liabilities is reinvested (e.g. coupon payments).

Table 3

Example of a Cash Flow Matching Strategy

Time (year)	1	2	3	4
Liability	5000	9000	8000	11000
Principals	3000	7000	6700	10000
C4	1000	1000	1000	1000
C3	300	300	300	0
C2	700	700	0	0
Total Cash flow	5000	9000	8000	11000

Source: <http://www.investopedia.com/articles/investing/022615/portfolio-immunization-vs-cash-flow-matching.asp>

The table above shows a liability stream for 4 years. To fund these liabilities with cash flow matching, we start with funding the last liability with a 4-year \$10,000 face-value bond with annual coupon payments of \$1000 (Row C4). The principal and coupon payments together satisfy the liability of \$11,000 at year 4. Next, we look at the second to last liability, Liability 3 of \$8000, and fund it with a 3-year \$6700 face-value bond with annual coupon payments of \$300. Next, we look at Liability 2 of \$9000 and fund it with a 2-year \$7000 face-value bond with annual coupon payments of \$700. Finally, investing in a 1-year zero-coupon bond with face value of \$3000, we can fund Liability 1 of \$5000.

4.2 Bond Portfolio Immunization

This strategy matches the durations of assets and liabilities so that it minimizes the impact of interest rates on the net worth. In simple terms, to immunize a portfolio, we have to match the duration of portfolio assets with the duration of future liabilities (or with the investment horizon). When interest rates increase, the price of a coupon bond falls, whereas the reinvestment return on the coupon rises. The aim of immunization is to establish a portfolio in which these two components of total return - price return and the reinvestment return (coupons being constant) - exactly offset each other in case of a parallel interest rate shift once the portfolio is set up. This is achieved by matching the duration of the portfolio with that of the investment horizon of the future liability. When a bond portfolio is immunized, the investor receives a specific rate of return over a given time period regardless of what happens to interest rates during that time.

There is a specific rule: when the modified duration is equal to the investment horizon, then the portfolio value is immune to interest risk during the whole time of the investment horizon.

Fong and Vasicek (1984) identified these conditions of immunization as follows:

- the present value of assets (portfolio) should equal the present value of liabilities,
- the duration of the portfolio should equal that of liabilities,
- the range of durations of individual bonds in the portfolio must have a span that extends beyond the range of durations of individual liabilities, i.e. the portfolio must contain individual bonds each with duration less than that of the first liability and a duration greater than that of the last liability.

One should bear in mind that these conditions assure an immunized rate of return only in case of a parallel rate shift. If the interest rates shift in an arbitrary fashion, which is mostly the case in the real world, techniques such as optimization and linear programming may be used to construct a minimum-risk immunized portfolio.

4.2.1 Special Immunization Techniques: Bond Ladders, Barbells and Bullets

Bond ladders

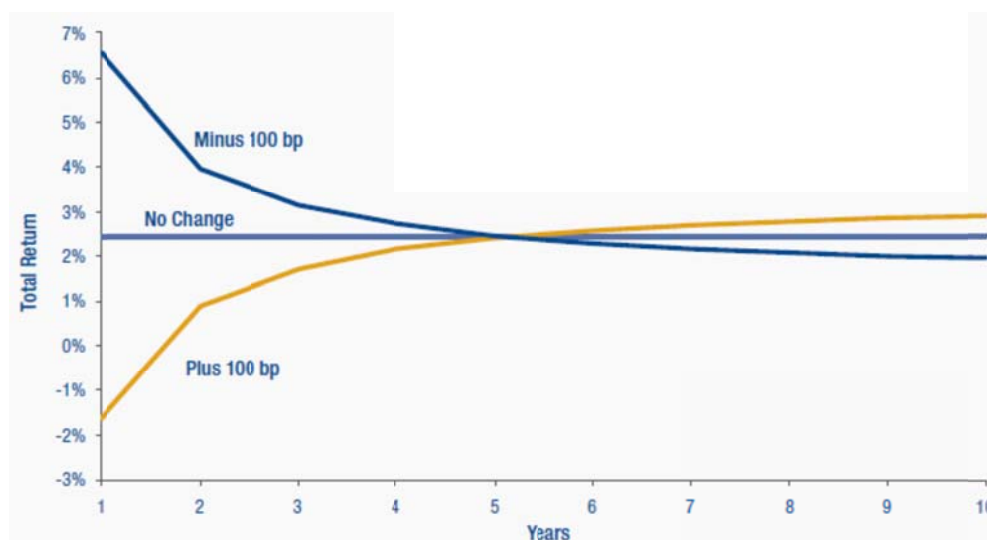
The investment strategy of laddering maturities with a normal upward sloping yield curve, attempts to balance and blend the principal stability inherent in shorter-term bonds with the yield advantage available on longer-term bonds. The resulting diversification helps to potentially mitigate interest rate risk, improve returns and allow for reinvestment flexibility, while also providing periodic liquidity and predictable cash flows. Additionally, laddering a portfolio of bonds provides a way to partially hedge against rising yields in the future.

A laddered portfolio is structured by purchasing several bonds with differing maturities, such as three, five, seven and ten years. As each bond matures, proceeds are reinvested in a new bond at the longer-term end of the ladder, which often is the highest yield within the desired maturity range. If interest rates are rising, the maturing principal will be invested at higher rates. If rates are falling, the reinvestment of proceeds will be at lower rates but the remaining ladder will still be locked-in and earning higher yields, helping to keep a blended advantageous overall portfolio return.

The income stream will stay relatively constant because only a small portion of the portfolio will mature and be replaced each year. Over time, the portfolio should include bonds purchased in periods of both high and low interest rates. Figure 1 illustrates how a laddered portfolio can be expected to react to three interest rate scenarios.

Figure 1

Effect of Interest Rate Changes on a Hypothetical Laddered Bond Portfolio



Source: http://www.thornburg.com/pdf/TH084_laddering_full.pdf

- **steady interest rates:** a very steady return is generated each year in the laddered portfolio. The return will be fairly close to the highest-yielding bond in the portfolio;

- **rising interest rates:** bond values initially drop, but recover value as they move toward their maturity at par. Unlike owning an individual bond, the ladder has maturing bonds each year, which gives the portfolio a stream of cash flow to reinvest in new, higher-yielding bonds. As proceeds from maturing bonds are reinvested in higher-yielding bonds at the far end of the ladder, the portfolio's yield gradually increases. The built-in reinvestment feature works to offset some of the price depreciation that occurred throughout the ladder when interest rates rose. It also results in a rising income stream: after a few years, the portfolio's total return first equals its original return, then surpasses it;
- **declining interest rates:** the portfolio's return rises as bond prices are marked up. Finally, as those bonds mature and proceeds are reinvested in lower-yielding bonds, the portfolio's long-term return is lower than it would have been under the first two scenarios. The income stream also decreases, but only gradually, because the longer-term higher-yielding bonds continue to be held in the portfolio and the income generated continues to be the average of all bonds.

Advantages of bond ladders:

- the periodic return of principal provides additional investing flexibility;
- the proceeds received from principal and interest payments can be invested in additional bonds if interest rates are relatively high or in other securities if they are relatively low;
- exposure to interest rate volatility is reduced because bond portfolio is now spread across different coupons and maturities.

Barbells

Barbells are a bond investment strategy similar to laddering, except that purchases are concentrated in the short-term and long-term maturities. This allows the investor to potentially capture high yields from longer maturities in one portion of their portfolio, while using the shorter maturities to minimize risk. Barbells can provide opportunity in both rising and declining interest rate environments: If interest rates decrease, the long end of the barbell provides potential for capital gain, however, the asset manager would be reinvesting the proceeds into potentially lower yielding bonds. If interest rates increase, the shorter end of the barbell can be reinvested at the new higher rates, however, the current market value of existing long term bonds could decline. Barbells do not need to be composed of equal balances as an investor can weight the short or long end heavier to take advantage of what the curve is offering.

Advantages of barbells:

- this strategy allows to take advantage of rates when they're high, without limiting financial flexibility;
- because a portion of assets are invested in securities that mature every few years, the investor has the necessary liquidity to make large purchases or respond to emergencies;
- allocating only part of fixed-income portfolio in longer-term bonds can help reduce the risk associated with rising rates, which tend to have a greater impact on the value of longer maturities.

Bullets

The bullet strategy is based on the acquisition of a number of different types of securities over an extended period of time, but with all the securities maturing around the same target date. One of the main benefits of the bullet strategy is that it allows the investor to minimize the impact of fluctuations in the interest rate, while still realizing excellent returns on the investments.

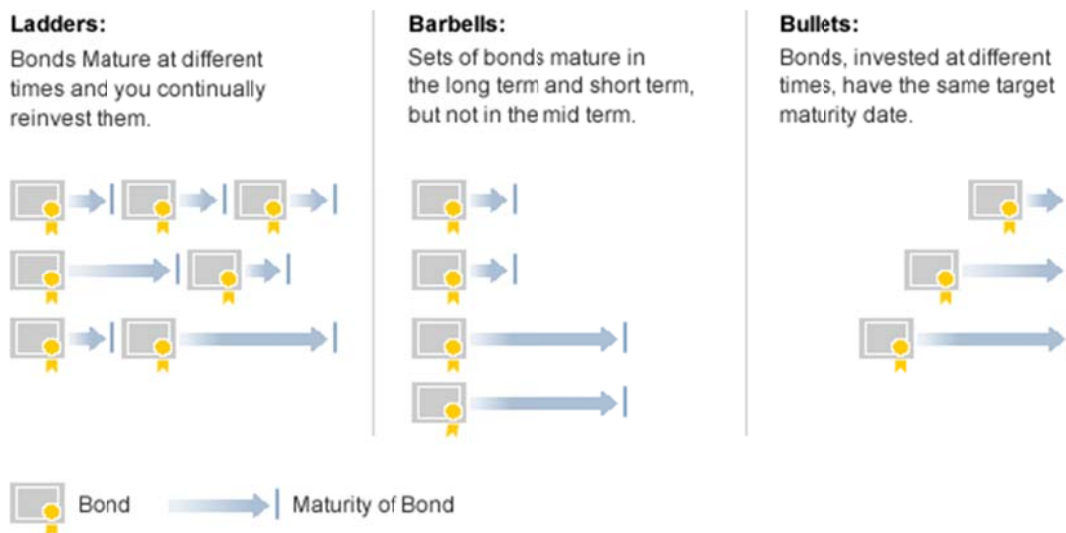
Advantages of bullets:

- all bond maturities coincide with the date of a future financial need. Return of principal is, of course, subject to issuer credit risk;
- by buying bonds at different times and during different interest rate environments, the investor is hedging interest rate risk.

The following figure shows the comparison of ladders, barbells and bullets strategies:

Figure 2

Ladders, Barbells and Bullets



Source: <https://www.fidelity.com/learning-center/investment-products/fixed-income-bonds/bond-investment-strategies>

5 Conclusions and Policy Implications

The main aim of the bond portfolio management is to achieve high revenues or low risk. The asset manager has to take into account risks connected with bonds: credit risk, interest rate risk, liquidity risk and exchange rate risk. There are many strategies for investing in bonds that investors can employ. The buy-and-hold approach appeals to investors who are looking for income and are not willing to make predictions. The „middle-of-the-road“ strategies include indexation and immunization, both of which offer some security and predictability. Then there is a range of active techniques, which is intended for advanced asset managers since they have to be able to foresee the future market conditions. Each strategy has its place and when implemented correctly, it can achieve the goals for which it was intended.

The selection of a particular strategy will also depend on current market conditions (interest rates and their volatility) and also on type of institution which implements the strategy (e.g. the investment horizon of banks and insurance companies are different).

Currently, the market interest rates are low and investors are expecting their rise. Changing interest rates can be a concern to bond investors because as rates rise, the price of existing bonds declines. Under these circumstances, individual bondholders and bond fund shareholders can lessen the effect of rising interest rates by reducing the maturities of the bonds. They can also reduce portfolio's exposure to interest rate risk by shifting the mix to bonds and funds with shorter durations. That would be especially important if the portfolio consists largely of long-term bonds. Another useful technique in this case might be bond laddering: as each bond in portfolio matures, the investor can reinvest the proceeds at higher yields should the market rates rise.

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Analysis of models predicting financial distress in hospitals

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Abstract

The paper evaluates the ability of selected models to predict financial distress. These models are applied to non-profit entities - hospitals. In the Czech Republic hospitals are companies with different legal forms. In the first place there are contributory organizations founded by the city or by the Ministry of Health. These are typically of non-profit character. Another group consists of hospitals of a business-corporation type with different legal forms that are considered as business companies. Here the founder is the city, a business entity or a natural person. Generally hospitals are understood as non-profit entities, whose inputs and outputs are based on a linear system. The inputs and outputs used in this paper are obtained from the annual reports of hospitals for the year 2013. Data are applied to models of financial distress and results are compared. Based on findings the discussion is introduced regarding the suitability of examined models to analyze economy of hospitals.

Keywords: hospitals, financial distress model, non-profit entities

JEL classification: I10

1. Introduction

Among the society health care system is attributed with high value. Throughout the world there are many health systems common to several countries and different for some individual countries. The first group consists of health systems based on the availability of all health care and its reimbursement from public health insurance. The second group of health systems is based on the responsibility of every citizen. Health care is covered by private health insurance. State is not the guarantor of health care, with the exception of selected social groups. The basis for the emergence of these health systems are four models of health care model: Beveridge's model of National Health Service, Bismarck's social health insurance model, Liberal model of health care and Semaško's centralized model (Gladkij, 2003).

The financial condition of hospitals can be considered as crucial in terms of the maturity of the health care system. Its importance is determined by the amount of financial resources consumed to ensure the functioning of basic health care facilities (Soltes & Gavurova 2014). To assess the financial health of the company in a simple form the ratios are used. With the use of financial analysis indicators in a hospital environment deals Chu (1991) or McCue (2009). The results of studies are ambiguous. A higher level of financial analysis is represented by predictive models. With respect to their explanatory power these are divided to creditworthiness and bankruptcy models. Creditworthiness models reveal whether the financial management is good or bad. Bankruptcy models can predict impending bankruptcy.

The aim of the article is to assess the predictive ability of the models predicting financial distress. Data from Czech hospitals will be used for the year 2013. The following hypothesis has been determined by an expert approach:

It is possible to choose a model, the result of which will be relatively able to assess the financial situation of hospitals.

1.1 Altman model

Altman model (Altman, 1968) was originally designed for companies traded on the financial markets. The model was examined from the perspective of bankruptcy prediction using multiple discriminant analysis. The first Z-Score model contained five financial ratios from the financial statements data. It was based on data from 66 companies divided into companies going bankrupt and companies non-bankrupting. Another versions of the model was the Z' Score model (Altman & Hotchkiss, 2006) in which asset coverage indicator was changed. This indicator works with a book value of equity. Model Z'' Score (Altman & Hotchkiss, 2006) was designed for non-US non-manufacturing businesses. Contrary to initial models, the previously used indicator (sales / total assets) was eliminated.

$$Z'' = 6,56u_1 + 3,26u_2 + 6,72u_3 + 1,05u_4 \quad (1)$$

- u_1 – net working capital / total assets,
- u_2 – retained earnings from previous years / total assets,
- u_3 – earnings before interest and taxes (EBIT) / total assets,
- u_4 – book value of equity / total equity.

$Z'' > 2,60$	Sector for companies with good financial health
$1,10 \leq Z'' \leq 2,60$	Lack of knowledge zone or the so called gray zone
$Z'' < 1,10$	Sector for companies going bankrupt

1.2 Šorins-Voronov index

The index used in Latvia, in which the authors adapted the Altman Z-model, but scales and data on income were modified. Constant value of -2.4 has been added. The assessment intervals were changed too (Čámská, 2012).

$$\check{S}V = -2,4 + 4,4u_1 + 0,7u_2 + 0,4u_3 + 3,5u_4 + 2,5u_5 \quad (2)$$

- u_1 – earnings before taxes (EBT) / total assets,
- u_2 – revenues from goods and services / total assets,
- u_3 – book value of equity / liabilities,
- u_4 – retained earnings from previous years / total assets,
- u_5 – net working capital = current assets – current liabilities / total assets

$\check{S}V > 0$	Sector for companies with good financial health
$\check{S}V = 0$	The risk of bankruptcy is moderate
$\check{S}V < 0$	Sector for companies threatened by bankruptcy

1.3 Zmijewski index

Zmijewski (1984) is a critic of Altman models. When constructing indexes, he points out to the fact that the sample contains a small number of companies, which exhibit characteristics of financial distress. Data of these troubled companies are often unavailable.

He's examining 17 studies dealing with bankruptcy models and points out that these studies are constructing the models on non-random sample of companies. The main problem to be solved in the study is the selection of bankrupting and non-bankrupting companies. The examined companies were selected mostly at a rate of 50% of bankrupting and 50% of non-bankrupting after exclusion of companies with incomplete statements. Zmijewski performed empirical tests on companies listed on US stock exchanges between 1972 and 1978. To create his bankruptcy model he used the probit analysis. In the sample he included a larger amount of bankrupting companies that percentually approached the percentage of companies going bankrupt. The most accurate results were achieved for the sample with the ratio 40:800 (companies going bankrupt to companies non-bankrupting).

$$ZM = -4,336 - 4,513u_1 + 5,679u_2 - 0,004u_3 \quad (3)$$

- u_1 – net profit / total assets
- u_2 – liabilities / total assets
- u_3 – current assets / current liabilities + short-term bank loans

According to the Zmijewski model, bankruptcy of a company is expected if the resulting value is greater than or equal to 0,5.

$ZM \geq 0,5$	Sector for companies in bankruptcy
$ZM \leq 0,5$	Sector for companies with good financial health

1.4 IN indexes

Authors of the model, Inka and Ivan Neumaier, created a model of financial health similar to the Z-score model with regard to Czech businesses. Model IN is maintained under the title Credibility index and is considered as the model of financial health prediction. The first model was constructed with six indicators with the introduction of the overdue liabilities indicator. Weights of indicators were measured as a percentage of significance indicators of the frequency of occurrence of the indicator and its industry value in 1994. Validation of the model was carried out on data from 1000 of Czech companies. Another modifications of this model were assigned a numerical designation i.e. the year of their creation (Neumaierová & Neumaier, 2002).

The following index IN99 is classified as a creditworthiness index and expresses the view of the owner. The sample consisted of data from 1968 companies with auxiliary calculation of economic profit EVA. The success of the model has increased from the original 70% to 85%.

In 2002, an index was constructed by combining the two previous indexes. A sample of 1915 enterprises has been divided into three groups: companies generating value, companies going bankrupt and others. Using discriminant analysis method, the IN01 index for industrial zones was created and intervals for the results were specified (Neumaierová & Neumaier, 2002).

The latest index is the IN05, which hasn't undergone any big changes. The main contribution is the change of intervals evaluating the results of the index. (Neumaierová & Neumaier 2005).

$$IN05 = 0,13u_1 + 0,04u_2 + 3,97u_3 + 0,21u_4 + 0,09u_5 \quad (4)$$

- u_1 – total assets / liabilities,
- u_2 – earnings before interest and taxes (EBIT) / expense interest,
- u_3 – earnings before interest and taxes (EBIT) / total assets,
- u_4 – total revenues / total assets
- u_5 – current assets / current liabilities and short-term bank loans and overdrafts

$IN05 > 1,60$	Sector for companies with good financial health
$0,9 \leq IN05 \leq 1,60$	Lack of knowledge zone or the so called gray zone
$IN05 < 0,9$	Sector for companies going bankrupt

2. Methodology, Data and Results

In 2013 there were 10.5 million of inhabitants in the Czech Republic. The country was divided into 14 regions. As of the end of 2013 there were 188 hospitals. Hospitals are companies with a legal form of contributory organizations, limited liability companies, joint stock companies, public benefit corporations and church organizations (ÚZIS, 2013).

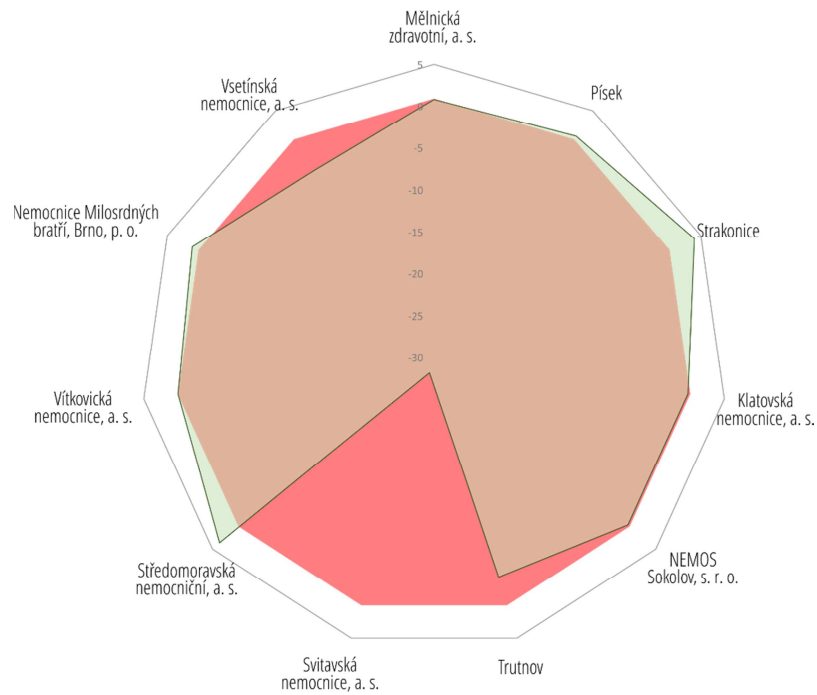
2.1 Sample selection

Selection for the sample has been carried out by the number of hospitalizations. Excluded were hospitals where this information could not be determined. The final number of the entire set of hospitals was 134, from which has been calculated the average value of the number of hospitalizations for one hospital. The average value has been reached by Vsetín hospital with an amount of 13012 hospitalizations in 2013. To this hospital five hospitals with a higher number of hospitalizations and five with a lower number of hospitalizations were added. Hospitals, whose financial statements could not be found, were excluded from the sample. The final sample thus remained with a total of 11 hospitals: Mělnická zdravotní, a. s., Nemocnice Písek, a. s., Nemocnice Strakonice, a. s., Klatovská nemocnice, a. s., NEMOS SOKOLOV s. r. o., Nemocnice Trutnov a. s., Svitavská nemocnice, a. s., Středomoravská nemocniční a. s., Vítkovická nemocnice a. s., Nemocnice Milosrdných bratří Brno, p. o., Vsetínská nemocnice, a. s. For these hospitals we have used their balance sheets and profit and loss accounts (MFČR, 2015).

2.2 Indexes evaluation

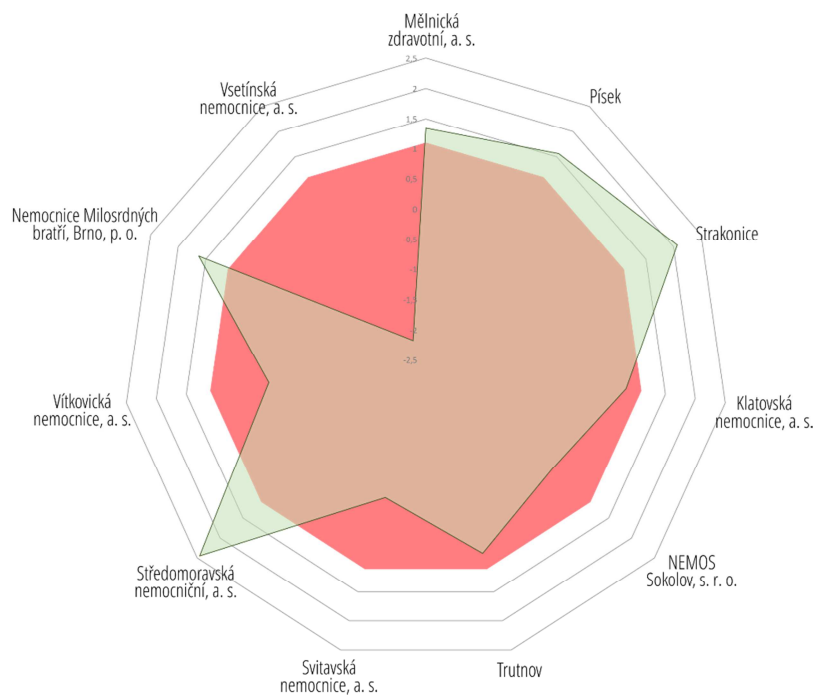
Data of 11 selected hospitals has been put into the indexes and the calculation results are presented graphically using spider graphs. In figures 1, 2 and 3 the resulting index values IN, Altman and ŠV are presented. Graphs always show the auxiliary area of threatening bankruptcy (the red pattern in the background of the chart), over which the values of the models are projected. Values of hospitals in gray and green zones extend beyond this red bankruptcy area. Presentation of the Zmijewski's model in figure 4 is inverse due to its reversed polarity. The green auxiliary area presents financially sound hospitals. Hospitals outside the marked area are thus threatened by bankruptcy.

Figure 1
Results of IN05 index



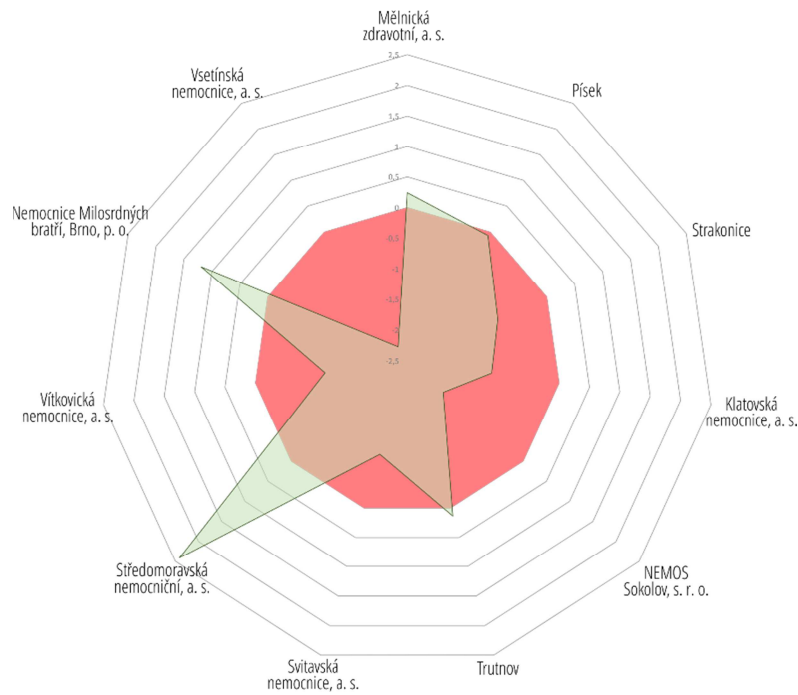
Source: author's calculations and graphical representation.

Figure 2
Results of Altman model



Source: author's calculations and graphical representation.

Figure 3
Results of Šorins-Voronov index



Source: author's calculations and graphical representation.

Figure 4
Results of Zmijewski index



Source: author's calculations and graphical representation.

From the performed analysis of indexes it is obvious that the indexes IN05, Šorins-Voronov and Altman are similar in their results. All of them are rating the hospitals Středomoravská nemocniční, a. s. and Nemocnice Milosrdných bratří Brno, p. o. as non-bankrupting. These results are completely different to the results of the Zmijewski index, which assessed all of the hospitals to be financially sound with the exception of NEMOS SOKOLOV s. r. o.

2.3 Comparing hospitals with multivariate methods

Comparison of hospitals was done using several multivariate methods (Kubickova & Jindrichovska, 2015). Namely, they were a simple sum of a sequence, a scoring method, a method of standardized variables and a method of distance from a fictitious object. The results are shown in Table 1.

2.3.1 Method of simple sum of a sequence

For each criterion (here the indicators) the organizations are ordered based on a value of particular criterion. The hospital with the best value of given criterion is assigned the first position, the next in order is assigned second position, etc. This is done for all criteria under consideration. After that the assigned values are summed up and it holds that the lower the total sum, the better the result of the hospital.

2.3.2 Scoring method

In this method a score (numeric value) is assigned to each analyzed object for each criterion according to following procedure. The organization that reaches the best (highest or lowest – based on type of criterion) value of particular criterion (indicator) is assigned 100 points. The points for the other organizations in given criterion are chosen based on comparison with the best organization. Again after that the assigned points for each organization are summed up over all the criteria and the hospital that gains the highest sum of points is considered to rank best.

2.3.3 Method of standardized variables

In this method standardized variables are computed according to following formulas:

In case that higher values of indicator are preferable

$$v_{ij} = \frac{(x_{ij} - x_{aj})}{\sigma} \quad (5)$$

In case that lower values of indicator are preferable

$$v_{ij} = \frac{(x_{aj} - x_{ij})}{\sigma} \quad (6)$$

Where v_{ij} is standardized variable of j-th indicator for i-th hospital, x_{ij} is value of j-th indicator in i-th hospital, x_{aj} is arithmetic mean calculated from the values of j-th indicator, σ is standard deviation calculated from the values of j-th indicator. The values of standardized variables are summed up for each hospital and the final order is based on a principle that the lower the value the better the result.

2.3.4 Method of a distance from a fictitious object

The method is based on measuring a distance of particular organization from a fictitious organization. The latter is constructed as the organization that reaches the best value in all criteria involved in an analysis. It means that in the given set of hospitals the best value for

each indicator is identified, and with all of them put together the ideal object is created. Then the distance (d_i) is computed as

$$d_i = \sqrt{\sum_{j=1}^m (v_{ij} - v_{fj})^2} \quad (7)$$

Where v_{ij} standardized variable of j-th indicator for i-th hospital, v_{fj} is standardized variable of j-th indicator for fictitious organization, m is the number of indicators. An interpretation of results is based on the fact that the lower the distance the better the position of hospital.

Table 1

The order based on methods of comparison (the lower the number, the better the result)

	Method of simple sum of the sequence	Scoring method	Method of standardized variables	Method of a distance from a fictitious object	Total evaluation (sum of values assigned in methods of comparison)	Order based on the total evaluation
Mělnická zdravotní, a.s	5	5	4	3	17	5
Písek	4	4	3	2	13	3
Strakonice	2	3	5	5	15	4
Klatovská nemocnice, a.s	6	6	6	7	25	6
NEMOS SOKOLOV s.r.o.	10	9	9	9	37	9
Trutnov	7	7	7	6	27	7
Svitavská nemocnice, a.s.	9	11	10	10	40	10
Středomoravská nemocniční a.s.	3	1	2	4	10	2
Vítkovická nemocnice a.s	8	8	8	8	32	8
Nemocnice Milosrdných bratří Brno, p.o	1	2	1	1	5	1
Vsetínská nemocnice, a.s.	11	10	11	11	43	11

Source: author's calculations.

Table 2 presents the order of hospitals for each index based on comparison methods. The best result has been reached by Nemocnice Milosrdných bratří Brno, p. o., which has been evaluated among the best even in the graphical comparison. The second best evaluated hospitals in the graphical comparison, Středomoravská nemocniční, a. s., has undergone significant differences in these methods, namely in the Zmijewski index.

Table 2

The order based on indicators (the lower the number, the better the result)

	IN05	ZMIJEWSKI	ŠV	ALTMAN
Mělnická zdravotní, a.s	6	4	3	5
Písek	4	2	5	4
Strakonice	1	5	6	2
Klatovská nemocnice, a.s	7	3	8	6
NEMOS SOKOLOV s.r.o.	8	11	10	8
Trutnov	9	7	4	7
Svitavská nemocnice, a.s.	11	6	7	10
Středomoravská nemocniční a.s.	2	10	1	1
Vítkovická nemocnice a.s	5	8	9	9
Nemocnice Milosrdných bratří Brno, p.o	3	1	2	3
Vsetínská nemocnice, a.s.	10	9	11	11

Source: author's calculations.

4. Conclusions

All financial models have one disadvantage: they are unable to reflect the non-financial information into the financial results. The problems that arise in businesses and are reflected in the financial figures can cause failures in management decisions. Problems can arise also because of poor accounting treatment in terms of incompetency of the chief accountant, or vice versa, together with the chief accountant the management can try to hide their mistakes in complex financial statements. Another problem could be seen in obsolete work practices, not increasing the qualification of current and long-term employees, labor blindness. An additional information, which is not reflected in the financial statements of the company, is the company's growth, which is faster than its sources of funding and staffing. This causes the high staff turnover and the late payment of liabilities. If the enterprise does not follow cash flow, signs of the initial bankruptcy can occur.

Predictive models serve as an evaluation of the financial health of a company and can partly be used to its assessment in time and between subjects. Given these facts, it becomes a necessity to modify these models. The models presented in this article evaluated the financial health of selected hospitals. Due to different results of each model it is not possible to determine with certainty a model that will relatively assess the financial situation of hospitals. By interpretation of these models it was found that the models behave differently and when comparing hospitals with each other, there might be misinterpretations. With sample and methods selection we have achieved better results in comparison with the findings in the paper by Hajdíková (2015). In the future research, we recommend using the selected methods on a larger number of hospitals and a larger number of indexes. The findings could lead to the discovery of an index, which could be closest to conditions of Czech hospitals. It is also possible to build an original model for Czech hospitals.

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Merchandising as part of assortment policy in retail

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Abstract

This paper deals with the importance of merchandising as a part of assortment policy in retail. Merchandising, as one of trends that have been applied in assortment policy, has been gaining in retail companies increasing importance as a result of retailers' knowledge of benefits that its implementation brings. This article defines assortment policy as a basis for merchandising. Definitions of merchandising, technology of this modern method of trading and principles of merchandise planning are stated in the next parts of the work. The last part presents the principles of visual merchandising in the chosen retail company. In addition, the application of merchandising gives retailers a strong competitive advantage.

Keywords: assortment policy, merchandising, retail

JEL classification: M31

1. Introduction

Nowadays, retail businesses are facing the problem of increasing competition on the market, which is the reason, why they need to improve their performance continuously and to gain competitive advantage. One of the possibilities how to do so is effective assortment planning, which requires high level of knowledge of the market. There have been several trends applied in assortment policy, one of them is merchandising. "Merchandising is the analysis and response to the changes and processes, which occur in the planning, negotiation, acquisition and selling of products from their inception to their reception and use by the target customer"(Kunz, 2010).

The article contains characteristics of merchandising as part of assortment policy in retail. The paper is divided into several parts, such as merchandising importance for retail assortment policy,; definition and principles of merchandising, store layout and visual merchandising. The paper also presents the principles of visual merchandising which are applied in chosen retail company, Tesco Stores.

The objective of this paper is to characterize merchandising as the young discipline and to present importance of its implementation for assortment policy.

1.1 Methodology

In order to achieve the objective of the paper, it is necessary to apply several methods of scientific investigation. In the paper, we applied analysis method of dividing field of merchandising into smaller parts in order to gain better understanding. Method of description and comparison was used, while processing the information obtained from Slovak and foreign authors. In the next step, we used method of synthesis on gained theoretical knowledge.

2. Merchandising and its importance for assortment policy

Retail assortment consists of products and services sold to consumers on-demand (Zamazalová, 2009). For the success of retailer's assortment, it is important to reach a match with the target markets' expectations and obtain a competitive advantage from that. Therefore, the main aim of assortment policy is the creation of an assortment as a result of plan of expected future sales and offer of suitable goods in proper time and place to reach economic effects. The retail assortment is in general wider than an assortment of manufacturing company.

The main characteristics of assortment are its depth, breadth, length and consistency. Assortment depth determines the amount of products in a product line. Breadth shows the number of product lines a retailer supplies. Length marks the amount of all products offer by a company. Relations and connections between product lines determine the level of consistency (Zamazalová, 2009).

During the creation of assortment policy, the strategic assortment management is applied. This process could be presented by the following steps: assortment segmentation; situation analysis of market, competitors and assortment; setting the principles of assortment policy by making decision about assortment characteristics as depth, breadth, length; making the assortment strategies in order to reach the targets and their implementation using all tools of marketing mix (Daňo & Kita, 2009).

In a decision making process of retail assortment, it is crucial to focus on these fundamental groups of decisions (Zamazalová, 2009):

- deciding on the general direction of assortment,
- deciding on partial changes of assortment,
- deciding on services,
- deciding on private labels.

Assortment policy must respond flexibly to the dynamic development of environmental factors and changes in business objectives and internal conditions. Decisions of assortment policy must be systematic and also include decisions on additional services.

An effective assortment creation is important part of ECR conception - Efficient Consumer Response. Viestová defines ECR as a management approach, the purpose of which is to seek competitive advantage through effective cooperation between suppliers and buyers respectively, the optimization of the logistics chain from the manufacturer to the retailer and the final consumer (Hesková, 2006). The effective assortment maximizes space utilization, including shelf and storage space, while providing consumer satisfaction. Category management and development of systematic evaluation of merchandising plan are based precisely on the initiative of the effective assortment. The division of shelves is based on (Fowler & Goh, 2012):

- analysis of accurate data obtained from the scanners in stores,
- level of sales in the past, which is adjusted for promotions and seasonal variations,
- physical characteristics of the product, price and cost information
- identification of the customer in the store and demographic indicators by using information from loyalty cards, credit cards information, etc.

2.1 Definition and principles of merchandising

According to the European Institute of Marketing is merchandising set of methods and techniques of valorisation of the commercial offer of store on the basis of assortment adjustment, product display and product animation that meets the needs and expectations of consumers in order to optimize sales profitability (Kita, 2013). Merchandising is the optimization of retail space by the right products, the right product mix in the required amount, with the right price, communications and information. Merchandising aim is to improve the availability of products for consumers and increase sales of retail business (Košťál, 2005).

The aim of merchandising is to create customers interest for the product. The importance of correct presentation of products is undeniable and therefore retailers pay increased attention to the correct positioning of the product categories in the store, placement at the shelves and suitable proportions of disposal space of product category to other categories (Mason et al., 1988).

Merchandising is therefore a set of activities of all parts of the distribution channel with the aim to provide customers desired products in such a way, that uses sales area the most effectively and increases the sales and profits, while the important role take consumer expectations. Customer purchasing decisions are significantly influenced by the point of sale. The basic assumption for visiting the store is customer's belief, that inside of the store, he can find the product, which he needs at the moment. An important factor is the creation of positive associations with the store.

For optimal placement of assortment, it is retailers task to follow the principles of merchandising, such as (Kita, 2011):

- right product - offered assortment must meet the needs of consumers,
- right time - to achieve consistency between consumer demand and retail offer, the retailer must know the market, its development and seasonal changes,
- right amount - to ensure the availability of specific products in store through inventory management,
- right price - to select the appropriate price level corresponding to the local market, taking into account the desired position of the store and local competitors,
- right place - the right place of product placement affects customers, increase availability and thus revenue and profit from the sale.

Compliance with the abovementioned principles of merchandising is crucial for the management of shelves, which represent the place where supply meets demand and consumers make their purchasing decisions.

2.2 Store layout and visual merchandising

Merchandising involves decisions about the allocation of store space to merchandise categories and brands and the location of departments or merchandise categories in the store. The main factors that retailers take into consideration when deciding how much floor or shelf space to allocate to product categories and brands are: the productivity of the allocated space, the merchandise's inventory turnover, the impact on store sales and the display needs for the merchandise (Levy & Weitz, 2012). Merchandising deals with product presentation as well as with store layout. The way of product presentation depends on type of product but essentially can consist of (Varley, 2001):

- vertical stacking, e.g. for magazines,

- horizontal stacking, e.g. tinned foods,
- hanging on hangers or hooks.

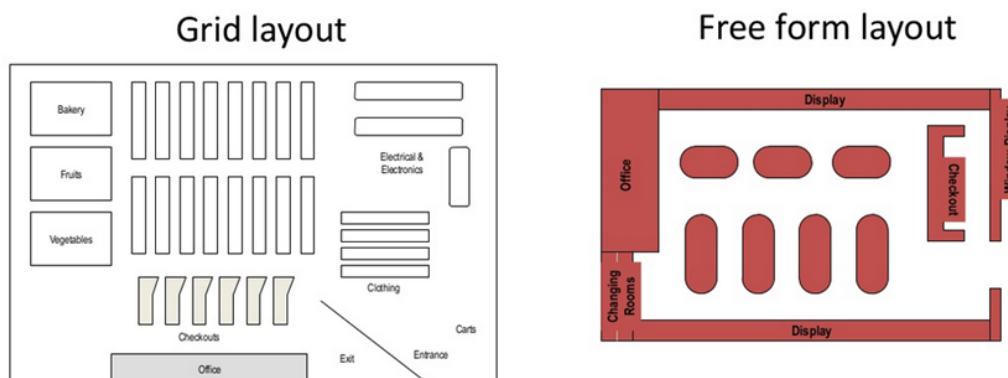
Product presentation is usually determined by product category and end use of product. Presentation method can be influenced by other characteristics, such as color, which is effectively used, and many home furnishing retailers incorporate a corporate color palette into the buying plan.

The location at the shelves is important subject of marketing research that specifically examines horizontal and vertical positioning of products. The horizontal location represents the product exposure towards consumer. This location determines the complexity of identifying products. Large display space reduces the risk of products absence, while the quantity of the product gives the impression of popularity, increasing the attractiveness of this product. Positioning the product at the shelf is measured by the number of front line product placement. Vertical position is related to the different levels of the height of the shelves where the product is exposed. According to shelf height the placement is divided into product placement at eye zone, easy to see zone, grip zone and knees level zone (Kozel, 2006).

Retailers can increase their productivity by creating planograms. The planogram is a model that shows the location of the products at the shelves. The aim is to maximize the sales of the retail unit. It defines in which specific location in store is product placed, as well as the amount of exposures (how many units of the product should be visible on the front of the rack). If the product does not have adequate number of exposures, there would be under-exposure or over-exposure of the product, which is contrary to the objective of maximizing sales. Planogram also determines how high or low should be product placed and products that should surround it. (Shopperception, 2013). The results of the planogram model can be used as a way to achieve the desired profilation of specific product.

Figure 1

Basic types of store layouts



Source: (Ghag, 2013)

The store layout is influenced by the assortment variety on offer and limited by the size and structure of the store. According to Varley (2001), there are several different approaches to store layout, although all of them are designed with intention to move customer to every areas in the store. Mostly used store layout, **grid layout** (Figure 1), has fixtures positioned in the grid form. The grid form maximizes the use of the available space and provides a logical organization of the assortment. Limitation of this type of store layout is its inflexibility. In the second type of store layout, **free form layout** (Figure 1), fixtures are placed in a more random

pattern. This type is appropriate when the shopping process involves browsing instead of systematic product selection process. Benefit of this type of store layout is better opportunity to incorporate a mix of hanging rails, small gondolas or shelving units. On the other hand, mass of fixtures set out in a random fashion can look chaotic and customers might feel to be trapped if the store is too large. Larger stores incorporate race track into layout, which means that they are trying to guide the customer between the main classifications of merchandise. These two form of layout are the basic types. Modern layouts are in general more airy, with glass replacing solid partitioning, with voids replacing walls, etc. To give customer time to relax, decompression zones are used, for example at the front of the store. As there is limited amount of available ground floor space in prime shopping centre locations, vertical access and multi - level retail space are gaining increasing importance.

Signage and graphics help customers to find specific products and departments and also provides product information and suggest items or special purchases. Moreover, graphics, can enhance the store's image and environment. There are several advantages of digital signage over traditional printed signage, but the high implementation costs slow down the adoption process of this technology (Levy & Weitz, 2012).

The consumers' perceptions a store atmosphere depends on the consumers' shopping goals. Customers looking for products, that they consider as an unfulfilling mission, prefer relaxing and comforting environment. However, there are also customers shopping for enjoyment and looking for thrilling environment. Therefore, it can be stated, that consumer' perception have an impact on the way they act towards a store. It is important to identify what customers are really seeing and how they infer it (Cant & Hefer, 2014). To influence shopping behavior, retailers utilize various forms of atmospherics, such as lighting, colors, music, and scent. The use of these atmospherics can create a calming environment for task-oriented shoppers or an exciting environment for recreational shoppers (Levy & Weitz, 2012).

Retailers are trying to gain customer's interest by the original approach. Creativity applies in the use of modern technology, through which they can act on all the senses of customers. LED lights adjustment may catch the sight of customers. Many retailers work with intensity and color of light, which can create a suitable atmosphere to attract customers. The higher-intensity of light may get the customer into greater wakefulness and where it is desired to get customer into quiet mode, it is appropriate to use a low light intensity. Find the optimum between space colorfulness, its aesthetic appearance and comfort is complicated task. Each store requires an individual approach to lighting due to its assortment (Vitteková, 2012). Another sense, retailers try to capture is scent, which is the longest memorized sensation. Marketing use of smell, aromamarketing, belongs to the so far rarely used methods of communication, yet is clearly one of the strongest. Due to surveys, positive smell can increase consumer energy by 40%. Mostly used smells in marketing are for example, the smell of fresh bread or Christmas scent represented by scent of cinnamon and Christmas cakes. All of the shops have own acoustic atmosphere. In most stores is acoustic atmosphere creates through music. When selecting the sound, retailer has to take into account the technical and substantive issues. The technical question is about building a sound system, which is limited by financial capabilities. Choice of music depends on the color and size of the space and the overall design of the store. When selecting music, retailer has take into consideration who his customers are and what feelings he wants them to experience. (Sikela, 2013).

2.3 Visual merchandising principles in the chosen company

Merchandising principles are applied in all retail companies. In this paper, we provide an overview of basic principles for placement of products at shelves in Tesco Stores, which shows Figure 2.

Figure 2
Principles of product placement at shelves by Tesco Stores



Source: own processing based on internal documents of Tesco Stores

Merchandise in Tesco Stores, when planning the placement of products at shelves, should follow these rules:

1. Product should be displayed in retail ready packaging as often as it is possible.
2. Right equipment should be used, which means, that big sellers should be placed on pallets and expensive and slow sellers should be placed at small shelves.
3. The quality of product should be increasing from bottom to top. The order should be (from bottom) - good, better, best in quality.
4. If a product requires more than 1 shelf, it should be displayed in vertical block.
5. There are not any air gaps accepted. Products of similar heights should be merchandised together to minimize air gaps between shelves.
6. Unique products should be positioned in an easy to see location.
7. Flavor and color product logic within brands should be considered, while placing.
8. Different size of products should be organized from left to right at the same shelf in this order: small, medium, large.
9. Small products should be placed at top shelves and large at bottom shelves.
10. Merchandise should ensure, that products meet their required target shelf capacity. Orange product in Figure 1 is over the target shelf capacity by at least 10%. Green product meets its target shelf capacity. Red product is under the target shelf capacity by at least 10%.

11. Health & Safety should be considered by all displays. Heavy products should be placed at base shelf. Sharp or dangerous products should be out of reach of children.
12. Products should be in order by their retail price from the cheapest to expensive, from left to right.

The objective of this company is to provide excellent display for all products, that will be better for customers, simpler for staff and cheaper for the company. This objective should be achieved by following the abovementioned rules.

3. Conclusions and policy implications

It can be stated that merchandising is a discipline with high potential for development. Retailers have to understand, that nothing in store could be placed without previous planning and all of the products should have appropriate place presenting products role, which with cooperation with other products' placement brings the highest profit from offered assortment to the retailer. To ensure the most efficient merchandising retailer must adhere to the basic principles and carefully plan product presentation and store layout, which have a big impact on merchandising effectiveness. Original approaches of retailers to get customers' attention use all of the customers' senses. It is the retailer's task to set rules for implementation of merchandising techniques to their business and to gain competitive advantage by respecting of these rules.

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Relation between the Antarctic Treaty System and the United Nations Convention on Law of the Sea (UNCLOS)

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Abstract

The Antarctic Treaty and following legal instruments known as the Antarctic Treaty System (ATS) are not applied only to the Antarctic continent. The territory which is governed by the ATS exceeds the boundaries of Antarctica and ranges up to parallel 60° of South latitude. Practical problem may arise from permanent glaciers because it is difficult to distinguish where the continent ice ends and where the permanent sea ice begins. Permanent glaciers could be considered a new element and they cannot be considered land, air nor water, but they can be used e.g. for building research stations. The law of the sea is particularly important among the numerous legal systems that could be in interaction with the ATS. Despite the application of provisions of the Antarctic Treaty, the freedoms of the sea are not affected, but the territorial force of the Antarctic Treaty is limited. The relation between the Antarctic Treaty and Law of the Sea is expressed in article VI of the Antarctic Treaty. Nevertheless, the formulation of the abovementioned article does not clearly express if the law of the sea has priority over the Antarctic Treaty provisions concerning the management of marine areas and resources or they can coexist as separate legal regimes.

Keywords: *Antarctic Treaty, UNCLOS, ATS, Law of the Sea.*

JEL classification: *K 33*

1. Introduction

Currently, it can be assumed that the overlap or conflict of the various provisions governing the same field relationships will appear as a result of the development of international law, the establishment of new international agreements, and negotiations between States.

Antarctica, outer space and high seas belong to international areas. International areas are characterized by the fact that they cannot be subject to the jurisdiction of any state and they are the common heritage of mankind. The status of Antarctica is different from the other international areas because of nature of the territorial claims. During the time states were raising their territorial claims to various parts of Antarctica up to the time when the Antarctic Treaty (1959) froze their claims and also prevent the raising new and extending original claims. States did not renounce their claims by adopting the Antarctic Treaty; the claims are for the duration of the Treaty only suspended.

Territorial claims were not raised on the whole continent of Antarctica, only on the four fifths of its territory. An interesting fact is that State like the US and the former Soviet Union never raised territorial claims. The area between 90 ° and 150 ° west longitude has not been an object of claims of any state, however, this territory cannot be considered *res nullius* and is not amenable to the occupation, although the sovereign rights of any State do not apply to this area. (Vigni, 2000)

The Antarctic Treaty establishes a regime for co-operation of States and its objective is to maintain the use of Antarctica exclusively for peaceful purposes and freedom of scientific research and cooperation. It is interesting that the Treaty does not prohibit the use of military personnel or equipment for peaceful purposes. This is primarily because the State often has access to the Antarctic only through military technology and with assistance of special equipment that is usually owned only by army.

The Treaty is not limited only to the land territory of the Antarctic continent, but it extends to areas located at 60 ° of South latitude, comprises all shoals, including the floating icebergs. The Treaty also applies to islands and archipelagos located in the area (South Orkney, South Shetland Islands). However, the Treaty retains the rights to all countries (not just the Contracting Parties) in relation to the high seas in this area. (Brownlie, 2013, p. 279)

The issue of the Antarctic ice is linked to the problem of distinction of continental ice and sea ice. Antarctica is permanently glaciated area and therefore it is difficult to define where continental ice ends and where the ice covering the ocean surface begins. It is impossible to apply the principles applicable to the regime for the sea to the permanent ice. The element of ice is a new fourth element, which cannot be compared even with land nor air, but buildings can be built on it. (Ondřej, 2004, p. 18)

2. Antarctic Treaty System

„Antarctica is governed by the Antarctic Treaty System (ATS), which is the only legal regime which manages an entire continent.“ (Antarctic Treaty System, 2012) Antarctic Treaty System (ATS) could be characterised as a complex of multilateral treaties that have their origin in the Antarctic Treaty. Main agreements comprising the ATS are the Antarctic Treaty, the Convention for the Conservation of Antarctic Seals (CCAS), the Conservation of Antarctic Marine Living Resources (CCAMLR), and the Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol).

The term "Antarctic Treaty system" was first formally defined in the Convention on the Regulation of Antarctic Mineral Resource Activities (CRAMRA, 1988). CRAMRA in Article 10 paragraph 1 defines ATS as the Antarctic Treaty, the Convention CCAS, CCAMLR Convention and measures adopted under these instruments. (CRAMRA, art. 10 par. 1) However, the Convention has never entered into force and therefore the definition of ATS is contained in the Madrid Protocol of 1991, as Antarctic Treaty, the measures taken under this Agreement, its affiliated international instruments entered into force, and measures adopted based on these instruments. (Madrid Protocol, 1991, Art. I, e)) There is a fundamental difference between the definition of ATS by CRAMRA and the Madrid Protocol - Protocol does not consider a part of the ATS international treaties which have not entered into force and national legislation of the States parties engaged in relevant international treaties. The ATS also include measures adopted at Consultative Meetings to the Antarctic Treaty, the Results of Meetings of Experts and decisions of Special Consultative Meetings. (Vícha, 2003, p. 17)

Based on the definition of ATS provided for in the Madrid Protocol, it is apparent that the Parties have sought to exclude national legislation relating to Antarctica and international treaties that have not yet entered into force.

Despite the apparent low number of countries that are Parties of the Antarctic Treaty, these countries represent more than 70% of the world population and there are the strongest countries in the world community with regard to their economic and political importance. (Vigni, 2000)

The ATS is not considered fully constituted regime, but it exhibits characteristics different from the typical international treaties. For this reason, it is necessary to analyze the relations of the ATS and other international instruments governing similar issues. Most often the ATS

interacts with the law of the sea, conservation of mineral resources and environmental protection. It may also appear, in this context, a conflict of legislation and overlapping competencies of various bodies and institutions. These mutual conflicts cannot be predicted, they are not often noticed until they actually occur.

2.1 International Convention for the Regulation of Whaling

Other international norms, in addition to abovementioned, affect the legal regime of Antarctica and can be applied to this area. The position of the International Convention for the Regulation of Whaling which formally does not belong to the ATS is particularly interesting. The International Whaling Commission has declared Antarctic sanctuary area, which was considered its the most important decision. The Antarctic sanctuary area was established in 1994 and includes waters of the Southern Ocean around Antarctica. This Commission granted political and legal status of the Antarctic area as it was determined by the Antarctic Treaty. (Vigni, 2000) In the Antarctic sanctuary area it is prohibited any whaling even for scientific purposes. Japan does not respect the prohibition under false pretences of scientific research continues and continues to hunt whales.

The International Whaling Commission is an organization independent of the ATS and its members are all member states of the Antarctic Treaty, except Ukraine. (OVERVIEW OF ANTARCTIC GOVERNANCE) It was established by the International Convention for the Regulation of Whaling in 1946 in Washington. The Commission meets annually since 1949, currently it has 88 members worldwide. All members are signatories to the International Convention for the Regulation of Whaling. The purpose of the Convention is to ensure proper protection of whale stocks, and thus the peaceful development of the whaling industry. An integral part of the Convention is a legally binding "Schedule". The Schedule sets out concrete measures which the Commission collectively approved and which are necessary to regulate whaling and conserve whale stocks. (History and purpose) Unlike the Convention, the Schedule may be modified and updated at the meeting of the Commission by three-fourths majority. The Secretariat is the main body of the Commission and it is located in the City of Cambridge in the UK.

2.2. International Maritime Organisation

International Maritime Organisation is functional organization of the United Nations, which regulates global international maritime activities. Although its original purpose was to prevent maritime disasters (such as the sinking of the Titanic), later its scope has expanded to environmental issues, including oil spills, discharges of ballast water from tankers and Particularly Sensitive Sea Areas (PSSA). (INTERNATIONAL MARITIME ORGANIZATION)

The International Maritime Organization is important because for the Antarctica because the ATS is unable to regulate all vessels operating in the Antarctic and it is the ships which are the main means of transport to Antarctica and back.

3. The United Nations Convention on the Law of the Sea (UNCLOS)

The breakthrough in the codification of the law of the sea, however, have already produced the Geneva Conventions on the Law of the Sea (1958) - Convention on the Territorial Sea and Contiguous Zone, the Convention on the High Seas, Convention on Fishing and Conservation of the Biological Wealth of the High Seas and the Convention on the Continental Shelf. These conventions codified for the first time in writing the legal framework for the delimitation of maritime boundaries. However, these conventions have not tackled width of the territorial sea nor clearly defined the outer limit of the continental shelf,

there is no general format of the legal regime of the sea straits and off the attention remained a serious problem of economic use of the contiguous zone, exclusive economic zone and exploitation of the seabed below the high seas. (POTOČNÝ & ONDŘEJ, 2011) The Convention on the Law of the Sea takes precedence over the Geneva Conventions. (UNCLOS, 1982, Art. 311, par. 1)

The result of the Third United Nations Conference on the Law of the Sea held in the years 1973 - 1982 is the adoption of the United Nations Convention on the Law of the Sea (UNCLOS). The Convention on the Law of the Sea was signed on December 10, 1982 in Montego Bay, Jamaica. It entered into force 12 years later, on November 16, 1994, after ratification by sixtieth country - Guyana.

4. Antarctic Treaty System and Law of the Sea

Particularly important is the relationship ATS and the Law of the Sea. The Antarctic Treaty itself in Article VI provides that "[...] nothing in the present Treaty shall prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas within that area." (The Antarctic Treaty, 1959, Art. VI) In this provision is not clear whether the Antarctic Treaty recognizes the priority over its rules governing the management of marine areas and mineral resources. From the numerous norms governing the Antarctic marine areas issued by Consultative Parties we could draw their intention to create a separate regime taking into account the standards of law of the sea. (Vigni, 2000)

The basic problem arising upon the law of the sea in the Antarctic waters is their specific nature. The delimitation of maritime zones in this area is very difficult. The reason is the controversy in relation to coastal states from whose territory the maritime zones are determined. Since territorial claims of the States in Antarctica are frozen by Antarctic Treaty, it exists in relation to coastal states some discrepancy. Some authors even with the intention of avoiding the delimitation of maritime zones argue that the Antarctic waters should be considered as high seas. (Vigni, 2000)

What is important is the analysis of the term "international law of the sea". Does the Antarctic Treaty refer to the standards of law of sea in force at the time of its adoption or shall it apply to all standards of law of the sea currently in force? Does it apply to customary norms or even on contract law? Before entering the Antarctic Treaty into force it has been recognized by the provisions relating to the sovereign rights of coastal States in the territorial sea and the continental shelf, but the right delimitation of exclusive economic zones has been considered an institute of the customary law. Law of the Sea referred to in the above mentioned Article VI cannot be characterized as law existing at the time of entry into force of the Treaty itself. This would make the provisions of the ATS obsolete and not corresponding with current international law. (Vigni, 2000)

Delimitation of the exclusive economic zone must be in principle made explicit, because Article 75 of the UNCLOS requires that a coastal State give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations. (UNCLOS, 1982, Art. 75)

The codification of the exclusive economic zone is one of the most revolutionary elements of the UNCLOS, which had a significant impact on the management and conservation of the oceans. In this way, the States granted jurisdiction over the territory of seas and oceans, an area of 38 million square nautical miles. The coastal State has the right to exploit, develop, protect and manage all the resources in the waters to the ocean floor and subsoil area of not more than 200 nautical miles from its coast. (Overview – Convention & Related Agreements -UNCLOS, 1998)

Under the Convention, the coastal State has in the exclusive economic zone sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds. (UNCLOS, 1982, Art. 56 par. 1 a)) At the same time, all other coastal and continental States enjoy the rights with respect to the regime of the high seas. (UNCLOS, 1982, Art. 58 par. 1 a))

Delimitation of the exclusive economic zone is a generous contribution to the potential of the country. 87% of all known and estimated hydrocarbon reserves under the sea fall under the jurisdiction of some state. Likewise, any known or potential mineral resources in the sea, except for those raw materials that are found in the deep ocean outside are not under the jurisdiction of any State. (Overview – Convention & Related Agreements - UNCLOS, 1998)

UNCLOS recognises the right of coastal states to control fishing in their coastal waters. Although the exclusive economic zones delimited by coastal States account for only 35% of the total area of the seas and oceans, up to 90% of global fish stocks occurs in. (Medzinárodné vzťahy v oblasti rybárstva, 2015)

Some authors emphasize that States within the exclusive economic zones have not the sovereign rights, but only the exclusive rights to exploit the resources. However, the problem in relation to exclusive economic zone regardless of the nature of the rights (whether sovereign or exclusive) is based on the fact that such a zone can only exist if the existence of the state, which would raise a claim to exclusive rights in this area. (Vigni, 2000) The existence of such States is not generally recognized as a result of freezing of the territorial claims in Antarctica and also any exclusive rights are not granted to the Consultative Parties, since all of them have the same rights and obligations. Raising claims for exclusive economic zone could be considered as new territorial claims in relation to Article IV paragraph 2 of the Antarctic Treaty, which prohibits any extension of the original claim or raising new territorial claims.

To determine the maritime zones, it is important to define so-called baseline, which is regarded as the low-water line along the coast as marked on large scale charts officially recognized by the coastal State. (UNCLOS, 1982, Art. 5) If it is not possible to determine baseline this way, the UNCLOS foresees the delimitation based on the method of straight baselines joining appropriate points. (UNCLOS, 1982, Art. 7)

Due to the special nature of the climate of Antarctica is the application of two above mentioned provisions impossible. It leads to melting of glaciers as a result of increasing temperatures in summer and thus the shoreline changed. Antarctica is permanently glaciated area and the Antarctic ice does not cover only the surface of the continent, but also covers the surface of the sea. It is impossible to distinguish where continental ice ends and where the ice covering the surface of the sea begins. It is impossible to apply the principles of the law of the sea to the regime of the permanent sea ice.

It means that the application of the provisions of UNCLOS is limited not only by the specific nature of the legal status of Antarctica, but also by the geographical characteristics of the area. UNCLOS provisions shall apply to the water and not to the ice, and the ice cannot be regarded as a continuation of the mainland.

Vigni mentions three problems associated with the delimitation of maritime zones in Antarctica. First, it is important to recognize, however, whether the delimitation serves for any purpose. The first issue is controversial presence, respectively absence of coastal States in Antarctica. The second issue is whether they should be recognised sovereign rights of the Consultative States for reasons the claims raised in Antarctica and thus give them a different status in relation to other Consultative States. Such an act would be disproportionate. Thirdly,

it would be very difficult, that there are two different modes with a variety of delimiting the boundaries of maritime zones surrounding the area for which claims have been made and the territory in which claims were not raised. (Vigni, 2000) Any State raised a claim on the area between 90° and 150° West longitude. It is important to note that in Antarctica there are not universally recognized any sovereign rights of States as it is considered a common heritage of mankind.

5. Conclusions

The relations of the ATS and other legal norms are very complex and it is often difficult to determine their mutual legal relation. The ATS is specific legal regime governing not only Antarctica as a continent, but also the area up to parallel 60° of South latitude. The Antarctic Treaty froze the territorial claims of the States and Antarctica is considered a common heritage of mankind.

The article provides the brief summary of the problems connected to the mutual relation of the ATS and Law of the Sea. Delimitation of maritime zones in Antarctica is really difficult because is almost impossible to determine the baseline. Antarctica is permanently glaciated area and the Antarctic ice does not cover only the surface of the continent, but also covers the surface of the sea. It is impossible to distinguish where continental ice ends and where the ice covering the surface of the sea begins.

The reason of other controversy is relation of the coastal states from whose territory the maritime zones are determined. Since territorial claims of the States in Antarctica are frozen by Antarctic Treaty, some discrepancy exists in relation to coastal states.

UNCLOS provisions do not represent a reliable way of determining the legal status of Antarctic waters. In the relation of environment protection, their incompatibility with the ATS does not provide a protection in such extent as the ATS does.

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The Royalty rates as the key parameter of the Valuation of the Intellectual Property to the Transfer of Intellectual Property

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Abstract

Intellectual property creates very important part of value of many companies and it is also very important for their economic and financial prosperity. The aim of the article is to clarify the issue of appropriate royalties to the transfer and valuation of intellectual property. The idea of this article is to give an overview of the field of the transfer of intellectual property and also to show how transfer of intellectual property can be used as a constructive tool for practice, industry, innovation or whole development of society. Transfer of chosen part of intellectual property is related to the valuation of this part of intellectual property. One of the key parameter of the valuation by the relief of royalty method is the amount of the royalties. The main goal of the article is to research this appropriate amount by using national and international sources and to define the process of valuation of the chosen part of intellectual property.

Keywords: *Intellectual property, valuation, transfer of intellectual property, royalties, the royalty rates*

JEL classification: *D46, O34*

1. Introduction

The term intellectual property is rather unknown for the general public, but it is getting more and more relevant nowadays and so it gradually gains recognition. Knowledge economics, which is our subject of interest, puts a great emphasis right on the intellectual property. If we take into account the current situation on the world market, the dominating companies are those which dispose of the intellectual property with a huge value, although this value is not every time expressed in the accounting. Whether it is technology companies like Apple, Google or Microsoft which have become the leaders on the world markets and offer a great value added. They built up their positions especially because of unique knowledge, innovations, creative thinking, learning, brave ideas, know – how, patents, software or trademarks and also because of other different forms of intellectual property. These things are the core activities which guarantee these companies success on the market and they are formed by the intellectual property. It means that to build a globally successful company these days, it is just not sufficient to dispose of a capital or tangible assets – something more is needed. So, the intellectual property have become the most powerful competition advantage for the most powerful companies throughout the world.

Within the field of expertise, a big emphasis is put on a company valuation, however it must be said that the area of the intellectual property is poorly elaborated. This is due to the fact that many companies did not appreciate the importance of the intellectual property and this trend comes up to the present. Together with this, the need for more complex elaboration

of this subject and elaboration of necessary researches in the field of the intellectual property valuation is rising. The aim of the article is to clarify the issue of appropriate royalties to the transfer and valuation of intellectual property. The idea of this article is to give an overview of the field of the transfer of intellectual property. Transfer of chosen part of intellectual property is related to the valuation of this part of intellectual property. One of the key parameter of the valuation by the relief of royalty method is the amount of the royalties. The main goal of the article is to research this appropriate amount by using national and international sources and to define the process of valuation of the chosen part of intellectual property.

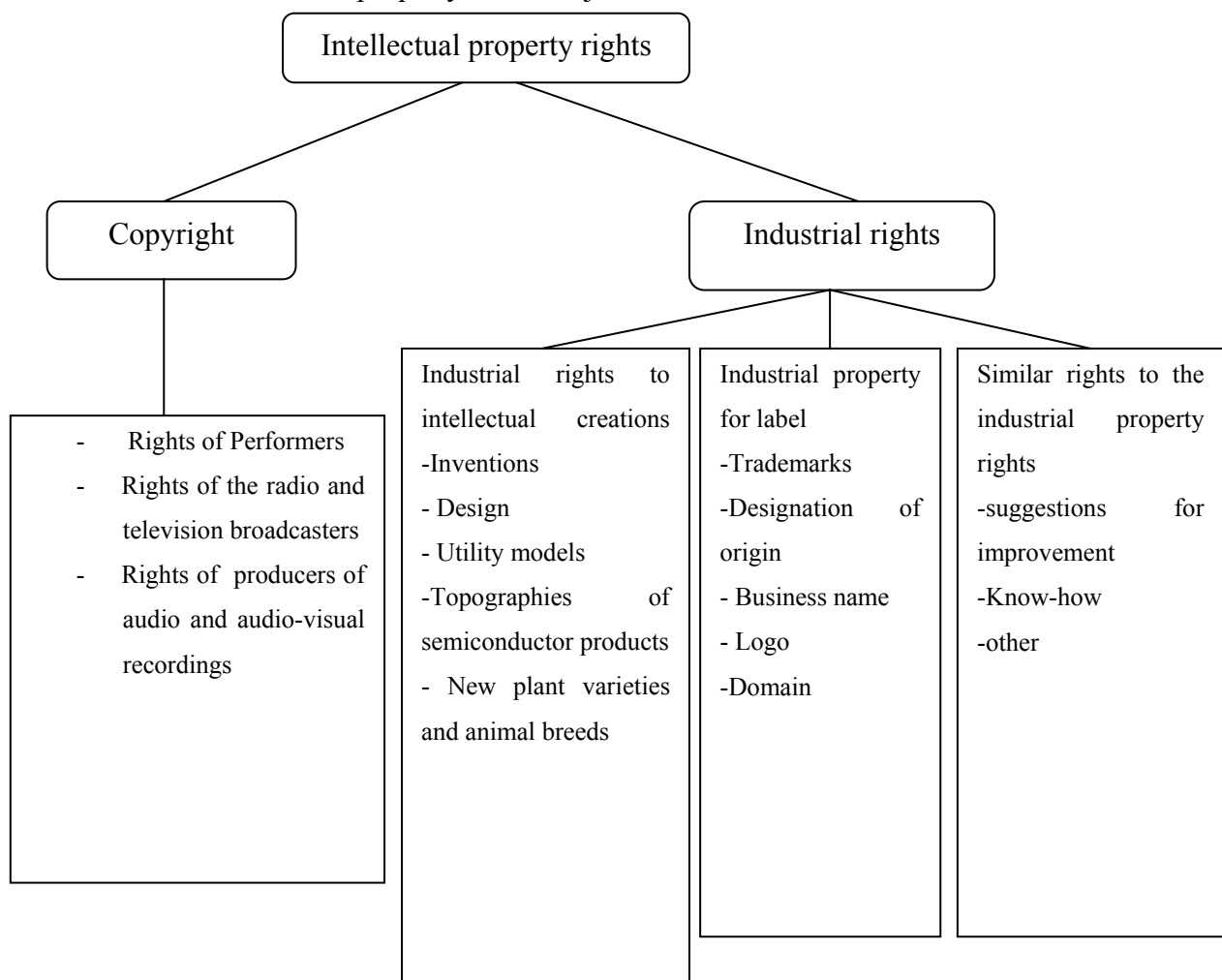
2. Definition of Intellectual Property

In this chapter is needed the definition of intellectual property. Exist so many definitions, we can state that a problem of the intellectual property is quite a controversial topic and authors have partially different opinions on it.

Vojčík offers the following division of intellectual property, which primarily follows the legal nature of the individual components of intellectual property.

Figure 1

Distribution of intellectual property under Vojčík



Source: Own processing and VOJČÍK, P. – MIŠČÍKOVÁ, R. 2004. Základy práva duševného vlastníctva. 1.pub. Košice: TYPOPRESS, 2004. 342 p. ISBN 80-89089-22-4.

The definition quite accurately divides the intellectual property according to the nature of its creation. Intellectual property is therefore divided into copyright and industrial property rights. However, the internal organization of copyright and industrial rights is not uniform and the authors include various items of intellectual property in the individual items.

3. Transfer of intellectual property

Transfer of intellectual property represents mostly the transfer of rights associated with the originator or the creator of intellectual property to a certain, target institution. The originator can be an individual, but also academic institutions and research institutes. The other side is represented by the business sector, for which the objects of intellectual property represent a great opportunity, respectively a chance to get a unique intellectual creations, knowledge and new technologies. With technology movement from the originator is also linked to the concept of technology transfer.

The concept of technology transfer has several meanings. It can be seen, for example, as an effort to develop underdeveloped countries by providing technology from more advanced countries. It may also be understood as the transfer of technology inside the commercial sector between firms or within the company itself. The third meaning of the technology transfer concept, as it is understood in our case, is the transfer of research and development into practice, is technology transfers from academic to the commercial environment.¹

This process is currently a very hot topic, mostly it is about transferring items protected by intellectual property rights, which fall under the relatively a large number of individual items. According to Slovak and foreign laws, the originator may be a natural person², even though according to statistics of the World Intellectual Property Organization³ applicants for international patents are in 80-90% corporate entities (companies, universities, research institutions). These facts indicate that the owners of particular types of intellectual property in many cases are subjects, that do not have enough capital in order to be able to manipulate with them and this fact ignites the rise and rapid development of intellectual property transferring.

Next comes the actual transfer of intellectual property objects to other entities that are likely to have this property and recover it. There is a need to evaluate the intellectual property in connection with its transfer that arises in establishing a joint venture, cash, bankruptcy, liquidation company, heritage, mergers, litigation, marketing as well as in other situations. An important aspect is the effort of the owners of these rights to know their value as an input for the next business meeting (Čada, 2007).

The transfer of intellectual property is more common through contracts granting rights to use objects of intellectual property, particularly through licensing agreements and franchise agreements (Vojčík – Miščíková, 2004).

The transfer is playing key role especially in research institutions such as universities, scientific associations, research institutes and the Academy of Sciences. In these entities, enormous scientific potential is concentrated. A leak of intellectual property components can occur. A lot of knowledge is concentrated in research institutions, which are at the level of

¹ Centrum vedecko-technických informácií SR. (2012). Duševné vlastníctvo a transfer technológií. [Online]. CVTI SR. [9.10.2014]. own processing, Information available on the Internet:

http://nptt.cvtisr.sk/buxus/docs/Dusevne_vlastnictvo_a_transfer_techologii_1.pdf, [accessed 9.10.2014].

² Zákon o patentoch č. 435/2001 Z.z. v znení neskorších predpisov. § č. 10

³ World Intellectual Property Organisation (WIPO). PCT Yearly Review. The International Patent System. [Online]. WIPO Economics & Statistics Series, 2013. [8. 10. 2014] Information available on the Internet: http://www.wipo.int/export/sites/www/freepublications/en/patents/901/wipo_pub_901_2013.pdf, [accessed 8.10.2014].

these entities and are not sufficiently put into practice. It is necessary to establish adequate management system acquired results coming from research and creative activities of these institutions.

As regards the transfer, the traditional form of the transfer of intellectual property, which is mostly done for the purpose of financial evaluation, in addition to selling includes consent to use the form of a license or contribution of intellectual property to the emerging spin-off companies. The granting of rights of use of industrial property (patent, utility model, trademark) or copyright works (for example computer programs) under a license agreement is usually even considered the most effective way to assess intellectual property rights.⁴

The form of the selection depends on certain criteria, especially Intellectual Property, possible means of protection or uses in the commercial sphere. Currently, the most commonly used form is the license. In license agreement, a key role is to determine the appropriate amount of the royalties. It is individually derived from the subject of intellectual property, its quality and available research, that are necessary for the correct determination of the amount of royalties.

4. Valuation of intellectual property

In this chapter we try to describe methods of valuation intellectual property rights. In the last years, the practice of valuation of intellectual property has grown dramatically. Four different methodologies have typically been favored (Anson – Suchy – Ahya, 2005):

- Market-based approach
- Income approach
- Cost or replacement value approach
- Relief from royalty approach

Income-based methods according to publications of the European Union report on intellectual property are divided into the following:⁵ The royalty relief methods, the premium profits methods, the excess earnings methods and the residual value methods.

Svačina (2010) indicates the following income-based methods: The methods of profit sharing, the bonuses methods, the net present value methods, the methods income increase, the real options methods, the methods based on technological factors and value added brands, namely Brand Value Added method, which we developed in our thesis.

This selection of methods is not definitive, there is a large number of income-based methods for the valuation of intellectual property.

The most used method is method of relief from royalty method, which we explain in next chapter.

4.1 Relief from Royalty Method

Relief from Royalty Method is very often used in practice. It is based on an assumption that the value of a particular element of the intellectual property is equal to the price which would be paid on the market as an approval for its use if another company would not own it. It means that the owner of the intellectual property subject would not be its owner and would

⁴ Centrum vedecko-technických informácií SR. (2012). Duševné vlastníctvo a transfer technológií. [Online]. CVTI SR. [8.11.2014]. Own processing by Author. Available at: <http://nptt.cvtisr.sk/buxus/docs/Dusevne_vlastnictvo_a_transfer_technologii_1.pdf>. [accessed 8.11.2014].

⁵ European Commission. 2014. Final Report from the Expert Group on Intellectual Property Valuation: Publishing administration EU. Luxembourg: European Union, 2014. 99 p.

have to buy this right for using it. These rights are offered in a form of licence or licence contract. For the right to use them, one has to pay an appropriate financial fee, usually in a form of royalties depending on the real amount of sales in a form of revenues and in combination with fixed royalties (JAKUBEC – KARDOŠ – KUBICA, 2005).

We can calculate the annual value of the intellectual property subject by the Relief from Royalty Method with a help of the following equation (JAKUBEC – KARDOŠ, 2012):

$$HV = \frac{RV * LP * KZ * PM}{KD}$$

Characteristics of the individual variables:

- HV – Value of the chosen intellectual property element for the particular year.
- RV – Annual production range, usually future revenues forecast in a financial plan.
- LP – Royalties or Licence fee. Acquirer of the licence has to pay royalties to the licence provider in various amounts depending on an agreement, usually in a range of 25 – 50 % from a profit. Licence fee is usually in a range of 0.5 – 10 % from sales, but can be also higher.
- KZ – Coefficient of obsolescence or valuation. It is important to recognize and define which element of the intellectual property we evaluate. Patent loses its value over time, thus the coefficient of obsolescence is used. On the contrary, trademark valorizes over time, thus the coefficient of valuation is used.
- PM – Share of the intangible property. The sales used in calculation must refer to the sales attributable to the chosen element of the intellectual property which we evaluate.
- KD – Coefficient of discount rate (capitalization rate) – it takes a time value of money into account and serves for discounting of future profits resulting from the ownership of the chosen element of the intellectual property.

Relief from royalty methods are the most relevant and widely used methods for valuing IP. As we could see, the key parameter of the relief from royalty methods is the amount of royalties or licence fee.

5. Appropriate amount of royalties

The appropriate amount of royalties to the transfer of intellectual property is the key parameter, which can strongly influence the transfer of intellectual property and the valuation intellectual property too. In many cases, the wrong estimate of the amount of royalties can cause unimplemented transactions. In general, royalties aren't defined as an absolute number, but represented as % from sales, EBIT, EBITDA, operating profit or net profit. It can be determined by a combination of a fixed annual amount and a percentage of sales. Only in very exceptional cases – for example single license, license between related subjects is determined as an absolute value. Most often, as indicated by the foreign literature is defined as % of earned revenues.

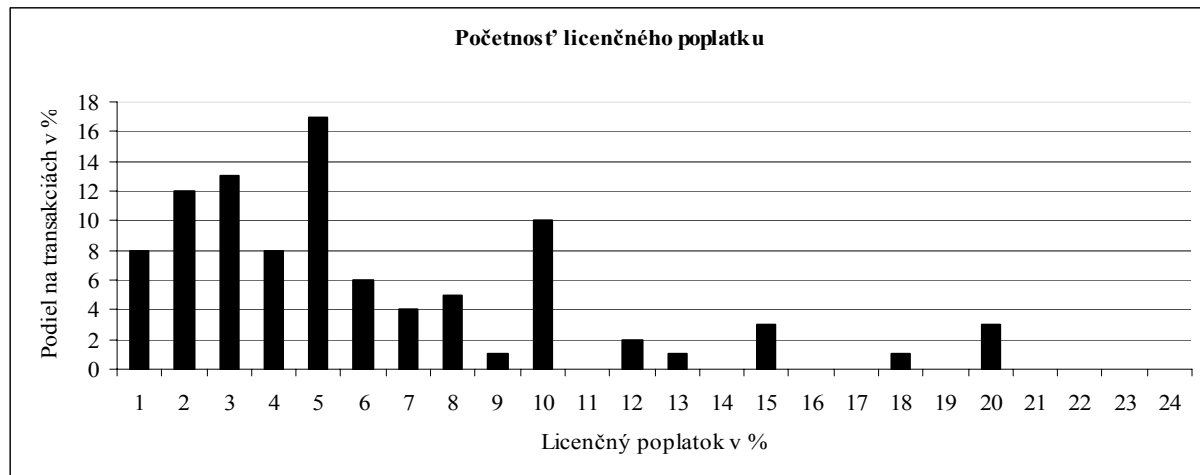
The basis for determining the appropriate amount of royalties for trademark is relevant research of royalties in our territory. Just research of royalties is also extremely important in the context of the transfer of intellectual property, as well as is relevant for valuation of intellectual property by the relief from royalty method (Havier, 2015).

Czech authors like Čada (2007), Jurečka (2006) or Malý (2002) indicate, that the royalties range from 0,5 % – 10 % of the selling price. Problem is the fact, that license agreement is a

trade secret and third persons can't inspect them and find out the amount of royalties. In our territory, databases about made licensing transactions or prices for them don't exist.

Pavel Svačina in his publication *Oceňování nehmotných aktiv* (Svačina, 2010) provides an overview of database www.royaltystat.com, which is aimed to compare the amount of royalties and its share of the transactions.

Graph 1
Multiplicity of royalties



Source: SVAČINA, P. (2010). *Oceňování nehmotných aktiv*. Praha: EKOPRESS, 2010. 216 s. ISBN 978-80-86929-62-0.

The most frequented amount of royalties is on the level of 5 %, next is 3% and 2%. This is the modus of royalties on the level of 5 %.

Weiler targets his research to analyze the range of royalties regarding sectors of industry. Statistics are divided into minimal and maximal range of the amount of royalty rates, average and median of royalty rates.

Table 1
Royalties regarding sector of industry

Sector	Minimum	Priemer	Medián	Maximum
	údaje v percentách			
Chemicals	0,1	4,7	4,3	25,0
Internet including software	0,3	11,8	8,8	50,0
Telecom	0,4	4,9	4,5	15,5
Consumer goods, retail, free time	0,1	5,5	5,0	28,0
Media and entertainment	2,0	9,1	5,0	50,0
Production of food	0,3	3,2	2,8	10,0
Healthcare products	0,1	6,1	5,0	77,0

Source: WEILER, D. (2004). *Valuing Your Intellectual Property for Strategic Alliances and Financing*. Prezentácia, 2004. [online]. Available at: <www.njsbdc.com/scitech/scitech120804-weiler.ppt>. [accessed 7.10.2015].

If we want to find out the appropriate amount of royalties in chemicals, we will see the big range of the amount of royalty rates. We can see, that average royalty rates are on the level 4.7 %, median is on the level 4.3 % and the range of royalty rates is from 0.1 % (minimum) to 25 % (maximum) of sales.

The questionnaire survey, which is focused on the amount of royalty rates, was worked by authors Kardoš and Jakubec at the University of Economics in Bratislava.

Table 2

Provided and receipt amount of royalties as % of sales

Interval	Quantity	%	Production	Provided licence	Average	Receipt licence	Average
0 - 1 mil. Eur	45	40,18	7	1,00-10,00	5,00	1,00-10,00	3,50
1 - 10 mil. Eur	38	33,93	14	0,75-20,00	5,23	0,5-20,00	4,27
10 - 30 mil. Eur	19	16,96	9	0,00-5,00	2,31	0,00-5,00	2,01
viac ako 30 mil.	10	8,93	5	1,50-5,00	2,80	1,25-3,00	2,15
Sum	112	100,00					

Interval	Quantity	%	Services	Provided licence	Average	Receipt licence	Average
0 - 1 mil. Eur	45	40,18	37	0,00-50,00	10,00	0,00-20,00	7,76
1 - 10 mil. Eur	38	33,93	23	0,75-20,00	3,77	0,75-15,00	2,82
10 - 30 mil. Eur	19	16,96	9	0,5-40,00	11,06	0,5-29,00	8,10
viac ako 30 mil.	10	8,93	4	2,00-40,00	13,50	1,00-25,00	8,25
Sum	112	100,00					

Source: KARDOŠ, P. – JAKUBEC, M. (2012). *Ekonomické znanectvo – vybrané problémy*. Bratislava: IURA EDITION, 2012, 248 p. ISBN: 978-80-8078-450-8.

Table 3

Provided and receipt amount of royalties as % of sales

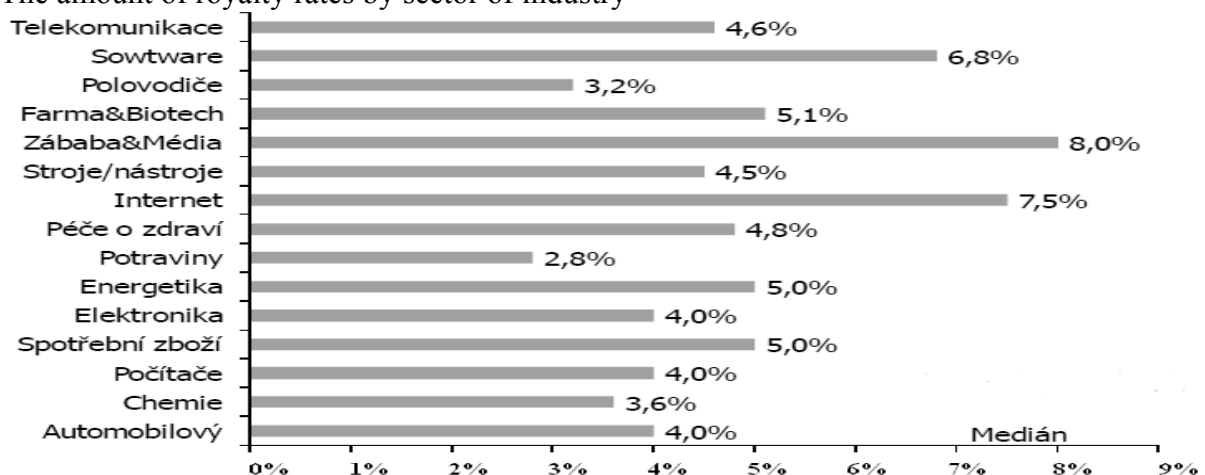
Royalties as % of sales	Provided	Receipt	Average
Services	v %	v %	v %
Average	8,25	6,13	7,19
Median	5,00	3,00	4,00
Production	v %	v %	v %
Average	4,06	3,23	3,65
Median	3,00	2,00	2,50

Source: KARDOŠ, P. – JAKUBEC, M. (2012). *Ekonomické znanectvo – vybrané problémy*. Bratislava: IURA EDITION, 2012. 248 p. ISBN 978-80-8078-450-8.

This survey was focused on royalties, and the result of the survey is in harmony with data from Svačina or Weiler.

Graph 2

The amount of royalty rates by sector of industry



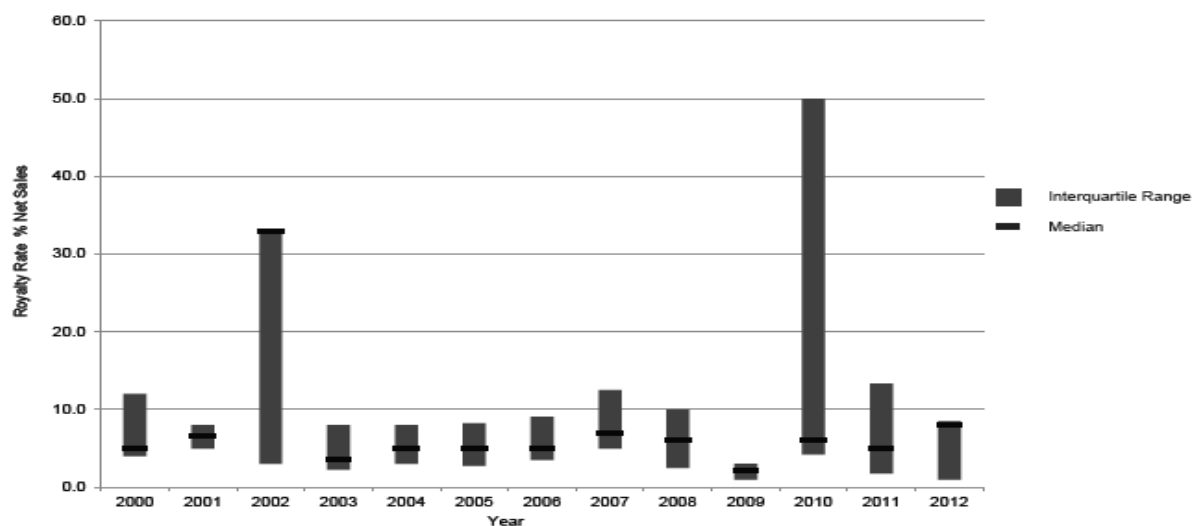
Source: SVAČINA, P. (2010). *Oceňování nehmotných aktiv*. Praha: EKOPRESS, 2010. 216 p. ISBN 978-80-86929-62-0.

As we can see from the figure, royalty rate in sector of chemicals is on the level 3.6 %.

Also, we introduce foreign database Ktmine in years 2000 – 2012, where is the amount of royalty rates reported for sector Chemicals. In the figure, there is indicated the range – minimum and maximum and median.

Graph 3

The amount of royalty rates for Chemicals



CHEMICALS covers the license of intangible property related to:

- ▲ Basic chemicals
- ▲ Specialty chemicals, such as paints and coatings
- ▲ Industrial gases
- ▲ Organic chemicals
- ▲ Plastics
- ▲ Fertilizers

Source: Ktmine. (2015). *Ktmine*. [Online]. 2005. [cit. 2015-08-17]. Available at: <<http://www.ktmine.com/free-resources/royalty-rate-resource-guide/>>. [accessed 17.08. 2015].

Median is very volatile in past years, the minimum was reached in 2009, it was approximately 2 % and the maximum was reached in 2002, it was approximately 32 %.

Russell Paar in his survey indicates followed amount of royalty rates:

Table 4

The amount of royalty rates by sector of industry

	Median Royalty Rate	Average Operating Profit	Royalty as % of Profit Rate
Automotive	5.0%	11.3%*	44.1%
Chemicals	3.0%	12.0%	25.0%
Computers	2.8%	8.3%	33.3%
Consumer Goods	5.0%	18.4%	27.1%
Electronics	4.5%	13.1%	34.3%
Energy & Entertainment	3.5%	9.2%	38.1%
Food	2.3%	14.2%	15.8%
Healthcare Products	4.0%	18.5%	21.6%
Internet	5.0%	10.4%	48.0%
Machines/Tools	3.4%	9.6%	35.0%
Media & Entertainment	9.0%	-13.5%*	-66.7%
Pharma & Biotech	4.5%	25.8%	17.4%
Semiconductors	2.5%	31.9%	7.8%
Software	7.5%	25.1%	21.4%
Telecom	5.0%	14.5%	34.5%
Total	4.3%	18.8%	22.6%

Source: PAAR, R. (2007). *Royalty Rates for Licensing Intellectual Property*. New York: Pub. John Wiley & Sons, Inc., 2007. 240 p. ISBN: 978-0-470-06928-8.

Median in Chemicals sector is on the level of 3 %. In the table, royalties are reported as % of profit rate and average operating profit.

Conclusions

It is obvious, that medians in the chemical industry are indicated so wide and they are extremely different from foreign databases. We consider the most relevant database - Ktmine, which includes a lot of information about royalties, but in the figure, enormous turnovers, as well as the range of royalty rates, are characteristic. In our territory, the amount of royalty rates used to be approximately 1 %, which indicated Čada (Čada, 2007). However, Kardoš's survey (Kardoš, 2012) have demonstrated, that the amount of royalty rates is higher than 1 %, depending on sector of industry. This survey was realized on 120 companies, and didn't work with representative sample. It's suitable to extend this survey and to determine relevant, appropriate and justifiable amount of royalty rates, because it is the key parameter to the transfer of intellectual property and valuation of IP too.

From this sight, determination of the appropriate amount of royalty rates is very complicated, but it is necessary to consider the fact, that valuator always determines only forecast of value. The amount of royalty rates is created by market, as agreement between provider and recipient of licence.

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Turkey and the war with Islamic State: geopolitical and economic aspects

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Abstract

Turkey is considered as major international actor and one of the candidates for regional leadership in Greater Middle East. Previous attempts to destabilise Great Middle East through the collapse of Turkey were undertaken even before in XIX century. However, nowadays it was repeated again, Turkey and Arab monarchies have been involved in the conflict against the Islamic State, therefore, the article deals with features of Turkey's foreign policy in relation to the Islamic State. The article takes into account geopolitical aspects: Iraqi Kurdistan, which enters the zone of immediate oil and gas interests of Turkey as an international actor. The article also analyses and highlights economic reasons of non-participation of Ankara in the military operation against Islamic State.

Keywords: Turkey, Islamic State, conflict, terrorism, world order, financial capital, oil

JEL Codes: F51

Introduction

Turkey is a key international actor, one of the candidates for regional leadership in the Middle East, particularly in the Western Asia. This country has the right to be called so because of military, political, economic and historical reasons. Turkey is a country with an imperial past, it has united Muslims of different ethnic origin from the Western Balkans to the Arabian Peninsula. Iran is another leader in the Islamic world was “quietly dying” under the control of Russian and British Empires as a state from XIX century, recovery started only after the Islamic revolution in 1978. At that time Turkey even being weakened by internal factors and external influences, for a long time successfully manage a number of “problem” regions from the Western Balkans to the Western Asia.

Attempts to destabilize the Great Middle East through the collapse of Turkey were undertaken even in the XIX century. According to scientist at the Institute of Oriental Studies in Russia and the deputy head of the Research Center “Arab dialogue” Fasih Badarhan, in XIX Britain and France have tried to make the “First world restructuring” thought destroying the Ottoman Empire by the hands of Egyptian emir Muhammad Ali. “Second world restructuring” according to the scientist, was the collapse of the Soviet Union. However, we will allow us not to agree with opinion of Badarhan F. In our opinion as a “Second world restructuring” should be considered the Russo-Turkish war of 1877-1878. At that time Ottoman Empire lost control under Western Balkans, this fact led to a global geopolitical catastrophe — the First World War (Austrian Archduke was killed in liberated Sarajevo from Ottoman rule), which laying the foundation of all armed conflicts in Western Asia and the Middle East during the 2nd half of the XX century.

As noted orientalist Manachinsky A., precisely as a result of secret agreements reached during the signing in May 1916 Saika-Picot agreement about the division of the Arab lands belonging to the Ottoman Empire, was founded “powder keg of Palestine” (Manachinsky, 2014). This idea should be continued, noting that the division of the Arab lands belonging to Ottoman Empire led to the creation of the Arab nation-states in the territories inhabited by different ethnic and religious groups, including non-Arab origin. This kind of land division in the Western Asia is a consequence what we are observing in Syria and Iraq. Thus, the First World War and the collapse of the Ottoman Empire was the “third world restructuring”, the consequence of which was the transformation of Western Asia and the Great Middle East into a “zone of instability” and “Eurasian Balkans” (Brzezinski, 1997). The most ambitious and cruel example of Balkanization in this region is the war with radical organization “Islamic State of Iraq and the Levant” or “Islamic State”.

1. Islamic State: attempt to restructure the world

The civil war in Syria, in which Turkey has acted as a united front with the Arab monarchies against the President of the Syrian Arab Republic Bashar al-Assad, has broken the long-standing principle of Turkish foreign policy “zero problem with neighbors” (Burak, 2015). However, this war also has generated a new common enemy for the entire region — Islamic State. It was created initially as a counterbalance to Islamist organization “Front of Al-Nusra”, filled by former soldiers from Saddam Hussein's army and members of the party “Baas”. Islamic State represents Islamic fundamentalism, having adopted an effective policy and PR-technologies, as well as principles of conducting network warfare. In addition, Islamic State engaged in illegal trade with oil and oil products: according to the Ministry of energy and natural resources of Turkey for the first two weeks of July 2014 Islamic State's revenues from the sale of Iraqi oil is 1 mil. \$ per day (Bronstein & Griffin, 2014). Terroristic activities of the Islamic State, as noted McMeekin S., may lead to a revision of the Middle East boundaries, which were shaped after World War I (McMeekin, 2015), in other words after the “third world restructuring” as a result of the collapse of the Ottoman Empire.

This situation is dangerous for Turkey not only because of regional security. Terroristic activity of the Islamic State is aimed at further destabilization of Syria and Iraq, which were the “soft underbelly” for Ankara. Because of these circumstances, there are also dangerous conditions from an economic point of view. Further escalation of the conflict will affect the investment attractiveness of the region and could lead to the overflow of capital into the other, “more stable” regions. These worries of Ankara have geopolitical explaining. Today in the world, there has been a change in the world order: the mortgage crisis in the United States in 2008 and the consequent “New Great Depression” have demonstrated the failure of the world economic system based on financial capital. As was noted in a speech by Vladimir Putin at the plenary meeting of the discussion club “Valdai”, change of the world order, as a rule, was accompanied by the chain of intense conflicts of a local character (ITV, 2015). In fact, the situation with the Islamic State in the Western Asia and in the Great Middle East on the background of apparent insolvency of financial capital model fits into this logic: similar financial crises in 1913 and 1929 led to world wars and the collapse of the existing at that time systems of world order. The collapse of the world order based on the First and Second World Wars led to strengthening the position of finance capital due to the infusion of investment in the destroyed economy, which were based on the industrial capital (Marshall Plan for Europe after World War II).

Today in the world, there has been a similar situation. Economy of United States is based on financial capitalism and was built, according to the American economic expert

Hudson M., on speculation and the principle of “casino” (Hudson, 2015), begins lose a ground. As a proof for this may serve a fact that in the first place in the world in terms of GDP is China and the United States move into second place. In this light becomes clear the logic of the United States and other countries, because their economy is based on the financial capital: to create the conditions under which countries with industrial capital will be dependent on countries with financial capital (after the First and Second World Wars).

Russia has introduced special economic sanctions against Turkey after Turkish fighter jet shot down a Russian bomber in Syria. This is a prohibition on imports from Turkey of most fruits and vegetables, restrictions to work for Turkish companies and citizens in Russia, introduction of visa requirements for visiting Russian, prohibition on charter flights. “Energy communications is the most significant channel of interdependence between Russia and Turkey”, - says HSBC analysts. In 2014, “Gazprom” has exported to Turkey 23.7 billion cubic meters of gas, which is corresponded to 5.3% of the total gas production of concern. Turkey also buys a small amount of Russian crude oil and coal (29% of Turkish imports of coal coming from Russia). “We have no reason to expect the indispensable disruption of energy trade, because both countries would suffer from this loss”, - wrote HSBC (Tkachov, 2015). Turkish Deputy Prime Minister Mehmet Simsek assessed loss of his country because of strained relations with Russia in the amount of up to 9 billion dollars a year. He believes that sanctions will cost the Turkish GDP loss of 0.4% in the worst-case scenario, and points out that in this year was already reduction of Turkish exports to Russia by 30-40% (VZ, 2015). Thus, Russian sanctions could take Turkey to a quarter of the expected growth of its economy.

The situation with the Islamic State in the region is similar, the economy of these countries is based on the industrial capital. This is also applicable on the Turkish economy. Turkish economy, even before the crisis of the world order began to feel the negative impact of the systemic crisis of finance capital to its economy. In 2013, experts noted that the binding of Turkish business to the banking system of the EU creates problems for Turkish financial groups to fulfill its obligations (a reason is the instability of the EU financial market) (European Parliament, 2015). Therefore, the imposition on Turkey a direct conflict with the Islamic State, whose armed groups approached to its southern and southeastern borders, clearly has two objectives. First is geopolitical — reformatting of the Greater Middle East, and through it the entire Eurasian continent. Second is economic — return to the era of dominance of finance capital due to the expense of weakening or destruction of products of industrial capital, including Turkish.

2. Turkey, Iraqi Kurdistan and Islamic state: economic dimension

The escalation of the conflict in Iraq since the attack of the Islamic State in January 2014 has demonstrated to Ankara the unproductiveness of Alliance policy with radical Islamists in the fight against Syrian President Assad. Therefore, the President Erdogan and the government of Davutoglu, despite the imperial past of Ankara and the concept of “neo-Ottomanism”, do not intend to drag Turkey into a military confrontation with the militants of Islamic State, and use for these aims the militia of Iraqi Kurds.

Turkey has to take part in the fight against Islamic State, at least indirectly, because of the Iraqi Kurdistan. Ankara extends the scope of cooperation and trying to play an increasing role in the internal politics of this autonomous region of Iraq. This region for Turkey acquired the status of “strategic depth” — the territory of neighboring states which are in zone of immediate interests of another international actor (Rashid, 2015).

Turkey consider the Iraqi Kurdistan as its “strategic depth” in Iraq, and it can be described as “hydrocarbon policy” (Rashid, 2015). A combination of geopolitics and energy economic interests: since 2014, Ankara and Erbil, despite all protests in Washington and Baghdad are negotiating on gas pipelines leading to Turkey, bypassing the official ban of the Iraqi authorities (Ekurd Daily, 2014).

Oil and gas interests of Turkey in Iraqi Kurdistan explains the desire of Turkey to diversify its sources of oil and gas for its industries. Today, 58% of all gas supplies to Turkey comes from Russia (Shelest, 2015). This, and the fact of prohibitively high price of Iranian gas, makes Turkey being interested in further diversification of gas suppliers. Potential gas supplies from Iraqi Kurdistan could do Ankara less dependent on Tehran and Moscow, including in matters of geopolitics.

However, precisely energy security has put Ankara in a difficult situation on the issue of participation or non-participation in the campaign against Islamic State. At the beginning Turkey accused of illegal deliveries of Kurdish oil to the international market, even has forced the Turkish Energy Minister to act with supporting comments (MK-Turkey, 2014). However, recently were addressed accusations toward Turkey about secret collaboration with the militants of Islamic State in the sphere of oil resale, which was extracted on fields in northern Iraq, and accusations about supply of diesel fuel produced from Iraqi oil on controlled by Islamic State petroleum refineries in Syria (Neftrans, 2015). In this regard, Ankara has provided a corridor to Peshmerga through Turkish territory for cross-border Syrian city Kobani, which is occupied by militants of Islamic State.

According to Bloomberg agency, for September 2015 exports of “black gold” from Kurdistan increased by 27% and reached 18.6 million barrels. Mainly supplies are going through the same pipeline. Kurdistan Regional Government intends to increase the scale of exports to Turkey up to 900 000 Barrels per day by the end of 2015 year. The regional authorities argue that they are forced to take this step in order to compensate resources which were short-received from Iraq central government (Vesti, 2015). Kurdish oil, taking into account its semi-legal status is also have been trading below the average world prices, which pushes down quotes. 900 000 Barrels per day it is not ISIL’s 45 000 - such amounts could have a significant impact on the world market. And it is impossible to resolve this problem only if you do not untie the proverbial “Syrian node”.

3. Economic reasons of not participation of Turkey in operations against Islamic State

However, about direct involvement of the Turkish armed forces in combat with Islamic State speech does not go, about this the president Erdogan has made it clear during his visit to France (Panarmenian, 2014). According to the General Director of the International Institute for Strategic Studies (Moscow) Arif Asalyoglu, leaving of Ankara from direct military intervention is due to a corruption scandal that shook Turkey before elections, held in the summer of 2014. According to expert, the main efforts of Erdogan and his prime Minister Davutoglu is now directed at addressing this particular issue, and not at extinguish a fire on the borders of the troubled southern and south-western Anatolia, populated mainly by Kurds and, unlike the Kurds in Iraq, they are not loyal to Ankara.

In our opinion, this is not the only reason of unwillingness of Ankara to join the active confrontation with Islamic State. Using of the Peshmerga will create a counterbalance to the forces of Syrian Kurds. In the case of a successful military campaign, Ankara will be able to take political influence and go back to the establishment in the north of Syria's Kurdish autonomy. This kind of autonomy will represent for Turkey serious risk (Panarmenian, 2014), because it will create another precedent of Kurdish autonomy and will give for Turkish Kurds

the way for similar claims to create an autonomous region in Turkey. Thus, Ankara, taking an indirect part in the fight against Islamic State, trying to stay ahead.

However, politics is the most concentrated expression of the economy. Analysis of media showed that the indirect participation of Turkey in the fight against Islamic State explained by complicated situation in its economy. The analysis allowed to identify the following economic reasons not participating of Turkey in active confrontation with Islamic State:

- **Reducing of consumer confidence index**

The consumer confidence index is a measure of readiness of the population to the purchase the consumer goods. According to the Turkish national statistical agency in October of 2014 year, this index decreased by 4.6% compared to the same period in September. Analysis of the data showed that there was a reduction of all categories of consumer confidence in Turkey:

- a) Index of general economic situation expectation in 2015, fell by 10% compared to the same period in September. This means that in October the number of people expected economic improvement in the next 12 months was decreased, which may indicate a decline of objective factors of potential growth in the Turkish economy.
- b) Index of unemployment expectation in the next 12 months was decreased by 6.3% compared to the same period in September. The reason for the decline is the increase in the number who are fear the growth of unemployment. These fears proved, because in July 2014 year, the unemployment rate was 9.8%, which is more than 3 times higher than the EU permissible level, where Turkey for more than 50 years trying unsuccessfully to join;
- c) Index of expectation of growth in household income in the next 12 months was decreased by 1.1% in comparison with the index in September;
- d) Index, which is responsible for the growth of savings, was an exception, because it grew up by 9.4% on a monthly basis. However, this figure is only 26.1 points, indicating a pessimistic forecast (optimistic forecast for the index is considered to be in the range of 100-200 points). It should be noted that the overall dynamics of the 10 months of 2014 downward, and only September marked increase in consumer confidence (Turkish Statistical Institute, 2014).

- **Loss of 4 positions in the ranking of business activity Doing Business 2015**

Despite the fact, that in 2014 Turkey has improved performance within a given rating to 3 positions. In 2015 in light of the escalation of the conflict on the southern borders of Turkey in the World Bank's Doing Business Turkey falls to the 4th position. Subsidence of Turkey's position could have the following negative effects: firstly, it may adversely affect the level of its investment attractiveness, and secondly it may lead to an outflow of capital from the country (The World Bank, 2015).

- **The general deterioration in the external economic relations because of short-sighted Ankara's foreign policy**

According to the Association of Turkish exporters due to terroristic activity of Islamic State, Turkey's exports to Iraq in 2014 was reduced. As a result, suppliers of the United Kingdom occupied Turkey's niche. It was a strong blow to the Turkish exporters, because Iraq is the second largest market for Turkish goods (Islam 2014).

Because of external conflict, Turkey has reduced the foreign trade turnover with Egypt and Syria. Turkish economy is still reeling from the fall of trade with Damascus by 69% since civil war started in Syria. In Egypt, because of Erdogan support to ousted President Mohammed Mursi and Islamist organization “Muslim Brotherhood”, Egyptian media call to boycott Turkish products. In addition, Egyptian authorities because of reasons above stated not to extend the agreement on international trade, which has expired in April 2014. Non-renewal of the agreement means higher prices of transportation of goods up to \$ 12,000 per a truck, which eventually will reduce the competitiveness of Turkish goods.

There is disappointing forecasts of experts about “Nebulosity prospects for Turkish export goods”. Ousting of Turkey's leading position in Iraq by the United Kingdom and the increasing presence of China in the countries of the Western Asia may lead to a significant deterioration in the Turkish economy. These conditions will be an additional argument for the overflow of capital in the “more favorable regions” that is consistent with the plans of international actors, in which basis of the economy is the financial capital.

Conclusion

An analysis of the geopolitical situation in the Western Asia taking into account economic situation in Turkey talking that Ankara's unwillingness to be involved in an armed conflict with Islamic State caused by its fear of further deterioration of economic performance. Research of changing world order in the historical aspect showed that the weakening of the Turkey regularly was leading to escalation of conflicts in the region of Western Asia. This fact in combination with the political tensions related to the corruption scandal, obvious failures in foreign policy, accusations in economic cooperation with Islamic State and fear of aggravation of the Kurdish question in Turkey have led to the fact that Ankara is limited only by diplomatic statements and providing the Iraqi Peshmerge corridor through its territory to the besieged Syrian Kurds. Turkey intends to prevent reduction of its investment attractiveness and falling incomes of its citizens, which has already started, taking into account the decline in consumer confidence. However, it undermines its prestige of international actor, which is claiming to lead the entire Greater Middle East, that puts Ankara in a situation of “Fork Moulton”, it is clearly disadvantageous. This situation is beneficial to the other contenders for leadership in the Greater Middle East — Islamic Republic of Iran, which is due to the activation in the fight with Islamic State, has strengthen its foreign policy positions. This condition would deprive Ankara opportunity to diversify oil and gas supplies from Iraqi Kurdistan or the ability to obtain a review of the price of gas from Iran.

On the background of clearly outlined changing world order Turkey, as well as 100 years ago, is facing the threat of another “world restructuring” with the consequent collapse of its economy based on the industrial capital. The situation may lead to revision of Ankara's foreign policy and rapprochement with the international actors — indicated as a major player in the opposition to financial capital — Russia, China and Iran. The situation around the Islamic State, gives grounds to make an assumption about the possible rapprochement of Ankara to Eurasian ideas. That will enable Turkey to take its place as a power in forming Eurasian geopolitical center in the new multipolar world.

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The Communication Aspect of Business Negotiations in the Intercultural Context

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Abstract

In the current era of social processes all over the world, we are witness to the increased demand on the culture of communication, but on the other hand we are more aware of differences in thinking and acting of individuals coming from different cultural backgrounds. These facts are reflected in the international business negotiations that require some specific abilities and knowledge influencing the successful result of mutual communication from negotiators. Watzlawick argues that it is impossible not to communicate. (1969, 53) We agree with him that there is communication everywhere and all the time. So within the context of this topic, we put a question: How can we communicate properly and successfully with a foreign business partner? In that connection, the cultural background of our business partner it is very important. The true fact of the matter is that there is quite frequent misunderstanding during business negotiations as a consequence of the partner's different cultural background that is reflected in their thinking and acting. The aim of this paper is to highlight the importance and direct connection of intercultural literacy as one of the conditions for successful communication in the negotiation processes. The paper presents some theoretical starting points for the topic, it offers the views of the problem of interculturality by several theoreticians, and tries to reply the questions directly connected with intercultural business negotiations: what is the impact of my partners' culture on their behaviour and thinking? Is intercultural communication only a product of communication in a foreign language, or is it something more than that? What does the intercultural competence of the negotiator mean, and how can we gain it?

Keywords: *business negotiations, communication, intercultural aspect, communication competence*

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1 Introduction

In the current phase of the information society development, we have been observing an increase of the significance of communication in all spheres of life. Communication literacy as well as communication and socio-cultural competences, and communication skills are being required from professionals still more and more. Most authors describe communication from the viewpoint of their professional concern. The theory of communication perceives it as a social interaction (Watzlawick, 2011); managers understand it as a set of measures leading to achievement of the desired result and, simultaneously, it is not being seen as a means of understanding each other (Drucker, 2007). Psychology in its turn claims that communication is the most significant form of social contact and it rests in sending and receiving signals or messages. (Vymětal, 2008)

In the field of business and business relations, communication abilities and skills have become a precondition for entrepreneurial success in the increasingly aggressive competitive environment. Communication represents the most important form of social interaction that is why it plays a crucial role in the contact of cultures. The social-psychological research of communication means, communication channels, and communication functions is a source of important knowledge for the further exploration of cultural determinants of communication processes. (Nový – Schroll - Machl, 2005) These needs and requirements are being reflected in business negotiations too.

Negotiations are a complex process. They represent a specific form of communication. Statistics reveal that every individual negotiates three to five times a day, without even realising that they are conducting negotiations. (Opresnik, 2014) Participants of negotiations intend to push their goals through, realise their ideas, and gain various advantages. Negotiation processes are generally being perceived in this sense. For a more thorough analysis, however, it is insufficient to approach negotiations in such a one-sided way. On condition that the negotiation partners desire to achieve optimum result, i.e. to reach the set goals, they must also take into consideration other factors, contributing to the overall optimisation of the negotiation process. From the perspective of complexity, it is impossible to view negotiations merely as a targeted, matter-of-factly discussion. The whole process is being enhanced by the negotiation participants' personalities, by the form of communication between them, and whether the negotiations take place on national or international level.

International negotiations are being viewed as intercultural because the preconditions for successful communication between partners include, apart from the complex of professional knowledge and skills, the knowledge of the partner's cultural background as well. The consequences of global changes call for the ability of mutual understanding. The fact stemming from intercultural interactions is that it is not only language that distinguishes people of different nations, but also certain cultural patterns of behaviour created in a long-term process of development. (Brozinski – Schwabe, 2011) The communication in both intracultural and intercultural business negotiations is being conducted according to the general rules of communication model on the grounds of the information exchange between the communicators. Nevertheless, in the intercultural context of negotiations, the knowledge of cultural characteristics and customs of the other party is its inevitable component. The most significant result of Samovar's research (2001) in this respect is the observation that each instance of communication is a reflection of its own cultural identity and it contains specific, individual features. Because every human being is unique, communication will always be unique as well.

The question of successful communicating, mutual understanding, and adequate acting have been an issue of the last few decades, particularly in respect of mutual contact of different cultures' representatives either in their professional life or in the private one. In this regard it is necessary to seek answers to several questions, related to mutual interactions of business partners, who are thinking, feeling, and acting differently as a result of their cultural otherness. The central question is whether it is possible to communicate successfully and at the same time meaningfully, without fear, in a mutually enriching and satisfying manner. Subsequently, another question arises – how and through what tools this can be achieved. The answers to these questions are going to be searched for in the following sections of this paper.

1.1 Methodology

The text is aimed at elucidating the mutual relation between culture and communication. It attempts to enhance the awareness of the direct relation and influence of the intercultural

background of communicators on the success of communication. The aim of this article is to establish the measure to which the value systems of communication partners influences the result of negotiation process in both positive and negative sense. And, finally, the article intends to demonstrate that there exist means and methods, designed to prevent and eliminate possible misunderstandings and problems in intercultural negotiations. Methodologically, the text is drawn up based on the research of specialised scientific literature, and it highlights and emphasises research results and findings of renowned scientists and scholars from the fields of communication, intercultural competence, and cultural studies.

2 Intercultural Aspects of Business Negotiations

With regard to the paper's title, this part is going to deal in more detail with the notions related to the explored issue, such as culture, intercultural communication, intercultural competence, and cultural training. This chapter intends to explain their relation to international business negotiations.

The notion of culture does not cover only music, fine arts, language, literature or film. It is necessary to realise the fact that representatives of cultures express themselves individually, by their specific everyday behaviour, style of work, relation to the environment, and in many other areas, which influence and enhance their cultural image. Hofstede defines culture as a mental set-up of an individual, distinguishing one culture from another. This unique know-how is reflected in their ways thinking, feeling, and behaviour. (2001) The author claims that cultures of nations are at the first sight comprehensible only partly. However, it is possible to identify them getting to know the values and standards of their representatives, which show in their actions. Hofstede assumes that in a usual contact with a foreigner, the true characteristics of his/her culture will not manifest themselves. Thomas perceives culture as a universal phenomenon, which manifests itself in the orientation system of a nation, society, or group as typical. The system is constituted by specific symbols, e.g. speech, gestures, mimics; way of dressing, rituals, greetings, and it is being handed down from generation to generation. The orientation system defines the terms of belonging to all members and enables them to cope with their environment. Triandis (1989) describes culture as a part of living environment created by people. The precondition of learning about and understanding of a foreign culture is thorough knowledge of one's own culture, of the patterns of thinking as well as the patterns of behaviour of oneself and members of one's cultural environment. Behaviour of individuals is determined by both the development of culture under the influence of historical events and individual personal features of its bearers. In order to be successful in international negotiations, it is important to realise the differences in comparison with own culture and make efforts to understand the behaviour of the partner in mutual interactions. If culture is understood as a certain orientation system, then it is appropriate to consider which cultural specificities can become sources of misunderstandings and problems. The perception of time and space is a highly probable source of misunderstandings. Different cultures view time differently, e.g. when negotiating and signing business contracts. Americans prefer fast concluding of business agreements, other nations; on the contrary, devote this process much more time. Punctuality is typical for Germans, nevertheless, in African cultures it is not important when the negotiation partners meet – what is crucial is that they meet at all. Hall (1959) delimited the aspect of handling time as one of fundamental factors of distinguishing cultures. In respect of the perception of time, there are consequences deriving from it for the negotiators, related to mutual communication, which are relevant to the length of small talk, speed of concluding contracts, timing of individual phases of negotiations, and breaks. Space is being perceived by different cultures differently too. Negotiations themselves take place in the space which thus becomes a part of the communication. With regard to intercultural

negotiations, partners should pay due attention to such aspects as distance zones during negotiations, movement of the partner in the space, set-up of the negotiations place, and the roles of private and public spaces. Cultures differ from each other by the motion in space as well. Schefflen (1976) denominates the social use of space as kinesics. It is necessary to accept that there are cultures perceiving physical closeness positively and others which view it negatively. Thus keeping the appropriate distance from the communication partner, negotiators show their understanding and respect for the partner's tradition. Another aspect of cultural difference is the style of communication. In his studies Samovar (1981) points out three aspects of behaviour in space in relation to intercultural differences. The first differentiating criterion is the high- or low-context communication (Hall), i.e. whether or not the communication is focused on the partner, whether the communicator can 'read between the lines' and apart from verbal messages also sends non-verbal signals or whether the communicator favours direct communication style and aims at saving his/her own face. The second aspect, according to Samovar, is formal or informal communication connected to the use of titles, dress-code, strict observation of rules. The third differentiation aspect relates to the communication habits of cultures. On the one hand it is about reinforcing the individual, open confrontation, even aggression and loudness of expression, as can be seen with Americans, and on the other hand there are harmonious relations, when partners try to avoid confrontations (Asian cultures). Misunderstandings between business partners occur not merely because of the lack of knowledge of the cultural specificities of behaviour, but even due to the inability to choose the most appropriate scenario out of the miscellany of the possible ones.

Intercultural communication is being characterized by Broszinsky Schwabe as exchange of messages between people coming from different cultures. Patterns of behaviour are being acquired already in early childhood, from which follows that in interactions with representatives of other cultures, communication is being shaped not only by a different language, but mainly by cultural specificities. (2011) It is evident, as the author claims, that the decisive role in successful business negotiations is played by the awareness of the mutual cultural differences of the partners in thinking, behaviour, and acting. Maletzke (1996) distinguishes structural features of cultures and labels them as categories, by which cultures differ and constitute their own specific profile. Among such features there are perception, non-verbal communication, time and space management, language, and behaviour. Hofstede (2011) is the author of the theory of cultural differences, based on cultural dimensions representing typical properties of various national cultures. They include power distance, individualism and collectivism, masculinity and femininity, uncertainty avoidance, and short-versus long-term time orientation. Optimum intercultural communication is a part of a lasting process of getting to know and learning, the consequence of which is the perceiving of another culture in its essence and variety, and it dwells in adaptation to and understanding of these differences. Except of verbal communication, a significant role in intercultural communication is being played by non-verbal communication as it is shaped by cultural patterns as well. It gains its unique significance particularly in the situations when partners resort to non-verbal means of expression due to the limited linguistic communication possibilities and skills. The notion of intercultural communication was introduced by Hall (1959) and it covers two levels of understanding. In the narrow sense it denotes a face-to-face communication between two individuals with different cultural backgrounds, using language and non-verbal signals. In the broader sense of the notion, intercultural communication is viewed as both interpersonal communication between culturally different partners and its medialized level in all its forms as characterized by Lüsebrink (2005). The success of intercultural communication rests not only in whether or how an individual masters the language of the business partner, but especially in the awareness of the fact that all individuals

are objects of the process of their culture's socialization, therefore they behave and act the way they do.

Intercultural interactions not always lead to understanding of communication partners. Frequently various misunderstandings and problems occur. The reason, according to Herbrand (2002), is that intercultural contacts are much more complex than the intracultural ones. Between the home culture and the foreign culture a space occurs, full of unclear messages, hesitations, and new moments, because partners are bearers of particular attitudes to the world, views on life, ways of thinking and acting, and, due to the fear of otherness, these lead to clashes in intercultural communication. (Thomas, 2005) In order to prevent intercultural conflicts and secure smooth process of business negotiations, intercultural competence is inevitable. The ability to perceive, understand, and productively assess intercultural situations is an outcome of intercultural competence. The notion of intercultural competence involves a complex theoretical construct. Thomas (2003) describes intercultural competence as an ability to understand cultural facts and factors, influencing perception, thinking, feeling, and acting in oneself and in other individuals, as an ability to respect them, and be able to use them productively in mutual interaction in the spirit of tolerance and peaceful coexistence, and as an ability to employ these orientation models in relation to the interpretation of the world in its variety. Bolten (2001) defines intercultural competence as a set of several abilities (competences) which participate in constituting intercultural competence. The author discusses the ability of acculturation – accepting the values and patterns of thinking of another culture into own culture; he talks about perceiving intercultural situations not as threats, but rather as possibilities. Yousefi (2014) opines that intercultural competence is a process of acquiring information and behavioural patterns, which make it possible to cope with the challenges of intercultural situations. Acquiring intercultural competence, in his view, becomes inevitable when differing forms of thinking, behaviour, and living habits get it conflict. Over the past few years, intercultural competence has become a key competence. The importance of its acquiring and developing is being proved by the fact that it is needed in almost all spheres of life. We can consider it an interdisciplinary competence. It is relevant for people, who live and work abroad, for managers in multinational corporations in their own country and abroad, in work in multicultural teams. No less important is acquiring by internationally active negotiators, for whom mastering of foreign language is no longer sufficient enough. What is vital is the knowledge of the partner's culture in its complexity. Intercultural competence is not inherited. It is necessary to acquire it and constantly cultivate it. With regard to the needs of the society as well as the world development, the question occurs in what way it is possible to gain intercultural competence.

One of the ways leading to acquisition and development of intercultural competence is intercultural education. The process of intercultural learning is viewed as a dynamic process, based on comparing own culture with the foreign culture. The content is focused on defining the processes, leading to acquisition of the knowledge on foreign culture. In the process of intercultural education, the key point is to overcome the ethnocentric approach, preferring own culture to the culture of the partner. Its goal is to deliberately eliminate the prejudice and stereotypes regarding the partner's culture, to accept cultural differences, and respect cultural diversity. The globally best known training programme is Culture Assimilator. The method originated in the USA and later took roots in Germany, especially thank to Alexander Thomas. The method incorporates numerous case studies, in which typical problem situations are modelled and the trainee become familiar with numerous incomprehensible reactions of other cultures' representatives. These are so called Critical Incidents. With each incident, several options for its handling are introduced, of which only one is correct and the trainee

must identify it. The benefit dwells in the fact that this method sensitises cultural differences. The process of intercultural learning and acquiring intercultural competence is according to Straub (2010) aimed at several issues: studying intercultural contents, development of the ability to deal with problematic situations in communication (Critical Incidents), acquisition of both foreign language and social competence, elimination of fear and enhancement of the ability to tolerate ambiguity in interactions, expanding the awareness of cultural dimensions, development of information processing or increasing of flexibility and adaptability. The mentioned aims complement each other and cannot be separated. In order to achieve them, several methods are being employed in the process of intercultural learning. Straub speaks of normal and informal learning. The informal learning is in his view represented by the situations which unexpectedly, at random occur in one's life. The knowledge derived from such situations, however, does not necessarily mean the development of intercultural competence as it was recorded subconsciously and remained without reflection. The formal intercultural learning is understood as a set of consciously planned and organised processes of learning. Regarding the acquisition of intercultural competence, Bolten (2007) considers two types of learning processes: off-the-job-process and on-the-job-process. The first is related to the training, which is not immediately connected to the working environment and takes place in artificial conditions, e.g. in the form of external continuing training. The second type is typical of its connection to the working environment. It takes place in multicultural teams where the learners gain experience directly. In general, intercultural training stands for all measures which are designed to mediate and make possible the constructive adaptation to the foreign culture, appropriate assessment and decision-making as well as effective acting in intercultural situations. Professional literature presents several kinds of intercultural trainings, which are going to be discussed later. First, it may be useful to explain the goal of intercultural trainings, as proposed by Bolten. The main goal is practising intercultural competence, as has already been mentioned. Apart from the main goal, the trainings are focused on partial goals too, depending on the type trainees (business sphere, emigrants, etc.). Brislin and Yoshida (1994) named four basic goals of intercultural trainings. First, they are meant to help the trainees overcome the obstacles, which they may be confronted with. Second, they are designed to facilitate creating positive relations with people in foreign countries. Third, they are aimed at contributing to the fulfilling of professional tasks and, finally, they are supposed to eliminate stress and in such a way to teach the trainees act more courageously. Subsequent to the afore-mentioned types of intercultural trainings, Bolten (2000) highlights four forms: culture-specific informative trainings, multicultural informative trainings, culture-specific interactive trainings, and multicultural interactive trainings. The trainings in the form of lectures are concentrating on the mediation of theoretical knowledge on culture and in the form of workshops they focus on practising intercultural competence. Because the issue of intercultural trainings is an extensive topic and its comprehensive discussion requires much broader scope than allowed by this paper, we are not going to pay it any further attention here.

According to the research, up to 70% of corporations fail due to intercultural barriers. (AFIM, 2015) For numerous companies, intercultural trainings represent an opportunity which brings a long-term profit. One of the intentions of this paper is to introduce intercultural trainings as an appropriate form of intercultural competence acquisition.

3 Conclusions and Policy Implications

In business negotiations with foreign partners, every individual represents him/herself and his/her company but also their country, which requires thorough preparation not only of appropriate strategies, tactics, and techniques, but in the same measure it is desirable to pay

attention to the cultural specificities and customs of the partner's country. Cultural differences, social, economic, and religious situation of the country must be handled very sensitively. Respectful, competent behaviour and acting are signs of a professional approach of negotiators, which have by now become indivisible parts of negotiations process with a foreign partner. Cultural difference does not mean that any culture is better or worse than another. It merely means that it is other than the first one. Sensitivity to intercultural issues means understanding that the values and cultural standards of other people should be accepted as having the same validity as ours. It is obvious that world cultures are trying to preserve their national identity and so the cultural otherness shows in communication still stronger. Therefore it is important to gain orientation in the standards and values of various cultures' representatives, which are reflected in their behaviour and actions. Intercultural competence has practically turned into a necessity. This skill is expected particularly from internationally active negotiators.

As has already been mentioned, progressing globalisation gives opportunities for making new business contacts. It is evident that in spite of professional erudition and language competence of business partners it is probable that in their communication certain problems will occur. The reason is underestimating of the cultural aspect. It is thus appropriate to claim that the acquisition and development of intercultural competence should be granted due attention in the process of preparation for business negotiations. Intercultural maturity of negotiators often decides about how successful the negotiations are and whether the aim is reached.

The intention of discussing the selected topic was to point out the mutual interconnection of the business negotiations process in intercultural context and intercultural competence. The paper tried to find answers to the afore-mentioned questions. On the basis of theoretical approaches of various authors, this paper explored the topic from several viewpoints and arrived at the conclusion that mutual interconnection and interdependence of both constructs, international business negotiations and intercultural competence, is evident in the effort directed at achieving of the goal of negotiations.

In conclusion it is inevitable to underline some reasons for introducing intercultural trainings in business companies. First of all, they provide a thorough preparation, increasing the chance of success in negotiations. Furthermore, they enable the rise of awareness of one's own culture, one's own ability to successfully communicate in negotiations, without which the sensitisation of a foreign culture is rather improbable. Finally, thank to the ability to prevent and solve possible misunderstandings in intercultural communication, there is a chance to enhance the motivation of negotiators to cooperate. We are convinced that in this respect it is desirable that negotiators seek opportunities to know their business partners better, even outside of negotiations schedules, and thus identify what is significant for the business intention and what is important for human factor.

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Military Spending and Natural Resources in Sub-Saharan Africa

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Abstract

The aim of this paper is to identify the impact of natural resources dependence on military spending in the economies of sub-Saharan Africa. In the first part we compare the positions on the impact of high military spending on economic growth and development identified by authors studying this field that can be either positive or negative. In the second part we analyse the relation between the share of natural resources in total export and various indicators of military spending from SIPRI database using regression analysis. The model also contains other factors influencing the level of military spending in the country, e.g. regional instability, internal fragmentation, etc. The article examines not only how the natural resources dependence influences military spending but also if this spending has positive or negative effect on the development in these economies.

Keywords: natural resources, military spending, sub-Saharan Africa

JEL classification: F50, F63

1. Military spending and economic growth

The paper Military Spending and Natural Resources in Sub-Saharan Africa is divided into two major parts. The first part reviews the literature on the relation between military expenditure and economic growth. Several authors studied the effect of military expenditure on economic growth and the mechanisms behind it. The second part of this paper analyses the data on natural resources and military expenditure and studies the impact of natural resources and other factors on military spending in the countries of sub-Saharan Africa.

The position of military spending is specific among other types of public expenditure as it generally lacks the capital formation potential of other types of public expenditure. However, the literature on the impact of military spending on economic growth is not conclusive on the negative effect.

Earlier study by Deger (1986), building on previous study describing the positive impact of military expenditure on economic growth, also suggests positive relation based on evidence from 44 countries. Deger also describes the mechanisms by which higher military spending leads to higher economic growth. His study confirms positive correlation between defense spending and economic growth, which he explains by aggregate demand effects described by Keynes. Higher defense spending increases aggregate demand, increases employment, leads to higher investment and by multiplier effect to economic growth.

The paper of Aschauer (1989) studies the productivity of public expenditure and its impact on economic growth. The analysis results differ in case of nonmilitary and military capital. The nonmilitary capital has positive impact on economic growth but the same positive effect is not connected to military expenditure. The paper by Knight, Loayza and Villanueva (1996) offers even clearer results on negative effect of military spending on economic growth. The relation is studied using investment equation and growth equation in developed and developing countries. Military spending has large and negative effect on economic growth and productive investment. The authors of the paper also calculated the positive effect of military spending cuts for economic growth as a result of generalized peace. This is what they call The Peace Dividend.

There are examples of studies with ambiguous results on how military spending influences economic growth. This is usually explained by two effects of public expenditure in general influencing the gross domestic product in opposite directions. The aggregate demand effect has positive impact on GDP and thus on economic growth while crowding out effect has negative impact on these variables.

The work of Chowdhury (1991) used the sample of 55 developing countries while Kusi (1994) studied the relation on the sample of 77 developing countries. Both authors used Granger-causality tests to determine the causality between military spending and economic growth. Chowdhury concludes that the relation is determined by other factors including socioeconomic situation and type of government in the country. This is why the recommendation for economic policy cannot be universal support or refusal of higher military spending. Kusi build the paper upon Chowdhury's results that support the negative relation in some countries; however the positive relation is not confirmed. The results of his study are very similar to previous study.

Dunne and Tian (2013) studied the relation between military expenditure and economic growth in Africa, the most underdeveloped continent torn by many armed conflicts and civil wars in recent history. They confirm the negative impact of military expenditure on economic growth on the sample of all African countries. Dunne and Tian later divided the countries of Africa according to various criteria, e.g. income level, history of conflict, natural resource abundance or development aid. Neither of these categories showed stronger negative relation between military expenditure and economic growth than the relation for the whole sample.

Dakurah, Davies and Sampath (2001) also studied the relation because of different conclusions of previous studies. On the sample of 68 developing countries they cannot conclude that military spending and economic growth are in any causal relationship. They also find that the relation is not always unidirectional, but in case of small sample of countries, the relation between military spending and economic growth goes in both directions. Alptekin and Levine (2012) follow studies concerning military spending effect on economic growth and as a conclusion they make suggestion for future stream of research in this field.

Some papers even study, compare and conclude previous research on the topic of military spending and economic growth. The paper by Dunne and Tian (2013) finds out that however the whole sample of research papers shows ambiguous results; newer studies are more persuasive in conclusion that higher military spending leads to lower economic growth. Dunne together with Smith and Willenbocker (2004) also studied what economic growth model best describes the impact of military spending. According to the results, the Barro model is the most accurate. Herrera and Gentilucci (2013) also review the sample of paper on this topic and conclude that papers mainly use neoclassical approach to growth models. In this

paper they argue that the use of heterodox theories can be a useful alternative for defense economics models.

Although the studies on the impact of military spending on economic growth do not conclusively support the negative relation, newer studies are in favor of adverse effect of higher military expenditure. In the following part of this paper we will study the impact of natural resources on military spending and thereby on economic growth in the countries of sub-Saharan Africa.

2. Natural resources and military spending

This part of the paper offers the literature review on the topic of the relation between natural resources and military spending. The idea of the relation between these two indicators is established in several studies and explained by direct or indirect mechanisms.

One of the most influencing concepts in the field of natural resources impact on political and security indicators is the political Dutch disease. This term is explained into details mainly in the paper by Ross (2001). He studies the impact of oil and other natural resources on democracy indices in 113 states and concludes that natural resources have negative effect on democracy with oil dependency having the strongest negative effect. He explains the relation by three mechanisms or effects: the rentier effect, the repression effect and modernization effect, the second one being the most important for this paper. The rentier effect is connected to rents from natural resources export and goes in two directions. Taxation effect suggests that the government has enough funds to lower the taxation burden for the citizens which also lowers its accountability towards the citizens. The rentier effect can also be present in the form of spending effect where the government spends the rents on the patronage and lower the pressure for democratization. The repression effect explains higher military spending in the resource rich countries with two reasons. The government in resource rich countries builds army to protect its power against population pressure or the robust army is needed to secure stability because resource wealth leads to ethnic and regional conflicts. The modernization effect explains that the economic growth in resource rich countries is not accompanied by social changes (education, occupational specialization, urbanization) and thus does not lead to democratization.

The paper by Karl (1999) analyses the economic problems of oil dependent states known as OPEC (Organization of Petroleum Exporting Countries). Among other things he compares the military expenditure in OPEC countries with OECD (Organization for Economic Cooperation and Development) countries. OPEC countries spend three times more on defense than OECD countries in terms of GDP percentage and also as percentage of total government expenditure.

In their paper Ali and Abdellatif (2015) study the relation between natural resources and military expenditure in the Middle East and North Africa. The results show that the impact differs in case of different resources. Oil dependency correlates with high military spending, mineral resources have no impact, and coal and natural gas are correlated with low military spending.

2.1 Data and Methodology

In this paper we examine the impact of the share of natural resources in total export on military spending. To measure military spending we use the variable of military expenditure as percentage of gross domestic product. We use regression analysis performed in the

statistical software PSPP. The model also contains other variables influencing military expenditure.

The data for the share of natural resources in total export were calculated from the UNCTAD database. Because of the unique qualities of nonrenewable stock resources or mineral resource we only use this category of natural resources. The calculation of the share of natural resources in total export includes these parts of the SITC export classification: Section 3 - Mineral fuels, lubricants and related materials, Division 27 - Crude fertilizers, other than those of Division 56, and crude minerals (excluding coal, petroleum and precious stones), Division 28 – Metalliferous ores and metal scrap, Division 67 - Iron and Steel, Group 667 - Pearls and precious or semiprecious stones, unworked or worked and Group 971 – Gold, non-monetary (excluding gold ores and concentrates). This calculation includes all resources important for the economies in sub-Saharan Africa.

The data on military expenditure as percentage of GDP are retrieved from SIPRI database which includes this indicator data for almost all countries in sub-Saharan Africa. As an indicator of the level of democracy we use Polity 2 index that sets every country by year on a scale from -10 (absolute autocracy) to +10 (absolute democracy). Unlike in other parts of the world, the index values in sub-Saharan Africa vary significantly between countries and even years within one country. We also controlled for the impact of significant political change in the country indicated in the SIPRI database.

For the main part of our research we used regression analysis to measure the impact of the share of natural resources in total export on the share of military spending in total GDP. Another independent variable used in the regression analysis was the political situation in the country measured by Polity 2 indicator.

From the UNCTAD database we were able to collect the data on the share of natural resources in total export for almost all countries in sub-Saharan Africa without Somalia which means the data for 47 countries. The UNCTAD database contains data for years 1995-2013 which is also the scope of our research. The SIPRI database contains the data on the share of military expenditure in GDP for 46 countries except Comoros; however, there are several cases of missing data for some countries in some years. The Policy 2 index contains data for all 44 countries, the data for Sao Tomé and Príncipe and Seychelles are not included. The final sample contains 688 individual cases.

2.2 Results

The data retrieved from databases are used for regression analysis. The results of the analysis are in the Table 1. The share of military expenditure in GDP is the dependent variables in the model. The independent explaining variables are the share of natural resources in total export and the political situation in the country.

In Table 1 there are the results of two regression analysis models describing the impact of natural resources on military expenditure in the countries of sub-Saharan Africa. In the model I we study the impact of the share of natural resources in total export on the share of military expenditure in total GDP. In this model we also study the impact of political situation in the country by including the indicator Policy 2. In the model II we omitted the impact of the level of democracy in the country on the military expenditure. Model III describes the impact of political situation or the level of democracy on military expenditure. We perform this regression analysis based on the result of the model I significance.

Table 1
Regression analysis results

	Military spending (I)	Military spending (II)	Military spending (III)
Constant	0.02*** (.00)	2.05*** (.32)	0.02*** (.00)
Share of natural resources in total export	0.00 (.00)	-0.96 (.66)	
Polity 2	0.00*** (.00)		0.00*** (.00)
R ²	.07	.00	.07

Source: author's original calculations

Notes: Standard error in parentheses. *** significance ≤ 0.01 ; ** significance ≤ 0.05 ; * significance ≤ 0.1

The model I is the main result of this paper. It describes the impact of natural resources and political situation in the country on its military expenditure. As we can see from the Table 1 the model shows that the impact of natural resources on military expenditure is not statistically significant. The impact of political situation is significant. Based on the results of model I we cannot accept the hypothesis that military spending is positively correlated with higher share of natural resources in total export. The model I has the value of R squared of 0.07.

In the model II we only cover the impact of natural resources on military expenditure and we omitted the impact of political situation. The impact of natural resources is not statistically significant as well as in the case of model I. The value of R squared is 0.00.

The third column describes the impact of political situation in the country on its military expenditure levels. We include the analysis of this impact because of the results of the model I. In the model I the political situation impact was statistically significant which is also seen in the results of model III. The model III is significant but it does not explain the impact of political situation or level of democracy on the level of military spending. Based on this model we cannot accept the hypothesis that countries with lower level of democracy spend higher share of their GDP on defense expenditure. The value of R squared is 0.7.

3. Conclusion

This aim of this paper is to identify the impact of natural resources on military expenditure. The first part of the article introduces the literature review on the topic of military expenditure and its role in the economics. In the first part we explain the importance of our research by introducing previous research documenting the adverse impact of military expenditure on economic growth. After establishing this relation we proceed to the literature review of the impact of natural resources on military expenditure. The results of this literature review are not consistent.

In our research we study the impact of natural resources on military expenditure also including the impact of political situation on the level of military expenditure. Based on the results of our data analysis we cannot accept the hypothesis that the higher share of natural resources in total export leads to higher levels of military expenditure. The results of the regression analysis were significant in the case of model III but the data cannot confirm the

causal relation between natural resources and political situation and the level of military expenditure.

In our future research we are planning to cover wider range of explanatory variables to the model to gain deeper insight into this relation. We also plan to cover other aspects of political situation in the countries of sub-Saharan Africa and how they may be influenced by natural resource dependence.

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Impact of volatility and volume on the Index S&P500

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Abstract

I suppose, that the important factors of the market prices of many assets are market volatility and volume of the trades. For my observation I decided to take index S&P500 answer on the question is to focus, because it represents US market, which we can say is the most liquid in the world and it includes 500 biggest US companies by market capitalization. S&P500 index is clear choice, also because is very also important fact that we can easily get datas of volume of US stocks to the past than the others national markets. At last, there is calculated volatility index VIX to the index S&P500, which is by the way traded as derivatives on the Chicago board of trade.

Keywords: *volatility, volume, S&P500 Index*

JEL classification: *G10*

1. Introduction

On this topic about the impact of volatility and volume on the prices have been written many authors, for example Aggarwal, R. and Mougou'e, M. in the article "*Trading volume and exchange rate volatility: evidence for the sequential arrival of information hypothesis.*" In the Journal of Banking and Finance in 2011 year or the authors Tianyi Wang, Zhuo Huang in the article "*The Relationship between Volatility and Trading Volume in the Chinese Stock Market: A Volatility Decomposition Perspective.*"

I suppose that the important factors for the market prices of many assets are market volatility and volume of the trades. For my observation I decided to take index S&P500 answer on the question is to focus, because it represents US market, which we can say is the most liquid in the world and it includes 500 biggest US companies by market capitalization. S&P500 index is clear choice, also because is very also important fact that we can easily get datas of volume of US stocks to the past than the others national markets. At last, there is calculated volatility index VIX to the index S&P500, which is by the way traded as derivatives on the Chicago board of trade.

1.1 Model Calibration

To find out if the assumptions are real I use liner regression model ANOVA based on the method of ordinary least squares. Datas are from Bloomberg database and processed in IBM SPSS stastical program. Dependent variable is daily prices are daily closing prices on daily bases from January 2014 to December 2015. Independent values are volume of the trade and daily volatility amount. Volumes of the trade are the total number of stocks that changed its owner on daily bases.

In case of the problems with the time series of the data we will use the logarithming in the model.

$$\log S\&P500 = \beta_0 + \beta_1 * \log_volume_SPX + \beta_2 * \log_VIX$$

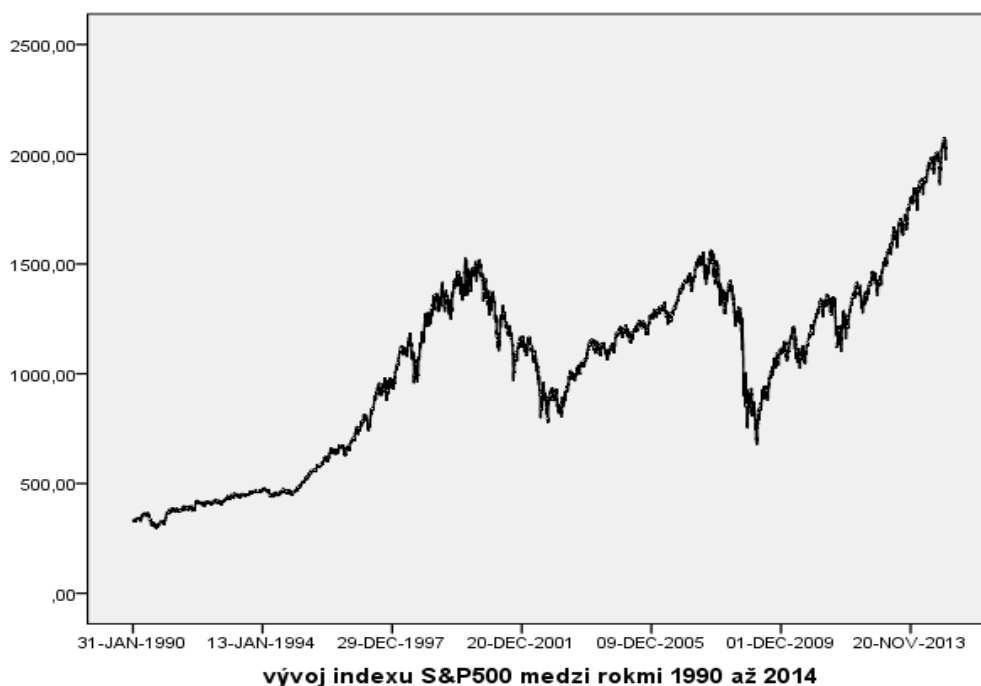
The dependent variable S&P500 in the model is \log_PX_SPX and independent variable will be represented by volatility (as \log_VIX) and by the daily volumes of trade as \log_volume_SPX .

2. Analysis of the variables development

On the first graph is the time series plot or the development of the index S&P500. We can observe many rapid falls as the result of influence of highlights of the age of more than two decades like bursting of dot-com bubble, 9-11 attacks, beginning of operation Iraqi freedom, the of financial crisis in 2008 etc. We can see also some positive moments for the markets like beginning of QE. Prices of stocks calculated into index are dependent variable. The aim of the model is to find out what is the effect of the independent variables like volumes of the trade and volatility influence the independent variable and also how much the model explains the analyzed dependency.

Graph 1

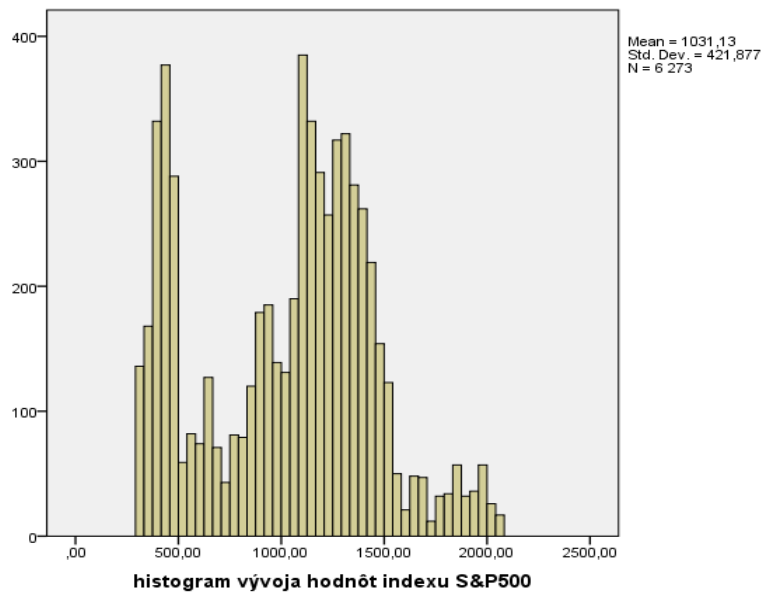
Development of S&P500 index between January 1990 and December 2014



Analyzed time series data include a problems which we have to solve, because the model than would not be proper or not quality. As the first problem is that data have different scales. Index S&P500 is valued at thousands, daily volumes of stocks in S&P500 are around 100 millions per day and volatility is usually measured in few tens. Second big issue is that data does not have normal distribution. Both issues we can solve by logarithming values.

Graph 2

Histogram of Index S&P500



Problems with data have been solved by logarithming and in the model dependent value S&P500 in the model is \log_PX_SPX and independent volatility represented by \log_VIX a daily volumes of trade – \log_volume_SPX .

$$\log S\&P500 = \beta_0 + \beta_1 * \log_volume_SPX + \beta_2 * \log_VIX$$

Table 1

Anova model Outputs

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	,342	,088		3,869	,000
log_PX_SPX	-,209	,012	-,295	-17,145	,000
log volume SPX	,199	,006	,536	31,131	,000

a. Dependent Variable: \log_VIX **ANOVA^b**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	847,669	2	423,834	3981,968	,000 ^a
Residual	667,049	6267	,106		
Total	1514,718	6269			

a. Predictors: (Constant), \log_VIX , \log_volume_SPX b. Dependent Variable: \log_PX_SPX

From Table 1 and Table 2 result that significance is less than 0,05 and than that it is part of interval of 95%, so we can cancel null hypothesis and we can claim that the model is relevant.

Next table shows that values of coefficient of determination R-squared and R-squared adjusted, which has amount of 0,56 what means that chosen variables explains the variability of model for 56% what is positive result. We can also claim that there are other factors which have influence on the dependent variable, which are not included in our model.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,748 ^a	,560	,559	,32625

a. Predictors: (Constant), log_VIX, log_volume_SPX

From statistical point of view we can claim that model is good and explain quite significantly development of S&P500. The last thing that interests us is to measure how big is the influence than if it influences directly or indirectly influence the dependent variable and if their presence in the model is proper and if they should not be replaced by the other variables.

From the last table is clear that significance of volume and volatility VIX is lower than 0,05 and it is located in the interval of 95%, what means that it is important to have independent variables in the model. In the column „Unstandardised coefficients“ are beta coefficients and how they influence the development of the index. Logarithm VIX has negative sign what means indirect relation between them. We can interpret the results that in the period 1990-2014 when the volume of the trades increases for one percent, it caused raise of index for 0,41%. When volatility raises for one percent index goes down for 0,215%. These coefficients we can put into formula:

$$\log S\&P500 = \beta_0 + \beta_1 * \log_volume_SPX + \beta_2 * \log_VIX$$

$$\beta_0 = \text{constant} = -0,824$$

$$\beta_1 = 0,411$$

$$\beta_2 = -0,215$$

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,824	,089		-9,250	,000
	log_volume_SPX	,411	,005	,783	88,466	,000
	log_VIX	-,215	,013	-,152	-17,145	,000

a. Dependent Variable: log_PX_SPX

3. Conclusions and policy implications

From the last table is clear that significance of volume and volatility VIX is lower than 0,05 and it is located in the interval of 95%, what means that it is important to have independent variables in the model. In the column „Unstandardised coefficients“ are beta coefficients and how they influence the development of the index. Logarithm VIX has negative sign what means indirect relation between them. We can interpret the results that in the period 1990-

2014 when the volume of the trades increases for one percent, it caused raise of index for 0,41%. When volatility raises for one percent index goes down for 0,215%.

This analysis proves the assumptions, that volatility has influence on the amount of index and vice versa, the second assumptions is that it exist the positive correlation between volumes of trade and amount of S&P500 index.

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Occupational Pension Funds in Selected Countries

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Abstract

Pension systems face many challenges. The Financial crisis has a negative influence on ability of governments to cover claims from pay-as-you-go pension plans. In long term aspect is demographic development crucial for stability of the pension system. Population ageing reduce the ability of governments to ensure adequate pension income through continues pension system. Demographic decline has also influence on the private pension schemes with defined benefit or defined contribution pension plans. For this type of the pension plans increase the number of pensioners and the number of year in retirement means solvency risk. The Private pension schemes in many developed countries are based on occupational pension funds. This article describes an occupational pension scheme in selected countries and compares efficiency of occupational pension funds in these countries.

Keywords: occupational pension funds, pension system, replacement rate, pension plan, pension contributions

JEL classification: G10, G11, G23, J32

1. Introduction

The main goal of this paper is describe advantages and disadvantages of occupational pension funds in selected countries. For developed countries is necessary for in order to sustain welfare in social security scheme to split the pension system among more pillars. Developed countries are characteristic of the combination between the public pension scheme through PAYG system and the private pension scheme based on private pension funds. We can divide private pension funds into three groups¹.

First type represents state pension funds. This type of pension fund has the character of provident funds². The Creator and manager of this type of a pension fund are state entities. The Main risk of this type of pension funds is accompanied by inefficient investment strategy with a high share of the government bond in the portfolio.

Other types of pension funds are independent pension funds. Independent pension funds are characterized by specialized finance institutions which accumulate pension savings and invest for the benefit of the participants. This pension funds occur e.g. in Chile, Argentina, Columbia, Peru, the Czech Republic and Slovakia.

¹ BARR, N., DIAMOND, P. (2008). *Reforming Pensions: Principles and Policy Choices*. New York: Oxford University Press, 368 p. ISBN 978-0195311302.

² ORSZAG, R. P.; STIGLITZ, E. J. (1999). *Rethinking pension reform: Ten Myths About Social Security systems..* Washington, D.C.: The World Bank, 9/1999, 48 p.

The last types of private pension funds are occupational pension funds. Occupational pension funds are a predominant form of the pension institutional arrangements in developed countries. Companies or employee associations create pension funds for their employees. Employers and also employees contribute into pension funds. Pension funds contributions are tax favoured. Administrators of occupational pension funds are managed by professional asset management companies³.

The advantages accompanied with functioning of occupational pension funds include a particularly low level of information asymmetry, low administration and marketing costs and a high number of pension funds participators. Among the disadvantages we include restriction in pension claims convertibility with consequences on labour force mobility. High risk of occupational pension funds is negative influence of financial problems of a parent company and contagion to the assets of the pension fund⁴.

This model of pension securities is used e.g. in the USA, Great Britain, Netherlands, Switzerland and in many other countries. The System based on occupational pension funds has been a long term tradition in many OECD countries. Pension funds are created by large companies and small businesses as well. Occupational pension funds often represent employees from the same sector of the economy. In the future we will see interconnection among occupational pension schemes of the European Union members. Occupational pension security is part of the pension system and contributes to sustain welfare of working people in old age⁵.

2. Occupational pension funds in selected countries

In the following section we introduce the pension system in selected developed countries with a focus on occupational pension funds. We choose three developed countries Germany, Sweden and USA, because these countries create benchmark for comparison of pension systems and pensions funds among different countries.

2.1 Pension system in Germany

German pension system is based on three pillars. The First pillar represents compulsory state pension insurance. The Second pillar is formed by occupational pension funds, and the third pillar is private capital insurance.

The First pillar is obligatory for every employee older than 16 years. The State pension pillar provides pension insurance for three groups of employees:

- state pension insurance for employees (blue and white collars),
- state pension insurance for farmers,
- state pension insurance for civil servants.

The First pillar of the German pension system is funded by contributes from employees, employers and the state. Employee contribute is 9, 95% from gross salary, employer's also 9, 95%. The total contribution is 19, 9%.

³ SHIBER, S. (2012). *The Predictable Surprise: The Unveiling of the U.S. Retirement System*. New York: Oxford University Press, 480 p. ISBN 978-0199890958

⁴ BEETSMA, R., OKSANEN, H.(2007). *Pension systems, Aging and Stability and Growth Pact. European Economy – Economic Papers*. Vol. 16, No. 10, pp. 52. ISSN 1725-3187.

⁵ TONSK, E. (2013). *The Value and Risk of Defined Contribution Pension Schemes: International Evidence*. Journal of Risk and Insurance. Vol. 80, No. 1, pp. 95-119. ISSN 1539-6975

In Germany exists contribution ceiling for pension insurance, 66 000 EUR for federal countries of former West Germany, and 55 800 EUR for federal countries of former East Germany.

Table 1

Development of contribution ceiling for pension insurance in Germany in EUR

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
West Germany	61000	61800	61800	62400	63000	63000	63600	64800	66000
East Germany	51000	52200	52200	52800	54000	54000	55600	55800	57600

Source: Bundesministerium für Arbeit und Soziales

The Second pillar of the German pension system is created by occupational pension funds. And the third pillar is based on voluntary individual insurance.

2.2 Occupational pension funds in Germany

We recognize five types of occupational pension funds in Germany⁶:

- direct promise (Direktzusage)
- support fund (Unterstützungskasse)
- direct insurance (Direktversicherung)
- pension checkout (Pensionskasse)
- pension fund (Pensionsfonds)

Direct promise is a type of the pension fund based on arrangement between employees and employers about the future pension. The Employer creates so called “book reserve” with defined pension claim in the future. The fund is not the subject to the state regulation. Fund assets are guaranteed from the state through public guarantee fund (Pensionsversicherungsverein auf Gegenseitigkeit - PSV).

Support fund is an independent pension fund which manages occupational pension fund of one or more companies. The Employer doesn't create their own pension fund, but company transfers contribution to support the fund. Pension claims are also guaranteed through the public guarantee fund (PSV).

Direct insurance means, that employers make for their employees insurance policy with insurance companies. Only employees and survivor have pension claims. The Main supervisor is in this case the Ministry of Finance.

Pension checkout is an independent pension fund which is created by one or more companies, the even entire sectors. The Pension fund is formed by contributions from employees and employers. These contributions are tax favoured. Pension checkout has the character of defined contribution scheme. This means that future pension depends on individual contribution of every pension insured person. The Guarantor of the system is the Federal Financial Supervisory Authority (BaFin).

⁶ BUNDESMINISTREUM FÜR ARBEIT UND SOZIALES. (2015). *Social Security and Glance*. http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/a998-social-security-at-a-glance-total-summary.pdf?__blob=publicationFile&v=5 [accessed 12.9.2015]

The Pension fund is the youngest pension scheme. This type of pension funds represents combination between pension checkout and direct insurance. The Main supervisor is also the Ministry of Finance.

Pension insurance can be provided by:

- employer company,
- commercial insurance company,
- financial institutions.

Employers provide pension insurance in the case of pension checkout scheme, or direct promise. Pension insurance is managed by commercial insurances companies in direct insurance pension scheme. And other financial institutions (Banks, Investment Funds) set up pension insurance for Support fund and Pension fund.

Table 2

Allocation of contribution between employees and employers in the second pillar

Year	2010	2011	2012	2013	2014
Employer	66,20%	42,82%	39,79%	61,26%	54,22%
Employee	33,80%	57,18%	60,21%	38,74%	45,78%

Source: OECD

The Asset of occupational pension fund in Germany has recorded stable growth. But the share of pension funds as a percentage of GDP is on relatively low level against other countries. OECD average is 36,6 % and German share is only 6,2 %.

Table 3

Pension fund asset as a percentage of GDP in Germany

Year	2010	2011	2012	2013	2014
Assets	5,4%	5,7%	5,8%	6,1%	6,2%

Source: OECD

2.3 Pension system in Sweden

The Swedish pension system is based on three pillars. The First pillar is created by two parts. The first part of this pension pillar is Notional Defined Contribution scheme (NDC). NDC is a continuous financing pension scheme with contribution from employees, 16% from gross income. The Second part represents Financially Defined Contribution (FDC). It is a mandatory financing pension scheme with contribution of 2,5% from gross income (half is paid by employees and half by employers). Every insured pension person pays also 7% as general pension contribute.

The Second pillar of Swedish pension system is created by occupational pension funds. The Participation in pension funds is obligatory for every employee when the company creates, or participates in occupational pension schemes. In Swedish occupational pension funds participate more than 90% of Swedish employees. The Third pillar represents pension security with tax relief.

Table 4

Replacement rate between the first and the second pillar

Replacement rate	Gross			Net
	First pillar	Second pillar	Overall	Overall
2012	50%	14,8%	64,8%	68,5%
2050 (prediction)	40,4%	15,4%	55,8%	56,7%

Source: National Government Employee Pension Board

2.4 Occupational pension funds in Sweden

Occupational pension funds in Sweden are based on collective agreement between employees and employers. Pension scheme occurs as defined benefit or defined contribution system. We recognize four types of occupational pension plans in Sweden⁷:

- SAF-LO,
- ITP,
- KAP-KL,
- PA-03.

SAF-LO occupational pension plan is formed by contribution of employees from the private sector, who work in manual work professions (blue collars). Every participant pays 4,5% from gross salary.

ITP pension plan is a pension scheme for employees from the service sector. The Participant must be older than 25 years and the contribution is 4,5%. Employees can decide about investment allocation of their savings.

KAP-KL pension plan is designed for civil servants. The Pension plan has a form of defined benefit and also defined contribution scheme. Participants' contribute is 4,5% from gross salary.

PA-03 pension plan is designed for other employees born after 1942. This type of the Pension plan also creates defined benefit and defined contribution scheme. Contribution from employees is 2,5 % from gross income.

Pension insurance is provided by:

- pension funds,
- pension insurances,
- creation of reserves.

Pension funds are subsidiaries which provide pension insurance for the defined benefit scheme. Pension funds are obligatory insurance through guarantee funds. Pension insurance is also provided by insurance companies. Pension insurance manages SAF-LO pension plan. Creation of reserves is provided by independent companies. Creation of reserves is only designed for defined benefit scheme. The Main supervisor is the Pension Registration Institute (Pensionsregistreringsinstitutet).

⁷ NATIONAL GOVERNMENT EMPLOYEE PENSION BOARD. (2015). *Pension model*.

http://static.pensionsmyndigheten.se/statistik/pensionsmodellen/anv%C3%A4ndarmanual_pensionsmodellen_eng.pdf [accessed 12.9.2015]

Share of pension funds as percentage of GDP is higher than in Germany (6.2%), but lower against OECD average (36,6%). Nevertheless pension funds have a positive influence on domestic economy and contribute to diversification of old age income.

Table 5

Pension fund asset as a percentage of GDP in Sweden

Year	2010	2011	2012	2013	2014
Assets	9,12%	9,08%	9,27%	9,38%	9,5%

Source: OECD

2.5 Pension system in the United States

The American pension system is also based on three pillars. The First pillar is represented by so called Social Security. This system is obligatory for every working person over 21. The First pillar is administrated by the state. The First pillar has a form of continues pension scheme, this means that current generation of workers finances current generation of pensioners under the intergeneration solidarity. Contributions to the system are 7,6 % for employees and employers (1,45% as health security and 6,2% as social security) and 15,3% for self-employed people (2,9% as health security and 12,4% as social security). Contribution ceiling for social security is 118 500 USD per year. Health security is without any contribution ceiling.

Table 6

Contribution ceiling for Social Security in USD

Year	2010	2011	2012	2013	2014	2015
Amount	106 800	106 800	110 100	113 700	117 000	118 500

Source: Social Security Administration

The Second pillar of the American pension system is created by occupational pension funds and the third pillar has a form of tax favoured pension insurance scheme through individual retirement accounts.

2.6 Occupation pension funds in the United States

We can identify three types of occupational pension funds in the United States⁸:

- defined benefit,
- defined contribution,
- 401k.

Defined benefit schemes were popular before Second World War. A Big problem for this system is prolonging life expectancy. Pension administrators can't guarantee benefit for their participants. Major beneficiaries from defined benefit pension scheme are civil servants.

Defined contribution pension system has a dominant position on American pension market. Companies create pension funds independently of company business activities. Average monthly contribution is according to OECD 9% from gross salary.

⁸ OECD. (2014). *Pension Markets in Focus*. <http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2014.pdf> [accessed 11.9.2015]

401k pension plan has a form of defined contribution pension scheme. The Main difference against classic contribution system is that companies only manage account of collective investments for their staffs. Employers pay for their employees 50% of their contribution up to 6% from gross salary. Investment is up to 15 000 USD tax deductible. Participants can withdraw savings from the age of 59.

Pension insurance is provided by:

- employers,
- insurances,
- state as employer,
- trade unions.

Employers as provider of pension insurance create pension funds. Pension funds invest independently of mother companies. Occupational pension funds are often represented by employees from the same sector of the economy. Employers also have the possibility to transfer employees' contribution to the pension insurance company. Other providers of the pension insurance can be trade union organisations. Trade unions oblige employers to contribute to their employees' pension accounts based on the collective agreement⁹.

The United States own the majority of pension funds in OECD countries. Pension funds in the USA record stable growth. The share of pension funds as percentage of GDP is 83%. This is significantly more than OECD average (36,6%).

Table 7

Pension fund assets as a percentage of GDP in the United States

Year	2010	2011	2012	2013	2014
Assets	70%	74,2%	79,1%	81,9%	83%

Source: OECD

3. Conclusion

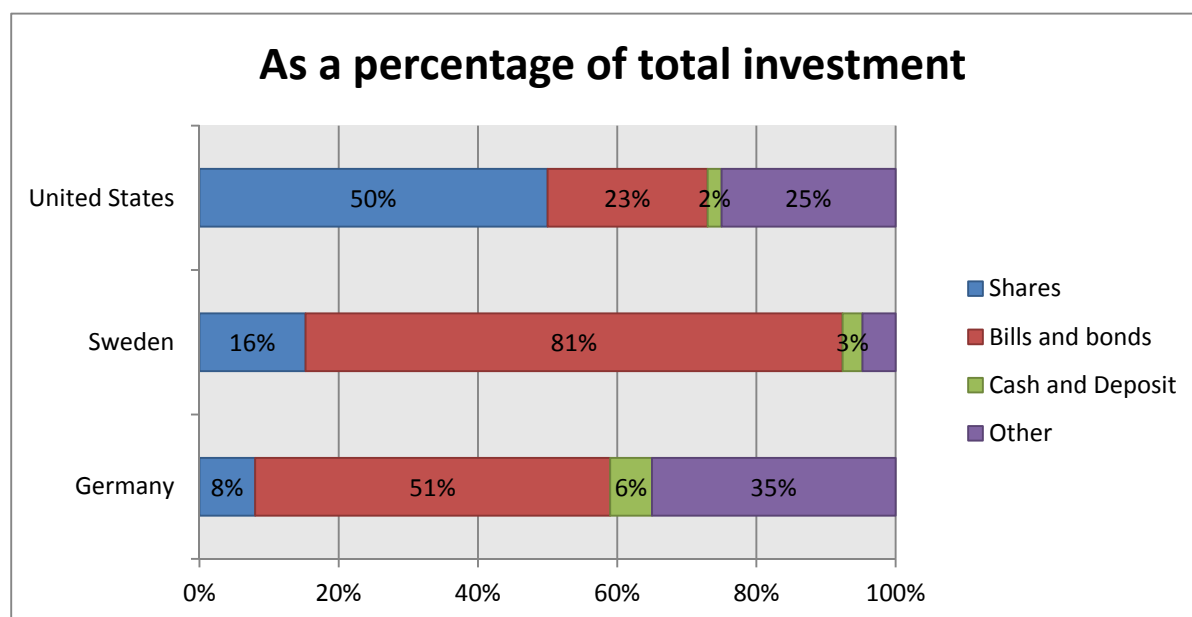
We have introduced pension systems in selected developed countries. These countries differ from each other especially in philosophy of social insurance, respectively pension insurance. Germany and Sweden prefer pension security system with higher contribution and state guarantee. On the contrary the United States pension system is based on private pension scheme with individual responsibility of every person. The basic pillars of private pension schemes in these countries are occupational pension funds. The Status of occupational pension funds in these countries is different. The German share of occupation pension funds is relatively low, only 6,2 % GDP, as well as in Sweden 9,5% GDP. In the United States the position of pension funds is much higher with 83% share of GDP.

These countries also differ from each other also in investment strategy of pension funds managers. The Difference is mainly presence of shares in the asset portfolio. In the United States shares create 50% of the asset portfolio in Germany only 8%. Bills and bonds are more than 50% of the portfolio in Germany and Sweden.

⁹ TURNER, J. (2009). *Pension Policy: The Search for Better Solutions*. Kalamazoo: W.E. Upjohn Institute for Employment Research, 239 p. ISBN 978-0880993548

Graph 1

Asset as a percentage of total investment of occupational pension funds



Source: Own processing

The Different investment strategy had consequences on the return of pension funds. The High level of shares in the portfolio has generated a higher profit in the last five years. The performance of pension funds in selected countries measured over the last five years is positive. Higher nominal and also real returns were spotted with in the United States and a lower return with pension funds in Germany.

Table 8

Pension fund returns in selected countries (average for 2009-2014)

Country	Average annual return for 2009-2014	
	Nominal	Real
United States	7,9%	5,7%
Sweden	6,1%	4,1%
Germany	4,4%	2,9%

Source: Own processing

Pension systems in developed countries are characterized by a higher number of pensioners, due to negative demographic development. From this reason we will see reforms in many countries with a proposal to strengthening the role of pension funds, respectively the second and the third pension pillar. To the main trends in the pension economy we can include the reduction of replacement rate between the first and the second pillar associated with the reduction of role of the first pension pillar. Transform pension system from defined benefit scheme with state guarantee to the defined contribution scheme with a higher level of individual responsibility. The higher pension asset leads to increase the position of regulators. For efficient functioning of pension system is necessary flexible regulation, which is able to ensure positive real investment returns and to protect pension savings against potential losses. Other trends represent gradual increase in retirement age coupled with increase in life expectancy. To sustain welfare in the pension system is important to support motivation for participants to enter occupational pension funds, through tax breaks and mandatory participation in pension funds.

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Indicate in the form of text with reference for example: “This contribution is the result of the project VEGA (1/0124/14) The role of financial institutions and capital market to solve the debt crisis in Europe” or „Research project was financed by National Center of Aviation etc.“.

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Multilevel marketing bubble as the modern day phenomenon of fast enrichment

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Abstract

This article deals with multilevel marketing is a phenomenon of the 20th and 21st centuries. Especially since the 80s the number of multilevel marketing companies is growing at a rapid pace and more and more people are getting into contact with any such companies - whether as its employees, distributors and customers. Around the same time, there are others, in some respects similar structure - the so called pyramid structures or pyramid schemes. They stand in contrast to a legal way of selling goods and services on behalf of multilevel marketing outside the law, also known as the grey zone.

Keywords: multilevel marketing, sales, grey zone

JEL classification: L22, M31, M14

1. Introduction

Multilevel marketing is a business concept and strategy that falls under the form of direct sales and has literally become a phenomenon with quite a spread in recent years. The main reason for this fact is that through this type of marketing sale system can be traded the kind of products that would not be able to sell as fast or at all in traditional stores. It is based on a multilayered pattern of trade and presents a combination of direct sales and franchising, while it is also known as network marketing or interactive distribution (TOMAN, 2008). This concept of sales has acquired a firm place in economies at all continents, and its popularity continues to grow. We will focus on characterizing the principles of the business trading system that forms the basis of multilevel marketing. This will be explained in the context of its development, which determined its present face. This article will also analyze the most common reasons for multilevel marketing criticism which this business model faces.

Although its name is considerably damaged and often meets with criticism, it is still becoming stronger and more widespread, not to mention questions concerning ethics and its legality. Unethical approach of some companies and the failure of human factors has caused that the term multilevel marketing is being tagged as an airplane or pyramid scheme system, and thereby has gained prejudices among its potential customers. Companies use more often various interactive marketing activities where they make their customers to participate in the overall communication procedures and concepts. The success of these communication procedures depends on the variety of processed messages destined for the target groups so that all references to the communicated product are creating a positive image of the company. Multilevel marketing, mainly based on personal references, is becoming increasingly widespread also thanks to the properties of the new media by which the information and recommendations propagate faster than ever before, where the internet can function as an important marketing tool and on the other hand opens the possibilities for manipulative techniques.

1.1 Methodology

Using the method of comparison we will look closely at multilevel marketing and pyramid schemes, while trying to determine their behavior patterns, specifics, advantages and disadvantages for potential companies, distributors and customers. We will be operating with specialized publications from renovated authors and resources applying methods of analysis and description to find a better understanding of how multilevel marketing procedures are presented in nowadays new media reality.

2. Results and Discussion

Before the multilevel marketing existed, the distribution channels of classic sales were practically identical. Manufacturer had to make a product which he afterwards sold to a wholesaler. This product wholesaler stored and when he found a reliable customer and thus the possibility of selling, he prepared the product to the dealer or retailer. They then sold the product to the final consumer. In this classical scheme of selling products and services, therefore existed five subjects - manufacturer, wholesale, warehouse, carrier and retail dealer (PŘIKRILOVÁ – JAHODOVÁ, 2010). In contrast to this classical approach, multi marketing is a strategy of how to sell goods or services through a wide network of distributors, each one of those distributors is, in addition to selling, is also responsible for the recruitment of new members into the system, for which they receive compensation. Its essence is to shorten the distribution chain to a minimum. The manufacturer or supplier creates the conditions for self-employment of independent direct sellers. Those direct sellers may then give the opportunity to become a member to other people. This process creates a multi-layer structure of sales, which is less costly than traditional chain of distribution in warehouses. Most multilevel marketing programs grow through acquisition of new members. Each new member after acceptance becomes a dealer, part of the level/line in hierarchy under the person which acquired him. This level is called the downline. In addition, the principle of multilevel marketing is based on shortened form of the distribution chain: manufacturer - dealer - customer or manufacturer - customer. So when manufacturer decides not to use the classic distribution channel, this fundamentally reduces his distribution costs and advertising. Then he can invest these saved, much lower costs in educating and motivating his dealer/distributor. At the same time he uses this money to pay off his distributors for sold goods or services.

Products offered by multilevel companies (for example Amway Corporation, Avon Cosmetics, Oriflame, Herbalife, Zepter, Vorwerk, OVB Allfinanz) are generally products and services which are highly demanded and needed, more or less by every consumer. Across most famous companies we mean cosmetics, drugstore products, products aimed for the right diet and lifestyle, financial and telecommunication services. In addition, these products and services are generally supposed to be of high quality, since, as explained above, a multilevel marketing company fundamentally saves a huge amount of money, which is then able to invest not only into distributors but also into research, development and innovation of its existing products. The price for the customer should also be set lower than in the case of classical method of distribution and therefore satisfactory, while the price needs to be high enough to cover the costs for the manufacturer and distributor.

2.1 Popping the bubble – The real multilevel marketing vs. the grey zone

Both multilevel marketing and pyramid schemes represent a form of system and have several common features. Because of these similarities, people often get confused when it comes down to differentiate these terms. We have decided, using the upper described methods, to put in contrast these terms focusing on their structure, product, compensation system, fees and activity among members:

- Structure – the most striking and clearest similarities of multilevel marketing and pyramid schemes are based on their corporate structure. From the long term point of view, the structure of both schemes resembles a pyramid - with each deepening, each level of the base expands. However, it is important to note that in the case of multilevel marketing, it is not necessary to happen. Theoretically the distributor network in multilevel marketing across the different levels does not only expand, but also narrows, reducing the levels. This does not happen in pyramid schemes, where expanding is essential for survival. In order for pyramid scheme to survive as long as possible, it is imperative that every new member/dealer/distributor brings into the system several other people. This logically leads to increasing the number of members on each level. However in multilevel marketing this is not a requirement. If some members, in very well functioning networks, are already satisfied with their own turnovers and commissions income, they do not need to continue building their own downline system by gaining new dealers and it will not expand further meaning that one branch of the network will close. If this situation occurs in a case of more distributors and on the same level of network, the number of members on this level will be narrower than on the preceding one. Exactly the opportunity for dealers to build their own distribution network, and the possibility of creating a passive income makes multilevel marketing what it is, differentiates it from pyramid schemes and it is one of the main reasons why people decide to join or start their own the multilevel marketing business,
- Product – one of the fundamental differences are in the product. Products and services are the basis and essential component in multilevel marketing business. Mostly they are higher-quality goods and services with high added customer value. In contrast, the pyramid structure can work without them. It does not need any product or service to be able to operate. In pyramid schemes product serves only as a disguise for fraudulent practices and using the right product or service pyramid structure gives the appearance of a solid and legitimate multilevel marketing. The products of pyramid schemes can be recognized easily – they are mostly practically unusable products (either by their nature or the huge quantity newcomer is forced to pay for them upon as a condition for joining the system) and very overpriced. In addition, the newcomers in pyramid structures are forced to buy up predefined amount of goods not only once it the beginning when joining, but also throughout the duration of their membership. These absurd subscriptions are literally forced to the dealers, while virtually having no choice. Of course it is possible to stand out of pyramid structure, but it is not financially simple, having to pay the “loss” for dealer up the line in the network branch, leading to outrageously high penalties for quitting. In many multilevel marketing based businesses, dealers also buy up predefined amount of goods not only once it the beginning when joining, but also throughout the duration of their membership, but they are not forced. The reason for this step is to make sure, that they do not run out of good to sell, for example when being on road and so on. In addition, they are fully free to determine their own quantity of goods for consumption so that

they will be able to manage to sell them. Nobody is forcing them to buy larger amounts of goods as in a pyramid structure,

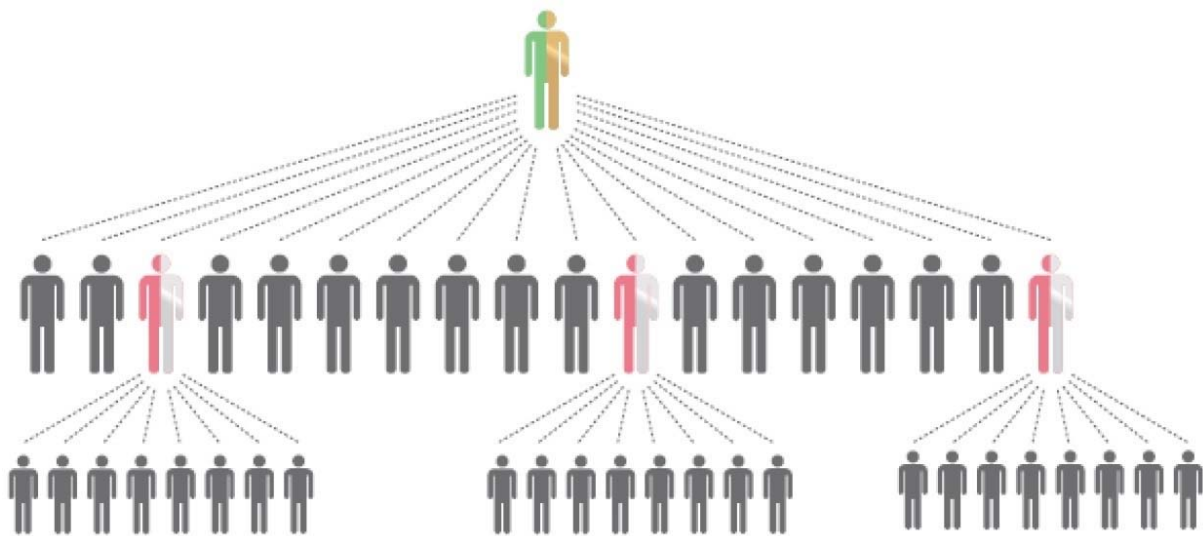
- Compensation system – The product itself is closely connected to the methods of making the profit and compensation system structure. In multilevel marketing a product or service is crucial, since the company makes sales and generates profit or loss. Companies and businesses including all its employees and distributors live from the sale of goods and service to its customers outside the structure, not their employees inside the structure. As we mentioned before, companies using the pure form of the pyramid structure do not need any product. Yet they need some other way of generating income and making profit. That way lies, as explained above, in the large collections of entry fees from members. This money then progress to the higher levels of the pyramid, creating profit for members who are highest in the pyramid. This structure does not create any new value, as it does in multilevel company selling goods, but merely displaces existing money from the hands of newcomers into the hands of founders and their narrow circle of chosen ones. From the structure of compensation system we can see that in a pyramid structure only a narrow circle of people earns maximum income. All the other members lose out, because not only they gain no net profit form their membership, but also their potential earnings do not compensate the entrance fee they had to pay. That does not prevent the old members from pretending a vision of huge profits to other potentially interested new members when recruiting. A lot of people, especially in the weaker social status for example students, unemployed, retired or people on a disability pension, are blinded by a vision of large profits for minimum work so they enter the structure and pay the entry fee. However, soon after the joining they figure out that the founders of the pyramid are the only ones making profits. By contrast, dealers in the multilevel marketing companies are rewarded based on their own activity - that is, based on the volume of goods that they sell, their performance and by the number of new members they bring into the company. If dealers are rewarded according to their own performance - being compensated by trade margin (which represents the difference between the retail and purchase price) and percentage of product sales to downliners, then there sometimes occurs situation where the dealer earns as much or even more than one in the company hierarchy above him. It may not sound like anything special, but it is important to note that in a pyramid scheme, nothing like this can happen. There is also another difference - most dealers/distributors in the multilevel company if trying, are generating profit,
- Fees – we have mentioned the issue of entry fee in pyramid structures, when analyzing compensation system. This fee is set very high and can take various forms, because it must be divisible among members in positions above the paying newcomer. Nowadays the pyramids structures hide behind a product and are trying to look like legitimate multilevel marketing company. Therefore, they do not necessary need to have an entry fee, but they exist on regular system of collecting fees from members, for goods to resale, on low positions in the hierarchy. Either the price of such goods set is disproportionately high and purchased products are extremely overpriced, or the dealer has to pay for the enormous amount of products which he will never be able to sell. On the other hand, in the actual multilevel marketing companies, there is either no entry fee or one that is reasonably low. This fee usually covers the specific information materials, brochures, manuals, teaching seminars, advanced training and promotional

materials for new distributors and their clients. Also samples of each product that the company promotes and sells can be incorporated into the value of entry fee. Particularly in solid multilevel marketing companies, the entry fee that new members have to pay upon joining the company can be refunded within the trial period,

- Activity among members – while in the pyramid scheme the activity of members is not required, for multilevel marketing it is vital, because distributor needs to sell products, services building his own distribution network to earn profit. Slightly different situation occurs in long-term cooperation with multilevel marketing company, where the distributor has created an extensive network both in width and depth. Then he could theoretically live only from his passive income generated by downline distributors. But most of the higher level distributors continue to care for their downline lower branch distributors and look for further opportunities to make their distribution network even wider (FULLER – GOFFEY, 2012).

Figure 1

Example of the multilevel marketing structure



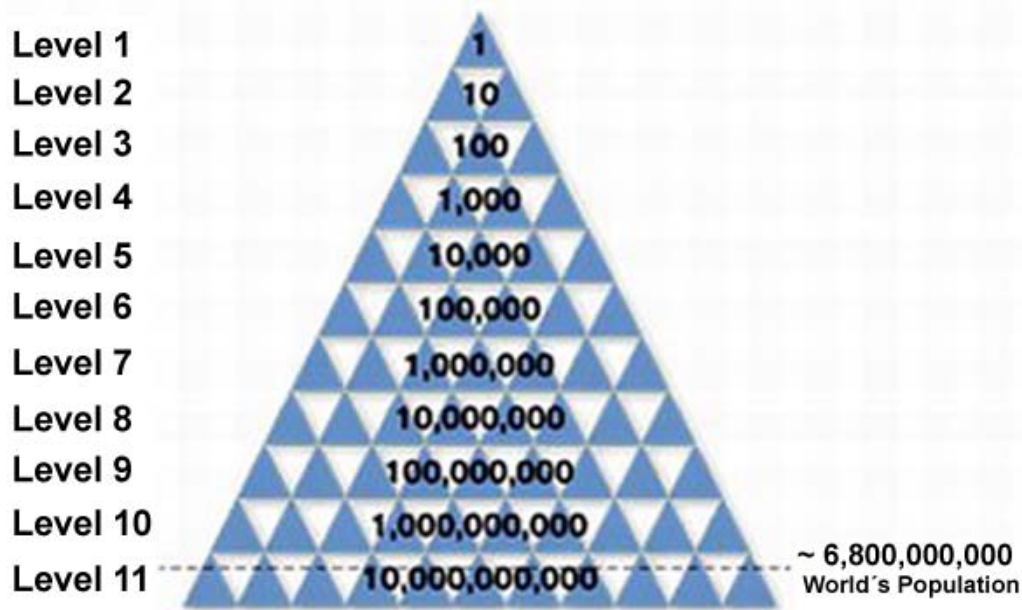
Source: Internal document of AVON Cosmetics, spol. s r.o. – model ASLF (Avon Sales Leadership Framework)

2.2 The grey zone as an unsustainable business model

Each multilevel marketing model is sustainable for a long-term period of time as well as any other company. Let's take for example employee fluctuation - some employees leave, others arrive, while there are countless number of people who decide to join the multilevel marketing based businesses out of curiosity and then after a few weeks discover that it does not suit them and step out. The grey zone multilevel business represented by pyramid scheme is predestined not to be able to work for a long-term period of time and collapses after a few levels. Usually it takes just a couple of months. The main reason is their system of relocating member fees. In order for pyramid structure to make sense and pay the most important dealers at the highest levels of the pyramid, it is imperative that it gains more and more new members. Every next level and branch of the pyramid must always have more new distributors than the previous one. Thus, with each level scheme expands. From there emerged the name of the structure - a pyramid, which represents an exponential increase in distributors, while after a few new levels the pyramid reaches a stage where it is necessary to get an enormous number of new distributors so it could operate. This is not sustainable (KOTLER, 2012).

Figure 2

Unsustainability of illegal multilevel pyramid scheme



Source: <http://www.engineeredlifestyles.com/mlm/pyramid-scheme-defined.html>

The required number of new subscribers is already so huge that in practice it is not possible to get these people and the pyramid collapses. For a better understanding of the situation we will imagine a pyramid multilevel structure, where each distributor must raise a dozen others, so that the system is working. These new members/distributors are essentially a new lower level of branch. Problem is that this process can be theoretically reproduced up to the tenth level, where the number of distributors is one billion. For an additional eleventh level it is necessary that the number of participants is ten times higher, which means ten billion people. Since the world population reaches seven billion people already, in the eleventh stage the pyramid collapses. This theoretical illustration does not correspond with reality, because in practice, pyramid structures collapse much earlier. The reason for this is that over a short period of time, the acquisition of new members to the structure becomes so difficult that many existing members fail to meet the quota of sustainability. Another reason why the pyramid structure is not sustainable is the fact that it does not generate any profits (and there is no downward cash flow, only upward), since the whole multilevel process is just about relocating the fees paid by the newly arrived members to higher levels. Pyramid structure does not sell anything nor invest. Therefore, the money that dealers gain on the highest position in hierarchy must the youngest member first loose. So when the pyramid structure collapses, most of its members (except those only a few people closest to the top) in a result loose because they nearly do not gain enough profit from the newcomers to fill their entry fee, which they had to pay themselves (CIALDINI, 2006).

While pyramid schemes are qualified as fraud and therefore are prosecuted and punished by the state, the business through multilevel companies is generally legal and legitimate. The most fundamental difference, even though for public probably the least visible, is the formal side of things. In fact this means that pyramid based business is generally not a normal company or enterprise, because it does not meet the requirements of commercial companies, which include determining the company's registered office, signing a social contract, establishing official directors of the company, registration in the Business Register, or deposition of the capital stock. Founders of the pyramid structure are well aware of the

illegality of their actions, therefore they try to hide from the law. Their business is usually being developed in silence and not signed in the Business Register in order not to get under state supervision. It may not apply universally for each pyramid, certainly there are those who impersonate a legitimate company in the form of multilevel marketing before the law. In contrast, if a multilevel marketing company wants to do business legally, and let's assume there is no reason why they would not, it must meet the upper mentioned requirements and lots of solid companies also take a step further to distinguish them from fraudulent pyramid and strengthened its credibility in the eyes of the public, they group into different associations. Membership in these associations is granted to subject under fairly strict criteria, while it requires a company wishing to join the association to have specific history of operating in a given market and also to submit to full and detailed audit of the company and its business practices. There is also strong emphasis on business ethics and membership in these associations is therefore quite difficult to obtain.

3. Conclusions and policy implications

As we have analyzed and explained in this article, multilevel marketing has a problem of assimilation its system for fraudulent practices pyramid schemes, while at the same time, for a closer understanding, we defined exactly how the multilevel companies work, giving the most outstanding characteristics of this system, its strengths and mistakes and also focusing on how their distributors are compensated. Devoted to differentiating legal multilevel structure from pyramid schemes we have explained how these structures work, why such a structure does not last long and what risks come along with membership in this network and their meaning to individuals. Through a comparison of these two systems, we have showed that the only common feature they have is the expansion/downline of branches, where on the other hand there are many differences starting from the legal aspect, product, rewarding individual participants and thus their profit or loss. In addition, these few similarities have unfortunately great impact on the public perception and their opinion. Both structures evolve into a pyramid shape and rewarded are not only members who deserve the reward, but also several others on higher positions in hierarchy.

It has become a trend for the grey zone structures to masquerade as real/legal multilevel marketing companies trying to promise its potential distributors and members an impossible way of fast enrichment packed as a beautiful lie. For the general public it is so difficult to detect the thin line that separates these two structures. Together with the bad experiences that many people have not only from the pyramid structures but also with multilevel marketing businesses, this creates their stubborn, negative attitude toward this issue. And not to forget the lack of clear, truthful and correct information which usually the public has about the issue creating incomplete or distorted information. So at the end it all comes down to a point where although multilevel marketing has many advantages, it's practically downside is able to trump all positives - people themselves, their behavior and actions toward each other.

Acknowledgement

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Financing Models for Lifelong Learning of the Adult Population

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Abstract

This contribution is focused on the adult participation in lifelong learning and various models of its financing. Lifelong learning is crucial for improving and developing skills, adapting to technical development or returning to the labour market. The financing of adult education and training is a very complicated topic. Lifelong learning covers a various types of formal and non-formal learning. Funding often belongs among the main obstacles for adult participation in further education and training. The output of this paper is a comparison of participation in lifelong learning by sex and descriptions of different types of financing further education.

Keywords: *lifelong learning, financing models, participation in lifelong learning*

JEL classification: *I 20, I 22*

1. Introduction

The fundamental aim of education and training policy is to improve skills, knowledge and qualification of the learner. Higher level of acquired skills promote employability and also individual's chance to remain in the labour market. Lifelong learning is not only a special form of education, training or other learning activity, such as adult education or web-based learning, but covers different forms of formal and non-formal learning which are now largely separate and operate in isolation from each other, including the way they are financed (Schuetze, 2007). Lifelong learning is important for improving and developing skills, adapting to technical development or returning to the labour market.

1.1 Lifelong learning

Lifelong learning has evidently risen to the top of policy agendas in many states. Lifelong learning implies that people should continue learning throughout their lives, not only in informal way, but also through organized learning in formal and non-formal settings (Schuetze, 2007). Participation in various forms of lifelong learning (further education, courses, etc.) helps to increase the level of human capital, which is crucial to achieving economic growth, employment and social cohesion. Several European countries have set up tax incentives to encourage national education and training activities. The need to provide continuing training for the workforce has led to the formation of several co-funding schemes across Europe among which we can include tax incentives, training funds, loans or individual learning accounts (European Commission/EACEA/Eurydice, 2015).

At European level, three surveys coordinated by Eurostat provide data to evaluate adult participation in education and training:

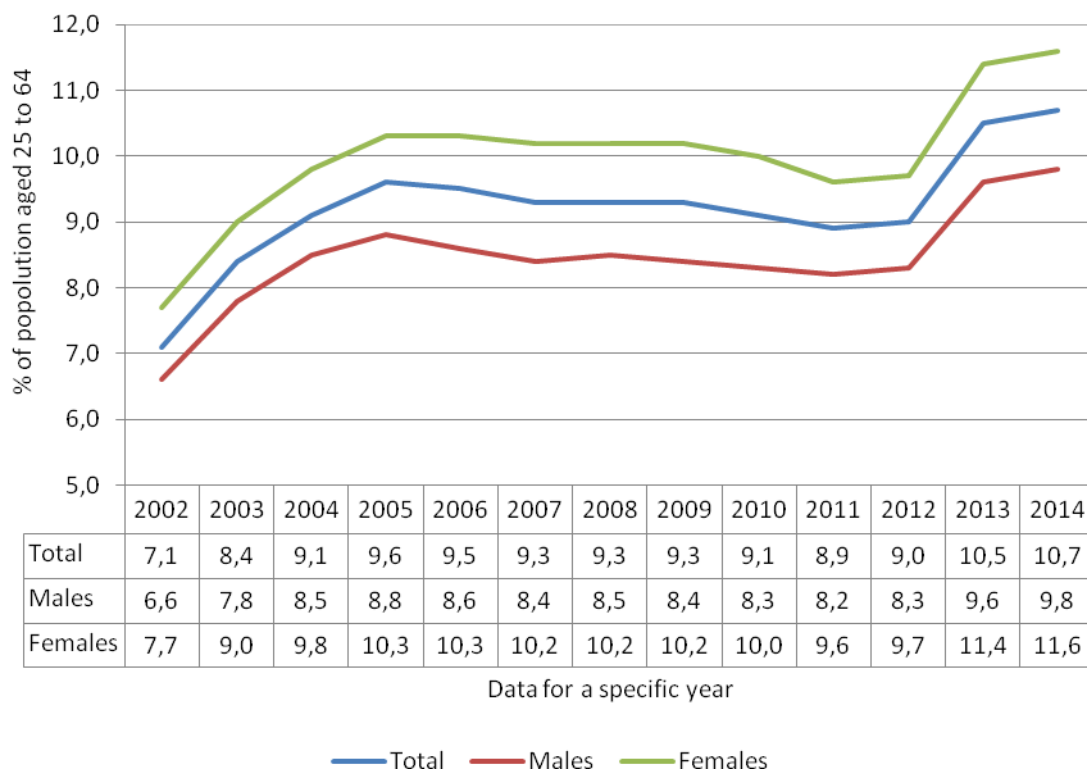
- the EU Labour Force Survey (EU LFS),
- the Adult Education Survey (AES),

- the Continuing Vocational Training Survey (CVTS).

The European Labour Force Survey (EU LFS) is the data source for the EU benchmark indicator on adult participation in lifelong learning. The benchmark of 15 % participation was set in 2009 and to be reached by 2020. According to the results of the EU LFS, in 2014, 10.7% of the European adult population (25-64) participated in formal or non-formal education (European Commission/EACEA/Eurydice, 2015). Adult participation in lifelong learning varies significantly between countries. For the purposes of our paper, we will focus only on participation in lifelong learning as an average of the EU-28 countries, divided according to sex in the selected time period 2002-2014.

Figure 1

Lifelong learning, by sex, EU-28, years 2002-2014 (% of population aged 25 to 64)



Source: own processing, data extracted from Eurostat (2015)

As we can see in the previous graph (Figure 1), participation in lifelong learning increased by 27.4 % between years 2003 and 2014. Nevertheless, progress is slow and the EU benchmark of at least 15 % of adults participating in lifelong learning in 2020 may be difficult to reach. The difference between men and women in participation in lifelong learning is in the range from 1.1% to 1.8%, while women show a higher participation.

2. Models of financing lifelong learning

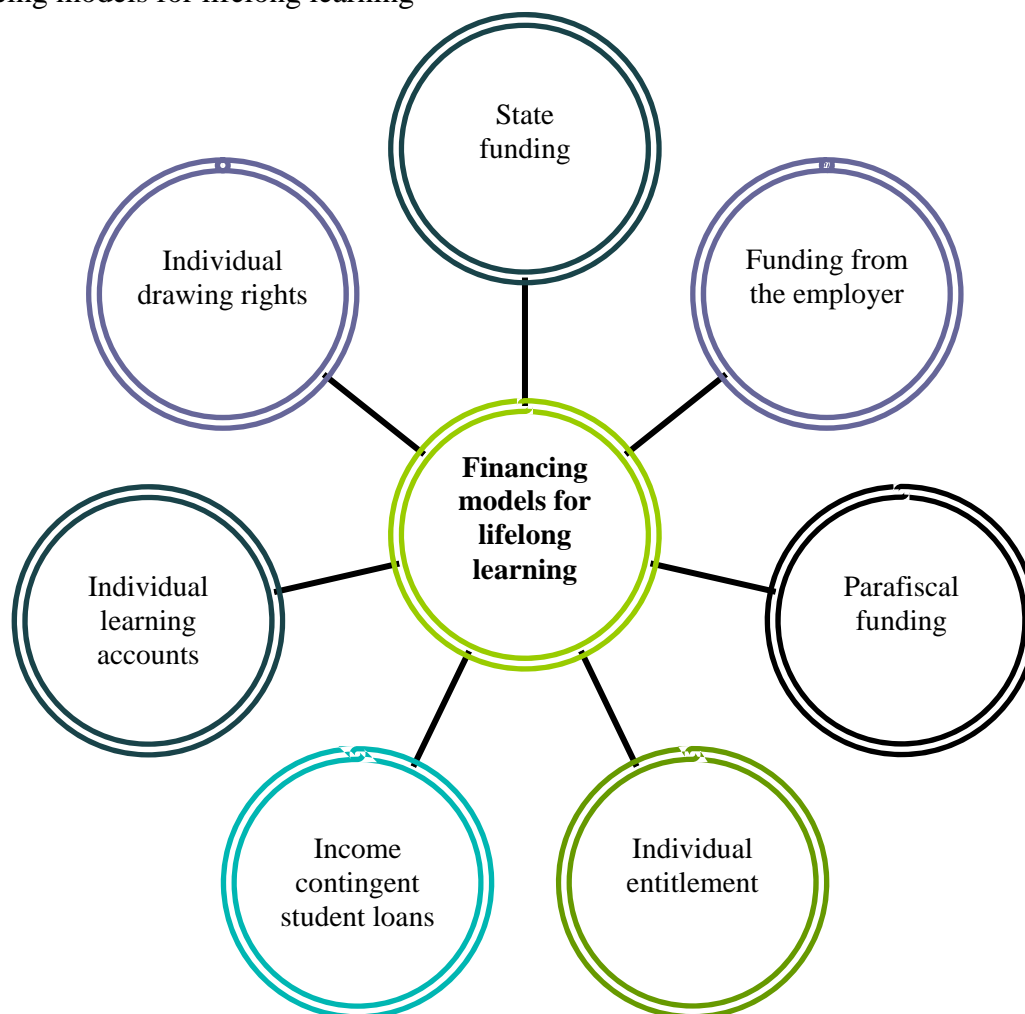
Nowadays, around the world there is a major debate about the financing of further education and training, which has resulted in reforms of funding system in many countries. One obvious option is to finance higher education solely through public spending, but it is unlikely to expect any significant additional income derived from this source. This stems from the fact that the system of public funding redistributes funds from the part of taxpayers with low incomes to future taxpayers with high incomes (Haynes and Greenaway, 2004).

Funding of the education and training of the adult population is a relatively complex area. Adult learners, especially those with basic skills or low qualifications, face specific obstacles

and difficulties in (re)integration into the educational process. May have difficulties to find a suitable educational institution or further education can be in financial terms too expensive. In relation to the barriers to participation of adults in further education and training, there are a number of tools, so called cost sharing, which can be used to reduce the financial burden of the individual. In fact, there is no clear universal classification of financing arrangements and co-financing of lifelong learning. One way of looking at this issue is to use the typology proposed by Schuetze (2007), which refers to the seven major models of financing and co-financing lifelong learning. The various types of models of financing lifelong learning are clearly illustrated in the following scheme (Scheme 1).

Scheme 1

Financing models for lifelong learning



Source: own processing according to Schuetze, H. G. (2007). *Individual Learning Accounts and other models of financing lifelong learning*.

Various models differ greatly in terms of their complexity in terms of funding a series of educational activities to which they relate. While some of the models support only specific activities or specific target groups, others have a unified funding system for all lifelong learning activities. According to the source of financing and the collection mechanism, Schuetze (2007) identifies the following models of financing lifelong learning:

- *State funding*. This model covers the financing of organizations which provide formal or informal educational activities. Among these organizations can be

included state educational facilities as well as private non-profit providers who receive state subsidies. Financial resources are directly distributed to organizations providing educational services.

- *Funding from the employer.* In this model employer is sponsoring further education and training provided to its employees.
- *Parafiscal funding.* It is a model of so called collective investment, i.e. the funds are provided either by contributions only from employers or contributions from employers and employees together. These can be supplemented by funds from public sources.
- *Individual entitlement.* This model represents so called multi-source financing and it includes grants, contributions and vouchers, which usually covers tuition. Training costs other than fees can be covered in certain circumstances, such as accommodation and travel costs associated with training. Tax refunds for costs are another form of co-financing of further education and training. Despite the fact that the individual requirements usually focus on individuals, employers may also benefit from certain forms of this type of co-financing, through the already mentioned "tax refunds".
- *Income contingent student loans.* In this model of co-financing a student is the direct recipient of financial resources through loans. Students will begin to repay the money they have borrowed after the completion of their studies, respectively educational program, and after reaching a certain income threshold (Schuetze, 2007).
- *Individual learning accounts.* In this model, students bear the part of the costs of further education and training and co-financing from public funds cover the rest of the cost. The target group are people with low qualifications. Contribution can be used in any educational institution that provides them a relevant education. The objective of this model is to increase freedom of choice in education focused on the development of skills and abilities and enhance the competitiveness of education providers. Individual learning accounts have a positive impact on motivation and personal development (National Institute for Lifelong Learning, (2012).
- *Individual drawing rights.* This model refers to co-financing of activities related not only to learning but also to work. Through this system students have the right to maintain their income and social benefits even during the time period when they are absent from work (example of individual drawing rights is paid study leave). This model is built on the idea of individual account (as well as individual learning accounts), but it is very different in terms of objectives and scope. Drawing rights are primarily based on the principle of maintaining financial returns for all types of outside-work activities. They are financed by contributions from the individuals themselves, but also by contributions from their employers and the state (European Commission/EACEA/Eurydice, 2015).

3. Conclusions and policy implications

Around half of all European countries have set out their policy commitments in lifelong learning or lifelong guidance strategies, or in legislation on lifelong learning. While the policy documents cover a wide range of initiatives, their real impact on adults with low basic skills

or low level qualifications is not always evident. In particular, lifelong learning strategies tend to include support for rather general measures applying to all adults, and, consequently, it is difficult to identify specific actions targeting those with low basic skills or low level qualifications (European Commission/EACEA/Eurydice, 2015).

Also financing of adult education and training is a very complicated topic. Financing of further education can be a barrier for adults to attend in education and training. In this context, a range of cost-sharing instruments can be used to reduce the financial burden on the individual, for example individual learning accounts, individual drawing rights, income contingent student loans, individual entitlement, parafiscal funding, funding from employer, state funding.

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Comparison of the Phrase “True and Fair View of the Facts” in the National and Multinational Legislation of Accounting

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Abstract

The principle of true and fair view of facts is the priority in the accounting principles. The main aim of the contribution is comparison of the phrase “true and fair view of the facts” in the accounting legislation of the Slovak Republic and the European Union. The contribution analyses and compares use of this phrase in:

- *Slovak Accounting Act no. 431/2002,*
- *European Directive 2013/34/EU on the annual financial statements, consolidated financial statements and related reports of certain types of undertaking,*
- *International Financial Reporting Standards (IFRS), too.*

The contribution is aimed on the same wording of this phrase and different specifications of translation this phrase in the national and multinational legislation of accounting. The object of comparison the phrase “true and fair presentation of the facts” will be not only actual accounting legislation, but also the first original version accounting legislation.

Keywords: *true and fair presentation of the facts*

JEL classification: *M 40, M 41*

1. The phrase “true and fair presentation of the facts” in the national and international legislation of accounting (First-level heading, Times New Roman 12, bold)

In the Slovak accounting legislation is principle “true and fair presentation of the facts” the most frequented in Slovak Accounting Act no. 431/2002. In the legislation of the European Union is this phrase the most frequent in the European Directive 2013/34/EU. International Financial Reporting Standards (IFRS) contains the phrase true and fair view in the Framework for Financial Reporting, too.

1.1 Slovak accounting legislation

The independent regulator of accountancy legislation in the Slovak republic is the Ministry of the finance of the Slovak republic. In accordance with Accounting Act no. 431/2002 should an entity bookkeeping so, that financial statements present true and fair view of facts, which are object of accounting the financial situation of entity. Principle true and fair presentation of the facts is more comprehensive specific in §7, sections 1), 2) Accounting Act No. 431/2002. Actual amendment Act effective from 1.1.2015 contains particularly: the presentation in the financial statements is *fair*, if content the items of financial statements in compliance with reality and it is consistent with accounting principles and accounting methods. Presentation in the financial statements is *true*, if they are prepared using accounting principles and methods, which lead to the achievement of fair presentation of the financial statements.

If an entity detected, that the accounting principles and methods used in the accounting period are incompatible with the true and fair view of the facts, is obliged to prepare financial statements to give a true and fair view. Here is necessary to say, that this information *must be* specified in the notes of the financial statements - §7, (3).

Understanding of these formulations can be very complicated, various and different for final user of financial statements. We make comparison “true and fair view” with the first origin version of Accounting Act no. 563/1991 from 12.12.1991¹. Accounting Act no. 563/1991 has been amended and updated by Acts no. 272/1996, 173/1998 and 336/1999.

There are, in §7 Accounting Act, some differences in formulation, explanation of phrase “true and fair view”, between Act no. 563/1991 and Act no. 431/2002. From 2002 has realised significant changes in Slovak accounting legislation, but the principle “true and fair view of facts” is still as a cornerstone of the financial statements. Table 1 illustrates different formulation §7 more comprehensive.²

Table 1

The comparison of “true” and “fair” in origin and actual Accountancy Act in Slovakia

<i>Accounting Act no. 563/1991</i>	<i>Accounting Act no. 431/2002</i>
<p>§7 (1) The entities are obligated to keep accounts completely, provably and correctly, so that present <i>fairly</i> facts, which are, by itself, subject.</p>	<p>§7 (1) An entity is obliged bookkeeping so, that the financial statements present a <i>true and fair</i> view of facts, which are subject of accounting and about the financial position of the entity.</p>
<p>§7 (2) Bookkeeping is completely, if an entity keeps account all the accounting transactions related to the accounting period.</p>	<p>§7 (2) The presentation in the financial statements is <i>fair</i>, if content the items of financial statements in compliance with reality and it is consistent with accounting principles and accounting methods. Presentation in the financial statements is <i>true</i>, if they are prepared using accounting principles and methods, which lead to the achievement of fair presentation of the financial statements.</p>
<p>§7 (4) Bookkeeping of entity is correct, if an entity with respect to all the circumstances of the accounting case did not damage the reporting obligations of Act.</p>	<p>§7 (4) - does not contain phrase “true and fair view”</p>

Source: Accounting Acts no. 563/1991 and 431/2002, own interpretation

There is obvious, that this terminology is not united and comprehensible. Unfortunately, formulation of phrase “true and fair view” is not clear for understanding in actual Accounting Act. This vague formulation phrase “true and fair view” has impact on difficult application

¹ Accounting Act no. 563/1991, from 12.12.1991, Federal Assembly of the Czech and Slovak Federative Republic, till 31.12.1992 existed The Czech and Slovak Republic.

² Slovak Accounting Act uses format “verný a pravdivý”, verný=fair and pravdivý=true (fair and true), but in contribution will be format considered as synonymous “true and fair”.

the principle true and fair view in the accounting practice. The final users of financial statements, after reading above mention formulation in Accounting Act, have various understanding and difficult orientation in priority principle “true and fair view of facts”.

1.2 Directive of the European Union on annual financial statements and true and fair view

Actual Directive 2013/34/EU of the European Parliament and of the Council, on the annual financial statements, consolidated financial statements and related reports of certain types of undertaking, is obligatory for all member states of the European Union. Particularly, Chapter 2 General provisions and principle, Article 4 General provisions is engaged “true and fair view”. We can make comparison phrase “true and fair view” in actual Directive and origin Council Directive 78/660/EEC. (Actual Directive 2013/34/EU repealed the fourth council Directive 78/660/EEC of the treaty on the annual accounts of certain types of companies). Table 2 illustrates comparison format “true and fair view” in both directives more comprehensive.

Table 2

Comparison of “true” and “fair” in both Directives on annual financial statements

<i>European Directive 1978/660/EEC</i>	<i>European Directive 2013/34/EU</i>
<p>Section 1, Article 2</p> <p>(3) The annual accounts shall give a <i>true and fair view</i> of the company's assets, liabilities, financial position and profit or loss.</p> <p>(4) Where the application of the provisions of this Directive would not be sufficient to give a <i>true and fair view</i> within the meaning of paragraph 3, additional information must be given.</p>	<p>Chapter 2, Article 4:</p> <p>(3) The annual financial statements shall give a <i>true and fair view</i> of the undertaking's assets, liabilities, financial position and profit or loss. Where the application of this Directive would not be sufficient to give a true and fair view of the undertaking's assets, liabilities, financial position and profit or loss, such additional information as is necessary to comply with that requirement shall be given in the notes to the financial statements.</p> <p>(4) Where in exceptional cases the application of a provision of this Directive is incompatible with the obligation laid down in paragraph (3), that provision shall be disapplied in order to give a <i>true and fair view</i> of the undertaking's assets, liabilities, financial position and profit or loss. The disapplication of any such provision shall be disclosed in the notes to the financial statements together with an explanation of the reasons for it and, by itself, effect on the undertaking's assets, liabilities, financial position and profit or loss.</p>

Source: <http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:31978L0660>,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:182:0019:0076:EN:PDF>

There is obvious, that format the phrase “true and fair view” is in actual direction elaborated more comprehensive. But, this formulation is still very various for understanding by final user the financial statements.

1.3 International Financial Reporting Standards and true and fair view

Accounting principles, including phrase fair/faithful presentation, are defined in the International Financial Reporting Standards, particularly in Conceptual Framework for Finance reporting³ and IAS 1 Presentation of Financial Statements⁴.

There is change in terminology of International Financial Reporting Standards (IFRS), particularly, the replacement of “true and fair” by “fair presentation”.

Change in terminology that has received particular prominence is the replacement of “true and fair” by “fair presentation” as the over-arching test that financial statements should satisfy.⁵

To be a perfectly *faithful* representation, a depiction would have three characteristics. It would be complete, neutral and free from error.⁶ Faithful representation does not mean accurate in all respects. In this context, free from error does not mean perfectly accurate in all respects.⁷

Financial statements shall present *fairly* the financial position, financial performance and cash flows of an entity. Fair presentation requires the faithful representation of the effects of transactions, other events and conditions in accordance with the definitions and recognition criteria for assets, liabilities, income and expenses set out in the Framework. The application of IFRSs, with additional disclosure when necessary, is presumed to result in financial statements that achieve a *fair* presentation.⁸ A faithful representation, by itself, does not necessarily result in useful information.⁹

In virtually all circumstances, an entity achieves a fair presentation by compliance with applicable IFRSs. A *fair* presentation also requires an entity:¹⁰

(a) to select and apply accounting policies in accordance with IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. IAS 8 sets out a hierarchy of authoritative guidance that management considers in the absence of an IFRS that specifically applies to an item.

(b) to present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information.

(c) to provide additional disclosures when compliance with the specific requirements in IFRSs is insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity’s financial position and financial performance.

When an entity departs from a requirement of an IFRS in accordance with paragraph 19, it shall disclose:

(a) that management has concluded that the financial statements present fairly the entity’s financial position, financial performance and cash flows;

(b) that it has complied with applicable IFRSs, except that it has departed from a particular requirement to achieve a fair presentation;

³ hereafter Framework

⁴ hereafter IAS 1

⁵ Georg, P. (2005) *The implementation of new accounting and auditing standards for the “true and fair view” and auditors’ responsibilities*. <http://www.iasplus.com/en/publications/migrated/pub441>, [accessed 20.10.2015].

⁶ Conceptual Framework for Finance QC.12

⁷ Conceptual Framework for Finance QC.15

⁸ IAS 1.15

⁹ Conceptual Framework for Finance QC.16

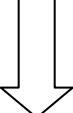
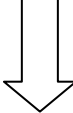
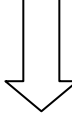
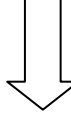
¹⁰ IAS 1.17

(c) the title of the IFRS from which the entity has departed, the nature of the departure, including the treatment that the IFRS would require, the reason why that treatment would be so misleading in the circumstances that it would conflict with the objective of financial statements set out in the Framework, and the treatment adopted; and

(d) for each period presented, the financial effect of the departure on each item in the financial statements that would have been reported in complying with the requirement.

There is clear, after reading above mentioned, that IAS 1 including Framework, have the most comprehensive elaborated the problematic a fair presentation of the financial statements. Also, it is necessary to stress the differences in using the separated or independent word “fair” only. The Slovak Accounting Act and Directives of the European Union use the expression “fair and true view of facts” together, IAS 1 and Framework don’t use the same format. Figure 1 illustrates above mentioned difference by using “true” and “fair”.

Figure 1 Difference by format “true” and “fair” in Slovak Accounting Act, Directive of the European Union, The Conceptual Framework and IAS 1.

Slovak Accountancy Act no. 431/2002	Directive 2013/34/EU on financial statements	IAS 1 Presentation of Financial Statements	The Conceptual Framework for Financial Reporting
			
<i>true and fair view of facts</i>	<i>true and fair view of facts</i>	<i>fair/fairly presentation</i>	<i>fair/fairly/faithful representation</i>

Source: own interpretation above mentioned national and international accounting legislation

The differences relate to format of “true and fair view”, there has been no substantive change in the objectives of the financial statements and accounting in Slovakia.

2. Conclusions

The principle “true and fair view” should be like over-arching test for satisfy the financial statements. The format “true and fair view of facts” is more comprehensive illustrated in Tables 1, 2 and 3, which demonstrated the comparison of actual and origin national and international accounting legislation with stress on “true and fair view of facts”.

Based on analyze the phrase “true and fair view of facts” can concluded, that while the different formulations are the result of changes to the format, the concept the phrase “true and fair view” or phrase “faithful presentation” remains a cornerstone of financial reporting in the Slovak republic. Finally the phrase “true and fair view” is necessary for the professional judgement and responsibility, and is concentrated to the work of slovak accountants and auditors.

Acknowledgement

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Accounting Act no 431/2002 as amended.

Accounting Act no 563/1991 as amended.

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The development of the European Stability Mechanism and impacts of its changes until now

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Abstract

The aim of this article is to provide a brief overview on the development of the European Stability Mechanism. In the first part the main goal is to analyze evolution of this mechanism when former European Financial Stabilization Mechanism (EFSM) and European Financial Stability Facility (EFSF) were created. Application of the stability mechanisms creates the second part and focuses on the impacts of these changes in far and near past on also called PIG countries. Conclusion provides a brief forecast with the respect of previous data and current situation in Europe.

Keywords: Euro area, European Stability Mechanism, European Union.

JEL classification: F15, F33

1. Introduction

The origin of the European Stability Mechanism dates back to May 2010 when on the extraordinary ECOFIN meeting all representatives agreed on the establishment of the European Financial Stabilization Mechanism (EFSM) and the European Financial Stabilization Facility (EFSF). The main idea behind these financial tools was that if euro area would lend funds as a whole, it will have a much more favorable terms than in case of each country alone. These obtained funds can be moved to any member country and will also provide guarantees in the case if harmed country would have problems with repayment. Common financial capacity of the newly created rescue tools was in amount of EUR 500 billion. Any additional loans to the Member States should be provided just through the newly established instruments. ECB followed-up on approval of these rescue mechanisms which decided to ease the tension in the markets by starting to buy government bonds which were refused before and renewed dollar loans to the banks.¹ EU came up with these tools especially after the problems raised in Ireland and Portugal, since by the increase of problem states, such a rescue would be financed by smaller number of Member States which could lead to their loss of confidence on the financial markets.

1.1 The European Financial Stabilization Mechanism (EFSM)

EFSM was created in May 2010 in response to the financial crisis and economic downturn, when serious harm of the economic growth and financial stability happened which was followed by substantial increase in the budget deficits of the Member States and their indebtedness. So EFSM was created as a response to the situation and to maintain financial stability in the EU. Legal basis EFSM was determined by maintenance of Council Regulation which concerns the possibilities of financial assistance for non-euro area countries. The

¹Terms of reference of the Eurogroup. (2010). European Financial Stability Facility. Available at: <http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/misc/114977.pdf>.[accessed 18.10.2015].

EFSM is a temporary financial assistance instrument, which authorizes the Commission to provide the necessary funds by issuing bonds that are backed by the EU budget. By the Council Regulation which implemented this fund into EU law, it is determined that in case of granting the aid the receiving Member State will have to comply strict conditions to ensure the sustainability of its public finances by which it will restore the ability to finance its commitments with the help of financial markets. EFSM operated alongside the EFSF, where the funds were guaranteed by the euro area Member States and covered any funds from the International Monetary Fund (IMF) and were available only to the Member States of Eurozone (De Witte, 2011). The actual form of financial assistance was in the form of loans or credit lines provided to the requesting Member State. As a credit line it meant a permission to draw funds up to a fixed ceiling for the period. The total amount of financial assistance under EFSM is thus limited by resources that are available in the EU budget. Financial assistance under this instrument was featured in the amount of EUR 60 billion.

1.2 The European Financial Stability Facility (EFSF)

EFSF was established by the ECOFIN Council in May 2010 as a rescue mechanism with the main objective to safeguard the financial stability in Europe and to provide the euro area Member States financial assistance in the framework of macro-economic adjustment program. EFSF was created as a temporary rescue mechanism which together with the IMF and some other Member States provided loans to Greece. Later it was also involved in the granting of loans to Ireland and Portugal.

It was established by a framework agreement between the Member States as a “Special Purpose Vehicle”² followed by the decision of euro area countries for a period of three years with the possibility of extension to the time required for completion of all operations. EFSF was based as a legal entity under Luxembourg law (Société Anonyme). The shareholders of the EFSF were the euro area Member States while the transfer of shares was strictly limited. EFSF has its headquarters in Luxembourg and obtained financial resources by issuing bonds and other debt instruments in the capital market, which are sheltered by the euro area countries, according to its share of the capital in ECB. Euro area Member States in the temporary rescue mechanism were in position of guarantor for the funds which would be given to another euro area country in a bad economic situation. Among the major investors were included mainly pension funds, central banks, investment funds, insurance companies and commercial banks.³

At the beginning of EFSF operations, it was covered by indoor compulsory guarantees of euro area Member States in the amount of 440 billion euros as well as the overall lending capacity was set at 440 billion euros. On the basis of concerns arising in respect of Spain and Italy the guarantees were increased to a total sum of 779,78314 billion euros. This increase was based on the amendment to the framework agreement signed in July 2011 which was the basis of the decision of Heads of States and Governments of the euro area in March 2011. Also the range of activities provisions were increased by which EFSF could provide assistance. In this context, the representatives of the euro area decided on new opportunities to provide funds to recapitalize the banking system and later the possibility of outright to purchase bonds of harmed Eurozone state on both markets was also offered.

EFSF could provide financial assistance in the form of:

² Special purpose vehicle is marking the founding of the company in order to meet certain goals or for some time.

³ EFSF. (2014). *European Financial Stability Facility (EFSF)*. Available at: <http://www.efsf.europa.eu/attachments/EFSF_FAQ_2014-02-10.pdf>. [accessed 18.10.2015].

- Provision of a loan or a preventive assistance
- Help to finance the recapitalization of financial institutions in a euro area Member State through a loan to the government of the euro area Member State,
- Aid for the purchase of bonds in the secondary markets based on an analysis of the ECB recognizing the existence of exceptional circumstances on the financial markets and risks to financial stability,
- Aid for the purchase of bonds in the primary market.⁴

Because of the way how the EFSF funds were raised for maximum efficiency it was important to obtain the highest possible rating. Until the beginning of 2012 EFSF held a high AAA rating but even claimed advantages of the EFSF as a very strong support of shareholders, credit enhancement, funding strategies and investments, it all failed to maintain the highest rating.

1.3 The European Stability Mechanism (ESM)

ESM Treaty entered into force in September 2012 and the ceremonial launch of the ESM was held on the sidelines of the Euro group meeting in October 2012 when it held the inaugural meeting of the Board of Governors of the ESM. As a permanent mechanism the ESM took over the tasks fulfilled by EFSF and EFSM. Temporary arrangements remained in force until June 2013 while EFSF remains in force until the end of its financial transactions. EFSF will be canceled and liquidated only after settlement of all claims and liabilities arising from the financial assistance provided under the grant contracts concluded under the EFSF.

ESM differs from the previous two mechanisms and highlights the key role that the euro area Member States have transferred to it which illustrates the fact that unlike the EFSM and the EFSF is not the subject of private but a subject of international law. ESM is an intergovernmental organization of Member States of the euro zone and the actual mechanism is created under an international treaty among Eurozone states and stands outside the official union institution. Since a situation insisted on fastest possible solution ESM could not be classified between the EU institutions which would represent a significant risk that some EU Member States would not agree to the establishment of the ESM and would block its adoption. That was what EU leaders feared, especially because of not very positive experience with a revision of EU law under the Lisbon Treaty or earlier failure of the Constitution for Europe.

The actual membership in ESM is designed for all members of the euro area and this membership in the ESM is open to all EU Member States from the moment the Council decided to abrogate a derogation from participation the common currency in relation to the Member State concerned. The preamble says that all euro area Member States will become members of the EMS and as a result of joining the Eurozone acceding State should become a member of the EMS with all rights and obligations as the Contracting Parties of the ESM treaty. This is not of course automatically until the newly acceding Member State takes all the necessary legal steps in accordance with their respective constitutional requirements. The ESM so far acceded Latvia in March 2014 which joined the euro area in January 2014 and the newest member in the February 2015 became Lithuania.

EU Member States outside the euro area aren't part of the Treaty on the ESM, but they may voluntarily participate on an ad hoc basis. If they do so they will be invited to any negotiations on the provided assistance as observers, will have access to all information and

⁴European Financial Stability Facility (2011). *EFSF Framework Agreement*. Available at: <http://www.efsf.europa.eu/attachments/20111019_efsf_framework_agreement_en.pdf>. [accessed 18.10.2015].

be consulted with them. In the ESM Treaty there is some priority in repayment of loans from the ESM and that these repayments will take precedence over the claims of the private sector and a higher priority than repayment of aid granted by the ESM will have loans only from the IMF. Membership in the ESM brings the possibility to draw funds from the rescue mechanism on the basis of strict policy conditionality and macroeconomic adjustment program which will conduct the Commission together with the IMF and in liaison with ECB. On the other hand, it brings also obligation liable for any obligations of the other Member States. The liability of each member of the EMS is not limited to the amount of its authorized share capital subscribed and no member shall be liable as a result of its membership, for obligations ESM.⁵

As already mentioned ESM main objective is to acquire funding and provide stability support under strict conditions in favor of the ESM members who have serious financial problems or are at risk of such problems, if such assistance is inevitable to protect the financial stability of the euro area as a whole. ESM can assist to Member State to conclude agreements with ESM Members, financial institutions and other third parties. Already in the preamble it is assumed that in providing support to ensure the stability of the ESM will work very closely with the IMF and the main changes against the former EFSF can be seen in the following table.

Table 1

An overview of common features or differences between EFSF and ESM

	EFSF	ESM
Legal structure	Private company under Luxembourg law	Intergovernmental institutions under international law
Duration	Temporary (July 2010 - June 2013)	Permanent institution
Capital structure (in EUR)	Supported guarantees of euro area Member States (780 bil.)	Subscribed registered capital (700 bil.) - 80 bil. paid-up capital - 620 bil. in-time disposable capital
The maximum lending capacity	192 bil. EUR for Ireland, Portugal and Greece	500 bil. EUR
Creditor statute	Pari passu (the same standing as any other sovereign claim)	Preferred creditor (after IMF), at Spain Pari passu

Source: <http://www.europa.eu/>

2. Application of the stability mechanisms

In this chapter will be given insight into the application of the European Stability Mechanisms on the Eurozone Member States that have already completed the program of assistance from the EU and International Monetary Fund: Ireland and Portugal. Subsequently will be further discussed problematic situation in Greece, which first used the aid and it seems, is still not able to meet its commitments without help however stoppage of this program would result in national bankruptcy.

2.1 Greece

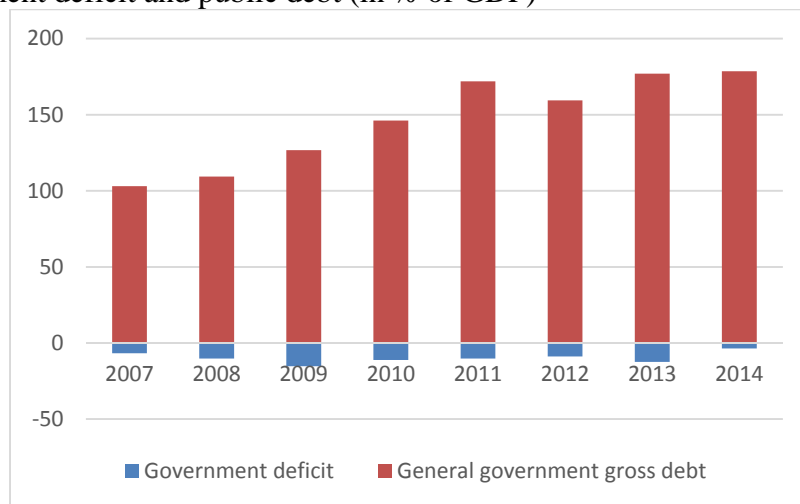
For the reason why the financial crisis has resulted mainly in Greece it's possible to see already in the economic development of the country, tax system, excessive spending from the budget and the grey economy. Governments of Greece provided its civil support by raising

⁵Treaty Establishing the European Stability mechanism. (2012). *T/ESM 2012-LT*. Available at: <<http://www.esm.europa.eu/pdf/ESM%20Treaty/20150203%20-%20ESM%20Treaty%20-%20EN.pdf>>. [accessed 18.10.2015].

social security of voters and creating a bloated bureaucracy which both deepened the public deficit. For this ever-increasing government spending the country was borrowing on the financial markets. Greek economic policy and its public finance system have faced many shortcomings already before the crisis so many analytical articles showed that the global financial crisis has only accelerated its inevitable debt crisis. General government deficit in Greece in 2009 was close to 16% of GDP and general government gross debt was already higher than 126% of GDP which illustrates the figure below.

Figure 1

Greek government deficit and public debt (in % of GDP)



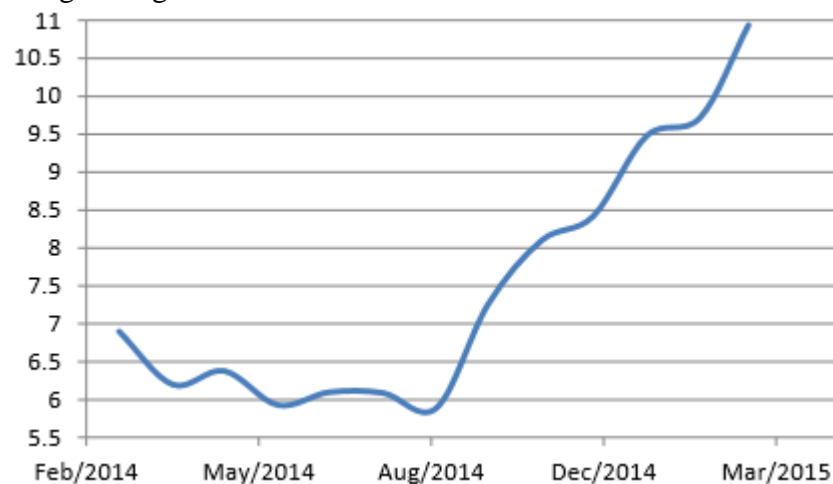
Source: <http://www.ec.europa.eu/eurostat>

It was assumed that Greece will return to the financial markets in 2012 after providing financial assistance and simultaneously implementing the required reforms which was already in the course of 2011 proved to be unrealistic since interest rates continue to rise steeply. For this reason, in October 2011 the European Council approved the second bailout package of 130 billion EUR backed by EFSF which provided €109.1 billion and €28 billion reserved by IMF.

For the usage of the second package again there were some conditions set out in the Memorandum II which the Greek parliament approved through a law on the conditions of the second rescue loan in February 2012. The release of individual tranches at this time was conditional on the participation of the private sector, which consisted of a controlled write-down of Greek bonds which were held by private entities. Involving of the private sector to tackle the crisis was unique solution and with voluntary nature. Already in March 2012 the value of government bonds held by banks and insurance companies decreased by 53.5%. Even this measure appeared to be inadequate and therefore again the buyback of government bonds in the possession of the private sector was conducted at a lower price which was 33.8% of the bond nominal value in average.

Figure 2

Revenue from long-term government bonds of Greece in the short term

Source: <http://www.ec.europa.eu/eurostat>

From the recent Eurostat indicators, it seems that the last year was the first year in which there was a slight growth of Greek GDP over the previous year by 0.8%. However, due to the victory of extreme left-wing parties it cannot be assumed that Greece will consistently continue in other government reforms and cuts, which should lead to a balanced budget. In February an extension of the second rescue program was approved by four months until the end of June 2015, thus to avert the impending collapse of the banking sector. As a result, ECB decided in early February that will no longer accept Greek government bonds as collateral for loans to commercial banks in Greece. The ECB justified this decision by the fact that Greek government bonds are below the required minimum rating and are already in the noninvestment area. So far, Greece has undertaken to continue the austerity measures while the new government offered list of reforms and partly retreated from their promises given to voters. Currently there are negotiations on the revision of the reform program as a condition for the continuation of credit support where all planned changes must be accepted by the Eurogroup. Moreover, a special working group was created to work closely with Greece so there should be the most efficient utilization of European funds which would lead to the promotion of economic growth and job creation.

2.2 Ireland

This country was in the pre-crisis period considered to be a strong and healthy economy with balanced public budget. Irish economic growth for many years was higher than the pre-crisis growth in the EU in the period 2003-2014 but the financial crisis revealed very poor management of the banking sector. In the country ran a real estate bubble, which the Irish banks continued to support by providing of a large amount of lending to construction companies. Followed by the inevitable bursting of the property bubble, the banks found themselves insolvent. In an effort to avert the fall of the banking sector, the Irish Government decided to issue guarantees to protect all deposits. However, this guarantee has caused significant indebtedness of the country, which demonstrates the growth of public debt to GDP of the country, which in 2007 was only 24% and in 2010 it reported over 87%. Crisis of the banks therefore quickly escalated into a crisis of public finances, which had a direct impact on the real economy and unemployment began to rise sharply. Although the Irish government has implemented a series of measures which should restore credibility in the financial markets, interest rates of the Irish government bonds continued to grow which climbed up to a staggering 10%.

Despite the initial rejection the Irish government in November 2010 finally asked for financial assistance. Ireland has allocated a loan of up to 85 billion euros overall where this amount was accounted by EFSM, EFSF, IMF and part was provided by non-euro area countries, namely Great Britain, Sweden and Denmark. The conditions laid down in the Memorandum of Understanding and the funds were provided in quarterly tranches on the basis of the evaluation of achieved targets for the previous quarter. The funds were mainly focused on strengthening of the restructuring and reorganization of banks, to restore fiscal sustainability and structural reforms. The Irish government honestly held austerity measures and three years after the program of financial aid ended. According to the latest report by the Commission, Ireland has successfully completed a program of financial assistance in December 2013 and most of political conditions in the context of the adjustment program were met and investor confidence was restored.⁶

It seems that Ireland truly escaped from the grip of the financial crisis since after the end of the program its economy is rising sharply and last year the performance of the Irish economy was almost four times higher than the average growth in the EU. For the year 2015 Irish government predicts GDP growth of 4.7%. Economy was stretched by strong exports and increased consumer demands, supported by strong employment growth, which is visible from the table below.

Table 2

Short-term economic indicators of the Ireland

Economic indicator	Period	Amount	1 month (%)	3 months (%)	12 months (%)
Export (mil. Eur)	Q1 2015	8351	4	10,6	16,9
Import (mil. Eur)	Q1 2015	4460	-0,7	4	8
Employed (thousand)	Q4 2014	1938	-	0,6	1,5
Unemployment (%)	Q4 2014	10,1	-1,9	-2,9	-15,8

Source: <http://www.ec.europa.eu/eurostat>

Ireland's return to the financial markets was evidenced by issued interest rates for bonds as declared by the Commission in its report of December 2013. Interest rates on long-term government bonds of Ireland are still falling, the last value in the tables published by Eurostat in the first half of year 2015 was 1.12%. The Commission in its communication on the overall assessment of draft budgetary plans for 2015 assessed Ireland very positive, but it calls for use its economic recovery in that surpassed expectations to a significant acceleration of the reduction ratio of public debt to GDP, which is still is above 120%.

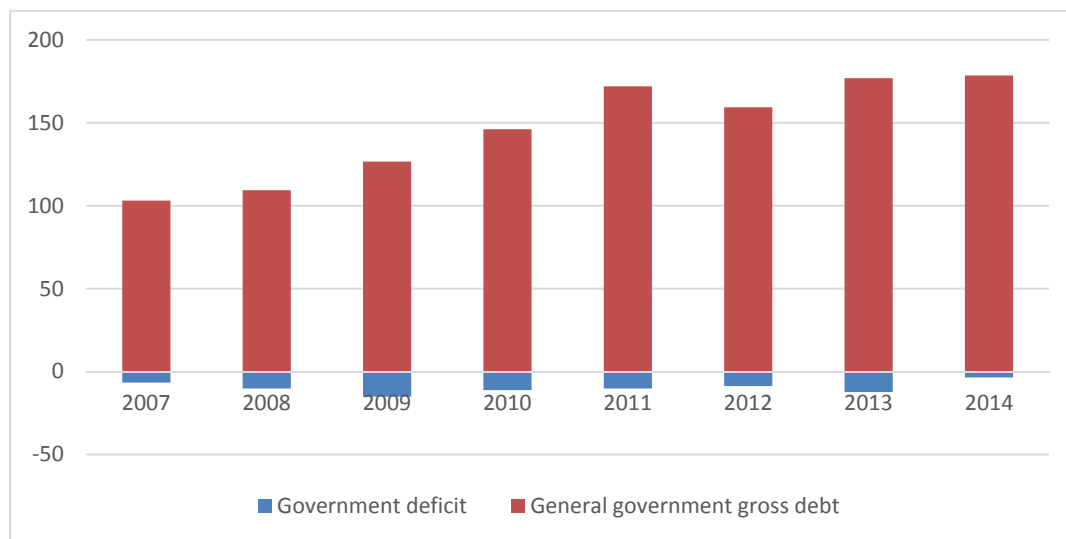
2.3 Portugal

Immediately after Greece and Ireland also Portugal was forced to ask for financial assistance. Same like Ireland it endeavored to impose their own austerity measures that could help to avoid financial help from the EU rescue funds and to not submit to such severe cuts dictated from Brussels. Since at that time it was ruled by a minority government, it have failed to enforce many of its own austerity measures. Government endeavored the growing budget deficit to alleviate by reducing public sector wages and raising tax rates (e.g. VAT). The continuing need to promote more austerity measures led to reduction of state budget expenditures and intensified internal political crisis which resulted in the resignation of Portuguese Prime Minister Jose Socrates. Fall of the government and the subsequent reduction in the rating caused an increase in interest rates of Portuguese bonds and contributed to the request of Portugal for financial assistance.

⁶ European Commission. (2013). *Report from the Commission to the European Parliament and the Council of loans granted and adopted by the EU*, <http://ec.europa.eu/transparency/regdoc/rep/1/2014/CS/1-2014-529CS-F1-1.Pdf>, [accessed 18.10.2015].

Figure 3

Government deficit and debt of Portugal (in % of GDP)

Source: <http://www.ec.europa.eu/eurostat>

As can be seen in the previous figure the reason of the Portuguese problem is considered a combination of high public indebtedness, low competitiveness and also low economic growth with deficits financing. According to Eurostat Portugal's budget deficit in 2009 was accounted for 10.2% of GDP. Portugal for a long time did not fulfill the Maastricht criteria in regards of public indebtedness, which was constantly rising since 2007.

In May 2011 Portugal earmarked 78 billion euros which were funded from the EFSM, EFSF and IMF. Financial assistance was subjected to the fulfillment of the macroeconomic adjustment program which has focused on structural reforms to promote growth, creating jobs, improving competitiveness, in support of fiscal measures and better fiscal control over public-private partnerships and state-owned companies. Portuguese government has decided to withdraw from the program and not to use the full amount of prearranged assistance under the EFSF and the last tranche was sent in November 2014.⁷

Portuguese state debt management agency which is the third part in assistance to Portugal announced that the IMF was already paid 6.6 billion back. Portugal, as well as Ireland, is now under the supervision in the so-called Post-program until it repays at least 75% of the received financial assistance. The Commission stated in its evaluation that the implementation of macro-economic adjustment program has succeeded to improve the state of public finances, stabilize the financial sector and that economy was restarted. Also the economic growth returned with confidence among businesses and consumers however the Commission also highlighted the need to implement further reforms that are necessary to increase competitiveness of the country. Forecasts of the Commission suggest that the Portuguese economy will grow this year by 1.6% including a slight reduction in public indebtedness.

It can be observed that there is a gradual strengthening confidence in the economic situation of Portugal and the country doesn't have to rely on the resources of the rescue mechanisms but can use financial markets. Evidence of improvement in the situation of Portugal is the fact that in February Portugal issued ten-year bonds and the yield on the bonds market decreased from 2% to 1.7%.

⁷ European Commission. (2014). Post-Programme Surveillance for Portugal Autumn 2014 Report. In *Occasional Papers 208*. Brusel, Belgium, pp. 48. ISBN 978-92-79-38829-3.

3. Conclusion

To summarize all the previous data, it is clear that European Stability Mechanism and its predecessors could help countries which were in problems due to the debt crisis like Ireland and Portugal which could come back on financial markets. However, the question remains in regards of Greece economy, which is still in a bad shape and it's not clear if even ESM will save it from the bankruptcy despite providing financial assistance as shown in following table:

Table 3

Disbursements of ESM financial assistance to Greece (max. total committed: €86 billion)

Date of disbursement	Amount disbursed(€)	Type of disbursement	Maturity	Cumulative amount (€)
20/08/2015	13 bn	Cash	Amortization 2034 – 2059	€13 bn
24/11/2015	2 bn	Cash	Amortization 2034 – 2059	€15 bn
01/12/2015	2.7 bn	Cashless	Interim maturity	€17.7 bn
08/12/2015	2.7 bn	Cashless	Interim maturity	€20.4 bn
23/12/2015	1 bn	Cash	Amortization 2034 – 2059	€21.4 bn

Source: <http://www.esm.europa.eu/assistance/Greece/index.htm>

As can be seen the latest aid provided to Greece was 3-year ESM stability support program signed by the Euro Commission in Memorandum of Understanding (MoU) in August 2015 will be able to disburse up to EUR 86 billion in loans over the next three years, provided that Greek authorities implement reforms to address fundamental economic or social challenges as below:⁸

- phasing in a guaranteed minimum income scheme and providing universal health care,
- ensuring that the effort required from everyone is proportionate to their income,
- targeting savings in areas which do not directly affect the wallets of ordinary citizens, such as reduced defense expenditure, or by addressing inefficiencies in many areas of public spending,
- challenging vested interests, such as phasing out favorable tax treatments for
- ship-owners or farmers, or a myriad of exemptions, e.g. for some islands on VAT rates, or of unjustified subsidies,
- supporting the role of the social partners and the modernization of the collective bargaining system,
- fighting corruption, tax evasion and undeclared work,
- supporting a more transparent and efficient public administration, including through moving towards a more independent tax administration, the reorganization of ministries and the introduction of a better link between salaries and job responsibilities.

⁸ European Commission - Press release. (2015). *IP/15/5512*. http://europa.eu/rapid/press-release_IP-15-5512_en.htm, [accessed 18.10.2015].

However, the question remains if Greece will be able to fulfill all these agreements and even if it will somehow, another big issues can still happen when stronger economies like Spain or Italy will be in situation of need to use similar financial aid and despite the capacity of ESM is enough to save them, it could have a high impact not only on these countries but also whole Euro area itself.

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Why Employer Branding is Important

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Abstract

In the current state of economy, while everything in business life is changing rapidly, a company has a perspective only if it is able to adapt itself to these changes in a competitive and effective way through flexible restructuring, and building relevant strategies including Employer Branding Strategy. Numerous works of literature support that the most important asset and the most beneficial resource of an organization is the human workforce. This human asset can be exploited the most effectively if HR professionals obtain a new approach, and they become strategic partners and business consultants, as they will have a key role in maximizing the recovery of these investments. The success of the HR function depends on this ability to create value through the business activity as well as to lead the reorganization strategy and outplacement process that is necessary for business success. What makes my research important and timely is that I create a guide about what strategies and methods HR professionals can apply to increase business competitiveness that is getting more and more emphasis nowadays. Today, when only the need for renewal seems to be permanent in this busy and ever-changing world, preserving competitiveness and effectiveness in the accelerating business restructuring is not possible without anticipating the potentials of reorganization.

Keywords: Employer Branding, Human Resources, HR strategy, Reorganization and Outplacement

JEL classification: E2, G3, M1

1. Introduction

Nowadays the relevance of employer branding is considered unquestionable for companies that regard competitiveness as a key factor in their successful management. The essence of the answer to this question lies in Sears' idea (2003): to become "an employer of choice". This is where the overall image of businesses from the perspective of potential future employees can be derived from. Therefore, what we must observe in connection with employer branding are the grounds on which it has now become a prerequisite for reaching company targets as well as the long term goals set upon it.

It is not an exaggeration to refer to it as the fundamental means for HR managers to promote employees' satisfaction, commitment and creativity by emphasising the key aspect of human activity within the operations of a company and ensuring an employee friendly environment. At the same time, a company needs to define its mission in the scope of its perspectives in order to raise its organizational potential. The two, that is human activity and organisational potential in balance can be achieved through a successful employer branding strategy.

1.1 Methodology

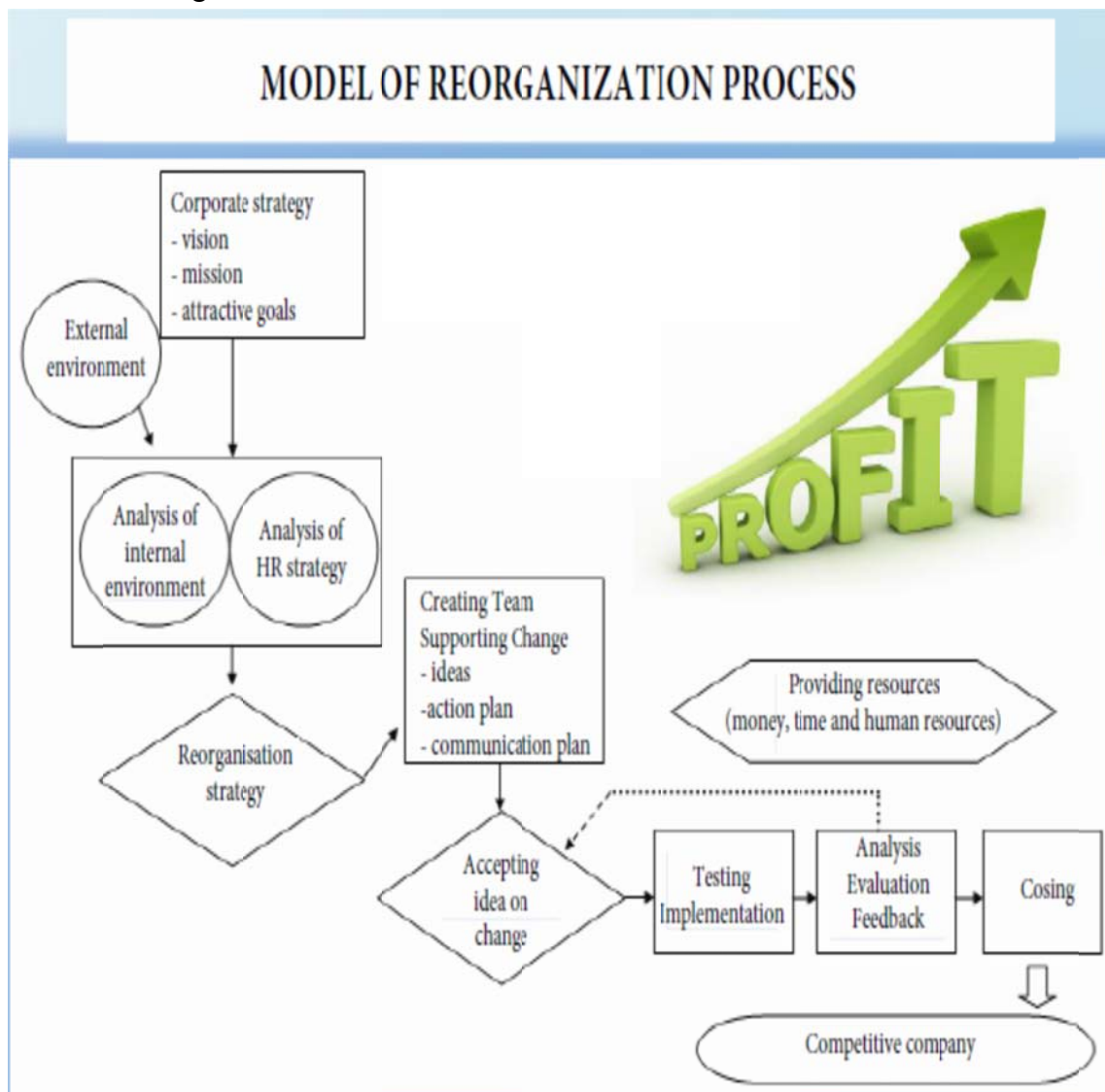
We must admit that the extent to which CEOs and HR managers are aware of the significance of this issue has yet to be increased by promoting the positive impact of preserving the existing and being enriched by the prospective talented workforce. This power to attract expertise and create as well as maintain the preconditions required for keeping it defines a new dimension of co-operative consciousness involving HR managers along with CEOs who have realised that no HR strategy can be beneficial to their company without the emphasis on employer branding.

A company, in the eyes of an HR manager, must be interpreted as an organic part of the global economy; thus, the constant restructuring and reorganization of staff and staff related processes are inevitable. With globalization we have reached a point where the pace at which firms undergo change can hardly be followed unless a strategy that provides answers to these challenges exists (Ulrich, 1997).

The following Chart 1 guides us through how successful reorganization might be carried out to react to these challenges (Chovan, 2012).

Chart 1

Model of Reorganization Process



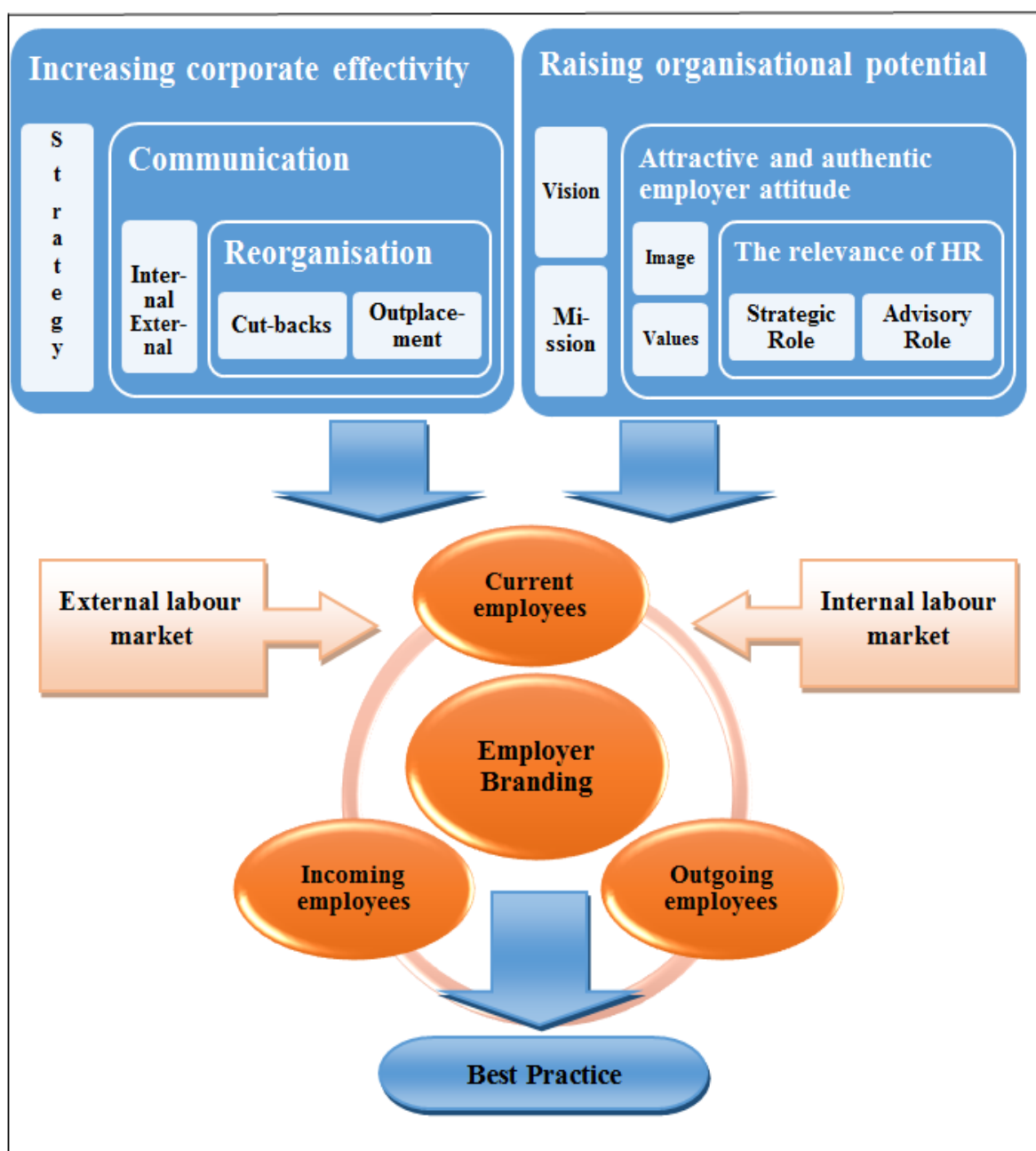
Source: Chovan, 2012

Moreover, successful employment branding is expected to lead to steadily growing profits and reasonable cost cuts. It raises employees' awareness of the necessity and interest of continuous professional development as well as promoting productivity and effectivity both individually and within the dimensions of the company.

Last but not least, if all these criteria of employer branding are met and realised, the process is expected to lead to a *Best Practice* with a firm image reflecting continuity, sustainability and reliability not only serving as a model to other businesses alike, but also providing a foundation which is capable of adapting to the ever-changing trends of our economy yet remaining to hold the distinguishing features that keep it as a standard. Chart 2 (Chovan, 2014) – my research model – demonstrates the central role of employer branding leading to the above mentioned *Best Practice*.

Chart 2

Changes in HRM in view of Employer Branding – Research model



2. New dimension of Employer Branding

In line with the efforts of retaining valuable employees and ensuring the continuous flow of workforce on demand, we cannot secure the balance of human resources within a company without the necessary outplacement processes. From this perspective, we may as well regard outplacement as part of the employer branding strategy, which may contribute to the overall competitiveness of the firm.

Also, in today's fierce competition between companies with more and more subtle and professional methods of recruiting new and talented staff, a good strategy will be determined in view of those of the competing counterparts.

Concerning the need for the growing awareness of CEOs and HR managers, we cannot help noticing that despite the forces of the participants of global markets, the management of certain firms have not become fully aware of the utmost importance of employer branding and as a result they do not seem to have identified the relevance of HR managers who focus their professional development on this field. Therefore, a very frequent obstacle that HR managers find themselves to be faced with is the lack of a company strategy to deal with the problems of fluctuation or redundancy and recruiting the required new staff.

Employment branding strengthens the unity of the company by its reliance on the constant strategic and professional co-operation of CEOs and HR managers: it promotes the idea of these two key positions bound to each other through long term goals. In other words, the rules by which the mutual commitment of employer and employee are set. Consequently, without disregarding or disapproving of the hierarchic structure of a company, CEOs might reconsider their attitude of leadership techniques when it comes to strategic decision making with regards to employment related questions. This may mean the mutual involvement of CEOs and HR managers in such planning that otherwise would be carried out on different management levels without previous consultation between them.

Undoubtedly, this new dimension will indirectly promote more successful communication between the management and the employees. Along with the Advisor one, this mediator role of the HR manager – thanks to employer branding – can make employees more conscious of the fact that their contribution to the company's success is equally appreciated, and their motivation, enhanced by a performance appraisal system, may serve as a means of keeping current employees and a working model to attract prospective staff (Chovan, 2013). To put it another way, employer branding helps redefine roles and responsibilities, and it allows for a more flexible way of determining employment related means of reaching the universal goals of the company involving all the levels of the company directly and indirectly.

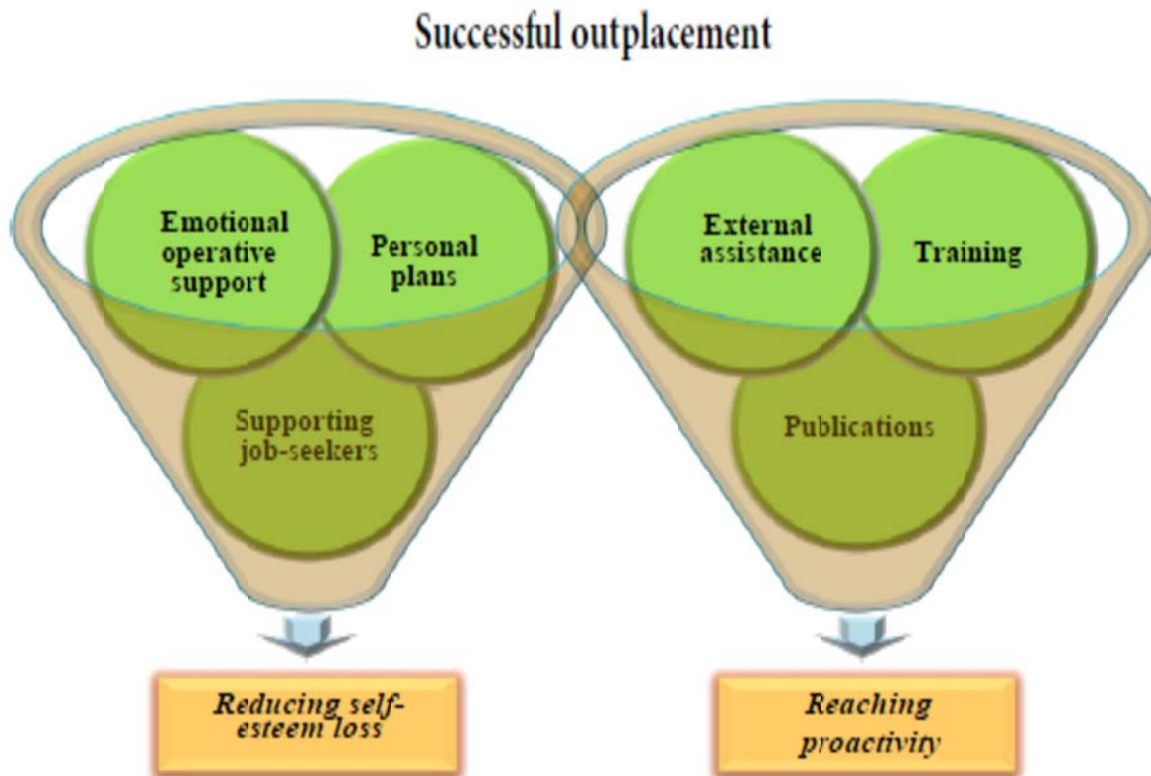
In spite of its flexibility in the above mentioned ways of determining how company goals can be achieved, it remains firm on being able to keep retention rates much higher than companies not applying this policy.

Promoting a well-functioning system of recruitment in which prospective employees are treated as partners can only be successful if the appropriate tone and means of communication are determined as part of a well-planned mechanism. All this can be achieved via employer branding.

As stated earlier, from a broader perspective, no real branding takes place without considering outplacement. Observing the whole company structure with its positions and processes as an ever-changing mechanism, identifying workforce that no longer serves the right of the company turns this otherwise awkward and sensitive issue into a more global-scale opportunity. Namely, employer branding as part of the HR management involves a sense of global corporate responsibility, in which it is the primary interest of all businesses to optimize employment within the field bearing in mind that the process is ultimately intended

to promote the success of the company. Chart 3 clearly demonstrates the processes in which it can be realised.

Chart 3
Elements of Successful Outplacement Programs



Source: Chovan, 2013

Outplacement redefines the traditional image of redundancy: businesses regarded as series of options for career building assist employees with developing their ability to adapt to the actual demands of the labour market. It further promotes the significance of training and further education in accordance with market needs.

In other words, employees get to view their employment in a broader spectrum: dismissals indicate that it is time for exploiting other opportunities and that instead of becoming unnecessary, they are advised about training and employment options.

To put it bluntly, the term redundancy should be forgotten as it suggests few if no perspectives for employees. Instead, as part of the branding process, workforce can be either redistributed, further trained and/or advised about other relevant career options.

It is important to note that, unlike in the past, when dismissals were purely the result of a mathematic calculation and thus happened in masses, today each and every case must be addressed individually placing the focus on further career opportunities (Chovan, 2012).

It is inevitable, however, that nowadays branding strategies would be determined by or at least reflect the tendencies of the global market. Market-driven-ness may as well induce competitiveness, and thus HR managers have a double role of being experts of their own field as well as being knowledgeable and up-to-date about global market features. The basis of recruitment and the actual organizational structure greatly depend on the current processes of the market, which require constant adaptation and readiness for innovation or restructuring.

Besides, as mentioned before human resources and corporate processes are in constant reaction with one another; therefore, no HR management can be done properly without the involvement of the management of the firm and vice versa. Internal communication regarding management levels ensures that all processes will happen in accordance with HR goals as well as the long term goals of the company. This communication must be based upon a carefully planned and well-constructed scheme (Armstrong, 2009), according to which HR managers act as “change managers” (Ulrich, 1997).

In my previous research (Chovan, 2012) it had been proved that those questioned ranked creating and operating communication means first among HR competencies supporting successful reorganization. This point of view is further supported by the fact that, as a result of my own research (Table 1), without a doubt, *honest and open communication* was ranked to be the most important, (on a scale of 6) reaching 5,69.

Table 1
Success Criteria of Reorganization Strategy

Please rank the aspects influencing the success of the successful reorganization strategy:	1	2	3	4	5	6	Statistic average
<i>Honest and open communication</i>	0	0	0	0	8	18	5,69
<i>The support and commitment of the management team</i>	0	0	0	5	0	21	5,62
<i>The preparedness and contribution of the HR department</i>	0	0	0	6	8	12	5,23
<i>Creating crisis strategy, implementation of action plans</i>	0	0	4	3	3	16	5,19
<i>Scheduling the process</i>	0	0	2	7	6	11	5,00
<i>Decreasing operational costs</i>	3	0	0	7	6	10	4,65
<i>Promoting co-operation between companies</i>	0	0	5	9	9	3	4,38
<i>Utilising state crisis management support</i>	7	0	8	8	3	0	3,00

Source: Own research findings (Chovan, 2012)

The unquestionable importance of honest, open and two-way communication is also supported by the comparative research referring to HR management titled Cranet 2008 – “*In focus: Hungarian and Central Eastern European characteristics of human resource management – an international comparative survey*”. Its findings include that in “credit crunch-stricken” countries like Hungary the reliance on honest and open communication strengthens the sense of security, commitment and effectivity of the employees. When it comes to collective redundancies as part of reorganization, according to my research findings, informing employees at the earliest possible time is ideal along with the above mentioned honest and open communication with those made redundant as well as the remaining workforce, and thus eliminating uncertainty and enhancing effectivity.

Through mutual accountability, employee-employee and employee-management connections and co-operation bear the potential to optimize production in accordance with the strategic goals of the company, which, again, must harmonize with the employer branding strategy. Strategic planning as well as constant attention to eliminating problems can

concentrate human power in an integral and unified system. It is a primary principal of HR strategies to build up, raise and maintain the awareness of prospective and current employees of belonging to and being an indispensable part of their firm.

Poór's observation of international firms tending to create a so called *Best Practice* (2009a) model seems like an adaptable principle to be incorporated in the employer branding strategy. Since it is mainly based on questionnaires as part of surveys carried out on the problematic issue of reorganization, it can form an integral part of the branding strategy. With the vulnerability and plasticity of today's economic processes, a watchful eye must be kept on the management of human resources of businesses so that through identifying relevant talents and values, human capital can be exploited in favour of successful and efficient operations and enhanced productivity (Makó et al., 2008).

3. Conclusion

The key figure of this paradigm shift has to be the HR manager. Their attitude must adaptively change with regards to the changes taking place in the global economy, and they must be capable of redefining targets and methods as well as take the necessary steps of reorganisation along with advising and monitoring staff. According to Ulrich (1998), HR managers have a two dimensional role: operative or strategic and human management. The former incorporates all the features and functions concerning the organization and its strategies as a whole, while the latter focuses on individual development and interest as well as employee adjustment techniques. Ulrich perfectly recognizes and identifies the complexity and subtlety of HR management with its long term and far reaching impact on the present and future of a company.

We can conclude that with the widening scope of HR managers' responsibilities at all levels of the organization structure and their growing devotion to employer branding they are likely to become symbolic figures of the company and represent their brand in the most authentic way.

Employer branding is a necessity. It serves as a bridge between market and human resource goals. It ensures a firm, emblematic image for the company as a whole making it a competitive and attractive choice for future employees and current staff equally. It provides firms with a unified and systematic strategy optimizing organizational structure and ensuring the quantitative and qualitative fulfilment of employment needs to achieve individual and corporate targets. Continuous learning, training and development are true benefits of it as well. All this is realized thanks to the accountability and sustainability of the branding scheme offering a positive as well as rewarding experience for prospective workers (Armstrong, 2009).

It addresses each and every phase of employment and human resources related processes from personal, psychological and humanistic perspectives; thus, the positive image conveyed by employees will even be preserved by those made redundant or outplaced. Creating value can be appreciated by the greatest proportion of future, present as well as past employees, who can be proud of being or having been actively involved in its creation. In other words, they can feel that as an integrated part of the company, through employer branding, they will remain to be an asset, a highly relevant piece of this "corporate puzzle", an image that would be incomplete if any of its equally "precious pieces" were missing.

"Engaging the hearts, minds, and hands of talent is the most sustainable source of competitive advantage" Greg Harris

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Women in Diplomacy and Economic Diplomacy of the Slovak Republic

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Abstract

The article deals with the issue of women's presence in diplomacy and economic diplomacy of the Slovak Republic. It seeks to highlight the discrepancy between the proclaimed equality of opportunities and reality in this area through the available statistical data. The author assumes that due to the current ongoing social changes the number of women in diplomacy (specifically in the economic diplomacy) will rise in the future.

Keywords: *diplomacy and economic diplomacy, Ministry of Foreign and European Affairs of the Slovak Republic, gender equality*

JEL classification: *F59, J16*

1. Introduction

Part of the public discussion in Slovakia since the beginning of the 21st century is the problem of inequality between men and women in all spheres of the society. Across Europe the problem of gender equality is being solved through several decades. The issue of equal opportunities also applies to areas that are traditionally seen as a male domain. One of them is also diplomacy of a state, namely diplomacy of the Slovak Republic.

Objective of this contribution is the pointing out the position and activity of women in diplomacy of the Slovak Republic during the history, as well as their action in the Slovak diplomatic service today. Particular attention is paid to the presence of women in the economic diplomacy of the Slovak Republic. It shows the contradiction between the proclaimed equality of opportunities and facts in this field through the available statistical data. There is a presumption that the presence of women in diplomacy and specifically in the field of economic diplomacy given the current ongoing social changes and planned activities (e. g. the Slovak Presidency of the Council of the European Union in 2016) will increase in the future.

In this paper, statistics and information regarding the history of diplomacy in Slovakia, as well as documents of the Ministry of Foreign and European Affairs of the Slovak Republic and the Ministry of Economy of the Slovak Republic will be analyzed. The result of the analysis will capture the complex issues of gender equality in the diplomacy of the Slovak Republic as well as in the economic diplomacy, whose role, especially in recent years given the growing global interconnectedness and globalization, is gaining importance. Since Slovakia has a high degree of openness of its economy, the economic dimension of international relations is almost crucial.

2. Gender equality in diplomacy

Gender equality means that both sexes have the same entitlement to participation and implementation in all areas of public and private life. Its aim is that both sexes realize their

inner potential to the fullest, regardless of traditionally attributed gender roles¹. Equality between men and women has in addition to the moral and social dimension also a strong economic justification – it contributes to the economic growth of the society in many ways. According to several studies, a higher number of women in top positions could contribute to a more productive and innovative work environment and better performance of a company. This primarily reflects a more diverse and collective thinking with multiple views to address the problems with respect to individual decisions which are balanced.

This fact can be applied also to the area of diplomacy, specifically to the field of economic diplomacy. It may be stated that diplomacy – just like the politics – was often seen as a “male thing”; an area, which is dominated by men. The presence of women in diplomacy is linked with the establishment of first permanent diplomatic missions in the 15th century. The first documented fact about a woman ambassador appeared in 1646 – it was the French Marshal de Guerbiani’s widow which was sent in a special mission to accompany the bride of the Polish King Vladislav IV. Subsequently, another woman didn’t appear in this position until the 20th century. During 1918 - 1920 the Armenian writer and diplomat Diana Apgar worked as Ambassador of Armenia in Japan².

Although in terms of quantity it is evident that the area of diplomacy is primarily the domain of men, myths and stereotypes about employing women in diplomacy are being demolished. A high proportion of women ambassadors have traditionally Scandinavian and Baltic countries.

Also the European Union, that is not a state itself, has an own foreign policy. EU foreign entities are individual institutions of the European Union, as well as individual EU Member States and their competent authorities. In 2010 the European External Action Service the EU was established, which is posted under the Office of the High Representative of the Union for Foreign Affairs and Security Policy, Mrs. Frederica Mogherini. The European diplomatic service also takes into account the need for greater representation of women in this area. Therefore, there is an assumption that the number of women in this important organization will increase.

In the field of international relations a country’s foreign policy objectives and goals - i. e. political, economic, legal, security, cultural and other interests – are asserted. At present, countries’ interests cover mainly foreign trade relations, which are one of the most important preconditions of economic growth of a country due to the global expansion of globalization and operation of multinational companies in international relations. In addition to continuous efforts to develop their domestic economic environment, the countries are seeking for investment from abroad, they are supporting their own producers to export abroad and also the domestic tourism. This is especially important for the so-called small open economies (such as Slovakia), where own internal market cannot provide sufficient economic growth and a substantial portion of the gross domestic product consists of economic relations with foreign countries (export - import). Given the openness of the economy of the Slovak Republic, since 2004 the Ministry of Foreign and European Affairs of the Slovak Republic underlines the need to pay more attention to strengthening the economic dimension of diplomacy.

In the field of economic diplomacy, there is a scope for realization of both sexes due to the nature of work – it requires expertise in the field of foreign trade with sufficient language proficiency. Limiting is only the target country and its culture or religion. In some countries,

¹ Gender role "is one of the social roles maintained by the society and validating by everyday life. It is shaped by images of "masculinity" and "femininity" that are formed by the environment and change over time due to development of the society, as well as by culture based on social, cultural and religious influences and traditions" (Pietruchová, O. - Mesochoritsová, A. (2007). Gender equality in the organization. A Brief Tour Guide. P. 8).

² In the position of the Honorary Consul of Armenia.

given the cultural and religious aspects, to post a woman is not exactly the best choice – notably the Islamic and Arab countries, where they do not accept a woman as a business partner and facilitator. Vice-versa, in other cultures a woman in the position of a negotiator is a huge advantage.

3. Women in the diplomacy of Slovakia

The Slovak Republic, as a young state in the international environment, started its acting on 01/01/1993 after separating from the Czech Republic. Due to this fact also the Slovak diplomatic service was completely new build up by diplomats from the time of Czechoslovakia, graduates coming from universities and persons from the Slovak economic sphere.

It can be concluded that also in the Slovak diplomatic service inequality between men and women is manifested. After the year 1989³ the first Slovak Ambassador Extraordinary and Plenipotentiary became Mrs. Magda Vášáryová, who served first as Ambassador Extraordinary and Plenipotentiary of the Slovak Republic in Austria (1990-1993), and later in Poland (2000-2005). Subsequently, several women treated at ambassadorial positions in Slovak diplomatic missions abroad (such as Anna Tureničová, Mária Krásnohorská et al.), but their percentage against men did not reach 20 %.

In the modern Slovak diplomacy only one woman – Mrs. Zdenka Kramplová – hold the post of Minister of Foreign Affairs of Slovakia (1997-1998).

Actually, at the highest political level in Slovakia, there are some notable women acting who also act in diplomacy of Slovakia in various ways. Within the current 6th legislative term of the National Council of the Slovak Republic (2012-2016), as of 01/01/2015 there are 30 women out of 150 deputies – i. e. 20 % of all parliament deputies. Out of the four Vice Presidents of the National Council two are female – Mrs. Jana Laššáková and Mrs. Erika Jurinová. No one woman is part of the 15 members' Government of the Slovak Republic. Actually, within the EU Parliament in the current period (from 07/01/2014 to 2019) there are 4 women out of 13 representatives of the Slovak Republic. A female representative holds the post of the President of the Constitutional Court of the Slovak Republic and women entrepreneurs or managers are enforced in the economic sphere in Slovakia. In the past, more women held important political positions:

- Iveta Radičová – within the years 2005 – 2006 Minister of Labour, Social Affairs and Family of the Slovak Republic, in the years 2010 – 2012 Prime Minister of Slovakia, since 2015 Adviser to the EU Commissioner for Justice, Consumer and Gender Equality Viera Jourová;
- Lucia Žitňanská – in the years 2002-2006 State Secretary of the Ministry of Justice of the Slovak Republic, in 2006 and from 2010 to 2012 Minister of Justice of the Slovak Republic;
- Zuzana Zvolenská – Minister of Health of the Slovak Republic in 2012 – 2014;
- Magda Vášáryová – in 1990-1993 Ambassador Extraordinary and Plenipotentiary of the Slovak Republic in Austria, in 2000-2005 Ambassador Extraordinary and Plenipotentiary of the Slovak Republic in Poland, during 2005-2006 State Secretary of the Ministry of Foreign Affairs of the Slovak Republic;
- Edit Bauer – in the years 1998-2002 State Secretary of the Ministry of Labour, Social Affairs and Family of the Slovak Republic, since 2004 Member of the European Parliament for the Slovak Republic;

³ The so called Velvet Revolution or Gentle Revolution (from November 17 to December 29, 1989) took place in Czechoslovakia, that caused a non-violent transition of the political system.

- Brigita Schmögnerová – during 1998-2002 Minister of Finance of the Slovak Republic, in 2002-2005 she worked as the Executive Secretary of the UN Economic Commission for Europe in Geneva, from 2005 to 2010 she was the Vice President of the European Bank for Reconstruction and Development;
- Katarína Mathernová – during 1993 - 1998 and 2002 - 2005 she worked at the World Bank in Washington, since 2005 she operates in the Directorate General of the European Commission.

The formal equality of women does not correspond to their de facto equality with men in the diplomatic service. As of 10/08/2014 Slovakia had 64 embassies, 8 consulates general and 7 permanent representations to international organizations in the world. As of 10/08/2014 three women (at the Slovak Embassy in Cyprus, Switzerland and Italy) hold the post of Ambassador Extraordinary and Plenipotentiary and two women worked as Head of Mission – permanent representation to international organizations in Vienna (Oľga Algayerová) and Paris (Ingrid Brocková). Two women served as Consul-General (in the USA and Ukraine). In total, the women represented in leading positions of Slovak diplomatic missions only 8.86 %⁴.

As of 09/02/2015 the Slovak Republic had 63 embassies, 8 consulates general and 7 permanent representations to international organizations the in the world. As of 09/02/2015 five women hold the post of Ambassador Extraordinary and Plenipotentiary – at the Slovak Embassy in Cyprus, Mexico, Serbia, Switzerland and Turkey, and one woman worked as Head of Mission - permanent representation to international organizations in Vienna (Mrs. Oľga Algayerová). Two women served as Consul General: in the US Mrs. Jana Trnovcová and in Ukraine Mrs. Janka Burianová. In total, women in leading positions of Slovak diplomatic missions represent only 10.26 %⁵. In the past, their share was higher. Representation of women in the diplomatic service of Slovakia does not even match the education level of women⁶ in Slovakia.

In the field of diplomacy of Slovakia the Ministry of Foreign and European Affairs of the Slovak Republic declared that it will increase the number of women in leading positions at the Ministry. A test of professional, organizational and diplomatic skills will undoubtedly be the preparation a particularly the successful completion of the Slovak Presidency of the Council of the European Union in the second half of 2016. Due to this great event the Ministry will also strengthen its personal capacities. There is also scope for a wider presence of women and their skills in the diplomatic service of Slovakia.

In Slovakia, there are many barriers to the application of gender equality into practice. This knowledge can be applied also to the field of Slovak diplomacy. The barriers are mainly:

- Lack of knowledge of law;
- bad economic situation;
- high unemployment;
- lack of institutional support both at horizontal and vertical level;
- low law enforcement;
- persistence of gender stereotypes.

⁴ statistics derived from the information sources of the Ministry of Foreign and European Affairs of the Slovak Republic (2014)

⁵ statistics derived from the information sources of the Ministry of Foreign and European Affairs of the Slovak Republic (2015)

⁶ The education level of women is quite the same as the education level of men in Slovakia.

If the state will try to sensitize the public for gender issues, than a pressure for more female participation in various fields of life can be achieved. Also, a key issue is to ensure economic stability (or even prosperity) especially of slovak families.

4. Women in the economic diplomacy of Slovakia

As stated above, gender equality in diplomacy of the Slovak Republic at present is not yet attained. Remarkable is the fact that many employees of the Ministry of Foreign Affairs of Slovakia at commercial and economic departments of Slovak embassies abroad (the so called economic diplomats) were female in the past; as of 01/01/2011 of the total 50 commercial and economic departments at Slovak embassies abroad 11 heads were female (i. e. 22 %).

In 2014 the Ministry of Foreign and European Affairs of the Slovak Republic at embassies of Slovakia abroad created 42 positions of economic diplomats, and as of 09/01/2014 of the total 42 economic diplomats were 11 women. It is thus a 26.19 % quotient. Female economic diplomats represented the Slovak Republic for example in Istanbul, Munich, Kiev and in Pretoria.

As of 10/01/2015 the position of employees with the agenda of economic diplomacy at Slovak embassies abroad hold 23 women out of 72 in total. It is thus a 31.94 % quotient.

The proportion of women in this field of diplomacy was thus significantly higher than in the conventional (political) diplomacy.

Due to the fact, that economic diplomacy is aimed specifically and not politically, its results can partly also be measured. It may therefore be stated that greater participation of women in the Slovak economic diplomacy has had a positive effect on economic diplomacy and the Slovak Republic, as well as on the growth of Slovak exports.

Again, the Slovak Presidency of the Council of the European Union in 2016 brings possibilities to a higher participation of women in the field of economic diplomacy of Slovakia.

5. Conclusions and implications

The process of globalization significantly affects many areas of the society. One of them is the area of diplomacy, in which it leads to the increase of importance of the economic dimension of international relations.

The issue of gender equality is gaining importance and became part of social discourse in most countries in the world. It can be concluded that even in the diplomatic service inequality between men and women is manifested; both in the world and in Slovakia. Better situation in terms of women's presence is in the economic diplomacy of the Slovak Republic, where more women successfully operate in the position of economic diplomats.

Given the ongoing changes in society, culture and content of gender roles, there is an assumption that the number of women in the diplomatic service will grow. Likewise, the Slovak Presidency of the European Union in 2016 can open up new possibilities in the field of diplomacy for women in Slovakia.

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View of the abolition of budgetary organizations and subsidized organizations, community organizations such as the founder

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Abstract

The topic of this paper is local government in the Slovak Republic, where the basis for local government is the municipality; including the higher territorial unit, whereby the basis for the municipality and the higher territorial unit is the residents who live there and through their activities contribute to its economic growth. We concentrate our attention on the municipality and its establishing of budgetary organization or subsidized organizations that are also part of the local government. The subject of this research is the free decision of the municipality regarding closure of budgetary or subsidized organizations which it established in the past to fulfil specific tasks in accordance with the budget rules of the regional administration. My focus is research and knowledge of the possibilities which exist for the closure of these organizations available in the context of the obligations of the municipality with arise in or are connected with this process. I examine the permissible combinations for the closure of budgetary or subsidized organizations, which are:

- *merger of the budgetary or subsidized organization*
- *amalgamation of the budgetary or subsidized organization*
- *demerger of the budgetary or subsidized organization*

In addressing this topic I focus on the valid legal regulations relating to closing budgetary organizations or subsidized organizations by the municipality. The purpose of this paper is to examine the approach of the municipality during this process from the point of view of accounting, which the municipality and budgetary and subsidized organizations established by are required to apply upon the given decision.

Keywords: *The municipality, budgetary organization, subsidized organization, closure, merger, amalgamation, ordinary financial statements, interim financial statements, opening balance sheet, consolidated financial statements*

JEL Classification: *M40, M41*

1. Introduction

The focus of this paper is to expand knowledge regarding local government in the Slovak Republic. I examine the possible approaches for closing local government organizations in the Slovak Republic from the viewpoint of the Law no.431/2002 Coll. Accounting, Law no. 523/2004 Coll. Financial Rules of Public Administration. I focus my attention on the closure of budgetary organizations or subsidized organizations by the parent - municipality (town).

This act of the local government can be compared to the closure of companies without

liquidation, which is carried out in case of commercial companies according to the Commercial Code no 513/1991 Coll. - §69, §69a, §69aa. The municipality has an obligation to close the organization as of 31 December, about which it determines that:

- revenues of the subsidized organizations do not cover its production costs (50% of the costs of subsidized organization is covered by its sales) over at least two consecutive years or
- the subsidized organization does not fulfil the tasks of the municipality arising from specific regulations (Law no. 523/2004 Coll., § 21 paragraph 3),

The municipal council has decided upon these changes by vote of the municipal councillors, whereby:

- the municipal council has approved the merger of budgetary organizations or subsidised organizations,
- the municipal council has approved the demerger of a budgetary organization or subsidised organization,
- the municipal council has approved the amalgamation of budgetary organizations or subsidised organizations.

As part of with these changes the municipal council approves the successor organization of the closed organization. In the event of demerger or amalgamation of organizations the successor is the newly formed organization. The successor organization may again only be a budgetary organization or subsidized organization. With successor organizations it is important to specify and justify, in the draft resolution of the municipal council, the anticipated financial implications for the municipal budget for the year, including further next two years in the context of the multi-annual budget. In this way the municipality generally excludes the possibility of inconsistencies in terms of budget and accounting for the municipality and its organizations (individual financial statements, change to the consolidated group

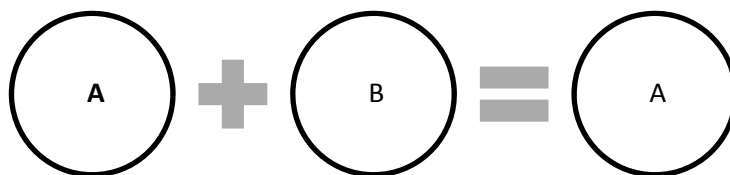
of the municipality in the context of the consolidated financial statements and opening balance sheet of established organizations). This involves a separate legal entity registered in the register maintained by the Statistical Office. These organizations of local government may, in their own name, acquire rights and make commitments from the date of their establishment. In establishing the budgetary or subsidized organizations municipal assets are entrusted for administration through the founding documents. Also, based on the approved resolution of the municipal council the municipality may transfer municipal property to a city district. This particularly applies to the capital city of Bratislava and to Košice. The municipality may implement the transfer of property, or even withdraw property from administration.

2. Closure of a Budgetary Organization or Subsidized Organization from the viewpoint of Act on Budgetary Regulations

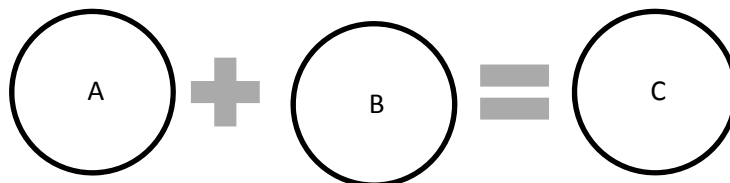
When closing organizations, the municipality as parent may choose from the following options:

A) Merge, amalgamate or divide the organization.

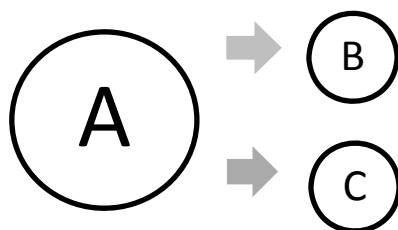
- In the case of merger, organization **B** is terminated and the legal successor is organization **A**, which had already existed.



- In the case of amalgamation, organizations **A** and **B** are terminated and their legal successor is organization **C**, which is a newly created accounting entity.



- In the case of demerger, organization **A** is terminated and its legal successors are organization **B** and organization **C**, which are newly created organizations.



- B) Close the organization (without legal successor). In this case the successor organization is the parent, i.e. the municipality.
- C) Change the subordination of these organizations (change relationship to parent) or of the parent if it is decided to change the method of financing the organization (by means of an amendment to change the founding documents - connection to the municipal budget - budgetary organization or the subsidy – subsidized organization).

The case of change to the subordination of the organization does not lead to its actual closure and subsequent termination. Only the parent of the organization changes, while other elements listed in the founding document remain unchanged. This legal act would, under local government in our opinion, occur only if the municipality is abolished or the organization is taken over by a higher territorial unit. Law no. 523/2004 Coll. on Financial Rules of Public Administration does not allow direct transformation of budgetary or subsidized organization to a business company founded by the municipality, which would be the legal successor to the closed budgetary organization or subsidized organizations founded by the municipality.

3. Closure of a Budgetary Organization or Subsidized Organization from the Viewpoint of the Law on Accounting

Budgetary and subsidized organizations (later referred to as “the organization”) keep their accounts from their date of its establishment until the date of their termination, but in the case of mergers, amalgamations and demergers, until the deciding date. This date shall not be later than the date of effect of the merger, amalgamation or demerger. The deciding date can be called the day of the merger, amalgamation or demerger. e.g.:

Table 1
DECIDED DAY

To: 31.12.13	Accounting Period 2014				From: 1.1.15
	DECIDED DAY				
	From: 1. 1. 14	To: 31.5. 14	From: 1. 6. 14	To: 31.12. 14	
A) act of merging organizations		DAY OF MERGER			
MERGER A + B = A	Opening of accounting books		A – successor organization		
	B		Day of accounting transaction / opening balance sheet	Closing of accounting books	Opening of accounting books
	Opening of accounting books	Closing of accounting books			
B) act of amalgamating organizations		DAY OF AMALGAMATION			
AMALGAMATION A + B = C	A		C - successor organization – new organization		
	Opening of accounting books	Closing of accounting books	Opening of accounting books	Closing of accounting books	Opening of accounting books
	Opening of accounting books	Closing of accounting books			
C) act demerger of organizations		DAY OF DEMERGER			
DEMERGER A = B + C	A		B - successor organization – new organization		
	Opening of accounting books	Closing of accounting books	Opening of accounting books	Closing of accounting books	Opening of accounting books
			C - successor organization – new organization		
			Opening of accounting books	Closing of accounting books	Opening of accounting books

Source: own creation

From the deciding date, matters which are subject to the accounting and financial statements of the closing organization become, at this moment, part of the accounting and financial statements of the successor organization, and if the successor organization is yet to arise,

the terminating organization keeps the books. The terminating organization has the obligation to close its books and prepare extraordinary financial statements.

The extraordinary financial statements include general requirements as per § 17 paragraph.

2 of the Law on Accounting. The components of the extraordinary financial statements are:

- The balance sheet;
- The income statement;
- The notes to the financial statement. Notes that contain information to explain or supplement the extraordinary financial statements.

The notes of a closed organization also define the current financial period, which in this case is shorter than the year immediately preceding the accounting period and the legal justification for the compiling these financial statements.

The extraordinary financial statements are compiled by the closed organization within 30 days of the closure of the organization. If a change occurs on a different day other than the last day of the accounting period, the successor organization takes over the final balances (assets, liabilities and the difference between assets and liabilities) from the balance sheet of the close organization as of the day following the closure (opening balance sheet this can be done using balance sheet account 395 – Internal accounting).

Table 2

Extraordinary financial statements, opening balance sheet

Possibilities	Budgetary or Subsidized Organization A	Budgetary or Subsidized Organization B	Budgetary or Subsidized Organization C
Merger $A + B = A$	(+) opening balance sheet day of accounting transaction	(-) extraordinary financial statements	X
Amalgamation $A + B = C$	(-) extraordinary financial statements	(-) extraordinary financial statements	(+) opening balance sheet
Demerger $A = B + C$	(-) extraordinary financial statements	(+) opening balance sheet/day of accounting transaction	(+) opening balance sheet/day of accounting transaction

Source: own creation

The successor organization takes over the closing balances of balance sheet accounts from the balance sheet of the closed organization as their initial conditions on the first day of the accounting period as the first accounting transactions (account 701) Initial balance sheet account. The successor organization ensures the transfer of unspent balances of extra-budgetary accounts of the closed organization (budget organization) to its extra-budgetary accounts (unused Social Fund, the business activities of the closed organization or earmarked donations received). The closing organization carries out an inventory of assets pursuant to the Accounting Act and revalue's their assets, liabilities and the difference between assets and liabilities. The successor organization values fixed assets at the price stated in the closed organization. If the successor organization has a problem defining the price, the fixed assets are valued at the reproductive acquisition price which is in effect in this accounting period. In the following period there will be a change in value of the fixed tangible asset, which occurs as per the effect of the new law, which amends the Law on Accounting.

In researching this topic I discovered that a budgetary organization does not create or report on a reserve fund (balance sheet account 421 – Legal reserve fund) as a budgetary

organization. This means that if the successor of a subsidized organization is a budgetary organization, the closing balance of balance sheet account 421 – Legal reserve fund of the closed organization is accounted for by the budgetary organization in its results for the past period – balance sheet account 428 - Unsettled P&L from previous years +/- . The P&L for the current period of the closed organization is recorded by the successor organization in its unsettled P&L for the reason that this P&L was not created by the successor organization. This is in order to maintain the comparability of current accounting period and the immediately preceding period of the successor organization before the change. If the successor of a subsidized organization is a budgetary organization then the closing balance of the reserve fund (account 421 – Legal reserve fund) is recorded as profit/loss retained from previous years of the budgetary organization. The final status of the profit and loss accounts from profit and loss statement of the closing organization is not carried forward by the successor organization into its own accounts.

In the case of amalgamations and demergers, the successor organization (newly formed organization) does not state in the opening balance sheet the immediately preceding period, but, for the first annual financial statements as at 31.12. 20xx the accounting entity states in the balance sheet in columns 4 (assets) and 6 (liabilities) data for the immediately preceding period from the opening balance sheet data (e.g. from 1.6 20xx). For profit and loss the previous period is not stated (MF SR no. MF/25755/2007-31, §2). These facts are stated in the notes of successor accounting entity in drawing up the annual financial statements for 31.12.20xx (Law no. 431/2002 Coll., §17 par. 9, §18 par. 5).

The form of the opening balance sheet is not determined by MF Decree no. MF /25755/ 2007-31 dated 5 December 2007 as amended establishing details of the arrangement, labelling and contents of defined items of individual financial statements, deadlines and place of presentation of accounts for budgetary organizations, state funds, municipalities, regional governments.

In researching this topic I found that it is beneficial for the municipality to carry out these changes as of the end of the financial year, for these reasons:

1. Allocation of resources of the closed organization and providing municipal resources to the successor organization for the following period, i.e. the municipal budget. After the budget is approved by the municipal council, the municipality for the following financial year creates a budget for the successor organization (the new organization to be established) in the context of the breakdown of expenditure for the programs of the municipality. If the change occurs during the budget year, the municipality is obliged to change its approved budget before the actual realization of the legal act of closure (merger, demerger) of the organization. The change in budget is approved by a council meeting. The municipality is not authorized to bind itself in the current budget year to make payments it does not have resources allocated for in the approved budget for the normal running of the municipality including binding future budgetary years.
2. Dealing with the problem of municipal assets which have been entrusted to the administration of the closed organization or municipal assets which have been entrusted into the administration of the successor organization.
3. The process of approving these changes in council meetings.
4. The higher administrative demand on the municipality, the closed organization and the successor organization.

5. The individual extraordinary financial statements produced by the closed organization for the final day of the accounting period can count as the ordinary individual financial statements as per the Law on Accounting (Law no. 431/2002 Coll., § 17 par.6).

3.1 Consolidated Financial Statements for Local Government

According to § 22a of the Law on Accounting, the municipality produces consolidated financial statements for the budgetary or subsidized organizations established by them on the basis of their individual accounts. The municipality as the parent accounting entity has an obligation to notify the organization included in the consolidated group that is required to prepare consolidated financial statements for the public accounting entity they as subsidiary accounting entities or public administration are obliged to provide their individual financial statements of accounting units of public administration in time. Budgetary and subsidized organizations in the public sector are always subsidiary accounting entities, and these are subordinate to the parent accounting entity. If the municipality closes an organization, it then changes the consolidated group of the municipality.

Cancellation is a case of deconsolidation, which is the opposite of consolidation. It actually involves taking into account the changes in the consolidated group of the parent accounting entity of public administration. The Ministry of Finance Decree, which sets out the details

of the methods and procedures of consolidation in the public sector and details of the structure and identification of the items in consolidated financial statements in the public sector, does not give the approach for change to a consolidated entity (MF Decree no. MF/27526/2008-31).

The parent accounting entity of the accounting entity of public administration identifies this change in the consolidated group in producing its consolidated financial reports for the accounting entity of public administration. Into the aggregate financial statements go data from:

- a) The closed (merger, amalgamation, demerger) organization as of the day preceding the deciding day as per the example in table 3 as of 31.5.2014. We use data from the extraordinary financial statements for the period 1.1.2014 – 31.5.2014.
- b) The successor organization from the day following the deciding day as per the example in table 3 from 1.6.2014. We use data from the ordinary financial statements from 1.1.2014 to 31.12.2014 for merged organizations and from 1.6.2014 to 31.12.2014 for demerged or amalgamated organizations.

Assets and liabilities, the equity of the closed organization declared on the date of termination in the consolidation package are charged to account 428 – Unsettled P&L from previous years. The parent accounting entity uses the method of full consolidation. This consists of:

- mutual claims and obligations,
- mutual costs and revenues,
- mutual transfers,
- mutual purchase / sale of fixed assets or inventories,
- mutual accruals,

The advantage is, that for budgetary and subsidized organizations, capital consolidation is not performed, because these organizations are formed, as I have already stated, by their foundation and not on basis of the financial investment of the municipality. For clarity I

include a timeline related to the process of consolidated financial statements of a municipality in the case that the municipality has closed an organization during an accounting period (calendar year).

Table 3

Example no. 1 Act of merging organizations which are part of the consolidated group of the parent accounting entity of public administration

To: 31.12.13	Accounting Period – 2014				From: 1.1.15
	From: 1.1.14	To: 31.5.14	From: 1.6.14	To: 31.12.14	
Merger A + B = A	B – closing organization Data from the extraordinary financial statements for the period 1.1.2014 – 31.5.2014 of the closing organization B are counted as input data into the aggregated financial statements for 2014 as of 31.12.2014.		A – successor organization Data from the ordinary financial statements of successor organization A made up to 31.12.2014 for the year 2014 are counted as input data into the aggregated financial statements for 2014 as of 31.12.2014.		
Consolidated package will include	Consolidated group of municipality – 2014 (parent accounting entity of public administration)				
	Consolidated profit & loss statement of the municipality – to 31.12.2014 (parent accounting entity of public administration)				
	P&L statement of successor organization A as of 31.12.2014				
	P&L statement of closing organization B from 1.1.2014 to 31.5.2014 – Extraordinary financial statements.				

Source: own creation, *P&L – Profit & Loss.

Table 4

Example no. 2 Act of amalgamating organizations, which are part of the consolidated group for the municipality or a subsidiary accounting entity of public administration

To : 31.12.13	Accounting Period - 2014				From: 1.1.15
	From:1.1.14	To: 31.5.14	From: 1.6.14	To: 31.12.14	
Amalgamation A + B = C	A - closing organization Data from the extraordinary financial statements for the period 1.1.2013 – 31.5.2013 of the closing organization A are counted as input data for aggregated financial statements produced for the year 2013 up to 31.12.2013.		C - successor - new organization In this case it is the moment of first consolidation from the successor accounting entity. Data from the ordinary financial statements of successor organization C made up to 31.12.2014 for the period from 01.06.2014 to 31.01.2014 are counted as input data for aggregated financial statements produced for the year 2014.		
	B – closing organization Data from the extraordinary financial statements for the period 01.01.2014 – 31.05.2014 of the closing organization B are counted as input data for aggregated financial statements produced for the year 2014 up to 31.12.2014.				
Consolidated group of municipality – 2014					

To : 31.12. 13	Accounting Period - 2014		From: 1.1.15	
	From:1.1.14	To: 31.5.14		From: 1.6.14
Consolidated package will include:	(parent accounting entity of public administration)			
	Consolidated profit and loss statement of the municipality - up to 31.12.2014 (parent accounting entity of public administration)			
	P&L Statement of the closing organization A from 1.1.2014 to 31.5. 2014– Extraordinary financial statements.	P&L Statement of successor organization C for the period 1.6.2014 to 31.12.2014.		
	P&L Statement of the closing organization B from 1.1.2014 to 31.5. 2014 – Extraordinary financial statements.			

Source: own creation, *P&L – Profit & Loss.

Table 5

Example no. 3 Act of demerging organizations which are included in the consolidated group of the municipality as subsidiary organizations

To: 31.12. 13	Accounting Period - 2014		From: 1.1. 15	
	From: 1.01.14	To:31.05.14		From: 01.06.14
Demerger A = B + C	A - closing organization Data from the extraordinary financial statements for the period 1.1.2014 – 31.5.2014 of the closing organization A are counted as input data for aggregated financial statements produced for the year 2014 up to 31.12.2014.	B - successor - new organization In this case it is the moment of first consolidation from the successor accounting entity. Data from the ordinary financial statements of the successor organization B made up to 31.12.2014 for the period from 1.6.2014 to 31.12.2014 are counted as input data for aggregated financial statements produced by the municipality for 2014.		
		C - successor - new organization In this case it is the moment of first consolidation from the successor accounting entity. Data from the ordinary financial statements of the successor organization C made up to 31.12.2014 for the period from 01.06.2014 to 31.12. 2014 are counted as input data for aggregated financial statements for 2014.		
Consolidated package will include:	Consolidated group of municipality – 2014 (parent accounting entity of public administration)			
	Consolidated profit and loss statement of the municipality - up to 31.12.2014 (parent accounting entity of public administration)			
	P&L Statement of the closing organization A from 1.1.2014 to 31.5. 2014 – extraordinary financial statements.	P&L Statement of the successor organization B for the period 1.6.2014 to 31.12.2014.		
		P&L Statement of the successor organization C		

To: 31.12. 13	Accounting Period - 2014		From: 1.1. 15
	From: 1.01.14	To:31.05.14	
			for the period 1.6.2014 to 31.12.2014.

Source: own creation, *P&L – Profit & Loss.

4. Conclusion

For this topic I researched the procedures for municipalities in cases where the municipality freely decides through their municipal council to close its budgetary or subsidized organizations in the context of the consolidation of public resources. I divided the paper into two parts. In the first part of the paper I analyze the Slovak legislation that relates to closing without liquidation of an accounting entity by the municipality. In the second part of the paper I directly analyzed the obligations of the closed accounting entity in terms of the production of extraordinary financial statements, annual financial statements and consolidated financial statements of an accounting entity of public administration.

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Law no. 431/2002 Coll. on Accounting and on the Amendment of Certain Laws.

Law no. 513/1991 Coll. The Commercial Code as amended.

MF Decree dated 8 August 2007 no. MF/16786/2007-31, which sets out the details of accounting and framework chart of accounts for budgetary organizations, organizations, state funds, municipalities and higher territorial units as amended.

MF Decree dated 5 December 2007 no. MF/25755/2007-31, which sets out the details of the arrangement, description and content of items in individual accounts, date and place of submission of accounts to budget organizations, subsidized organizations, state funds, municipalities and higher territorial units, as amended.

MF Decree dated 17 December 2008 no. MF/27526/2008-31, which sets out the details of the methods and procedures of consolidation in the public sector and details of the structure and identification of the items in consolidated financial statements in the public sector as amended.

Methodological guidance from the MF on the termination of budgetary and subsidized organizations in public administration from the viewpoint of accounting and reporting (31.1.2013).

The clusters as an organizational form of support of entrepreneurship

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Abstract:

The theory and the practice of management of a company make an effort to adapt the economic changes and respond on the new conditions on the market promptly, and at the same time, perform the individual management activities effectively. The co-operation can have different forms as are the fusions and the acquisitions or the less dependable business forms as the establishment of the networks, the strategic alliances or the clusters. The forms of networks can be enough flexible in order to achieve the adaptation to the conditions of the doing business and these forms of the co-operation are appropriate for SMEs especially. The competitive dynamics of SMEs directly or indirectly affects on the large companies, especially in the field of increasing of the effectiveness.

Keywords: changes, cluster, co-operation, advantages of clustering, clusters in Slovakia

JEL classification: M20, M53

1. Introduction

The rapid changes became frequent. The complexity, the chaos and the frustration are the natural implications of these changes having the impact on the individual, the work groups or the teams, the organizational structure of companies and the society, which can be studying for weeks, month or years. There is considerably complicated to designate, which kind of the implication will have the change in the future, particularly then, if it is followed by another organizational changes.

1.1 The business environment and the adaptation of the companies

The globalisation has caused that any company is not resistant against competitive forces, and so companies, which are not able to adapt, risk that they will be non-competitive. The rapid technological changes trigger off that the products or business models obsolete very fast. The companies are under the influence of these changes constantly, though it seems, that they are in the stable environment.¹ The challenge for the managements of the companies is to build up an organisation, so as it was stable, on the one hand; and flexible and dynamic in order to adjust to the changes, on the other hand. The optimum is to find the balance point between the stability and the dynamics of the company. The high dynamics of the growth and also the big emphasis on the stability of the company can bring the company to the disequilibrium and the instability, which consequence may be the decline of the company.

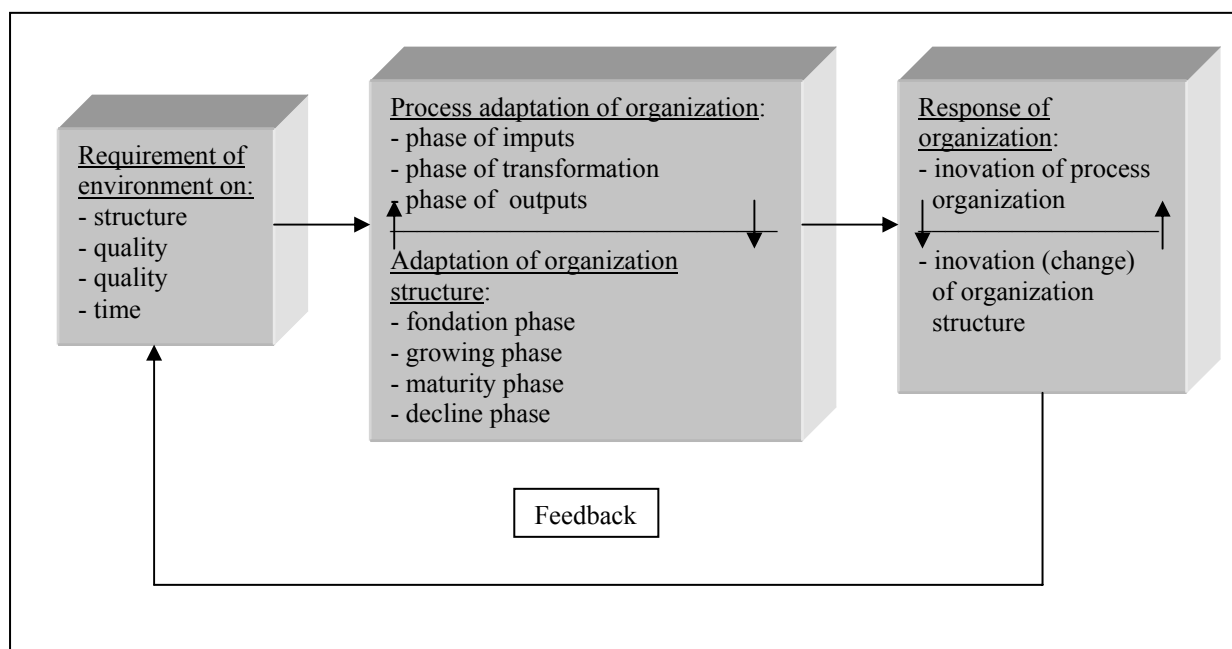
¹ DONNELLY, J. H. jr. – GIBSON, J. L. – IVANCEVICH, J. M. 2008. *Management*. Praha : Grada Publishing, 2008. 27 p. ISBN 978-80-7169-422-9.

The changes are a ways of the adaptation of the companies on the influence of the external environment. R. L. Ackoff differs four types of the adaptations:²

1. External-external adaptation responds to the external changes by the change of the environment (for instance, the company doesn't react on the growth of the production demand increasing of production capacity but the integration and the co-operation with the external companies).
2. External-internal adaptation responds to the external changes by the internal change (for instance, the change of the entrepreneurial environment causes the changes in the company).
3. Internal-external adaptation responds to the internal changes in the company by the changes of the external conditions for its operation (for instance, decreasing of the innovation dynamics of the company responds on the market decreasing of the supply of the company production).
4. Internal-internal adaptation responds to the internal changes of the process organisation (the transformation of the inputs to the outputs) by the internal adaptation of the organization structure as it is depicted on the Figure 1.

Figure 1

The organizational development through the coevolution adaptation mechanism



Source: ANSOFF, H. I. – BRANDENBURG, R. G. 1983. A Typology of Organization Typologies: Toward Parsimony and Integration in the Organizational Sciences. In *Human Relations*. ISSN 0018-7267, 1983, Vol. 36, No. 6, p. 523-548.

The development of the companies to the higher form of organizing can be achieved through the permanent disorganization of the reconciliation and the equilibrium. The progressive organizational adaptation lead to the symbiotic reconciliation between the

² ANSOFF, H. I. – BRANDENBURG, R. G. 1983. A Typology of Organization Typologies: Toward Parsimony and Integration in the Organizational Sciences. In *Human Relations*. ISSN 0018-7267, 1983, Vol. 36, No. 6, p. 523-548.

company and the environment. Generally the development (the evolution) is the creation of the new adaptation and the development of the organization leads to the differentiation, but also to the convergence, namely through the changes.

1.2 The co-operation of the companies in the form of the clusters

The contemporary competitive environment of the companies caused that there is looking for by the top managers the different ways and the means of gaining and the retain the competitive advantages by the co-operation.³ The co-operation can have different forms as are the fusion and the acquisition or the less dependable business forms as the establishment of the networks, the strategic alliances or the clusters. The forms of networks can be enough flexible in order to achieve the adaptation to the conditions of the entrepreneurship and these form of the co-operation are appropriate for SMEs especially.⁴ The competitive dynamics of SMEs directly or indirectly affects on the large companies, especially in the field of increasing of the effectiveness.

Generally the co-operation among the organizations is assigned the business usefulness and enable to reduce the costs and increase the efficiency. The large companies co-operate with many contractors and subcontractors in many cases and the co-operation relations of the companies have indeed the varied intensity. According to Z. Zavorská⁵, the co-operation of companies can be realized in the several fields, in the several forms and in the varied intensity. The companies are able to join each other on the basis of co-operation or on the basis of concentration. The collaboration of companies would help to cover those activities effectively, which the sole company covers but invest the higher effort and the higher quantity of financial resources. The co-operation of companies is associated with synergic effect and economy of scale.

SMEs have the competitive disadvantages in the fields of finance, manufacturing, human resource management, legal and strategic management on the contrary to the large companies. One of the possibilities, how to develop SMEs, is the support of the mutual co-operation and the partnership so as the networks can overcome a lots of restrictions typical for SMEs.

The co-operation and the originally-developed supply chains have completed the more new complex of the collaboration forms among the companies gradually. The principle of clustering was introduced in the theory of management at the beginning of the twentieth century. The economists have started to deal with this principle of the exploitation of the synergic effect systematically, which would allow the higher economic growth for companies. There started to make more use of the counselling, the informatics, the increase the qualification and the creation of the local networks and stress more emphasis on the production and the operating services, the technology, the vertical integration and the network structures. The dynamic integration within the local economic structures became even important factor from the point of view of the long-term goals of the regional politics.

One of the priorities is the using of clusters by the development of the competitive abilities of SMEs. Clustering has been used by the expansion of SMEs in the fields of industry and travel (tourist) industry in Slovakia, however, has already been used in the abroad longer.

³ SAMUELSON, P. A. – NORDHAUS, W. D. 1992. *Ekonomía 2*. Bratislava : Bradlo, 1992. 57 p. ISBN. 80-7127-031-8.

⁴ IVANIČKOVÁ, A. 1998. *Regionalizácia a priestorová organizácia regionálneho rozvoja*. Bratislava : Vydavateľstvo EKONÓM 1998. 150 p. ISBN 80-225-0937-X.

⁵ ZAVARSKÁ, Z. 2012. *Legislatívne a ekonomické aspekty združovania podnikov* : VEGA, priebežná správa. Prešov, 2012. 255 – 266 p.

Therefore can be used the cluster approach as the additional possibility for increasing the competitiveness of SMEs.

Clusters existed already in the sense of the regional concentrated companies, the contractors and the other related organisation in the past.⁶ Except for A. Marshall and M. Porter, the issue of clusters have dealt with several authors during the 20. century - M. Weber, W. Christaler, A. Lösch, N. Harris, A. Schumpeter, F. Hayek, W. Nordhaus, M. Olson, a O. Williamson. Clusters are determined as the innovation „crowds“, which influence the development and the success of the region, or the microregion, where the economic growth is determined by SMEs.

According to M. Hučka⁷, the cluster represents the new form of the organizational arrangement. The concept of the cluster isn't new, the first remark about clusters recorded in the year 1890, when the outstanding English economist A. Marshall wrote, that the industrial sectors are often locally concentrated and acquire the considerable contributions from the externalities, as are economies of scale and spillovers resulted from this concentrations. These externalities emerged from the attraction and the development of the related industrial sectors providing the specialized services, the creation of „pool of specialized human resources“ with all the skills, knowledge and know-how required for the existed industry, spreading of the ideas, knowledge and the technical progress among the companies within the field or the sector, the creation of „the industrial atmosphere“ with the quantity of the formal and the informal operating procedures, the habits, the traditions, the social values and the specialized institutions, which make possible the existed industry to inovate and operate effectively.

M. Porter wrote a well-known definition, that the cluster presents the geographic concentration of the interconnected companies, the specialized contractors, the provider services, the companies in the related fields and the affiliated institutions, particularly in those, which compete, but also collaborate.⁸ M. Porter presents that the industrial cluster according to the recent approach to the national, regional and municipal economy has the importance for competitiveness and point out the new role of the companies, the governments and other institutions in the forms of increasing of competitiveness. In this manner the interconnected companies and the institutions are the driving force of national, regional and local development.⁹

M. Porter's model of diamond explains the dynamics of the industrial development.¹⁰ The four main determinants, which companies, or clusters enable to obtain the competitive advantages on the market are: availability of production factors (inputs); strategy, structure and rivalry; demand for production or services in existed sector; related and supported sectors. The basic characteristics of clusters include the seven basic elements:¹¹

- **Local concentration:** the companies are localized in the geographic proximity.
- **Core of cluster and its specialization:** the cluster is concentrated about the crucial activity by which are all members joined.

⁶ SÖLVELL, Ö. 2008. Clusters. Balancing Evolutionary and Constructive Forces. Stockholm : Ivory Tower Publishers, 2008. 25 p. ISBN 978-91-974783-3-5.

⁷ HUČKA, M. a kol. 2011. *Vývojové tendence velkých podniků. Podniky v 21. století*. Praha : C. H. Beck, 2011. 175 p. ISBN 978-80-7400-198-7.

⁸ PORTER, M. E. 1993. *Konkurenční výhoda*. Praha : Victoria Publishing, 1993. 21 p. ISBN 80-85605-12-0.

⁹ PAVELKOVÁ, D. a kol. 2009. *Klastry a jejich vplyv na výkonnost' firem*. Praha : Grada Publishing, 2009. 44 p. ISBN 978-80-247-2689-2.

¹⁰ ŠTOFKOVÁ, J. 2007 a kol. *Manažment podniku*. Žilina : EDIS, 2007. 336 p. ISBN 978-8070-713-2.

¹¹ JIRČÍKOVÁ, E. 2008. *Identifikace faktorů ovlyvňujících proces rozvoje klastrů s aplikací v prostředí České republiky* : disertační práce. Zlín : Univerzita Tomáše Bati, 2008. 25 p. [cit. 2013.09.12].

- **Partipants of cluster:** the clusters and the clusters initiatives involve apart from the industry also the public authorities, the academic representavives and the representatives of the financial sector.
- **Dynamics and relations in cluster:** among the interconnected participants of the cluster exists the competitive relations and, at the same time, the co-operation relations.
- **Marginal quantity of subjects:** the quantity of the subjects is required to the achievement of the internal dynamics of the cluster.
- **Life-cycle of cluster:** the clusters are not the temporary, short-time phenomenon, but they develop in the long term horizont constantly and they have for all that its life-cycle.
- **Innovation:** it is a characteristics for the companies in the cluster, that they are included to the process of technological, business and organizational changes.

The member of the cluster has the simplified way to the raising productivity so that it acquires: the economy of scale, the possibility of the sharing costs and investment, the access to the specialized input and the human resources, the access to the optimalization of the supply chain, the profit of the acquiring of the new customers, the access to the new markets, the internacionalization and the increase of export, the improving of a image company and the better possibilities of the advertising, the access to the information, the increase of the innovation capacity, gains the more force and the influence of the small companies through lobbying, the access to the institutiosn and the public sources within the cluster.¹²

The criterions for establishing of clusters are in the individual companies different and among the general criterions can be inserted:¹³

1. effective forms of communication,
2. geographic proximity,
3. linguistic or culture similarity,
4. size of market,
5. ways of doing business,
6. saturation of market,
7. transfer of knowledge,
8. profile of customers,
9. structure of customers.

The principle of clustering become the fundamental element of industrial, regional innovation policies in many European countries. The public institutions support the formation and the development of clusters as an implement tool to increase the competitiveness of regions.¹⁴ J. Cortright characterizes a cluster by means of dimensions of relations in the cluster which can include the geographic location, the social distance, the technology and the production flows. The most distinct dimension of cluster is the physically distance among companies, but it exists the another dimensions of distance: technological distance (how similar are Technologies, which a company has used), skills or job distance (how similar is

¹² CORTRIGHT, J. 2006. *Making Sense of Clusters: Regional Competitiveness and Economic Development*. [online]. Washington : Impresa, 2006. 25 p. [cit. 2014.01.19.] Dostupné na internete: <http://www.brookings.edu/~media/research/files/reports/2006/3/cities%20cortright/20060313_clusters.pdf>.

¹³ THOMASOVÁ, E. 2013. *Organizovanie. Teória a prax organizovania podniku. Prvé vydanie*. Bratislava : Sprint 2, 2013. p. 232. ISBN 978-80-89393-93-0.

¹⁴ PAVELKOVÁ, D. a kol. 2009. *Klustry a jejich vplyv na výkonnost' firiem*. Praha : Grada Publishing, 2009. 41 p. ISBN 978-80-247-2689-2.

the job specialization of the employees of the companies in the cluster), market distance (different companies have similar or interconnected groups of customers) and social distance (the level and the types of relations among the managers and the employees in the different companies).¹⁵

There are defined the two types of clusters in the scientific literature:¹⁶

- Clusters based on value chain - they are generally defined of the network of supply chains, for instance, the automotive cluster is usually established about the value chain of the merged car manufacturer with his contractors and subcontractors, which are can be connected with the manufacturer of specialized industrial equipment, electronics, plastic, rubber and textiles.
- Clusters based on knowledge - they focus on the concrete field of technical knowledge or qualification of working forces in the region, as are, for instance, the research or education institutions. In this type of clusters is use of knowledge and counselling and example of such cluster are, for instance, clusters focus on information technologies.

The scientific publications describes the two basic approaches connected to the creation and the organisation of clusters:¹⁷

- Bottom upwards (spontaneous clusters): the cluster establishes the natural necessity of the creation of the closer regional network and the company co-operation in this case. It emerges the process, which causes the spontaneous development of relations of co-operation and the common strategies. From the increasing intensity of relations develops the necessity the cluster initiative or the deeper organisation during the expansion of the cluster and comes to the formalization of relations successively.
- Top downward: there is not the common internal development of cluster, but the clusters are founded and organised externally, usually from the side of the representative of state or the regional authorities. For this approach is crucial the development of the social capital which is required in order to the creation of cluster, the creation mechanism for the building trust, the subsequent formulation of vision and strategy, and then the realisation of particular activities.

The third possible possibility is the combination of the two previous approaches. The products or the companies undergo within their lifetime phases as formation, growth, maturity and decline on the market and it is with clusters similar. The clusters are dynamic and they have their life-cycle. The study of life-cycle of clusters is relatively new and the life-cycle of a cluster dealt with, for instance, M. P. Menzel and D. Fornahl and E. M. Bergman. The starting point is the analogy with the life-cycle of sector mainly, for instance, on the embryonal, the growth and the mature phase as differs S. Klepper.¹⁸

Contrary to popular belief, the globalized knowledge economy relies more and more on the local dimensions. This local dimension of innovation and entrepreneurship nonetheless

¹⁵ CORTRIGHT, J. 2006. *Making Sense of Clusters: Regional Competitiveness and Economic Development*. [online]. Washington : Impresa, 2006. 66 p. [cit. 2014.01.19.] Dostupné na internete: <

http://www.brookings.edu/~media/research/files/reports/2006/3/cities%20cortright/20060313_clusters.pdf>.

¹⁶ JIRČÍKOVÁ, E. 2008. *Identifikace faktorů ovlivňujících proces rozvoje klastrů s aplikací v prostředí České republiky* : disertační práce. Zlín : Univerzita Tomáše Bati, 2008. 27 p. [cit. 2013.09.12.].

¹⁷ PAVELKOVÁ, D. a kol. 2009. *Klastry a jejich vplyv na výkonnost' firiem*. Praha : Grada Publishing, 2009. 20 p. ISBN 978-80-247-2689-2.

¹⁸ PAVELKOVÁ, D. a kol. 2009. *Klastry a jejich vplyv na výkonnost' firiem*. Praha : Grada Publishing, 2009. 26 p. ISBN 978-80-247-2689-2.

poses challenges to policy makers because clusters require policies and support schemes that are tailored to local needs. Clusters create an environment conducive to productivity gains, which are a factor of growth, and so form a structure that helps companies to meet the challenges of international competition. Moreover, business creation in the economy in general seems also to be positively influenced by clusters through increased demand for indirect services (i.e. induced activities). For instance, in 2007, 40 per cent of the companies in the heard of the Grenoble cluster had started up since the labelling of the „pôle de compétitivité“ by the government in 2005.¹⁹

1.3 The development of clusters in Slovakia

The development of clusters in Slovakia falls behind in comparison with the other European countries. The first industrial cluster is possible to mark the industrial cluster in Zvolen which was established within the regional innovation strategy of the Banská Bystrica Self-Governing region in the year 2008. The regional innovation strategy comes out from the programs of economic, social and cultural development of the region and from the participation in the project CLOE - Clusters Linked over Europe.²⁰

Apart from the first industrial cluster, there are other clusters as Automotive cluster - West Slovakia, Trnava; BITERAP cluster, Košice; Electrotechnical cluster - west Slovakia, Trnava; Power cluster - west Slovakia, Trnava; Cluster AT+R, Prešov; Kosice IT Valley, Košice; Slovak plastic cluster, Nitra and Z@ict, Žilina and Danube Knowledge Cluster.

The target group of the research has been the Automotive cluster and the Danube Knowledge Cluster and the research based on the questionnaire investigation. The questionnaire - Management of Clusters, which come out from the research, was elaborated of University of Tomáš Bata, Department of Management and Economics in Zlin on the basis of the project: Clusters Performance and Management, Nr. 402/06/1526 with the support of the Grant Commission of the Czech Republic.

The results of the research were that the strong side of the automotive industry are not only the existence of the automotive companies, but also the established quality network of the supply companies in Slovakia, which operate near the automotive companies. One from those organisation of the supply networks is also the Automotive cluster. The reasons for the creation of the Automobile cluster - West Slovakia have been:²¹

- Improvement of economic results of company members.
- Increase of innovation activities and raising of technologic outputs of companies.
- Improvement of market access and increase of export activities.
- Attract of long-term investment.
- Support of research and development.
- Organisation of education, increasing of qualification of human sources
- Suport of specialization of companies
- Regional development and effective exploitation of public sources

The basic precondition of the creation of the Automotive cluster have been:²²

¹⁹ POTTER, J.– MIRANDA, G. 2009. *Clusters, Innovation and Entrepreneurship*. Paris : OECD Publishing, 2009. 14 p. ISBN 978-92-64-04442-5.

²⁰ BALAŽOVIČOVÁ, E. – KOŠŤÁLOVÁ, K. 2011. *Eureka. Euraxess*. Bratislava : Saia, 2011. 58 p. ISBN 978-80-89521-04-3.

²¹ CHUDOBA, Š. 2010. *Automobilový klaster – západné Slovensko*. Bratislava : ACSEE, 2010. 3 p.

²² CHUDOBA, Š. 2010. *Automobilový klaster – západné Slovensko*. Bratislava : ACSEE, 2010. 10 p.

1. Existence of three final manufacturer (Volkswagen Slovakia, Bratislava; PSA - Peugeot-Citroen, Trnava; KIA, Zilina, and + Gertrag FORD Transmissions, Kechnec)
2. Existence systemic suppliers (Delphi, Johnson Controls, Hella, Plastic Omnium and Faurecia) .
3. VW base – Slovak Technical University, Slovak Academy of Science
4. Developed infrastructure - West Slovakia, including Žilina
5. Automotive suppliers
6. Qualified workforce

The realised questionnaire investigation is possible describe as follows: subject of analyse and target group was the Automotive Cluster and the Danube Knowledge Cluster. The conclusion of the analyse of the acquires data of the Automotive cluster has been:

- The inquiry questionnaire results that the numbers of the big companies were more less stable in the cluster. The big companies create the elemental part of the cluster and are the keystone for the largeness of the Automotive cluster, within whose develop only the certain number of the contractors and the subcontractors.
- SMEs are associated with more flexibility in the cluster and they are able to adapt on the changes in a demand, or changes of environment and conditions of doing business prompter. On the other hand, SMEs have not such financial resources in order to be able to ensure many activities which the cluster help to provide for the cluster participants more effective.
- The legal form of the cluster is the interest association of legal entities. The foreign companies are not participated in the cluster. The cluster is focused on the national market with the eventual aim to export the products manufactured in Slovakia to the foreign markets.
- The members of clusters are companies dealing with production of machines and equipments, commercial organisations, research institution, university and service organisations. The basic incentive for the establishment of clusters was self initiative, the demand of companies and the support of the regional agency.
- The initial formulation of goals is a key for the future development of the Automotive cluster. It has the great significance for the identification of strong and weak aspects. The determination of the cluster vision is important for the successful cluster development. The objectives come out from the basic growth strategy of the cluster, which were determined at the establishment of the cluster and which have been updated continuously. The strategies and objectives are updated in the course two or five year and some of them are often updated yearly. The achievement of the work goals of managers and employees of the cluster are evaluated often.
- In the field of human resource management of the cluster has been determined: organisation of mutual seminars and consultation, co-operation with educational institutions. The availability and the degree of qualification of human sources is important in the field co-operation of companies associated in the cluster.
- The focus on the research and the innovations is possible to achieve by the dynamic growth of the cluster and the several participated companies. The support of innovations is focused on the development of new products, improving their quality or on process of innovation and optimization of company processes.
- The Automotive cluster realizes in the field of business co-operation and the support of the companies associated in the cluster as marketing, marketing research and mutual advertising. In the field of business co-operation, the cluster includes for

instance shared production or common purchase including lobbying on contractor and their conditions.

- The cluster makes use of lobbying to influence national, or regional policies and agendas in the field of education and funding, partnership public and private sector. The key factors of management of the cluster belong to: creation of trust, specification of participant and limits of clusters, acquirement of dynamic innovative companies, team work, efficient management group of cluster, creation of collaboration with university and research institutions, efficient portfolio of activities, sufficient of suitable financial resources, presentation of cluster and perception of cluster as long term possibility of co-operation.

There is the important aspect of the cluster development – the structure of cluster which affects on the activities and the development of the cluster meaningfully. Moreover, the cluster development is influenced by these key factors: formation networks of co-operation, professionalism of management of cluster, mutual confidence and communication among member of cluster, strong entrepreneurial spirit in companies in cluster, education of human capital and co-operation with educational institutions, common research and co-operation with research institutions, approach of companies to information, exploitation of progressive technologies, access to finance and support of government or regions and accomplishments in international project.

2. Conclusion

The clusters can have a positive impact on changes, employment, both directly, in the high-tech companies that form the heart of the clusters, and indirectly, through their ripple effect in the economy. For the clusters to survive in the long-term, it is crucial to actively foster the entrepreneurship in order to promote the creation and the growth of start-ups that can contribute to the cluster's development as the supplier, the partner or the client. The companies of clusters need to be supplied and renewed with highly innovative companies issued from the universities, research centres or other large companies.

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Fiscal Multipliers

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Abstract

The aim of the paper is to analyse fiscal multipliers estimation approaches. We find that fiscal multipliers could be estimated in several ways. The most common are Vector Autoregression model (VAR), Structural Vector Autoregression model (SVAR), Panel data regression model, Dynamic Stochastic General Equilibrium model (DSGE) based on economic theory and its variations – Global Integrated Monetary and Fiscal Model (GIMF) or National Institute Global Econometric Model (NiGEM).

Keywords: *fiscal multiplier, models, estimation*

JEL classification: *C 10, E 62*

1. Introduction

The end of the twentieth century could be characterised as a period of fiscal consolidations. During that period many countries underwent the fiscal consolidation procedure in order to stabilize their fiscal sector. This procedure raised a fundamental question: How big is the impact of fiscal consolidation on economic growth?

1.1 Methodology

The need of a fiscal consolidation has raised a broad discussion about its consequences. Consequences of fiscal consolidation could be estimated by fiscal multiplier. Fiscal multiplier reflects the impact of changes in fiscal policy on economic activity and in this paper we are analysing several estimation approaches. Most of them are based on econometric methods.

2. Fiscal Multipliers

Blanchard and Leigh (2013) define fiscal multiplier as a short-term effect of changes in fiscal policy on economic activity.

The fiscal multipliers play a central role in macroeconomic theory. Chinn (2013) defines fiscal multipliers at its simplest level as a change in output for a change in a fiscal policy instrument. For instance:

$$\frac{dY}{dF} \quad (1)$$

Where Y is output and F is a fiscal instrument (government spending, transfers or taxes or tax rates). Since there are typically lags in the effects, we should distinguish between impact multiplier (above) and the cumulative multiplier:

$$\frac{\sum_{j=0}^n dY_{t+j}}{\sum_{j=0}^n dF_{t+j}} \quad (2)$$

2.1 Determinants of the Size of Multipliers

In line with Batini et al. (2014) and Pécsyová (2013) are determinants of the size of fiscal multipliers following variables:

1. Trade openness: countries with limited economic openness have larger multipliers.
2. Labour market rigidity: strong trade unions or labour market regulation that reduces the flexibility of wages tend to increase the multiplier.
3. The size of automatic stabilizers: large automatic stabilizers reduce fiscal multipliers, since mechanically the automatic response of transfers and taxes offsets part of the initial fiscal shock, thus lower its effect on GDP.
4. The exchange rate regime: countries with flexible exchange rate regimes tend to have smaller multipliers, because exchange rate movements can offset the impact of discretionary fiscal policy on the economy.
5. The debt level: high-debt countries generally have lower multipliers, as fiscal consolidation (resp. stimulus) is likely to have positive (resp. negative) credibility and confidence effects on private demand and the interest rate risk premium.
6. The state of the business cycle: Fiscal multipliers are generally found to be larger in downturns than in expansions. This is true both for fiscal consolidation and stimulus. A stimulus is less effective in an expansion, because, at full capacity, an increase in public demand crowds out private demand, leaving output unchanged. A consolidation is more costly in terms of output in a downturn.
7. Monetary policy: expansionary monetary policy and a lowering of interest rates can cushion the impact of fiscal contraction on demand.

2.2 Estimation of fiscal multipliers

There are several approaches applied in the calculation of the fiscal multiplier. The most commonly used are econometric models VAR (vector autoregression), SVAR (Structural VAR) or DSGE models (Dynamic Stochastic General Equilibrium). In the next part of the work we will discuss these and several others models.

2.2.1 VAR Model

VAR model is used to capture the linear dependence between multiple time series, it is a system of equations in which each variable is modelled as a function of lags in a given system of equations. In other words, each variable is a linear function of its own lags and the lags in other variables.

According Ochotnický et al. (2012) VAR model in a general form for the two dependent / endogenous variables (y_1 , y_2) and assumption of independent variable – constant, can be specified as follows:

$$\begin{aligned} y_{1t} &= a_1 + b_{11}y_{1t-1} + \dots + b_{1n}y_{1t-n} + b_{21}y_{2t-1} + \dots + b_{2q}y_{2t-n} + u_{y1} \\ y_{2t} &= a_2 + c_{11}y_{1t-1} + \dots + c_{1n}y_{1t-n} + c_{21}y_{2t-1} + \dots + c_{2q}y_{2t-n} + u_{y2} \end{aligned} \quad (3)$$

- a_m is constant,
 b_{mn} a c_{mn} are estimated parameters,
 u_{ym} random errors,
 n is the number of time lags of the dependent variables.

The formulation of equations shows that the inclusion of an m dependent variables and n time lags of these variables into the model results to solution of VAR matrix type $m \times n$ (or matrix type $m \times [n + 1]$). The term may be alternatively expressed as a vector / matrix notation as follows:

$$y_{mt} = A_m + B_1 y_{m, t-1} + \dots + B_n y_{m, t-n} + u_{mt} \quad (4)$$

- y_{mt} is the vector of dependent variables, values in time t are depended on past values,
 A_m is a vector of constants,
 $B_1 \dots B_n$ are matrices of parameters for $1 \dots n$ time lags,
 u_{mt} is a vector of residuals, residues are an expression of the so-called. white noise, have zero mean value, constant variance, are not autocorrelated and are not correlated with estimated parameters (variables).

Romer a Romer (2007) tried to estimate the impact of the drastic changes in fiscal policy on output, namely it was the impact of tax legislation changes in the US, which have been applied in order to reduce the public deficit. As an estimation choice, they used VAR model. They find out that increasing of the tax burden by 1% cumulatively reduced output in the next three years to a maximum of 3%, so the increasing of the tax burden has significant negative impact on output.

Gali et al. (2007) during estimation of the size of the expenditure multiplier included into the VAR model following variables: government spending, GDP, hours worked, consumption of goods and services, private investment, real wages, public deficit, disposable income of households. Government expenditure and public deficit has been expressed as a share of GDP. Other variables has been expressed in logs. Time data has been expressed as a quarterly data from the US economy.

2.2.2 SVAR model

In line with Chinn (2013) alternative approach to VAR model could be SVAR model. SVAR model include long run restrictions in a given system of equations, wherein one variable is not affected by a shock in another variable in the long run. Short run restrictions can also be incorporated, such that a shock to one variable has no immediate impact on another.

Blanchard and Perotti (2002) used SVAR techniques to identify exogenous changes in fiscal policy and to estimate fiscal multipliers - both revenue and expenditure. They found that negative spending shock reduces output and consumption and increase private investment (in line with crowding in theory), while increasing the tax burden has a negative impact on output, consumption and investment.

Pfaff (2008) in his work dedicated to VAR and SVAR models defines the structural form of SVAR model as follows:

$$Ay_t = A_i \acute{y}_{t-1} + \dots + A_p \acute{y}_{t-p} + B\varepsilon_t \quad (5)$$

ε_t is white noise,

$A_i \acute{y}$ coefficient matrix $A_i \acute{y}$ for $i = 1, \dots, p$, is a structural shocks.

Ilzetzki et al. (2012) estimated the impact of positive expenditure shocks on output using SVAR model based on quarterly data of 44 countries. They found some interesting conclusions. The impact of the government spending is higher in the industrial countries compared with developing countries, fiscal multipliers are relatively high in economies that operate under fixed exchange rates, while in economies that operate under a flexible exchange rate is spending multiplier zero (explanation can be derived from the IS-LM-BP model). Fiscal multipliers in open economies are smaller than in closed economies. Fiscal multipliers in highly indebted countries are negative.

The system of investigated equations is as follows:

$$AY_{n,t} = \sum_{k=1}^k C_k Y_{n,t-k} + Bu_{n,t} \quad (6)$$

$Y_{n,t}$ is a vector of variables comprising government expenditure variables (government consumption and / or investment), GDP and other endogenous variables for a given quarter t and country n ,

C_k is a matrix of the own- and cross-effects of the k^{th} lag of the variables on their current observations,

$Bu_{n,t}$ B is diagonal matrix, so that the vector u_t is a vector of orthogonal,

A the matrix A allows for the possibility of simultaneous effects among the endogenous variables $Y_{n,t}$.

Authors assume that the matrices A , B , C_k are invariant across the time and countries in a given regression. System has been estimated by Panel OLS technique with fixed effects.

Number of authors in order to improve the accuracy of the estimates use different extensions of SVAR models, such as STAR (Smooth Transition Autoregressive) or STVAR (Smooth Transition Vector autoregression) model. Auerbach a Gorodnichenko (2011) developed STVAR model, the benefits of model lies in the possibility of differential dynamic responses and also in differential contemporaneous responses to structural shocks. Basic specification is as follows:

$$X_t = (1 - F(z_{t-1}))\Pi_E(L)X_{t-1} + F(z_{t-1})\Pi_R(L)X_{t-1} + u_t \quad (7)$$

$$u_t \sim N(0, \Omega_t)$$

$$\Omega_t = \Omega_E(1 - F(z_{t-1})) + \Omega_R F(z_{t-1})$$

$$F(z_t) = \frac{\exp(-yz_t)}{1 + \exp(-yz_t)}, y > 0$$

$X_t = [G_t T_t Y_t]$ is a vector of the logarithms of real government purchases, taxes net of transfers and real GDP, observed at a quarterly frequency,

z is an indicator of the state of the economy,

$\Pi_i(L)$ $\Omega_i(L)$ matrices represent the VAR coefficients and variance-covariance matrix of disturbances in two regimes, recession ($i=R$) and expansion ($i=E$). The weights assigned to each regime for a given observation weighting function $F(\cdot)$ vary between 0 and 1 according to the contemporaneous state of the economy, z , which is a moving average of real GDP growth.

2.2.3 DSGE model

Dynamic stochastic general equilibrium models (DSGE) are commonly used for economic modelling. DSGE models are most often used to simulate different shocks or to forecast economic development. There are different variations of DSGE models, such as GIMF model or NiGEM model.

2.2.4 GIMF model

GIMF model is a dynamic general equilibrium model of the world economy with a flexible dividing of regions to a maximum number of six, model was created by Kumhofom et al. (2010). GIMF model includes: households, firms, distributors, retailers and government. The model was used by Clinton et al. (2011), who used the maximum range of the model. World in the models has been divided into six regions: the US, Japan, Germany, Eurozone excluding Germany, developing Asia and the rest of the world. As time units have been used years.

A simpler form of this model has been used by Guerson (2013) to assess the impact of fiscal policy on the economy of Hungary. The world divided into three regions - the eurozone, Hungary and the rest of the world. The author was facing to the problem of missing data for Hungary which had to be inserted into the model, some structural parameters had to be set like in the original model proposed by Kumhofom et al. (2010) in accordance with the literature.

2.2.5 NiGEM model

Barrel (2012) in his research used NiGEM model (National Institute Global Econometric Model), which is derived from the DSGE model. Advantage of the model is a strong role for expectations and can be run under different modes of expectation formations. This allows to decompose the factors that might affect the results. Temporary and permanent shifts in fiscal policy are assessed as well as the potential impact of fiscal consolidation plans under different monetary and fiscal regimes.

2.2.6 Panel data regression model

Another way to estimate the impact of government policies is through a panel regression analysis. Panel regression analysis uses a different identification strategy, focused more on instruments than lags. This method allows us to examine the direct impact on output caused by changes in fiscal policy.

Alesina and Ardagna (2012) estimated the effect of fiscal policy and its main components on real GDP. Baseline specification is as follows:

$$\Delta Y_{it} = \sum_{j=1}^2 \alpha_j \Delta Y_{it-j} + \sum_{j=0}^2 \beta_j \Delta CAPB_{it-j}^{FA} + \lambda_i + u_t + v_{it} \quad (8)$$

Y_{it} is the logarithm of real GDP,

$\Delta CAPB^{FA}$ is equal to the change in the cyclically adjusted primary balance in periods of fiscal adjustments and zero otherwise,

λ_i is a vector of country fixed effects,

u_t is a vector of year fixed effects.

Equation assumes that changes in the cyclically adjusted primary balance in periods of fiscal consolidations are exogenous and uncorrelated with changes in fiscal policy in all other periods. For a robustness check, authors included into equation one additional term: $\Delta CAPB^{NFA}$, which is equal to the change in the cyclically adjusted primary balance in “normal” times (i.e. when no fiscal adjustment is taking place) and zero in periods of fiscal consolidations. If the assumption holds, the estimated coefficient of $\Delta CAPB^{FA}$ should not change when the additional term is included. The equation specification is as follows:

$$\Delta Y_{it} = \sum_{j=1}^2 \alpha_j \Delta Y_{it-j} + \sum_{j=0}^2 \beta_j \Delta CAPB_{it-j}^{FA} + \sum_{j=0}^2 \beta_j \Delta CAPB_{it-j}^{NFA} + \lambda_i + u_t + v_{it} \quad (9)$$

To investigate the role of the composition of a fiscal consolidation they split the change in $\Delta CAPB$ into the change in the cyclically adjusted primary spending and the change in the cyclically adjusted taxes. Devries et al. (2011) measured the effect of a different composition of a fiscal adjustment by introducing a dummy variable equal to one for the episodes in which the improvement in the fiscal balance is due to public spending cuts for more than 50% and zero otherwise.

IMF (2010) to estimate the impact of fiscal consolidation have taken a very similar approach using panel data analysis. The data consisted of annual data for the years 1980-2009 of fifteen countries. Basic specification of the equation is written as follows:

$$g_{it} = \alpha + \sum_{j=1}^2 \beta_j g_{i,t-j} + \sum_{s=0}^2 \beta_s ABFC_{i,t-s} + \mu_{it} \quad (10)$$

$$\mu_{it} = u_i + \lambda_t + v_{it}$$

i denotes the i th country,

t denotes the t th year,

g is the percent change in real GDP,

$ABFC$ is the estimated size of the action-based fiscal consolidation measures as a percent of GDP,

u_i country dummy, takes into account the differences among countries’ “normal” growth rates (country fixed effect),

λ_t time dummy, takes into account the global shocks such as shifts in oil prices or the global business cycle (time fixed effect).

Barro and Redlick (2009) to assess the effects of change in fiscal variables on GDP estimated annual equations in the form:

$$(y_t - y_{t-1})/y_{t-1} = \beta_0 + \beta_1 (g_t - g_{t-1})/y_{t-1} + \beta_2 (g_t^* - g_{t-1}^*)/y_{t-1} + \beta_3 (\tau_t - \tau_{t-1}) + \text{other variables} \quad (11)$$

y_t is per capita real GDP,

g_t is per capita real government purchases,

g_t^* is a measure of expected future real government purchases as gauged in year t ,

τ_t is the average marginal income-tax.

The form of equation implies that the coefficient β_1 is the multiplier for government purchases, that is, the effect on year t 's GDP from a one unit increase in purchases. If the

variable g_t^* holds fixed expected future government purchases, then β_l represents the contemporaneous effect on GDP from temporary purchases.

Almunia et al. (2009) estimated the impact of government spending on output by using the following equation:

$$dY_{i,t} = a_i + \lambda_t + \beta_m R_{i,t} + \beta_f dG_{i,t} + \varepsilon_{i,t} \quad (12)$$

$dY_{i,t}$ is the growth of real GDP,

$R_{i,t}$ is the central bank discount rate,

$dG_{i,t}$ is the growth in total real government spending,

a_i are country fixed effects ,

λ_t captures year fixed effects.

Estimating this model by OLS is problematic, the reason is a potential endogeneity: government policy affects GDP, but GDP also affects the macroeconomic policies that government implements.

2.3 Limitations of the models

In accordance with Reichling (2012) we can name some limitations of the time series models. At least they all have one limitation in common, they doesn't include assumptions about how individuals and businesses sector make decisions. Another limitation is the fact that most of the time series models ignore the phase of the economic cycle. Changes in fiscal policy have a different impact on output depending on the phase of the economic cycle.

Complex models such as DSGE models based on economic theory include assumptions about the behaviour of individuals and businesses sector and don't have a problem with the interpretation of results. The limitations of these models are that the results are strongly affected by specific assumptions that are involved in the model during its construction.

3. Conclusions and policy implications

The aim of the paper was to analyse theoretical approaches of the fiscal multiplier estimation. The most commonly used are econometric models VAR, SVAR, panel data regression models, or DSGE models and its variations such as NiGEM or GIMF model.

VAR model is used to capture the linear dependence between multiple time series, it is a system of equations in which each variable is modelled as a function of lags in a given system of equations, the advantage of the model is a low theoretical difficulty. SVAR model includes restrictions in these equations, where one variable is not affected by the change in another variable in the long run.

Panel data regression analysis focuses more on instruments than lags. This method allows us to examine the direct impact on output caused by changes in fiscal policy.

DSGE models based on economic theory, especially on microeconomics theory, are most often used to simulate different shocks or for the economic development forecasting.

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The Conditional Cash Transfer Programmes as a social policy instrument of Latin American countries in the fight against the income inequality

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Abstract

The Latin American countries have implemented many Conditional Cash Transfer programmes in the last decades in order to fight against high income inequality, one of the main obstacles of economic growth in the region. The Conditional Cash Transfer programmes provide direct money to residents in social insecurity granted by the government after fulfilment of set conditions of the programme in order to break through inequality and poverty. The aim of this article is to analyse the effectiveness of Cash Conditional Transfer Programmes implemented in Latin American countries. In the present paper we focus on chosen states according to their economic situation and the level of development.

Keywords: Latin America, Inequality, Cash Conditional Transfer Programmes
JEL classification: H53, O15, O54

1. Introduction

In the article we focus on the comparison of Cash Conditional Transfer (CCT) Programmes in the region of Latin America and Caribbean. The aim of this work is to analyse the current policies aimed at reduction of the income inequality in Latin American countries. Each country implements own initiatives and models to reduce the inequality. In the following article it is being researched whether current implemented policies aimed at reduction of income inequality of Latin American countries are successful and which CCT programme has the best results in the fight against inequality and poverty.

In the first part we deal with the evolution and current status of poverty and inequality in Latin America and Caribbean. In the next part the author describes particular launched CCT programmes which are compared to each other consequently. The author observes effectiveness of CCT programmes and their impact on the reduction of inequality and poverty. The above mentioned aim we research via the evaluation of targeting poor population, via the impact of CCT programmes on reduction of poverty according to national standard, via the impact of CCT programmes on reduction of inequality according to the Gini index and the Kuznets ratio.

We assume that education is one of key factors which contributes to the reduction of inequality and poverty from long term. Hence we also analyse school attendance of both sexes by quintiles of per capita income of head of household. This coefficient also demonstrates the influence on low-income population represented by first and second quintiles.

In the following article we focus on chosen countries according to their economic situation and the level of development. The above mentioned economic situation is evaluated according to level of gross national income (GNI) and the level of development according to Human Development Index (HDI) which measure three dimensions of development: income

level, education and healthy life. We have chosen Latin American countries that belong to upper middle income countries and countries with high human development.

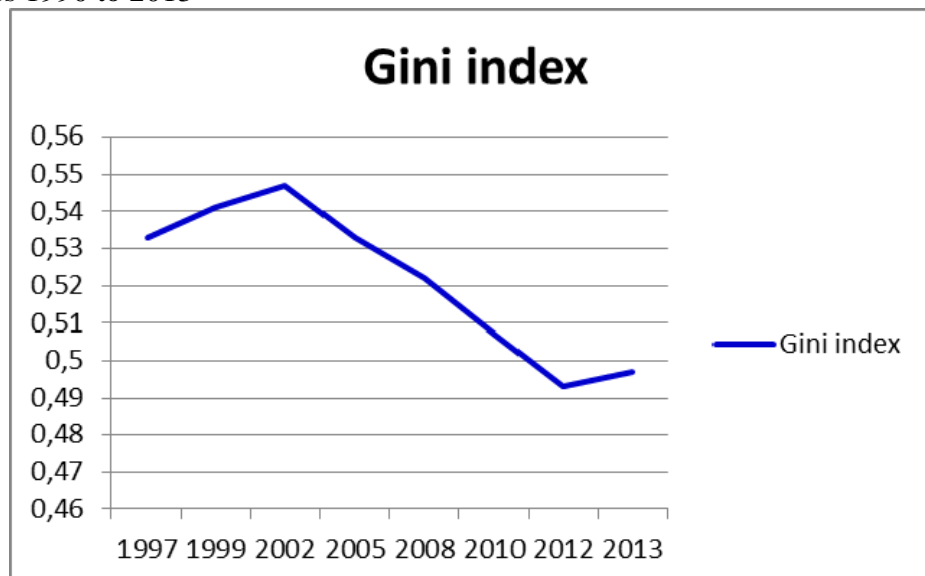
1.1 Evolution and current status of poverty and inequality in Latin America and Caribbean

One of the most serious problems in region of Latin America and Caribbean is the inequality. From a historical perspective, it is a long-term problem. The issue of inequality emerged at the time of colonization when there was a strong polarization of society by European powers. After reaching independence of Latin American countries during the 19th century there can be seen deepening the inequality due to non-changed colonial administration. Gradually it came to bigger and bigger polarization in the 20th century as a result of increasing inflation rate.¹

At the present time the Latin American countries belongs to the most unequal region worldwide. Hence the governments decided to implement the Cash Conditional Transfer Programmes such as tool of social policy in the 90's in order to break down poverty and inequality. In spite of fact that 9.3%² of population live under poverty line in Latin America, reduction poverty is less complicated, mainly extreme poverty, than the decline of inequality. Abolition of inequality presents long- term problem because of building the middle class. The richest groups of people are not willing to give up their high possession in aid of poor. The CCT programmes are the best way for fighting against inequality because the governments set through them conditions which are needed for reducing inequality and poverty from long term. These programmes provide a chance to build human capital needed in the future. The following figure illustrates the evolution of inequality in Latin America.

Figure 1

Evolution of inequality pursuant to Gini index in the region of Latin America and Caribbean in the years 1990 to 2013



Source: own processing based on data from: CEPAL. <http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>

¹ The inflation rate was just one indicator which contributed to high polarization in Latin America in the 20th century.

² THE WORLD BANK. 2015. Poverty&Equity. [online]. The World Bank, 2015. [accessed 18.10.2015]. Available on: <<http://povertydata.worldbank.org/poverty/region/LAC>>.

2. Implemented Cash Conditional Transfer Programmes in Latin American Countries

Nowadays 49 programmes are implemented in Latin American region but not all of them are focused on reduction of inequality and poverty. The author only describes and researches the CCT programmes aimed at mitigation of above mentioned indicators through improvement of education and health care. Simultaneously we compare the effectiveness of CCT programmes in the chosen upper middle income Latin American countries with high human development, namely Costa Rica, Ecuador, Peru, Mexico, Colombia and Brazil.³

In present paper we research the following CCT programmes:

- Avancemos in Costa Rica
- Bono de Desarrollo Humano in Ecuador
- Juntos in Peru
- Oportunidades/Progresas in Mexico
- Más Familias en Acción in Colombia
- Bolsa Família in Brazil.

Realization of all above mentioned CCT programmes are kept till now excluding Mexican programme Oportunidades/Progresas in Mexico which was transformed into Prosperity in 2014. The researched CCT programmes were implemented approximately in the same time, what also demonstrates the following table 1: CCT programmes aimed at reduction of inequality and poverty in chosen Latin American countries.

Table 1

CCT programmes aimed at reduction of inequality and poverty in chosen Latin American countries

Name of programme	Country	Year of implementation
Avancemos	Costa Rica	2005
Bono de Desarrollo Humano	Ecuador	2003
Juntos	Peru	2005
Progresas/Oportunidades	Mexico	1997/2000
Más Familias en Acción	Colombia	2001
Bolsa Família	Brazil	2003

Source: The table was compiled by the author based on the article bibliography.

3. Comparison of effectiveness of Cash Conditional Transfer Programmes

3.1 Targeting poor population

In order to identify the effectiveness of CCT programmes we have taken to account the national poverty line which represents poor population defined by the government according to the national standard of each country. We have chosen the mentioned indicator because each country from the research provides social assistance for poor people pursuant to national income line.

³ Excluding Jamaica because of no available data.

Table 2
Targeting and scale of CCT programmes

Name of programme/country	Number of beneficiaries	Number of poor population	Percentage of beneficiaries towards to poor population
Avancemos/Costa Rica	185 214	1 000 000	18.5
Bono de Desarrollo Humano/ Ecuador	6 100 311	4 900 000	124.5
Juntos/ Peru	1 056 132	9 000 000	11.7
Oportunidades/Mexico	27 246 646	60 200 000	45.3
Más Familias en Acción/ Kolumbia	11 650 788	17 300 000	67.3
Bolsa Família/ Brazil	50 000 000	21 900 000	228.3

Source: The table was compiled by the author based on the article bibliography.

The previous table shows that the percentage of population covered by CCT programmes varies from country to country. The best targeting of poor population seems to be in Brazil where the coverage of Bolsa Família reaches 228.3%. That means the programme Bolsa Família provides social assistance not only to poor people but also Brazilians vulnerable to poverty. The second best targeted programme is Bono de Desarrollo Humano implemented in Ecuador that brings the similar results and also shows protection of vulnerable population to poverty. On the contrary, the worst targeted programme is Juntos launched in Peru where the social assistance covers 11.7% of poor population according to national poverty line. The Mexican programme Oportunidades reached average coverage with 45.3%.

3.2 Reduction of Poverty and Inequality

Reduction of poverty has been observed in all studied Latin American countries. We have researched difference of population living under national poverty line before and after implementation of CCT programmes in particular countries. Degree of poverty has been reduced in Peru at most. In this case, the rate of poverty mitigation can be explained as an effect of low-hanging fruits. The poverty in Mexico has been reduced only by approximately 11%. For this reason, we assume that Mexican programme Oportunidades is the least successful in mitigation of poverty according observed index. The below mentioned table contains more information.

Table 3

Reduction of poverty in chosen Latin American countries

Country	Reduction of poverty in %
Brazil	14.3
Colombia	17.0
Costa Rica	- ⁴
Ecuador	27.9
Mexico	11.4
Peru	32.9

Source: own processing based on data from: <http://povertydata.worldbank.org/poverty/country/BRA>, <http://povertydata.worldbank.org/poverty/country/COL>, <http://povertydata.worldbank.org/poverty/country/CRI>, <http://povertydata.worldbank.org/poverty/country/ECU>, <http://povertydata.worldbank.org/poverty/country/MEX>, <http://povertydata.worldbank.org/poverty/country/PER>.

Subsequently we have paid attention to evolution of the inequality. Measuring inequality can be approached in several ways. The best-known indicator is the Gini index, which "measures to which extent the distribution of income deviates among individuals or households within an economy from a perfectly equal distribution," (World Bank, 2015) which takes the value "0". The Gini index can reach at most the number "100" which means perfect inequality. On the basis of the Gini index we have concluded it has been detected mitigation of inequality in each country excluding Costa Rica⁵. The most successful country in decreasing of inequality is Ecuador where the inequality has been decreased by 8.8% pursuant to Gini index. On the other hand the least effective in researched issue has been Costa Rica with negative value of Gini index what indicates increase of inequality after implementation programme Avancemos. The position of Peru is interesting because despite of high decrease of poverty (32.9%) there was low decrease of inequality (3%). In this case we talk about the effect of low hanging fruits.

Table 4

Reduction inequality pursuant to Gini Index in chosen Latin American countries

Country	Reduction of inequality in %
Brazil	5.5
Colombia	4.5
Costa Rica	-0.8
Ecuador	8.8
Mexico	1.8
Peru	3.0

Source: own processing based on data from: <http://povertydata.worldbank.org/poverty/country/BRA>, <http://povertydata.worldbank.org/poverty/country/COL>, <http://povertydata.worldbank.org/poverty/country/CRI>

⁴ No data.

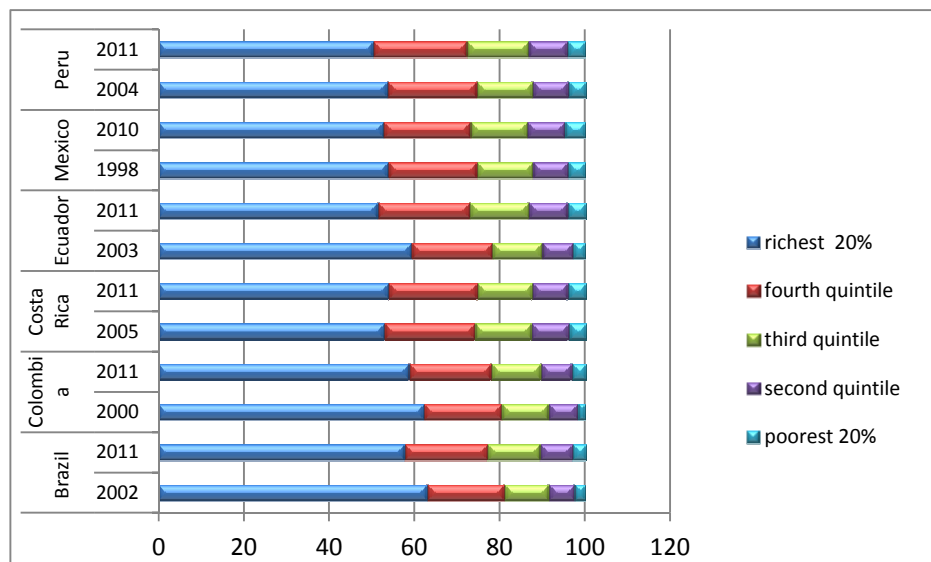
⁵ It cannot be observed because of no available data.

>, <<http://povertydata.worldbank.org/poverty/country/ECU>>, <<http://povertydata.worldbank.org/poverty/country/MEX>>, <<http://povertydata.worldbank.org/poverty/country/PER>>.

In terms of income the society is divided into quintiles⁶ so theoretically there are created five groups of population, while within each quintile are individuals, respectively households according to the value of their income. Those who belong to the top quintile represent 20 % of the richest. In states where inequality prevails, the majority of income is owned by 20 % of the richest, while the members of the last quintile respectively the last two quintiles own a very small part of income. Moreover we have studied the Kuznets ratio which is calculated by using the quintiles. It represents the revenue ratio of the richest 20% to the poorest 40% of the population. Understandably the bigger is the value of Kuznets ratio the bigger is inequality of the company's income. How figure 2 graphically expresses, the income distribution has been changed in Ecuador in favour of poor at most. In Costa Rica has been observed increase of inequality according to Kuznets ratio as well as in case of Gini index.

Figure 2

Income distribution by quintiles in Latin American countries (%)



Source: own processing based on data from : <<http://povertydata.worldbank.org/poverty/country/BRA>>, <<http://povertydata.worldbank.org/poverty/country/COL>>, <<http://povertydata.worldbank.org/poverty/country/CRI>>, <<http://povertydata.worldbank.org/poverty/country/ECU>>, <<http://povertydata.worldbank.org/poverty/country/MEX>>, <<http://povertydata.worldbank.org/poverty/country/PER>>.

We assume that education is one of key factors which contributes to the reduction of inequality and poverty from long term. Hence we also analyse school attendance of both sexes by quintiles of per capita income of head of household. This coefficient also demonstrates the influence on low-income population representing first and second quintiles⁷ which are crucial for determination of success of the CCT programmes from long term. In favour to find out whether the school attendance has been improved of children of first and second quintiles due to social assistance, we have compared number of school attending children before and after implementation CCT programmes.

As well as the table below mentioned shows, the programme Bono de Desarrollo in Ecuador has contributed to improvement of school attendance of the poorest children at most.

⁶ Or into deciles.

⁷ The poorest 40% of population.

The school attendance of first and second quintiles has been improved by 28.4% together. The next relatively successful programmes are Oportunidades in Mexico and Más Familias en Acción in Colombia whereas decrease of school attendance has been observed in Costa Rica and Peru. Decrease in Costa Rica was not significant. Moreover rate of school attendance is still high in Costa Rica in comparison with other studied countries. However situation in Peru is different because not only decline of school attendance is high but also the percentage of school attendance is the lowest.

Table 5

Change of school attendance by quintiles of per capita income of head of household before and after implementation of CCT programmes (%)

Country	First quintile	Second quintile
Brazil	2.2	0.2
Colombia	8.0	4.0
Costa Rica	-3.0	3.2%
Ecuador	17.2	11.2
Mexico	7.1	11.8
Peru	-7.3	-7.6

Source: own processing based on data from:CEPAL.<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>,<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>,<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>,<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>,<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>,<http://interwp.cepal.org/sisgen/ConsultaIntegradaFlashProc_HTML.asp>.

4. Conclusions

In article we researched whether current implemented policies aimed at reduction of income inequality of Latin American countries are successful and which CCT programme has the best results in the fight against inequality and poverty. According to studied indicators we conclude that the CCT programmes in Latin America and Caribbean have made a significant contribution to tackling poverty. To summarise, the most successful programme seems to be Ecuadorian Bono de Desarrollo Humano by reason of second best targeting poor population as well as the second most significant decrease of poverty. And subsequently the mentioned programme reaches the best results in reduction of inequality pursuant to Gini index and Kuznets ratio. In addition, Bono de Desarrollo Humano contributed to improvement of school attendance of the poorest 40% children at most. On the contrary, the programmes in Peru and Costa Rica have made significant reserves, mainly in targeting the poor population and decrease of inequality and poverty from long term.

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Energetic potential of biowaste

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Abstract

This paper deals with a possible way of using energy hidden in bio-residues. Nowadays we see a great opportunity for slovak municipalities, especially a big challenge for Mayors to „dig-out“ this potencial and use it for the wealth of common people. However we see an absence of more sophisticated way of dealing with the bio-waste in everyday's life, which is increasingly common and preferred in developed societies. It is called an energy recovery of waste. Energetic potential of bio-residues of second generation is hidden in „valorisation way“: Material or Energetic valorisation; rather than in „disposal way“: Landfill or Combustion.

Keywords: biomass, bio-residues management, energy recovery, municipal waste management, composting, pyrolysis, combustion, biofuels

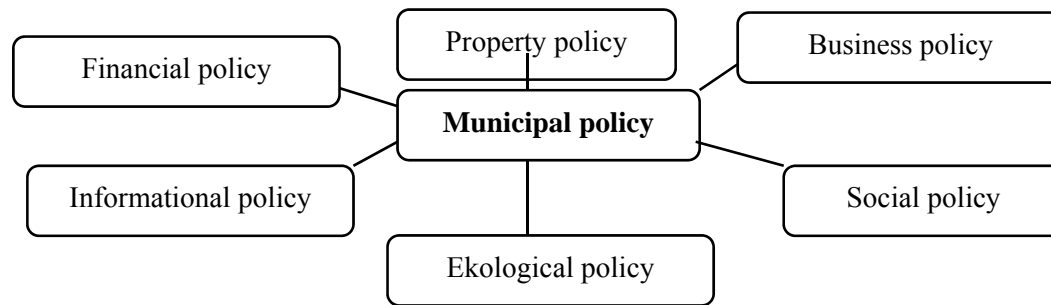
JEL classification: Q57

1. Introduction

Slovakia is dependent not only on gas supply from one source, but is also dependent on supplies of oil, coal and nuclear fuel. We can conclude that Slovakia is almost totally dependent on energy from Russia. The only solution to reduce the energy dependence of Slovakia from abroad is to use to the maximum extent reasonable and bearable degree of renewable energy sources (RES). We have to start from the base. From the municipal level-local government up to the state level. The way of thinking of the Mayors have to be changed. All politics – have to be adjusted and cooperate as shown on Figure 1. A shift from a process-oriented administration management to the actual result orientation. Services as a product which will satisfy the needs of citizens. Municipal bio-residues management may therefore be construed and understood traditionally, outdated forms or public leaders can see in biowaste an opportunity a source of wealth for the community. The evolution is clear. Energy is the phenomenon of time and its control, production will be crucial for the prospective development of the commune. Whoever will be able to controll it, will have a power in the hands. Energy conversion of municipal bio-residues to a source of wealth is one of the modern challenges for today's Mayors. Why not change our ways of using an „old“ and environmentally harmful energy from fossil fuels into a new nature-friendly energy coming from what we already don't need-waste? Nowadays it is not a sci-fi. It is real! It works in many developed countries, so why it shouldn't work in Slovakia?

Figure 1

The impact of policies on municipal politics



Source: Žárska, E. A kolektív, Komunálna ekonomika a politika

1.1 Methodology

This report points out current, almost alarming situation in the use of renewable energy sources, especially bio-residues in Slovakia. Based on the survey we evaluate the status and use of EU funds in Slovak cities and municipalities. Thanks to the comparison methods of scientific knowledge, professional journal articles and monographs, I show the status of the problematics at home and in the world. Implementation process of new technological energy recovery from biowaste into practice is very difficult. I am trying to point out to the possible ways.

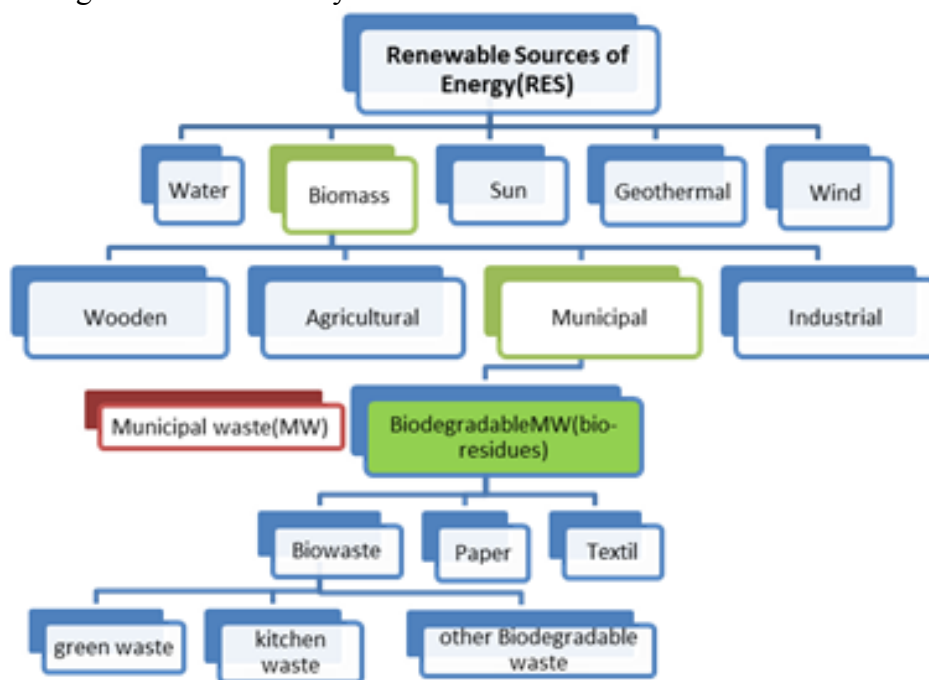
1.2 Aim of the paper

Main purpose of the paper is to show a way, indicate the possibility to municipal leaders how to “pick-up” the energy lying on the road and use it for the wealth of the citizens. Municipal biowaste (as a part of the biomass) is a great source of “hidden” energy. Developed western countries as for example Denmark or Norway even today use their municipal waste to produce energy. We need to put some enlightenment into this problem and to this great potential source in order to become more independent from the foreign energy imports, in order to conserve our environment.

2. Biowaste (bio-residues) as a part of biomass-renewable energy source (RES)

Our share use of RES in total energy consumption is only about 8%, including large hydropower plants. Biomass has the highest energy potential of all renewable energy sources in Slovakia. If we analyze the energy potential of bio-waste in the municipal sector, we must first take a look to the definition, structure and properties of biological waste. Some anglophone literature indicate the word bio-waste, which I find the most exact, rather than biowaste. Organic waste is part of the municipal waste, while part of the community biomass. Depending on your point of view. Communal biomass is one of the four sources of biomass itself. Illustratively placed on Fig.1-biological waste hierarchy.

Figure 1
Biological waste hierarchy



Source: own processing

Notes: Biodegradable municipal waste is a part of Municipal waste

The European Union policy is clear. The objectives of the EU-27 by 2020 were set as follows:

- 20% reduction of CO₂, 20% energy saving, 20% share of renewables in the EU-27

As Slovakia, as a part of EU-27 we certainly have obligations. To fulfill them, we need absolutely to focus first of all at prevention of waste generation-Figure 2.

The Waste Framework Directive has brought to the waste management of the European Community a new philosophy. The emphasis is on waste prevention and introduces an approach that takes into account the entire life cycle of products and materials and not only the waste phase. The new legislation provides a new waste hierarchy (fig. 2). The key is a waste prevention and then preparation for reuse. Then followed by recycling, recovery (eg. Energy recovery). Disposal is the last possible option.

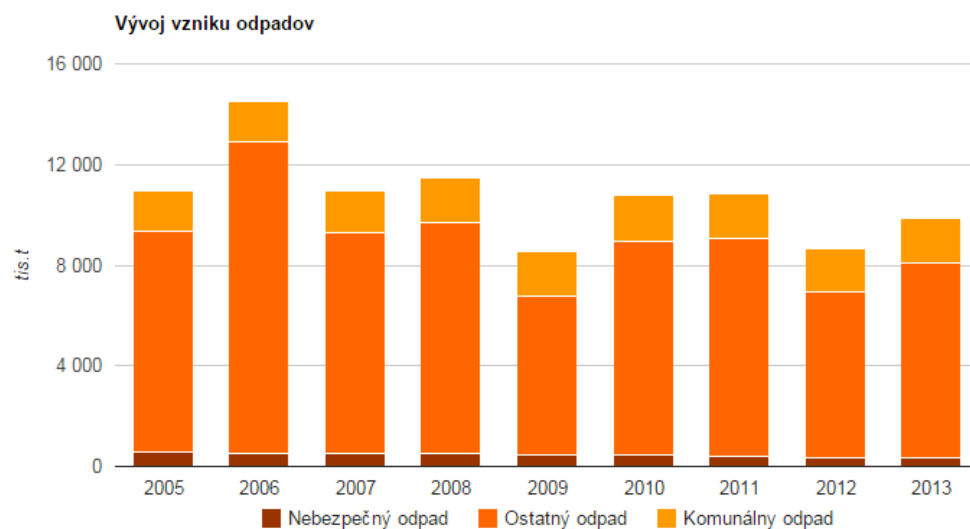
Figure 2
Hierarchy of waste treatment



Source: <http://recyctec.se/en/EU-waste-directive/Graphics-EU-waste-hierarchy>

In 2020 Slovakia must recycle 50% of municipal waste. To meet the common objective of the EU, we need systematic changes in waste management. Otherwise, it may lead to the penalties. Slovakia belongs to the worst EU countries when talking about landfills. We landfill more than 70% of the waste, which is a shame. Many potential jobs are wasted. The recycling level is only about 13%, and this level has stagnated for years. It should be noted that to achieve the objective we have only five years to go. The later we start to take effective measures, the slope will need to be more incisive and thus more difficult to implement. Figure 3 graphically illustrates the increase of waste in Slovakia.

Figure 3
Waste increase in Slovakia

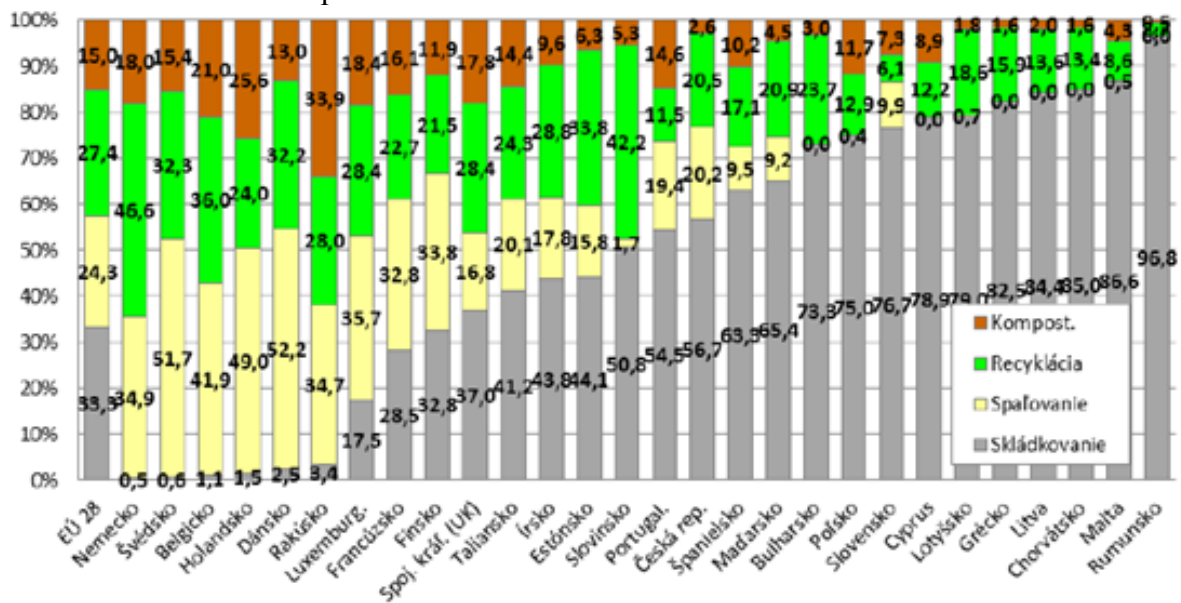


Source: MŽP SR, ŠÚ SR

Notes: ■ dangerous waste ■ other waste ■ municipal waste

"On the one hand, 80 percent of people say that they separate the waste, but according to the amount it seems that they do it rarely," says the executive director of Slovak Industrial Association for Packaging and the Environment Miroslav Jurkovic. The average Slovak citizen produces more than 320 kg of municipal waste per year and from this amount he separate 25,6 kilograms. Figure 4 show what is the situation in other EU countries.

Figure 4
Treatment of municipal waste in EU



Source: Eurostat

Notes: ■ composting ■ recycling ■ combustion ■ landfilling

Biodegradable waste (biowaste; bio-residues)

Biodegradable waste are wastes that are able to disintegrate itself by anaerobic or aerobic manner. For example food waste, paper and cardboard waste, garden waste, waste from parks etc.. Biodegradable waste is a significant component of municipal waste. They consist mainly of greenery waste, restaurant and catering waste and other components.

The current situation in Slovakia in the field of waste treatment

Slovak municipalities face different challenges in responding to the problem of biodegradable waste from households. These challenges can be taken as well as perfect opportunities and motivation for the development of sustainable governance and management of biodegradable waste. Sustainable management process can generate a range of benefits as it moves away from the traditional, unsustainable approach based mainly on waste disposal in landfills. However many private companies already compost their biodegradable waste and, in some cases, decomposition of waste is present. Biowaste can be considered as a renewable energy source because for regeneration of used inventory is needed relatively a short time.

Waste management in the municipality

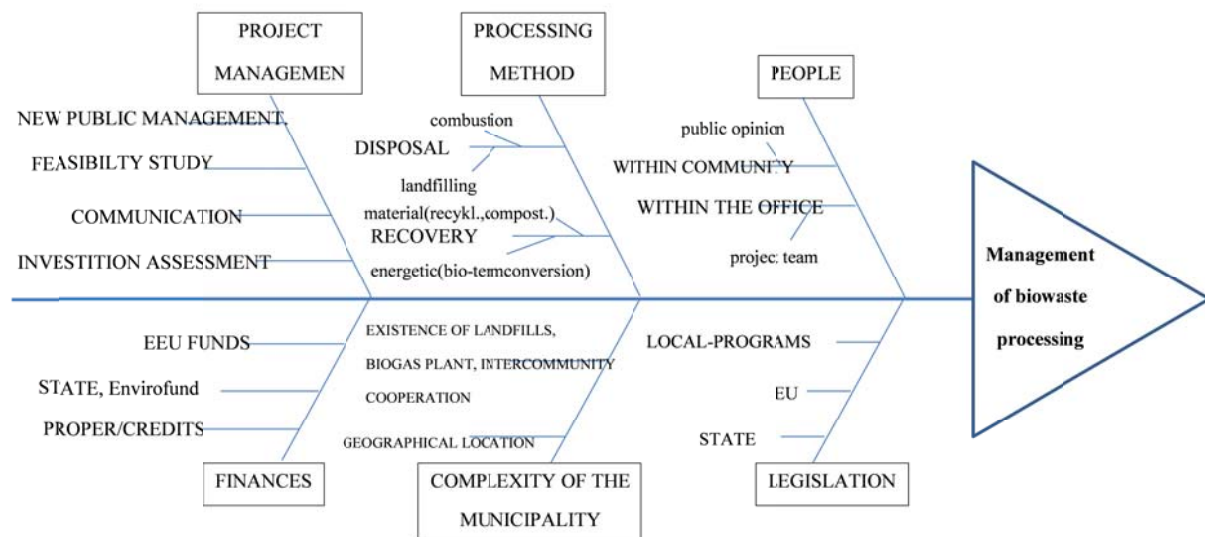
Nowadays we can compare administration of Slovak towns and villages to the company management. This means that senior manager, mayor, or mayor and his team must deal with everyday's agenda exactly as if it was a private company. This manager is absolutely responsible for all the operations, surviving and well-being. He is reported not only to his boss, but also to common citizens. Often it can be even more challenging than in purely commercial sphere. New investing projects are prepared and implemented by the mayors with one simple goal. That the municipality or the city is even more prosperous, modern and creates better and better conditions for the living. It is then the complex project management with all the usual phases as we know from commercial sphere.

Mayor's decision making process

According to Jassingera, A. A Pink, D. it is clear that the decision-making process is influenced by such a large number of factors that for mayor, it is not possible to reach the best solution to the problem. Illustrative examples of factors that can influence decision making process of the Mayor shows Figure 5-Ishikawa Diagram of decision making process for the mayors.

Figure 5

Ishikawa Diagram of decision making process for the mayors



Source: own processing

Gathering of municipal waste (MW)

Choice of system for gathering and disposal of municipal waste depends on the structure of settlements, topography of land, transportation, quantity and type of waste. This classical approach in dealing with MW used by most Slovak municipalities. Evidently an absence of more sophisticated way of dealing with waste can be noted. In western countries more and more preferred solution is called **energetic recovery of biowaste**. The primary prerequisite for the processing of biological waste is that the municipality analyze possible sources of bio-residues.

Selection of the appropriate technologies

There are different technologies in this field. They are able to process different amounts for different waste in different space and in different period of time. It is important to take account of legislative conditions for processing various types of waste. Therefore, it is always necessary to consider the specific conditions if the "fine-tune" technology. Of course it also depends on what final product we want to get. For example selling an ecological compost can improve an economical situation of the commune.

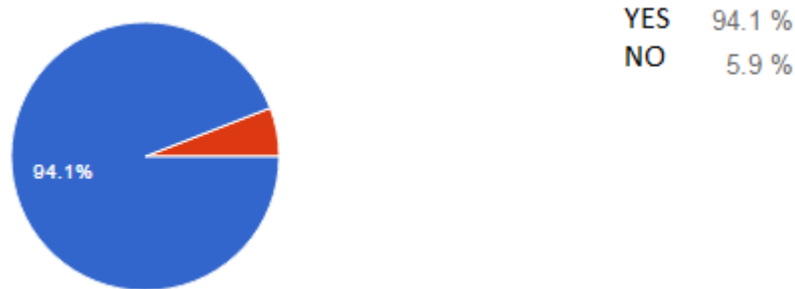
Economic calculation

It is crucial to estimate financial and operational complexity of the project. Heads of towns or villages should take into account all possible inputs and outputs that will affect the economy. The aim of the project should be a maximum reduction of biowaste going to disposal. As

largest as possible population involvement and non losing or eventually profitable running. I have done a research, started from April to September 2015 on a sample of 50 slovak towns and villages. According to this research over 94% of Slovak municipal governments have an experience with the EU funds as shown on Figure 6. Even more than 51% of such municipalities has experienced usage of the EU funds for waste management-Figure 7. It can therefore be reasonably assumed that the economic calculation of the project under the Waste Management Authority, leaders could calculate at the income side financial „help“ from European resources.

Figure 6

Has the municipality experience with Eurofunding?



Source: own processing

Figure 7

An experience of the slovak municipalities with usage of EU funds for waste management



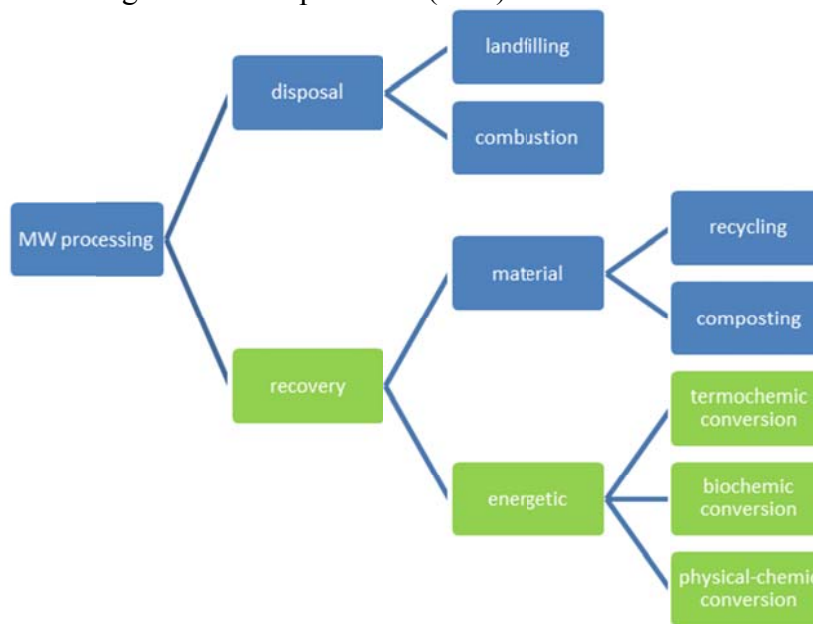
Source: own processing

Energetic potential of biowaste

Raw material as municipal waste can be processed by different processes and technologies. Starting from hydrolysis, gasification through to cracking. Waste can be disposed of either (landfilling, incineration) or recovered (material-recycling and composting, energy). It clearly states Figure 8.

Figure 8

Processing with municipal waste (MW)

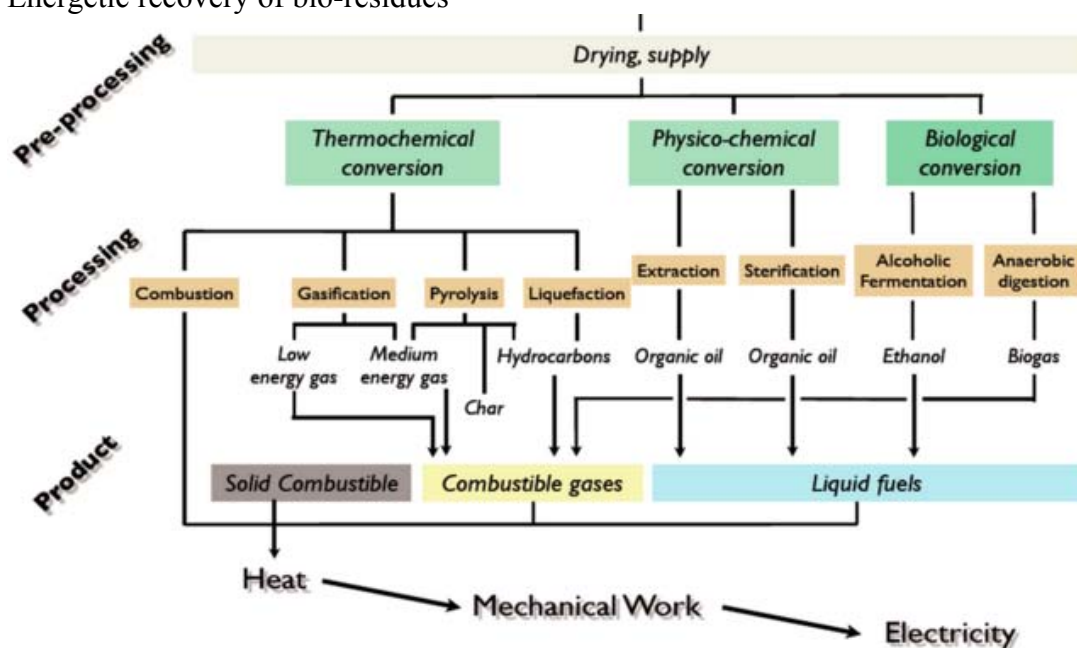


Source: own processing

As already written, in Slovakia, most of the time municipal waste is landfilled either on public landfills or combusted directly. Energetic potential of such a biomass is absolutely not used. Moreover, today we have technologies that would enable such effective transformation. Financial resources are available, as written above, either in the form of state grants, municipal, or local budgets, through collaboration with the private sector, and not least from the European Union. It is time to act to make our energy future was in our hands and not in the willfulness of other powers and interest groups. Villages and towns that began to separate household waste, showed lower production of municipal waste.

The most interesting possibility of using bio-waste in the municipal sector is a "green branch" see Figure 8. It is the **energy recovery use of biowaste**. Organic waste can be calmly considered, due to its organic nature, as an „energy carrier“. It is up to the heads of the local governments to discover and explore this „hidden energy“ and use it for the benefit of the community. Of course now the way in which the stored energy can be converted into real money is not easy, but technological development is progressing rapidly. Briefly I state its three major branches and thus opportunities for Mayors, what directions could be (in the near future) bio-residues processed. Figure 9 shows these ways.

Figure 9
Energetic recovery of bio-residues

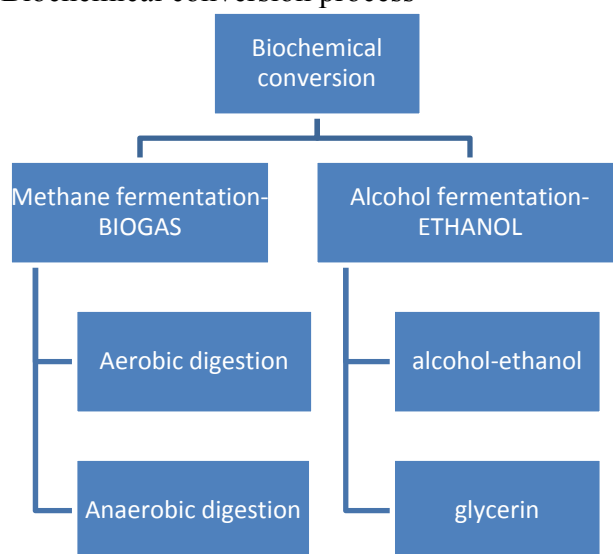


Source: internet

By **thermochemical conversion** waste is chemically destabilized due to temperature, or by the interaction of temperature and oxygen. These methods mainly include combustion, gasification, pyrolysis and plasma methods. The resulting primary product is at pyrolysis: process gas, pyrolysis coke, tar (bio oil). Gasification is similar to the pyrolysis. The difference is just in the residence time and the high of temperature. The primary product of combustion is heat. Finally at the end of the process, in commercial sphere products as: different kinds of chemicals, heat-electricity and biofuels are made.

Biochemical conversion of biowaste uses wet processes as alcoholic fermentation and methane fermentation as it can be illustratively seen on Figure below.

Figure 10
Biochemical conversion process



Source: own processing

When operating aerobic fermentation a **compost** is made. In the case of anaerobic fermentation-microbial processes which leads to the **biogas** production. When plants contain sugar and starch is removed by fermentation we can obtain a **high percentage alcohol (ethanol)**. Ethanol can be used as a fuel for transportation, or as a mix of chemicals. By **physico-chemical conversion** of biowaste energy an esterification is preceded and biodiesel produced. The basic raw material used is a vegetable oil - sunflower, soybean, rapeseed, palm and other vegetable oils.

3. Conclusions and policy implications

The most ambitious and at the same time the most promising and economically beneficial way of handling organic waste lies in its energy recovery. Although the initial investment in building facilities to enable such a transformation are demanding. Certain advantage could be the experience of Slovak Towns and Municipalities with the usage of EU funds. The fact that by processing of municipal biowaste to energy can community obtain a product which can be subsequently converted into real money is very appealing. In Western Europe citizens enjoys the benefits that these solutions bring. It is time to act also in here, in Slovakia!

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The future of nuclear energy in Japan

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Abstract

The nuclear accident in Fukushima in 2011 caused by the Tohoku earthquake and the following tsunami resulted in the shut-down of all fifty-four nuclear reactors and reopened discussions about the safety of nuclear power plants. As Japan is the world's fifth largest energy consumer and a resource-poor country at the same time, the lost nuclear power had to be replaced by the increased import of fossil fuels. The present article analyses the impact of Fukushima nuclear disaster on the economics, environmental policy and the perception of nuclear power in Japan. It also considers the renewables as a potential alternative to nuclear energy. The last part summarizes the implications for the future of nuclear power in Japanese energy mix.

Keywords: Fukushima, Japan, nuclear energy

JEL classification: Q 48, Q 49

1. Introduction

Japan is the fifth largest consumer of energy resources and disposes with only minimal reserves of raw materials at the same time. Failure to cover domestic demand for energy by indigenous production has resulted in the high dependency on fossil fuels imports from abroad. Its negative impact on Japanese economy and ultimately also its citizens, was full manifested in the 70s, during the oil crisis. This bad experience made the increasing of energy efficiency and reducing dependency on oil imports in favour of nuclear energy to a major energy strategy of Japan.

In March 2011, powerful earthquake struck Japan and the subsequent tsunami severely damaged the Fukushima Daiichi nuclear power plant. These events have become the opening stimulus for intense discussions at national and international level on the safety of nuclear energy. Points of view on this issue differ also within Japan and have largely influenced formulation of the current energy strategy as well as they will influence the particular composition of Japan's energy mix. Shutting down all nuclear reactors, which has resulted in deficit of electricity supply and its instability, has equally important implications for determining the shares of individual energy sources in the mix. Necessity to replace the production of electricity with increased import and consumption of fossil fuels negatively affected the economic situation of Japan and due to increased greenhouse gas emissions caused also revision of objects of environmental strategy. All the above factors have thus affected the energy security of Japan after the accident and are also important factors in determining future direction of its energy sector.

2. Pre-Fukushima energy strategy

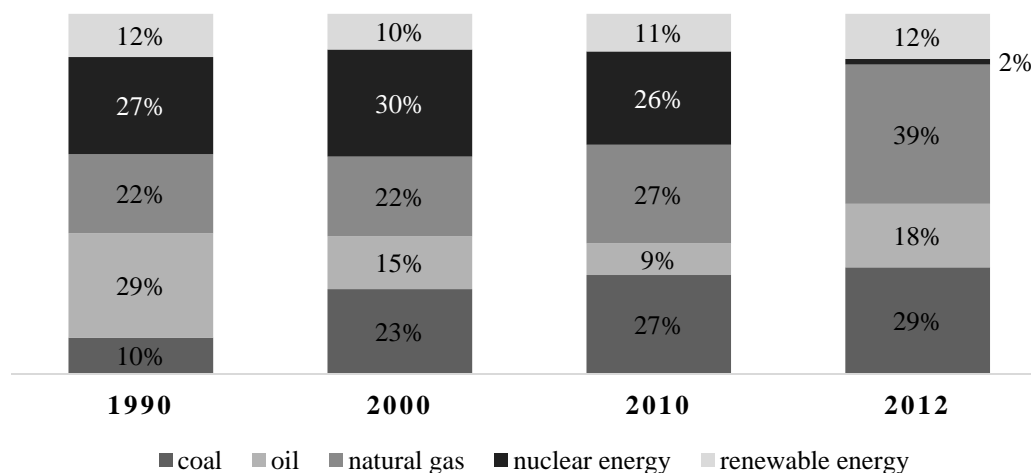
During the oil crisis in the 70's of the 20th century, when there came to a sharp rise of oil prices and oil supplies were endangered, diversification of energy resources had become one of the main priorities of Japan. In 2010 Japanese proven energy reserves included 44 million barrel of oil, 21 billion cubic metres of natural gas and 350 million tons of coal (U.S. Energy Information Administration, 2015).

Before the accident in Fukushima, Japan's energy mix was composed primarily of fossil fuels (coal, natural gas and oil), nuclear energy and other resources covering less than five per cent of the total consumption. Until 2011, the main priority in the effort to limit the particularly high dependence on one resource was to reduce the share of oil and oil products. In this context the government planned to increase the share of cheap and stable energy resource – nuclear energy and the emerging and promising renewable energy. After the accident in Fukushima Japanese government has pursued a new goal that is, on the contrary, decreasing the share of nuclear energy in the energy mix. In this context, it is questionable whether Japan will be able to meet its commitments under the Kyoto Protocol, provide the industry with necessary amount of energy resources and ensure stable electricity supplies at reasonable costs.

In 2010, nuclear power contributed by 26% to the total electricity production (Figure 1). With such a significant share, Japanese government faces a challenge to meet the energy demand and to decrease the share of nuclear energy in the energy mix at the same time.

Figure 1

Electric power generation in 1990, 2000, 2010 and 2012



Source: own processing, data extracted from International Energy Agency (2012)

2.1 The state of nuclear energy

Due to the efforts of Japan and the global trend to decarbonise the energy industry, nuclear energy is considered to be an optimal alternative to the fossil fuels as it produces zero carbon dioxide emissions and is also highly competitive.

At the end of 2010 there have been 54 nuclear reactors in operation with a total power generation capacity of nearly 50 GW (Japan Electric Power Information Center, 2013). On one hand, Japan as a resource poor country, has viewed nuclear power as a reliable semi-

indigenous energy resource but on the other, many “belatedly question the logic of having 54 commercial reactors in a country with one-fifth of the world’s strong earthquakes” (The Economist, 2012). The key is that the *nuclear village* including government bureaucrats, politicians and industry has always been promoting nuclear power generation as the most resistant to the disruption of supply, thus being able to secure the energy security of the country.

2.2 Potential of renewable energy

Renewable energy sources contribute to improvement of energy diversification and in terms of energy self-sufficiency they bring a promising solution also for the countries poor in raw materials. In context of the current trend of decreasing carbon emissions as one of partial targets to combat climate changes, also their impact on the environment can be evaluated positively.

Despite the fact, that on the basis of previously mentioned facts, we could reasonably believe, that the promotion of renewable sources will be an important part of Japan's energy policy, prior to the Fukushima accident, the government had been trying to achieve emissions reductions mainly through nuclear energy. Although in the strategic energy plan from 2010, the objectives were aimed at increasing the share of renewables in the energy mix, there were no concrete measures, which would in a larger extent support this initiative. Moreover, Maruyama et al. (2007) came in this context to a critical conclusion that "Japan's policy on renewables [before the Fukushima accident] previously prevented their use more than contributing to their spread". In 2010, renewable sources participated in electric energy generation with a share of 11% (Figure 1), with major share belonging to hydropower, biofuels and geothermal energy.

One of the most serious problems of renewable energy, which is a main reason for their low support from the side of government and the public, is the relatively high cost of power generation compared to fossil fuels or nuclear energy. This fact raises a particularly great confusion especially in Japan, where consumers bear some of the highest electricity prices in the world. An public opinion poll on energy security showed, that Japan's population is fully aware of the importance of low energy prices, not only in relation to expenditure of households, but also in the context of increasing competitiveness of production by minimizing energy costs. Any price increase due to increased share of renewables is in a large scale borne by consumers, and therefore in the efforts to shift away from traditional energy sources, public support cannot be expected (Vivoda, V., 2011).

3. Impacts of Fukushima Daiichi nuclear accident

3.1 Economic impacts

Shortly after the earthquake and subsequent tsunami, over four million households (Vivoda, V., 2014) in the north-eastern part of Japan remained without electricity supply as a result of the damage to the heat power plant and automatic shutdown of nuclear reactors. Elimination of nuclear energy and the resulting deficit over a quarter of power generation, drew attention to the search for solutions that would use other available sources.

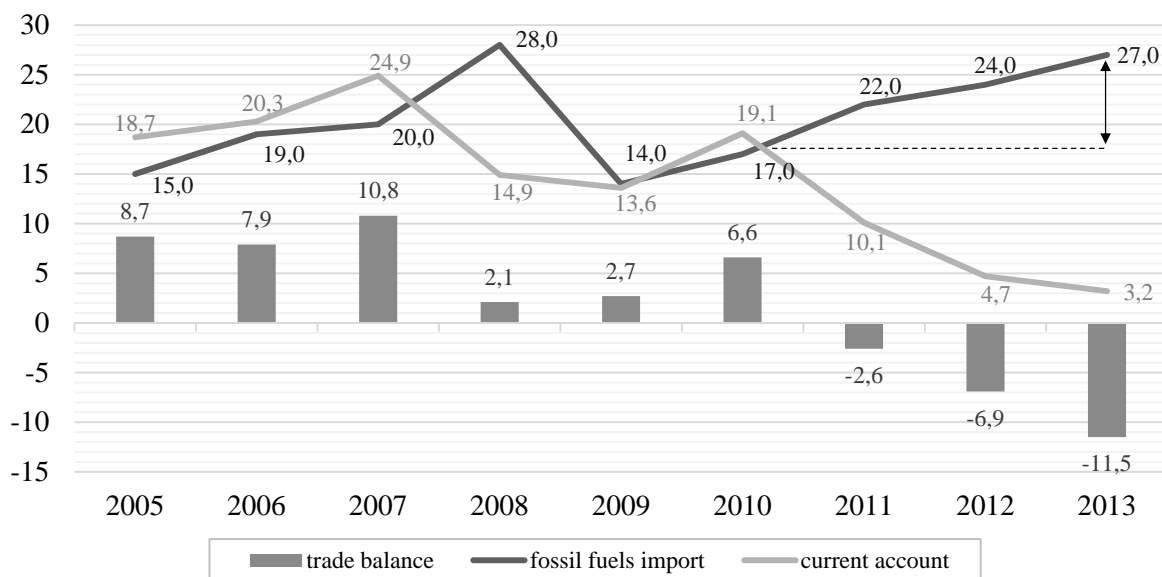
Due to the lack of interest in renewable energy sources in the past and their lack of flexibility, fossil fuels have represented the only real alternative in the short term.

Shutdown of all nuclear reactors resulted in the increase of fossil fuels consumption. Their share in the energy mix increased between 2010 and 2012 from 80 % to 94 % (International Energy Agency 2010, 2012). The lack of domestic energy resources and the increased mineral

fuels caused the increase in imports of energy resources from abroad. The value of imported fossil fuels has increased between 2010 and 2013 from about 17 trillion yen to 27 trillion, representing 5.7 % of GDP (almost a double compared to 2010) (Ministry of Economy, Trade and Industry, 2014). The necessity to ensure the needs of energy-intensive economy created pressure on the trade balance of Japan.¹ The result of this situation was the first trade deficit since 1980 (Ministry of Economy, Trade and Industry, 2014) and in 2013 the deficit reached the highest ever value of 11,468.4 billion yen exceeding the drop from the previous year by more than 4.5 trillion yen (Figure 2).

Figure 2

Changes in fossil fuels imports, current account and trade balance (trillion JPY)



Source: own processing, data extracted from Ministry of Economy, Trade and Industry (2014)

Among fossil fuels, the biggest change happened in the natural gas imports, which increased by 23 % (International Energy Agency, 2012, 2014) between 2010 and 2012. The sharp rise in demand for this energy resource led to increased prices in Asia and particularly in Japan. Japan pays almost double for LNG imports compared to European prices and four times more than the USA (International Monetary Fund, 2014). Increased volume and energy import costs are reflected in the price of electricity power for end-consumers as well. According to METI² “due to increased fuel prices after the Great East Japan Earthquake, the average electricity unit price (electric lighting costs) for the average household rose by around 20 % and the average electricity unit price (electric power costs) for industrial facilities, such as factories and offices, rose by around 30 % across Japan” (Ministry of Economy, Trade and Industry, 2014). The rise of electricity price is in Japan relatively sensitive issue as the Japanese prices for electricity belonged to the highest in the world even before the accident in Fukushima.

Increasing dependence on fossil fuels import and their high prices negatively affect the competitiveness of Japanese companies and the purchasing power of the population, what affects the economic growth potential of the country. Thus, a decrease or a phase-out of

¹ Besides the increase of the fossil fuels import, also the partial restriction on exports of Japanese production by foreign countries from fear of increased levels of radioactivity has influenced the trade balance as well as the fluctuations of currency exchange rates.

² Ministry of Economy, Trade and Industry

nuclear energy negatively influences Japan's GDP (Itakura, K., 2011). The increased cost of importing fossil fuel in 2011 caused an estimated drop in GDP of 0.9% and in 2013 by 1.3% (Vivoda, V., 2014). In case of a long-term elimination of nuclear energy it is questionable, whether the companies would remain in Japan, as the nearby states in the region are able to provide them with significantly lower prices of electricity. The conducted surveys confirm that several companies consider moving their production to e. g. India, China or Malaysia, if the Japanese government fails to develop a plan to ensure stability of electricity supplies (Vivoda, V., 2014). In the case of this scenario, Japan would possibly face a secondary problem - rising unemployment rate. According to estimates by the Japanese Institute of Energy Economics (IEEJ) about 420,000 jobs could be jeopardized (The Institute of Energy Economics, Japan, 2013).

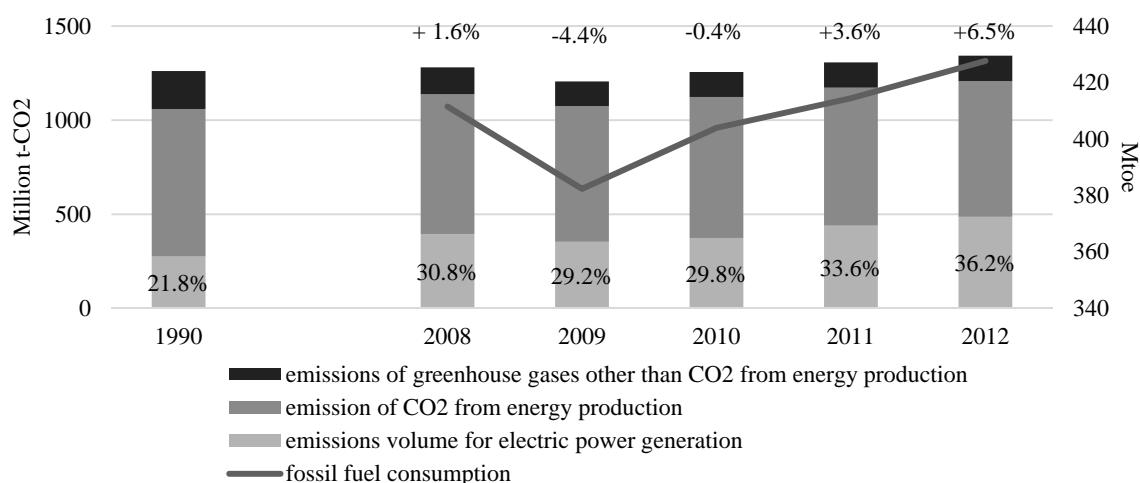
In the above mentioned context, the impact of changes of the energy mix structure on the Japanese economy can be seen – it affects production, consumption and international trade. This is why Japan should consider and choose a rational energy strategy in the future to create a good environment and suitable conditions for the economic growth of the country.

3.2 Environmental impacts

Before the Fukushima nuclear power plant accident, Japanese government imposed a ban on construction of new coal-fired power plants in effort to meet the Kyoto target of reducing the carbon dioxide emissions by 25 % between 1990 and 2020. The worsening economic situation and rise of electricity prices forced the government to change this strategy. Since coal is the cheapest fossil fuel, the government started promoting more intensive utilization of coal-fired power plants (Vivoda, V., 2014). This resulted in an increase of the share of coal in the energy mix by 5 % and the overall increased consumption of fossil fuels led to growth of greenhouse gas emissions.

Figure 3

Changes in fossil fuels consumption and greenhouse gas emissions



Source: own processing, data extracted from Ministry of Economy, Trade and Industry (2014) and International Energy Agency (2000, 2010, 2012, 2014).

At the Copenhagen Conference of the UNFCCC³ Japan set itself a target to reduce CO₂ emissions by 25 % until 2020 compared to 1990 (Kuramochi, T., 2015). The formulation of

³ United Nations Framework Convention on Climate Change

this target was based on the previous energy strategy following the increase of nuclear energy share. The Fukushima Daiichi accident and the following elimination of nuclear reactors prevented its fulfilment. Increased consumption of fossil fuels has resulted in the CO₂ emissions increase in the energy sector by 6.5 % in 2012 compared to 1990 (Figure 3). When it started to be clear that Japan will not be able to meet the commitments, the government has decided for a revision. The new plan involves a target to cut the CO₂ emissions by 3.8 % until 2020 compared to 2005, which accounts for an increase of CO₂ emissions compared to the year 1990 (Kuramochi, T., 2015). Bearing in mind that Japan belonged to the states trying for the most intensive cuts in greenhouse gases on the global stage, the new target can be considered a big surprise.

3.3 Post-Fukushima perception of nuclear energy and the elections in Japan

Before the Fukushima accident, the main priority of Naoto Kana's government was, according to the strategic energy plan, to meet the targets in the field of emissions reduction by increasing the share of nuclear energy until 2030 from 26% to 50%. Despite the negative experience with nuclear energy from the end of World War II, according to a public opinion, nuclear energy had support of 62% of Japan's population (WIN-Gallup International, 2011). However, the consequences of the Fukushima accident have been far-reaching, creating a considerable pressure on the government to abandon the planned expansion of nuclear power in favour of fossil fuels, especially renewable sources. Shortly after the tragic events, this direction was considered a major step in terms of retaining political power, as the popularity of nuclear power in Japan has fallen to 39% (WIN-Gallup International, 2011). Because of the way it was dealing with the consequences of the earthquake and nuclear crisis, government was subject to serious criticism (The Guardian, 2011). After the beforehand announced resignation, in September 2011 Kan was replaced both as Prime Minister and chairman of the Democratic Party of Japan (DPJ) by Yoshihiko Noda.

Through the publication of the *Options for Energy and the Environment* document, the government has announced three options for reducing the use of nuclear energy (0%, 15% and 20-25% share of core in consumption) which have been subject to public discussions. Based on their results Noda's government opted for an ambitious scenario – gradual phase-out of nuclear energy, which should form the basis for the formulation of a new energy plan (McLellan, B. C. et al., 2013). Increasing imports of fossil fuels compensating outage of nuclear energy and resulting in increase of losses of manufacturing companies, put pressure on the government and resulted in the temporary restart of two nuclear power plants. Despite the facts that Japan is not among countries experiencing frequent protests, this action triggered a wave of anti-nuclear demonstrations. On the one hand, there was dissatisfaction stemming from the economic consequences of the nuclear crisis, on the other hand, in the minds of the population the question of the safety of nuclear power plants still resonated. Although the priority of Noda's energy strategy has become, as already mentioned, a complete shutout of nuclear power resulting from public opinion, shortly before the elections governments' preferences were greatly disrupted due to gambling with people's trust. Despite the assumptions, that the issue of nuclear energy would form a hot topic of the election campaign, this did not happen. Paradoxically, less than a year and a half after the accident in Fukushima, the winner of the elections became the only pro-nuclear party (Vivoda, V., 2014), Liberal Democratic Party (LDP) led by Shinzo Abe.

Discrepancy between the public opinion on nuclear power and results of the elections can be attributed to the fact, that voters were probably not following the potential energy strategies of political parties. The election results were thus also influenced by other factors. Given the complicated economic situation of Japan, Abe impressed voters with announced

monetary stimulus promising revitalization of the economy more than DPJ's antinuclear strategy, which anticipated further increases in energy prices (Shun, D. F. et al., 2014). The new Prime Minister Shinzo Abe stated that the phase-out of nuclear energy is "unrealistic and irresponsible" (The Japan Times, 2013). By now, already two nuclear reactors of the Sendai nuclear power plant were restarted (The Guardian, 2015) and the government plans to increase the share of nuclear energy until 2030 to 20-22 % (The Japan Times, 2015).

4. Conclusions

Japan is the world's fifth largest energy consumer and a resource-poor country at the same time. From this perspective, a high share of renewable energy in the energy mix should be seen as a good solution because of Japan's current high dependence on fossil fuel imports and the urgency to reduce greenhouse gas emissions. However, the implementation of this plan currently alludes to serious limitations. Significant preference of nuclear energy from *nuclear village* (government bureaucrats, politicians and industry) and regional *de facto* monopoly suppliers of electricity prevents the penetration of renewable energy sources into the public grid, which stems from their relatively higher price compared with other sources. Another limitation is the division of the country into two regions, East and West, both using different frequencies and lacking capacity of interconnection between them. This fact greatly limits the possibilities for transfer of electricity and the full usage of the country's potential in the production of electricity from renewable sources.

Despite the fact, that the accident in Fukushima represented an opportunity to shift away from the nuclear power in favour of renewables, implementation of this scenario in the foreseeable future would be irrational. Following the negative impact of the shut-down of the nuclear reactors on environmental policy and the economy of Japan, the adoption of a new strategic energy plan counting on the use of nuclear energy represents a rational solution. Moreover, given the bad experience from the past related to the nuclear energy in Japan and the turn of the public opinion in favour to the nuclear energy, it is possible that Japan's public opposition to nuclear power may diminish over the next few years.

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Investigating Specific Language Structures in the Documents of the European Union

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Abstract

The paper seeks to contribute to the issues of English language lexicology focusing on findings that serve our specific purpose - it is to define shortening processes, pointing out some characteristic features of language shortening. Taking into consideration the fact that creation of abbreviated units is, in many cases, unpredictable and very dynamic process, we have chosen particular corpus for analysis- the texts produced in the supranational EU community and by its institutions, to which the critics very often refer as a sign of isolation and obscurity of euroworld using abbreviations as the most frequent language units in the documents without explaining.

Keywords: *abbreviation processes, EU English, corpus analysis*

1. Introduction

Exclusively in the 21st century, abbreviations were and still have been everywhere, and not only thanks to the Internet (social sites, e-stores, chat rooms and e-mails) and the cell phone (text messaging with its limited number of characters). There are also language shortening trends that come and go as time passes, for example youth language (college slang: cool, chill, wasted - Finegan 2007, p.321) or the formerly mentioned abbreviations in the so-called txt spk (language abbreviated to fit into text messages: cu, gr8, lol, etc.). There are old words with new meanings, like surf, bug and web, whose meanings have broadened since the new technological inventions, but there are many other ways in which new words are created or shortened in order to either name new phenomena or to introduce the language economy or when it comes to contact with other languages, to modernize, to compensate the multiword term.

One cannot generalize when we speak about language economy and abbreviation processes. There are, of course, some opinions of abbreviations not contributing to economization of speech because they are becoming synonyms of their former equivalents, except those which fully replace the original word (e.g. AIDS, NATO). Moreover, within communication, one must consider the both sides, not only the expedient but also whether the message sent is convenient to percipient, thus every situation in communication is specific and only active approach to evaluation of the informational value of abbreviations on both sides of communication channel ensures that used abbreviations function as accelerators and not as inhibitors of communication. This phenomenon would be the main target of our research. Assuming the fact, claimed by most linguists, that abbreviatory processes serve to economize the speech it would be definitely challenging to demonstrate that in some particular fields of creation of specific texts, where abbreviations are often used, these texts by all means do not simplify and economize the communication.

Furthermore, there are many other contradictions in defining shortening processes depending on language analysed, however some linguists claim that abbreviation processes in communication are not uncontrolled or chaotic ones but “it is rather important linguistic phenomenon with its own regularities” (Ološtiak, p.50). Generalization of the statement of considering abbreviations as the result of something regular and controllable would be again audacious, in our opinion. Many other linguists claim that “...shortenings are still considered to be merely variant forms resulting from rather unpredictable causes in comparison with other word- formation processes”. (Lančarič, Pavlík, Hitková, p.3). Thus, we stress the importance of such analysis in order to point out some characteristic features of the process of language shortening and the process of various motivations for the coinage of new abbreviated units.

Collecting the appropriate data and evidence for the upcoming research of abbreviatory processes, we came across EU English. Our own experience of working with EU documents in European Parliament, has suggested a hypothetical conclusion that EU texts are useful source for quantitative linguistic research on specific terminology, particularly the usage of abbreviations.

In order to fully understand the concepts of abbreviation processes, we need to define and elaborate specific terms related to this issue. Hence, it is crucial to commence with the language economy.

2. Language economy

We shall refer to André Martinet and George Kingsley Zipf, whose economy within functionalism and the principle of least effort were to have a great bearing on the history of theoretical linguistics all over Europe. *Economie des changements phonétiques* (Martinet, 1955), compiled by André Martinet, provided a coherent definition of linguistic economy, the so-called classical definition as the unstable balance between the needs of communication which are always changing and natural human inertia, two essential forces contributing to the optimization of the linguistic system.

He stated that any change occurring within the system which is never static is explained by means of the following dichotomy: a single act of communication requires, on the one hand, clearness and precision, which multiply conspicuous units, and, on the other hand, a remarkable organic inertia, which produces effort relaxation, less numerous, less specific and more frequently occurring units, whose result is a hasty and careless expression. While inertia is a permanent, immutable component, man’s communicative needs change constantly, so that the nature of this balance will be modified over time. However, linguistic behavior seems to be regulated by what Zipf who inspired much of Martinet’s works called «the principle of least effort» (Zipf, 1949 in Vincentini, 2003 p.39). In such a theory, the principle of economy plays an important balancing role: any non-economic change, which would bring about an excessive cost in terms of efforts and constitute an obstacle to comprehension, will be automatically removed or avoided.

George Kingsley Zipf tried to investigate speech as a natural phenomenon and discovered that an inclination to economy is a criterion regulating any aspect of human behavior, which is governed by this Principle of Least Effort¹, operating within linguistic evolution as well. In

¹ „In simple terms, the Principle of Least Effort means, for example, that a person insolving his immediate problems will view these against the background of his probable future problems, as estimated by himself. Moreover he will strive to solve his problems in such a way as to minimize the total work that he must expend in solving both his immediate problems and his probable future problems. That in turn means that the person will

such a dynamic process as linguistic change, words are constantly being shortened, permuted, eliminated, borrowed and altered in meaning, but, thanks to the Principle of Least Effort, equilibrium with a maximum of economy is always preserved. (Vincentini, 2003, p.40)

Martinet certainly got inspiration from Zipf's works, since there is evidence that the complete formulation of the term economy appears in Martinet's writings only after 1949: he speaks of a tendency towards economy as a composition of two contrary forces : effort limitation on the one hand and needs satisfaction (a new element which seems clearly inferred from Zipf) on the other, whereas, in his previous works, he had only spoken of a tendency towards economy of means or good economy of system.

3. Abbreviation principles

There is more than one reason for the shortening tendency. Foremost comes the English tendency towards shortness due to the strong tonic accent, which goes farther than in other European languages (Iglesias, 2001). There are, of course, some other reasons to abbreviate such as functional, affective and psychological reasons when we consider the evolution of English language: conciseness, clearness, laziness and the need to adapt the language to the rhythm of modern life, that is, the need to compress a maximum of achievements into a minimum of space and time in Modern English, the trend towards word brevity to avoid redundancy when several terms are mentioned over and over again and when organizations and movements have names too long to fit conveniently into either texts of documents or commercial or a headline. The latter are utilitarian motivations.

The trend is noticeable in the already mentioned texts of institutions of European Union. Many neologisms created by euro-bureaucrats such as terms, abbreviations have penetrated into everyday language use in recent years and become almost a separate language – „language in itself. “ Very often the critics refer to as a sign of isolation and obscurity of euroworld when EU officials use abbreviations in documents without explaining, it's like abbreviations are used as special passwords and are on permanent testing of reader's attention.

We can claim that this is the right example when in the paradigm, the abbreviations, as synonymous counterparts of their motivating forms, do not contribute to the economy of the speech. They even make the vocabulary structure more obscure. What is more, for the percipient of the abbreviation, the enigmatically encoded information is not a simplification at all. (Lančarič, 2008, p. 75).

Other reasons are for example, creating scientific terms. The main reason for the use of lexical shortenings in modern scientific terms is conciseness and clearness: the scientist using classical word material tries to convey as much information as possible in his/her neologisms. These long learned words, however, have caused a feeling of dissatisfaction among scientists as well as non-scientists that technical terms should be developing into such tongue-twisters. There is... a feeling for 'the economy of a language' (Klasson, 1977, 148 in Iglesias,2001,285).

Specific reason for the use of lexical shortening in English is the laziness, this trend, however, could be generalized for all the languages spoken nowadays. It is partly the same linguistic laziness that reveals itself in the unfinished sentences and phrases. Many learners of English as a second language learn quickly that native speakers often don't pronounce the language the way it's written. They'll often ask: Why don't native speakers say "going to" or

strive to minimize the probable average rate of his work-expenditure (over time). And in so doing he will be minimizing his effort, by our definition of effort. Least effort, therefore, is a variant of least work“, Zipf 1949,1 in Vincentini, 2013, 40

“want to” more clearly. The letter is written so why don’t you say the sound for it. What does “gonna” /ˈɡɒnə/ even mean exactly? It’s not simply “going to,” because they’ll say “I’m gonna see you later” but not “I’m gonna school.” Why? This can be explained by reduction and elision in phonology. This is, obviously, not what we shall refer to in this article, it is just to show the evidence of laziness. On one hand, speakers who do not elide and reduce may sound too formal and prevent them from sounding natural because they don’t use the rhythm patterns and intonation that is a mark of fluency. On the other hand, many native speakers argue that they don’t elide and reduce, because it’s a sign of lazy and poor English. But even at the most formal levels of English, native English speakers reduce and elide, not only phonologically but also graphically.

Kvetko (2009) characterizes the shortening processes as the trend of modern English towards monosyllabism, and thus it is a process in which a part of the original word is taken away. This statement is very general of course, and it is necessary to analyse the trend more profoundly.

The lack of consistency in terminology and classification of abbreviations has been highlighted in recent times even more. The proliferation of “modern” abbreviations from various specific areas (already mentioned above) blurred the borders between the categories even further. Plus, discrepancy within this field may be observed in the name of the process, or better, the processes by which the abbreviations are created. Authors mostly agree that abbreviations do not fall into the field of traditional morphology, since the elements used in their creation are units smaller than morphemes.

Generally, all these processes in any language have one phenomenon in common and that is that they are not creating the longer forms, but reduce the existing forms to their shorter variants. The results of these processes, however, could be also the basis for the following word-formation, even the combination of various word-formations (conversion of abbreviations, composition of abbreviations, affixation of abbreviations), however, those are beyond the scope of this paper.

4. EU English

„The English language is incontestably becoming the lingua franca in Europe (as in most parts of the world) due, in part, to the ever growing importance of the European Union (EU) in the life of Europeans and European countries“. (Trebits, p. 38). Generally, over the years, the European institutions have developed a vocabulary that differs from that of any recognised form of English (A Brief List of Misused English Terms in EU Publications, p. 3).

According to the authors of A Brief List of Misused English Terms in EU Publications, it includes words that do not exist or are relatively unknown to native English speakers outside the EU institutions and often even to standard spellcheckers/grammar checkers (‘planification’, ‘to precise’ or ‘telematics’ for example) and words that are used with a meaning, often derived from other languages, that is not usually found in English dictionaries (‘coherent’ being a case in point). Some words are used with more or less the correct meaning, but in contexts where they would not be used by native speakers (‘homogenise’, for example). Finally, there is a group of words, many relating to modern technology, where users (including many native speakers) ‘prefer’ a local term (often an English word or acronym) to the one normally used in English-speaking countries, which they may not actually know, even passively (‘GPS’ or ‘navigator’ for ‘satnav’, ‘SMS’ for ‘text’, ‘to send an SMS to’ for ‘to text’, ‘GSM’ or even ‘Handy’ for ‘mobile’ or ‘cell phone’, internet ‘key’, ‘pen’ or ‘stick’ for ‘dongle’, ‘recharge’ for ‘top-up/top up’ etc).

Internally, it may often be easier to communicate with these terms than with the correct ones (it is reasonable to suppose that fewer EU officials know ‘outsource’ than ‘externalise’, for example). However, the European institutions also need to communicate with the outside world and EU documents need to be translated – both tasks that are not facilitated by the use of terminology that is unknown to native speakers and either does not appear in dictionaries or is shown in them with a different meaning. Finally, it is worth remembering that, whereas EU staff should be able to understand ‘real’ English, one cannot expect the general public to be au fait with the EU variety.

A further objection that is often put forward is that one institution must use the same terminology as other institutions (the European Commission in particular) (A Brief List of Misused English Terms in EU Publications, p.4). That is to say, if the Commission uses the verb ‘transpose’, for example, the others within must all use the same term, even if they know it to be incorrect. This is a dangerous path to take, especially as the Commission itself recognises the need to improve the quality of its English and is often hampered in this by constraints that smaller institutions may not face.

Although some institutions ignore the fact that it is hard to understand their documents, some of them are trying to explain it if they want to be sure that readers will understand. In the example of ‘transpose’, they might add a note saying something like ‘term used at the Commission/in EU legislation to indicate ...’ (in this case, the enactment of a Directive in national law).

EuroEnglish is a subject to constant change. As several EU publications claim, in some cases, EU expressions may even filter back into normal UK and Irish usage (although American English does have a much stronger influence). ‘working group’, as opposed to ‘working party’ may be one of these; another is almost certainly the unusual use of the term ‘enterprise’ instead of ‘business’ in the acronym ‘SME’. On the other hand, the increasing though as yet not widely recognised use of ‘actor’ just to mean ‘someone who does something’ may be the result of the combined effect of both EU and US usage.

Based on the above mentioned general facts on EU English and its uniqueness, the main aim of our research would be the contribution to the development of new trends in abbreviation processes, elaborating the picture of the characteristics of the English language abbreviations in the documents of the EU as these naming units are becoming stable linguistic phenomena in EU texts. The most important significance of the research is, in our opinion, pointing out how English is actually used in specific context- analysing phenomena of shortening processes- bringing practical language use closer to the learners and teachers.

The pedagogical relevance of the research is that its findings can be at least partially used for the development of special English language course books and supplementary materials for EU and International Relations courses. In this sense, the findings should be practical in nature and applicable to course design for EU studies.

4.1 The aims of the research

The main aim of this corpus-based research is to explore the formal aspects of various specific abbreviation processes in English language documents of the European Union and present our findings by analysing these documents.

We assume that the results of abbreviation processes are dynamic and therefore we believe that the material with which we have been working now may not be applicable in the future (as it is in motion), however we will try to uncover the principles that, unlike

abbreviation processes, we suppose, are relatively static and it is quite possible that they can be used in the future in other investigations into specific shortening. Hence, the outcome of our research would be universal features, which determine the shortening processes.

4.3 Selection of the research sample

The enormously growing amount of linguistic production of EU documents offers wide range of possibilities to analyse any linguistic pattern. Thus we compile the list of documents (types) from various institutions and select them randomly. However, for a part of the research where we will be looking for the frequent occurrence of abbreviations depending on the content features of the document, we will be choosing the documents from various areas, carefully selecting the ones where the content will be of technical nature. (e.g. agriculture, medicine, environment, finances, industry)

Choosing from the latest texts adopted in years 2013-2014, for pre research, we randomly selected 100 from those published on European Parliament's website, 100 from European Commission's website, and 100 from the website of Council of the European Union. For the further analysis, we will excerpt the data from EUR-Lex, the online version of the Official Journal of the European Union.

4.4 Basic methods of the research

As already mentioned above, we are dealing with number of cases and large amount of data which allow us to describe and explain the particular feature of reality we are interested in greater detail and accuracy.

This linguistic research will be conducted as the quantitative and non-quantitative , partially examining

- frequency of occurrence of certain types of abbreviations used in EU texts and description of what characterizes their usage patterns, analysis of the relations among specific abbreviations,
- interpretation accuracy,
- semantic shifts (either terminological or contextual) in English and Slovak EU documents,
- the level of equivalence- finding the close correspondences or irregularities between source texts and target texts.

For the evaluation and comparison of quantitative part of the research, the classical mathematical and statistical methods will be used by which quantitative aspects of language use are examined and specific computer tools of analysis could be used as well to establish the frequency lists of selected abbreviations in the texts originated from various EU institutions and to compare them to each other. The lists obtained from these programs allow us to draw up the list of the most frequent abbreviations on the one side and within those the most frequent patterns used. In order to examine the most frequently occurring abbreviations in context and to reveal their most important collocations and usage patterns, it is possible to use for example the concordance function of the WordSmith Version 2.0 computer program (recommended also by Trebits, 2008).

Questionnaire as a tool might be also considered to design and accumulate the valuable data from interpreters and linguists working for EU institutions, however as we are aware of

the fact that questionnaire's design cannot contain unclear, vague or ambiguous questions, we will be very careful in the decision whether to choose this tool or not. The main aim is to address linguists and interpreters asking them to abbreviate various terms in order to identify general principles of how they abbreviate certain terms in EU texts. Hence, it is a big challenge to us designing such questionnaire and to find the tools how to analyse the data which will be provided after collecting the questionnaires from the linguists and interpreters.

5. Examples of various structures

As we are in a pilot stage of our research, we were observing fewer data and tried to describe flexibility of the abbreviation system as a result of complexity of European bureaucracy. Thus, we notice various subtypes of hybrid formations, symbols and combinations whose creation is practically unpredictable.

In the following I shall illustrate few examples of various phenomena related to abbreviation in the documents of EU (English version)

Table 1

Most common abbreviations used in the EU Corpus (pre-research)

Abbreviation	Counts in Corpus/ one per text
EU (European Union)	300
EN (English)	300
EC (European Community)	286
OJ (Official Journal)	275
EEA (European Economic Area)	237
TFEU (Treaty on the Functioning of the European Union)	234
COM (EU Commission-working document)	191
REV (Revision of e.g. Treaties)	189
DG (Directorate general)	112
OR (Original version)	83

Source: author

Table 2

Frequency of occurrence of initialisms

Topics covered from	Counts of texts where the initialisms occurred (at least one per text)
EP (100)	100
EC (100)	100
Council (100)	100

Source:author

Table 4

The most common abbreviations- homonyms

Abbreviation	Meaning
EEA EEAICP EEAS	European Economic Area European Environment Agency European Economic Area Index of Consumer Prices European External Action Service
EEC	Eurasian Economic Commission European Economic Community
EC	European Commission European Community
ESC ESeC	Eurostat "Safe Centre" Economic and Social Committee European Socio-economic Classification
EAS	Directorate-General "Agriculture and Rural Development" European Administrative School

Other types of homonymy:

DG	Director General Directorate General
RE	Reference Environment Resource Efficiency
PMO	Office for Administration and Payment of Individual Entitlements Project Management Office
PIM	Process Improvement Methodology Perpetual inventory method
MAP MAPS	Methodology Architecture and Portfolio Management Working Group Multi-Annual Programming Marrakech Action Plan for Statistics
ISI	Information Systems Infrastructure International Statistical Institute
IAS	International Accounting Standards Internal Audit Service
CPA	Country Profile Application Statistical Classification of Products by Activity in the European Economic Community
CC	Candidate Country Classification of types of Constructions

Source:author

Figure 1

Observing the combinations of acronyms

Date: 13 and 14 October 2014
 Time: 11.00, 10.00
 Venue: COUNCIL
 JUSTUS LIPSIUS BUILDING
 Rue de la Loi 175, 1048 BRUSSELS

1. Draft Regulation of the European Parliament and of the Council on the Union Code on Visas (Visa Code) (recast)
 - doc. 8401/14 VISA 90 CODEC 971 COMIX 201 + ADD 1-3
 - Articles 13(3) to 20
2. Draft Regulation of the European Parliament and of the Council establishing a touring visa and amending the Convention implementing the Schengen Agreement and Regulations (EC) No 562/2006 and (EC) No 767/2008
 - doc. 8406/14 VISA 91 CODEC 974 COMIX 202 + ADD 1
 - Articles 1 to 5
3. Use of the VIS with a view to handling the asylum cases
 - Assessment by the Commission of the contributions from Member States and follow up

Source: <http://www.consilium.europa.eu/>

Figure 2

Abbreviation of the redundant facts, their intensification and shortening premodifiers

To ensure consistency between Regulation (EU) No 528/2012 and Regulation (EC) No 1272/2008 of the European Parliament and of the Council², point (b) of Article 19(4) of Regulation (EU) No 528/2012 should be amended to include specific target organ toxicity by single or repeated exposure category 1 as a classification criterion, in order to preclude authorisation for the making available on the market for use by the general public of a biocidal product meeting the criteria for this classification. Point (c) of Article 19(4) of Regulation (EU) No 528/2012 prohibits authorisation for making available on the market for use by the general public of biocidal products meeting the criteria for being persistent, bioaccumulative and toxic ('PBT') or very persistent and very bioaccumulative ('vPvB') in accordance with Annex XIII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council³. However, whereas biocidal products are often mixtures and sometimes articles, those criteria apply only to substances.

Source: <http://www.europarl.europa.eu/>

Figure 3

Lexical ellipsis

The second subparagraph of Article 45(1) of Regulation (EU) No 528/2012 requires an application for renewal of Union authorisation to be accompanied by the fees payable under Article 80(1) of that Regulation. However, fees can only be paid subsequent to the information about their level provided by the European Chemicals Agency ('the Agency') in accordance with the second subparagraph of Article 45(3) of that Regulation. Therefore, and to ensure consistency with Articles 7(1), 13(1) and 43(1) of that Regulation, the second subparagraph of Article 45(1) should be deleted

Source: <http://www.europarl.europa.eu/>

6. Conclusion

No part of the world has introduced more new words into English than Europe. Many new expressions and verbal structures have been introduced for the last 10 years, which often cause ambiguity mostly in interpretation. Therefore, it is necessary to facilitate communication with this issue specifically, creating the current lexicons, glossaries and analyze Eurojargon from a linguistic point of view.

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Basic indicators development in furniture production sector in selected countries

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Abstract

The paper is oriented on the development of basic selected microeconomic indicators in sector of furniture production. The analysis is an outcome form the work which deals with the crisis management in segment of Small and Medium sized Enterprises. The goal is to compare and point on the development of selected macroeconomic measurements in mentioned sector and management via selected indicators and criteria (number of furniture producers; number of employees; year turnover; value added; personnel cost; investments) within 5 years tenor. The indicators are investigated under conditions of latest financial and economic crisis since 2008 to 2012 incl. The selected countries (Slovak Republic; Czech Republic; Germany; Italy; Poland) were observed. The paper bring the main findings in terms of crises management such as the part of production was moved into emerging markets during the crises, the personal cost and investment were decreased. As the research was made on macro economical level, observing the above mentioned we can not state that all the steps were taken by crises management or influenced by crises, but all these steps were taken during the crises. And we anticipate that many of them aimed to get over the crises successfully.

Keywords: crisis management; furniture production

JEL classification: H 12, L 10, L 68

1. Introduction

Topic if crisis is nowadays very actual and widespread discussed. The crises definition by Pauchant and Mitroff is the situation, which the individual, society or firm is facing without ability to deal it by routine procedures and processes and in which the stress appears by immediate changes (Booth, 1993). By fulfilling of its mission the entrepreneurs are obliged to react very adequately, appropriately, quick and efficiently. This means to recognize that crisis is vitally endangering its business, but also to understand the reasons, causality and coherences between them. The challenge is to be able turn these recognitions into active and affective strategy with particular and crucial impact added by decisive and determined communication into its inner and outer environment. The goal is to get over the crisis step by step. Crises is considered as “a situation of different time length in which it turns out, whether firm will retrieve back (at least) into situation it was before crisis, or the goals reaching of enterprises are prospectively threaten even the enterprise existence is questionable (Zuzák – Königová, 2009). Crisis can be seen as a situation of different time in which the decision is taken whether the enterprise.

The cause of crises can be found in the firm as well as outside the firm. In terms of crises on rising we can say that in general the reasons of crises are:

- Disequilibrium between firm and its environment;

- Dysfunction between inner systems (subsystems) of firm (Zuzák – Königová, 2009).

Very important is to point how deep the firm was impacted by crises. This can be followed by assigning next procedures and steps. „In relation to firm the crises distinguished by two features as followed:

- Critical crises – endangering sole firm existing;
- Less critical crises – long term endangering basic goals of firm“ (Smejkal – Rais, 2013)

Substantial and desirable assignment of management is to conceive the crisis as a challenge to be proactive. In companies the high management dedicates as much as 80 % of its work time to strategic management and just 20 % to operation management. Even middle management dedicates as much as 40 % of its work time to strategic management (Smejkal – Rais, 2013). The objectives of these activities is to come up with classic, diversified, or brand new resolutions, which should aim the firm into new spheres and ensure the stability of enterprise in area and time. The businesses which are not able to follow the pace of actual actions nor are able to realize continual and successful changes are desired to end up. If the firms are not searching for new ways nor reacting on changes, even though they are not creating the changes but are dealing by stereotypy, they are directing into crisis. This approach brings up the turnover decreasing, loosing of customers and markets by declining of competitiveness, followed by employees downgrade, eventually missing of customers, employees, management and owners confidence.

This paper concerns with macroeconomic development in selected countries within furniture production sector. One of the industry sectors in Slovakia is a sector of furniture production. Since there is sufficiency of wooden stuff in Slovakia, the favourable conditions to work out this industry field are on place. The furniture production was historically concentrated in areas, where other industrial branches were poorly appeared. There had been number of furniture producers in Slovakia. After 1989 this production turns out into new forms of business. Volume of micro small and medium sized enterprises as well as plethora of small individual manufactories has arisen. The scope of furniture production has not yet been the subject of deeper analysis of the last crisis impact. That is why we decided to put it under our investigation. Our interest was oriented on crisis managerial skills of Slovak furniture production managers before and during the last economic crisis. The part of the paper has brought the information about how whole sector in selected countries performed between 2008 and 2012.

1.1. Model and Data

As the crisis hit global markets within Europe we specified countries as Slovak republic, Czech Republic, Germany, Italy and Poland as the countries that we assume to be the most relevant in this sector. We think of Slovak republic and Czech Republic as domestic market. Germany, Italy and Poland we consider a most relevant market for us regarding its size, production and demand range.

1.1.1. The subject and object definition

As the subject of investigation the specific countries and the furniture production sector within these countries were chosen. For object of investigation we selected macroeconomic measures. We took a look at the sector as such. The measures we observed were as follows: number of furniture producers, number of employees, year turnover volume, value added, personal cost and investments completed. Every measurement was observed during 2008 and 2012.

1.1.2. Methodology

For the purpose of data and information obtaining we used the public data from Yearbook of industry in the SR for 2014, publications of Statistical office of the Slovak republic and the statistical information from Eurostat. We took a look on development of relevant measures on macroeconomic level and anticipated a managerial treats within crises. The deductions brought several findings. The intention was to accomplish sufficiently transparent data.

2. Analysis of basic selected indicators development

The investigation was realized on the furniture production sector as this sector suffered from the last economical crisis and has been influenced by crisis significantly. In this section we proceed with macro economical data in selected countries. The countries were selected either to be most relevant from the global European market, i.e. Germany (DE), Italy (IT), or countries considered as relevant to compare with Slovak republic market, i.e. Poland (PL) and Czech republic (CZ). This exercise has brought several interesting facts. We audited the markets and the managerial decisions during crisis by group of criteria, such as number of enterprises and number of employees in single economics followed by other economic measurements as yearly turnover volume; value added generation; personal costs or investment realized. Individual comparisons are presented in sequences.

2.1. Number of enterprises

The Table 1 below shows the development of the number of enterprises in furniture production sector in individual county economics. Especially in countries such as Germany or Italy we can note the distinctive decreasing number of furniture producers between 2008 and 2009. In Italy we can see ongoing decrease also in next seasons. Contrary in Poland in the same period the number of firms increased evidently. We can attribute this to sort of switching certain number of firms from Germany or Italy just into Poland, or Czech Republic.

Table 1

Number of subjects (furniture producers; 2008 – 2012) in selected countries

Country	2008	2009	2010	2011	2012
CZ	5 213	5 881	7 114	8 250	8 116
DE	8 243	6 458	9 126	9 070	9 316
IT	23 761	21 825	20 567	18 883	19 332
PL	10 790	14 692	14 336	14 421	14 295
SK	3 680	2 750	1 600	1 508	1 404

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

Another reason could be found in growing demand for low cost articles which can be awaited exactly in eastern European countries. After 2011 the consolidation can be seen in number of subjects. A small recovery was present in trends respectively. Apparently Slovak republic was an exception. It was the only market out of monitored ones that has recorded the declining trend in number of furniture firms from the very beginning of crisis and even in further periods. We assume the crises influenced the Slovak market so that just stronger firms survived.

2.2. Number of employees

Next Table 2 deals with another category which was the number of employees in observed furniture sector on macro economic level in selected countries. The development can be seen in following table.

Table 2

Number of employees (furniture producers; 2008 - 2012) in selected countries

Country	2008	2009	2010	2011	2012
CZ	27 755	24 858	22 887	21 732	n/a
DE	144 268	129 419	138 221	132 915	n/a
IT	152 674	141 983	135 838	121 953	119 948
PL	145 144	148 047	142 484	139 089	135 613
SK	14 077	12 379	13 063	13 215	n/a

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

Table shows that in the contrast to number of enterprises, the number of employees in every country has dropped down. We can resume that the crisis management approach in different countries appeared to be same. In spite of some small corrections during the period the number of employees in 2011 was lower compared to 2008 in each economy. Taking a look at both categories it is essential to point some interesting facts. The very first one is the average number of employees. It is obvious that it was very different from country to country. While average firm in Germany recorded in 2011 as many as 14.65 employees, in Slovakia it was just 8.76 employees. This shows that German firm did employed almost twice as much employees as Slovak one in average.

Table 3

Average number of employees (furniture producers; 2008 – 2012) in selected countries

Country	2008	2009	2010	2011	2012
CZ	5.32	4.23	3.22	2.63	n/a
DE	17.50	20.04	15.15	14.65	n/a
IT	6.43	6.51	6.60	6.46	6.20
PL	13.45	10.08	9.94	9.64	9.49
SK	3.83	4.50	8.16	8.76	n/a

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

Another interesting fact is that while in Germany, Czech Republic or Poland the average number of employees dropped. In Italy it was without any substantial change contrary to Slovakia where it was an expressive increase. This is evidence that there is a concentration of bigger employers with higher number of employees in Germany compared to Slovakia. This difference was shrinking between 2008 and 2011.

2.3. Yearly turnover

Afterward we observed the progress of yearly turnover in the sector within single economics. The findings are recorded in Table 3 below in Euro millions. The most interesting finding was that the production in single countries was not so much comparable. Along with this fact the development in researched period is inconsistent.

Table 4

Total year turnover (furniture producers; 2008 – 2012) in selected countries

<i>(Euro millions)</i>	2008	2009	2010	2011	2012
Country					
CZ	1 734.2	1 348.2	1 371.8	1 397.5	1 365.9
DE	22 982.4	18 323.6	19 755.8	20 321.8	21 264.9
IT	25 811.2	21 471.5	21 566.9	20 255.6	19 494.8
PL	7 853.1	6 610.6	6 668.7	7 520.7	7 119.9
SK	739.1	629.4	719.8	735.1	752.9
Total	59 120.0	48 383.3	50 083.0	50 230.7	49 998.4

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

While in Czech Republic and Poland the number of furniture producers has grown, the production was rather without any change, respectively it was slightly descend. On the other side in Slovakia the number of firms fell down by more than a half followed by slightly increasing of production. This means a considerable productivity and efficiency increase in source and stuff management in Slovak businesses. While in 2008 the average Slovak firm produced 200,000 Euro yearly, in 2012 the average production increased more than twice by reaching the level of 536,000 Euro. It is necessary to point out that between 2008 and 2009 the cumulative turnover in all selected countries dropped down in volume of more than 10 billions Euros. In 2010 a slight recovery was recorded as the turnover level came up to 50.08 billions Euros. In further periods there was no considerable change noted.

2.4. Value added

Pearson and Clair emphasize the subjective perception of crises of firm as a situation bringing low profit and significant impact, perceived by surroundings as a phenomenon endangering its viability and carrying the personal and social threat for individuals (Gilpin – Murphy, 2008).

Table 5

Total value added (furniture producers; 2008 – 2012) in selected countries

<i>(Euro millions)</i>	2008	2009	2010	2011	2012
Country					
CZ	467.7	385.2	385.9	374.4	383.6
DE	6 958.7	5 972.0	6 745.2	6 540.0	6 961.6
IT	6 545.6	5 747.7	5 025.0	5 317.5	4 923.7
PL	2 166.3	1 941.2	1 996.7	2 032.9	1 805.6
SK	169.3	159.4	204.0	215.2	188.2

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

How did the companies and their management perform during the crisis in terms of value added we can see in Table 5 beneath. When comparing the percentage of value added generated by enterprises it is obvious that the biggest ones are gained by German firms. Apparently in each investigated period the German firms value added over-performed the second one by 2.50 percentage point at least.

Another interesting finding is that while in 2008 Slovak businesses reached value added at the level of 22.91% and they were apparently below benchmark, in 2011 they delivered value added level at 29.27% which fired them out up to second best place. Later in 2012 followed

by decline again down to 25%, which meant again the worst position comparing the others. In those times very closely followed by Italy and Poland.

2.5. Personal costs

Subjective perception of crisis of organisation is as a situation delivering a tiny profit and big impact, perceived by the public as a threat of its viability and bringing personal and social threat for individuals. This has an impact on personal, wages and overall macroeconomic demand. In terms of personal cost the next table shows the performance of furniture producers in single countries. This is one of the “most popular” measurements while speaking about crisis management skills and practices. Some details can be seen in Table 6.

Table 6

Personal cost (furniture producers; 2008 – 2012) in selected countries

(Euro millions)	2008	2009	2010	2011	2012
Country					
CZ	319.4	269.0	262.7	255.2	n/a
DE	5 247.0	4 716.0	5 048.4	4 933.2	n/a
IT	4 558.1	4 280.4	4 129.7	3 949.7	3 747.5
PL	1 314.7	1 065.6	1 143.1	1 183.1	1 166.5
SK	129.9	125.9	140.9	143.1	n/a

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

The numbers itself do reflect either number of firms in relevant economics at the one side or the wage level in every single economy. That is why the distribution is not so consistent. Nevertheless we were interested what the average personal costs were. The average personal costs were calculated as the ratio between the total personal costs paid and the number of employees in relevant year. For more details see Table 7 below.

Table 7

Average personal cost (furniture producers; 2008 – 2012) in selected countries

(Euro)	2008	2009	2010	2011	2012	Change 2008 vs. 2011
Country						
CZ	11 508	10 821	11 478	11 743	n/a	2.04
DE	36 370	36 440	36 524	37 115	n/a	2.05
IT	29 855	30 147	30 402	32 387	31 243	8.48
PL	9 058	7 198	8 023	8 506	8 602	-6.09
SK	9 228	10 170	10 786	10 829	n/a	17.35
Total	23 907	22 897	23 702	24 398	19 228	2.05

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

In 2008 the very biggest average personal costs were posted in Germany getting represent the value of 36,370 Euro a year, followed by Italy with value of 29,855 Euro yearly. Then the list continues by Czech Republic with personal costs at 11,508 Euro and Slovak republic at 9,228 Euro a year. The list of countries is closed up by Poland with personal cost of 9,058 Euro yearly. Comparing with 2011 we can state that in every mentioned country except for Poland the average personal cost increased. This statement is added by fact that between 2008 and 2011 the largest growth in terms of average personal costs was recorded in Slovak republic (+17.35%). The half pace of increase was recorded in Italy (+8.48%), followed by

Czech Republic (+2.05%) and Germany (+2.04%). Despite above mentioned the average personal costs in Poland fell down between 2008 and 2011 by -6.09%.

2.6. Investments

The last monitored category was the volume of investments completed. From the Table 8 below you can recognize that the period we monitored was the period of crisis. Investments are the one of the category that could be hit by crisis in particular. Crisis managers realise their cost save processes often via reduced or stopped investments. Regarding this statement we can declare that in every single country investments fell down in monitored period. Apparently this is obvious that just in capitally strong countries like Germany or Italy the slightly return back to last levels were observed. In central European countries the volume of investments decreased between 2008 and 2010 by 30% to 45%. Since 2010 the tiny increase can be seen just in Slovak republic and Poland. But this can not be considered to be a trend. In Czech Republic the investments decreased even more than a half underlined by the fact that no trend of return is on the stage yet. Interesting is that in 2012 investments heavily dropped in Italy. Since we had no more data available we are unable to uncover and define the deeper reasons behind.

Table 8

Total investment (furniture producers; 2008 – 2012) in selected countries

<i>(Euro millions)</i>	2008	2009	2010	2011	2012
Country					
CZ	124.2	62.6	69.9	58.1	n/a
DE	563.6	422.4	487.1	593.8	n/a
IT	873.6	800.9	773.4	893.5	411.3
PL	525.4	324.0	300.8	313.9	298.2
SK	54.5	25.1	29.6	36.4	n/a

Source: Eurostat Annual detailed enterprise statistics for industry;

Available at <http://appsso.eurostat.ec.europa.eu/nui/show.do>; author's calculations

3. Conclusions and policy implications

Crisis should be seen as a common component of day life of enterprises, economies or even whole societies. Linke defines four types of crises depending on time left to react form managers:

- Explosive crises – accident, disaster with immediate impact;
- Prompt crises – news that surprised the organisation with the very short time left for reaction;
- Progressive crises – could be anticipated by organisation and the steps can be taken to deal with;
- Persisting crises – spreading and proceeding slowly with slow passing step by step (Gilpin – Murphy, 2008).

Enterprises and their managements can not avert crisis because it is constantly close and being prepared to threaten at any time. By contrast it is time demanding for managements to be prepared and ready to face the crisis and to resolve its impacts. Crises management of firm infected by crises can be identified as a pool of principles, tools and procedures with aim to manage the crises and turn the firm out of the crises back to the normal condition. Zuzák differentiates the crises management as follows:

- Crises management in wider manner, which initiates a long time before the crises can be surely identified. From this point of view it is a permanent process including preventive measurements leading to limitation of new crises appearance, creation of early warning systems and an impact mitigation systems and its quick and successful managing;
- Crises management in narrow manner, performing single process of leading the firm out of the crises in stage, when the crises is coming through evidently and is identifiable by its features (Zuzák – Königová, 2009).

Important is an ability to get over the crisis. The crisis could bring accomplished crisis plans being able to protect enterprises in the future. As a main findings about management steps we should state that in general the production was moved from rich markets to emerging markets and rather the best ones did survived, especially in Slovakia. This we can observe as well on the average number of employees. Excluding Slovakia all the markets dropped down in terms of production. In general we can see that in every country managers reduced the costs at least on field of personnel cost and investments. As the research was made on macro economical level, observing the above mentioned we can not state that all the steps were taken by crises management or influenced by crises, but all these steps were taken during the crises. And we anticipate that many of them aimed to get over the crises successfully.

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The comparison of differences between variables influencing the level of wages in the various types of firms in terms of ownership

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Abstract

Several studies based on firm or industry level data have documented heterogeneity regarding to performance and wage inequality between foreign and domestic owned firms. Some studies confirmed the hypothesis that foreign firms overcome domestic owned firms, others rejected it. In our study, we try to identify the differences in wages and performance among three types of firms in terms of ownership in the Slovak Republic. Our data set spans the period 2004-2013, and we used on average more than 2000 firms operating in industrial sector in the Slovak Republic for every year. For the analysis of distinguishes, we used t-test for equality of means. As the estimation technique of our empirical study, we used quantile regression technique (QR). Moreover, for comparison purposes, we also provide the estimates obtained from the standard method ordinary least square (OLS). Finally, regression analysis provides unambiguous statistically significant results, namely positive impact of explanatory variable labour productivity on dependent variable average wages in all type of firms.

Keywords: average wages, labour productivity, ownership

JEL classification: D22, L25

1. Introduction and Literature background

Governments around the world usually offer significant incentives to attract foreign investors or inward their investment. The purpose of their activity is to gain the primary benefits which is ultimately reflected in increasing of the national income. (Görg – Greenaway 2003). Many countries or managers from domestic firms hardly try to attract investors or FDI in hoping that knowledge and others brought by multinationals spill over to domestic firms and increase their productivity (Javorcik, 2004). Recently, many studies were based on investigating whether FDI inflows in firms affect the performance of firms; specifically if foreign firms overcome domestic firms regarding labour productivity and how is the level of wages and qualified workforce in both domestic and foreign firms.

Liu, Parker, Vaiyda and Wei (2001) investigated the effect of FDI on labor productivity in China and the results suggest that foreign presence in country was associated with higher level of labour productivity. Moreover, the similar results confirmed the study which was executed in India. Foreign ownership is found to have a positive impact on the performance of pharmaceutical companies (Kuntluru – Muppani – Khan, 2008). Accordingly, we are concluded that labour productivity closely related with level of wages. Generally, higher wages are due to higher productivity. There are many carried out studies cross different countries which confirm wages differences between firms where presence of foreign capital and domestic firms is. In the USA recognizably valid the fact that foreign owned firms pay higher average wages in comparison their counterparts (Ooms – Jensen, 1998). Another study

realized in the case of USA also confirms that foreign-owned firms pay higher wages than domestically owned firms due to higher quality of labour (Lipsey, 1994). Study realized in Mexico and Venezuela confirms that foreign firms pay higher wages than domestic ones Aitken et al. (1996). Lipsey and Sjöholm (2001) investigated this issue in Indonesian labour markets and they confirmed the fact that higher presence of FDI leads to higher wages, and moreover higher foreign presence raises the general wage level in industry. In the United Kingdom there was found that foreign firms pay more compared to domestic ones and this corresponds to their higher levels of productivity (Conyon et al., 1999). In the case of Portugal, author confirmed that foreign-firms premium is large and significantly positive (Martins, 2004). Even in the case of Italy, there was demonstrated that foreign firms exhibit higher wages in comparison domestic counterparts (Grasseni, 2010). For countries which are situated in Eastern European transition economies the result of the realized study acknowledge the findings that foreign firms exhibit higher wage growth in short time than their domestic counterparts and the observed wage disparities are most pronounced typically for low paying firms which are situated in Eastern European transition economies. (Oberhofer – Stöckl – Winner, 2012). Study, realized in CEECs come with findings that higher total labour costs affect FDI negatively, but on the other hand higher level of labour productivity have a positive impact on FDI. (Bellak – Leibrecht – Riedl, 2008). Regarding emerging markets specifically Bulgaria, Romania and Poland, Konings (2000) come with evidence that foreign firms do not perform better than domestic ones, except in Poland, and what is more there was no evidence of positive spillovers of foreign investment to domestic firms. The study realized in the case of Hungary confirmed that foreign firms perform better than local firms and inflow of foreign investment has a positive spillover effect on labour productivity of local firms in the same sector. (Schoors – Tol, 2002). The same results that foreign investment had positive impact on total factor productivity growth of recipient firms, mirrors the study realized in the Czech Republic (Djankov – Hoekman, 2000). Investors prefer to invest in countries such as Slovak Republic. Accordingly, we are confident that they are mainly interested for cost benefits which depend on low labour costs coupled with a qualified workforce. (Gauselmann – Knell – Stephan 2011). This is the line with our empirical study which confirmed the fact that foreign owned firms established in the Slovak Republic and international firms although pay more, have better labour productivity in comparison with domestic ones. Regarding of a qualified workforce, it is on the comparable level.

1.1 Model and Data

As the primary source of data on average wages, ROS, average number of R&D employees and other variables were obtained from Industry Yearbooks and Statistical Yearbooks of Science and Technology published by the Statistical Office of the Slovak Republic.

The variables used in the empirical analysis are following: labour productivity, average wages, return on sales, production, average number of R&D employees. Labour productivity is in our empirical study defined as turnover for own performances and goods per employee in eur. Average wages are represented by average monthly wage per employee in eur. Return on sales is measured as profit or loss before taxation over turnover for own products and services and turnover for own performances and goods. Variable production is measured in eur, average number of R&D employees mirrors the R&D intensity both domestic and foreign firms.

We conducted panel analysis of variables referring to firms operating in industrial sector. Our data set covers the period 2004-2013. Statistical Industry Yearbooks contain two types of

results of the processing of corporate annual reports. The first group involves results of processing of corporate annual reports submitted by firms with 20 or more employees and the second group includes processing results of corporation with up to 19 employees, but reaching yearly turnover of more than 5 million euros. Our empirical study involves only results of mentioned industry firms. In our empirical study we used three types of firms in terms of ownership. Their names reflect the type of ownership; specifically private inland firms, international with preponderance of private sector firms (next only international firms) and foreign firms, thus making it possible to distinguish in the empirical study. Private inland firms represent original domestic firms where capital is composed of only financial and nonfinancial deposits of firm's owners. For the observed period, this group contains on average 1380 firms in each of year. International firms involve the firms, where the capital in the terms of ownership is mixed. Average number of this group of firms for each year of observed period is 286. Ultimately, the last category namely foreign firms represents foreign investors which overcomes the borders of domestic market and extend their market share with establishing foreign affiliates in abroad. Average number of this group of firms is 552 in each of year. The empirical analysis reported by the paper is performed using t-test for equality of means. What is more, this test is used to determine if two sets of data are significantly different from each other. We used a two-sample location test of the null hypothesis that the means of two populations are equal. As the estimation technique of our empirical study we used quantile regression technique (QR) introduced by Koenker and Bassett (1978). In the quantile regression, the parameters are estimated at various quantiles; specifically in 5%, 25%, 50%, 75%, and 95%.

$$Y_t = \beta_{0(q)} + \beta_{1(q)}LP_t + \varepsilon_t \quad (1)$$

$$Y_t = \beta_{0(q)} + \beta_{1(q)}LP_t + \varepsilon_t \quad (2)$$

$$Y_t = \beta_{0(q)} + \beta_{1(q)}LP_t + \varepsilon_t \quad (3)$$

$0 < q < 1$ – for all models

Where Y denotes dependent variable average wages; LP represents explanatory variable labour productivity; index $t = 2004, \dots, 2013$ is the time span in our model; $\beta_{0(q)}, \beta_{1(q)}$ are parameters to be estimated for a given value of the distribution's quantile q in $(0;1)$; ε_t is an idiosyncratic error term which comprises others factors influencing average wages. (1) represents model QR for foreign firms; (2) represents model QR for international firms; (3) represents model QR for private inland firms.

Moreover, for comparison purposes as the estimation technique the standard method ordinary least square (OLS) was used. Baseline estimating equation is in following form:

$$Y_t = \beta_0 + \beta_1LP_t + \varepsilon_t \quad (1)$$

$$Y_t = \beta_0 + \beta_1LP_t + \varepsilon_t \quad (2)$$

$$Y_t = \beta_0 + \beta_1LP_t + \varepsilon_t \quad (3)$$

Where Y denotes dependent variable average wages; LP represents explanatory variable labour productivity; index $t = 2004, \dots, 2013$ is the time span in our model; β_0, β_1 represent parameters to be estimated; ε_t is an idiosyncratic error term which comprises others factors

influencing average wages. (1) represents model OLS for foreign firms; (2) represents model OLS for international firms; (3) represents model OLS for private inland firms.

2. Results

Table 1 represents a summary of the descriptive statistics of dependent variable average wages cross studied types of firms in terms of ownership. The results of descriptive statistics reflect that firms with the presence of foreign capital pay more as compared to domestic ones. The high standard deviation implies that there is a larger spread of average wages around the mean; specifically in foreign and international firms. As we can see, the coefficient for skewness points out that distribution of average wages is skewed to the left compared to the normal distribution in both international and private inland firms but it is opposite in the case of foreign firms. Regarding coefficient for excess kurtosis, in all cases were confirmed that distribution of average wages is platykurtic and has a lower and wider peak around the mean compared to the normal distribution. Finally, mentioned findings which regard normal distribution of average wages we confirmed with Shapiro – wilk test. The null hypothesis that dependent variable comes from normal distribution was not rejected at conventional level of statistical significance 5%, for all cases.

Table 1
Summary statistics of depended variable

Variable: Average Wages	International	Foreign	Private Inland
Mean	932,16	827,03	674,46
Median	961,99	810,11	681,51
Minimum	669,72	658,67	520,55
Maximum	1 098,00	1 044,00	805,00
Standard Deviation	147,82	124,46	98,03
Skewness	-0,45	0,37	-0,26
Ex.kurtosis	-1,09	-0,89	-1,18
Shapiro-Wilk. Test	W = 0,921353 p-value 0,368377 **	W = 0,967915 p-value 0,870866 **	W = 0,953294 p-value 0,707537 **

Source: Own processing

Note: Confidence level that confirms or reject null hypothesis is 5% (**).

Table 2 reflects the results of descriptive statistics of the explanatory variables. Concerning all studied variables; best results achieved international firms in which ownership in terms of capital is mixed.

Table 2
Descriptive statistics of explanatory variable

Variable	Mean <i>International</i>	Mean <i>Foreign</i>	Mean <i>Private inland</i>	S.D <i>International</i>	S.D <i>Foreign</i>	S.D <i>Private inland</i>
Labour productivity	261 090	166 710	77 623	45 755	37 646	17 782

ROS	0,031753	0,020883	0,020246	0,0067507	0,011048	0,0058361
Production	59 064 000	42 677 000	7 766 800	11 585 000	7 294 300	788 030
R&D employees	2,0045	1,6404	1,8308	0,48975	0,72549	0,36474

Source: Own processing

Tables 3, Table 4, and Table 5 reflect means and standard deviation of studied variables; specifically average wages, labour productivity, return on sales (ROS), production, and average number of R&D employees. Moreover, following table reports the results of t-test for equality of means for the groups of studied types of firms in terms of ownership.

Basic descriptive statistics in table 3 reveals that international firms overcome foreign firms in terms of labour productivity, ROS, production, average number of R&D employees. t-test for equality of means at the 1%, 5 %, and 10% level of significance shows that there are unambiguous and statistically significant differences between international and foreign firms with regard to labour productivity and production. T- test rejects null hypothesis at the 5% level of significance and confirms differences between international and foreign firms in case of variable ROS. Although, there is no evidence of statistically significant differences with regard to variables average wages and R&D employees but the interesting is the fact that international firms pay higher wages compared to foreign firms and have on average more R&D employees. Regarding level of wages, our empirical study is in the contrary with the findings that higher presence of FDI leads to higher wages (Lipseý – Sjöholm, 2001). For international firms were confirmed positive correlation between the level of wages and labor productivity; increase in labor productivity accompanied by an increase in wages and opposite. Other reason is related to the fact that top management of international firms consists of foreign managers, who come to other countries with capital, have own technology and know-how and local managers, who well-known the local market, needs of employees and customers. These are the reasons why international firms overcome foreign firms in all studied variables.

Table 3

T-test for equality of means for the group of international firms and foreign firms

	International firms	Foreign firms	T-test for equality of means
Variable	Mean (S. D.)	Mean (S. D.)	T-value (P- value)
Average Wages	932,16 147,817	827,035 124,459	1,72037 (0,1035)
Labour Productivity	261 087 45 754,9	166 708 37 646,4	5,03703 (0,0001014) ***
ROS	0,0317528 0,00675074	0,0208835 0,011048	2,65478 (0,01885) **
Production	59 063 600 11 584 600	42 677 200 7 294 300	3,78519 (0,001797) ***
R&D employees	2,00446 0,48975	1,64041 0,499838	1,64514 (0,1183)

Source: Own processing

Note: P-values for the t-test are in parentheses. Null hypothesis: means of independent variable is equal. Confidence level that confirms or reject null hypothesis is 10 % (*), 5% (**), 1 % (***)

Table 4 is devoted to comparison of variables between foreign firms and private inland firms. Descriptive statistics reflects that foreign firms achieve better results in the case of all variables but t-test for equality of means at the 1%, 5 %, and 10% level of significance shows statistically significant and positive results only regarding variables average wages, labour productivity and production. Foreign firms pay more compare to domestic ones. It is the line with findings e.g. (Ooms – Jensen, 1998; Aitken – Harrison – Lipsey, 1996; Conyon et al., 1999). Results of our study related to the fact that foreign firms have more capital, better technology and work organization Usually this is the reason why foreign workers produce more products and subsequently achieve higher level of labour productivity in comparison with domestic counterparts. The study realized in the case of Hungary confirmed that foreign firms perform better than local firms and the inflow of foreign investment has a positive spillover effect on labour productivity of local firms in the same sector. (Schoors – Tol, 2002). The same results that foreign investment had positive impact on total factor productivity growth of recipient firms, mirrors the study realized in the Czech Republic (Djankov – Hoekman, 2000). Interestingly, foreign firms established in the Slovak Republic achieve better level of ROS and have on average less R&D employees but the differences are negligible. Regarding skilled workforce, many studies confirm the fact that investors prefer to invest to countries such as Slovak Republic. Accordingly, we are confident that they are mainly interested for cost benefits which depend on low labour costs coupled with a qualified workforce. (Gauselmann – Knell – Stephan 2011).

Table 4

T-test for equality of means for the group of foreign firms and private inland firms

	Foreign firms	Private inland firms	T-test for equality of means
Variable	Mean (S. D.)	Mean (S. D.)	T-value (P- value)
Average Wages	827,035 124,459	674,463 98,0322	3,04533 (0,007312) ***
Labour Productivity	166 708 37 646,4	77 622,7 17 781,6	6,76629 (0,00001997) ***
ROS	0,0208835 0,011048	0,0202464 0,00583605	0,161245 (0,8744)
Production	42 677 200 7 294 300	7 766 770 788 028	15,047 (0,0000001098) ***
R&D employees	1,64041 0,499838	1,83077 0,364738	-0,972873 (0,3451)

Source: Own processing

Note: P-values for the t-test are in parentheses. Null hypothesis: means of independent variable is equal. Confidence level that confirms or reject null hypothesis is 10 % (*), 5% (**), 1 % (***).

In Table 5 we can see overview of results regarding comparison between international and private inland firms. The results of descriptive statistics are in conformity with results of performed t-test for equality of means. Test for equality of means at the 1%, 5 %, and 10% level of significance shows statistically significant and positive results in all studied variables. International firms pay higher wages, achieve better level of labour productivity, ROS, production and have on average more R&D employees. Regarding labour productivity Liu et al. (2001) investigated the effect of FDI on labor productivity in China and the results suggest that foreign presence in country was associated with higher level of labour productivity. It is the line with findings e.g. (Kuntluru – Muppani – Khan, 2008; Conyon et al., 1999). Lipsey

and Sjöholm (2001) confirmed the fact that higher presence of FDI leads to higher level of wages.

Table 5

T-test for equality of means for the group of international firms and private inland firms

	International firms	Private inland firms	T-test for equality of means
Variable	Mean (S. D.)	Mean (S. D.)	T-value (P- value)
Average Wages	932,16 147,817	674,463 98,0322	4,59439 (0,0003509) ***
Labour Productivity	261 087 45 754,9	77 622,7 17 781,6	11,8187 (0,000000136) ***
ROS	0,0317528 0,00675074	0,0202464 0,00583605	4,07755 (0,0007839) ***
Production	59 063 600 11 584 600	7 766 770 788 028	13,9704 (0,0000002089) ***
R&D employees	2,00446 0,48975	1,83077 0,364738	0,899465 (0,3817)

Source: Own processing

Note: P-values for the t-test are in parentheses. Null hypothesis: means of independent variable is equal. Confidence level that confirms or reject null hypothesis is 10 % (*), 5% (**), 1 % (***).

Table 6 summarizes the results of the quantile regression. In all types of firms were confirmed the statistically significant effect of variable labour productivity on average wages. Regarding foreign firms, coefficient of labour productivity becomes positive and statistically significant at all quantiles, as well as all confidence level. R-square value acquires the positive level; specifically 0,961401. The results of quantile regressions are consistent with the OLS results in terms of statistical significance. As regards international and private inland firms, quantile regression results also confirm the statistically significant and positive impact of variable labor productivity on average wages. Statistical significance was confirmed at all quantiles a well as all confidence level; specifically 1%, 5%, 10%. In both cases, results of quantile regression are consistent with the results of OLS. Differences have been identified in the case of the R-square value. R - square as regards international firms acquires value of 0,71768 and in the case of private inland firms, R- achieves best value from all types of firms; specifically 0.979812. Our empirical study confirms the fact that labor productivity is closely related to the wage level. Among these variables, there is positive correlation. Higher labor productivity is associated with higher wages, and opposite. This positive correlation is not affected by the ownership of the firms in terms of presence of foreign capital.

Table 6

Results of quantile regression

Foreign firms		Quantile regression estimates					OLS Estimates
		5%	25%	50%	75%	95%	Model (1)
Model 1 Awages / LP	Cons	267,546 ***	290,753 ***	256,898 ***	260,617 ***	380,969 ***	286,643 ***
	t- ratios	17,9364	9,14198	7,85384	7,85384	9,64564	7,321
	LP	0,0031881 ***	0,0030845 ***	0,00343 ***	0,0034478 ***	0,0029181 ***	0,0032415 ***

	t- ratios	36,4396	16,5353	17,9178	28,1253	12,5965	14,12
R-squared	0,9614	P-value(F)	0,000000617				
International firms	Quantile regression estimates						OLS Estimates Model (2)
Model 2 Awages / LP	Cons	41,7546	62,483	173,281	628,507 ***	707,032 ***	217,601
	t- ratios	0,956556	0,443416	0,9598	7,29205	50,7043	1,355
	LP	0,0030665 ***	0,0031225 ***	0,00293 ***	0,0014892 ***	0,0012401 ***	0,0027368 ***
	t- ratios	18,5936	5,86493	4,30017	4,57308	23,5389	0,002
R-squared	0,71768	P-value(F)	0,000000617				
Private Inland	Quantile regression estimates						OLS Estimates Model (3)
Model 3 Awages / LP	Cons	227,423 ***	243,054 ***	252,89 ***	326,299 ***	345,625 ***	250,86 ***
	t- ratios	31,6233	10,8466	7,774	24,5042	32,6179	11,4
	LP	0,005555	0,005426	0,0054	0,004701	0,004475	0,0054572 ***
	t- ratios	61,3527 ***	19,2337 ***	13,193 ***	28,0419 ***	33,5487 ***	19,7
R-squared	0,97981	P-value(F)	0,000000046				

Source: Own processing

Notes: The first t-ratios, *, ** and *** mean that constants are statistically significant at 10%, 5%, and 1% significance level. The second t ratios, *, ** and *** mean that coefficients of labour productivity are statistically significant.

3. Conclusions

There are many studies whose subject matter examination was based on comparing the performance of domestic and foreign firms. Some studies confirmed that foreign firms overcome domestic owned firms regarding to performance and pay higher wages in comparison with domestic counterparts, others rejected it. In our study, we try to find out how the differences are regarding to wages, and performance between three types of firms in terms of ownership in the Slovak Republic; namely foreign firms, international firms and private inland firm. The second part focuses on the assessment of the impact of variable labour productivity on average wages. Results show that international firms overcome foreign firms in terms of labour productivity, ROS, production, average number of R&D employees. There are unambiguous and statistically significant differences between international and foreign firms with regard to labour productivity ROS and production. Although, there is no evidence of statistically significant differences in regard to variables average wages and R&D employees but the interesting is the fact that international firms pay higher wages compared to foreign firms and have on average more R&D employees. A comparison between foreign and domestic firms provides the following results. Foreign firms achieve better results in the case of all variables but t-test for equality of means at the 1%, 5 %, and 10% level of significance

shows statistically significant and positive results only regarding variables average wages, labour productivity, and production. As regards the comparison of international and domestic firms T -test for equality of means at the 1%, 5 %, and 10% level of significance shows statistically significant and positive results in all studied variables. International firms pay higher wages, achieve better level of labour productivity, ROS, production and have on average more R&D employees. The results of quantile regression are in conformity with results of OLS. To sum up, in all types of firms as well as at all levels of quantiles the statistically significant and positive impact of variable labor productivity on average wages was confirmed. Among these variables, there is a direct correlation.

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The contribution of sport industry to GDP and employment in the European Union and USA

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Abstract

This paper focuses on the main areas of the economic impact of sport industry in the European Union and the United States. This article focuses on the definition of the sports sector - which is a part and what is not a part of it. It compared the two largest sports market in terms of the impact on the sports industry on GDP as well as its impact on the creating of new jobs.

Keywords: *sport industry, GDP, employment*

JEL classification: *L83, Z20*

1. Introduction

Sport fills people not only feeling of victory or lost. Someone sports, because he wants to keep fit. Someone sports, because he wants to earn some money on it. Huge sponsorship subsidies are driving many people to incredible performance. Wimbledon, World Cup, Olympic Games or local tournaments for enthusiasts money supply not only athletes, but also the economy.

Did you know that the longest tennis match lasted three days and ended 70-68 on fifth set? Fifthly sets, according to all the Grand Slams and the Olympic tournament (except for US Open) does not play tiebreak, but played on the so-called “advantage set”, which can lead to an infinite number of games (Rothenberg, 2010).

Sports occupy a unique position in the human psyche. Athletic contests around the world have long been a way for individuals, institutions, cities, and nations to define themselves. Sports can bring out the best and the worst in people. As early as the 19th century, universities used football to give their students a sense of identity. Cities feel that they have achieved “big time” status once they have attracted a major league franchise. At the national level, Japan’s performance in the 2011 Women’s World Cup provided a much-needed lift to a country devastated by the earthquake and tsunami and shaken by a near nuclear disaster (Leeds, Allmen, 2015).

Let’s take a look at how sport affects GDP and employment. Probably everyone knows that sport creates jobs in tourism, administration buildings, selling sportswear and, of course, creates jobs for athletes.

2. GDP and sport

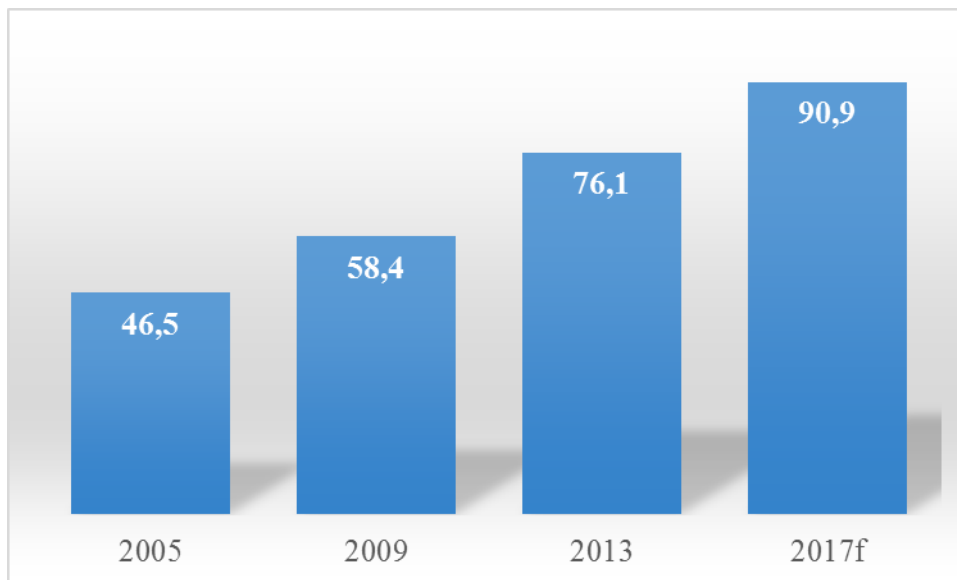
By the time the 2014 FIFA World Cup ended, 3 million people had gone through the turnstiles at 12 Brazilian stadiums, paying in some cases thousands of dollars per seat to see

the world's greatest footballers. On TVs around the world, more than 3 billion people watched at least a minute of the Cup, thanks to media rights worth as much as 1,7 billions dollars total. And the TW networks were rewarded handsomely with record ratings: from 20 million Chinese who watched the Germany-Argentina final despite a 3 a.m. local start time to the 90 of Dutch households that watched the Netherlands' semifinal game against Argentina. Yet, within the scope of the global sports events market, the World Cup is a fraction of sports' total economic impact. Kearney finds that market for sports events in 2014 – revenues from tickets, media rights, and sponsorship – will be worth close to 80 billion dollars, with impressive annual growth of 7 percent. When we add in sporting goods, apparel, equipment, and health and fitness spending, the sports industry generates as much as 700 billion dollars yearly, or 1 percent of global GDP (Collignon, Sultan, 2014).

In 2010, sport and sport-related activity generated Gross Value Added (GVA) of £20.3 billion – 1.9% of the England total. This placed sport within the top 15 industry sectors in England and larger than sale and repair of motor vehicles, insurance, telecoms services, legal services and accounting. Sport and sport-related activity is estimated to support over 400,000 full-time equivalent jobs – 2.3% of all jobs in England Sport also generates a range of wider benefits, both for individuals and society: The benefits of playing sport include the well-being/happiness of individuals taking part, improved health and education, a reduction in youth crime, environmental benefits, stimulating regeneration and community development, and benefits to the individual and wider society through volunteering. Consumption of sport benefits include the well-being/happiness of spectators, and the national pride/feel good factor through sporting success/achievement. The economic value of sport in terms of health and volunteering in England is estimated in 2011-2012 to be: volunteering £2.7 billion + health £11.2 billion (Sport England, 2013). Estimates of sport-related output are based on gross value added (GVA)¹ by the sport sector. Gross value added is calculated as the sum of wages and profits generated in the sector. Sport-related economic activity increased from £3,358 million in 1985 to £13,649 million in 2003 and £16,668 million in 2008 (based on current prices). This represents a real increase of 140% over the period 1985 to 2008 (based on constant prices). In the same period (1985 to 2008) the English economy (gross value added) grew by 97% in real terms. This highlights that the growth of the sport economy has outstripped that of the English economy as a whole. (Sport England, 2010).

Why should GDP help improve sporting performance? That takes one away from correlation to causation and specific hypotheses. Higher GDP means better health and education outcomes, better sporting infrastructure and more resources spent for sports. One can import foreign coaches and equipment, participate in competitions abroad. Private sponsorships surface. Indian success in many individual events (shooting, tennis, chess, snooker, squash, badminton, boxing, athletics and even weightlifting) can be ascribed to such phenomena. One should however be careful in not pushing the GDP argument too much. For instance, why does Manipur perform better than Gujarat? What explains Kenya and Ethiopia in running or Cameroon in football? That apart, it isn't just a question of resources being available, it is also a question of how they are spent. In multi-sport events, medals are concentrated in track and field and swimming (Debrow, 2011).

Figure 1
Sport market revenue (billion dollars)



Source: Herve Collignon, Nicolas Sultan 2014, authors calculations
Notes: 2017f – forecast

The sports events market is growing impressively. Between 2009 and 2013 – a typical sports cycle that included the Winter Olympics and World Cup in 2010 and the Summer Olympics and the UEFA European Championship in 2012 – sports market revenues increased almost 18 billion dollars (7 percent CAGR - compound annual growth rate), with a peak of 78,2 billion dollars in 2012, when London hosted the Olympics and Poland and Ukraine hosted the European Championships. The revenues for yearly events are growing steadily too, from 58,4 billion dollars in 2009 to 76,1 billion dollars in 2013. At a rate of 7 percent per year over that stretch, the sports market has grown faster than GDP in nearly every country – and many times more in some major markets such as the United States, Brazil, the UK and France (Collignon, Sultan, 2014).

Table 1
CAGR (%)

	2005-2009	2009-2013	2013-2017
Football	8%	9%	5%
U.S. sports	5%	5%	4%
Formula 1	3%	4%	4%
Tennis	2%	5%	3%
Golf	3%	2%	4%
Other	11%	9%	9%
Total	6%	7%	5%

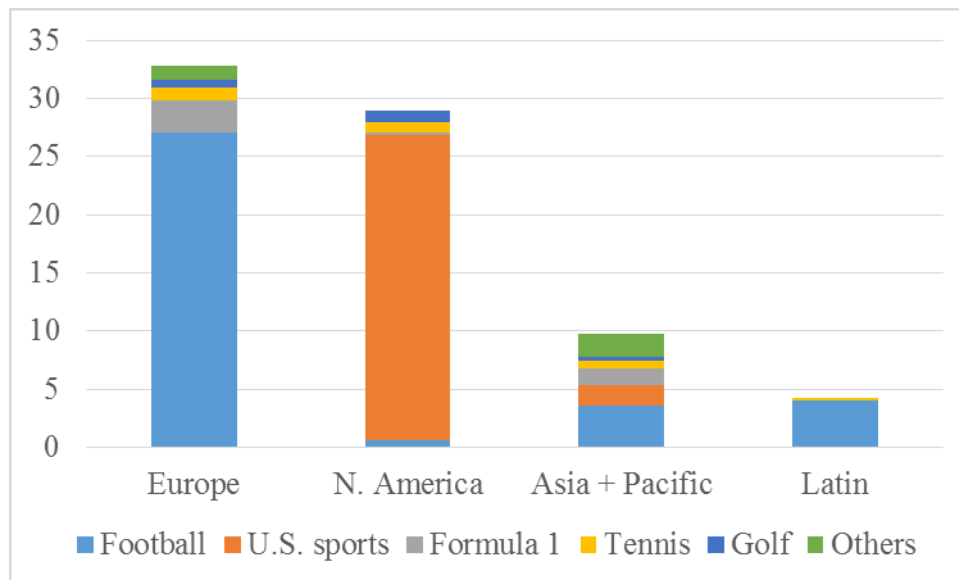
Source: Herve Collignon, Nicolas Sultan 2014

Football is still on first place. On a sport-by-sport comparison, growth occurred nearly across the board, but football (soccer) is leader. Football revenues increased from 25,1 billion dollars in 2009 to 35,3 billion dollars in 2013 and a CAGR of 9 percent. Only cricket, at 10 percent per year, had faster growth over that period. The sport's revenues in Europe, the

Middle East, and Africa alone were 271,1 billions dollars in 2013. By comparison, the six major U.S.-based sport (American football, baseball, ice hockey, basketball, stock-car racing and college sports) combined for 26 billions dollars in the United states (Collignon, Sultan, 2014).

Figure 2

Sporting event market (billions dollars, 2013)



Source: Herve Collignon, Nicolas Sultan 2014

Note: U.S. sports contains: NFL (U.S football), NBA (basketball), NHL (ice hockey), NASCAR (motor sports), NCAA (college sports)

On Figure 2 you can see the layout of sport in various areas. As is clear from the figure, Europe has the largest share of football. In America, it is again a mixture of sports that are quintessentially only for the area such as North America. Asia-Pacific is a mixture of sports industry. From the west, this area is surrounded by the European market. And from the east, this area is surrounded by America. Therefore, this region carries features such as the European market, as well as the American. Latin America is expressly football market.

Table 2

Sporting event market (billions dollars, 2013)

Sport	Europe	N. America	Asia + Pacific	Latin America
Football	27,1	0,6	3,6	4
U.S. sports	0	26,3	1,7	0,2
Formula 1	2,7	0,2	1,5	0
Tennis	1,2	0,9	0,6	0,3
Golf	0,6	1	0,4	0
Others	1,2	0	2	0
Total	32,8	29	9,7	4,5

Source: Herve Collignon, Nicolas Sultan 2014

Note: U.S. sports contains: NFL (U.S football), NBA (basketball), NHL (ice hockey), NASCAR (motor sports), NCAA (college sports)

Europe is a stable leader in the field of sports and sports industry. In the first place it is held football with a huge lead over Formula 1. Formula 1 is followed by tennis and golf. The

term other sports - its means all other sports. Europe is sharing in the sports market 43 percent and its in the first place. Its followed by North America, which covers 38 percent of the sports market. Category Asia and the Pacific are the 13 percent in third place. And the last region is Latin America, with 6 percent.

3. Employment

Three different methods can be used in order to calculate the direct employment effects:

- Method 1 uses the average personnel expenditure per year and per person to calculate the effects.

- Method 2 uses a common “employment structure” of the sector proportional to the value-added.

- Method 3 is based on labour productivity. The marginal labour productivity is defined as the ratio of the change of productivity to the change of labour input (either number of employees or working hours). The marginal labour productivity indicates the change of productivity per additional employee. The inverse ratio, the so-called work coefficient, is a measure for the number of persons employed in the production process. For an extensive evaluation of the employment effects, further factors have to be considered. For example, the occupation structure is an important issue. The occupation elasticity is usually larger for workers than for employees, so that an expansion of the construction activities will lead to a significant increase in the number of workers. A significant increase in the number of employees is however not to be expected. Another important factor is the extent of capacity utilization in the appropriate sectors. The full employment effect is only realised at 100 percent capacity utilization and an appropriate increase in the capacities due to the projected extra demand. Beyond that, the tendency exists to compensate a nonpermanent demand by overtime and extra shifts rather than by an additional employment of workers (SportsEconAustria, 2012).

Youth unemployment is too often underestimated. Its complex (non)solution raises problems in the labor market for all sectors of the economy (Martišková, 2015). The Europe 2020 has set a target for the employment rate in 2020 of 75% for the age group 20-64 years. This measure is very useful for the development of the sports sector, as today's young population wants to be fit (Klimko, Rievajová, 2015).

Sport-related employment in England is estimated at 441,000 in 2008, accounting for 1.8% of all employment in England. Sport-related employment has increased from 304,000 in 1985 to 441,000 in 2008, a 45.1% increase. In the eight years between 2000 and 2008, employment in sport increased by 20.7%. Sport related employment bucked the declining trend of the UK economy. During the period 2005-2008, sport related employment increased by 2% (Sport Englad, 2010).

The share of sport-related employment for the European Union is 1.49% for the narrow definition and 2.12% for the broad definition of sport. The share of what is generally known as the organised sports sector is reflected in the statistical definition. The employment rate according to the statistical definition is 0.31%. Sport-related employment (direct effects) amounts to 3,138,350 persons according to the narrow definition and 4,460,888 persons with respect to the broad definition. For the statistical definition sport-related employment is 659,770.

Figure 3
Sport Employment in USA and EU



Source: own calculation, Burrow 2013, SportsEconAustria, 2012

Summing direct and indirect effects, sport leads to an employment of 5,085,137 persons (2.42% of EU employment) in the narrow definition. For the broad definition, values of 7,378,671 persons (3.51%) can be reported, while it is 1,154,389 persons (0.55%) for the statistical definition of sport (SportsEconAustria, 2012). Figure no. 3, using statistical definition. It also mentioned a narrow board definition, to highlight the very complex issue of the definition of the sports industry.

For the statistical definition sport-related employment is 456,000 in USA which is more than 200 000 jobs less than in Europe. Statistical definition is based on these sports occupations (Burrow, 2013):

- Athletes & sports competitors Coaches & scouts
- Umpires, referees, and other sports officials
- Entertainers & performers, sports & related workers, all other
- Gaming & sports book writers and runners
- Agents & business managers of artists, performers, and athletes

3. Conclusions and policy implications

Sports sector is one of the fastest growing economic sectors in the world. first of all we have to realize that sport wasn't "developed" to produce money. Commercialism in sport receiving progressively until made him a very profitable business. The problem of sport as a whole is that it is easily suggestible rules and behavior referee. This is a rear view hundreds of reasons why consumers may prefer to choose another activity as a sport. The greatest advertisement for country is its national sports team. It's a sort of imaginary fight on the sports field. Some Latin American countries are literally linked with football. Any failure undermines national economy because of riots. As well as the eventual great success can lead to unrest and a very "tough" celebrations. The best example is FC Barcelona. The Catalans giant, is more than just a club. For the Catalans themselves, it is a philosophy of life and national pride.

Sports industry needs guidance and regulation. According to available data it might create one of the main sectors involved in the creation of GDP.

Sport event market is growing almost constant rate. In the period 2005 - 2009 grew by 6% in the period 2009-2013 grew to 7%. By 2017, the predicted growth is about 5%. The question is, if the world economy can maintain this trend. On the one hand, it may seem that this trend will be constant (increasing) tendency. Actions of governments that promote a healthy lifestyle, have the effect of increasing sports based on the full primary (elementary) level. Returning physical education in schools (or increasing subsidized hours), as well as tax relief for club members and vouchers for sports or holiday trips, creating huge scope for growth sports sector. On the negative side remains the fact that sport as such in the very nature does not generate profit. The vast majority of sporting events are only at the amateur level. It can say that the added value of such events is more social and also for the prevention of the civilization diseases.

Sport creates for people and for the country very positive effects. On the one hand, we have social, health (physical activity) and cultural aspects. On the other hand, we have economic considerations. As the EU has a sports jobs at nearly 660,000 jobs in the definition of sport as we all understand it. However, if we use a board definition of grasses number of sports employment is nearly at 7.4 million employees. In 2005, during the Austrian presidency of the EU, Austria undertook a study on the impact of sport. According to their analysis, in 2005, it was employed in the sports sector over 15 million employees which was of the 5,4% labour force (White paper on sport, 2005). In comparison with 2009, thus there are very different data We can therefore conclude that the sports sector occurs very problematic aspect – it's definition.

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Where will new sustainable jobs come from? The case of green jobs

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Abstract

There are some growing sectors in the European Union, such as digital economy, health care and green economy. This paper reviews the green economy as one of the key sectors with significant employment potential. There are plenty of successful projects across the European Union supporting green jobs, including a couple of pilot projects in the field of green economy. The paper is aimed at identifying the projects that could generate better jobs for vulnerable groups in the labour market, e.g. young people and long-term unemployed, and it concludes the overall potential of these projects.

Keywords: green jobs, sustainability, vulnerable groups

JEL classification: J 01

1. Introduction

The Europe 2020 is based on the assumption that green, low-carbon and energy efficient economy is crucial to achieve smart and inclusive growth. Inefficient use of resources, unsustainable pressure on the environment and climate changes, as well as social exclusion and inequality pose challenges for long-term economic growth.

Green growth is a challenge and an opportunity for the labour market and skills that are key factors for enabling green growth. The transition will bring major changes in the overall economy and in a wide range of sectors, and thus create new jobs (OECD 2012). In this context, it is important for better targeting and coordination of labour market measures and tools to establish the conditions necessary to promote green jobs, a support to overcome the mismatch between skills shortages and labour shortages, and anticipating changes in the needs of human capital.

The Employment package from 2012 identified the green economy as the major source of job creation in Europe. It is estimated that the implementation of measures in the field of energy efficiency could create or maintain up to 2 million jobs by 2020 and the renewable energy sources development could lead to 3 million new jobs by 2020 (European Commission 2012a). However, policies which lead to greening the economy may have an impact on employment in carbon-intensive sectors or require adaptation of skills and working methods. Therefore it is important to ensure that the skills needed in the emerging green industries could be anticipated and developed.

There is the analysis on green jobs undertaken by the Commission (accompanied the Annual Growth Survey 2013) that forecasts that approximately 2.8 million jobs could be generated through increasing resource efficiency. This estimate is ambitious and policies consistent with the Europe 2020 targets are necessary.

Annual Growth Survey 2014, as well as the previous one in 2013, emphasized the potential for job creation in the green economy and the need to develop the strategic frameworks in which labour market and skills policies play an active role in supporting job

creation. However, integrated policy frameworks combining green growth and employment exist only in a few Member States, while the majority of them has a disjointed and fragmented approach (European Commission, 2013).

2. Green economy and European Union policy to support green jobs

UNEP (2008) defines the green economy as the economy, which leads to improvement of human well-being and social equity while reducing environmental risks and ecological damage. In the simplest terms, a green economy can be seen as a low-carbon, resource-efficient and promoting inclusive society. In terms of green economy the increase of income and employment should be driven by public and private investments that reduce carbon emissions and pollution, increase energy efficiency and resource efficiency, and prevent the loss of biodiversity and ecosystem disruption. Such investments are necessary to stimulate and encourage by targeted public expenditures, policy reforms and changes in regulatory areas.

The development of a competitive, low-carbon and energy-efficient economy will bring fundamental transformation in terms of business processes and the necessary skills that will contribute to the creation of so-called green jobs. In the longer term, many of jobs will be transformed to the green jobs. In this context, it is also the notion of green jobs associated with the various sectors of the economy. Thus, it is not only about certain sectors such as sector of renewable sources (European Commission, 2012b).

Green jobs include jobs that are dependent on the environment, or are created, substituted or redefined (in terms of skills, working methods, etc.) in the process of transition towards a greener economy. For example, more jobs will be created through the renovation of buildings, the development and introduction of new technologies such as renewables. Some employment in traditional cars production will be gradually replaced by production of hybrid cars.

The economic crisis has revealed some structural weaknesses that are present in the European economy. Global and long-term challenges in the areas of globalization, climate changes and natural resources, as well as technological changes and demographic changes (decreasing labour supply) were intensified. The European Commission launched the Europe 2020 on 3 March 2010 to promote joint activities that could turn the EU into a smart, sustainable and inclusive economy with high levels of employment, productivity and social cohesion.

There are a number of policies and strategies designed to move Europe towards a low-carbon economy and reduce its environmental impact. One of the most important of those, in terms of potential impacts on employment, is the European Energy and Climate Change Package. The goals of the package are generally known as the 20-20-20 targets. They include:

- to reduce the greenhouse gas emissions of at least 20% below 1990 levels;
- renewable sources will represent 20% of final energy consumption in the EU;
- to reduce energy consumption by 20% of the expected 2020 levels.

As a result of legislative reforms and emission targets will, on the one hand, the reduction and restructuring of industrial carbon-intensive sectors. On the other hand, employment growth can be expected in the field of renewable energy and activities to promote energy efficiency, particularly in construction and transport.

Key sources of investment to support sustainable growth and job creation are European Structural and Investment Funds. The main EU financial instruments to promote skills upgrading, job creation and the transition to a greener economy include:

- European Social Fund (ESF) co-finances labour market measures, measures to smooth the transition into work and improving knowledge and skills. The ESF may support

the labour force transition towards greener jobs, help address the lack of skills and improve the vocational education and training.

- European Regional Development Fund (ERDF) supports investments in the areas of energy, renewable energy, waste and water management, green infrastructure, conservation and protection of biodiversity, eco-innovations, development and innovation of low-carbon technologies.
- European Agricultural Fund for Rural Development (EAFRD) promotes investment in agriculture, forestry, rural development, including investments in renewable energy and energy efficiency, etc. Member States will have to invest at least 30% of total spending from the fund to mitigate climate changes, as well as to address issues relating to the environment.

In 2012, the European Commission highlighted the potential for job creation in the context of green growth and identified four actions for employment in order to promote the creation of green jobs (European Commission, 2012b):

- to integrate the green jobs in the national plans for the job creation;
- to strengthen the knowledge base of skills needed in the green economy;
- to encourage greater use of financial instruments for smart green investments;
- to build partnerships among participants in the labour market.

In order to stimulate innovations in technologies, ways of organizing and facilitating investments in physical and human capital, which support the efficient use of resources, there is a wide range of fiscal, financial, regulatory and legislative instruments at the European, national, local and sectorial levels. The purpose of these instruments, as well as individual policies, is the promotion and implementation of innovations and changes, which are more efficient in terms of resources and will have an impact on the labour market.

3. Examples of projects and measures supporting green jobs in the European Union

The gradual shift towards a greener economy will lead to a progressive redefinition of many jobs in almost all sectors. Thus, new skills will be demanded in order to satisfy business growth needs and meet changes in job profiles and content (European Commission, 2012b). According to the Commission, the European Union has to be able to rely on a skilled workforce with capability to contribute and adjust to technological change, including new patterns of work organisation (European Commission, 2010). It is also important to realise that the specific skills associated with the green economy are not entirely new skills, but they are add-on or mixture of existing skills (Szovics et al., 2008). First of all, in the beginning, high skilled workers may and will benefit more from the transition to the green economy. On the other side, lower-skilled workers can and will benefit, too. Nowadays, this example can be seen in the sector of building renovation (see below the case of “The Building Insulation Programme in the Slovak republic”) where lower-skilled workers are needed to carry out works.

Slovak Republic: The Building Insulation Programme

The insulation programme, launched in mid-2009, was a part of the government stimulus package aimed at mitigating the negative impact of the economic crisis. The idea was to use the emission allowances revenues to make the energy saving better and reduce the cost of housing for households through insulation grants for residential houses built before 1989. The applicants, individuals and legal entities, could apply for interest-free loans of up to 100% of

the costs with upper limit - maximum € 80 per square meter. The condition was that the supported projects have resulted in energy savings for heating by at least 20%. The evaluation report made by government confirmed the creation of around 8,000 jobs and evaluated the programme of insulation as one of the most cost-effective comparing measures adopted in the package. Since the applications exceeded the available funds significantly, the government decided in 2011 to extend the programme (10 million € in 2011, but 24 million in 2012 and 25.5 million in 2013).

Belgium: The Energy Scanners Project

There is one great example from Belgium – The Energy Scanners Project. This project includes training the long-term unemployed with low skills in the activities related to energy saving. Unemployed become energy scanners and they offer households free installation of energy saving devices. In addition, energy scanners provide professional advice on how to save energy. Services provided under this project were gradually extended into the services in the areas of recycling and insulation works like roof, walls and floors. Training courses are coordinated with public employment services and provided by more than 30 social economy organizations. In 2011, there were about 34,000 households in Belgium benefited from the services of expert advice how to save energy. Moreover, these advices enabled them to cut their energy bills and/or use the offer of insulation. Through this project, about 4,000 people have found new jobs. Providing such a type of projects across the EU could help not only long-term unemployed, but also youth to get a great job and finally find a solution for high youth and long-term unemployment. On the other hand, this kind of project is meaningful and sustainable.

Romania: The Green House Initiative

The ongoing Green House Initiative, which started in 2009, seeks to promote energy efficiency within both households and firms. Through this scheme it is possible to provide subsidies for the installation of heating and power plants using renewable energy sources. This measure supports the use of renewable energy, as well as employment in the construction sector. It is also an incentive for training in the area of green qualifications. This instrument encourages individual and community initiatives as well as the entrepreneurship. In 2011, about 11,000 households and 170 businesses used that initiative.

Denmark: A comprehensive approach – fiscal instruments to foster green economy

The country has implemented environmental regulation and protection, green taxes on non-renewable energy, as well as on drinking water for instance. Those conditions has stimulated green production, and thus green jobs because of the consumers' and firms' demand for products reducing environmental damage and the resources not connected with green taxes. There are also significant incentives for using electricity produced by wind and solar panels.

Germany: The Bremerhaven Wind Energy Agency

First of all, it is necessary to mention that Germany is currently the leader in wind power generating capacity in the European Union. Hence, there is no surprise that such a sophisticated project in the field of wind energy can be found in the region of Bremerhaven, Germany. The origins of the project date back to 2001, when the Bremerhaven Wind Energy Agency was founded. The aim was to attract wind energy firms. Later, in 2003, the Bremen

senate adopted a strategy for the years to come. Besides infrastructure investments and specific research that were necessary, the identification of skills needs and matching supply and demand of required job profiles were crucial (including adjusting the vocational and training system). The number of people incorporated in this project started with about 100 people working in the onshore wind sector in Bremerhaven, then grew to 800 in 2009 and ca 1,000 in 2011, with estimate of around 165,300 persons working in that sector in Germany by 2030 (European Commission, 2013b).

4. Conclusions and policy implications

In recent years, the concept of green economy has become a center of policy debates across the world. Moreover, since the financial crisis, there were many initiatives in the European Union to boost green growth, and thus to support the recovery. The potential of green economy is undeniable and backed also by Europe 2020 strategy. One of the most important issues to deal with is to anticipate skill shortages. It means to identify and address green skills shortages and to improve education sectors' response. But, how is it mentioned in this paper, also lower-skilled workers benefit from green economy projects nowadays. The great example can be found in Belgian "The Energy Scanners Project" that seems to be very suitable for young and long-term unemployed. On the other side, the vocational and training system is crucial. Although the Germany and its comprehensive project in the field of wind energy shows us the differences in the green economy approach, there are positive examples of initiatives from the other EU countries. Finally, the green economy is just a small part of economy at present, but there are clear signs that its importance will grow substantially. By creating jobs in this sector we can help the people also from vulnerable groups to get a better job which may be sustainable.

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Analysis of the Significant Changes in the Tax System of the Slovak Republic

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Abstract

In 2004 the Slovak Republic adopted a fundamental tax reform which introduced a single rate of 19% for personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT). Second important part of tax reforms came in 2013 to tackle issues in tax system, like low level of tax revenues or weaknesses of tax compliance. This article is trying to analyze tax reforms in the Slovakia based on document published by OECD. Related recommendations focus primarily on VAT, property taxes and environmentally taxes. Any changes in the tax system of the Slovak Republic should lead to continuing economic growth and successful face important challenges.

Keywords: value added tax, personal income tax, corporate income tax

JEL classification: H21, H24, H25, H26

1. Introduction

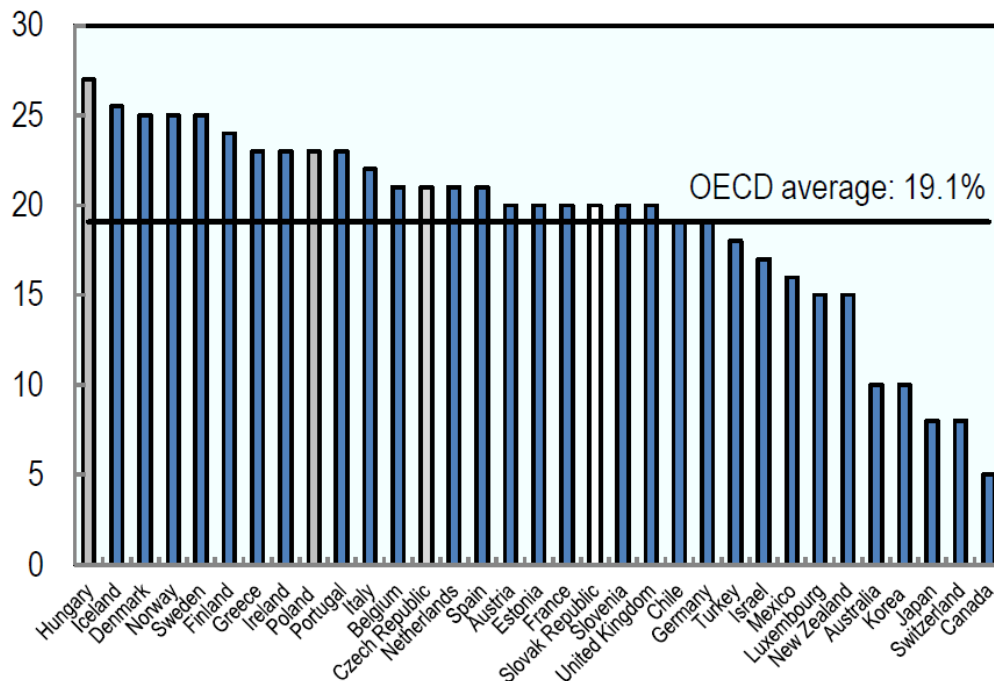
Fundamental tax reform was in the Slovak Republic introduced in 2004. By this reform were set rates for the personal income tax (PIT), for the corporate income tax (CIT) and for the value-added tax (VAT). All these rates were equal to 19%. By this tax reform got PIT more range of tax base. There were eliminated all tax reliefs. At that time was tax burden changed from direct to indirect taxation. Thanks to this reform became Slovak tax system more transparent and more effective by the administrative simplicity. However, introduced tax reform also had some weaknesses. The result was the low amount of generated tax revenues and the weak level of tax compliance.

2. Changes of value added tax

Standard VAT rate was in the Slovak Republic from 2004 to 2010 set at 19%. In 2011 it was raised to 20%. Actually, average VAT rate in OECD countries is 19,1%, also Slovak VAT rate is slightly above this average tax rate.

Figure 1

Value added tax rates in OECD countries



Source: REMETA, J. *et al.* (2015), "Moving Beyond the Flat Tax – Tax Policy Reform in the Slovak Republic", *OECD Taxation Working Papers*, No. 22, OECD Publishing. [online]. Available at: <<http://dx.doi.org/10.1787/5js4rtzr3ws2-en>>.

In 2007 was in the Slovak Republic introduced reduced VAT rate 10 %. This reduced rate was applied on some goods, e.g. books, or some necessities, e.g. medical supplies. However, Slovak Republic is one of the OECD countries with very low number of products with reduce VAT rate.

By the model and analysis of OECD (Remeta *et al.*, 2015) reduced VAT rates are not the most effective way to compensate poor households. Authors recommended to use in the future just limited number of exemptions and reduced VAT rates.

When we assume with VAT gap like difference between expected VAT and really collected VAT, we can say, that VAT gap in the Slovak Republic is high, when we compare it with other EU countries. Study of VAT gap (Barbone *et al.*, 2014) represented VAT gap in the Slovak Republic like 39% of potential VAT revenues.

Based on this finding we can say that higher efficiency of VAT collection could significant increase tax revenues in the Slovak Republic.

More than 80% of the VAT gap in the Slovak Republic is allocated in wholesale, retail sales and transportation, construction, manufacturing, agriculture and professional services. (Remeta *et al.*, 2015)

Possible explanation of VAT revenue losses may include large unpaid VAT liabilities and cross-border VAT fraud, in particular carousel fraud. To fight against the VAT gap, in May 2012 Slovak government introduced into to fight against VAT frauds.

The VAT receipt lottery is one of the tools to tackle VAT evasion In September 2013; the government also launched a VAT receipt lottery through which citizens can win prizes if they register valid cash receipts. It may be assumed that the positive effect of the lottery on customers would be mostly in areas where the benefit of non-compliance is not distributed to

customers (e.g. restaurants, small groceries). The lottery may have a more limited impact when the benefit of noncompliance is distributed between both sellers and consumers (e.g. services such as cars repairs, additional furnishing services). Nevertheless, the lottery has the potential to make all citizens aware that VAT evasion is illegal.

3. Changes of environmental taxes

Slovak Republic introduce in 2010 a kilometer based toll for highways and selected national roads for vehicles weighting more than 3,5 metric tonnes. Vehicles weighting below 3,5 metric tonnes are required to purchase a vignette for the use of national highways.

In 2012 represented revenues from environmental taxes 6,2% of total tax revenues of Slovak Republic. In terms of OECD countries, it was less than average. Unweighted average of OECD countries was at level of 6,5% of total tax revenues.

Based on the OECD study (2014) we can say, that more than 85% of all environmentally related tax revenues in Slovak Republic originated in 2013 from taxing of energy. The other came from taxing of motor vehicles and other environmentally related goods. Although more than 50% of total energy use in the Slovak Republic is used for heating, natural gas or other products for heating are under low or zero taxation.

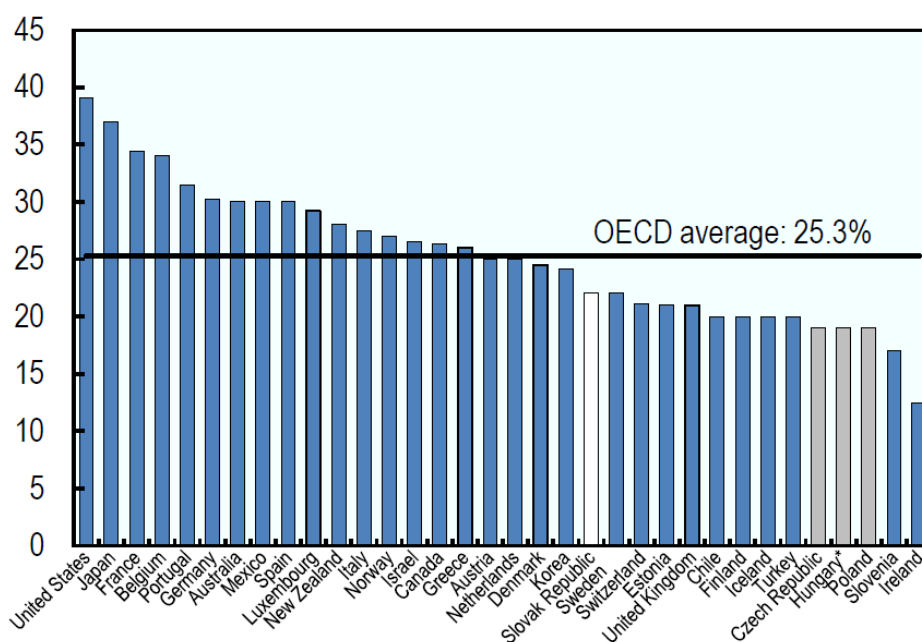
Similarly to the analysis on VAT reduced rates, the use of reduced taxes on household heating fuels is not a right way to redistribute incomes. A first-best approach would therefore be to compensate poorer households for the heating fuel tax increase through the benefit system.

4. Changes of corporate income tax

From 2004 to 2012, the Slovak Republic had a CIT rate of 19% which was comparable to CIT rates in the other V4 countries but which was among the lowest in the OECD. The CIT rate was raised to 23% in 2013 and lowered again to 22% in 2014.

Figure 2

CIT rate in the OECD countries



Source: REMETA, J. *et al.* (2015), "Moving Beyond the Flat Tax – Tax Policy Reform in the Slovak Republic", *OECD Taxation Working Papers*, No. 22, OECD Publishing. [online]. Available at: <<http://dx.doi.org/10.1787/5js4rtzr3ws2-en>>.

Resident companies have their headquarters or place of effective management in the Slovak Republic. Resident companies in the Slovak Republic are subject to CIT levied on their worldwide income, while non-residents are subject to CIT only on income sourced in the Slovak Republic. (Kubicová, 2010)

The relatively high share of companies not paying any CIT is an indication of low tax compliance. Every year, more than half of the corporations do not pay CIT. The share of non-payers slightly decreased in 2006 and 2007 but never got below 50%, even in times of strong economic growth.

Before 2014, losses could be carried forward for seven years without any restrictions on the amount of losses that could be deducted annually. The tax rules for carrying losses forward were tightened in 2014. Under the new rules, tax losses may only be carried forward for up to four years and only up to one quarter of accumulated losses can be deducted each year.

Profits and losses of companies belonging to the same group cannot be consolidated.

In 2014, the Slovak Republic introduced a minimum tax for the incorporated sector. The amount of the minimum CIT depends on the company's turnover and VAT registration status. It was accompanied by a reduction in the CIT rate from 23% to 22% and a tightening of loss carry-forward provisions from a seven to a four-year period.

The minimum CIT aims at tackling the relatively high level of CIT non-compliance and at increasing tax revenues. The Slovak Republic faced a steady decrease in the implicit tax rate (ITR) on capital and a relative stagnation of the CIT-to-GDP ratio while gross operating surplus and accounting income were growing, at least before the crisis. Mitigating non-compliance by strengthening the tax administration's capacity would be the first best option to increase CIT revenues but this can only be achieved in the medium run. In the short run, the Slovak government opted for a minimum CIT to target primarily non-compliant companies. Small corporations not registered to VAT have the minimum CIT in high 480 €, the high of minimum CIT for the same corporations registered to VAT is 960 € and the high of minimum CIT for large corporations with turnover over 500 000 € is 2 880 €.

Before 2015, the Slovak Republic implemented relatively generous tax depreciation allowances, in particular for investments in buildings. Property, plants and equipment were divided into four groups according to the expected useful lives.

As of January 2015, the number of depreciation groups was extended from four to six. For certain types of assets the tax depreciation period was extended, while for others it was reduced. For assets of a technological nature, such as generators or transformers, the depreciation period was reduced from 12 to 8 years. On the contrary, the depreciation period for administrative buildings was extended from 20 to 40 years which better aligns tax depreciation allowances with the economic depreciation over the real life of assets. The new rules also restrict the use of accelerated depreciation. Finally, the preferential method for the calculation of the depreciation of assets acquired under a finance lease was canceled.

In the years 2004-2011, around 19% of total companies declared zero tax liability and did not pay any tax in eight consecutive years. 57 % of those companies (i.e. 11% of all companies) reported a financial loss in all the years during the period. This provides further evidence that CIT evasion is a significant issue in the Slovak Republic.

5. Changes of personal income tax

Individuals domiciled in the Slovak Republic are subject to PIT on their worldwide income. PIT is assessed on an annual basis with a monthly obligation for employers to withhold tax pre-payments. PIT is levied on gross individual income including wages and salaries, income from business activities, fringe benefits, certain types of capital income including interest payments and rental income.

Both employees and employers have to pay contributions for health insurance (4% and 10% respectively), as well as for social insurance which comprise pension insurance (4% and 14% respectively), disability insurance (both 3%), sick leave insurance (both 1,4%) as well as unemployment insurance (both 1%). In addition, employers are required to pay a contribution of 0,8% for accident insurance, 4,75% to a solidarity fund and 0,25% to the guarantee fund. The contribution rates paid by the self-employed are the sum of employees' and employers' contributions except for sickness insurance.

The tax unit in the Slovak Republic is the individual; there is no joint taxation. There are tax and transfer provisions aimed at supporting families including a spouse tax allowance as well as a refundable tax credit and cash transfers for dependent children. The spouse tax allowance is set at the same level as the basic allowance and decreases with income. These tax and transfer provisions lower the tax burden on families with children considerably below the tax burden faced by single taxpayers without children. It should be noted, however, that as of 2013 the conditions to be entitled to the spouse allowance were made more restrictive. The spouse allowance is now limited to a spouse who takes care of a child up to three years old, or receives a nursing allowance or is unemployed.

As of 2013, the 19% flat PIT that was introduced in 2004 was replaced by a progressive tax. Annual income of up to four times the average wage continues to be taxed at the rate of 19% while income above this threshold is now taxed at the rate of 25%. By Peichl (2013) his change was in part driven by a growing consensus amongst the population that the government should play a more active role in income redistribution even if the Slovak Republic has one of the lowest levels of income inequality in the OECD (OECD, 2013b).

Before 2013, the Slovak labor income tax system was among the least progressive in the OECD. This was in large part the consequence of the 19% flat PIT. Single taxpayers without children in the Slovak Republic faced especially low progression rates. The income tax system was more progressive for single parents with two children because of the refundable child tax credit. The 2013 reforms have increased the tax burden on high-income earners. Introduction of a second tax bracket have resulted in higher compulsory payment wedges for high-income individuals.

Nevertheless, further reforms may be needed as the effective tax burden on self-employed income remains significantly lower than on employee income. Additional differences also continue to make the system more favorable to self-employed workers. The self-employed can deduct their costs from taxable income. Although there are valid economic justifications for this tax treatment, it may create opportunities for tax evasion as private expenses can be mischaracterized as business expenses. Taxpayers may also choose to deduct a lump-sum amount of expenses equal to 40% of revenues (up to EUR 5 040 annually, i.e. half of the annual average wage). This provision may induce employees to become independent contractors.

The tax burden on capital is lower than the taxation of labor and differs across types of capital income. The Slovak Republic belongs to the majority of OECD countries with a semi-

dual income tax system. The tax burden on labor income is high compared to the tax burden on capital. In international comparison, the Slovak Republic taxes capital income lightly.

Different types of capital income are also taxed differently. Capital gains are taxed at the personal shareholder level with the corresponding progressive PIT rate structure depending on the amount of income (19% or 25%). There is a 19% withholding tax rate for interest. With regard to dividends, they were made tax exempt in 2004 but this was partially reversed in 2011 as dividends became subject to a health contribution rate of 10% with the tax base being capped at three times the average annual wage. The rate was increased to 14% and the cap to five times the average wage in 2014. The health-insurance cap means that high-income shareholders face a lower average effective tax rate on dividends than middle-income shareholders. Because dividends are taxed more lightly than capital gains, shareholders will prefer to receive lower-taxed dividends instead of higher-taxed capital gains.

Based on OECD's recommendations, Slovak Republic could follow good practices from Nordic countries to limit the tax-induced incentives for self-employed workers to incorporate. Countries with a dual income tax system, such as Nordic countries, typically distinguish between labor and capital income from self-employment and tax those two components separately. Because the Slovak Republic has a form of dual income tax system, a similar tax treatment may be considered.

6. Conclusions and policy implications

The Slovak Republic was among the fastest growing OECD economies in the last decade. The 2004 tax and benefit reform, which introduced in particular a single rate of 19% for personal income tax (PIT), corporate income tax (CIT) and value added tax (VAT), contributed to this success. However, tax system of the Slovak republic has many weaknesses. To reduce these defects, OECD recommends to maintain a broad VAT base and further strengthen efforts to tackle low VAT compliance, maintain a low CIT rate and a broad CIT base, to evaluate existing corporate tax incentives and make the approval process more transparent, re-assess the minimum corporate income tax, to continue efforts to fight against base erosion and profit shifting, significantly reduce the tax burden on labor income, especially for low-skilled workers, consider introducing tax incentives for training, improve the design of cash transfers targeted at low-income families, consider taxing capital and labor income from self-employment separately, to increase property taxation and link it to market value, to increase environmentally-related taxes and achieve greater neutrality in the taxation of energy and last, but not least, to strengthen the tax administration's capacity to address non-compliance.

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Risk Management According to ORSA Requirements of Solvency II

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Abstract

Following the directive Solvency I from 2002, Solvency II is the most recent set of insurance market regulations in the EU. It has been adopted in 2009 and the implementation is scheduled on the year 2016. The essential objective of these regulations is to prevent the risk-taking subjects of the insurance market from getting insolvent, i.e. being unable to meet their financial obligations towards the risk-ceding subjects. In order to mitigate the insolvency prospect, a precise risk analysis is to be performed. Actuarial modelling quantifies the future financial performance of a risk-taker. Related to Own Risk and Solvency Assessment (ORSA), an integral part of Solvency II, this paper focuses on a particular actuarial segment - catastrophic risk in crop insurance. Such a risk is proposed to be hedged via the financial market. A catastrophe bond is a security with its pay-off linked to the financial performance of the insurance-market subject.

Keywords: insurance, risk, management

JEL classification: G22

1. Introduction

An insurer is a risk taker. Its business is based on the management of a risk pool. Such a pool consists of risk ceded by insureds, where each insured cedes a particular segment of its total risk. To make these segments a risk pool, there are following requirements to be met: 1. all the risk segments must come from a similar probability distribution, 2. the risk must be independent among the insureds, 3. the probability of loss must be rather low. By ceding a part of its risk, an insured mitigates the uncertainty of its upcoming performance. Thus, the prospect of a fatal loss is reduced. Such a benefit does not come free of cost. An insurer charges the insureds a fee in form of insurance premium. By paying this fee an insured exchanges uncertainty of a low probable big loss for a certainty of a fixed small loss. This strategy smoothens insured's annual financial performance.

Solvency I is a directive adopted by the European Commission in 2002. It regulates the capital requirements of insurance companies in order to maintain their solvency in case of deteriorated state of the entrusted risk pool. Kumar et al. (2008) describe the solvency as a metric for measuring the ability of the insurer to uphold its contractual obligations has remained. It is a primary measure to gauge the health of an insurer. Solvency norms are based on a required minimum margin, that is a surplus of insurer's indemnities over liabilities. Being a solvent insurer means a possession of free capital exceeding the required minimum margin. Solvency II provides, according to Chandrashekhar and Warriar (2007), greater security for insureds and stability for financial markets by providing insurance supervisors with better information and tools to assess financial strength and the overall solvency of insurance companies.

The main purpose of directive Solvency II is the establishment of a harmonized risk-oriented supervision network which would replace all existing directives. The newly set capital requirements will be obligatory for all risk-taking entities within the 28 member countries. Doff (2008) states that a true single insurance market is a key objective of the European Commission pursued by Solvency II. While its forerunner Solvency I only updated the outdated thresholds from the 1970s, Solvency II fundamentally reforms the supervisory structure and practice in parallel with the Basel II and Basel III regulations in banking industry. According to Vaughan (2009), a simple-factor model defining capital requirements in Solvency I fails to recognize asset risks, thus a more comprehensive approach is required within the new directive.

Solvency II is structured into three pillars: 1. Financial Requirements, 2. Supervision, 3. Reporting. For simplicity's sake, the mutual relationship among the pillars can be described as following: The requirements from the first pillar are to be monitored by the tools stated in the second pillar and disclosed by third pillar's means. Besides the supervision performed by the entitled authorities, the risk-takers are obliged to perform self-supervision within the Own Risk and Solvency Assessment (ORSA) of second pillar. The objective of ORSA is to quantify the risk exposure of a risk-taker in order to rationalize its decisions. It also serves the as an indicator of subjects demanding more attention from the external supervisors. The risk quantification is performed by actuarial modelling by employment of various mathematical methods.

Focus of this paper is on the catastrophic risk and its management by means of securitization. A catastrophe bond (cat bond) is analyzed as a possible securitization tool in insurance of agricultural production.

2. Catastrophic Risk

Catastrophic risk is made up by the loss of infrequent occurrence and high magnitude. This type of risk has been originally related to natural perils, such as earthquake, windstorm, volcanic eruption, conflagration, and flood. The evolution of catastrophe modelling, a specific segment of actuarial modelling where the seismological, meteorological, and other physical quantities are applied to describe the peril's profile, has come to the finding, that the concept of catastrophic risk is applicable on the whole range of perils that would not ordinarily been considered catastrophic.

When categorizing perils according to the human ability to impact on them, they can be divided into natural and human perils. All the above named are natural perils. Apart from them, there are natural perils counting to catastrophic risk in life insurance. On one hand, there is longevity, thus insureds living longer than projected. On the other hand, there is epidemic, thus insureds passing away earlier than expected. Either of these perils may cause an insurer a rapid increase in indemnities in specific line of life insurance. Speaking about human perils causing catastrophic risk, mortgage and terrorism may be given as examples.

Due to the substantial unevenness in the capital distribution throughout the world, even an insurer with globally diversified portfolio is prone to significant spatial risk. The areas of high density of either, population or industrialization, feature also the accumulation of wealth. A peril striking an agglomeration in a developed country is of much higher insurer's concern than peril striking uninhabited and uncultivated land in an undeveloped country. Banks (2005) notes that many areas that are exposed to a range of perils – such as the coastal USA, Japan, Taiwan, France, China, and Mexico – have grown rapidly over the past century and are expected to grow at a similar pace for the foreseeable future.

2.1 Securitization

In order to remain solvent after having been exposed to a catastrophic event, an insurer cedes part of the risk taken from the insureds onto another subject of insurance market. Such a risk-taker is called a secondary insurer or reinsurer. This risk management strategy increases the amount of insurable risk. In other words, an insurer is willing to accept even some of the risk that would have otherwise rejected. However, there is still much risk to be refused by the insurer even in case of having a reinsurance. As stated by Cummins and Trainar (2009), traditional reinsurance operates efficiently in managing relatively small, uncorrelated risks. With increase in magnitude of potential losses and their mutual correlation among the insureds, the efficiency of the reinsurance model breaks down.

Another approach to increase the insurability of risk is the access the capital market via securitization. The risk from insurance market is transferred to capital market by an insurance-linked security (ILS), a financial derivative with pay-out dependent on the financial performance of the insurer issuing the ILS. Subjects of financial markets are motivated to invest in ILS due to the higher expected rate of return compared to ordinary securities. Another motivation comes from the optimal portfolio theory: low correlation with ordinary securities make ILS appropriate elements of portfolio diversification. The motivation of insurance market subjects is the hedge of their catastrophic risk. When a catastrophe occurs, the insurers are obliged to indemnify the insureds. This is being compensated by the reduction in ILS pay-off. Contrarily, when a catastrophe does not occur and the insurer's indemnities are at the ordinary level, the ILS pays off the full face value.

2. Agricultural Insurance in Slovak Republic

According to the Statistical Office of the Slovak Republic, in 2013 agricultural land made up 39 % of Slovak land, namely 28 % arable land (mostly wheat, forage, and barley), 10 % permanent meadows and pastures, 0.6 % home gardens, and 0.4 % permanent cropland (vineyards, orchards, and hop). According to Agromagazín (2014), agricultural insurance is provided by three private insurance companies. While one third of harvested land is insured every year, two out of three insureds have a claim. Vine is the only crop enjoying support for insurance from the government. The country does not have a framework designed to help farmers to recover after having suffered extensive damages. However, the farmers are being repetitively compensated from the reserve funds of several ministries. The down side of the lacking recovery system is the uncertainty: the selection of compensated farmers, the amount of compensation, and the decision date.

The insurance data on Slovak agriculture over the years 2011-2013 is summarized in Table 1. The premiums exhibited year-on-year growth, while the indemnities kept decreasing, which resulted in declining loss ratio.

Table 1
Compensation Overview (in mil. EUR)

	2011	2012	2013
Premiums	5.82	6.68	6.84
Indemnities	5.80	4.49	1.86
Government recovery	2.78	0.00	0.00
Gross crop production	2090.90	1230.60	1215.70
Loss ratio	99.73 %	67.23 %	27.15 %
Indemnities / production	0.28 %	0.36 %	0.15 %

Source: Report on Agriculture and Food Sector in the Slovak Republic for 2011, 2012, and 2013.

Loss ratio is the ratio of indemnities received and premiums paid by the farmers.

3. Catastrophe Bond in Agricultural Insurance

A farmer underwrites an insurance policy in seek of compensation for a fatal loss possibly suffered in the future. He gladly accepts a yearly deduction from his balance, so that any loss exceeding a particular threshold is suffered by the insurer. A risk pool consisting of numerous farmers is likely to feature a substantial spatial risk coming from the correlation of loss distributions among the farmers. The correlation comes from the assumption that the insurer undertakes the risk of farmers within the same region. Thus the insurer is prone to insolvency due to astronomical aggregate indemnity claim in case of adverse farming conditions. Such circumstances make securitization a more favorable risk management tool compared for the insurer.

We propose the following of government-run recovery fund: A government-run agency with fixed income from the national budget would be established. The agency would issue a one-year zero-coupon catastrophe bond. In a catastrophic year the bond would not be triggered and the saved capital from reduced pay-out would contribute on the recovery payments towards farmers. In a non-catastrophic year the farmers would not get any recovery, neither there would be any money excessing from the pay-out. On the contrary, the capital from the national budget would be used to even up the difference between the pay-off from the catastrophe bond and the regular bond.

3.1 Bond Trigger

The essential part of the cat bond design is the trigger definition. In order to mitigate the basis risk, the bond issuer, i.e. the recovery agency, aims to harmonize the trigger with the recovery threshold. A potential investor, having an opposite point of view, does not consider the basis risk. His main concern is the transparency of triggering process. Vedenov et al. (2006) propose the cat bond to be triggered by the index based on the comparison between the current-year average hectare yield and the long-term average hectare yields. Woodard et al. (2011) propose a loss cost ratio, relating indemnities to liabilities, as proper actuarial ratemaking tool for agricultural insurance. Ye et al. (2013) proposes ratio as a cat bond trigger. Taking into account the available data for Slovak crops, we have chosen a trigger based on hectare yield.

Consider a crop C grown in a particular country. Let y_t be the national hectare yield (given in *tons per hectare*) of crop C in year $t \in \mathbb{N}$. Then \bar{y} is the mean of the national hectare yields for all the preceding years $t \in \{1; 2; \dots; t - 1\}$:

$$\bar{y} = \frac{1}{t} \sum_{i=1}^t y_i. \quad (1)$$

The index L_t expresses the relative loss of current national hectare yield y_t to long-term average national hectare yield \bar{y}_t .

$$L_t = \frac{\bar{y} - y_t}{\bar{y}}. \quad (2)$$

The value of the index in current year determines the catastrophic year. A catastrophe is defined as index L_t exceeding the fixed trigger value D . In such case, the cat bond is triggered, thus its pay-off V_t in year t is reduced. The face value $F \geq 0$ is reduced by the factor $A \in \langle 0; 1 \rangle$:

$$V_t = \begin{cases} F, & L_t \leq D \\ A \cdot F, & L_t > D \end{cases}. \quad (3)$$

When $A = 0$, triggered bond does not pay any money. When $A = 1$, there is no difference between triggered and non-triggered bond. Its pay-off is the alike with the regular bond.

Let $V \geq 0$ be the selling price of the bond at the beginning of the year, $B_t \geq 0$ be a yearly income from national budget in year t , let $n \in \mathbb{N}$ be a number of issued cat bonds, and δ be a risk-free interest rate. Then K_t is the capital at the end of the year t that is available to the recovery agency:

$$K_t = (K_t + n \cdot V)e^\delta. \quad (4)$$

Let R_t be the aggregate recovery paid to the farmers at the end of the year t . Then I_t is the aggregate indemnity to be paid by the agency at the end of the year t to both, farmers suffering from low hectare yield and cat bond investors:

$$I_t = R_t + n \cdot V_t. \quad (5)$$

The difference $K_t - I_t$ gives either capital surplus to be transferred to the following year or the capital shortage to be financed from the reserves.

3.2 Bond Price

Calculation of cat bond's selling price V requires the knowledge of its expected pay-off \hat{V}_t . It is to be derived from the estimated probability of bond being triggered $\hat{P}(L_t > D)$. Such probability estimation comes from the index density estimation $\hat{f}(L_t)$ which we have obtained from the historical data for L_t via the sum of kernel functions:

$$\hat{f}(L_t) = \frac{1}{t \cdot H} \sum_{i=1}^t K\left(\frac{L_t - L_i}{H}\right), \quad (6)$$

where $K(\cdot)$ is a kernel function and H is a smoothing parameter. By employment a technique analogous to the one used by Vedenov et al. (2006), we obtain the formula for selling price of a cat bond:

$$V = e^{-\rho} [F \cdot \hat{P}(L_t \leq D) + A \cdot F \cdot \hat{P}(L_t > D)], \quad (7)$$

where ρ is the rate of return required by the investor.

4. Numerical Example

Historical data on Slovak hop production are used to provide an example of above described calculations. Data are taken from the database Slovstat of The Statistical Office of the Slovak Republic. It is 1972-2013 time series of national average hectare yield of hop. Let denote the series y_t . The value of \bar{y} was instead of formula (1) calculated as following:

$$\bar{y} = \exp\left(\frac{\sum_{i=1}^t \ln y_i}{t}\right). \quad (8)$$

The loss index was subsequently calculated according to Formula (2). The whole time series and its average is displayed in Figure 1. The hypothetical range of the loss index is $L_t \in (-\infty; 1)$. As $P(L_t < -1) \approx 0$, we have performed the transformation

$$N_t = \ln\left(\frac{2+L_t}{1-L_t}\right), \quad (9)$$

so the transformed index loss is restricted $N_t \in (-2; 1)$. Formulas (6) and (9) were used to estimate the density distribution of loss index L_t :

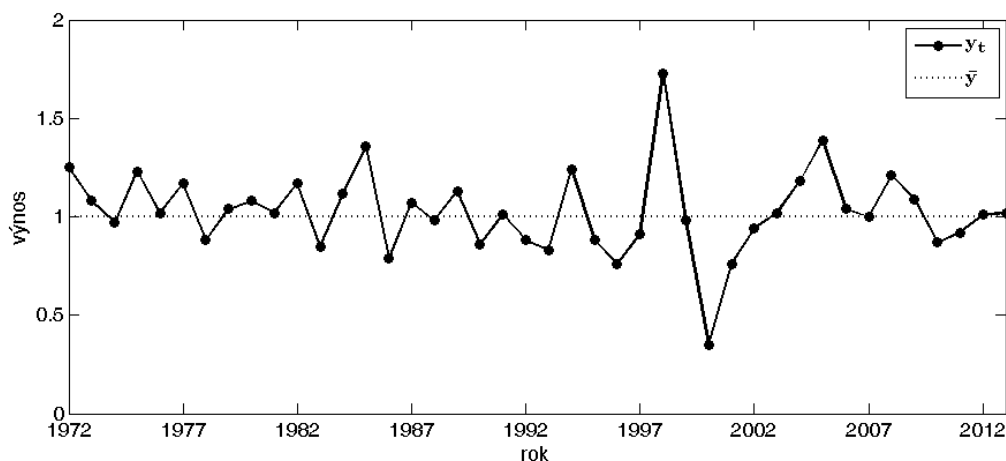
$$\hat{f}(L_t) = \hat{g}(N_t)N_t' = \hat{g}\left[\ln\left(\frac{2+L_t}{1-L_t}\right)\right] \cdot \frac{-3}{L_t^2 + L_t - 2}. \quad (10)$$

Smoothing parameter H for the formula (6) was calculated in Kernel Smoothing Toolbox for Matlab by the cross-validation of least-squares methods as $H = 0.3471$. Epanechnikov kernel function was used as a kernel function for the reason, that Zucchini (2003) finds it the most efficient kernel function. The estimated probability density function of loss index is plotted in

Figure 2. Trigger values of loss index were chosen as $D_1 = 0\%$, $D_2 = 25\%$, $D_3 = 50\%$, and $D_4 = 75\%$. The probabilities of index exceeding particular trigger values are shown in Table 2.

Figure 1

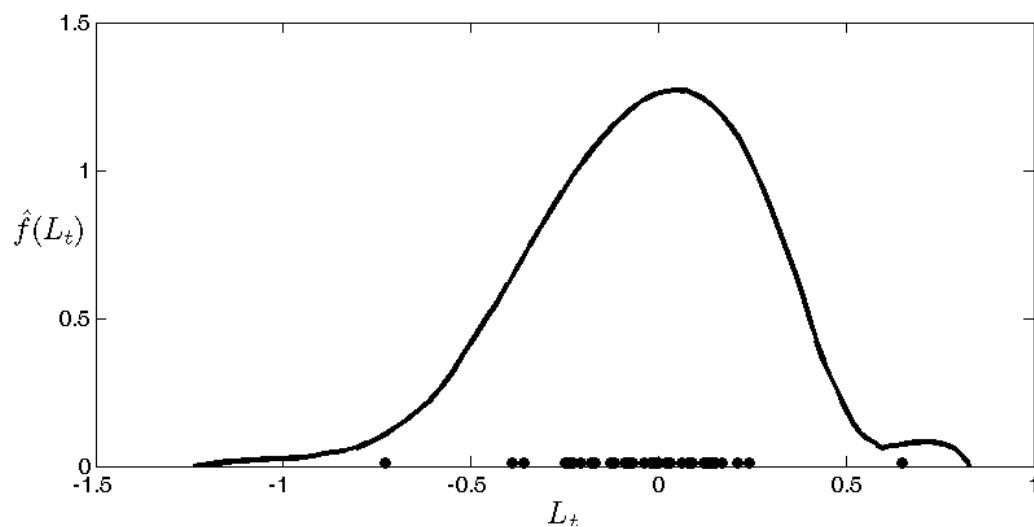
Yearly hectare yields of Slovak hop and their average.



Source: author's calculation from the data by Statistical Office of the Slovak Republic

Figure 2

Estimation of loss index probability density function obtained by the Epanechnikov kernel function.



Source: Author's calculation

Table 2

Probability of bond being triggered at chosen trigger points

D	D_1	D_2	D_3	D_4
$\hat{P}(L_t > D)$	0.4779	0.1794	0.0262	0.0034

Source: author's calculations

The final calculation applied the formula (7). Table 3 provides examples of one-year zero-coupon bond prices with expected rate of return is $\rho = 3\%$ and the values of factor are $A_1 = 0$ and $A_2 = 0.5$.

Table 3

Cat bond price at chosen parameter values

A	D_1	D_2	D_3	D_4
0.0	0.5117	0.8102	0.9451	0.9702
0.5	0.7324	0.8841	0.9578	0.9774

Source: author's calculations

5. Conclusion

The paper is focused on ORSA requirements of the directive Solvency II. Specifically, it deals with self-assessment of risk exposure by all the risk-takers within the insurance market, e. g. insurers, reinsurers, and retrocessionaires. Risk management is an integral part of monitoring own the risk exposure. Catastrophic risk is a specific type of risk that is usually maintained by a mixture of insurance and securitization. Inability of insurance market to satisfy the needs of catastrophe-prone insureds is a challenge for actuaries.

Agricultural insurance is a specific issue with the solution to be likely on the edge of capital and insurance markets. The paper proposes to access the gap in Slovak government's involvement in insurance subsidization and catastrophe recovery. A government run institution would benefit from the capital market size and variety by hedging its catastrophic risk coming from recovery service provided to the farmers. This approach would consequence into higher proportion of farmers underwriting an insurance contract on their harvest. The models proposed in the paper are to be extended and getting more accurate. They only provide the essential framework to build on.

Acknowledgement

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Small and Medium-sized Enterprises in Nitra Region

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Abstract

SMEs form the basis of any developed economy. As the advantage of small and medium-sized enterprises we can mention their potential workers because they are more versatile targeting than in large enterprises. The disadvantages include the fact that the production of small and medium enterprises characterized by low concentration and few opportunities for expansion of production, therefore they can not buy the necessary raw materials and semi-finished products with such a discount (or such rebates) than large enterprises. The aim of this paper is to examine and evaluate the situation of SMEs in the Nitra region. Primary research was conducted through a questionnaire survey. To verify the hypothesis is to show the possibility of developing the competitiveness of the Nitra region through the use of development potential. The current state of business conditions is the result of changes in recent years. SMEs in the various districts of the Nitra region are not satisfied with current business conditions and changes of conditions in the near past that is already relatively long time waiting for the economic conversion to started the development of the business environment.

Keywords: Nitra region, SMEs, business conditions

JEL classification: M 20, R 19

1. Introduction

The major developed countries e.g. Germany and Japan laid down the basic legislative foundations for small and medium-sized enterprises in 50s and 60s of the 20th century.

The Bolton Report (Great Britain, 1971) changed the attitude towards small and medium-sized enterprises, as it in certain ways restored the tradition of SMEs after the World War II. Definition of enterprises, entrepreneurs and entrepreneurship in terms of three basic characteristics is specified in the Bolton Report as the following: (Strážovská; 2007),(Chikán; 2004)

1. small and medium-sized enterprises have relatively small market share and practically have no tools to influence the market,
2. small and medium-sized enterprises are managed by its owners or part owners in a personalized way, and not through the medium of a formalised management structure,
3. small and medium-sized businesses are independent in the sense that it does not form a part of a larger enterprise.

The highest representatives of the EU states and governments recognized the importance of small and medium-sized enterprises by the approval of European Charter for Small Enterprises in July 2000 at the European Commission meeting. The EU member states and the European Commission are committed to improve the business environment for small enterprises i. e. think in small.

2. Basic theoretical background

Since January 1st 2005, recommendation of the European Commission 2003/361/EC is applied and had to be adopted by institutions in Slovakia. The new categorization has also brought a new terminology „micro enterprise” – „a category of small enterprise especially important for workplace creation.” Micro enterprise is defined as a firm, which „ has less than 10 employees and its annual turnover/ annual balance sheet value does not exceed 2 million EUR.” (Recommendation of the EU Commission,; 2003)

Since 1st January 2005 the following quantitative criteria for categorization (Table 1) of small and medium-sized enterprises is applied:

- a) number of employees
- b) annual turnover
- c) annual balance sheet

Table 1

Quantitative criteria for categorization of small and medium-sized enterprises in the EU (1st January 2005)

	Number of employees	Annual turnover (mil.€)	Annual balance sheet (mil.€)
micro enterprise	up to 10	2	2
small enterprise	up to 50	10	10
medium enterprise	up to 250	50	43

Source: New definition of small and medium-sized enterprises (European Commission; 2006)

Considering the limited capital sources, small and medium-sized enterprises are more vulnerable to market changes. Their ability to react on changes is flexible, which is said to be the competitive advantage of these businesses. Advantage of small and medium-sized enterprises is considered to be their employee potential, as they are more universal and focused than employees of large enterprises. The researched group of companies is a source of new technologies and innovation, due to innovations, brought by individual innovators or small companies. A. Chodasová introduces the following important reasons why small and medium-sized enterprises are innovative: (Chodasová – Bujnová; 2008)

1. They have less restrictive organizational elements and more space for individual innovation.
2. Innovation is a pillar to survive on the market.
3. Managers of small technological companies are more interested in innovation than those in bigger ones.
4. Frequent innovation for big companies is disadvantageous.
5. Employees of R&D departments in big companies are more specialized, while in small companies are universal.

According to A. Chodasová, disadvantages of small and medium-sized companies fall into the areas of Marketing and Production. Production of these firms can be characterized by low concentration and limited possibilities to extend production capacity. Small companies have

limited access to raw materials and semi-finished products, as they do not have discounts (or rebates) offered for bigger companies. Despite of economic benefits, we can find some obstacles these companies have. J. Sprová collected the following obstacles small and medium-sized enterprises face: (Srpová – Rehor; 2010)

- a) negative social perception of entrepreneurs,
- b) less access to capital,
- c) entrepreneurship training,
- d) limited innovation capacities and low budget for research and development,
- e) administrative burden.

Beside the factors mentioned, K. Křivková mentions the dysfunctional legislation and justice as an obstacle to development. She also indicates the increasing legislative requirements with the growing number of small and medium-sized enterprises in the 90s of the 20th century. A large number of new regulations and law were created to ensure the functioning of the market economy, but enforceability and compliance with the law has no standards, litigations are ineffective. (Křivková; 2013)

According to M. Sobeková-Majková, barriers of development for small and medium-sized enterprises fall into two categories: those disadvantages resulting from the nature of SMEs, and those conditions specific for business environment in Slovakia. (Sobeková-Majková; 2011)

Barriers can influence SMEs in a measure, that it can result in failure of the business. Failure of businesses can be caused by inadequate market analysis, poor quality of products, ineffective handling of funds, underestimating corruption and the lack of management skills as well. (Král; 2012)

The 2015 January data of the European Commission shows, that market share of small and medium-sized enterprises in non-financial sector in 2014 was 99,8% , while big companies reached only 0,2% of market share. Detailed analysis found, that in countries providing appropriate data for statistical analysis to the European Commission, the market share of small enterprises is similar to medium-sized businesses and usually exceeds 99%. (Structural business overview; 2015)

3. Research objectives and results

3.1 Research objectives

The main objective of this paper is to research and evaluate the situation of small and medium-sized enterprises in Nitra region.

Partial objectives are the following:

- a) Characterize the importance of small and medium-sized enterprises for the state economy and a chosen region as well.
- b) Characterize Nitra region in terms of SMEs.
- c) Examine the business environment by economic sectors in Nitra region.
- d) Define and evaluate the business attitude of entrepreneurs in the region in the context of future economic development.

Based on the study of relevant literature we set a hypothesis as a scientifically justified prerequisite for verification (confirmation resp.refutation).

Hypothesis: There are no significant differences between businesses in different sectors of the economy considering individual factors of the business environment.

Nitra region with its geographical location and closeness to the capital city as well as to state borders offers numerous opportunities to develop the region's competitiveness. By verifying the hypothesis based on a questionnaire survey, we would like to point at

possibilities to improve the competitiveness of Nitra region by exploiting development potential of the region.

Preparing the questionnaire for entrepreneurs, we put emphasis on systematization of localization factors influencing the entrepreneur activity i.e. factors oriented on acquisition, production, sales and localization factors regulated by the state. (Neumannová; 2014) Questions were formulated to determine the following:

- a) basic identification data about the business,
- b) opinion of entrepreneurs about the business environment in Slovakia,
- c) opinion of entrepreneurs about the business environment in Nitra region (regional part)

3.2 Defining research objectives

Compiling information for our research about small and medium-sized companies we used random selection of companies. Questionnaires were distributed via mail to respondents from March to May 2015. Advantages of e-questionnaires are: low financial costs, filling out the questionnaire is not restricted to location and time, ensured anonymity and precise evaluation with a help of automatic administration system. Disadvantages of e-questionnaires are: difficult to select proper respondents, minimal control of respondents, questionnaires are refused to be answered by many potential respondents, which is reflected in a low rate of submitted questionnaires. Richterová emphasises the main reasons of low return rate of e-questionnaires as the following: unwillingness or lack of interest to answer some questions, long questionnaires, unclear or too personal questions, unguaranteed anonymity or inadequate explanation of research objectives. (Richterová; 2013)

While compiling the research sample of small and medium-sized enterprises in non-financial sector in Nitra region, we used the following steps: we obtained the database of enterprises solely used for academic purposes from website www.zoznam.sk. There were 5109 SMEs addressed in Nitra region, 496 questionnaires were returned and evaluated, which represents 9,71% return. Research sample is made up of 451 companies from 496, as data submitted by businesses was not correct or complete as well as some of the businesses did not fall into category of small and medium-sized enterprises .

3.3 Research results

The first part of the questionnaire research contains questions focusing on the following characteristics of businesses: legal form of the business, number of employees, correspondence address and year of foundation, economic sector the business operates in etc.

The research sample is formed by those 451 small and medium-sized businesses, which provided data from different districts of Nitra region. The majority of respondents (38,58%) come from Komárno district. Other districts are represented as the following: Nové Zámky 15,25%, Nitra 13,75%, Levice 12,42%, Topoľčany 7,98%, Zlaté Moravce 6,43% and Šaľa 5,32%. 57,21% of the researched enterprises is a legal entity according to Business Register of the Slovak Republic, 42,79% fall into category of natural person. The most frequently occurring is the form of limited liability company (Ltd.), which counts for 49,22% of the researched sample.

Based on SK NACE and the business activities of the companies we examined the economic activity of the small and medium-sized enterprises in Nitra region. The research sample shows, that the region is characterized by wholesale and retail trade (30,60%). Wholesale and retail services are the most dynamic components of the modern economy, based on high level of specialized knowledge. 17,74% of the researched businesses fall into this category. Industry, resp. industrial production is represented by 11,75% of small and

medium-sized businesses. Further business activities are: construction (9,98%) hotel and catering services (7,76%), agriculture (6,87%) transport and information (5,10%). 10,20% of the businesses indicated „other“ as a main business activity and specified their main activity as „other services“.

Businesses in different districts of Nitra region were also examined based on their main business activity. Wholesale and retail trade are the most typical business activities in districts. Nitra district is an exemption, where industry dominates. The most typical economic sectors in Komárno district are: wholesale and retail trade (35,06%), wholesale and retail services (10,92%), hotel and catering services (10,92%). The relatively high share of businesses connected with hotel and catering, can be explained by developing and expanding tourism, especially thermal spas, where recreational and touristic resorts are built (Komárno, Patince). Beside businesses (38,57%) and services (17,14%) district of Nové Zámky is characterized by industry resp. industrial production (15,71%). As interesting fact, we can mention, that „other business activities“ show relatively high share in districts Levice (10,71%) and Zlaté Moravce (27,59%), where respondents marked „other services“ as business activity. Substantial part of Nitra region, especially south and south-east parts of it are covered by high quality soil, which makes the region the most productive agricultural centre of Slovakia. (Nitriansky kraj – charakteristika regiónu, 2015)

The second part of the questionnaire research focuses on the opinion entrepreneurs had about the business environment in Slovakia. This part of questionnaire examines the access to financial resources, procurement, tax burden, law enforcement, bureaucracy, corruption, labor law etc.

While examining the opinion of respondents about the business environment in Slovakia, we found it important to make it clear how respondents feel certain factors mean barriers in development of small and medium-sized enterprises. We prepared a structured rating scale, where respondents had a possibility to rate individual factors in terms of low, medium and high barriers. The highest barrier for development of SMEs was rated the high tax burden (68,29% of respondents rated as a high barrier and 26,61% as a medium barrier) and high insurance burden of entrepreneurs (66,30% rated as a high barrier and further 28,82% as a medium barrier). Important are the factors connected with legislation, as 56,32% of the respondents considered the unclear and constantly changing legislation as a high barrier for SMEs. Poor law enforcement and the slow judicial system are declared to be barriers to SMEs according to 52,55% of respondents.

Limited access to financial resources, resp. sources of credit were rated as medium (50,11%) or low barrier (21,51%). The study does not focus on question of financing SMEs, so the question remains, how SMEs ensure finances for investment and development.

Based on the formulated hypothesis: There are no significant differences between businesses in different sectors of the economy considering individual factors of the business environment.

To verify or refute the hypothesis we should examine the relation between interval and nominal variable (factor) for each of the pre-defined factor barriers to the development of business environment in Slovakia. The following factors were included in the questionnaire survey:

- a) Limited access to financial resources resp. sources of credit;
- b) Non-transparent and complicated procurement;
- c) High insurance burden;
- d) High tax burden;
- e) Unclear and constantly changing legislation;
- f) Poor law enforcement and slow judicial system;
- g) Administrative burden of businesses, bureaucracy;

h) High level of corruption;

To the formulated hypothesis is necessary to create hypothesis H_0 and alternative hypothesis H_1 , as the very opposite of H_0 .

H_0 : There are no significant differences between businesses in different sectors of the economy in terms of barriers, considering individual factors of the business environment.

H_1 : There are significant differences between businesses in different sectors of the economy in terms of barriers, considering individual factors of the business environment.

The hypothesis is analysed with the help of „ANOVA“(Analysis of Variance). The aim of ANOVA is to reveal whether the identified differences of averages of individual groups in the sample (in our research different economic sectors) are statistically significant (there is relation between variables) or can be also random (there is relation between variables). (Rimarčík; 2007)

At given dependence levels (α) 5% test statistic is determined. (see Table 2). The level of significance (p-value) is the estimated probability to reject the true hypothesis H_0 . In case of factors as limited access to financial and credit sources, complicated procurement procedures and high insurance burden, p-value is lower than the determined level of significance i. e. sig. > 0,05, which means, that in case of these factors H_0 hypothesis is confirmed, so the difference measured in sample is random. Between variables there is no relation. In case of other factors (high tax burden, unclear and constantly changing legislation, poor law enforcement and slow judicial system, administrative burden of entrepreneurship, bureaucracy, high level of corruption) the level of significance is lower than the determined level of significance, so H_0 hypothesis is rejected and the alternative hypothesis is confirmed, i.e. there are statistically significant differences between businesses in different economic sectors in severity of obstacles as high tax burden, unclear and constantly changing legislation, poor law enforcement and slow judicial system, administrative burden of entrepreneurship, high level of corruption, which we identified as factors of development of the business environment. Different economic sectors had different opinion about the severity of these obstacles influencing the business environment.

Table 2

One-way analysis of variance – ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Limited access to financial and credit sources	Between Groups	6,152	7	,879	1,796	,086
	Within Groups	216,717	443	,489		
	Total	222,869	450			
Non-transparent and complicated procurement process	Between Groups	5,879	7	,840	1,425	,193
	Within Groups	261,168	443	,590		
	Total	267,047	450			
High insurance burden	Between Groups	1,991	7	,284	,846	,549
	Within Groups	148,909	443	,336		
	Total	150,900	450			
High tax burden	Between Groups	4,766	7	,681	2,064	,046
	Within Groups	146,103	443	,330		
	Total	150,869	450			
Unclear and constantly changing legislation	Between Groups	6,787	7	,970	2,620	,012
	Within Groups	163,962	443	,370		
	Total	170,749	450			
Poor law enforcement and slow judicial system	Between Groups	6,861	7	,980	2,124	,040
	Within Groups	204,429	443	,461		

	Total	211,290	450			
Administrative burden of entrepreneurship and bureaucracy	Between Groups	7,261	7	1,037	2,219	,032
	Within Groups	207,142	443	,468		
	Total	214,404	450			
High level of corruption	Between Groups	10,015	7	1,431	2,587	,013
	Within Groups	244,974	443	,553		
	Total	254,989	450			

Source: based on own questionnaire survey

In case of the first three factors, H_0 hypothesis is confirmed, while in case of other five factors H_0 hypothesis is rejected and the alternative hypothesis was confirmed. Considering our first hypothesis - there are no significant differences between businesses in different sectors of the economy in terms of barriers, considering individual factors of the business environment – is partially rejected, since in case of five factors from eight we showed statistically significant differences.

While examining different factors as barriers to development of SMEs in Slovakia, we recognized the importance of changes in different areas – considering the previously examined factors – to improve the business environment. We have created and later completed three main areas (problems of insurance, taxes and financial sources; labour law; law enforcement and corruption).

In case of insurance, taxes and financial sources we examined the importance of change in legislation, taxes and insurance, access to bank resources and EU finances. Nearly 80% of the respondents would see changes in the areas of taxes and insurance, as high tax and insurance burden seems to be a serious barrier to SMEs. Entrepreneurs have been expressing an outrage longer time towards high tax and insurance burden for businesses.

As we get informed on internet portal of SME, the state attracts entrepreneurs to regions with high unemployment rate by remittance of tax and insurance. The tax holiday offered by the state is only for certain period and applied in districts with higher than 20% unemployment rate and investment of entrepreneur should reach min. of 100 000 EUR. It is not clear yet how much it will cost and which entrepreneurs will benefit. (Tribulová; 2015)

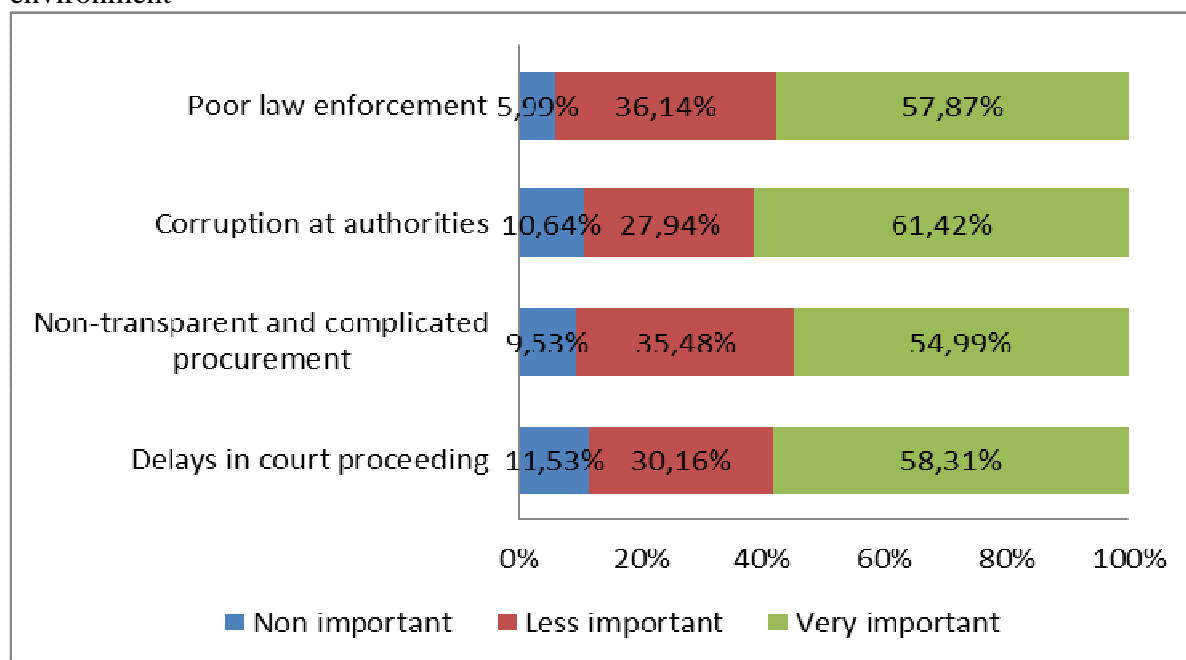
Unclear and constantly changing legislation seems to be a serious barrier for SMEs, as 94% of the respondents find it important to make changes in this area to improve the business environment. Changes in this area are more important than apply changes in access to financial resources or EU finances.

In the area of Labour Law, changes would be vital in the Labour Code about staff recruitment (43,02%). Respondents found the administrative burden as the highest obstacle to recruit staff. Changes would be most important for micro businesses. Less important or not important at all are changes in the area of collective bargaining included in Law no. 311/2011 Labour Code, Part Ten. Significant change was made regarding the industrial relations in January 2013, when obligation about insurance contribution was introduced for those with work agreement, because income without insurance contributions is considered to be non-standard. Equalizations of labour relations is reflected in research samples, as 49,89% of the respondents found less important to make further changes in equalization of labour relations and 22,84% of the respondents do not find these kind of changes important at all.

In case of categories belonging to the third main area of factors influencing the business environment i.e. law enforcement and corruption, respondents unanimously agreed on urgent change. Businesses involved in research found most important to see changes concerning corruption (61,42%) (see Figure 1).

Figure 1

Importance of change regarding law enforcement and corruption to improve the business environment



Source: based on own questionnaire survey

The third part of the questionnaire research focuses on the opinion of entrepreneurs had about the business environment in Nitra region. Questions in this part of the questionnaire examine factors oriented on inputs and outputs of businesses, sales, tools of regional policy, overall satisfaction with current conditions of running businesses in different districts of Nitra region etc.

The research of business environment in different districts of Nitra region started by mapping the influence of individual factors on business. These factors fall into four main categories. Opinion of respondents will be interpreted according to main grouping of factors influencing the business, as well as grouping respondents into economic sectors paralelly, because impact of individual factors is influenced by economic sector at a significant rate. Each respondent had to respond to each factor, whether it has influence or not on the business.

First group of factors influencing the business form those oriented on business input. For small and medium-sized enterprises with agricultural profile is characteristic, that factors , which have the most influence on business are the price of raw materials (90,32%) and transport costs of raw materials and goods (90,32%). The firms in industry sector are mainly influenced by the price of raw material (88,63%) and the individual s attitude to work (88,68%). Construction business is mainly influenced by the price of raw materials (93,33%), while economic sector differs from the analysed sectors above. Respondents of this sector indicated transport costs of materials and goods (82,61%), while price of raw materials influenced 80,43% of the respondents. In this economic sector is emphasized the attitude of individual to work (77,54%) as a significant factor influencing the business.

Factors oriented on output form the second main group of factors influencing the business activity. Small and medium-sized enterprises with agricultural profile are the most influenced by climatic conditions (90,32%) and the quality of input (90,32%). Most of the work in agricultural sector is ensured by machines, so the technical level of equipment influences 87,10% of the businesses in this sector. The same share i.e. 87,10% has the environmental legislation influencing businesses in agricultural sector. 83,02% of small and medium-sized enterprises in industry sector (resp. industrial production) answered, that technical quality of

machines is a key factor to maintain competitiveness of the business. 81,13% of the respondents in our research declared the age structure of the machines used in plants has influence on the business. Small and medium-sized enterprises in wholesale and retail sector are the most affected by the quality of inputs (71,75%) Compared to other economic sectors we examined, the most influential factors of outputs are: geographical proximity of co-operating enterprises (66,67%) and the energy consumption of devices (59,42%). As we consider the factors oriented on output, in hotel and catering industry the business is mainly influenced by the quality of inputs (68,57%), innovation potential (68,57%), because processing and use of quality material contributes to high quality product or services. The energy consumption of equipments (65,71%) is also important.

The third main group of factors influencing the business are those oriented on sales. Small and medium-sized enterprises with agricultural profile are the most influenced by transport costs (83,87%) and the economic situation of the region (83,87%). When calculating the price of their products resp. services, companies should consider the transport costs. Increased costs of transport are reflected in their prices of products and services.

The economic situation of region is considered when calculating costs, which is closely linked to purchasing power of the population, influencing 77,42% of businesses in agricultural sector. 77,42% of the businesses operating in agricultural sector declared, that innovation as a key factor of sales, has impact on the business. Innovation techniques used in this sector are: new packaging methods and materials, new forms of sales etc. In industry sector the biggest impact on business means innovation (92,45%) and the intensity of competition (81,13%), which influence one another. Majority of the respondents in industry sector consider transport costs (73,58%) and well-developed marketing strategy (73,58%) to be highly influencing factors. Businesses in economic sector are in similar measure (92,03%) influenced by purchasing power of the population, economic situation of the region and the intensity of competition. The impact of transport costs is also significant and stands at (79,71%). Wholesale and retail sector is characterized by offering services, which is reflected in fact, that 78,26% of the respondents in this sector marked well-developed marketing strategy the most important among factors influencing sales. Small and medium-sized enterprises in hotel and catering industry are undoubtedly influenced by purchasing power (100%). Into the group of mostly influencing factors oriented on sales we can include the economic situation of the region (97,14%) and the intensity of competition (82,86%). In sector of transport and communication, the highest impact on businesses has the quality of transport infrastructure (86,96%), but businesses are also affected by intensity of competition (82,61%), transport costs (82,61%) and innovation in businesses (78,26%). Small and medium-sized businesses in the sector of business services are mainly influenced by purchasing power (92,50%), economic situation of the region (90,00%), and significant impact has the well-developed marketing strategy as well (83,75%).

Economic situation of different regions depends on competitiveness of the region, which is highly influenced by the economic activity of the businesses. Considering this fact, we examined the potential impact of regional policy tools on small and medium-sized enterprises in Nitra region.

Businesses of agricultural sector declared, that 83,87% of them can feel the influence of local property taxes and local taxes levied on motor vehicles (83,78%). Taxes, especially local taxes have negative impact on businesses, so the mentioned influence on businesses in agricultural sector can be declared negative. Among the regional policy tools, 67,74% of the businesses can feel the effect of steps made by towns and villages to protect the environment. In industry resp. industrial production sector, local taxes on motor vehicles (66,04%) and local property taxes (56,60%) have impact on businesses. In case of other factors, resp. tools of regional policy, we recognized more than half the diameter of views declaring, that the

given tool has no influence on business. Small and medium-sized enterprises operating in construction sector are mainly influenced by local taxes on motor vehicles (75,56%) and local property taxes (53,33%). What seems to be surprising, businesses feel neither the influence of regional support institutions (66,67%), nor the influence of regional support programmes (66,67%), which reflects poor or no cooperation between the parties. Similar is the situation of small and medium-sized enterprises in other economic sectors. The respondents of wholesale and retail sector are mainly influenced by local property taxes (64,49%) and taxes on motor vehicles (62,32%). It is not surprising, that 95,65% of businesses operating in sector of transport and communication declared, that local taxes on motor vehicles influence the business. Even in this sector it appears, that neither regional support institutions (56,52%) nor the local property taxes (56,52%) have influence on businesses. The situation is the same with business and other services (businesses of „other” economic category), beside the tools of regional policy they are influenced by local property taxes and tax on motor vehicles. More than half of the businesses can agree, that they neither feel the influence of regional support institutions, nor the influence of regional support programmes.

To evaluate the data based on our questionnaire survey about the business environment in different districts of Nitra region we used the weighted average of Likert scale. We used a six point scale, where 1 refers to maximum dissatisfaction and 6 refers to maximum satisfaction.

Opinion of entrepreneurs about the business environment in different districts of Nitra region we started to examine in terms of their satisfaction with the current situation. The most satisfied respondents are from district Šaľa, where the weighted average has reached the value of 3,67. The most dissatisfied respondents are in Nitra district (2,76). Collected data of our research shows that businesses are rather satisfied with the current condition of the business environment in districts where they operate (see Table 3).

Table 2

The weighted average satisfaction of SMEs by districts

	Komárno	Nové Zámky	Nitra	Šaľa	Levice	Zlaté Moravce	Topoľčany
Satisfaction with current business conditions in the district	2,79	2,84	2,76	3,67	3,02	3,52	2,86
Satisfaction with changes of business conditions in the district during the past 3years	2,53	2,71	2,68	3,71	2,95	3,24	2,75

Source: based on own questionnaire survey

4. Conclusions

While examining factors oriented on outputs we can declare a difference between businesses in production sector and those providing different services. Advancing from manufacturing companies to companies providing services, we can see a waking importance of mechanical equipment, strengthening importance of licenses, innovation potential and qualified labour force. Considering the factors oriented on sales, we can declare that purchasing power and economic situation of the region has significant impact on small and medium-sized businesses regardless to economic sector. There is difference between business in manufacturing sector and those providing services. Advancing from manufacturing services to companies providing services, the influence of strong marketing strategy is increasing. Majority of SMEs in Nitra region are neither influenced by regional support institutions nor the instruments of regional policy. One of the reasons could be, that companies do not contact

institutions providing regional support resp. they do not enter programs of regional development.

The current state of the business conditions is a result of changes in recent years. We were interested in the opinion of entrepreneurs about their satisfaction with business environment changes in their own district in the past three years. The most satisfied are entrepreneurs in district Šaľa (3,71), while the highest dissatisfaction was measured in district Komárno (2,53). Businesses in districts of Nitra region are rather dissatisfied with changes of business environment in the past three years. Based on the answers of respondents we can come to conclusion, that SMEs in districts of Nitra region are not satisfied with the current conditions of business environment. Neither they are satisfied with changes made in business environment and those waiting for them, so they are relatively longer period waiting for economic change to boost the business environment.

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Agenda-shaping prior to the 2016-2017 Council Presidency Troika: the Mediterranean and the Visegrad Group

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Abstract

The migration issue has become of utmost interest not just in the European, but also in the intercontinental context, illustrated also by the fact that: on 21 September 2015 Visegrad Group countries meet the Luxembourg Presidency of the Council of the European Union for consultation to harmonise the Visegrad Four position regarding the European Commission's proposal to create a permanent relocation mechanism for refugees within the EU, with the V4 reiterating its position on the matter just like drawing attention to disillusion with respect to complexity and urgency of discussions to take place when issues emerge for the sake of tabling proposals to be voted upon as lately repeatedly experienced; on 22 September 2015 for Interior Ministers representing 28 EU members, the migration issue ranks top on the Council meeting agenda; on 23 September 2015 extraordinary summit convenes Heads of States and Governments for strategic discussion on migration. Veto power has been vital for EU members throughout the history of the so-called European project in those areas, where still applied; yet, with progressing integration, the European Council and its permanent Presidency have been facing a number of challenges, which might be viewed on the background of the Acapulco typology of agenda-setting. Moreover, bearing in mind the context of recent consultations taking place between the Visegrad Group and the Mediterranean countries, this paper shall serve as a platform for qualitative hypothesis testing whether agenda-shaping prior to the 2016-2017 Council Presidency Troika represents a compromise between the Mediterranean countries and the V4.

Keywords: *European Union, 2016-2017 Council Presidency Troika, Visegrad Group, Mediterranean countries, agenda-shaping*

JEL classification: *F15, F50, P48*

1. Introduction

Constant balancing between the intergovernmental issues involving fundamental national interests of the Member States (MSs), and the supranational matters concerning shared decisions that would address the European Communities/European Union (EC/EU) as a whole, has been a role of the Presidency in the Council of the European Union (Council Presidency) for more than six decades. Changes that have occurred with the Lisbon Treaty (2007) have introduced the so-called *troikas* or *trios* – 6-month rotating presidencies where three MSs share the period of 18 months consecutively changing each 6 months as the Chair of the Council Presidency, negotiating the common agenda whilst, at the same time, creating national agendas. Having (sub)regional cooperation(s) and their influence on particular trio member(s) in focus the balancing turns into a form of an art in attempts of pleasing all the (different MSs') interests and needs.

European territory has been a witness of several examples of good practices in the context of (sub)regional cooperation amongst which the Benelux in the Western Europe, and the Visegrad Group (alias Visegrad Four or V4) in the Central-Eastern Europe, have come into focus in particular due to the research conducted as a part of my Ph.D. thesis titled “*Reflection of V4 interests in the context of V4 presidencies in the enlarging and reforming European Union as a prerequisite for agenda shaping in terms of the Netherlands – Slovakia - Malta (2016-2017) presidency troika*”. This paper is turning its focal point to the (sub)regional cooperation of the Southern Europe, more precisely towards the newly created Union for the Mediterranean (UfM) and the influence it will pose during the Netherlands – Slovakia – Malta Trio Presidency (1 January 2016 – 30 June 2017) in terms of agenda-shaping within the policy cycle as a whole.

1.1 Methodology

Italy – Latvia – Luxembourg Trio Council Presidency (1 July 2014 – 31 December 2015) is facing its concluding moments summarising challenges it has faced, as well as achievements accomplished, in order to prepare for handing over a leadership in the Council of the EU to the Netherlands – Slovakia – Malta Trio Council Presidency that shall commence at the 1 January 2016. Without a doubt, the “new” Trio Presidency programme will, amongst others, encompass the EU macro-regional strategies, enlargement, and, particularly, migration issues ensuing continuity of presidency programmes and, therefore, presidencies as such. Taking the already mentioned into consideration, the aim of this paper is qualitative hypothesis testing whether *agenda-shaping prior to the 2016-2017 Council Presidency Troika represents a compromise between the Mediterranean countries and the V4 inspired by the recent consultations taking place between the Visegrad Group and the Mediterranean countries* in an analytical and comparative perspective, applying the “zoom-in” and “zoom-out” approach.

2. Results and Discussion

“... existing literature operates with a narrow understanding of agenda-shaping, which causes it to underestimate the Presidency’s means to influence EU policy [...] the Council Presidency engages in agenda-shaping also through the varying emphases put on issues already on the agenda (agenda- structuring) and the deliberate barring of issues from the agenda (agenda exclusion).”

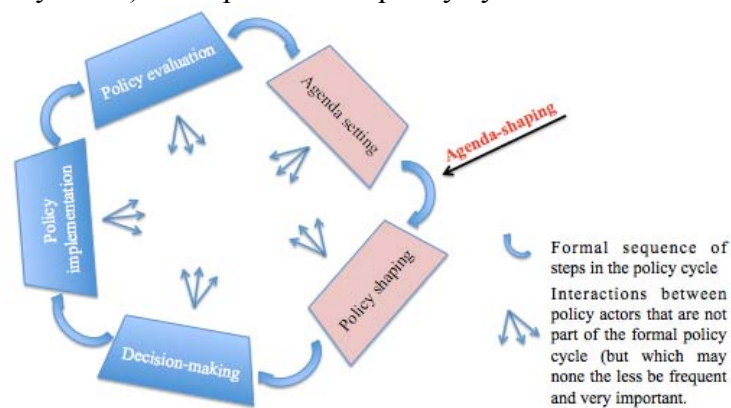
Jonas Tallberg (2003).

2.1 Agenda-shaping

Literature on the agenda-shaping in the context of the Council Presidency’s influence on EU policies is scarce, however, Tallberg (2003) argues that the impact is limited due to general understanding that introducing new issues on the agenda is possible only in the form of *agenda-setting*. Having this common thought upgraded, the influence of agenda-shaping is also seen in the role of *agenda-structuring* – reviving issues that are already on the agenda, and *agenda exclusion* – intentionally obstructing particular issues from the agenda. Bearing the process of policy making in the EU in mind that is attained through a concept of the policy cycle, as seen by Wallace et al. (2010), together with the Buonanno and Nugent (2013) notion that the policy cycle is created by different cyclical/policy stages (*agenda-setting*, *policy-shaping*, *decision-making*, *policy implementation*, and *policy evaluation*) as depicted in Figure 1, agenda-shaping is seen, and therefore, placed unevenly in between the stages of agenda-setting and policy shaping, inclining more to the agenda-setting domain.

Figure 1

A circular (and more dynamic) conception of the policy cycle



Source: Based on BUONANNO – NUGENT, 2013.

2.2 Acapulco typology in the context of the EU external relations

Issues that Council Presidencies are continuously dealing with can be viewed on the background of the Acapulco typology of agenda-setting as it is often influenced by the external factors and/or mustering civil support as well as interest groups within the EU. Acapulco typology has been introduced during the International Communication Association convention that took place in Acapulco, Mexico in 1980. McCombs (2009) presents Acapulco typology by comparing media agenda to the public agenda, therefore, forming four different categories based on two main variances. As explained in Kovačević – Čiderová (2015) the first dimension distinguishes between two overviews of agendas: the entire agenda vs. part of agenda/single item on agenda. The second dimension measures public salience in a way that a summary measurement of the whole group or population is associated with the one that depicts individual reactions. Being associated to the media when clarifying individual categories of Acapulco typology one can conclude that: the first category compares news covering for the set of most significant issues being introduced to the aggregate public agenda (perspective I); the second category transfers the set of most significant issues from the aggregate public agenda to an individual (perspective II); the third category deals with the media coverage of one particular issue and the effect it has on the public opinion in the course of time (perspective III); and the fourth category is switching this particular issue from public opinion towards its effect on the individual agenda (perspective IV).

When applied in the context of the European Union external relations, as pointed out by Čiderová – Fejesová – Kovačević (2015), Acapulco typology of agenda-setting includes macro-regional strategies, regional cooperation initiatives, especially the Western Balkans, it takes a form presented in the Figure 2. Every quadrant of the interactive matrix would, therefore, imply following deduction: the first category compares influence of the set of most significant issues, in this case the EU external relations focus, being introduced to the aggregate public agenda dealing with the macro-regional strategies, such as the EU Strategy for the Adriatic and Ionian Region – EUSAIR, and the EU Strategy for the Danube Region – EUSDR (perspective I); the second category transfers the set of most significant issues, again the EU external relations focus, from the aggregate public agenda to the individual, being in this particular context the Black Sea Synergy and the UfM (perspective II); the third category deals with the EU coverage of one particular issue, being the EU enlargement focus, and the effect it has on the agenda-setting in the course of time related to the Western Balkans (perspective III); finally the fourth category is turning this particular issue towards its effect

on the individual agenda regarding issues concerning Turkey, as the long-term EU candidate country (perspective IV).

Figure 2

Application of the Acapulco typology of agenda-setting to European Union external relations and enlargement focus

Focus of attention	Measure of public salience	
	Aggregated data	Individual data
Entire agenda: European Union external relations focus	Perspective I: (Competition) EUSAIR EUSDR	Perspective II: (Automaton) BSS UfM
Single item on agenda: European Union enlargement focus	Perspective III: (Natural history) Western Balkans	Perspective IV: (Cognitive portrait) Turkey

Legend: BSS – Black Sea Synergy; EUSAIR – EU Strategy for the Adriatic and Ionian Region; EUSDR – EU Strategy for the Danube Region; UfM – Union for the Mediterranean.

Source: Čiderová, D. – Fejesová, B. – Kovačević, D. (2015).

2.3 Visegrad Group vs. Union for the Mediterranean

“The fact that Visegrad is considered by the domestic political elites as well as by the political elites abroad as a “brand” or “mark” has a significant contribution to the construction of the regional identity. [...] V4 could be regarded as more successful project of transition and integration compared to the rest of post-communist states in Central and East Europe both from political and economic perspective.”

Marušiak, J. et al. (2013).

Representing the Central European heartland, Visegrad Group was formed on the 15 February 1991 in the form of the Visegrad Three (so-called “V3”) including at the time: Hungary, Poland and the Republic of Czechoslovakia that had, later on, peacefully disintegrated on the 1 January 1993 to two states: the Czech Republic and the Slovak Republic. During its existence the V4 has shown great versatility as well as endurance for it has experienced quite a few phases that Dangerfield (2014) identifies as: Visegrad I (1990-1993) – the main goal was to abandon existing ties to the former USSR; Central European Free Trade Agreement – CEFTA (1993-1998) or a ‘hibernation’ phase in which political focus was switched by the economic one; Visegrad II (1998-2004) – characterised by the primal goal in the form of integration in the EU and cooperation with the North Atlantic Treaty Organization (NATO); and Visegrad III (2004-) – growing V4’s influence as the best practice in the context of (sub)regional cooperation (e.g. Western Balkans). Based on the Dangerfield (2014), Fawn (2013), Lukášek (2010), Marušiak et al. (2013), Marušiak et al. (2013), Törő, C. – Butler, E. – Grüber, K. (2014), web profile of the V4, it has recently been considerably debated regarding historical development, structure, functioning and economic indicators of the Visegrad Group in Čiderová – Kovačević (2015), Čiderová – Kovačević (2015), Kovačević – Čiderová (2015), and Kovačević (2015, *in press*) therefore further insight into the topic will not be a subject of this paper that will concentrate more on the Union for the Mediterranean, with the particular focus on Malta and Cyprus.

“The Union for the Mediterranean is a multilateral partnership aiming at increasing the potential for regional integration and cohesion among Euro-Mediterranean countries [...] inspired by the shared political will to revitalize efforts to transform the Mediterranean into an area of peace, democracy, cooperation and prosperity.”

Union for the Mediterranean web page

As Gillespie (2008, 2011) explains the initial idea for the UfM had arisen from the so-called “Mediterranean Union” which was presented by Nicholas Sarkozy during his French presidential election campaign in 2007. Another inspiration ascended by the Barcelona Process (also known as the Euro-Mediterranean Partnership, Euro-Med, EMP) founded in 1995, that finally resulted in the emergence of the Union for the Mediterranean during the Paris Summit in July 2008. Balfour (2009), Bicchi (2011) and Cardwell (2011) see the UfM to be founded on two main pillars: the EMP and the European Neighbourhood Policy (ENP) launched in 2003-2004. The general idea was to enable political, economic and social ties with the countries of the Southern as well as Eastern Mediterranean and find common cooperation ground between the EU MSs and the non-EU countries. Having peace, stability, security, common economic prosperity accompanied with respect of democratic principles, human rights and fundamental freedoms and promotion of understanding between cultures and civilizations in the Euro-Mediterranean region in mind. Calleya (2009) states that the UfM was considered to be good opportunity to also introduce responsibility and accountability that would provide the Mediterranean region with a sense of ownership and eradicate “us and them” perception that was rather characteristic for the EMP (meaning Maghreb/Mashreq vs. the EU). However, as Bojinović Fenko (2012) depicts, the (in)complementarity of the regional actors’ activities *within* (horizontally), as well as *between* (vertically) fields of cooperation present notable challenges that come hand-in-hand with the ones that have emerged in the context of the EU enlargement, the Arab Spring, Arab-Israeli conflict, and, most recently, severe migration issues that have extensively slowed down the initial aims of the UfM. Bearing in mind the fact that UfM currently consists of 28 EU MSs and 15 non-EU countries, Cihelková (2014) claims that, due to the deficit of good governance, the economic gap between the EU and its Mediterranean counterparts has enhanced, triggering stagnation and instability.

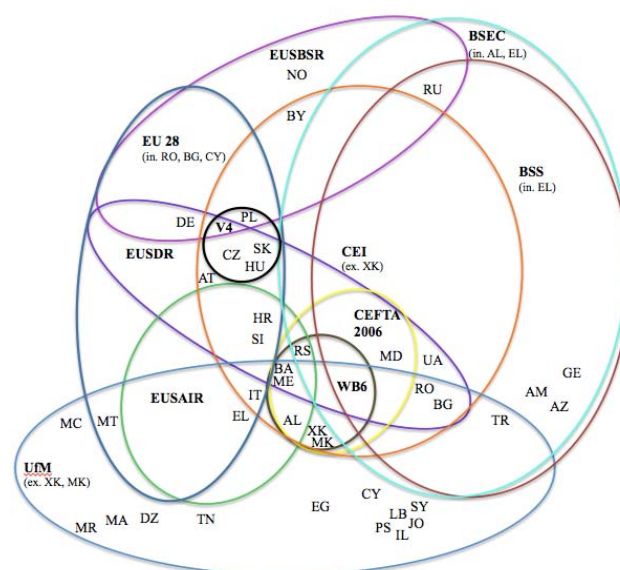
Unprecedented migration crisis has been continuously on the top of EU’s agenda and has even more so intensified lately: meeting of the Ministers of Foreign Affairs of the Visegrad Group countries and their colleagues from the Luxembourg Presidency and Germany on 21 September 2015 in order to discuss migration crisis (that concluded in the Joint Communiqué expressing their support of mutually recognized common EU response to the migration crisis that does not solely include enforced mandatory relocation but also pursue long-term answer to the migration crisis) through the meetings of the EU Interior Ministers of 28 Member States on the 22 September 2015 (where a decision on relocation of 120,000 refugees from Greece, Italy and other MSs was made); 23 September 2015 extraordinary summit convened Heads of States and Governments for strategic discussion on migration (where the EU leaders agreed on a list of priorities: assist Lebanon, Jordan, Turkey and others in dealing with the Syrian refugee crisis, mobilise at least 1 billion additional funding for the UN High Commissioner for refugees and the World Food program, reinforce cooperation and dialogue with Turkey at all levels, assist the countries of the Western Balkans in the management of refugee flows, increase funding to address the root causes of irregular migration and displaced persons in Africa, tackle the worsening situation at the EU external borders and strengthen their control, assist frontline MSs in the establishment of hotspots in order to ensure a correct identification of migrants and at the same time ensure relocation and returns, called for renewed diplomatic efforts to solve the crisis in Syria and ensure the formation of a government of national unity in Libya); European Council summit with Heads of States and Governments for strategic discussion on migration on the 15 October 2015 (that resulted in conclusions regarding cooperation with the third countries, in particular with Turkey, to stem the migration flows, strengthening the protection of the EU’s external borders building on the Schengen acquis, responding to the influx of refugees in Europe and ensuring returns, discussions regarding Syria’s and Libya’s political and military developments and its influence on the migration

crisis in Europe); the latest one being the European Council Informal meeting in Valetta (Malta) on 12 November 2015 with (African) Heads of States and Governments (latest developments, as well as how to swiftly implement the agreed measures from September and October in the migration crisis, were discussed: increasing of cooperation with the third countries, including Turkey, deciding on relocations, establishing hot spots in Greece and Italy and reinforcing Frontex and EASO – European Asylum Support Office, effectively strengthening control of the EU external borders); and the one on 17-18 December 2015.

The scope of interdependency, interconnections as well as complexity between the (macro-)regional cooperations and relations of the EU is visually depicted in Figure 3 whilst the chronological comparison of the V4 and the UfM is portrayed in Figure 4.

Figure 3

Visualisation of the context of cooperation: focus on the Visegrad Four and the Western Balkans Six



Legend: AL – Albania; AM – Armenia; AT – Austria; AZ – Azerbaijan; BA – Bosnia and Herzegovina; BG – Bulgaria; BSEC – Organization of the Black Sea Economic Cooperation; BSS – Black Sea Synergy; BY – Belarus; CEFTA 2006 – Central European Free Trade Agreement; CEI – Central European Initiative; CY – Cyprus; CZ – Czech Republic; DE – Germany; DZ – Algeria; EG – Egypt; EL – Greece; EUSAIR – EU Strategy for the Adriatic and Ionian Region; EUSBSR – EU Strategy for the Baltic Sea Region; EUSDR – EU Strategy for the Danube Region; EU28 – European Union; GE – Georgia; HR – Croatia; HU – Hungary; IL – Israel; IT – Italy; JO – Jordan; LB – Lebanon; MA – Morocco; MC – Monaco; MD – Moldova; ME – Montenegro; MK – the former Yugoslav Republic of Macedonia; MR – Mauretania; MT – Malta; NO – Norway; PL – Poland; PS – Palestinian Authority; RO – Romania; RS – Serbia; RU – Russian Federation; SI – Slovenia; SK – Slovak Republic; SY – Syria; TN – Tunisia; TR – Turkey; UA – Ukraine; UfM – Union for the Mediterranean; V4 – Visegrad Four; WB6 – Western Balkans Six; XK – Kosovo under UNSCR 1244/1999.
Source: Čiderová – Kovačević (2015).

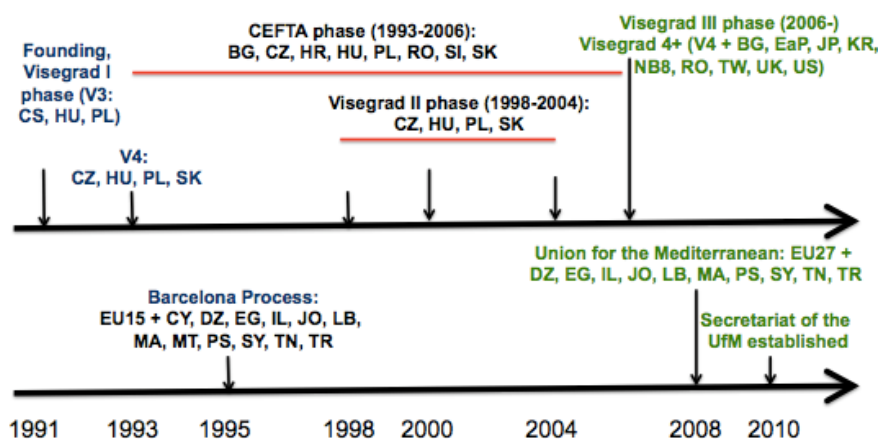
When compared in a chronological context (Figure 4) the V4 and the UfM do not seem to share that many traits. Their composition and complexity (4 EU MSs vs. 28 EU MSs + 15 non-EU countries) also do not serve well as a pattern for assessment. However, taking mentioned into consideration, one can admit that the V4 serves as a platform for disseminating know-how and best practices in successful cooperation in the region equally troubled by historical animosities and conflicts as the ones in the Mediterranean. In line with strengthening this statement is existence of similar goals that both sides are striving to achieve (Table 1).

Both sides are similarly concerned with the preservation of environment, transport solutions, security/civil protection, efficient use of (renewable) energy, education and development of communication relationships that are fundamental to enable the stated goals.

Nevertheless, for the purpose of this paper the focus will be set on the two, so-called,

Figure 4

Visegrad Group and the Union for the Mediterranean – timeline



Legend: AL – Albania; BA – Bosnia and Herzegovina; BG – Bulgaria; CEFTA – Central European Free Trade Agreement; CY – Cyprus; CZ – Czech Republic; DZ – Algeria; EaP – Eastern Partnership; EG – Egypt; EU15 – European Union of 15 Member States (final enlargement in 1995); EU27 – European Union of 27 Member States (final enlargement in 2007); HR – Croatia; HU – Hungary; IL – Israel; JO – Jordan; JP – Japan; KR – South Korea; LB – Lebanon; MA – Morocco; MC – Monaco; ME – Montenegro; MR – Mauritania; MT – Malta; NB8 – Nordic – Baltic cooperation (Nordic – Baltic Eight); PL – Poland; PS – Palestinian Authority; RO – Romania; SI – Slovenia; SK – Slovak Republic; SY – Syria; TN – Tunisia; TR – Turkey; TW – Taiwan; UfM – Union for the Mediterranean; UK – United Kingdom of Great Britain and Northern Ireland; US – United States of America; V3 – Visegrad Three; V4 – Visegrad Four.

Source: own processing, data extracted from www.europa.eu, <http://ufmsecretariat.org>, <http://www.visegradgroup.eu/about>.

‘new’ EU Member States: Cyprus and Malta, that besides the already mentioned characteristic also share the adjective ‘small’ EU MS. In this case the discrepancy that is of interest is the fact that Cyprus has already taken the Council Presidency role in the period 1 July 2012 – 31 December 2012 as a part of the Trio Presidency that consisted of Poland – Denmark – Cyprus (executing rotating Council Presidency over the period 1 July 2011 – 31 December 2012).

Table 1

Visegrad Group and the Union for the Mediterranean – comparison of goals

Visegrad Group	Union for the Mediterranean
CZ, HU, PL, SK	EU28, AL, BA, DZ, EG, IL, JO, LB, MA, MC, ME, MR, PS, SY, TN, TR
Environmental protection	De-pollution of the Mediterranean
Transport and energy	Maritime and land highways
Strengthening stability in the Central European Region; Security in the EU	Civil protection
Transport and energy	Alternative energies: Mediterranean solar plan
Education, science and culture	Higher education and research, Euro-Mediterranean University
Exchange of information	The Mediterranean Business Initiative

Legend: AL – Albania; BA – Bosnia and Herzegovina; CZ – Czech Republic; DZ – Algeria; EG – Egypt; EU28 – European Union; HU – Hungary; IL – Israel; JO – Jordan; LB – Lebanon; MA – Morocco; MC – Monaco; ME – Montenegro; MR – Mauretania; PL – Poland; PS – Palestinian Authority; SK – Slovak Republic; SY – Syria; TN – Tunisia; TR – Turkey.

Source: own processing, data extracted from www.europa.eu, <http://ufmsecretariat.org>, <http://www.visegradgroup.eu/about>.

Table 2 offers deeper insight into basic traits of Cyprus and Malta, their similarities and differences.

Table 2

Basic characteristics and economic data of Cyprus and Malta

Characteristics	Cyprus (CY)						Malta (MT)					
Official name	Republic of Cyprus						Republic of Malta					
Capital	Nicosia						Valletta					
Official language(s)	Greek, Turkish						Maltese, English					
Inhabitants	847,008						429,344					
Population as % of total EU population	0.2% (2014)						0.1% (2014)					
Geographical size	9,251 km ²						316 km ²					
EU Member State	Since 1 st May 2004						Since 1 st May 2004					
Seats in European Parliament	6						6					
Currency	euro (since 1 st January 2008)						euro (since 1 st January 2008)					
Schengen Area	No						Yes (since 21 st December 2007)					
Council Presidency	2012						2017					
Participant of Trio	T4 (PL – DK – CY)						T7 (NL – SK – MT)					
Economic data	mio EUR Cur. prices	GDP %	2014	2015	2016	2017	mio EUR Cur. prices	GDP %	2014	2015	2016	2017
GDP	17393.7	100.0	-2.5	1.2	1.4	2.0	7941.3	100.0	3.5	4.3	3.6	3.1
Private Consumption	12244.2	70.4	0.6	1.3	1.3	1.2	4361.8	54.9	2.9	3.2	2.9	2.2
Public Consumption	2741.6	15.8	-9.0	-2.1	-0.9	0.2	1611.7	20.3	7.5	2.1	4.0	5.5
Exports (goods and services)	10437.5	60.0	-0.5	1.2	1.3	2.9	11864.8	149.4	-0.3	-1.1	3.9	4.5
Imports (goods and services)	10316.9	59.3	2.0	0.6	1.1	1.8	11360.0	143.0	0.6	-0.3	3.0	4.3
Unemployment rate (a)			16.1	15.6	14.6	13.3			5.9	5.8	5.7	5.8
Saving rate of households (b)			-1.3	-4.7	-2.7	-0.1			-	-	-	-
GDP deflator			-1.2	-1.3	0.7	0.9			1.8	2.3	2.5	2.5
Trade balance (goods) (c)			-	-	-	-			-	-	-	-
General govern. balance (c)			16.2	15.0	14.1	14.1			12.8	15.0	13.5	12.7
General govern. gross debt (c)			-8.9	-0.7	0.1	0.3			-2.1	-1.7	-1.2	-1.1
			108.2	106.7	98.7	94.6			68.3	65.9	63.2	61.0

Legend: (a) as % of total labour force; (b) gross saving divided by gross disposable income; (c) as a % of GDP
Source: own processing, data extracted from European Economic Forecast – Autumn (2015), <http://ec.europa.eu/eurostat> and www.europa.eu

3. Conclusions and policy implications

Balancing between the intergovernmental issues encompassing basic national interests of the EU MSs, and the supranational matters concerning shared decisions that would address the EC/EU as a whole, has been a role of the Council Presidency for more than 60 years. The stakes are even higher when MSs and participants of Trio Presidencies are also a part of a

(sub)regional cooperation, as is the case in the Trio Presidency that is shortly to take over the Council Presidency in the period 1 January 2016 – 30 June 2017: the Netherlands (being the member of the Benelux) – Slovakia (as a part of Visegrad Group) – Malta (within a large grouping named the Union for the Mediterranean). The forthcoming Trio Presidency programme is bound to incorporate the EU macro-regional strategies, enlargement, and, particularly, migration issues enabling continuity of presidency programmes, therefore, bearing the title of my Ph.D. thesis in mind (*“Reflection of V4 interests in the context of V4 presidencies in the enlarging and reforming European Union as a prerequisite for agenda shaping in terms of the Netherlands – Slovakia - Malta (2016-2017) presidency troika”*) the aim of this paper is qualitative hypothesis testing whether *agenda-shaping prior to the 2016-2017 Council Presidency Troika represents a compromise between the Mediterranean countries and the V4 inspired by the recent consultations taking place between the Visegrad Group and the Mediterranean countries* in an analytical and comparative perspective, applying the “zoom-in” and “zoom-out” approach, whilst at the same time sets a focal point to the cooperation with the UfM and to what extent it will influence agenda-shaping in the Netherlands – Slovakia – Malta Trio Presidency within the policy cycle as a whole.

Since the process of policy making in the EU is achieved through a concept of the policy cycle set of different cyclical/policy stages (agenda-setting, policy-shaping, decision-making, policy implementation, and policy evaluation) agenda-shaping is seen, and therefore, placed unevenly in between the stages of agenda-setting and policy shaping, inclining more towards the agenda-setting. Issues that Council Presidencies are continuously dealing with can be viewed on the background of the Acapulco typology that, initially, compares media agenda to the public agenda, but in this case is applied in the context of the EU external relations. Acapulco typology of agenda-setting includes macro-regional strategies, regional cooperation initiatives (especially the Western Balkans), therefore, making every quadrant of the interactive matrix as follows: the first category compares influence of the set of most significant issues, in this case the EU external relations focus to the aggregate public agenda dealing with the macro-regional strategies, such as the EUSAIR, and the EUSDR (perspective I); the second category transfers the set of most significant issues, again the EU external relations focus, from the aggregate public agenda to the individual (e.g. the Black Sea Synergy and the UfM – perspective II); the third category deals with the EU coverage of one particular issue, being the EU enlargement focus, and the effect it has on the agenda-setting in the course of time related to the Western Balkans (perspective III); the fourth category is turning this particular issue towards its effect on the individual agenda regarding issues concerning Turkey, as the long-term candidate country (perspective IV).

Visegrad Group, seen as the Central European heartland on the one side, and the Union for the Mediterranean, being the cooperation within a region of a vital European geopolitical and geostrategic importance on the other side, accompanied by other regional groupings of Europe and its southern and eastern neighbours, epitomise an intense and complex network of relationship and interests between one another. In this case, focus is laid to Malta and Cyprus, two EU MSs that share many similarities: size, number of inhabitants, “new” EU MSs status, members of the Euro zone, island states, as well as diversities: Malta being a member of Schengen Area, whilst Cyprus not; better economic factors on the Maltese side, than on the Cypriot one; Malta having no significant political issues, Cyprus deeply politically divided; Malta awaiting to hold the Council Presidency, whilst Cyprus has already had the experience, that was, according to Christou (2013), seen as one of the most significant and important responsibilities Cyprus had undertaken in its history.

However, returning to the V4 and the UfM and comparing them chronologically one cannot perceive that many common traits. Their composition and complexity also do not serve well as a pattern for assessment. Nevertheless, one must admit that the V4 serves as a

platform for disseminating know-how and best practices in successful cooperation in the region characterised by historical animosities and conflicts, as it is also in the Mediterranean. Similar goals that both sides are striving to achieve are: concern with the preservation of environment, transport solutions, security/civil protection, efficient use of (renewable) energy, education and development of communication relationships that are fundamental to enable the stated goals. Most of all, currently both share the tremendous hardships of the migration crisis. Therefore, one can conclude that the agenda-shaping prior to the 2016-2017 Council Presidency Troika will represent a compromise between the Mediterranean states and the V4.

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Actual Issues of Financial Resources of the International Monetary Fund

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Abstract

The recent global financial and economic crisis has renewed the debate and criticism of the International Monetary Fund, which according to many scholars and politicians was not sufficiently prepared for the crisis. Therefore, it had to make some changes which have been accompanied by a substantial increase in its financial resources. The paper aims at exploring the increase in the Fund's financial resources.

Key words: IMF, financial resources, SDR, member quotas, reform

JEL classification: F 33, G 15

1. Introduction

Since 2008, the process of intense reform of the global financial architecture has started. This reform comprises the metamorphosis of the international financial and monetary system and at the same time it is connected with the reform of international financial institutions, especially the International Monetary Fund (IMF or Fund).

The IMF was created in 1945 at the conference in Bretton Woods, New Hampshire (USA) by the delegates from 45 countries in order to establish a stable international monetary system. Currently, it comprises 188 countries.

In response to the global financial crisis, the IMF made fundamental changes in its main activities: governance, surveillance, lending policies, and institutional culture. These changes were accompanied by a significant increase in its financial resources. Between 2008 and 2013 the IMF's resources significantly increased, reaching almost one trillion of Special Drawing Rights (SDRs).

The aim of this contribution is to describe the evolution of financial resources of the Fund since the outbreak of the financial crisis in terms of volume as well as composition.

The IMF needs to have sufficient financial resources in order to fulfill its mission: enhancing the stability of the international monetary system and ensure the external balance of its member countries.

2. Financial Resources: composition and volume

Financial resources of the IMF are formed by general resources on the one hand and by temporary resources on the other hand. General resources are represented by member quotas, Special Drawing Rights and gold, while temporary resources represent multilateral and bilateral arrangements. The composition of IMF's financial resources can be better seen in the following table.

Table 1

Composition and division of IMF's financial resources

Own Funds – creation of liquidity	
<i>Member Quotas</i>	They represent the primary and permanent source of financial resources for the IMF. The quotas are assigned to all member countries using a formula that should reflect the position of the country in the world economy. Any changes in quotas must be approved by 85 % majority of total votes. There are general quota reviews every five years.
<i>SDRs</i>	The Fund can create liquidity through the issuance of Special Drawing Rights. They are defined as an artificial currency unit established by the IMF in the 1970s of the 20th century in order to support the fixed parity system of Bretton Woods. The issues of SDRs require 85 % of votes.
<i>Gold</i>	The role of gold was important in the Bretton Woods monetary system, but in the Kingston system it lost its importance. The usage of gold as value denominator was canceled as well as gold transactions between members and the Fund. However, gold remains an important reserve asset of member countries and the Fund is one of the biggest holders of it.
Borrowed funds	
<i>NAB / GAB and bilateral loans</i>	Through the New Arrangements to Borrow (NAB), the IMF's main backstop for quota resources, a number of member countries and institutions stand ready to lend additional resources to the IMF. The NAB is used in circumstances in which the IMF needs to supplement its quota resources for lending purposes. General Arrangements to Borrow (GAB) are used by eleven countries willing to lend the IMF certain amounts of their national currencies. Bilateral loans represent financing facilities which supplement quotas and NAB.
<i>Securities and off-balance sheet resources</i>	Under the influence of the recent global financial crisis the Fund decided to acquire financial resources by issuing securities. This is Fund's new activity. Off-balance sheet resources are represented by receiving gifts and voluntary contributions from member countries.

Source: own elaboration based on IMF information available at www.imf.org

During the financial crisis it was revealed that the IMF showed a lack of financial resources to solve the problems of its members in relation to the crisis. The Fund had some possibilities to obtain resources but they were not sufficient (Medved' et al., 2013). Therefore, the Fund was obliged to search new ways how to increase its financial resources.

Currently, the IMF acquires resources from:

- 1) Member quotas;
- 2) Issuance of the SDRs;
- 3) Credits obtained on the base of multilateral and bilateral arrangements;
- 4) Gold operations;
- 5) Off-balance sheet resources.

In the following text we focus on GAB and especially on NAB because these arrangements were expanded under the influence of global crisis. We do not concern on the topics of quota

reform and SDR special issuance (although they were expanded, too) because they were analyzed in last year's contribution.

2.1 General Arrangements to Borrow

The GAB was established in 1962 and expanded in 1983 to SDR 17 billion, from about SDR 6 billion. It has been activated ten times, the last time in 1998. The GAB enables the IMF to borrow specified amounts of currencies from 11 industrial countries (or their central banks), under certain circumstances. Specifically, a proposal for calls under the GAB may only be made when a proposal for the establishment of an activation period under the NAB is not accepted by NAB participants.

The potential amount of credit available to the IMF under the GAB totals SDR 17 billion, with an additional SDR 1,5 billion available under an associated arrangement with Saudi Arabia. The GAB and the associated credit arrangement with Saudi Arabia have been renewed, without modifications, for a period of five years from December 26, 2013.

In the following table we can observe the participants of GAB and credit amounts.

Table 2

Participants of GAB and credit amounts

	Original GAB (1962-1983)	Enlarged GAB (1983-2018)
Participant	Amount (SDR million¹)	Amount (SDR million)
Belgium	143	595
Canada	165	893
Deutsche Bundesbank	1,476	2,380
France	395	1,700
Italy	235	1,105
Japan ²	1,161	2,125
Netherlands	244	850
Sveriges Riksbank	79	383
Swiss National Bank		1,020
United Kingdom	565	1,700
United States	1,883	4,250
Total	6,344	17,000
Saudi Arabia (associated credit arrangement)		1,500
¹ SDR equivalent as at October 30, 1982		
² 250,000 million yen entered into effect on November 23, 1976		
Note: Total may not equal sum of components due to rounding.		

Source: <http://www.imf.org/external/np/exr/facts/gabnab.htm>

2.2 New Arrangements to Borrow

The NAB is a set of credit arrangements between the IMF and 38 member countries and institutions, including a number of emerging market countries. The original NAB was proposed at the 1995 G-7 Halifax Summit following the Mexican financial crisis. Growing concern that substantially more resources might be needed to respond to future financial crises prompted participants in the Summit to call on the G-10 and other financially strong countries

to develop financing arrangements that would double the amount available to the IMF under the GAB. In January 1997, the IMF's Executive Board adopted a decision establishing the NAB, which became effective in November 1998.

The NAB is used in circumstances in which the IMF needs to supplement its quota resources for lending purposes. Once activated, it can provide supplementary resources of up to SDR 370 billion to the IMF. The amended NAB, which became effective on March 11, 2011, increased the maximum amount of resources available to the IMF under the NAB to SDR 370 billion, from the SDR 34 billion under the original NAB. To make the expanded NAB a more effective tool of crisis prevention and management, the loan-by-loan activation under the original NAB was replaced by the establishment of general activation periods of up to six months. The activation periods are subject to a specified maximum level of commitments.

As part of efforts to overcome the global financial crisis, in April 2009, the Group of Twenty industrialized and emerging market economies (G 20) agreed to increase the resources available to the IMF so that they would triple the total pre-crisis lending resources in order to support growth in emerging market and developing countries.

Since its enlargement in March 2011, the NAB has been continuously activated nine times on April 1, 2011, October 1, 2011, April 1, 2012, October 1, 2012, April 1, 2013, October 1, 2013, April 1, 2014, and October 1, 2014, and April 1, 2015, respectively.

In the table 3 NAB participants and credit amounts are shown.

Table 3
NAB participants and credit amounts

Current Participants	Amount (SDR million)
Australia	4,370.41
Austria	3,579.24
Banco Central de Chile	1,360.00
Banco de Portugal	1,542.13
Bank of Israel	500.00
Belgium	7,861.85
Brazil	8,740.82
Canada	7,624.43
China	31,217.22
Cyprus	340.00
Danmarks Nationalbank	3,207.78
Deutsche Bundesbank	25,370.81
Finland	2,231.76
France	18,657.38
Greece*	1,654.51
Hong Kong Monetary Authority	340
India	8,740.82
Ireland*	1,885.52
Italy	13,578.03
Japan	65,953.20
Korea	6,583.44
Kuwait	341.29
Luxembourg	970.59
Malaysia	340.00

Mexico	4,994.76
Netherlands	9,043.72
New Zealand	624.34
Norway	3,870.94
Bangko Sentral ng Pilipinas	340.00
National Bank of Poland	2,530.00
Russian Federation	8,740.82
Saudi Arabia	11,126.03
Singapore	1,276.52
South Africa	340.00
Spain	6,702.18
Sveriges Riksbank	4,439.74
Swiss National Bank	10,905.42
Thailand	340.00
United Kingdom	18,657.38
United States	69,074.27
Total²	369,997.36
¹ Credit arrangements are subject to a minimum of SDR 340 million.	
² Total may not equal sum of components due to rounding.	
* Have yet to adhere to expanded NAB.	

Source: <https://www.imf.org/external/np/exr/facts/gabnab.htm>

2.3 Aspects of financial resources and particular phases

There are some aspects to be considered when talking about the financial resources of the IMF. The first one is *sufficiency*: as we have mentioned above, to possess sufficient financial resources is fundamental for the Fund in order to fulfill its mission – contribute to the stability of the international monetary system and maintain the balance (external as well as internal) in its member countries. The next aspect is *neutrality* – whether the volume of resources tends to minimize the problem of moral hazard and risky behaviour of potential international borrowers and investors. Another aspect is the *flexibility and speed in mobilizing the resources*. It is important that the resources could be used rapidly whenever needed.

As regards to the amount of financial resources, these have been increased in successive rounds since 2009. The General Resources Account showed SDR 1 trillion: composed by approx. SDR 660 billion of permanent resources and SDR 330 billion of temporary resources.

The increase in Fund's resources was firstly agreed at the summit of G20 in London in April 2009 and subsequently in Seoul in November 2010. The representatives of G20 countries decided to increase the resources by USD 1 trillion in terms of quotas and the NAB. This could be considered the first phase in the raise of resources. There has been another phase – that of the summit at Los Cabos in June 2012. During this phase the IMF's additional and temporary resources reached the level of USD 500 billion.

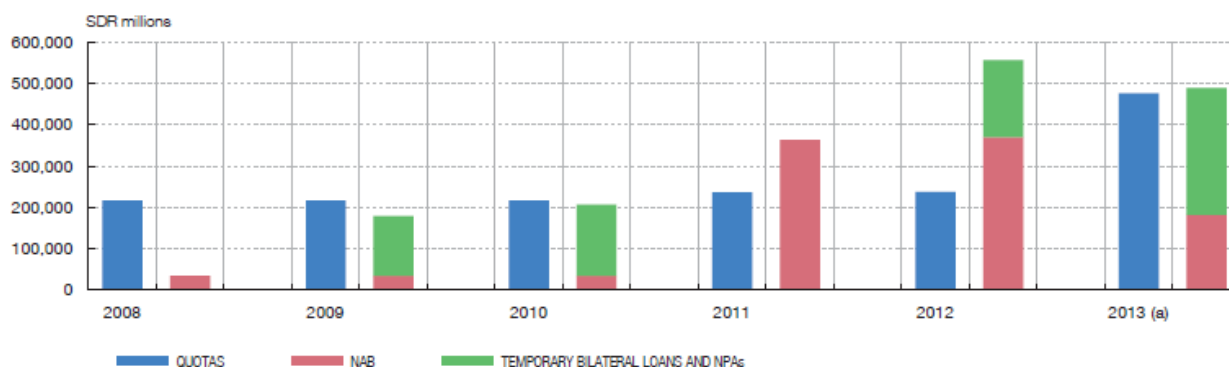
Doubling the member quotas and their redistribution in favour of emerging economies was decided in Seoul in 2010.

2.4 Changes in the composition

Significant changes occurred not only in the volume of Fund's financial resources but also in their composition what is depicted in the Figure 1.

Figure 1

Composition of the IMF's financial resources



Source: L'Hotellerie-Fallois, P. – Moreno, P. 2013.

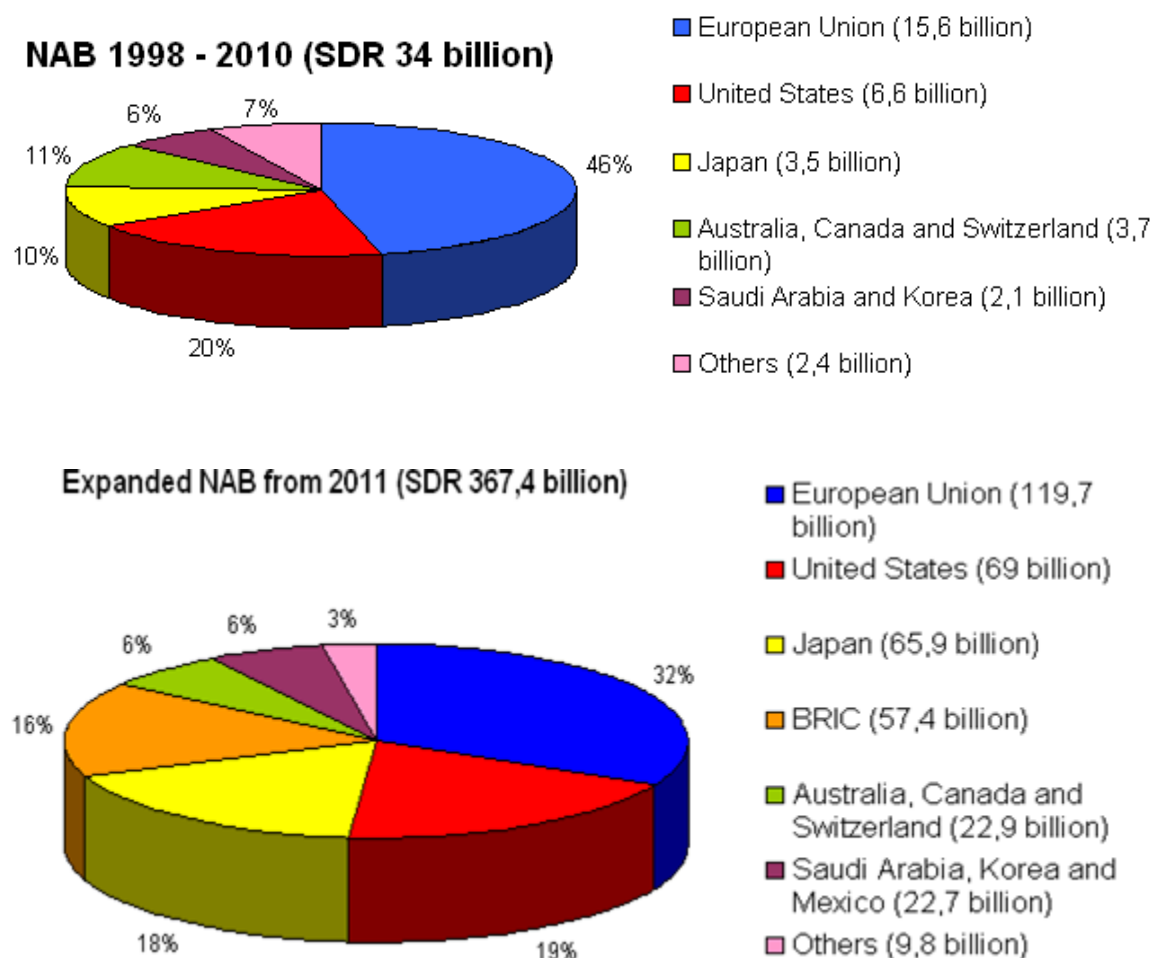
As we can see, the Fund disposed SDR 230 billion from which 87 % were represented by its own resources, particularly member quotas and the remaining 13 % by NAB. After the ratification of quota reform, resources reach SDR 1 trillion, from which 49 % formed by quotas. Therefore, the dependence on borrowed funds increases, with NAB representing 19 % and bilateral loans about 30 %.

Following the expansion of the NAB, the emerging economies (many of which are new participants) now contribute approximately one quarter of the resources¹. The contribution of the four BRIC countries is notable, giving them a joint veto over the main NAB decisions. The emerging economies are thus acquiring a new role as principal IMF creditors, in contrast to their traditional role of as the main borrowers (L'Hotellerie-Fallois – Moreno, 2013, p. 56).

Contributions by countries to NAB and expanded NAB are better depicted in the Figure 2.

¹ The NAB has been expanded by raising the contributions of the existing 26 participant countries, and by obtaining contributions from 14 new participants. The existing NAB participants were: Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, Germany, Hong Kong, Italy, Japan, South Korea, Kuwait, Luxembourg, Malaysia, Norway, Netherlands, United Kingdom, United States, Singapore, Spain, Sweden, Switzerland and Thailand. The new participants, as from 2011, are: Brazil, China, Cyprus, India, Israel, Mexico, New Zealand, Philippines, Poland, Portugal, Russia, and South Africa.

Figure 2
Contributions to NAB and expanded NAB



Source: Moreno 2013.

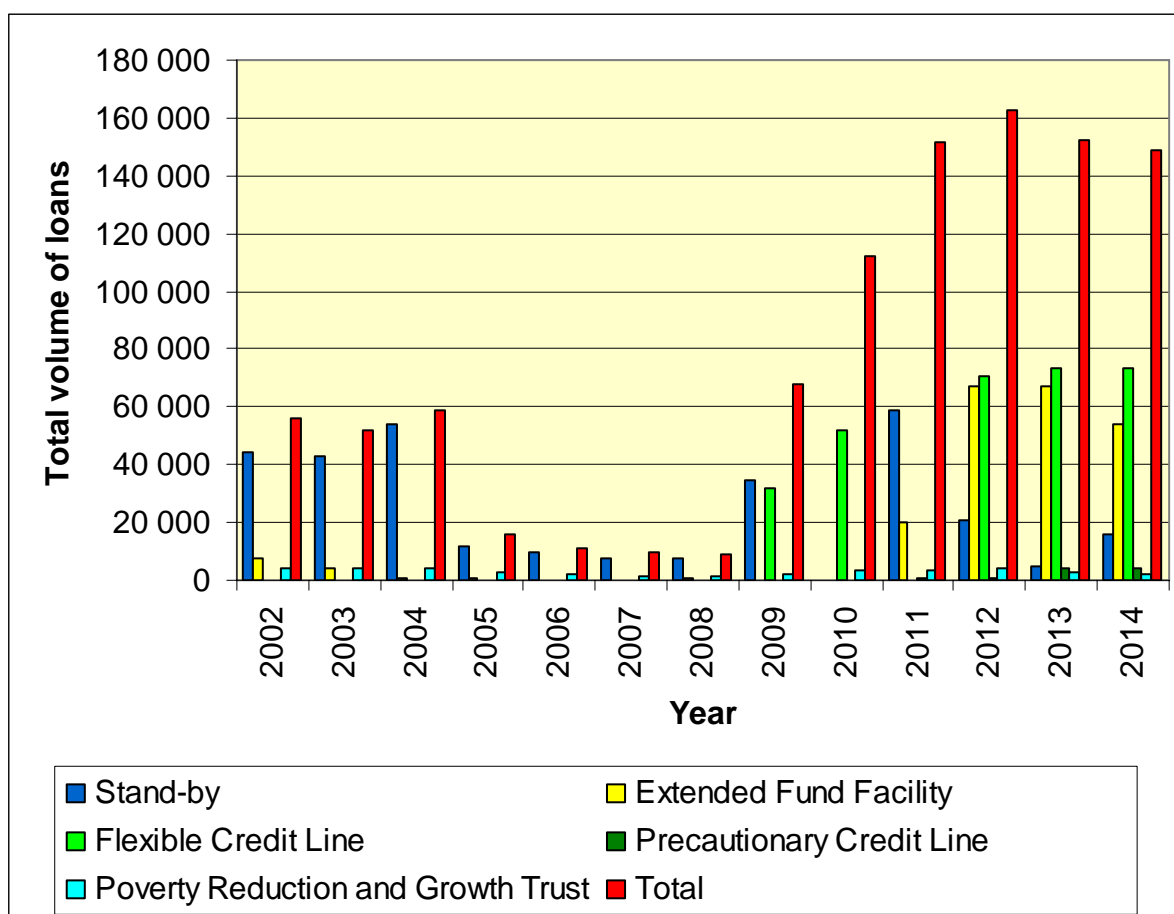
3. Increases in IMF lending

Since 2009 the lending capacity of the Fund has increased considerably. There has been the highest growth in the volume of lending, having peaked in 2012. During this period the IMF can show the largest individual programmes in terms of volume in resources, particularly the Flexible Credit Line for Mexico (SDR 47 billion), rescue programmes for Greece, Ireland and Portugal.

In the figure 3 we can observe the evolution of total volume of loans during the period 2002 – 2014.

Figure 3

Evolution of total volume of loans during the period 2002 – 2014



Source: Annual Report of the IMF, 2014, Appendix II Financial Operations and Transactions, Available at: <http://www.imf.org/external/pubs/ft/ar/2014/eng/pdf/a2.pdf>

In the previous figure we can see the credit growth from 2002 to 2014. The overall status of agreed loans increased from SDR 8,948 million in 2008 to SDR 162 788 million in 2011 and in 2014 it showed the level of SDR 148,721 million. The increase has been reported in the amounts of Stand-by Facility and the newly created FCL facility, less growth was also achieved in PRGT facility. For the first time, agreements on loans under the FCL facility were agreed in 2009 in relatively high volumes, i.e. SDR 31,528 million. In 2012 they rose to the level of SDR 70,328 million, which was higher than the volume of loans within the Stand-by facility. In 2014, this facility shows the level of SDR 73,162 million. PLL facility reached smaller value of loans.

4 Conclusion

Under the effects and the influence of the recent global financial crisis, whose first signs were detected in mid 2007, this international institution was obliged to undertake significant changes in all its activities

The financial resources of the International Monetary Fund have significantly increased since 2009. This increase has been showed in permanent resources reached by doubling the member quotas and by the special issuance of Special Drawing Rights in 2009,

but also in temporary resources reached especially by the expansion of New Arrangements to Borrow and the issuance of securities, a Fund's new activity.

Many of emerging economies are new participants in the NAB and nowadays they contribute approximately one quarter of the resources. Remarkable is the contribution of BRIC countries, giving them a joint veto over the main NAB decisions. What is important and significant is that the emerging economies are thus acquiring a new role as principal IMF creditors, in contrast to their traditional role of as the main borrowers. Emerging economies also obtain a significant position in quota distribution. Advanced economies made the biggest-ever shift of influence in favour of emerging markets and developing countries.

The lending capacity of the Fund has increased considerably since 2009, however, debates about the sufficiency of its resources remains in the centre of debates.

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Specifics of sport marketing

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Abstract

Nowadays importance of company's marketing has increasing tendency. It plays an important role also in sport. The article is focused on importance of marketing in this sector, sport organization as well as for athletes. It describes the importance of sport for the economy of state, specifies the product of sport as well as its features. Characterization of problems and specific features of sport marketing is based on the examples of most successful sport clubs in Slovakia and abroad.

Keywords: Sport, management, sport management, specifics of sport, marketing

JEL classification: M31, L67

1. Introduction

Sport was part of lifestyle in past too. Nowadays sport is coming to be big part of economy of state. It becomes hard business with a lot of players on playfield and business field too. This industry has own subjects, own market, products and ways to distributing. Everything shows that sport is industry with huge package of investments and spends. The best advantage is its global character. This element of the industry exists long time and it is far away where other industries want to be.

This article will be focused sport like important wave of economy. It is not necessary only for health of citizens, but for economic state health too. This knowledge will be based on audit research of relevant audit companies.

If we want to understand every part of sport market, we have to understand what sport product is. This element of marketing will be characterized too. It has own specifics and lot of possibilities.

Budgeting is important part of every business, also in sport. This part of management will be shown at article at the end. There are so many ways to fill in budget of sport clubs, which is necessary for existing of team and to achieve set goals.

1.1 Goals and methodology of article

1.1.1 Goals of article

The main goal of article is characterize specific elements of sport like industry and objective for marketing and management. There are set partial goals to achieve this goal:

- Characterize sport industry.
- Show sport importance for national economy.

- Introduce product of sport.
- Introduce ways of team funding.

1.1.1 Methods and methodology

There will be used methodology to achieve this goal. In first step, we set the hypothesis:

Sport is an industry with specific particularities

There will be used summarization, induction, analysis. By this methodology, here will be shown if hypothesis is set well or not.

Content analysis will be used to find necessary information in bibliographies, pornographies, articles and internet sources.

After it, there will be used summarization method to summarize relevant information, which will be used in article.

Subsequently, the knowledge will be generalized by induction, and applied on our selected examples.

The main part of information will be obtained from the conferences organized on this issue

2. Specifics of sport marketing

Nowadays marketing is a natural part of any company. There are departments focused on the marketing side of business. Without a successful marketing strategy, the company's product cannot be successful, therefore the company cannot be prosperous.

The sport industry does not play an important role in the Slovak economy, but it has a great potential. According to the audit company KPMG, the Slovak consumption of the sport product is 1,7 million €. It is 2 % of the gross domestic product. This percentage shows the development of the economy.. For comparison, the average number for the western part of the European Union is 5 % of the GDP. This result depends on investments. The private sector invests into the sport industry greatly, but government investments are also important as they play a motivating role for the private sector. Slovak government must invest into this sector if it wants to achieve the success of the western countries and an increase the consumption of sport product to 5 % of GDP. According to KPMG, sports investments in Slovakia make 8 % compared to 12 % in the rest of Europe. Therefore the incomes are lower than in rest of the European Union. There is a possibility to save the costs by sport. Nowadays this industry employs 80 000 full-time employees, but there is a higher potential. Sport is not one of the basic priorities of the state in Slovakia. Because of this there is a need for sport to be represented by sport subjects like sport unions, committees and clubs. It is in these subjects that a certain sport segment needs to be made attractive. This is necessary for the existence of named subjects. A subject cannot fully function if the customers do not express interest in its product.

If we define product as a tangible or intangible asset which is the subject of interest to a certain group of people and organisations, it could be a commodity, service, idea but also an experience etc (The economics times). But in marketing the term product is understood in a broader sense. It is not just a commodity or service. It is a complex offer made to the customer which incorporates other abstract components or symbolic facts like the prestige of the manufacturer or seller, the atmosphere of the sale, the overall impression from the sale and use of the product (Horáková, 1992. This definition partially captures the substance of the

sport product, where the most important factors are the abstract ones like the prestige of the club. But a product can also be the object itself that brings the fulfilment of needs in a tangible way.

Čáslavová (2009) characterised the sport product as a tangible or intangible asset serving for the fulfilment of wishes of the consumers or customers moving in the area of sport. It is a very broad frame of products which are a part of the exchange of customers but also the organisations themselves.

The product in sport has its specifics like detachment from the regular time or regulation according to some special rules. The core of it basically offers the fulfilment of basic needs like the need for health, entertainment or success. The product itself represents the specific forms of sport offered by a certain organisation, for example matches or the athletes' equipment. The extended product is created by various sports – golf, tennis, alpine skiing.

The sport product also has its various specifics like intangibility and subjectivity and dependence on social groups. The use of the product happens at the same time as the product is created. The product is unpredictable because it is influenced by many factors like the weather or the universality of supply and demand.

However, the sport product can also be divided into various subclasses. This is not simple as the portfolio of the products offered in sport is very heterogeneous. For example Čáslavová (2009) has divided the product in this way:

- the basic products of physical education and sport: the offer of physical exercise and tourist events,
- the products tied to a personality: the performances of top athletes and trainers and advertising campaigns led by them,
- the mental products of physical education and sport: the value of experience in physical education and sport, spreading information through media,
- the products in the area of conditions and secondary products: education in sport, organisations, the athletes' insurance, transport, tickets, souvenirs,
- the classic material products in sport: equipment, armament, clothing,

Mullin-Hardy-Sutton, (2014) do not divide the sport products according to various criteria. They consider the sport product as one which is built of two components- the core and the superstructure.

According to them the core is built from four elements which are the game (the rules etc.), the players, the equipment and apparel and the place for the game. These were classified as the superstructure elements:

- the sport game,
- the attractiveness of the sport stars,
- the equipment,
- the merchandise and events for fans,
- the place for the sports performance,
- the personnel and process,
- the tickets and other printings,

- the electronic products,
- the organisation.

As seen in the last mentioned definition, the range of the sport product is really wide. But it is not complete. If we take the product from the side of sport to sponsors, the product of the sport organisations and athletes is the viewing itself. The Super Bowl which is the finals of the NFL in the USA is a national feast for the Americans. In 2015 this one match was watched by an audience of 114,4 million¹. Even though the Super Bowl is watched all over the world, compared to the population of the USA this represents 35, 8%. Only a few events or programmes in the world are so popular as Super bowl. It is obvious that sport reaches a great amount of potential customers. This is also reflected by the price of sport advertising which reaches huge numbers every year. In 2015 it has reached a record-breaking sum of 4,5 billion dollars². The advertising is one of the most significant elements of the sport product. However, it is not just about the presentation of the company which buys this product in the form of sponsoring. The sport organisations can also offer their fans to the companies for direct marketing.

Advertising often brings a major part of finance for the budget of sport organisations. Slovak sport organisations also realise the meaning of building a marketing strategy. One of the best examples is the most successful female basketball team in Slovakia Good Angels Košice.

According to the manager of Good Angels Košice Daniel Jendrichovský this team needs a large amount of finance for the salaries of the foreign players. But the players are also a suitable for investment purposes. The budget of the team makes 750 000 € a year, of which 20% comes from the trade with Yekaterinburg, where the player Zuzana Žirková was allocated. Further financial support for the team needs to be reached from marketing activities which make approximately 80%, and the contribution of the parents of the talented young players. But the probability of fulfilling this budget is low.

It is difficult to find sponsors for the club. Even though according to Jendrichovský the ideal strategy would be having only a couple of stronger partners, the team has to have more smaller partners at the moment. In fact, they have reached the maximum count of sponsors which is 24. Many partners would prefer a barter trade, but this is not suitable for the development of the club.

This case illustrates how difficult it is to get financial support despite the international success of a sports club. One of the reasons is the influence of the financial crisis on the entrepreneurial environment of Slovakia. A club has several levels of sponsoring, the highest level is sponsoring connected to naming, where a company supplies sufficient financial sources and for exchange gets the opportunity to name the club according to its needs. This way the company gets a possibility to present its brand not only on the Slovak market. The club Good Angels Košice did not manage to keep a stable sponsor on this level. During and after the financial crisis many companies have rejected this offer. They did not want to show that they have enough finances to be able to buy a name. Conflicts with naming also emerged when other partners of the team had the feeling that they just contribute towards the promotion of the main partner. So the team decided to exclude commercial companies from naming and improve the PR of the club. They choose to promote the charity GoodAngel and

¹ Available on-line <http://www.teraz.sk/sport/super-bowl-2015-rekord-sledovanost/118171-clanok.html>

² Available on-line <http://hn.hnonline.sk/divakov-super-bowlu-zabavia-najdrahsie-reklamy-na-svete-pozrite-si-tie-najlepsie-642862>

after several adjustments they adopted the name Good Angles Košice. According to the manager of the club this step also had a negative influence. A certain part of the public thought that the charity invested the donations of the people in buying the right to name club. But the majority of public was of an opposite opinion, hence the partnership remains the club also profits from it. It is easier for the club to get new partnerships. By sponsoring, a company not only obtains the image of a supporter of the club but it also shows its helping side.

Jendrichovský states that the only way for the clubs to move forward is the TV broadcast. In this environment a team is able to offer a greater measure of visibility. For example the basketball team Good Angles offers an advert of the length of 6 hrs 50 mins while 93% appears in the live broadcast and the rest is in the recording. This commercial value presents 130 000 € according to Jendrichovský. The price list of the advertising media for the whole season was evaluated to 800 000 €.

Some clubs get financial support from cities in which they reside. In this case the club carries the name of the city club or it is connected to the place of residence in a different way. A good example of this is the football club MFK Žilina. But in 2004 it became independent from the financial support of the state and the city of Žilina. This way it only gets financial support from investments and partnerships with sponsors. The name MFK was kept because of good recognition of the brand and retaining the image of the club (Zeman, 2010).

Recognitions of the brand is not enough. There is necessary to have well done marketing plan. According to the president of the club Antošík the marketing of the club is a very complex and difficult issue. One of the main reasons of this is a bad image of football in Slovakia. The general public connects football to violence and the groups called hooligans. Racism is also often connected with football.

Antošík (2014) said in the Sport management conference: “The best marketing tool is success and the best way to success is marketing.” But later he said that the participation of the club in the group phase of Champions League has caused a drop in the ticket sales. The reason for this was a higher price of tickets because of the overpricing of the players.

Football is a very specific sport. The ways of financing it are more diverse than in other sports. For example, Antošík plans the funding structure to look like this: 35% of the budget should be covered by marketing activities, 15% from the broadcast rights and 50% from player sales. Also he wants to increase incomes form merchandise.

Football is one of the sports in which most of the financial sources are. Orgoňová (2014) states, that twenty of the most successful football clubs made a profit of more than 5 billion euros in the season of 2012/2013. The structure of finances was as follows:

- 42%-the commercial activities of the clubs
- 36%- the broadcast rights sales
- 22%- ticket and season ticket sales and member fees

Income from the player sales was not incorporated in this statistics. This income is often higher than the whole budget of the club. For example the summary of this year's most expensive transfers is approximately 467 million euro according to the website skysport.com³.

³ Available at : <<http://www.skysports.com/football/news/11095/9975549/the-10-most-expensive-deals-of-the-summer-transfer-window>>.

The ten biggest transfers in history according to [football-bible.com](http://www.football-bible.com)⁴ has made 750 million euro. Transfers create a substantial part of the budget. Slovak football clubs are not different in this. Rybníček (2015), the chief executive officer of the club AS Trenčín presented the following table in a conference:

YEAR	PURCHASE (EUR)	SALES (EUR)
2009	70 000	45 000
2010	32 850	350 000
2011	98 460	2 245 00
2012	52 750	520 000
2013	72 000	2 368 000
2014	95 000	1 830 000
2015	100 000	3 730 000

Source: presentation of Rybníček, Trend Conference Sportmanagement 2015

The table depicts the amount of money used for the sales and purchases of players in AS Trenčín. As the table shows, the purchase of players can be a good investing opportunity in many ways.

3. Conclusions

If sport subject want to be succesfull, It has to have the best conditions to exist. It need big budget to fund needs of members. How it is written in article, it is not easy to fund the sport. Economic crisis takes the money from every part of economy by chain effect. First was costumer, after that corporations. Exactly corporations are usually in sponsor relationship with sport subject. There is a place were club, associations and another subject lost ways of funding. It is time to implement the marketing.

There exist some specifics, which help to increase this situation. Sport is industry with one advantage and disadvantage in one. The most expansive part of business is player. There are objectives in article which shows this hypothesis.

Costumers buy product of sport because it bring them emotions which they need. Sport product is highly diverse so it is problem to simply characterized. There exist a lot of possibilities how sport product can be, but everyone has one thing same. The main reason, why costumers buy it, is that they bring positive emotions.

Demand for sport products is really huge. It play important role in national economy and sport plays important role for producing GDP. It is great indicator or health o national economy and development too. Nowadays, sport employed 80 000 full-time workers. Everything was shown in article.

There was set the hypothesis in chapter 1.1.2., it mean *Sport is an industry with specific particularities*. After this article, we can accept this hypothesis.

⁴Available at: <<http://www.football-bible.com/soccer-info/most-expensive-football-transfers-ever.html>>. [accessed 6.10.2015].

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China's Strengthening Role in International Organizations

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Abstract

World's leading international organizations were founded after the WWII in order to restore the stability and to prevent further war conflicts from arising. However, their lack of adaptability in the new millennium and inability to deal with the financial crisis have resulted in significant discontent amongst developing countries. At present, developing countries led by China, are reducing their dependence on these institutions, while establishing their own. The establishments of the AIIB and the NDB in 2015, have drew the attention to the fact that China is already powerful enough to initiate its own projects, which are set to greatly influence the functioning of the global economy. Furthermore, the SCO, which already competes with NATO, is going towards its further enlargement, therefore dividing the world's superpowers into two hostile blocks. The aim of this paper is to assess China's current position in international organizations, explain the tendencies of her further initiatives in this area as well as to introduce the potential impacts of these actions on the global economy.

Keywords: China, International organization, Yuan

JEL classification: F13, F53, P45

1. Introduction

The origins of China's membership in international organizations date back to the period after the Second World War. During this period, even despite of her considerable isolation from the rest of the world as well as insufficient integration to the international trade, China was actively present at the birth of numerous international treaties and international organizations. The country was one of the founding members of International Monetary Fund and International Bank for Reconstruction and Development in 1945 and became one of twenty-two signatories of General Agreement on Tariffs and Trade. The path to the greater international participation of China was however, slowed down by the civil war between Kuomintang, the ruling political party at that time, and the Communist Party of China, which was led by Mao Zedong. After the coup and takeover of the power by the Communist Party of China, the country has become isolated from the rest of the world for several decades to come, with her membership in international organizations being suspended. The Chinese economy started to reopen up to the rest of the world after Mao Zedong's death in 1976. The significant shift in the economic development of China was caused by Deng Xiaoping's accession to the power in the Communist Party of China, who initiated the extensive set of structural reforms. The program of economic reforms covering the broad scope of activities, ranging from the gradual decentralization of the control and decision-making within the public institutions, to the reforms of the agricultural sector and the changes in the ownership rights in particular sectors of the economy, was launched in 1978. This was also the period of time, when the first so called "special economic zones"(e.g., Guangdong, Shenzhen and

Xiamen) came into existence. The special economic zones created all the conditions needed for the entry of foreign investors to the country, with the main benefits for them, being the access to cheap labor, favorable tax systems, stable institutional environment and developed infrastructure.

1.1 The origins of China's membership in international organizations

The arrival of foreign capital into the country has resulted in its increased and intensified integration into the global economy. Furthermore, the inflow of foreign capital has also initiated further internal structural changes of the economy. With the increasing volume of exports, the amount of money and technology flowing to the country has also increased, and Chinese companies sequentially mastered and improved the manufacturing processes of foreign companies and became their formidable competitors. As a result of this development, China was granted back its membership in both, the International Monetary Fund as well as International Bank for Reconstruction and Development. In the mid-1990s, China started the preparations for its accession to the World Trade Organization, with the country finally becoming the full member in 2001. Year 2001 has of great significance to China also due to the establishment of the Shanghai Cooperation Organization, the first organization, which was initiated by China and has a considerable international impact and global recognition. Whereas the initial intent of its founding members (China, Russian Federation, Kirgizstan, Kazakhstan, Tajikistan and Uzbekistan) was to safeguard the stability within the region, the range of activities of this organization as well as areas of mutual cooperation among its members has been expanded. Nowadays, the growing power and influence of the Shanghai Cooperation Organization worries even the powerful countries like the United States of America or the member states of the European Union.

2. The current status of China in international organizations

Whereas in the mid of twentieth century, when China's transport infrastructure and economic structure were still basically indistinguishable from the rest of the developing countries, the country is now one of the most important driving forces of the global economy. The China's GDP grew 7.4 percent in 2014, which compared to 2013, marked the slowdown by 0.3 percent. However, even despite of recent slowdown, which continues after 2011, was the GDP growth of China in 2014, when compared to 1.4 percent¹ in EU and 2.4 percent in the USA, still considerably high.²

The country's GDP structure has also undergone a significant transformation with tertiary sector becoming the dominant for the first time in 2011, with 46.38 percent contribution to the GDP.³ The Chinese GDP per capita, however, continuously grows since the beginning of the new millennium and according to the classification developed by the World Bank, China is now classified as upper middle income country. The significant proof of the competitiveness of Chinese exports is the fact, that the vast majority of the world's economies has a negative balance of foreign trade with the country. Additionally, the country is now the world's biggest holder of foreign exchange reserves, whereas its foreign currency reserves are even despite of

¹EUROSTAT. 2015. Ec.europa.eu, 2015. <http://ec.europa.eu/eurostat/documents/2995521/6760204/6-27032015-AP-EN.pdf/15911e52-a591-400d-af4c-d3ac72affa8c>, [accessed. 2015-10-10].

²WORLD BANK. 2015. Data.worldbank.org, 2015. <http://data.worldbank.org/country/>, [accessed. 2015-10-07].

³STATISTA. 2015. China: Distribution of gross domestic product (GDP) across economic sectors from 2004 to 2014. Statista.com, 2015, <http://www.statista.com/statistics/270325/distribution-of-gross-domestic-product-gdp-across-economic-sectors-in-china/>, [accessed. 2015-10-10].

short-term declines persistently approaching the threshold of 4 trillion dollars.⁴ Furthermore, the active export-oriented strategy, is also embodied in the volumes of foreign direct investments flowing from the country. China was the world's second biggest investor in 2014, and became the world's biggest recipient of foreign direct investment in the same year.

Along with increasing volume of Chinese investments abroad, strengthens also the role of Chinese yuan in cross-border payments. At the present, the yuan is the fifth most used currency worldwide and the Chinese government is actively adopting new measures, which would result in yuan becoming a fully convertible currency. Yuan is already widely used in Asia and its usage as a reserve currency increases also in EU. Nowadays, Frankfurt am Main, London, Paris and Luxembourg are just the soundest examples of European cities, which already serve as a clearing and settlement centers for Yuan.⁵ In 2011, German Volkswagen and French Air Liquide issued their corporate obligations in yuan for the first time. Furthermore, The International Monetary Fund (IMF) called yuan as reasonably valued for the first time in its history in May 2015, after the decades of declaring that China artificially maintains the exchange rate of yuan intentionally undervalued in order to support domestic exporters. At the end of 2015, the IMF will decide about yuan's inclusion into the SDR currency basket. The SDR is the accounting reserve currency, which was created by the IMF, and its value is calculated from the exchange rates of four currencies, namely the American dollar, the British pound, the Japanese yen and the euro. China is now extensively trying to make yuan the fifth addition to the SDR currency basket. The liberalization of monetary policy would create the substantial advantages for investors as well as exporters, however there would be also a lot of challenges associated with it. One of the most striking challenges for China would be the loss of the control over the capital flows stemming from country and the decrease of the impact of the People's Bank of China to the development of Chinese economy. China now has to decide whether she is willing to give up some of its sovereignty over the internal matters, in the exchange for the global dominance.

These development tendencies of the Chinese economy have a substantial impact on the country's membership in international organizations and the country's increasing importance in the global economy results also in its strengthened position within the structure of these organizations. Even despite of the slow, yet growing influence of China in the original international organizations, the country's government expresses significant discontent with the slowness of this process and devotes its to the planning and establishing of its own organizations. More importantly, these newly initiated organizations are, according to Chinese government, set to reflect the distribution of the power in the global economy to the greater extent than the institutions, which were launched after the Second World War. In the following sections, we will focus on China's position in the original, western-controlled organizations belonging to the World Bank Group, and analyze the importance of the newly established China-driven institutions – the Asian Infrastructure Investment Bank (AIIB), the New Development Bank (NDB) and the Shanghai Cooperation Organization (SCO), with the intent to draw the consequences of their successful functioning on the functioning of the global economy.

⁴BLOOMBERG. 2015. PBOC's Reserves Decline by Record on Intervention, Euro's Slide. [online]. Bloomberg.com, 2015. <http://www.bloomberg.com/news/articles/2015-04-14/china-foreign-exchange-assets-decline-for-third-straight-quarter>, [accessed. 2015-10-10].

⁵EUROSTAT. 2015. Ec.europa.eu, 2015. <http://ec.europa.eu/eurostat/documents/2995521/6760204/6-27032015-AP-EN.pdf/15911e52-a591-400d-af4c-d3ac72affa8c>, [accessed. 2015-10-10].

2.1 China's position in original international organizations

Even despite of the fact that China was one of the IMF's founding members⁶, the country has been unable to obtain the dominant position within the organization. The frustration with the functioning of the organization as well as the distribution of voting power and perceived discrimination of the country by IMF, has been voiced by country's representatives during numerous meetings. While during the founding of IMF in 1945, China had 7.2 percent of all the voting rights and was among the four countries with the largest voting power, her share of the vote in the organization was only 3.81 percent in 2015.⁷ The share of the United States on voting, for the comparison, was also reduced from the original 32 percent to the current 16.74 percent in 2015. However, the dominance of the United States when it comes to voting within IMF has persisted up to this day.

Table 1

Position of selected economies within the IMF

Country	SDR (million)	Share of total SDR (%)	Votes	Share of total votes (%)
USA	42,122.4	17.68	421,962	16.74
Japan	15,628.5	6.56	157,023	6.23
United Kingdom	10,738.5	4.51	108,123	4.29
China	9,525.9	4.00	95,997	3.81
Eurozone	55,545.4	23.34	567,801	22.63

Source: Author's calculations based on data from IMF.

The share of voting rights of BRICS countries in the IMF is currently 11.03 percent, while their share of world GDP is 21.81 percent, with the grouping having over 40 percent share on the world's population. Table 2 shows that China alone, has only 3.81 percent of the voting rights, even despite of its 13.30 percent share of world GDP and nearly 20 percent share of the world population. As the world's largest exporter and the second largest importer, the country is only the sixth largest holder of the voting rights within IMF. The Benelux countries, which contribute to the world' GDP by just 1.88 percent, on the contrary, hold together 4.14 percent of the voting rights. It is therefore, notable that this distribution of voting rights gives them a greater influence over the functioning of IMF than has China. China has long sought to increase the number of her voting rights, however, any changes to the voting system would have to be firstly approved by the United States Congress, which firmly objects to any changes of the system that would strengthen China's position within the organization. The political representatives of China, however, have expressed the disagreement with the current method of calculation of voting rights, which is largely determined by the volume of created GDP, the country's stability, the openness of the economy, as well as the financial contribution by the organization to the IMF and volume of the accumulated foreign exchange reserves.

⁶MOMANI, B. 2015. *China at the International Monetary Fund: Continued Engagement In Its Drive for Membership and Added Voice at the IMF Executive Board*. Journal of Chinese Economics, 2013 Vol. 1, No. 1: pp 125-150. <http://journals.sfu.ca/nwchp/index.php/journal/article/viewFile/13/12>, [accessed. 2015-10-10].

⁷WORLD BANK TREASURY. 2015. *The World Bank Investor Brief*. Treasury.worldbank.org, 2015. <http://treasury.worldbank.org/cmd/pdf/WorldBankInvestorBrief.pdf>, [accessed. 2015-10-05].

Table 2

Overview of the selected indicators of the chosen economies

Country	GDP (trillion USD)	GDP per capita	Population (million)	Share of world's GDP (%)
Germany	3.853	47,627.4	80.89	4.95
France	2.829	42,732.6	66.21	3.63
USA	17.42	54,629.5	318.9	22.37
United Kingdom	2.942	45,603.3	64.51	3.78
Japan	4.601	36,194.4	127.1	5.91
China	10.36	7,593.7	1,364	13.30
India	2.067	1,595.7	1,295	2.65
Brazil	2.346	11,384.6	206.1	3.01
Russia	1.861	12,735.9	143.8	2.39
South Africa	0.3498	6,477.9	54	0.45

Source: Author's calculations based on data from IMF and the World Bank.

Table 3 provides an overview of the position of selected economies within the institutions of the World Bank Group, from which it is clear that the imbalance between the influence of developing countries and the developed market economies to the functioning and the decision-making of these institutions is considerable and it is strongly unfair for developing countries. It is therefore, clear that these countries led by China are not satisfied with the functioning of these original institutions and call for the reforms that would strengthen their influence. The frustration of China and other developing countries also stems from the incoordination of these institutions with their development needs and objectives. Moreover, the small impact of China and other developing countries on the policy-making and the decision-making processes are considered as the additional problematic areas. Thus, after many decades of unsuccessful invoking of their rights, decided these countries to embark on their own way. As a result, developing countries, under the leadership of China, are building their own institutions, which take their real development needs to a greater consideration. Institutions initiated by developing countries, moreover, do not condition agreements with the fulfilment of additional conditions, like it was the case with the institutions dominated by developed countries, namely IMF, IDA, MIGA, IBRD, or ADB.

Table 3

Overview of the voting rights of the selected economies within the framework of the World Bank Group

Country	Share of voting rights in IMF (%)	Share of voting rights in IBRD (%)	Share of voting rights in IFC (%)	Share of voting rights in IDA (%)	Share of voting rights in MIGA (%)
Germany	5.81	4.37	4.77	5.46	4.20
France	4.29	3.92	4.48	3.82	4.03
USA	16.74	16.12	20.99	10.47	15.02
United Kingdom	4.29	3.92	4.48	6.04	4.03

Japan	6.23	7.47	6.01	8.45	4.22
China	3.81	4.82	2.30	2.12	2.64
India	2.34	3.04	3.82	2.96	2.56
Brazil	1.72	1.92	2.08	1.57	1.30
Russia	2.39	2.82	3.82	0.33	2.64
South Africa	0.77	0.80	0.67	0.28	0.87

Source: Author's calculations based on data from IMF and the World Bank.

2.2 International organizations initiated by China

China has become a considerable initiator of international treaties and agreements and her proactive foreign trade policy currently threatens the position of many developed countries. The country's recent initiatives are targeting primarily developing countries (e. g., India, the countries of CIS and Latin America, and Africa)⁸, in which it invests mainly into the infrastructure and energy projects.⁹ Nevertheless, the country also does not forget about the need to reinforce its economic as well as political relationships with developed countries.

China's initiative to create The Asian Infrastructure Investment Bank (AIIB) has mobilized not only the USA but also individual member states of the EU, while it also pointed out at the great divide between members of this union. AIIB demonstrates, that China is already powerful enough to create the initiative, which has the impact on the global economy as a whole. Various developed countries have agreed to take part in AIIB even despite their aversion, only because they feared they might lose their position and respect in the global economy. Up to now, fifty-eight countries have agreed to participate in the project with Germany, Australia, Great Britain, Denmark, Austria, Finland, Spain and Poland being among the soundest examples. Developed countries, however, see their participation in AIIB as a means to get an easier access to the infrastructure projects funded by the bank, therefore giving their companies additional opportunities to invest.¹⁰ Developing countries, on the other hand, see AIIB as an alternative to the existing development aid organizations, which have proved as ineffective and their capacity insufficient enough to respond to all of the needs of these countries. Therefore, AIIB for developing countries embodies the hope for the change of the way how the whole system of the international assistance on a global level functions. AIIB is set to start its operations in early 2016. China's key position in this institution is obvious from a place of bank's headquarters, which will be located in the capital of China, Beijing.¹¹ It has to be pointed out that, during the first years of its functioning, AIIB will only have a regional character, with the United States, Canada and Japan not being part of the project as they have refused to participate.

⁸BALÁŽ, P. – SZÖKEOVÁ, S. – ZÁBOJNÍK, S. (2012). Čínska ekonomika : Nová dimenzia globalizácie svetového hospodárstva. Bratislava : Sprint dva, 2012. 279 s. ISBN 978-80-89393-89-3.

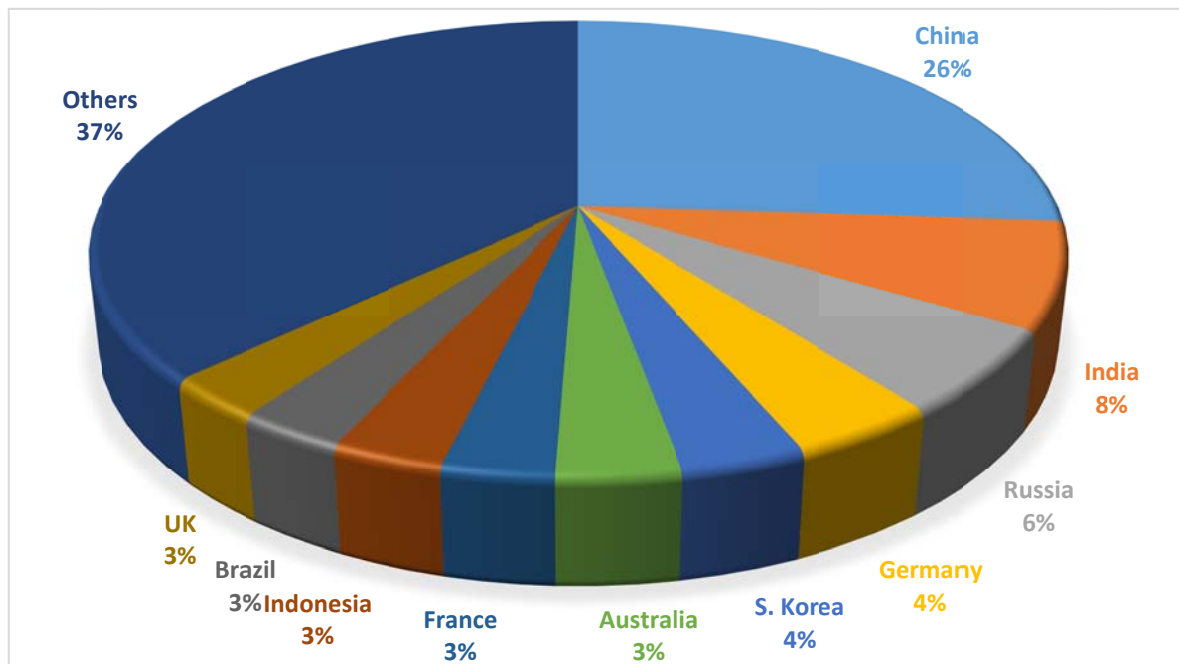
⁹ČIDEROVÁ, D. – KAŠŤÁKOVÁ, E. – VERČEK, P. et al. (2011). Rastúca dominancia čínskej ekonomiky a jej dosah na rast konkurencieschopnosti EÚ. Bratislava: Vydavateľstvo Ekonóm, 2011. 204 s. ISBN 978-80-225-3334-8.

¹⁰DIPLOMAT. (2015). *Why US Allies Are Happy to Join China's AIIB*. Thediplomat.com, 2015. <http://thediplomat.com/2015/07/why-us-allies-are-happy-to-join-chinas-aiib/>, [accessed. 2015-10-03].

¹¹SCMP. (2015). *China to hold 30 per cent stake in AIIB and 26 per cent voting rights*. Scmp.com, 2015. Available on the Internet: <http://www.scmp.com/news/china/policies-politics/article/1829095/founding-nations-attend-signing-ceremony-china-led>, [accessed. 2015-10-12]

Graph 1

Projected distribution of the voting rights within AIIB



Source: Author's calculations based on SCMP. Available online at: <http://www.scmp.com/news/china/diplomacy-defence/article/1829342/aiib-deal-seals-chinas-big-stake-new-lender>

The regional nature of the bank is also emphasized in its charter, which sets the rule that 70 percent of bank's capital has to come from Asia. This condition also safeguards China's leading position within the organization. The initial contribution of China to the overall bank's capital will be \$ 29.78 billion¹², accounting for 30 percent of the total capital of the bank, which gives China 26 percent of the total number of voting rights. Overview of countries with the largest voting rights in AIIB can be found in graph 1.

In 2015, the BRICS countries initiated the establishment of their historically first joint organization, New Development Bank (NDB). NDB will focus mainly on the investment and infrastructure cooperation between its members - Brazil, Russia, India, China and South Africa. However, despite the primary orientation on the BRICS countries, the bank is also open to the capital flowing from non-BRICS territories.¹³ The bank was officially opened in July 2015, with the headquarters being located in Shanghai. The initial subscribed capital of NDB is 50 billion USD with the total initial capital reaching 100 billion USD. At the time of the establishment of NDB, the voting rights have been decided to be distributed evenly between all five member countries with each member receiving 20 percent share of the voting rights. It has to be pointed out, however, that the initial distribution of the voting rights is not fixed and will vary with changes in the distribution of financial contributions provided by its

¹²AIIB. (2015). *Articles of Agreement*. [online]. Aiib.org, 2015. http://www.aiib.org/html/aboutus/Basic_Documents/, [accessed. 2015-10-12].

¹³ECONOMIST. (2015). The BRICS bank: An acronym with capital. Economist.com, 2015. http://www.economist.com/news/finance-and-economics/21607851-setting-up-rivals-imf-and-world-bank-easier-running-them-acronym_ [accessed. 2015-10-05].

members. Therefore, it is expected that shortly after the NDB's founding, China will gain greater share of all the voting rights. Additionally, country's leadership in this institution is already highlighted by the fact that historically the first loan provided by the bank in April 2016 will be denominated in renminbi.¹⁴

At the end of 2013, the Chinese government announced its intention to create the new strategic project called “The Silk Road Economic Belt and Maritime Silk Road“, which includes a significant amount of countries from the Asia, the Middle East, the Africa and the Europe, and aims at the deepening of economic and security cooperation among the participating counties. Furthermore, the project also covers the cooperation in the infrastructure.¹⁵ The project is now gaining its real shape, with the negotiations between potential participants being held between their highest political representatives. The total number of participating countries is not yet known, however, Belarus, Kazakhstan, Turkey, Thailand and Russia are among many other countries, which have already confirmed the participation in the project. Picture 1 illustrates the intended route of the project.

Picture 1

The intended route of the Silk Road and Economic Belt and Maritime Silk Road



Source: CNBC ASIA-PACIFIC. 2015. Available online at: <http://www.cnbc.com/id/102190017>.

If successfully carried out, the project has a huge potential to influence international business flows. The Chinese government has already voiced its intention to integrate AIIB as well as NDB into the Silk Road and Economic Belt and Maritime Silk Road initiative and use both as the means of implementing the strategies and partial goals stemming from this initiative.

AIIB and NDB, however, are not the only organizations taking part in this initiative. SCO, which was established in 2001 to ensure regional stability and to prevent armed

¹⁴RBTH. (2015). New Development Bank to issue first loan in Chinese currency. Rbth.co.uk, 2015.. http://rbth.co.uk/business/2015/07/29/new_development_bank_to_issue_first_loan_in_chinese_currency_48071.html [accessed 2015-10-05]

¹⁵WIRE. (2015). *What China's One Belt and One Road Strategy Means for India, Asia and the World*. Thewire.in, 2015. <http://thewire.in/2015/10/09/what-chinas-one-belt-and-one-road-strategy-means-for-india-asia-and-the-world-12532/> [accessed 2015-10-03].

conflicts between its six member countries, is also expected to participate. Over the fourteen years of its activity, SCO expanded the scope of its activities, the amount of its member states (six members: Russia, China, Kazakhstan, Uzbekistan, Tajikistan and Kyrgyzstan) however, remains the same. The organization currently has five candidates for membership, namely India, Pakistan, Iran, Mongolia and Afghanistan, who are participating in the regular summits, which are being held between the highest representatives of the countries. Meetings are also open to the participation of Sri Lanka, Belarus and Turkey, which are classified as the "dialogue partners". Nevertheless, the accession of these three countries to the organization, does not seem to be realistic in the short-run. More notably, the growing strength of this organization, in the second decade of the twenty-first century, worries even such a powerful countries like the United States, or the individual member states of the European Union, who view it as a counterpart to NATO and point to the gradual dividing the world into two hostile blocks.

3. Conclusions and policy implications

The strengthening of China's influence within the international organizations comes along with the strengthening of the country's position in the global economy. The important competitive advantages of China when it comes to deepening of its ties with the rest of the world, are its principles of non-interference in the domestic affairs and not-conditioning of international agreements and treaties with the fulfillment of additional conditions, which are not related to the their subject (e.g., the respect for human rights and the protection of the environment). Moreover, in comparison to the majority of developed countries, which still suffer from the economic and financial crisis and concentrate mainly on their own internal problems, has China a lot more to offer to its partners. The developing countries, with which China strengthens its political ties, achieve a pleasant economic growth and the disposable incomes of its inhabitants are constantly rising. This situation results in the creation of opportunities for the expansion of Chinese companies, and therefore has the potential to disadvantage companies from developed countries, which are already exporting there as well as those having a serious interest in expanding to these territories.

It is evident that in the years following 2015, China will expand its influence on the international institutions, and will continue to challenge the sovereign status of developed countries within the framework of these institutions.

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Desecuritization versus De-ethnicization of Political Spaces Regarding Minority Issues

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Abstract

The aim of the paper is to assess socio-economic status of minority groups in Slovak republic and to provide alternative ways of dealing with minority issues. Therefore, approaches of Will Kymlicka and Stefan Wolff dealing with the successful implementation of minority policy are being discussed in this paper. Both approaches are being applied to the case of Slovak republic, while the emphasis is laid on the comparison of the possible positive and negative effects of these two approaches on the current socio-economic status of minority groups. Main findings are being summarized in the conclusion of the paper in order to formulate recommendations for minority policy in Slovakia.

Keywords: minorities, socioeconomic status, political spaces, desecuritization, de-ethnicization, Slovak republic

JEL classification: Z10, Z18

1. Introduction

Slovak republic is to be characterized as ethnically heterogeneous and multicultural. Multinational Slovak population apart from the people belonging to the Slovak nationality consists of 13 officially recognized national minorities and ethnic groups – namely Bulgarian, Czech, Croatian, German, Hungarian, Jewish, Polish, Roma, Ruthenian, Russian, Serbian and Ukrainian.¹ All of these minorities have their representatives in the Council of National Minorities and Ethnic Groups of the Government Council of Human Rights, National Minorities and Gender Equality, which should to a large extent contribute to the protection and support of the further development of minorities, by ensuring maintenance, expression and development of their own identity and cultural values. (Jedličková, 2014)

Despite of the fact that the institutional structure pertaining to human and minority rights (which involves minority rights policy) of Slovak republic has since its establishment underwent significant changes in a positive manner between 1993 and 2014, there are still quite many limitations and remaining challenges, that need to be addressed at least on a national level (Krkošková, 2015). One of the most significant current challenges of the minority policy in Slovakia that was identified in our recently published paper with the title “Current Challenges of Minority Policy in Slovak Republic” is that the minorities within the Slovak society are still to some extent perceived as a threat to the territorial integrity of Slovak republic. As a proof of that serve several restrictive measures such as restriction to

¹ There are also people who belong to the Silesian minority in Slovakia. When presenting the results of a census, people belonging to Silesian minority are mostly included in one group together with the people belonging to Czech and Moravian national minority. We assume, that the reason for this, is that they all are originally from the neighbouring Czech Republic and have lot of common features.

possess double citizenship (which temporarily applied to all Slovak citizens) or the State Language Act (which, as emphasized by the Centre for the Research of Ethnicity and Culture (CVEK), significantly promotes linguistic assimilation) (Lajčáková *et al.*, 2013).

According to the Report of the Ministry of Justice of the Slovak republic (MS SR, 2013) on the status and rights of national minorities, where specific surveys on demographic situation, level of education, employment rate etc. of minorities are summarized, the regions with certain negative socio-economic indicators are characterized by specific national structure (Hungarian, Roma, and Ruthenian national minorities create a compact settlement in these regions)². When speaking about negative socio-economic indicators, most urgent ones are the above-average share of population with elementary education (22,0% of the Hungarian population, 42,7% of the Roma population) or with no level of education (40,7% of the Roma population) and faster growth of unemployment rate in the regions characterized by specific national structure (MS SR, 2013). Our main assumption is that perception of minorities as a certain “threat” to the majority, as Kymlicka (2002) describes it, is one of the most serious reasons for current inadequate socio-economic status of minority groups. Therefore we have decided to address this issue in this paper with the main focus on an attempt at providing alternative ways of dealing with minority issues in order to achieve better socio-economic status for minority groups and better minority-majority and minority-state relations.

2. Comparison of desecuritization and de-ethnicization approach

According to Kymlicka (2002), ethnic relations are seen as a zero-sum game, which means that anything that benefits the minority is seen as a threat to majority. For this reason Kymlicka argues that the treatment of minorities is above all a question of national security, therefore, based on the ideas of Wæver (1995) he claims that the political spaces regarding minority issues have been securitized and that the only way to achieve greater accommodation of ethnic diversity is to desecuritize them in order to create desecuritized democratic spaces within which successful negotiation and implementation of minority rights can take place.

Wolff (2002) agrees with Kymlicka to some extent. However, he also argues that successful desecuritization of political spaces is not the only way of dealing with the most urgent minority issues. He claims that “if political issues are no longer framed in ethnic terms, they will also begin to lose their security relevance”. Thus, he suggests de-ethnicization of everyday politics. According to his opinion, the “political spaces exclusively defined in ethnic terms are static and inflexible, and often unable to cope with the complex political, social and economic dynamics of contemporary societies. To legitimize ethnic politics by advocating the acceptance of nationalist mobilization cannot but be counterproductive in the long term.” (Wolff, 2002)

Kymlicka (2002) at the same time stresses that it is necessary for a state to accept the principle that the substate national identities (in this case identities of national minorities) “will endure into the indefinite future, and that their sense of nationhood and nationalist aspirations must be accommodated in some way or other”. According to him, it is important to “effectively challenge dominant ideologies about the illegitimate nature of substate nationalist claims for territorial autonomy and official language status.”

While according to Kymlicka (2002) it is necessary to deliberate about the substate nationalist claims for territorial autonomy and official language status in a free and informed

² The basic criterion for compact settlement is that a certain national minority is more numerous than 6,0% (MS SR, 2013).

way in order to create meaningful democratic spaces, Wolff (2002) on the other hand sees building institutions around ethnic identities as divisive of societies in the long term and legitimating nationalist mobilization *ad infinitum*, which does not necessarily and inevitably lead to renewed violent conflict, but he claims that it will always be much easier for minority and majority nationalisms to mobilize their respective groups against one another if political spaces are being organized around ethnic identities. Therefore, however it is unlikely to achieve de-ethnicized political spaces in the short term or without compromise, Wolff (2002) emphasizes that “in the long term harmonious interethnic relations may be more secure only if politics move beyond ethnic politics” (Wolff, 2002).

Provided arguments of both authors lead us to the conclusion, that Kymlicka sees desecuritization of political spaces as a solution of the challenging minority issues of everyday politics. Wolff sees the solution in creating security irrelevant political spaces through de-ethnicization of everyday politics. Although both of the mentioned authors to a certain degree agree with the claim that the political spaces regarding minority issues, in order to create a democratic space within which successful negotiation and implementation of minority rights can take place, have to be desecuritized (or security irrelevant), each of them has suggested a different way to achieve this goal. In order to provide a clearer picture of somewhat contradictory arguments of these two authors, which, as we claim, come to similar conclusions in the end, we have decided to sum up the most significant differences between the desecuritization and de-ethnicization approach in the table below (Table 1).

Table 1

Most significant differences between the desecuritization and de-ethnicization approach

Desecuritization	De-ethnicization
Treatment of minorities – above all a question of national security – need for desecuritization	Successful desecuritization – not the only way of dealing with minority issues
Sense of nationhood and nationalist aspirations of substate national identities must be accommodated by the state	Legitimizing ethnic politics by advocating the acceptance of nationalist mobilization is counterproductive in the long term
Necessity to accept the principle that the substate national identities will endure into the indefinite future	Inability to cope with the complex political social and economic dynamics if the political spaces are defined in ethnic terms (are static and inflexible)
Importance of challenging dominant ideologies about the illegitimate nature of substate nationalist claims for territorial autonomy and official language status	Importance of not accepting of nationalist mobilization and of accepting the need for reforms that make national mobilization superfluous

Source: Kymlicka 2002, Wolff 2002

Taking previous text into account, in order to deliver the message of the meaning of the provided comparison we consider as necessary to highlight the most important thoughts of both of the authors on the examined issue. According to Kymlicka (2002), the crucial change towards desecuritization of political spaces regarding minority issues “involves **the acceptance, that nationalist mobilization by substate national groups is a normal and legitimate part of everyday politics in a free and democratic society**. So long as this central idea continues to be resisted, there is little hope for genuine progress in state-minority relations.” Wolff (2002) however argues that the crucial change towards desecuritization of political spaces is, as we understand it, their de-ethnicization, which means **not to build**

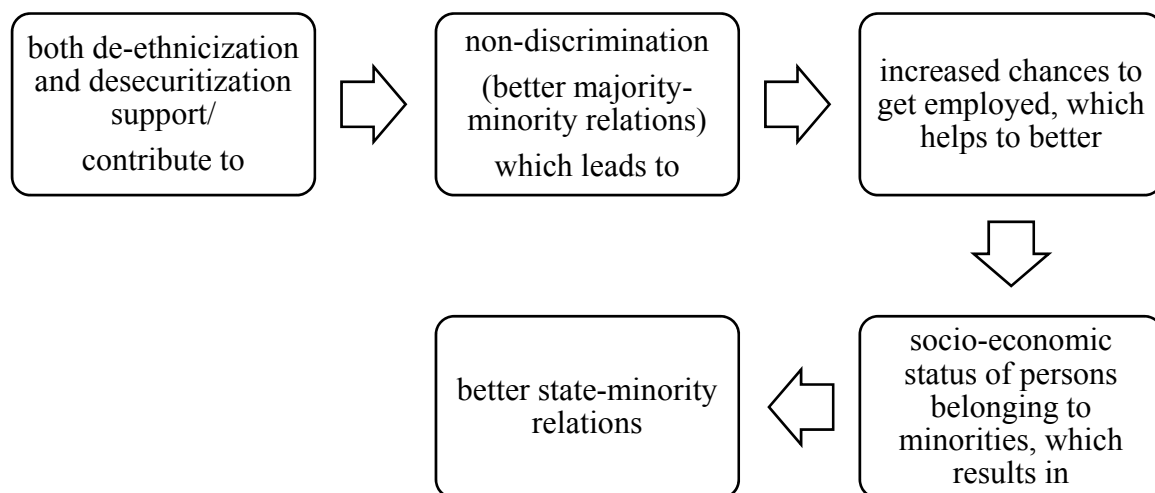
institutions around ethnic identities, to be more specific **not to legitimize nationalist mobilization *ad infinitum***, since he claims that if political issues are no longer framed in ethnic terms, they will also begin to lose their security relevance (will from a certain angle become desecuritized), but important from Wolff's (2002) point of view is to note, that de-ethnicization will precede desecuritization of political spaces (which means that the desecuritization of political spaces will no longer be needed).

3. Implications of the two approaches on socio-economic status of minority groups

According to our opinion, the positive effects on the socio-economic status of minority groups of both of the approaches, when applied to the current society in the Slovak republic, would outweigh the negative ones. This claim is based on several assumptions, which we summarized in the following figure (Figure 1).

Table 1

Assumptions of the positive effects of de-ethnicization and desecuritization approach



Source: self-processed by the author of the paper, taking into account research papers by Kymlicka 2002, Wolff 2002

It is however really important to stress conditions and circumstances under which the positive effects of de-ethnicization and desecuritization could take place. First of all, de-ethnicization, must neither be accompanied, nor, as Wolff (2002) stresses, equated with denying rights and safeguards for ethnic minorities – “demands for language, cultural, educational and/or religious rights are legitimate precisely because they help this process of de-ethnicization as they assure minorities of the protection of their identity”.³ If these conditions would not be fulfilled, de-ethnicization could finally result in further and deeper discrimination and its originally positive effect would be diminished or most likely it would disappear completely and would result in negative effect – further discrimination. On the

³ “However, it is equally the responsibility of minorities to assure majorities that they will also refrain from playing the ethnic card in politics. This way, continuous polarization of ethnically diverse societies can be avoided, and the politicization and radicalization of ethnic identities can be prevented” (Wolff, 2002 against parties that deliberately exclude other groups from their membership and pursue a single-issue, ethnic agenda).

other hand, if the demands for language, cultural and educational rights were met, persons belonging to minorities would get better chance to gain higher level of education, thus better chance to get a qualified job etc. Secondly, when talking about desecuritization, crucial demand on both majority and the state is not to expect that the minorities are disloyal, nor that the state requires weak and disempowered minorities (Kymlicka, 2002). The consequences of the case when the titular nation (majority) or the state fail to do so, are expected to be quite similar as in the case of not meeting the requirement of non-equation of de-ethnicization of political spaces with denying rights and safeguards for ethnic minorities.

When applying the above provided comparative analysis to the current situation of minority policy in Slovak republic, we have to admit that the treatment of minorities in Slovakia is to a great extent a question of national security and peace maintenance (Lajčáková *et al.*, 2012) (especially when taking into account both Hungarian and Roma minority, which are currently the most numerous minorities⁴). Therefore we agree with the remark mentioned in the annual report on Minority Policy in Slovakia (Lajčáková *et al.*, 2012), that it is also necessary to take culture, cultural diversity and its protection as well as the protection of human dignity into account. In our opinion, as it has already been expressed in our recently published paper “the long-term goal of the Slovak authorities should be to try to substitute (at least to some extent) the need to protect minority rights in order to protect the majority from potential threats of conflicts with the other two mentioned needs – to protect cultural diversity and human dignity of the minority groups. In order to be able to challenge and to overcome the “securitization” of minority policy, not only steps on the state (and even higher) level have to be made, but maybe even more importantly, also change of people’s minds regarding the majority-minority relations and minority-state relations is necessary (Kymlicka 2002), which is not an easy task at all” (Krkošková, 2015). At the same time, neither de-ethnicization of everyday politics, which has in the political space of Slovak republic not yet been observed, is an easy task. As Wolff (2002) stresses in the conclusion of his paper, de-ethnicizing of political processes is “unlikely to be achieved in the short term or without compromise. In many societies in Central and Eastern Europe [which includes Slovak republic as well], it will also require significant periods in which ethnic identities continue to play an important role in politics and are given the institutional space and security to do so.”

Taking these thoughts into account, we claim that in the context of current situation in Slovak republic’s minority policy, it is necessary first to focus on desecuritization of political spaces regarding minority issues by laying emphasis on protection of cultural diversity and human dignity and only then to the building of long term (and in fact more secure) harmonious interethnic relations by moving politics beyond ethnic politics (by de-ethnicization suggested by Wolff (2002)). To be more specific, in the current situation of minority policy in Slovakia it would be, according to our opinion too ambitious, to start with de-ethnicization of everyday politics. It is definitely necessary to desecuritize political spaces first.

4. Conclusions

When assessing the current socio-economic status of minority groups in Slovak republic, we came across findings that certain Slovak regions with negative socio-economic indicators such as the above-average share of population with no or only elementary education, or faster growth of unemployment, are mostly characterized by specific national structure, which we believe is predominantly the result of perception of minorities as a threat to majority, that mostly leads to the discrimination of minorities and in some cases even to their exclusion

⁴ In 2013 the Hungarian minority accounted for 8,5% of the total Slovak population and Roma for 2%. (Katuša, *et al.*, 2014)

from the society on various different levels (e.g. Roma minority). Therefore we consider it necessary to at least try to change the way of dealing with minority issues in order to achieve better socio-economic status for minorities in Slovakia and better majority-minority and minority-state relations.

The comparative analysis of the two somewhat similar but still a bit different approaches to dealing with minority issues on a state level leads us to the conclusion, that the successful negotiation and implementation of minority rights can only take place within democratic spaces that have either been desecuritized (Kymlicka, 2002) or are security irrelevant (Wolff, 2002). Based on the analysis of different assumptions, we also claim that when de-ethnicization and desecuritization take place under certain circumstances and are complied with certain conditions, both of these ways of achieving such political spaces bring along more positive than negative effects on the socio-economic status of minorities.

Neither desecuritization approach, nor de-ethnicization approach are easy to be realised, since they are dealing with really complicated issues. Both of them therefore require to be approached systematically and comprehensively. The results are moreover only expected to appear in the long term. Considering the current situation of the minority policy in Slovakia we oppose Wolff (2002) who claims that de-ethnicization will precede desecuritization of political spaces so that desecuritization will no longer be needed, since in our opinion, if we want to better the current socio-economic status of ethnic minorities as soon as possible, the easier way to do it is by desecuritization of everyday politics. Starting with de-ethnicization would be according to us too ambitious when taking into account not only the current situation of minority policy but also the attitudes of majority population towards minorities (See Advisory Committee, 2014 in Krkošková, 2015). At the same time we supplement the idea of Kymlicka (2002) since we claim that the desecuritization of political spaces will be inevitably followed by their de-ethnicization in the long term perspective.

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The impact of foreign ownership on innovation expenditures

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Abstract

The large number of studies is examining the effect of foreign direct investment on innovation of firms. The aim of this paper is to analyze the impact of foreign ownership, and other determinants, on innovation expenditures of firm in Slovakia. We use a panel data set of joint ventures, foreign-owned, and domestic firms operating in Slovakian industrial sectors over the period 2004-2013 for conducting the regression analysis. To evaluate the impact of several determinants, namely foreign ownership, return on sales, production, and number of employees; on gross expenditures on research and development, the weighted least square method for panel data is applied. The results of regression analysis show positive and highly statistically significant impact of foreign ownership on innovation expenditures of firms. In case of other variables, the results show statistically significant impact on innovation expenditures in all cases.

Keywords: *research and development, foreign ownership, joint venture*

JEL classification: *O 30, F 23, F 21*

1. Introduction

Foreign direct investment (FDI) are generally seen as a source of new technology for developing countries. New technologies in firms help to enhance productivity, or improve efficiency of processes. Although technologies may bring in future production and financial savings, innovations require expenditures and their result is uncertain. Therefore, firms have to make hard decisions about investments in innovation.

There exist many studies on determinants of innovation expenditures in literature, however, number of empirical studies in Slovakia is limited. The paper contributes to the literature associated with strategic and firm-specific determinants of innovation expenditures by using the panel data set of firms operating in Slovak industry. We attempt to answer the questions, whether there is a relationship between firm's innovation expenditures and its characteristics, such as ownership, size, financial situation, etc. Special interest is devoted to foreign ownership of firm, as result of FDI.

2. Literature overview

It is generally known that developing countries are trying to attract FDI to obtain advanced technology from developed countries and then to improve domestic innovation capability (Cheung, Lin, 2004; Mishra, 2007; Sivalogathan, Wu, 2014). Especially in industrial firms, research and development (R&D) bring technology that is more efficient, and help to cut firm's costs through process innovation, whereas product innovation gives the firm a short-term monopoly power in the market and increases its profits. However, expenditures on innovations are connected with set of uncertainties and firm may face a major decision-making problem in this area. Ideally, the decision to invest in innovation should be

determined by the industrial structure and the firm's capacity to afford R&D activities (e.g. firm size) (Mishra, 2007).

The literature on determinants, according to which firm decides to invest into innovation, offers many studies distinguishing four categories of determinants: legal, market, strategic, and firm-specific (Cumming, Macintosh, 2000). In this section, the literature and its results are briefly reviewed, in order to identify the important determinants of innovation expenditures.

First, we are mostly interested in foreign ownership as a determinant of expenditures on R&D, which is a result of FDI inflows. There is number of opposite argument about the influence of foreign investment on R&D activities (Lee, Yoo, Kwak, 2011). Already, in an early study of Howe, McFetridge (1976), authors distinguished between foreign-owned and domestic firms, when studying the variation in R&D among firms. Love, Roper (1999), and Bishop, Wiseman (1999) suggest that foreign ownership has a negative association with innovation. Love, Ashcroft, and Dunlop (1996) and Rogers (2004) found a positive relationship between innovation expenditures and FDI. Similarly, Lee (2012) shows in his paper that foreign ownership positively affects R&D investment. The same is claimed by Lee, Yoo, and Kwak (2011), who show in their paper that foreign investments stimulates expenditures of firm on R&D.

Second, Schumpeter (1942) considered innovation to be a source of improving technology and development. A large body of literature has emerged to test Schumpeter's hypothesis empirically, and focus on analysing the impact of firm size on the innovative activity taken by firms (Mishra, 2007). The early studies by Horowitz (1962), Hamberg (1964) and Comanor (1967), Nelson et al. (1967), and Pavitt (1987) found a positive linear relationship between firm size and the R&D activities. Love, Roper (1999) argue that large firms are in a better position to carry out the R&D necessary for innovation. These firms have stronger cash flows to fund R&D activity and their large sales volume implies that the fixed costs of R&D activity can be spread over a large sales base. In addition, they have access to a wider range of knowledge and human capital skills (Rogers, 2004).

On the other hand, the studies by Scherer (1984), Mahlich, Roediger-Schluga, (2006) and Bound et al. (1984) found evidence of negative impact of firm size on R&D. The argument in favour of small firms is their higher flexibility in shifting employees to R&D-related projects and less complex management structures in implementing new projects (Acs, Audretsch, 1988; Bhattacharya, Bloch, 2004).

Additionally, Lee (2012) devoted his study to examining the financial determinants of expenditures on R&D. He studied financial performance measures, such as return on sales, cash flow, and many other. We found it interesting to conclude some financial determinant into our research as well.

3. Description of the dataset

As primary source of data, we used the *Industry Yearbooks* and the *Yearbooks of Science and Technology* published annually by the Statistical Office of the Slovak Republic. The data set contains firms operating in Slovak industrial sector covering divisions from 05 to 39, according to the Statistical Classification of Economic Activities SK NACE Rev. 2, for the period 2004-2013.

The firms are classified, based on their ownership, into three groups- joint ventures, foreign-owned firms, and domestic firms. The group of domestic firms consists of private inland firms with 100 % domestic ownership. The group of foreign-owned firms is

represented by those, where the owner is foreign investor. The group of joint ventures consists of firms, where the ownership is mixed.

4. Definition of variables

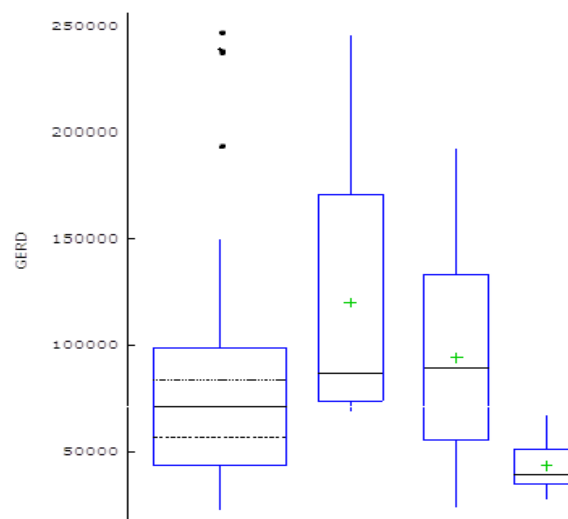
In this section, we provide definition and description of our dependent variable, as well as definition and description of independent variables. Then we briefly discuss possible impacts of independent variables on dependent variable based on correlation coefficients.

4.1 The dependent variable

There is disagreement in the literature regarding the measurement of R&D activities undertaken by firms. The two commonly suggested measures of innovation are input-based measures (such as expenditures on R&D, or the number of research employees), and output-based measures (such as the number of patents) (Mishra, 2007). The dependent variable in our paper is innovation expenditure, which is measured by gross expenditures on R&D (GERD). It consists of total expenditures on R&D activities within organization, i.e. domestic expenditures. They include capital and current expenditures. From expenditures being spent outside the organization only those are included, which serve as a support to the internal research and development (e.g. purchase of equipment for R&D). The depreciation of buildings, machinery equipment, and equipment is excluded¹. Similar measure of expenditures on R&D is used for example by Brzozowski (2008) in his study of investment and innovation expenditures in Polish industries.

Figure 1 shows the boxplots of four groups of dependent variable GERD. First boxplot describes the group of pooled observations, second boxplot the group of joint ventures, third boxplot the group of foreign firms and the last boxplot the group of domestic firms. It seems that the variable GERD is not normally distributed, and there are few outliers in the group of pooled boxplot.

Figure 1
Boxplots of variable GERD



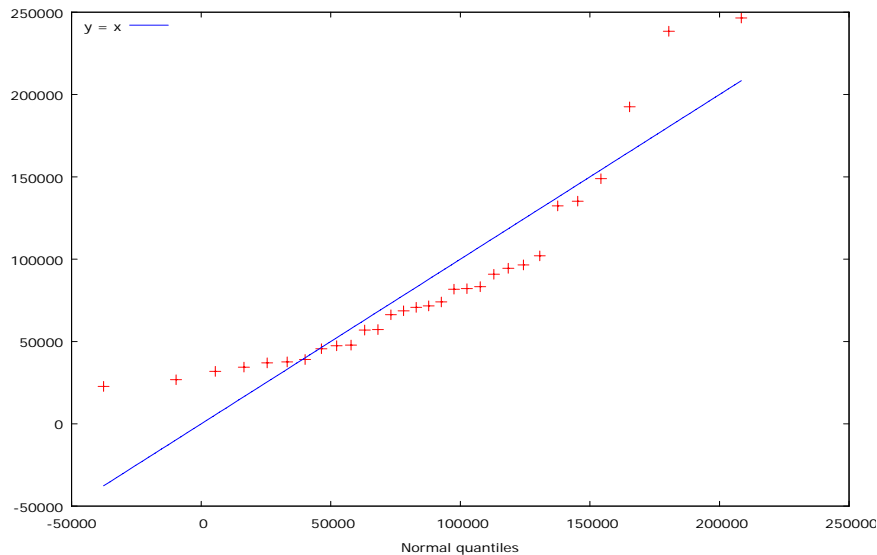
Source: author's calculations

¹ The calculation of the variable is in accordance with calculations in the publications of the Statistical Office of the Slovak Republic. The variable is defined for example in Statistical Yearbook of Science and Technology.

Figure 2 presents the normal probability plot (Q-Q plot) of the dependent variable GERD. The Q-Q plot plots the ordered expenditure values (axis Y) against the associated quantiles of the normal distribution (axis X). As the red points of the plot do not lie close to a straight blue line (normal quantiles), we suspect that distribution of GERD is not normal.

Figure 2

Q-Q plot of variable GERD

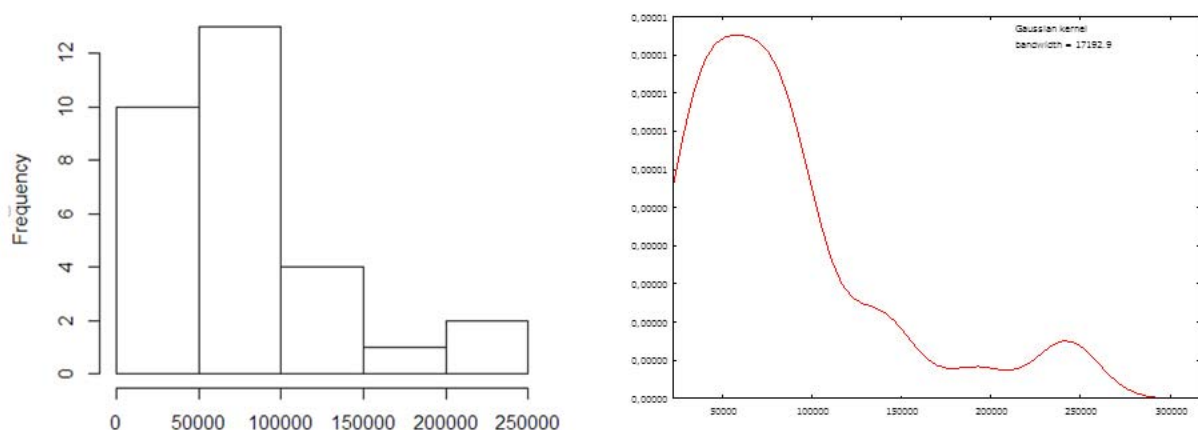


Source: author's calculations

Figure 3 shows the frequency distribution and estimated density of the variable GERD. In addition to previous figures, we can see the possible non-normality of the distribution on dependent variable, and possible outlier problem. Thus, when the results of performed tests of normality of GERD distributions have rejected the null hypothesis of normality, it does not come with surprise².

Figure 3

Histogram and estimated density of variable GERD



Source: author's calculations

² We tested the normality of distribution with the Doornik-Hansen test, where the test characteristic is 18,8708 with p-value 0,00008; Shapiro-Wilk test, where $W = 0,83073$ with p-value 0,00025, and Jarque-Bera test, where the testing characteristic is 14,3881 with p-value 0,00075. The p-values in each test lead to rejecting the null hypothesis of normality of distribution.

4.2 The independent variable

As the independent variables, we use foreign ownership, return on sales, production, and number of employees. Our main interest is in the first one, which is measured as a percentage of equity shares owned by foreign investor. The same measurement of foreign ownership is used by Lee (2012), and Lee, Yoo, Kwak (2011), when examining the effect of foreign ownership on R&D expenditures. The positive effect of foreign ownership on expenditures on R&D may occur, when foreign investor support the R&D in the host country due to lower costs, e.g. cheaper labor force, lower manufacturing costs, etc. The negative effect may be found, when foreign investor prefer to perform R&D activities in home country and then export the new technologies in host country.

The variable return on sales is calculated as profit before depreciation, interest, and taxes as a ratio of sales. This variable measures the financial performance of firm, which can influence the expenditures on R&D. For example, Lee (2012) also uses financial performance (measured as return on assets) as a determinant of R&D investments. The positive effect is expected, if financially well performing firm spends the money on R&D. On the contrary, negative effect means, that with higher financial performance the firm is no longer interested in R&D activities.

The variable production measures sales amount of firm per year. It is a measurement of firm size, which is similarly used by Mishra (2007). The last variable- number of employees is counted as average number of employees in firm per year, and it is firm size measure as well. The firm size is an important determinant of the firm's research initiatives, as it reflects the capacity of a firm to undertake R&D (Mishra, 2007), as it was stated in this paper before. The positive effect of firm size on innovation expenditures may suggest that the larger firms have more internally generated funds, and hence, have better resources to establish research laboratories and hire highly educated, skilled researchers and engineers. The negative effect may suggest that with the growth of the firm size the loss in managerial control outweighs the gain from innovation (Mishra, 2007).

To test the correlation among all variables, we used Spearman's rank correlation coefficients³. The coefficients imply that except from return on sales, all variables should have positive effect on dependent variable GERD. We will discuss these effects in result section in more detail. Moreover, the correlation matrix indicates some suspicions about multicollinearity problem between some independent variables. The presence of multicollinearity is examined through collinearity diagnostic, namely the variance inflation factor, and the result are shown in the results section.

5. Empirical model

We consider following model (1) to study the effects of several above-mentioned determinants of innovation expenditures, and model (2) to examine separate effect of foreign ownership on the dependent variable:

$$GERD_{it} = \beta_0 + \beta_1 Ownership + \beta_2 ROS + \beta_4 Production + \beta_5 Number\ of\ employees + \varepsilon_{it} \quad (1)$$

$$GERD_{it} = \beta_0 + \beta_1 Ownership + \varepsilon_{it} \quad (2)$$

First, we use OLS method for estimating the coefficients of the models. However, the classical assumptions of homoscedasticity and no serial correlation, which are required for OLS method, might be too restrictive for panel data (Lee, 2012). To control the

³ The correlation matrix is available from author upon request.

heteroscedasticity and potential correlation problems, which are pointed out in covariance matrix interpretation, a weighted least squares (WLS) method for regression analysis is employed.

The weighted least squares estimate is the following:

$$\begin{aligned}\hat{\beta}_{WLS} &= \underset{\beta}{\operatorname{arg\,min}} \sum_{i=1, t=1}^{n, T} \varepsilon_{it}^2 \\ &= (\mathbf{X}^T \mathbf{W} \mathbf{X})^{-1} \mathbf{X}^T \mathbf{W} \mathbf{Y}.\end{aligned}$$

Where \mathbf{W} is the diagonal matrix containing weights $w_{it}=1/\sigma_{it}^2$, as the reciprocal of each variance σ_{it}^2 from non-constant variance-covariance matrix.

Furthermore, the least absolute deviance (LAD) method is used to check the robustness of the models, since we found some evidence about outliers in our sample distribution.

6. Empirical results

In this section, we present the empirical results of our analysis. First, we use OLS method to estimate coefficients of regression analysis in the model (1a) (Table 1). These coefficients serve as a benchmark values and are compared to other estimated coefficients. However, the Wald test for heteroscedasticity leads to rejection of null hypothesis about common error variance among units. Similarly, the normality of residuals is rejected. Compared to WLS estimation results, the coefficients of OLS estimation method have the same signs, the same statistical significance, and very similar values. That is why we interpret only the results of WLS estimation, which is the main estimation method in our paper.

Table 1

Estimation results of model (1a)

Model (1a)	OLS	WLS	LAD	VIF
Intercept	147 935*** (0,0000)	121 654*** (0,0000)	126 629*** (0,0312)	
Ownership	1251** (0,0416)	901** (0,0295)	967 (0,1351)	16,452
ROS	- 356 566 (0,7345)	- 316 495 (0,6463)	- 700 900 (0,4569)	2,778
Production	0,0031*** (0,0000)	0,0030*** (0,0000)	0,0021*** (0,0038)	2,594
Number of employees	-1 130*** (0,0062)	- 879*** (0,0010)	- 768* (0,0738)	21,422
<i>S.E. of regression</i>	32 123	1,0367		
<i>R-squared</i>	0,7338	0,8265		
<i>Adjusted R-squared</i>	0,6912	0,7987		
<i>Test for normality of residual</i>	11,64 (0,0030)	9,44 (0,0089)		
<i>Wald test for heteroscedasticity</i>	38,87 (0,0000)			

Source: author's calculations

Note: The values in the parentheses are the p-values. According to p-values, *, **, *** indicate significant at the level of 10%, 5%, 1%, respectively.

Second, the coefficients of WLS estimation show statistically significant and positive results for independent variables: foreign ownership, production, and number of employees. It

confirms the preliminary findings of correlation matrix that these variables increase the expenditures on R&D. However, when we compare the results with robust estimation method LAD, some dissimilarities in values and statistical significance can be found. It leads to suspicion that the outliers, which we found in descriptive statistics, may cause estimation problems. After checking for multicollinearity problem with VIF, we find that foreign ownership and number of employees may be collinear, which confirms the results of correlation matrix. As the foreign ownership is the variable of our main interest, we exclude the variable number of employees from the model (1a) and get the model (1b) (Table 2).

In the model (1b), we analogously use OLS estimates as benchmark values, and LAD estimates for checking the robustness of model (1b) estimated by WLS method. VIF does not show collinearity problem after excluding the variable number of employees.

Table 2
Estimation results of model (1b)

Model (1b)	OLS	WLS	LAD	VIF
Intercept	72 118*** (0,0014)	59 244*** (0,0000)	73 396*** (0,0000)	
Ownership	- 389* (0,0919)	-391* (0,0623)	-244 (0,328)	1,836
ROS	- 2 603 450*** (0,0038)	-1 838 900*** (0,0025)	-2 106 410*** (0,0043)	1,324
Production	0,0026*** (0,0000)	0,0026*** (0,0000)	0,0018** (0,0111)	2,187
<i>S.E. of regression</i>	36 691	1,0283		
<i>R-squared</i>	0,6388	0,7238		
<i>Adjusted R-squared</i>	0,5972	0,6919		
<i>Test for normality of residual</i>	10,9124 (0,0043)	8,0320 (0,0180)		
<i>Wald test for heteroscedasticity</i>	151,457 (0,0000)			

Source: author's calculations

Note: The values in the parentheses are the p-values. According to p-values, *, **, *** indicate significant at the level of 10%, 5%, 1%, respectively.

The OLS, as well as WLS estimation method shows statistically significant results of foreign ownership at the significance level of 10%, and return on sales and production at the level of 1%. However, LAD estimation method does not confirm the statistical significance of the variable foreign ownership in this model.

High negative effect of return on sales on innovation expenditures suggests that firms with high financial performance are not interested in investing into R&D activities. Explanation for this behavior might be that the large, well performing firms consider their position on the market to be strong, and their firm processes to be effective, and hence relocate their investments into maintaining the customer base and marketing, rather than into developing new products or processes.

Positive, although small effect of production on innovation expenditures indicates that larger firms spend more on R&D activities. This result is in line with previous studies by Horowitz (1962), Hamberg (1964) and Comanor (1967), Nelson et al. (1967), and Pavitt (1987).

Negative effect of foreign ownership on innovation expenditures is in accordance with the results found by Love, Roper (1999), and Bishop, Wiseman (1999). However, it is important to mention that negative effect of this variable in model (1b), where it is examined together with financial performance, and firm size, may be caused by accounting other variables in the model. In addition, to study the effect separately, we constructed the model (2).

Table 3 presents the results of model (2), estimated firstly with OLS method as a benchmark values, then with WLS method as the main method, and lastly with LAD method to check the robustness of the model. In all three estimations, the results are very similar, showing positive and statistically significant effect of foreign ownership on expenditures on R&D. The intercept has the meaningful interpretation in this case- when firms are domestic-owned their average expenditures on R&D are 44 326 euros. When the foreign ownership of firms rises by 1 %, the average innovation expenditures increase by 601 euros, and the foreign firms as well as joint ventures spend on average 44 927 euros on innovation activities.

Table 3

Estimation results of model (2)

Model (2)	OLS	WLS	LAD
Intercept	59 768*** (0,0007)	44 326*** (0,0000)	46 058*** (0,0000)
Ownership	512** (0,0456)	601*** (0,0006)	560*** (0,0068)
<i>S.E. of regression</i>	54710	0,9266	
<i>R-squared</i>	0,1352	0,3502	
<i>Adjusted R-squared</i>	0,1044	0,3270	
<i>Wald test for heteroscedasticity</i>	459 (0,0000)		
<i>Test for normality of residual</i>	15,31 (0,0005)		

Source: author's calculations

Note: The values in the parentheses are the p-values. According to p-values, *, **, *** indicate significant at the level of 10%, 5%, 1%, respectively.

These results confirm the results found by Love, Ashcroft, Dunlop (1996), Rogers (2004), Lee (2012), and Lee, Yoo, Kwak (2011). The explanation for these results in Slovakia may be the fact that in this country, the labor force is considered relatively cheap in comparison with other European countries, but the education is good enough, and provides skilled workers, thus foreign investor may be interested in moving R&D activities there, in order to achieve lower costs.

Additionally, the opposite results for the effect of foreign ownership in model (1b) and (2)⁴ may be explained by following fact. In model (1b), we consider large, well performing firm, which may have the R&D laboratories already established in home country (or any other country), thus does not invest into R&D activities in host country, and the effect of foreign ownership is then negative in this model.

7. Conclusion

In this paper, we studied the effect of foreign ownership, return on sales, capital intensity, production, and number of employees on innovation expenditures of firm in Slovakia. We

⁴ In model (1a), the results of VIF show the collinearity problem, which may cause the biased effect of foreign ownership.

used a panel data set of joint ventures, foreign-owned, and domestic firms operating in Slovakian industrial sectors over the period 2004-2013 for conducting the regression analysis. To evaluate the effect of the variables on gross expenditures on research and development, first, the OLS method was used to estimate the coefficients as benchmark values. Then, the WLS estimation method for panel data was applied. Finally, the LAD method was used to check the robustness of the models.

We used two models to study the effects. The first one employed all studied variables into regression, and after checking for multicollinearity problem, it was divided into (1a) and (1b), where the variable causing problems was excluded. The second one examined only effect of variable foreign ownership on the dependent variable.

The results of regression analysis showed positive and highly statistically significant impact of foreign ownership on innovation expenditures of firms in the model (2). The explanation for these results in Slovakia may be the relatively cheap labor force, in comparison with other European countries, and good education in this country. Hence, foreign investor may be interested in performing R&D activities in Slovakia, in order to achieve lower costs.

In the model (1b), negative and statistically significant effect of foreign ownership on innovation expenditures was found. However, in the model we consider large, well performing firms, which may have the R&D laboratories already established, thus are not investing into R&D activities in Slovakia, as the host country. High negative effect of return on sales on innovation expenditures found in model (1b), confirm this explanation. The well performing firms may relocate their investments into maintaining the customer base and marketing, rather than into R&D activities in host country. The effect of production on innovation activities was found positive, and statistically significant, however close to zero in models (1a) and (1b).

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Financing of Ukrainian Diplomatic Service

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Abstract

Ukraine, as a Post-Soviet country, has become a full-fledged participant in international relations only in the first half of the 90's. In the first stage of independence Ukraine begins to establish its new diplomatic contacts, as well as diplomatic and consular representations, which should effectively perform all tasks stated by Ukrainian government, including Ministry of foreign affairs. The purpose of this paper is analysis of diplomatic service of Ukraine in terms of its financing and budget issues. A specific question for us is to make an evaluation of financing issues of diplomats working abroad, who are asked to represent the interests of home state in the field.

Keywords: *diplomatic service, diplomatic missions, budget, financing, Ukraine*

JEL classification: *F 50, G 28*

1. Introduction

Ukraine, as post Soviet country, has become a full-fledged participant in international relations only in the first half of the 90s of the 20th century. The creation of complex institutional and functional mechanism of external relations of the state begins it establishing in the early stage of country independence. New diplomatic contacts, diplomatic and consular representation, which should effectively perform all tasks stated by the Ministry of Foreign Affairs of Ukraine (MFA), were established. Even before the formal determination of independence of Ukraine, in July 1990, the Supreme Council of USSR has adopted the Declaration, which defined Ukraine as a subject of international relations. The newly created Ukrainian state had acquire all rights in the field of international relations, including the conclusion of international treaties and agreements, membership right in international organizations, right to exchange diplomatic and consular representative offices. At the end of 1994 there were 78 accredited diplomatic representative offices of other countries, while 55 diplomatic representations were located in the capital of the republic – Kiev (Ministry of foreign affairs of Ukraine, 2015). During its independence (24 years) Ukraine has set up about 125 foreign offices, as well diplomatic and consular. Currently, Ministry of Foreign Affairs is a competent authority, which employs about 2,000 workers and manages the activities of foreign representations. An important point in determining the diplomatic service of Ukraine is also the fact that the staff of the MFA was increased 18 times compared with 1990, when

almost all Ukrainian diplomacy, including foreign policy and foreign economic activities, were governed by a single central office in Moscow (Sidak, 2008).

In the context of diplomatic service, we can say that in the early period of independence Ukraine has worked actively to increase its foreign political and economic position on the world stage. From 2000 to 2001 Ukraine was a temporary member of the United Nations Security Council. Ukrainian membership in UN Security Council has contributed to the strengthening of international peace and security. Currently, Ukraine is a signatory to more than 4000 international treaties and agreements.

The purpose of this paper is analysis of diplomatic service of Ukraine in terms of its financing and budget issues. A specific question for us is to make an evaluation of financing issues of diplomats working abroad, who are asked to represent the interests of home state in the field.

2. Data and methodology

In this paper we analyze the financing of Ukrainian diplomatic service, including the budget expenditures on foreign missions like diplomatic or consular representations. Data on state budget expenditures on Ministry of foreign affairs of Ukraine and data on financing all Ukrainian foreign missions were collected from Accounting Chamber of Ukraine (2015). In order to reach the purpose of our paper we analyse the dataset for 15 year, hence the observation period from 1999 to 2013. The lower limit of observation period is constrained by data availability, while higher limit of observation period is constrained by contemporary political and economical situation in Ukraine. Data for each observation year were obtained from particular Act on State budget of Ukraine (Supreme Council of Ukraine).

All data on budget expenditures were represented in Ukrainian national currency – hryvnia. To make our analysis more clear and to clean all expenditures from currency fluctuations we transform all values from national currency to international US dollars using historical average exchange rates for the observation period 1999-2013. To make this calculation we obtained all necessary historical average USD to UAH (Ukrainian hryvnia) exchange rates from United Nations Council on Trade and Development database of annual exchange rates (UNCTAD statistics, 2015). Calculations on expenditures for each year were carried out as follows:

$$E_t = \frac{E_{ut}}{r_t}, \quad (1)$$

where E_t is expenditures in US dollars in time t , E_{ut} represents expenditures in Ukrainian hryvnia in time t and r_t represents annual exchange rate in time t .

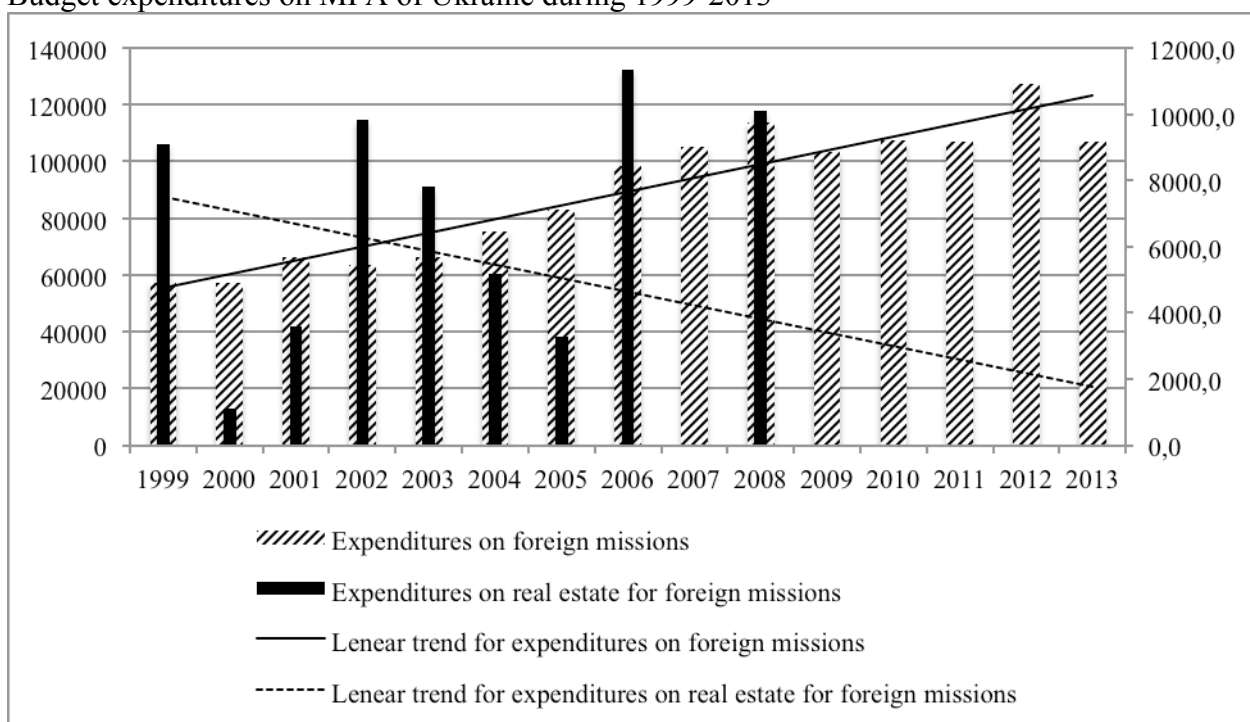
3. Financing of Ukrainian diplomatic service

From the long-term financing perspective, the Ministry of Foreign Affairs of Ukraine had a growing trend of expenditures on external actions, including managing the home office and each diplomatic missions abroad (Figure 1). In 2007 to 2013 period MFA's budget had quite a low increase - 1,9%, from 137 million USD to 139.7 million USD. A similar trend can be observed in MFA's expenditures on functioning of foreign representative offices, where the funding for a similar period also increased by around 1,9%. On the basis of current data we can make a conclusion that the ratio of spending on embassies and consulates to the total budget of the MFA was almost constant. In terms of the budget structure of the Foreign

Service the biggest share of all spending was dedicated to diplomatic and consular representations abroad, with the share of about 77% (Table 1). The same share can be observed in both periods – 2007 and 2013. The biggest share of expenditures on this budget item was recorded in 2009, during the global financial and economic crisis. In that time the share of expenditures was represented by almost 84%. It should be noted that this top share was recorded due to economic actions of the government and Foreign Office, which reduced the financing of other budget items such as management and coordination of state policy in the field of international relations (Supreme council of Ukraine, 2015). Operational expenditures on foreign representations have also decreased from 113,7 million USD in 2008 to 103,5 million USD in 2009. In the last year observed (2013) the expenditures on financing diplomatic and consular offices was represented by 107,1 million USD.

Figure 1

Budget expenditures on MFA of Ukraine during 1999-2013



Source: author's calculations according to Accounting Chamber of Ukraine.

Notes: expenditures are represented in thousands of US dollars. Left Y-axis shows expenditures on foreign missions, while right Y-axis shows expenditures on real estate for foreign missions. Data on state budget expenditures were obtained in Ukrainian hryvnia, what required data conversion to US dollars based on historical average exchange rates for the period 1999 to 2013 from the database of UNCTAD annual exchange rates. The lower limit of the observation period is limited by data availability.

An important aspect of the financing of the Diplomatic Service of Ukraine is the share of the Ministry of Foreign Affairs on the total state budget. This relationship could serve as indicator of the priorities in government financing. In the Table 1 there are represented the data on budgetary expenditures of Ukraine and the budgetary expenditures on the functioning of the Ministry of Foreign Affairs. These data show a downturn in the share of Diplomatic Service on total expenditures in the period 2007 to 2013. While in 2007 this share was 0,39% in 2013 this indicator declined to 0,3%. For comparison, in 1999, that share was represented by 1,9%. However, those statistics do not indicate that the financing of foreign authorities

declined, because since the year 1999 (except for the years 2007) material items of budget expenditure amounted to the purchase of property such as real estate and offices, which was interconnected with the building of a network of representative offices abroad (Table 1; Figure 1). Trend lines represent the tendencies as for real estate purchasing the line is trending lower, as for the financing of MFA of Ukraine is trending higher.

For example, in the years 1999, 2002, 2003, 2006 and 2008 was spent on real estate purchases approximately 9 millions USD each year, this accounted for almost 7,7% of the total budget of the MFA of Ukraine, which represented 9 million USD. On the contrary in 2007 this item was not financed at all. In the years 2009, 2010 and 2011 purchases of real estate abroad accounted only about 5,7 thousand USD.

Table1

State budget expenditures on foreign activities

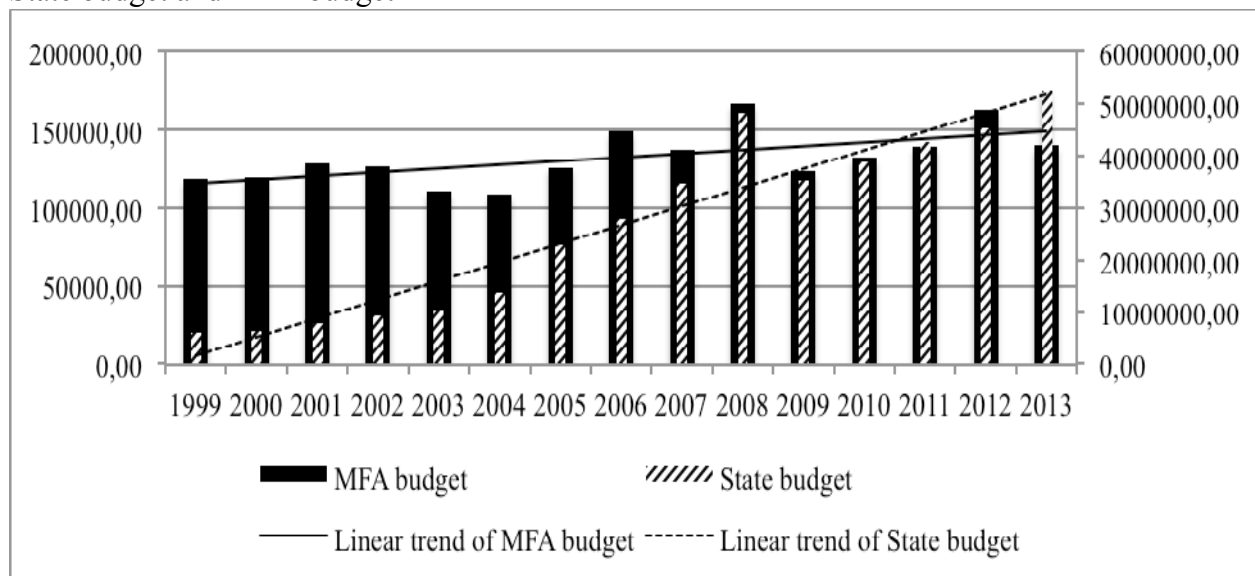
Budget period	Expenditures on foreign missions	Expenditures on foreign missions to budget expenditures on MFA ratio	Expenditures on real estate for foreign missions	MFA budget	State budget	MFA's expenditures to state budget ratio
1999	57261,02	48,52	9094,43	118008,55	6086019,56	1,94
2000	57036,76	47,77	1121,32	119397,41	6240170,39	1,91
2001	66393,75	51,66	3591,31	128514,41	7811069,79	1,65
2002	63429,27	50,25	9831,73	126223,09	9291996,87	1,36
2003	66417,18	60,18	7809,64	110365,59	10483312,58	1,05
2004	75528,58	69,86	5158,64	108116,96	13576929,42	0,80
2005	82836,41	65,95	3280,55	125607,14	22906265,39	0,55
2006	98444,71	66,25	11326,73	148589,15	27762250,24	0,54
2007	105148,95	76,70	-	137089,90	34580499,45	0,40
2008	113731,71	68,34	10119,61	166419,50	48074401,96	0,35
2009	103489,72	84,09	5,78	123069,62	35188864,16	0,35
2010	107289,89	81,26	5,67	132027,46	38778752,89	0,34
2011	106826,62	76,69	5,65	139299,59	42506916,74	0,33
2012	127554,44	78,65	-	162189,21	45249148,92	0,36
2013	107101,81	76,68	-	139673,73	52468274,16	0,27

Source: author's calculations according to Accounting Chamber of Ukraine.

Notes: expenditures are represented in thousands of US dollars, while ratios are represented in percentages.

If we look closer at Figure 1 we can see two tendencies: first one is an upward oriented trend in overall financing of the MFA during the whole period of research which resulted in almost 40 % increase of budget expenses on foreign missions of Ukraine. The second one is an overall down trend in real estate purchasing, which is in-line with the logic of development of a network of foreign representations of an independent state.

Figure 2
State budget and MFA budget



Source: author's calculations according to Accounting Chamber of Ukraine.

Notes: expenditures are represented in thousands of US dollars. Left Y-axis shows MFA budget, while right Y-axis shows total State budget expenditures.

Due to the increase in budget expenditures for the operation of the MFA embassies and consulates abroad we can also expect an increase in the efficiency of diplomatic and consular authorities in fulfilling their tasks and functions of economic diplomacy. But it is also important to note that diplomatic and consular practice does not always reflect this assumption because the location of representative offices abroad and their size (number of staff and funding) is often the result of political decisions which are associated with the abuse of economic priorities and aims (Afman & Maurel, 2010). Therefore, for achieving the objectives of the present analysis research will, it should be stipulated that the increase in expenditure aimed to finance the missions (diplomatic and consular) will mean a simultaneous increase in funding for the activities of these offices related to export and investment promotion.

But on the other hand if we sum up mentioned above two budgetary accounts and think about them as a cumulative package spent the one way or the other on missions abroad, the we have another picture – which is almost non-existing growth of financing over the studied time-frame. In this context if we compare budgetary expenditures and the expenditures on foreign representation of Ukraine (see Figure 4) we could be able to make an assumption that the international representation of Ukraine had been at lower priority. Figure 4 shows that with the growth of the state budget the MFA budget rose only moderately and also if we take into consideration the fact that until 2008 almost 10 mil. USD each year had been spent on foreign missions through real estate purchases, than it becomes clear that MFA is at a lower priority in budgetary expenses. The imposing rise in government spending, more 500% in the studied period, almost had no impact in the spending on the resort of foreign affairs (10-20 % increase).

Conclusion

Our analysis shows that while total government expenses increased more than five times during the studied period (from 1999 to 2013) this did not transform into higher MFA

budgets. If we take into consideration that financing of foreign missions and the budget for real estate purchasing together stagnated over the whole researched period.

All this said could leave us to a conclusion that under-financed service will not be able to represent a country at a proper level abroad. It can be said that a under-financed resort will have only a symbolic function and will not have the instruments and the leverage to actively represent it's country and will have unimpressive results in comparison with the countries with active functioning foreign representations.

From this point of view authors recommend a serious revision of financing of MFA of Ukraine because we think it is seriously under-financed during a long period of time. In a globalized world international contacts are more then just important, they a vital for economies interested in an effective integration in international division of labor.

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Current status of nuclear energy and its position in the energy security of the Slovak Republic

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Abstract

The main aim of the paper is the characteristic role of nuclear energy of the Slovak republic, the current status and its position in terms of energy security of the Slovak republic, as the production of energy through nuclear power plant is presents an indispensable part of the energy industry of the Slovak republic. In second part of the paper we will focus to evaluate and compare energy consumption, which is produced by nuclear energy power plant with other forms power plants and their subsequent prediction at the close of GDP, as well as the possibility to use unused energy after completion construction of third and fourth nuclear units in nuclear power plant at Mochovce in compared to the costs incurred for their completion.

Keywords: energy security, nuclear energy

JEL classification: Q43, Q47

1. Introduction

Currently we can consider the energy as one of the most important factor in economy of every country. The risk, that access to energy resources will become limiting element, on the basis which will determine future position, development and economy's every country is very current. Energy security has become very important determinant of existence and economic development in every country in the European Union as well as Slovak republic. After accession of the Slovak Republic to the EU, arose many liabilities and obligations and one from them is regulation of energy sector and its policy.

After shutdown of nuclear power plant V1 at Bohunice, Slovak Republic had begun to be energy self-insufficient country, i.e. dependent from energy import, what means significant threats reducing the level of energy security of the Slovak Republic. The Slovak Republic has begun being interested in restoration to energy self-sufficient and increasing of energy security in Slovak Republic. Many analysis proved that for Slovak Republic is most suitable option development of the nuclear energy.

The main aim submission is evolution of state energy security in Slovak Republic with focus on nuclear energy and its currently stat and future task, which it has maintain in field of energy security.

1.1 Methodology

During examination of presented issues, following scientific methods were used: method of abstraction through which we defined basic notions and categories, method of comparison, that we compared obtained data and values and methods of analysis and synthesis through,

which we unite individual results to conclusion. During examination of issues were used data obtained from Statistical office of the Slovak Republic, Ministry of economy of the Slovak republic, data from scientific conferences, specialist periodics and internet resources.

2. State of energy security in Slovak Republic

The positive fact for the energy security in Slovak Republic is fact, that Slovak Republic understands the problem like a security problem on nationwide level. In 2009, our gas crisis has clearly shown how much Central Europe is vulnerable to the cessation of energy supplies. Even under this situation, the Slovak Republic has increased its focus about route diversification, which aims to reduce dependence mainly from the Russian Federation (Juza, 2011). As a consequence of increasing dependence on energy resources, the Government adopted a resolution on 1 Jan. 2006, which defined the basic objectives of development and direction of energy in Slovakia. The instruments to achieve these objectives were set out, i.e. the basic strategic document on Energy Policy was created, which was developed up to 2020, with a view to 2030. The Ministry of Economy is responsible for developing an update every five years.

In the long-term perspective, energy policy has to fulfill the following objectives:

- ensuring the most efficient, safest and most reliable supply of all forms of energy raw materials;
- reducing the share of gross domestic energy consumption to gross GDP, Reducing the energy consumption requirements; (The report about results of monitoring security supply of electricity, 2015) (Government resolution on the draft strategy of Energy security, 2008)

The Government of the Slovak Republic in 5.11.2014 approved new Energy policy for Slovak Republic, which defined main objectives and priorities of energy sectors until 2035 with a view to 2050. Slovakia's energy policy is based on the EU energy policy and its basic strategic documents:

- **Energy policy for Europe**, in which was defined 4 basic objectives:
 - Reduce emissions arising from greenhouse gas emissions by 20% compared to 1990;
 - Increase energy efficiency, i.e. reduce total energy consumption by 20% by 2020;
 - Achievement share 10% of renewable resources in transport by 2020,
 - Achievement 20% energy saves by 2020.
- **Strategy Europe 2020**, where the main objective is change on low carbon economy by 2050, what means reduce greenhouse gas emission in compared with 1990 by 80 – 95 %

Within basic strategic documents of EU, Slovak Republic has defined a strategic objective to achieve a competitive low carbon energy, which will ensure the safe and efficient delivery of all forms of energy at acceptable prices, taking into account customer and sustainable development. (Report of Ministry economy of the Slovak republic about energy policy Slovak republic, 2014)

2.1 Role of nuclear energy within energy security of Slovak republic

In the field of energy security, nuclear energy should have the greatest benefits, particularly because of lower rate of dependence from supplies of primary fuels, because there is possibility of securing sufficient supply of nuclear fuels in advance or even a change of supplier. Uranium supplies are maintained from stable regions, while the price of uranium has slight effect on energy price. Another benefit to increasing level of energy security of the Slovak Republic is decision of Slovak government to construct third and fourth block in nuclear power plant in Mochovce and new nuclear source in area of Jaslovské Bohunice and maintain the highest level of nuclear security in accordance with standards of EU and standards of International atomic energy agency.

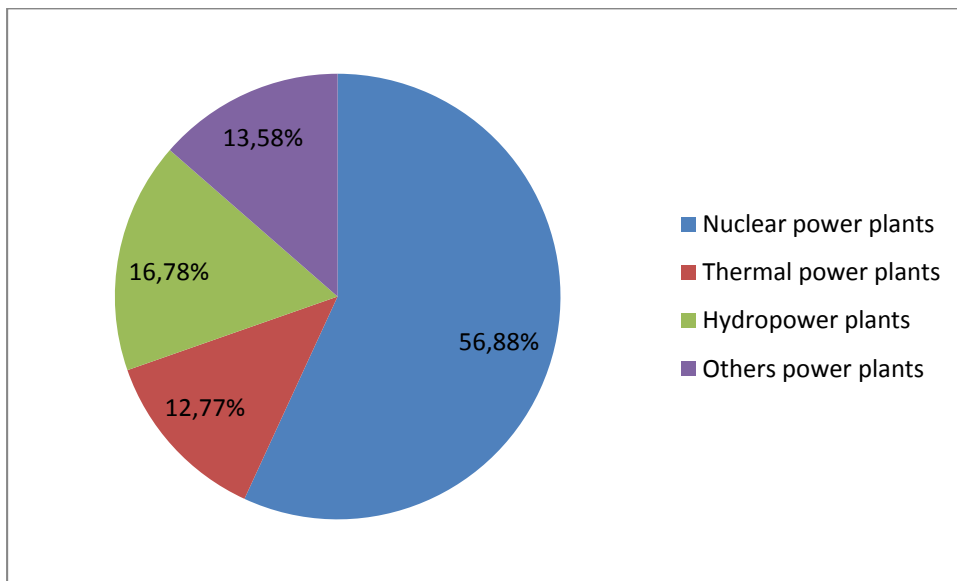
These steps have important functions in ensuring the sustainable development of nuclear energy since nuclear energy is considered for main source of low carbon fuel of electric energy, which should gradually replace carbon fuels to produce electric energy, what could have positive impact in reducing emissions of CO₂. The analysis by European commission shows that elimination of carbon fuels and its replacement for low carbon fuels is possible to contribute toward the complete elimination of emission CO₂. For a positive fact we can consider also changes in energy mix not only in Slovak Republic but also in EU countries, where carbon fuels have from year to year lower share. (Report JESS about proposals activities of new nuclear power plants in area Jaslovské Bohunice, 2014)

2.2 Current state of nuclear energy in conditions Slovak republic

- a) Currently nuclear energy has the second largest share in the energy mix of Slovak Republic, with more than 24 %. The first is the natural gas with 28 % followed by a 20 % share of crude oil and coal, renewable resources have 8 %. However, in production of electricity belongs nuclear energy to the most important producers. Since 2008, when it was weaned power plant Bohunice V1 it recorded every year growth in production of electricity. According Pro-energy magazine in 2013 nuclear power plants reached historic maximum in production of electric energy. In Jaslovské Bohunice annual production volume for the first time exceeded over 8 TWh and in Mochovce level of production reached its maximum from the commissioning. Both units at Mochovce produced electric energy of 7,640 TWh. In 2014 nuclear power plants produced the largest share of electricity production with total share of 56, 88 % (15,499 TWh), second largest share had hydropower plants with 16, 78 % (4,57 % TWh). Power plants using carbon fuels, respectively thermal power plants had 12, 77 % (3,48 TWh). Others types of power plants produced 13,58 % (3,70 TWh) from total production of electricity. Total production of electricity was on level of 27, 25 TWh and almost 91 % of produced and supplied electricity was produced without greenhouse gas emissions. (Proposal of Energy policy of Slovak republic, 2014)

Graph 1

Share of resources on production electricity, 2014



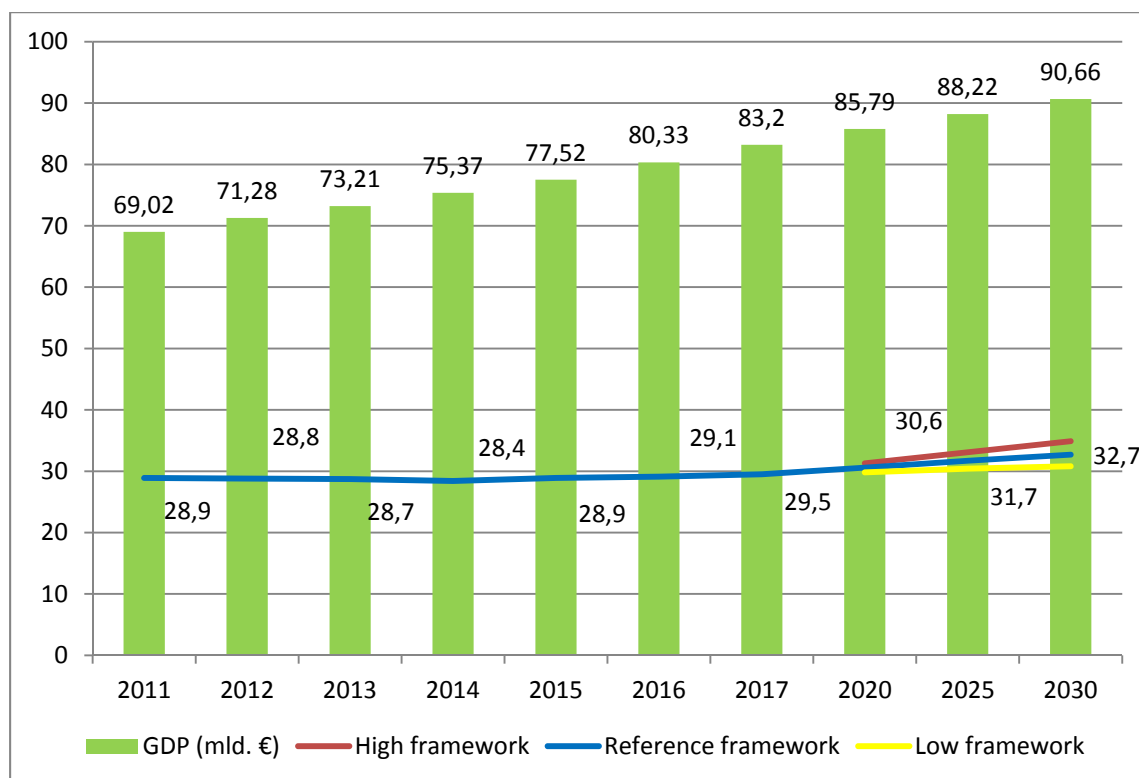
Source: own processing (data extracted from Ministry of economy of the Slovak Republic)

Despite a relatively high production of electricity, Slovak Republic does not belong to electric self – sufficient countries because in 2014 consumption was on level of 28,355 TWh. Due to the existence of a clear dependence between GDP and electricity consumption, we assume, that Slovak economy will have a growing trend which will be reflected in growth of electricity consumption. There are three scenarios of electric energy consumption.

- b) The high framework, which is expected in case of excessive growth of GDP and therefore excessive consumption of electric energy
- c) The reference framework, which is based on assumption of growth of electricity consumption, which should be till 2030 about 30 TWh. This framework is expected to cut coal consumption, which will be substituted by increasing consumption of nuclear fuels and renewable resources. More detailed values are referred in Graph 2.
- d) The low framework, in which we assume decrease of the consumption of primary resources and reducing energy consumption, which is in line with the current trend of decreasing energy intensity. The low framework occurs when increased austerity measures in all sectors of the national economy, particularly in the transport and housing sector and particularly compliance with one of the objectives of European energy policy i.e. reduce energy consumption by 20 % by 2020. (Report of the Ministry of Economy of the Slovak republic on security of electricity supply, 2015)

Graph 2

Development of GDP and gross domestic consumption of electric energy in Slovak Republic



	Reality					Prediction		
	2011	2012	2013	2014	2015	2020	2025	2030
High					28,7	29,8	30,4	30,8
Reference	28,86	28,79	28,68	28,36	28,9	30,6	31,7	32,7
Low					29,1	31,3	33,1	34,9

Source: Own processing by Statistical office of the Slovak Republic, Ministry of economy of the Slovak Republic (data extracted from Ministry of economy of the Slovak Republic)

From Graph 2 is possible to see slightly increasing trend of consumption. We assume, that by 2020, value of consumption will oscillate probably around 30 TWh and in 2030 it should be on level of 32,7 TWh. What is in the current production possibilities inadequate because in 2014 was produced in Slovak Republic 27,254 TWh. It means that last year we had to import about 0,091 TWh, what is 90 million of kilowatt-hours (KWh). Whereas that strategic document "Strategy 2020" defines obligation of transaction to low carbon fuels, what in practice means gradual liquidation or reconstruction power plants to burning fossil fuel. Yearly consumption is rising steadily, so we can expect increased volume of imported electricity, what mean for Slovak Republic significant increase in the cost of ensure electricity, as well as increased risks of the delays in supply or failure of supply. The government of Slovak Republic has planned two investment actions in field of nuclear energy, through whose should strengthen the energy security of Slovak Republic. The first is completion of construction third and fourth reactor at Mochovce, which should have total power of 0,942 TWh, second action is replacement of existing reactor in Jaslovské Bohunice

with installing power 1000 MWh for new, with total power of 1200 MWh by 2030. Construction of third and fourth reactors is now considered as the largest private investment in the history of Slovak Republic. This investment represents about 4,63 billion EUR. Main reasons for construction of NPP Mochovce 3 and 4 can be considered as commitments that the Slovak Republic adopted in the field of reducing greenhouse gas emissions while ensuring reliable electricity supply from its own controlled resources for the needs of the economy and citizens. From availability of electricity depends the function of all sectors of the economy and living conditions for residents.

Through these investment activities, it would not only enhance energy security but also energy self-sufficiency of Slovak Republic will again return, creating a surplus, respectively pro-export balance.

Chart 1

Overview balance sheet balance

	2014	2015	2020	2025	2030	2035
Total consumption – reference framework	28,4	28,9	30,6	31,7	32,7	34,1
Total production	27,3	28	38,4	38,7	48,3	48,4
Balance	-1,1	-0,9	7,8	7,0	15,6	14,3

Source: Ministry of Economy of the Slovak Republic (data extracted from Ministry of economy of the Slovak Republic)

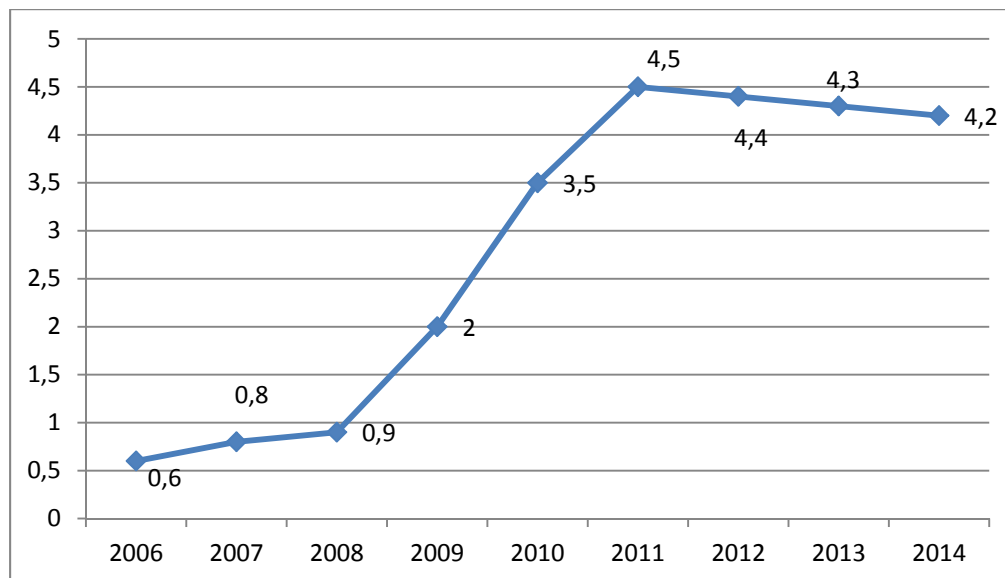
The balance sheet balances in the future will depend not only on construction but also on the quantity of decommissioned thermal power plants due to unsatisfactory respectively unmet new emission standards and inefficient operation at current natural gas prices. Therefore, the Slovak government attention focuses particular on nuclear energy, which is not only cost effective but also less burdensome for the environment.

Since 2011, when construction reached the highest share of GDP, it has downward trend. Reason is gradually fulfillment plan on completion power plants. At the end of 2014, was construction of third block fulfilled on 81 % and fourth block on 63 %. It is assumed that the third block will be completed by the end of 2016 and the fourth block by the end of 2017. After commissioning of both blocks the estimated returns for national budget are probably 550 million EUR per year and it should create 15 000 new jobs. Under the current regulations of EU energy policy should come toward to decrease emission CO₂ by 20 % by 2020 in compared with 1990, in practice means, that Slovak nuclear power plants should save about 15 million tons CO₂ and 7,5 million tons per year. (Report about construction third and fourth block in Mochovce, 2014)

At present, the Slovak Republic operating two nuclear power plants and it's Mochovce Nuclear Power Plant with an annual production of 6,000 GWh and Bohunice Nuclear Power Plant, whose annual output is 1,01 TWh. Construction of third and fourth block will have positive impact on the Slovak economy, as two thirds of construction are implemented by domestic firms, which affects the formation GDP and employment. Graph 3 shows a specific share of GDP which have been achieved in the construction of Mochovce.

Graph 3

Share of construction third and fourth reactor on formation GDP in the Slovak Republic (Percentage)



Source: Own processing by Slovak power plants a.s. (data extracted from Slovak power plants)

3 Conclusion

From the foregoing that nuclear power has an irreplaceable role in the Slovak republic, whether because of increasing the energy security of the Slovak Republic or the production of electricity. After acceptance of the new energy policy and energy strategies from EU, arose for the Slovak Republic several duties, in particular towards the emission limits, as in the Slovak Republic there are several thermal power plants that exceed their quota releases of CO₂. Due to increased environmental protection and fulfillment of agreed objectives, EU Member States are obliged to repair the reconstruction of fossil fuel power plants that do not meet the emission limits and in the long term completely exclude them from operation and replace them with low carbon power plants. For this reason, nuclear energy appears as the most suitable option, because, its production not only meets emission limits, but it ranks to low carbon production, called clean energy. After completion construction of investment actions from Slovak Republic will be again energy self-sufficient country with surplus balance, what allows Slovak Republic begin to focus on energy export, in which the estimate 550 million EUR for the national budget and with yearly saving several millions ton of emissions CO₂.

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The interaction of Monetary and Fiscal policy in Monetary union

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Abstract

The Economic and Monetary Union of Europe has a common central bank that conducts a common monetary policy, but each country's fiscal policy is determined by its own government. We suppose that common central bank is more conservative than the fiscal authorities that run fiscal policies in the member countries. It is very useful to use in these interactions methods of game theory, like concept of Nash equilibrium. Our results suggest that, when there is a conflict of objectives among the monetary and fiscal policies, cooperation may fail to improve economic outcomes. Careful design of monetary and fiscal institutions so as to make the central bank and the government agree on the ideal levels of output and inflation leads to better outcomes. In that case, the desired goals are achieved despite any disagreement about the relative importance of the two goals, despite lack of cooperation among the policymakers and without the need for monetary commitment.

Keywords: Monetary union, common central bank, national fiscal policies

JEL classification: C 72, E 63, F 42

1. Introduction

The Economic and Monetary Union (EMU) of Europe has a common central bank (ECB) that conducts a common monetary policy, but each country's fiscal policy is determined by its own government. It is generally believed that the arrangement will lead to excessive deficits, as each government engages in fiscal expansion to increase its own GDP, and expects to pass on some of the cost of its fiscal profligacy to other countries in the form of higher common inflation and interests rates. The Maastricht Treaty and subsequent agreements have tried to guard against this by stipulating that each country's fiscal deficit in each year should not exceed 3 percent of its GDP, total debt to GDP should not exceed 60 percent, and forbidding the ECB from financing any member country's deficit or bailing out a country even in fiscal crisis. EMU is ultimately a political organization, and the credibility of these provisions is always open to doubt. On the other hand, the constraint on fiscal policies has been criticized in the economics literature for being too strict and too inflexible.

Dixit and Lambertini (2003) write in their paper that the ability of each country to choose its own fiscal policy leads to an equilibrium that is suboptimal for them all because of interactions or externalities. Fiscal policy has many aspects, and each can create positive or negative spillovers for its neighbors; one country's fiscal expansion can benefit employment in the others through demand spillovers or hurt them through higher interest rates or higher inflation. Noncooperative fiscal policies of the countries will lead to Nash equilibrium if the externalities are negative and too much restriction if they are positive.

Also, for monetary policy, even with one country, we have the well-known time-consistency problem. With several countries facing asymmetric shocks, this problem can be aggravated as at any time, one country or another may suffer a bad supply shock and therefore have strong reason to want the common central bank to expand employment using surprise inflation argue Dixit and Lambertiny (2003).

Another important issue in modeling monetary and fiscal interactions in monetary union as pointed out by Hefeker and Zimmer (2009) is uncertainty due to imperfect central bank transparency. These authors argue that recent years have a strong and nearly universal increase in central bank transparency but many central banks, such as the ECB, are nonetheless criticized for low transparency, being unfavorably compared with the US Federal Reserve or the Bank of England. Most of the literature considers transparency as crucial for monetary policymaking because it helps the private sector to better understand the intentions of the central bank. There also exist approaches in the literature which argue that maximum transparency may be suboptimal. It is shown that monetary shock can disciplines the private sector, such as wage setters, and induce governments to pursue more employment friendly policies.

In this contribution we study all of these issues in case of Slovakia as a member of monetary union.

2. Symbiosis of Monetary and Fiscal policies in a Monetary union

In this section we study symbiosis of monetary and fiscal policy in monetary union. We use Dixit and Lambertiny (2003) model which is based on Barro and Gordon (1983) model. The monetary union consists of member countries $i = 1, 2, \dots, n$ which one is Slovakia. At the present stage membership is fixed. The union has a common central bank, which chooses a policy variable π_0 . Each country has a fiscal authority, and the fiscal policy variables are denoted by x_i . A larger x_i means more expansionary fiscal policy. These policies result in GDP levels y_i in the separate countries, and a common inflation level π . Let π^e denote the private sector's rational expectations of π . The GDP levels of the countries are given by

$$y_i = \bar{y}_i + \sum_j a_{ij} x_j + b_i (\pi - \pi^e). \quad (1)$$

The parameter \bar{y}_i can be interpreted as a measure of the natural private output in country i , for example Slovakia. Each a_{ii} shows the effect on GDP of that country's own fiscal policy, and the a_{ij} for $j \neq i$ are the spillovers of one country's fiscal policy on others. b_i measures influence of surprise inflation on the level of GDP and its magnitude can differ across countries. It means that influence of unexpected inflation on GDP in Slovakia can be different compared to the same parameter for example in Germany. Equations (1) for all countries of monetary union can be collected into one, using vector and matrix notation, as

$$y = \bar{y} + Ax + (\pi - \pi^e)b. \quad (2)$$

The common inflation level is given by

$$\pi = \pi_0 + c \sum_i x_i = \pi_0 + ce'x. \quad (3)$$

Where e is n -dimensional unit vector and prime denotes transposes. Inflation is sum of the component π_0 , which represents controlled part of monetary policy, and a further

contributions arising from fiscal policies c . A fiscal expansion of demand, especially if financed by distortionary taxation which reduces supply, puts an upward pressure on prices; or the central bank may decide to make some ex-post accommodation of fiscal expansion and this implies that $c > 0$. The vector \bar{y} of natural output levels, the matrix A of fiscal policy own and cross effects, the vector b of the supply effects of surprise inflation, and the scalar parameter c are all stochastic shocks. We denote the whole vector of these shocks by $z = (\bar{y}, A, b, c)$.

The country, for example Slovakia, wants to minimize their loss functions defined by

$$L_i^F = 1/2 \theta_i (y_i^* - y_i)^2 + 1/2 \pi^2. \quad (4)$$

The parameter y_i^* represents the output goal for the fiscal authority in country i . We suppose a situation where $\bar{y}_i < y_i^*$, so extra output is desirable. θ_i parameterizes the country's preference for higher output relative to its dislike of inflation. We take $\theta_i > 0$ and finite. The case where the fiscal authority does not care about inflation at all corresponds to the limit where $\theta_i \rightarrow \infty$.

The common central bank minimizes its loss function, which is given by

$$L^M = 1/2 \left[\delta (y^* - y)' \Theta \Omega (y^* - y) + \pi^2 \right]. \quad (5)$$

Where $\delta \geq 0$. The central bank is more conservative, than the fiscal authorities if $\delta < 1$. The Maastricht treaty, by making inflation the European primary objective, makes it ultraconservative with $\delta = 0$. Despite this, we assume that $\delta \geq 0$.

There is one important common aspect to the loss functions of the two authorities: the fiscal objectives and the central bank's objective have the same ideal outcomes, namely $y_i = y_i^*$, $\forall i$ and $\pi = 0$. This is the key assumption to our result which we discuss in case of Slovakia as a member of monetary union later. The sequence of actions is as follows:

1. If the monetary policy regime is one of commitment, the central bank chooses its policy rule $\pi_0 = \pi_0(z)$, where $z = (\bar{y}, A, b, c)$. This specifies how it will respond to the stochastic shocks. If the monetary regime is one of discretion, nothing happens at this step.

2. The private sector forms expectations π^e .

3. The stochastic shocks \bar{y}, A, b, c are realized.

4. If the monetary policy regime is one of discretion, the central bank chooses π_0 . If the monetary regime is one of commitment, the central bank simply implements the monetary rule π_0 that was chosen at step 1. The country governments choose fiscal policies x_i . There are two cases, one where the countries cooperate in this choice, and the other where they act independently resulting in Nash equilibrium.

We assume that national governments in monetary union act independently when setting their fiscal policies. In practical terms, we see that it will be extremely difficult to achieve consensus amongst all members of monetary union on their fiscal policies.

2.1 Best response functions

To summarize, central bank chooses its action π_0 at step 4, taking x as given, so as to minimize L^M (5). The fiscal choice of government i , x_i , is made at step 4, taking π_0 and all other fiscal choices x_j with $j \neq i$ as given, so as to minimize L_i^F (4). The n fiscal authorities and the common central bank act simultaneously.

The first order condition for the fiscal policy of country i is obtained by differentiating L_i^F in (4) with respect to x_i using (1), taking monetary policy π_0 as given but recognizing the dependence of π on x_i in (3). When x_i is chosen, the private sector's expectations π^e are fixed. We obtain

$$\frac{\partial L_i^F}{\partial x_i} = -\theta_i (y_i^* - y_i) (a_{ii} - cb_i) + c\pi = 0. \quad (6)$$

This expression defines the reactions functions of all fiscal authorities in the monetary union in the (y, π) space. Substituting (2) and (3) into (6), we obtain the fiscal reaction functions in terms of policy variables x, π_0 .

The first order condition for monetary policy is obtained by differentiating L^M in (5) using (2) and (3) with respect to π_0 , taking the vector of fiscal policy x as given. The private sector's expectations are already fixed at this point. This gives

$$\frac{\partial L^M}{\partial \pi_0} = -\delta \sum_i \omega_i (y_i^* - y_i) b_i + \pi = 0. \quad (7)$$

Where ω_i is country i weight in monetary union and sum to 1. Expression (7) can be written in vector notation as

$$\pi = \delta (y^* - y)' \Theta \Omega b. \quad (8)$$

This defines reaction function for monetary authority in the (y, π) space. If we substitute (2) and (3) into (8), the first order condition for the monetary authority can be written in terms of policy variables x, π_0 .

2.2 Equilibrium

Now we can use the best response functions to construct complete equilibrium. The general idea is that the outcome $y = y^{*1}$, $\pi = 0$ is ideal for all players and for all realizations of the shocks, and therefore it is desirable for all. It only remains to check that it can be attained using the available strategies x and π_0 . The intuition for our result that the ideal output and inflation levels are attained for any structure of the game is simple. There are $(n+1)$ objectives and $(n+1)$ policy instruments; hence the objectives can be achieved. Disagreement about the weights of the objectives among the policymakers gives different slope to their best response functions; but they all intersect at the ideal levels of output and inflation

¹ Ideal outcomes for output can be zero when we have model in deviations from steady state values or natural values. The important thing is to be the same for all members of the Euro area.

This results hold for all types of the game. Particularly: monetary commitment and discretionary fiscal policy where they act cooperatively or non-cooperatively; discretionary monetary leadership and discretionary fiscal policy where they act cooperatively or non-cooperatively; discretionary fiscal leadership where they act cooperatively or non-cooperatively and discretionary monetary policy. For formal details see Dixit and Lambertiny (2003).

Dixit and Lambertiny (2003) find that when monetary and fiscal authorities in a monetary union agree on the ideal output and inflation levels, it is possible that the ideal outcomes emerge as the equilibrium without the need for monetary commitment or without the need for fiscal coordination across countries. We see some kind of symbiosis between monetary and fiscal policies.

Figure 1
Inflation in Euro area and Slovakia



Source: Eurostat <http://ec.europa.eu/eurostat/inflation-dashboard/>.

Notes: Euro area – blue, Slovakia – yellow; January 1997: September 2015.

This result is important to interpret in context of Slovakia as monetary union member. At first, the ECB has defined medium-term objective of inflation. The aim is that a common inflation (common HICP year-on-year change) should be just below 2% (and higher than zero) (for more details on ECB objectives see Cecchetti (2004)). So there is a consensus on the common goal of monetary policy for all members of the Eurozone. In recent years, we see that the HICP for Slovakia has almost similar pattern as the Euro area since 2007 (see Figure 1). Of course, it isn't still in the established threshold because it is exposed to various shocks as mentioned earlier in section 2². Secondly, it is difficult to achieve consensus on a common output. Eurozone countries are very diverse in terms of growth and volatility of output. In the case of Slovakia, the average volatility of output is at 4% (see Kupkovič and Benkovič (2014)), but for the other members of the Euro area is at an average value of 3% (see Uribe and Schmitt-Grohé (2014))³. So we see that the target output value is slightly different in the case of Slovakia and the Eurozone. But in the future, we expect that the impact of the convergence process could take output volatility and growth in Slovakia as developing country closer to the developed countries in Euro area.

² In our model we have defined inflation target is zero. If we would work with the specific objective of the ECB (HICP just below 2%) results would be unchanged. It is essential that the goal is the same for all members of the Eurozone.

³ When using annual data and log-quadratic detrending methods as in Uribe and Schmitt-Grohé (2014).

3. Uncertainty and fiscal policy in an asymmetric monetary union

We slightly modify our Dixit and Lambertiny (2003) model in the spirit of Hefeker and Zimmer (2009) to allow for uncertainty about policymakers preferences. We wish to more explore our findings from sections 2.2.

3.1 Closed economy (not a member of the EMU)

We begin by considering a closed economy (Slovakia before joining EMU). This economy consists of three players: the central bank, the government and the private sector. Timing of the game is as follows:

1. Inflation expectations are determined rationally.
2. Government sets taxes.
3. Central bank selects the inflation rate.

Since in practice monetary policy can be adjusted more quickly than fiscal decisions, we assume that the government, when setting taxes, takes account of the central bank expected reaction. Accordingly, the government acts as a Stackelberg leader in contrast to central bank.

The output supply function (for comparison see (1)) is described by:

$$y = \pi - \pi^e - \tau . \quad (9)$$

Where τ defines the tax rate. It can be seen that unexpected inflation, by eroding real wages, induces firms to augment their demand for labor and thus their production. Greater taxations of the firms' revenues, on the contrary, discourage production. Now we have two fiscal policy instruments: tax rate τ and public expenditures g .

The government's objectives are summarized in the following loss function (for comparison see (4)):

$$L^F = y^2 + \alpha\pi^2 + \beta(g - \tilde{g})^2 . \quad (10)$$

Where \tilde{g} is targeted level of public expenditures as shares of output, and is always positive. We see that Hefeker and Zimmer (2009) target levels for inflations and output are normalized to zero. It is in line with our previous results (Section 2.2). In setting public expenditures, the government faces the following budget constraint:

$$g = \tau . \quad (11)$$

This equation can be interpreted as a long-run balance budget requirement where taxation is only source of financing public expenditure.

The central bank cares about deviations of inflation and output from their respective targets which we set equal to zero (again, see results of section 2.2). We assume that the central bank is independent from the government so it does not take account of the government's spending target. National central bank's loss function (compared to (5)) is:

$$L^{NM} = (I + \varepsilon)y^2 + (I - \varepsilon)\pi^2 . \quad (12)$$

Where I measures the central bank's dislike of inflations. It seems realistic to suppose that it attaches a higher priority to price stability than national governments. This means that $I > \alpha$. Monetary uncertainty arises as the central bank may not fully be transparent in terms of its preferences. This idea is captured by the presence of a random variable ε , with $\varepsilon \in [-1, I]$, $E(\varepsilon) = 0$ and $E(\varepsilon^2) = \sigma^2$. The government and private sector are on average

able to predict the monetary authority's preferences but there is some uncertainty around them. This is measured by parameter σ^2 , which we refer as the degree of monetary uncertainty. An increase in σ^2 means the central bank behavior is harder to predict.

The solution to central banks problem (best response functions) is derived from (9) and (12) as:

$$\pi = \frac{1+\varepsilon}{1+I}(\pi^e + \tau). \quad (13)$$

Inflation is increasing in expected inflation and taxation because the central bank aims to compensate their negative output effects; inflation is increasing in the stochastic weight the bank puts on its output objective $(1+\varepsilon)$ but decreasing in its aversion to inflation I .

The government determines fiscal policy by minimizing its expected loss function $E(L^F)$ in (10) subject to the budget constraint (11) and the central bank reaction (13). This yields the following tax rate (best response functions):

$$\tau = \frac{\tilde{g}I(1+I)\beta}{\alpha(1+\sigma^2) + \sigma^2 + I(I+\beta+I\beta)}. \quad (14)$$

Taxation is increasing in the spending target \tilde{g} as well as in β , the relative importance the government gives to the its spending objective. Higher α leads the government to reduce taxes so as to limit the central bank's inflationary reaction. These best response functions imply that monetary uncertainty reduces taxes, average inflation and output distortions but increases deviations of public expenditures.

3.2 Policy choices in the monetary union

We now shift our attention to the interactions between uncertainty and fiscal policymaking in a monetary union. It latter is composed of the two countries indexed by i ; 1 are countries forming EMU in 2008 and 2 is Slovakia joining EMU in 2009. With the monetary union (superscript U), monetary policy is centralized in the hands of a larger central bank which is independent from national governments. The common central bank sets a common rate of inflation π^U , prevailing in the whole monetary area since the members countries' goods markets are assumed to be perfectly integrated. Its loss function is:

$$L^M = (1+\varepsilon^U)(y^U)^2 + (I-\varepsilon)(\pi^U)^2. \quad (15)$$

Where ε^U is a random variable, with $\varepsilon \in [-1, I]$, $E(\varepsilon^U) = 0$ and $E(\varepsilon^U)^2 = \sigma_U^2$; $y^U = (y_1 + y_2)/2$ represents the average output in the union. Interpretation of ε^U is the same as in the section 3.1.

In minimizing (11) subjects to the member countries' output functions (9), we obtain the central bank's reaction function:

$$\pi^U = \frac{1+\varepsilon}{1+I}(\pi^{Ue} + \bar{\tau}). \quad (16)$$

Where π^{Ue} is the expected common inflation rate and $\bar{\tau} = (\tau_1 + \tau_2)/2$, the average tax rate in the union.

Each government in the union faces the budget constraint (11). Hence, the government in country 1, 2 chooses the tax rate to minimize its expected losses $E(L_i^F)$ defined in (10) subject to (3) and (12), taking the other government's fiscal decision as given:

$$\tau_i^U = \frac{\beta(1+i)\left\{(\tilde{g}_i - \tilde{g}_j)\left[\alpha(1+\sigma_U^2) + \sigma_U^2\right] + 2\tilde{g}_i I \phi^U\right\}}{\phi^U \left[\alpha(1+\sigma_U^2) + \sigma_U^2 + I \phi^U\right]}. \quad (17)$$

Where $\phi^U = 1 + 2(I + \beta + I\beta) > 0$. The index j (countries forming EMU 2008) refers to country i 's (Slovakia joining EMU in 2009) partner in monetary union. It can be seen that tax rates turn out to be strategic substitutes since higher taxation abroad triggers pressure on the common inflation that force the domestic government lower its own tax rate.

We now analyze asymmetric case where we allow for cross-country differences in the targeted level of public expenditures, so that $\tilde{g}_1 \neq \tilde{g}_2$. Because we expect Slovakia has different spending targets than rest of the union. We also consider the possibility that the monetary union may induce changes in the countries' degree of uncertainty. For example Slovakia will experience an increase in uncertainty whereas others member see their degree of uncertainty fall. Formally, this implies $\sigma_i^2 < / > \sigma_U^2 (\forall i = 1, 2)$.

Comparison of the tax rate (17) with one observed in Slovakia before joining EMU (14) deliver the following policy implications (see derivation details in Hefeker and Zimmer (2009)): Monetary union favors tax moderation provided central banks are sufficiently more concerned about price stability than governments ($I > \alpha$); the larger central bank (ECB) runs a much more transparent and predictable monetary policy than the national banks did, the moderating influence from uncertainty is reduced and governments are encouraged to raise taxation; greater uncertainty does not necessarily prove to be beneficial for countries characterized by a large spending target.

Finally union inflation is given by:

$$\pi^U = \frac{(\tilde{g}_1 + \tilde{g}_2)(1+I)\beta}{\alpha(1+\sigma_U^2) + \sigma_U^2 + I[1+2(I+\beta I\beta)]} (1 + \varepsilon^U). \quad (18)$$

This expression implies that countries with a large spending target are characterized by high taxation. As a response the common central bank then conducts a rather inflationary policy, harmful to other countries in the union.

4. Conclusions and policy implications

When monetary and fiscal authorities in a monetary union agree on the ideal output and inflation levels, it is possible that the ideal outcomes emerge as the equilibrium without the need for monetary commitment or without the need for fiscal coordination across countries. We see some kind of symbiosis between monetary and fiscal policies. But from empirical point of view and in case of Slovakia common ideal output may be problematic in near future. Enlargement EMU may lead to higher taxation in countries with a relatively large spending target as they take advantage of their partners' fiscal conservatism. Higher uncertainty in the union then even strengthens this effect.

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Reputational Risk Quantification and Stress Testing

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Abstract

Reputational risk represents possible negative effects of bad publicity which can result in destruction of institution brand, erosion of business relationships or restricted access to sources or funding. Reputational risk represents a very important and dynamically evolving area which should be addressed by every institution, especially those one whose value is mostly derived from intangible assets such as goodwill, intellectual capital or brand equity. In this article we focus on developing a modeling approach towards reputational risk quantification for banking institutions using Value at Risk model. The model is based on the assumption that primary impact of a reputational event, bank run, is materialized in primary deposit outflow and related refinancing costs. Results of this study are aimed to discuss the minimal capital requirement, which should be held by financial institution in order to cover potential losses caused by reputational events. Modeling approach in the contribution aims to propose an approach to be used for internal risk management purposes. Results can be further assessed taking into account effects that are caused by a bank run in the context of institution portfolio erosion, worse liquidity profile, higher contracting and legal costs or opportunity costs. These, however, do not fall under the scope of this paper.

Keywords: reputational risk, bank run, value at risk, stress test

JEL classification: G32, G21

Introduction

“It takes 20 years to build a good reputation, but just five minutes to ruin it.” This very true statement by Warren Buffet should be enshrined in minds of managers in every single company. The main asset encompassed in this statement – reputational risk – is the main topic of this article.

Board of Governors of the Federal Reserve System (2004) defines reputational risk as odds that negative publicity referring to business practices of an institution appears public and leads to reduction of market share or reduced revenues, whether this publicity is true or not.

More specifically, and within the scope of this article, we will understand reputational risk in banking sector as it is defined by the Basel Committee on Banking Supervision (BCBS), i.e. a risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding.

Besides the market channel, another aspect relates to human resources and their reflection. For instance Eccles et al. (2007) find that firms with strong positive reputation attract better employees who are perceived as providing more value to the company. Customers of good

reputation companies are more loyal and buy broader ranges of products and services. Moreover, in an economy where 70% to 80% of market value comes from hard-to-assess intangible assets (most of the advanced economies with large service sector and developed financial market) such as brand equity, intellectual capital and goodwill, organizations are especially vulnerable to anything that damages their reputations.

The triggers of the materialized publicity matters a lot. Perry(2005) claims that operational loss announcement is significantly worse if the loss is due to internal fraud rather than other loss types because investors see external caused losses as something which has one time effect while internal one persists over time. Despite the recent attention is focused on operational losses both in corporate and banking sector, and the topic has also been supported by Basel Committee, there has been only minor progress in methodologies referring to quantification of reputational risk.

Main goal of this article is to introduce a modeling approach towards reputational risk measurement, building on the findings of current literature and relevant research in this area. This approach is further extended into reputational risk stress testing area.

In the first section we provide a brief description of current state of literature related to assessment and measurement of reputational risk. We also identify eventual areas of its implementation in the conditions of local banking sector and its institutions. In the second section we present a nouvelle modeling approach of potential costs of reputational risk, using a specific event - bank run. In the third section, an approach towards reputational risk stress testing is proposed. Finally we conclude and offer future possible extensions for featured research.

1. Current Approaches towards Reputation Risk Quantification

Reputational risk might represent the greatest potential threat to institution market value upon which builds paper of and Cummins, Lewis and Wei (2004), where authors assess the impact of operational announcements on the market value of financial institutions.

Perry (2005) approaches this problem indirectly by examining the reputational impact of operational losses. More specifically, authors measure reputational losses by examining a firm's stock price reaction to the announcement of a major operational loss event. Loss percentages are computed as dollar losses divided by the firm's market capitalization, and a market model is used to determine abnormal returns for each organization. The abnormal return for a firm is defined as the difference between the firm's actual return and the expected return based on a one-factor market model. Any decline in a firm's market value that exceeds the announced loss amount is interpreted as a reputational loss.

Walter (2007) in his article examines a relationship between a reputational event of Banco de Espana (Banesto) and JP Morgan stock price. JP Morgan was closely involved with Banesto in several ways such as fund rising advisor, stake holder, financial advisor etc. In 1993 National Bank of Spain took control over this country's fourth biggest bank and subsequently shares of JP Morgan declined dramatically. In order to test the impact of Banesto case on JP Morgan share price author created a sample prediction of returns on JP Morgan stocks and compared it to the share values after the reputational event announcement. The difference was considered the excess return attributable to the event. The results of this study suggest that the loss of an institution's franchise value can far outweigh an accounting loss when its reputation is called into question.

All the above mentioned approaches have its rationale however its greatest disadvantage is the lack of data availability. This problem is even more significant in countries with weak financial market moreover if companies are not publically traded. Since the company is not publically traded it is not possible to observe the inverse effect of reputational event on its stocks value or capitalization. It is also complicated to isolate the effect of reputational risk events and thus avoid the misinterpretation of causalities due to possible different side effects which might influence company's stock price.

Taking into the consideration these facts we would like to suggest an approach based on costs of reputational events using bank balance sheet data, market interest rates and Value at Risk approach.

2. Model description

On the one hand, reputational risk can be handled by maintaining reputational crisis guidelines and processes up to date as well as holding to sound liquidity structure. On the other hand reputational risk can be managed by keeping sufficient reserve, for instance in the form of Economic Capital (EC) to cover the losses of reputational events. Our focus is set on quantification of EC which banking institution should hold to cover potential losses caused by reputational events. The practical calculation is done on the example of VUB Bank.

The concept of reputational risk quantification can be considered in two dimensions. On the one hand there are triggers of reputational event while on the other hand there is an eventual impact of reputational event on bank business. While there is quite wide scale of possible reputational event triggers such as internal and external fraud, legal compliances, regulatory fines, etc. its impact is primary materialized in primary deposit outflow during a bank run. Rose (2015) analysis bank runs in US during 2008 crisis where despite 100% government deposit insurance different banking institutions experienced severe bank runs lasting from 5-30 days with deposit outflow ranging from 7% to 50% (hypothetical monthly outflow rate).

Quantification of risk is based on hypothetical set up of the bank run where following assumptions apply:

- the bank run lasts for 30 days,
- disappearance of approximately 15% of primary deposits (Deposit Erosion Coefficient).

In practice these variables can be defined by the expert judgment of all concerned stakeholders.

Based on the above set up we have developed a methodology for reputational risk EC under a Value at Risk model. At first 38 hypothetical bank run losses (how much would 1 month of a bank run cost) were generated. We suppose that Bank Loss is a function of Primary Deposit outflow and Refinancing Costs (paid interests) associated with refinancing the amount of withdrawn deposits. Our assumption follows basic economic reality where according to our opinion first time effect of bank run is materialized in higher capital need in terms to meet minimal capital requirements.

However, as was already mentioned, this is just a first time effect of bank run crisis which can be followed by a range of second time negative effects such as institution portfolio erosion, worse liquidity profile, higher contracting or legal costs, opportunity costs etc. All these negative effects should be a part of strong and resilient risk management.

Model Assumptions:

- Time series of *primary deposits* (38 observations) were extracted from balance sheets of VUB bank since 1999 with yearly frequency till 2008 and quarterly frequency since.
- Time series of *primary deposit outflow* are calculated as amount of *primary deposits* multiplied by estimated *deposit erosion coefficient* (15%)

$$\text{primary_deposit_outflow} = \text{primary_deposits} * \text{deposit_erosion_coefficient}$$

(1)

- *interest rates* time series (refinancing costs) are represented by basket of following interest rates with its weights - ECB O/N(60%), ECB 1W(25%), 1W Euribor(15%).
- finally time series of *monthly losses* are calculated as amount of *primary deposit outflow* multiplied by *interest rates per month*.

$$\text{monthly_loss(refinancing_costs)} = \text{primary_deposit_outflow} * \text{refinancing_costs}$$

(2)

Using the above methodology we have generated a time series of hypothetical 38 bank run costs which we have further tested for best representative distribution. For more information about fitting the best distribution please see Annex1.

According to the data series analysis Gamma distribution has been identified as the best representative of our reputational losses data series. Building on the assumption of Gamma distribution, reputational risk EC has been calculated using Monte Carlo simulations under VaR model with confidence level $\alpha = 0.9995$. The result of VaR(0.9995) represents the maximum monthly loss that would not be exceeded with probability 0.9995.

$$\text{reputational_risk(1M)} = \text{VaR(monthly_loss, 0.9995)}$$

(3)

Taking into the consideration results of our VaR model, with the probability of 0.9995, costs associated with reputational crisis should not exceeded 6.2 million EUR. Consequently VUB bank should hold at least 6.2 million EUR of Economic Capital to cover the losses caused by first time effects of potential bank run crisis. Total regulatory capital of VUB in December 2014 represents approximately 1 163 million EUR and mostly consists of high quality Tier1 capital. Our figure of reputational risk represents 0.053% of total regulatory capital. While assessing these results, it is important to realize, that reputational risk economic capital figures should be considered in the context of sound reputational event and liquidity management processes where the primary objective of reputational risk economic capital is to cover the losses caused by bank run event and not to solve ad hoc liquidity need in time of bank run.

3. Stress Testing of Reputational Risk

Stress testing represents an important part of sound bank portfolio risk management where bank portfolio in good times is exposed to a whole range of hypothetical but plausible shocks. These shocks can be based on adverse development of ether external factors coming from

macro or micro environment or internal stress scenarios such as internal fraud, process failures etc.

The main goal of stress testing is to estimate the impact of different hypothetical adverse stress test scenarios on bank main indicators such as Expected Loss, Unexpected Loss (Economic Capital) Loan Loss Provisions, Profit/ Loss or Capital Adequacy Ratio.

Consequently in line with above approach reputational risk can be stressed in several dimensions.

One possible way is to increase the amount of withdrawn deposits or extend the time of bank run duration. Both these scenarios would lead to more complicated refinancing situation. The longer the bank run lasts the more difficult it is for the bank to access liquidity on financial markets and thus even composition of interest rates basket could move towards more expensive interests. Another plausible scenario can lead to the general increase of interest rates which would automatically increase the refinancing costs. Unsound primary deposit growth can contribute to fragile deposit structure which could materialize in more dramatic deposit outflow in time of stress and magnitude and intensity of bank run could be much higher.

In our stress test scenario we will consider the mix of above mentioned events with the following set up.

- deposit erosion coefficient increases from 15 to 20 %,
- interest rates will grow above the pre-crisis values in 2007,
- primary deposits will grow 20 % in following two years.

The impact of this stress test scenario is materialized in Economic Capital measure. The result of our stress test represents additional 6 million EUR buffer of EC which should be held in case that bank run occurs in worsen economic and institution environment. Stressed figure represents 0.1% of VUB total regulatory capital.

Conclusion

In the previous sections we have brought a new modeling approach toward reputational risk quantification. In contrast with approaches based on market data and price transmission mechanism, which transfer information about the reputational event into company value deterioration, our approach builds on balance sheet data and that is why it is also suitable for banking institutions whose shares are not publically traded. Quantification of reputational risk should help bank institution to overcome consequences of additional refinancing costs due to primary deposit outflow during a bank run. Even though we have applied the calculation on particular example of VUB we would like to point out on framework and parameters itself which should be set up carefully taking in to the consideration opinions of all concerned stakeholders. Although the main findings of the paper contribute to a better understanding of reputational risk its focus is set just on the first time effects of bank run crisis and does not address consequent problems with liquidity structure, opportunity costs etc. which creates area for further studies. It is also important to realize the difference if institution is operating under ordinary conditions or in worsen economic or institutional environment. To address this issue we have proposed a stress test which answers the question of additional capital need in conditions of hypothetical but plausible stress situation.

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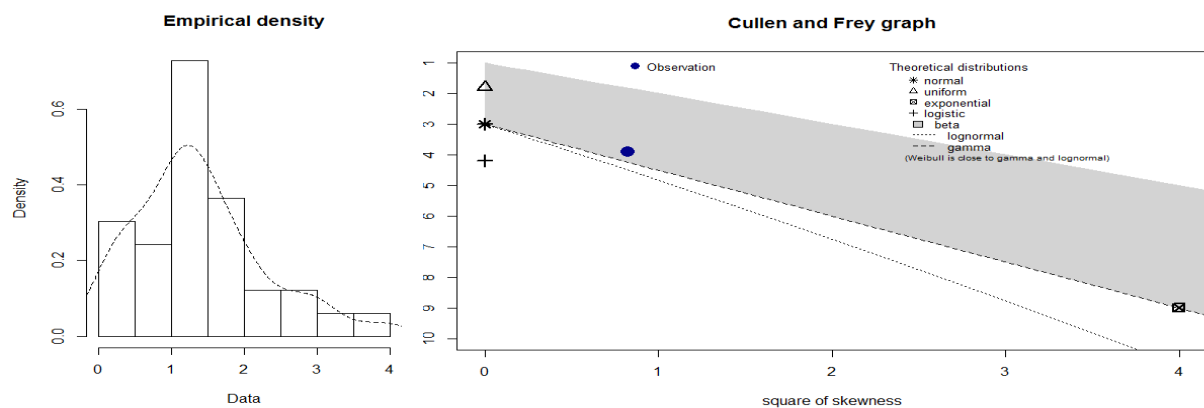
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Annex1: Distribution Fitting

To test the best representative empirical distribution for our reputational loss data we have used R software. Jarque Bera normality test with values $X\text{-squared}=4.8661$, $df=2$, $p\text{-value} = 0.08777$ suggests that on confidence level 0.05 we could accept the hypothesis that data follow normal distribution. However according to the results of Shapiro-Francia normality test with parameters $W=0.928$, $p\text{-value}=0.0323$ and taking into the consideration values of skewness (0.92) and kurtosis (3.99) which suggests that data have higher kurtosis and are right sided skewed we have decided to test data for more empirical distributions.

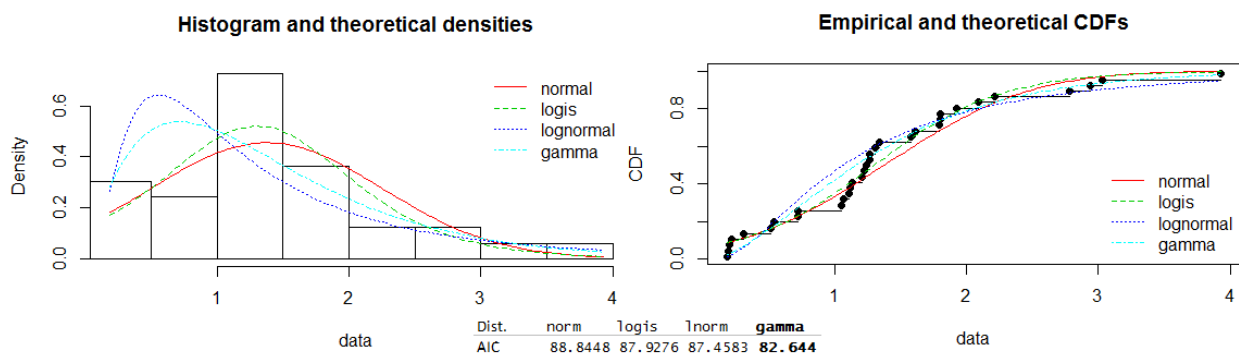
Figure 1
Histogram, Empirical Density and Cullen and Frey Chart



Source: author calculation in R

Empirical density and Cullen and Frey chart suggest Gamma distribution. To confirm this assumption we have constructed empirical and theoretical cumulative distribution functions using MLE method and calculated AIC information criterion which confirmed above assumption of Gamma distribution.

Figure 2
Histogram, AIC, and theoretical and empirical density functions



Source: author calculation in R

Countercyclical perspective of bank loan loss provisioning and asset valuation reforms

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Abstract

In the aftermath of the financial crisis bank regulation reform focused on increasing bank capital requirements in a countercyclical manner aiming to strengthen resiliency of banks. Two other areas with less direct impact on bank capital which were blamed for increasing procyclicality of the financial system and contributing to the severity of the crisis gained much less attention – bank loan loss provisioning and mark-to-market valuation of bank assets. This paper shows that in spite of smaller visibility these issues have been at least partially addressed by regulatory reform however in a more subtle and much slower way. In some cases, their reform has been abandoned or cannot be as straight forward as capital requirements reform. The paper also argues that unreformed loan loss provisioning and mark-to-market valuation rules can lessen countercyclicality of bank capital requirement reforms.

Keywords: loan loss provisioning, mark-to-market valuation, countercyclical bank regulation

JEL classification: G18, G21, M41

1. Introduction

In the aftermath of the financial crisis bank regulation reform focused on increasing bank capital requirements in a countercyclical manner aiming to strengthen resiliency of banks. In this respect, Basel III changed bank capital definitions and introduced new capital buffers – a capital conservation and a countercyclical capital buffer. However two other areas with less direct impact on bank capital which were also blamed for increasing procyclicality of the financial system and contributing to the severity of the crisis gained much less attention – bank loan loss provisioning and mark-to-market valuation of bank assets.

However to marginalize impact of these predominantly accounting concepts can have serious consequences for the financial system. Bank capital and loan loss provisions can be compared to two interconnected containers, either in one container or in the other, total volume of their content does not change. Even if capital and provisions are defined differently, they have the same purpose – to enable banks to absorb losses regardless of where they originate. The importance of valuation methods is also crucial when it comes to capital requirements – all assets need to be valued in a way and their value has impact on profit or loss and consequently on available capital.

This paper shows that in spite of smaller visibility, these issues have been at least partially addressed by regulatory reform however in a more subtle and much slower way or at the minimum, they were subject of regulatory reform discussions. In some cases, their reform has been abandoned for a reason or it cannot be as straight forward as capital requirements reform. The paper also argues that unreformed loan loss provisioning and mark-to-market valuation rules can lessen countercyclicality of bank capital requirement reforms.

2. Bank loan loss provisioning

Loan loss provisions are an accounting concept representing funds allocated to pay for losses on bank loans that are foreseen to occur in the future. Or put a bit differently it is "a liability of uncertain timing or amount which can be measured only by using a substantial degree of estimation" (Mahapatra, 2012). At the end of reporting period a bank needs to assess whether an asset has been damaged (in accounting terminology "impaired") and if it is the case, the corresponding amount needs to be recognized in the profit and loss statement. According to IAS39 (International Accounting Standard 39), the international accounting standard currently standardizing accounting valuation of financial instruments: "A financial asset or a group of financial assets is impaired and impairment losses are incurred if, and only if, there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated."

Balasubramanyan et al. (2014) pointed out wittily that accountants, economists and regulators think about loan loss provisioning differently. The above presented definition shows how accountants tend to see loan loss provisions - as reserves created only if the loss has been incurred. This in order to represent a true and accurate financial position of the entity which is the ultimate goal of accounting. Economists however perceive loan loss provisions rather in terms of expected future events and losses that these are likely to cause in bank loan portfolios; hence, their approach is more flexible and intuitive. For bank regulators, provisions are assimilated to a form of capital.

From a theoretical stand point provisions made by banks can be either specific or general. Specific provisions cover losses which have been already identified in a specific loan. General provision cover latent losses, which have not yet materialized on a particular loan. The relationship between provisions and capital is very close, since conceptually loan loss provisions should cover expected losses while capital should represent a buffer against unexpected losses. Especially general provisions are extremely similar to bank capital set up to cover future losses which have not been identified yet. Also in case of bankruptcy of a bank, general provisions are attributed to shareholders and no one else can claim them.

There are two basic approaches towards provisioning. The first one is so called "incurred loss" approach, which awaits until certain event (e.g. a nonpayment) occurs before recognition of losses takes place. Provision for such losses are made only once the event occurs and not in its expectation. The second one "forward looking" or expected loss approach bases loan loss provisioning on methodologies that reflect expected credit losses and allow building provisions already when a loan is granted.

As in case of most other accounting concepts the issue is further complicated by existence of different accounting standards. Fortunately, the EU renounced from imposing their own accounting standards and decided to apply those put together by IASB (International Accounting Standards Board). Since 2005, all companies listed on European stock markets need to report under IFRS (International Financial Reporting Standards). The US largely insists on its GAAP (Generally Accepted Accounting Principles) established by FASB (Financial Accounting Standards Board).

2.1 Procyclicality of event based loan loss provisions

Companies have tendencies to under-provision as loss provisions in fact decrease accounting profits (as any type of reserves do), consequently also dividends, share price and given how most corporations function also bonuses of management. This holds true for banks

as well however another issue comes into play, that of procyclicality.

Generally speaking in times of economic growth banks loosen credit standards and meet growing demand for credit, loans are regarded as safer during booms and less loan loss provisions are made as the chances that the borrower will be able to pay both interest and principal of the loan are considered high. As long as economy prospers debtors as a whole also do fine and pay banks on time, there is consequently no immediate need for loan loss provisions. Once a recession hits the economy however, it becomes clear that too little had been put aside for non-performing loans, it needs to be done in rush while cutting down on new loans to prevent further capital depletion.

In case loan loss provisions are inadequately low, capital can be seen as overstated, inaccurate level of loan loss reserves has a direct impact on levels of bank capital. It is therefore surprising that after adoption of risk-based capital requirements by Basel I many analyses have been performed to study cyclical effects of bank capital regulation, however much less attention has been given to the role loan loss provisioning play in pro-cyclicality of financial regulation.

Loan loss provisioning should be considered procyclical if it falls during periods of economic growth and increases during recessions. Countercyclical provisioning on the other hand ensures that banks enter periods of low GDP growth and consequently also of worsening credit quality with higher reserves which represent a kind of buffer limiting the pressure on bank income and capital.

Before and during the financial crisis in countries following both IAS 39 and its US equivalent SFAS 157 (Statement of Financial Accounting Standards 157) credit losses were generally recognized only upon an events occurrence. This means that reserves had to grow importantly during a recession when bad loans are identified, which contributed to the problems that financial institutions experienced during the crisis as additional provisioning lead to accounting and later to real losses forcing banks to cut down on their credit. When banks are required to build additional provisions in unfavorable economic environment, their insolvency risk increases as well as likelihood of regulatory intervention as the provisions need to be funded by using other forms of capital. Provisioning delayed until recession therefore magnifies the inevitable end of the booming phase through intermediary of a credit crunch.

2.2 Forward looking provisioning as an alternative

Given these above described mechanisms, it is no surprise that after the financial crisis there was criticism of the incurred loss approach as it deferred loss recognition and prevented credit institutions from building provisions in anticipation of recession and thus contributing to procyclicality. More forward looking provisioning seems to be an alternative.

The most studied example of a loan loss provisioning system with a strong forward looking tendency is the system of dynamic provisions introduced in Spain in 2000. The basic idea behind this approach is that provisions are to be set in line with estimated through the cycle losses so they do not create procyclicality by low provisioning in times of prosperity and high requirements during recession when they are the most difficult to be met. Provisions are created more or less in a stable ratio throughout the economic cycle. During good times provisions are created above the value of impaired loans in line with long term estimates creating a buffer which can be consumed during economic downswings when value of impaired loans is well above average.

More specifically loan loss provisions in Spain had 3 components: specific (representing incurred losses on specific loans), general (proportional to the amount of new credit without

identifying the suspect loans) and since introduction of dynamic provisioning concept also statistical provision relying on historical data to define provisions that should be established in addition to provisions triggered by loss events. Statistical provision representing the countercyclical element is actually the difference between latent risk based on past observation and the specific provision or in other words comparison of the average of specific provisions along the past lending cycle and the current specific provisions. Per definition it can be therefore positive or negative depending on credit growth and amount of bad loans.

When implemented in Spain such cumulated statistical provisions were accumulating in a statistical provision fund which had an upper and lower limit to avoid excess and to guarantee minimum provisioning. In 2004 however Spain had to reform the approach as the statistical provision fund increased considerably and also due to adoption of International Financial Reporting Standards (IFRS) in Spain. Although statistical provisions were no longer represented separately, general provisions remained dependent on historical average losses (Mahapatra, 2012; Jiménez et al, 2012).

As for why Spanish banks got into trouble during the financial crisis in spite of dynamic provisioning, limitations of impact of provisioning framework need to be recognised. This should not be seen as a failure of the forward looking approach as provisioning rules are only one of many macro prudential policy instruments which need to be synchronised with the rest of the framework in order to bring expected results. Credit cycles are simply too powerful to be tamed by a single prudential component while all the rest of the system supports exuberance in lending. No single macroeconomic tool can be a panacea to such a complex issue, they need to act together. Moreover initial hard rules introduced in 2000 were somewhat softened in 2004 reform, introducing among other things caps and removing floors of statistical provision fund.

Dynamic provisioning is a tool that allocates loan losses evenly over the credit cycle and helps to lower an important source of procyclicality by building up provision buffers in good times which can be used during downturns and thus lower procyclicality of credit supply. The buffer accumulated through dynamic provisions during expansion is very similar to a capital buffer and in the framework of Basel II & III general loan loss reserves "held against future, presently unidentified losses" (BCBS, 2011) are also formally considered to be Tier 2 capital although with an upper limit.

Study of Jiménez et al (2012) showed that dynamic provisioning in Spain worked as intended during the financial crisis with a clear countercyclical effect – if there were only specific provisions, those would have increased between 2007 and 2009 tenfold (from 0,05% of total credit to 0,5%), however total provisions have evolved from around 0,15% to 0,35% during the same period. This has confirmed a study of Balla and McKenna (2009) who found that countercyclical loan loss provisioning prevents drastic increase of provisions during economic downturn. Probably the most impressive results are those suggested by Fillat and Montoriol-Garriga (2010), who argue that should the US adopt a dynamic provisioning model, provisions built up "during the cyclical upswing would have reduced by half the amount of TARP funds required". At the same time however they estimated that the buffer would be consumed by the beginning of 2009 given the extent of the crisis.

Also Packer and Zhu (2012) have recognised that "banks in Asia and the Pacific were strikingly resilient in the aftermath of the global financial crisis.. assistance to Asian banks was limited to temporary liquidity support and guarantees of debt issuance to deal with market dysfunctions". It is argued that one of the factors contributing to bigger resilience of Asian banks was their approach to loan loss provisioning which was more conservative after Asian financial crisis at the end of 1990s with countercyclical loan loss provisioning dominating

banks in the region except Japan.

On the other hand there are concerns that expected loss based provisions would lead to significant profit smoothing by companies arbitrarily deciding on their provisions and possibly disguising crucial information in financial statements. This would distort true picture of company situation that should be given by accounting statements. In the US a case of SunTrust Bank in the 90s showed how much existing accounting framework limits the way banks can define their loan loss provisioning policies – the bank was forced by SEC to reduce its provisions by USD 100 million (Balla and McKenna, 2009).

This issue could be however easily overcome by adequate disclosures detailing a split of how much of the provisions come from specific and dynamic provisions. At the same time it needs to be recognised that there is objective worsening of financial situation of borrowers during economic downturns which makes expected losses approach a faithful representation of the situation and not just an unfounded expectation. In addition to that forward looking provisioning would allow to increase efficiency of allocating income and expenses to the periods in which they originated, which is one of the basic accounting principles.

In terms of interaction with the accounting standards, dynamic provisions deviate from the principle of incurred losses which is predominant and accounting and tax systems in many countries do not allow such a through-the-cycle loss provisioning (Claessens and Kodres, 2014). Regulators have been induced by high loan losses in the financial crises to encourage international standard setters to move from incurred loss approach toward a forward looking one. Basel III framework also promotes forward looking provisioning and an expected loss approach and considers them to reduce procyclicality in banking activities (BCBS, 2011).

Although major global standard setters, IASB and FASB, have agreed that the incurred loss model is not ideal and an expected loss model needs to replace it, their progress in this area is very slow. In 2011 IASB and FASB proposed a common approach favoring a more forward looking loss provisioning. At the end and also as in many other areas full convergence between the IASB and the FASB will however not be achieved. The new international standard IFRS 9 Financial Instruments of IFRS which should replace IAS 39 in 2018 aims to implement an expected loss model in which entities will take into account "past events, current conditions and forecasts of future economic conditions" (IFRS 9 Financial Instruments 5.5.17).

3. Valuation of bank assets

Accounting valuation methods are one of the essential, however often overlooked components of the regulatory framework. For instance calculation of capital levels largely depends on asset values as reported in accounting statements of banks. There exist two basic approaches toward accounting valuation of assets – fair value and historical cost accounting.

As its name suggests "historical cost" accounting uses historical cost of assets as of when the asset was acquired as the benchmark for valuing them, adjusting the historical cost by amortisation and impairments. At the starting point there is a cost for which the asset had been purchased. This initial cost is then adjusted to estimate the value of the asset in the following periods provided it has not been sold. In some markets such as stock exchange so many transactions take place under normal circumstances that there is no need to rely on historical costs in case of publicly traded shares and formally depreciating shares would make little economic and practical sense and a different approach is more appropriate.

"Fair value" accounting (also known as "mark-to-market" when market prices are used to

define fair value) means that financial assets on balance sheets are valued based on a current price for which the assets can be sold immediately. Changes in the value of assets are often recognised as gains and losses in the profit and loss statement. US GAAP (FAS 157) defines a hierarchy of inputs to derive the fair value – first quoted prices of the same asset in an active market explicitly excluding distress sales. If such a price is not available then models are used to determine fair value based on quoted prices of comparable assets and other market data (so called marking-to-model), only if no observable inputs are available model assumptions can be used.

Mark-to-market as a widely used accounting principle is far from being around since ever, in the past it was mainly used for derivative trades to daily assess adequacy of posted collateral. It became more widely used only after 1980s when crisis of American Saving and Loan institutions revealed "flexibility" of historical cost accounting when it came to valuing bad loans. It was only afterwards that the Financial Accounting Standards Board (FASB), the US accounting rule setter introduced mark to market accounting for certain equity and debt securities in 1993 (Epstein and Henderson, 2011), made it an integral part of Generally Accepted Accounting Principles (GAAP) and its use has increased steadily. Conceptually mark-to-market accounting is a perfect fit for assets held for trading purposes which can be bought and sold any time, however for assets that are held to maturity, fair-value accounting can be misleading and misinterpreting the real situation, mainly when market for the asset is not functioning. Assets in this case should be evaluated on the basis of their true economic value, using a discounted cash flow analysis.

From a different perspective it makes still sense to value at fair value assets held with long term intentions, even until maturity - it is always just an intention not to sell these assets and the fair value of assets is anyhow reflected in bank's ability to roll over its short term debt.

3.1 Procyclicality of Mark-to-Market asset valuation

The main criticism of fair-value accounting is that it contributes to procyclicality by excessive leverage in the periods of economic growth and to excessive accounting losses in times of recessions. "With asset values increasing in upswings and decreasing in recessions, there is a natural procyclical tendency built into the asset side of balance sheets when assets are mark-to-market" (Claessens and Kodres, 2014). Balance sheets simply tend to grow during booms and to shrink during recessions.

The losses due to reevaluation of assets lead heavily leveraged companies to selling financial assets. When a fire sale of assets of a troubled company begins, the low prices for which the assets are being sold become the new valuation standard of the same kind of securities held by other companies which in turn leads to fire sales of their assets in a death spiral spreading the contagion all over the market. Mark Carney (2014), governor of the Bank of England identified mark to market to be one of the two particular fault lines (the other one being short term funding of financial institutions) that made financial system procyclical and magnified shocks. "... , banks were heavily exposed to movements in market prices and volatility around them, creating a cycle in which falls in prices caused banks to retrench and reduce their positions, leading to further falls in asset prices."

Another straight forward mechanism through which mark-to-market accounting contributed to the crisis are minimum capital requirements. If assets are reported at distorted fire sale prices, the regulatory capital of the institution is exhausted and in order to comply with the requirements the bank is forced to sell its assets where we get back to the downward spiral between devaluated assets and rising capital requirements. At the same time investors know that as an alternative to selling assets there is raising new capital which causes massive sales of bank stocks in the fear of dilution of investors' stakes.

Fair value accounting enables asset bubbles to grow and worsen their consequences once they burst. In the times of economic growth and rising asset prices it increases lending capacity of banks as value of collateral available to counterparties funding bank's assets is growing. Once the bubble bursts banks collateral needs to be increased which is just the opposite of what a bank can do in such a situation. Naturally one could also wait based on predictions of a future increase in asset value instead of demanding additional collateral leading to devaluation cycles, but this is a basic prisoners dilemma situation – if no one requires additional collateral everyone does well, but as soon as some require it there is not enough for everyone.. so everyone asks for it. As a consequence banks cut down on their debt which is often done by massive sales at prices below true asset value which again make collateral value decrease.

3.2 Are alternatives to Fair Value accounting needed?

Both historical cost and mark to market accounting rules are imperfect. "The manifest inaccuracy of historical cost is well known and, paradoxically, one source of its hidden strength. Because private parties know of its evident weaknesses, they look elsewhere for information" (Epstein and Henderson, 2014). On the other hand mark-to-market approach is more tricky, although the benefits of transparency are evident it has many hidden weaknesses especially when it comes to hard to value assets for which no market price is available and models need to be used. But has mark-to-market accounting substantially increased the severity of the crisis by causing additional problems? Were the downward spirals and fire sales of assets triggered by the fair value accounting approach or would they be less severe under historical-cost accounting?

Laux and Leuz (2010) concluded that "it is unlikely that fair-value accounting contributed to the severity of the financial crisis in a major way, either by increasing banks' leverage in the boom or by substantially amplifying banks' problems in the downturn". One of the reasons bringing them to this conclusion is that according to their analysis large bank holding companies under GAAP have only about 36% of assets reported at or close to fair value while another 50% of their assets, mainly loans and securities accounted as held-to-maturity are disclosed at fair value only in the notes of financial statements. Because of a greater portion of trading books on their total assets and due to wide use of collateralized repo agreements, in case of investment banks the percentage of assets reported at fair value is higher.

In fact loans held-for-investment are recorded with historical-cost accounting and loans held-for-sale at the lower of historical cost or fair value. As for securities three categories exist: trading assets reported at fair value with gains and losses recognized in profit and loss statement, held-to-maturity securities reported at historical cost and available-for-sale securities carried at fair value however not captured in the income statement unless the assets are sold. So it is mainly investment banks for which fair value positions represent a large portion of their balance sheet that mark-to-market revaluation causes issues, however their investors would be worried about their involvement in subprime lending even without fair-value disclosures.

The main issues of banks on the verge of crisis – high leverage and reliance on short term financing through collateralized repo agreements was directly linked to the momentary value of financial assets. The link was however not through the book value influenced by accounting rules but through the market value of the assets that could be used as collateral for funding bank assets. Different accounting standards would therefore not save such exposed banks, as mark-to-market valuation in their case was not primarily causing issues from accounting perspective but from perspective of lenders providing them with collateralised

short term financing. Given that problems with subprime mortgages were widely known, it is not appropriate to argue that openly disclosing fair-value information worsened the situation. It could be also argued that if less information was provided it might even worsen the situation.

When it comes to harmonisation of valuation standards, directly after the onset of the financial crisis relevant organisations such as G20, Financial Stability Board, IOSCO and two main accounting standard setters, international IASB and US FASB were involved in many reform debates. However no substantial progress in accounting standards harmonisation has been achieved, IASB and FASB cooperating only very loosely.

4. Conclusion

Accounting concepts of loan loss provisions and asset valuation methods are a crucial link between regulation of financial markets and financial institutions. They have been blamed for contributing to the financial turmoil of the last crisis and for acting procyclically. While in case of loan loss provisioning its contribution to the crisis has been recognised and reforms are slowly on the way towards a more forward looking approach which should lead to a larger stability, no consensus has been reached on the future of fair value accounting and mark-to-market valuation.

Valuation method itself can not be blamed for the financial crisis, or for making it worse as it only reflected the situation. The information about asset prices are public and anyone could make his opinion about a bank's balance sheet knowing approximate bank exposures, which would have more negative consequences than if this was done transparently in official accounting statements.

Therefore the only aspect of the valuation issue which really needs to be addressed is its impact on bank capital levels. As other solutions of mitigating its impact are very cumbersome – government buying bank assets or injecting capital into the banks on capital side or modifying the accounting rules just to inflate value of bank assets on valuation side - easing capital requirements in the time of downturn is the most viable option and countercyclical capital buffer as well capital conservation buffer introduced by Basel III go in that direction.

These two cases also prove that as long as the accounting split between the US and basically the rest of the world is present, a harmonised reform of international financial regulation can be hardly put in place which might lead to regulatory arbitrage and distortion of oversight criteria.

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Impact of the implementation of Solvency II on the competitive environment in selected countries of the European Union

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Abstract

Regarding to the significant increase in the dynamics of the financial system, the European Commission decided to create a comprehensive reform of the regulation of the insurance market. This should be Solvency II, a directive aimed at creating a modern regulatory framework for the European insurance market. Wide Professional community anticipates that the adoption Solvency II will have a robust impact on his future functioning. The paper will focus on analyzing the impact of a new directive on the competitive environment in selected countries of the European Union. A necessary part of this analysis will summarize existing theoretical knowledge in this field. The hypothetical impact of new regulation on the development of insurance markets surveyed'll demonstrate on the basis of selected indicators characterizing the individual insurance market.

Keywords: Solvency II, insurance market, competition, European union

JEL classification: G22, G28

1. Introduction

Insurance companies are important part of the financial market. Given the growth of competitive environment is essential for them to seek new ways to increase their market share and profits. One way is the effective application of the new Solvency II. Solvency II 2009/138/EC is a Directive of the European Union, which codifies and harmonizes regulations of insurance in the European Union. The new regulation will be transposed and fully implemented in all 28 Member States, including the United Kingdom since 01.01.2016. Directive replaces 14 existing directives which currently govern the activities of insurance and reinsurance undertaken in the European Union. It applies to all companies with gross revenues from insurance activities exceeding € 5 million or with gross technical provisions over € 25 million.¹ According to European Commission (2007) achieved the cost of

¹ VAN BEERS, R.; ELSHOF, W. 2012. Evaluating the Solvency Capital Requirement of interest rate risk in Solvency II. 22p. Available at: <https://www.actuaries.org/mexico2012/papers/vanBeers.pdf>.

implementing the directive value of € 3 – 4 billions, which is compared to an annual turnover in the industry (1,1trillion premiums written) negligible amount.

The aim of this work is to summarize the existing knowledge on the impact of Solvency II on the competitive environment in selected countries of the European Union. First part is devoted to the method of calculation of SCR – Solvency Capital Requirement and its impact on insurance companies. In the second part is summarized the existing knowledge of the impact of Solvency II on the creation of Mergers & Acquisitions (M&A).

2. The method of calculating the SCR

One aspect of Solvency II is to ensure that insurers hold capital commensurate with their risk profile. This capital is defined as SCR – Solvency Capital Requirement. SCR is the one year horizon calibrated to a confidence level 99,5% of the risk (Value-at-Risk) of the basic own funds of an insurance or reinsurance undertaking.² Risk-based approach of Solvency II thus establishes a system failure with probability of 0,5%. The value of SCR insurers can affect through its method of calculation. Solvency II allows us to approach it in three ways. Mertl (2013) provides one possible breakdown as follows:

- The standard formula – the undertaking applies a general method for estimating liabilities through pre-defined parameters of the standard deviation. This approach ignores the specific risk profile of a particular insurance company.
- Specific parameters of insurance (USP – Undertaking Specific Parameters) – the method of calculating the SCR is similar to that of the standard formula. The difference is that the insurance company may derive their own parameters volatility while maintaining the precautionary principles.
- Internal model – the undertaking itself proposes risk management methodology. When it is correctly set the best possibility to take into account its risk profile.

2.1 Choice of a particular approach to the calculation of the SCR and its impact on the insurance company

Choice of a particular approach directly affects the amount of SCR. It may also affect the cost that is required for its implementation. Each of the approaches delivers specific advantages and disadvantages in the long term may affect the competitive landscape and market position of individual insurers. In case of application of one of the approaches is not excluded its amendment to another. More likely it is the introduction of the standard formula in the first wave of applications with its amendment in one of the internal models. A retroactive amendment is not excluded, but given to time and financial demands less likely.

According to the results of QIS 5 (2010), calculation of the capital requirement by means of standard formula a reference point for the whole industry. Consequently insurers will have to compare their capital requirements on internal models to the benchmark. Potential difference of results needs to be defended in front of the competent supervisory authorities. The application of the standard formula in the Professional community considered the easiest. Given the lack of harmonization of its structure and risk profile of a particular company leads to higher cost of capital. According to PWC (2011) internal model may not be the only solution to this problem. The solution is the assignment of certain portfolio risk to reinsurers, withdraw from certain portfolios or local products and focus on more profitable business lines.

² VAN BEERS, R.; ELSHOF, W. 2012. Evaluating the Solvency Capital Requirement of interest rate risk in Solvency II. 22 p. Available at: <https://www.actuaries.org/mexico2012/papers/vanBeers.pdf>.

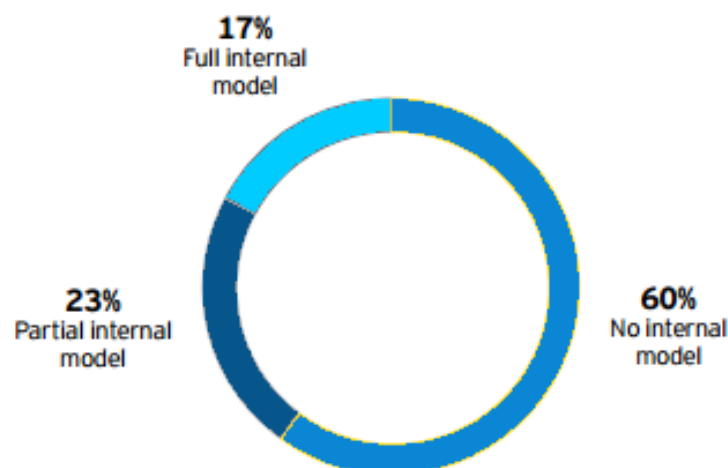
For some companies, the introduction of a partial internal model (UPS) is better solution that complies their risk profile, while reducing their costs. A problematic aspect is, however, possible uncertainties aggregation of risks arising from the internal model and the standard formula, which can raise the cost of capital management in the insurance company.³

Application of the internal model and USP model must be approved by the national supervisory authority. The insurance company or the whole group spent on the development a lot of resources and efforts in a limited time period. Approval of internal model certification is not granted. Submission of applications runs from the second quarter of 2015. Its approval has asked many of the undertaking. According to Guy Carpenter (2015) to September 2015 has approved internal model only one company – Hannover Re. Rejection of the request may adversely affect the credibility of the insurance company in the eyes of policyholders, shareholders and rating agencies and other authorities.

According to the EU (2014), many insurers assumed that the application fully or partially internal models compared to standard formulas reduce capital requirements. Insurers expect an average reduction SCR by 16%, 26% are expected to reduce the SCR by 20-30%.

Graph 1

Internal model development 2013



Source: ERST & YOUNG. 2014. European Solvency II Survey 2014. Available at: <http://www.ey.com/GL/en/Industries/Financial-Services/Insurance/EY-european-solvency-ii-survey-2014>

EY (2014) in 2012 predicted that 49% of surveyed companies adopt full or partial internal model. In 2013, due to the real development reduced the expectation to 40%. Percentage of the established model can be seen in the Graph 1. The Company expects that the application of some of the internal model implemented by larger companies. The reason is partly greater diversification of its insurance portfolios as well as a sufficient amount of resources needed for the application. The situation in the insurance market, however, is worrying. The reason for the extension of the implementation of the Directive, as well as the approval process for its own model of which is connected to a further increase in costs. This can lead to a reconsideration of the net benefits of applying the internal models and the consequent favouring standard formulas. In some countries, the vast majority of insurers does not plan to apply the internal model. These include Greece (70%), Germany (63%) and

³ PWC. 2011. Is a full internal model a step too far? Available at: <https://www.pwc.com/gx/en/insurance/solvency-ii/pdf/full-internal-model.pdf>

Netherlands (69%). The planned introduction of the model is highest in the UK (62%), Poland (67%) and Spain (60%).

3. Impact on Mergers & acquisitions. (M & A – Mergers and Acquisitions)

Conning and Company (1995)⁴ researched relation between M&A and regulatory changes. They empirically studied insurance sector in USA, where risk based capital standards were adopted in 1994. They proofed that adoption of standards brought essential change in regulatory environment. That change led to few mergers & acquisitions. Appearance of M&A was motivated mainly by restricted financial possibilities of particular companies and also their inability to obtain additional capital. Therefore they were forced to consolidate and solve financial problems with merger or acquisition in order to avoid relatively high regulatory expenses.

Tendency to form M&A as strategic reaction of insurance companies to Solvency II rule was predicted by some competent companies from praxis.⁵ Motivation to form mergers & acquisition is defined in two ways:

1. formation in order to increase efficiency of capital through choice of consolidation partner;
2. Regarding higher requirements in area of data processing quality and transparency it could be merging with companies which directly do not belong to insurance sector but perfectly enrich value chain. They might be distribution companies, IT companies or companies providing capital.

Stoyanova and Gründl (2013) researched impact of Solvency II implementation on formation of M&A. They claim that implementation of this directive can lead to creation of M&A. However insurance companies should make proper analysis of expenses connected with this process. Their recommendations are also for supervisory authorities which should eliminate stimulus of this activity and consider possible macroprudential consequences of directive implementation.

In case of M&A insurance companies focus mainly on more effective use of capital. M&A lead to enlargement of insurance activity.⁶ Conditions leading to diversification of insurance companies' activities are main impulse to integration processes. One of the conditions is risk level of subscription. Insurance companies with low risk do not have big profit therefore they merge with insurance company with higher risk rate. Due to mutual risk diversification they consequently reduce SCR. Relative size of connecting companies is also important, relative size directly correlate with diversification advantages. Next important condition is method of SCR calculation which influences profitability of integration. For example, merging companies can choose internal model for calculation in case when their liabilities negatively or slightly positively correlate and standard formula when their liabilities are strongly dependent. Within use of standard formula insured subjects are not always

⁴ Conning and Company in 1995, cited by Cummins et al. (1999).

⁵ KPMG (2012)

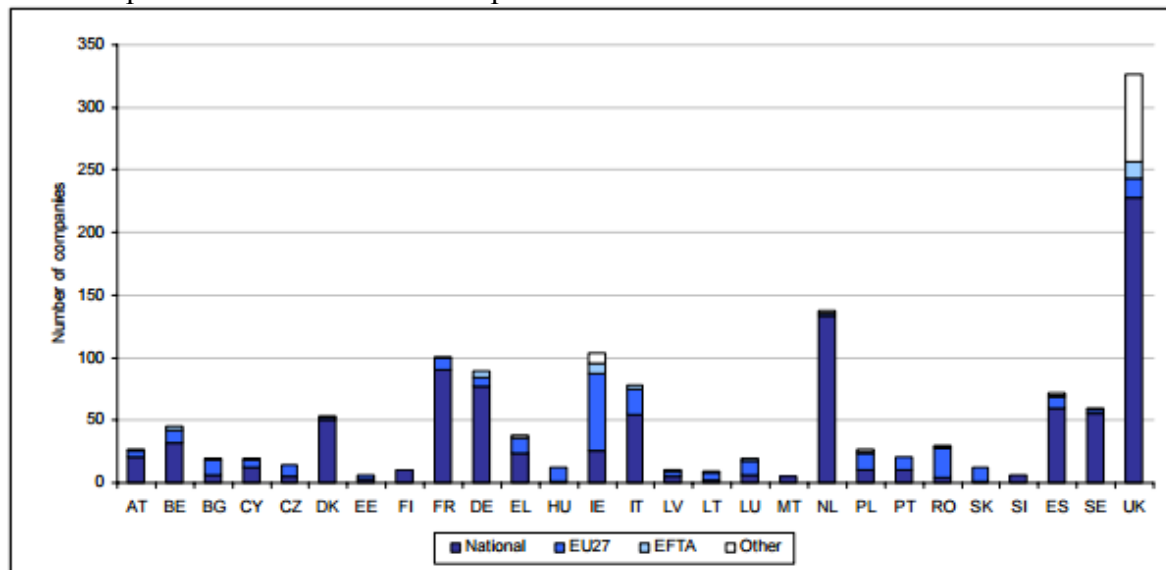
⁶ ORACLE. 2011. White Paper: When Two Worlds Collide: The Integration of Risk and Finance for Solvency II. Available at: <http://www.oracle.com/us/industries/insurance/wp-risk-finance-integration-1518958.pdf>

sufficiently protected, because calculation of default probability is not tailored made and real risk of insolvency can vary from regulatory accepted risk rate.⁷

Suitability of incorporation of small subjects into groups can stimulate creation of internal models in these multinational groups. They could reduce costs for potential small market units, whereas standard formula of Solvency II is not adjusted to processes and risk portfolio of particular insurance companies and requires high implementation costs. From the perspective of regulators, in the future is therefore necessary to analyse and ensure „healthy“ competition on insurance market in EU (Guy Carpenter, 2015).

Graph 2

Ownership structure of insurance companies in EU27 countries



Source: Europe Economics, 2009. Final Report: Retail Insurance Market Study MARKT/2008/18/H. 417 p. Available at: http://ec.europa.eu/internal_market/insurance/docs/motor/20100302rim_en.pdf

Solvency II can lead to M&A which can potentially influence the number of insurance companies in this sector. There is, in the Graph 2 below, stated number of insurance companies operating on EU market. This number is significantly different among countries in EU. National jurisdiction of insurance companies is also different. In west Europe countries mainly national ownership of insurance companies can be seen, because majority of parent companies are headquartered in these countries. Different trend is obvious in central and east Europe where usually insurance companies are not owned by residents. Usually companies which belong to some of parent companies headquartered in west Europe operate here. Regarding the ownership structure of insurance company is possible to specify origin of parent companies into countries of EU-15.

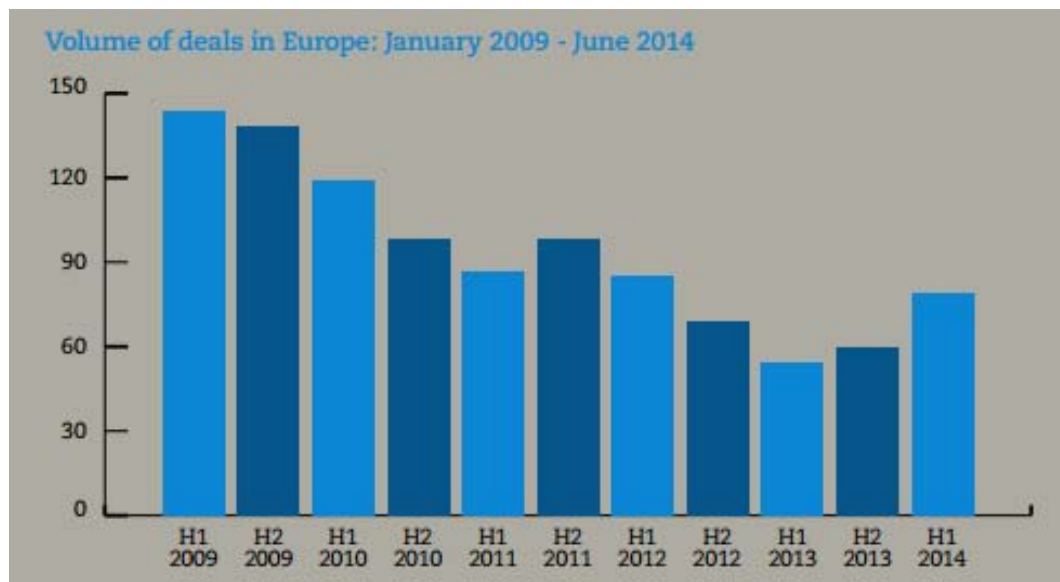
Significant differences can be spotted also in degree of insurance market concentration in particular member countries. Germany has the lowest degree of concentration; therefore competition on this market is most intensive because vast numbers of insurance companies operate here. Low degree is also in Great Britain. On the other hand, the highest concentration is in Luxembourg and Slovenia – more than 90% (Europe Economics, 2009).

⁷ STOYANOVA, R., GRÜNDL, H., 2013. Solvency II: A driver for mergers and acquisitions? ICIR Working Paper Series, No. 13/13. 39 s. Available at: <https://www.econstor.eu/dspace/bitstream/10419/87727/1/770566146.pdf>

Higher amount of mergers and acquisitions will lead to integration increase on insurance market. It will also influence prices in sector. Although price reduction will not be easy and significant, since after Solvency II implementation, market will remain particularly segmented due to existence of diversified legal regulation in particular EU countries.

Graph 3

Volume of deals in Europe: January 2009 – June 2014



Source: CLYDE&CO (2014). Insurance M&A activity: a global overview 2014. Available at: <http://www.commercialriskeurope.com/uploads/files/databank/Insurance-MA-Clyde-Co.pdf>

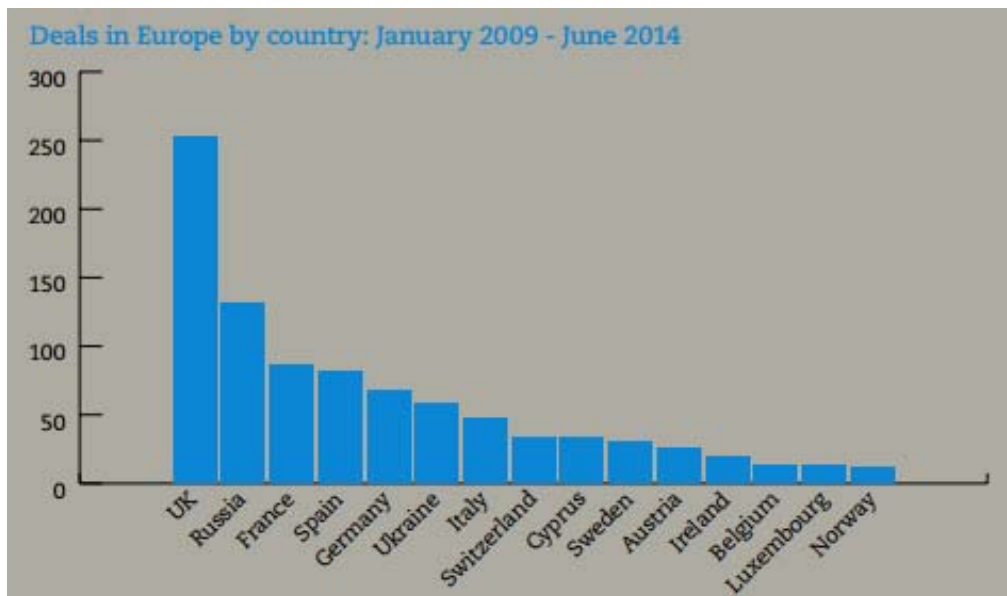
In the Graph 3 we can see decreasing trend of capital amount connected with M&A. Despite economic recovery in Europe and increasing trust level, many M&A processes were stopped. Company Clyde&Co (2014)⁸ refer this development to consequences of financial crisis. Given trend is also supported by tedious implementation of Solvency II. Trend is increasing from 2013. Reason is on the one hand acceptance of binding date of Solvency II implementation; on the other hand international expansion of insurance business into new markets. Purpose is to find new grow possibilities and diversification of current portfolios often situated on stagnant domestic markets. Europe also recorded significant flow of investment mainly from Middle East and Asia. Three out of top 20 biggest investments in recent 24 month were from China, Japan and Qatar.

Tendency in area of insurance is selling of assets as reaction to changing requirements of Solvency II – mainly in case of run-off. In spite of that, many market participants remain optimistic. They believe that volume of trades will increase in coming years, mainly in Germany and France. Increase in numbers of M&A according to Clyde&Co (2014) is stimulated by combination of changes on market and implementation of Solvency II and also spreading the activities from mature London to continental Europe. Currently, there are many unfinished transaction mainly due to implementation of new directive. In the Graph 4 can

⁸ CLYDE&CO (2014). Insurance M&A activity: a global overview 2014. Available at: <http://www.commercialriskeurope.com/uploads/files/databank/Insurance-MA-Clyde-Co.pdf>

Graph 4

Deals in Europe by country: January 2009 – June 2014



Source: CLYDE&CO (2014). Insurance M&A activity: a global overview 2014. Available at: <http://www.commercialriskeurope.com/uploads/files/databank/Insurance-MA-Clyde-Co.pdf>

be seen significantly higher number of M&A in United Kingdom. Reason is maturity of local market. Difference between UK markets and other countries is in the view to run-off problematic. According to unofficial proofs European insurance companies consider this activity as something which should be controlled internally.

4. Conclusions and policy implications

In the article we focused on analysis of Solvency II implementation impact on chosen EU countries. The aim was to summarize theoretical knowledge in two main areas. First of them is choice of method of SCR calculation and its influence to insurance company. We focused mainly on suitability of implementation some of internal models. In our opinion is implementation of internal model for insurance companies' right step. Insurance company should consider its implementation. The reason is vast of potential changes brought by final implementation of Solvency II. Potential, future change belongs to most often reason of denying internal model and planning of its implementation after the first wave of directive implementation. Second researched area was impact of directive on mergers & acquisitions. In this part we mainly studied research of companies operating in praxis. They came to opinion that number of M&A from the year 2009 was decreasing, but in 2013 started recovery in process of company connection. The reason of decrease is according to specialists, tedious implementation of directive and also recent economic uncertainty. Recovery is connected with upcoming binding date of Solvency II implementation and also searches for new, grow possibilities out of Europe region. Regarding the current situation on European insurance market, growing tendency of M&A will continue.

In conclusion it is necessary to add that implementation of Solvency II remains challenge for competent authorities for beginning of year 2016. Insurance companies even after its implementation will have to make function and strategic change in reaction to second Insurance Mediation Directive (IMD2), the Packaged Retail Investment Products initiative (PRIIPS) a second Market in Financial Instruments Directive (MiFID2) initiatives, which must

be accepted till year 2017. As a result of directives there is legislative change expected which can lead to change of classic formula calibration.

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Efficient use of human capital management in organizations

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Abstract

Human capital is characterized as practical use of knowledge, skills and abilities of man, which increase the productivity and usability of the organization. The term effective use of human capital management, we understand the shift from the traditional approach towards the management of human capital, which helps organizations achieve the stated objectives of the organization for the future prosperity and competitiveness in a globalized world. In addition to land, labor, physical capital and technological progress is another determinant of economic growth. The aim of the article is to provide a theoretical overview and comparison of different approaches to measuring the effective use of human capital management for possible implementation in the business practice.

Keywords: human capital, measurement, management, productivity

JEL classification: J31, M53, M54

1. Introduction

Currently, at all levels of employment changes taking place that affect and influence our decisions significantly. These changes in working environment organization places greater demands on the quality of management and in almost every area. Increasing demands on the quality management of the organization and effective management of human capital is a prerequisite for increasing the performance and competitiveness of the organization. The term effective use of human capital management, we understand the shift from the traditional approach towards the management of human capital. Effectiveness is a quality criterion, which incorporates also the uses of production factors incurred by comparing inputs and outcome targets achieved.

Human capital is relatively new factor of production in some areas of assessment has almost the same features as a factor of production work. A different view of the professional activities of man and now the increasing importance of quality human capital also requires new types of indicators that would affect in particular the contribution they can better express themselves. Qualitative nature, while human capital more difficult and often even does not allow easy quantification effort to derive partial relations and dependencies, modification of existing indicators, identify new parameters as well as a methodology for new statistical surveys can contribute to a better understanding of the overall impact of human capital on society and business. (Tokarčíková, 2010). The aim of the article is to describe and compare different theoretical approaches to measuring the effective use of human capital for possible use in practice.

2. Management of human capital in organizations

Human capital management refers to the measurement, providing the results and drawing conclusions measurements with subsequent recommendations for future practice. Human capital management, however, is more than just reading. The top organization focuses its attention on the strategy to be adopted to increase the added value which resources are people. It also identifies sites people management, which clearly indicates the greatest contribution to the organization's performance. It illustrates the benefits that can be obtained in the form of increased profitability, productivity and overall efficiency deriving from employment, deployment and development of people that the organization needs to meet its objectives. Human capital management shows ways of achieving the benefits of human capital that clarifies where and how investment in people bring the greatest return. It goes without saying that the objectives also participates in policy knowledge management, providing the necessary staff, talent management, management job performance, training and development programs and remuneration of employees. (Armstrong,2007).

The environment in which we live is strongly influenced by new technologies and techniques, and deployment of applications. Consequently, the change in labor requirements, and on the skills and the ability to be flexible (Vojtovič, Krajňáková,2013).

The entry of new generation on the labor market has changed and the requirements of labor to employers. An environment that is greatly influenced by the introduction of new communication technologies and, therefore, changing the way of life and thinking. Become employers themselves and create new competition and new jobs with flexible methods of management. This trend affects and it is expected that in the future even more will influence the situation on the labor market. We can assume that quality manpower will happens advantage especially for those who labor market will offer interesting working conditions, not only in terms of financial remuneration but also benefits for employees, the possibility of cultural and sports activities, which will strengthen the relationship of solidarity between the employer and employees.

Blašková (2009) describes the context of increasing motivation and improving the quality of staff. International management experience shows that the critical factors about which company to reach top level or standard level of performance, or which company in the economic competition does not succeed, the result management organization skills to work effectively with human resources. What matters is the ability to form human resources in ways that ensure the use of intellectual potential and creativity of people in favor of achieving the objectives of enterprise (Hitka, 2015). This process involves the formation of personnel, the skills and abilities while also using such management tools to ensure a high level of quality and performance of all employees in businesses, through effective motivation and good management of all processes. Traditional approaches to management in the globalizing environment becomes ineffective and the area is undergoing major changes in human resources and approaches to human resource management.

The strategy of human capital created from the use of data obtained by measuring and presenting information on human capital. Model the organization's performance from the personnel-consulting firm Mercer HR Consulting (CIPD, 2004), describes the company's strategy of human capital, as something that is made up of six each other accompanying factors:

1. People in organizations - their knowledge and skills at the time of onset; knowledge and skills that you acquire through education and practice; their level of training; to what extent used for company specific or generally applicable human capital.

2. Work processes - how the work is done; rate and level of teamwork and interdependence between organizational units; roles in engineering and technology
3. The structure, form of management - rate and degree of autonomy of the workers guidance and control management; span of control (amount of subordinates); performance management and operational procedures.
4. Information and knowledge - as through formal and informal means of selling and exchange information among employees as well as suppliers and customers.
5. Decision-making - how important decisions are taken and by whom; decentralization, participation and timeliness of decision-making.
6. Compensation - How to use cash and non-cash offer; the extent to which the payment of wages at risk; individual versus collective remuneration; current versus long-term "rewards of a career." (Armstrong, 2007).

3. Effectiveness and human capital

Effectiveness is generally defined as the relationship between the outputs and inputs used . The effectiveness of human capital can be calculated analogously if the proportion of output value and enterprise value input, in this case human capital. When selecting the exit and entry but must also be selected variables, which together are interlinked and are crucial for the administration of corporate power (Kucharčíková et al., 2011). Effectiveness is the ability to create a product value of work. Human capital is effective only if the product is higher than its value. It being understood that the greater the difference between the product and the higher, the higher the efficiency. The effectiveness of human capital from a macroeconomic point of view can be expressed as a proportion of the product life-long human capital (YLK) and value (HLK).

$$ELK = \frac{YLK}{HLK} \quad (1)$$

Human capital has some value at the commencement of employment (eg. graduate school), which is not within the working process constantly improved and its value rises. This is due to the recruitment of new experiences, knowledge, and habits. Indicator value of human capital is therefore not constant, but rather a dynamic parameter that due to circumstances constantly growing and changing (Baránik – Habánik, 2002).

For calculating and monitoring the efficient use of human capital it is therefore necessary to quantify the output produced human capital and the size / value of human capital itself. While measuring the effectiveness of human capital can be a level of achievement of business objectives (for example increase customer satisfaction, increase sales broken reduction, shortening processing complaints etc.), corporate quantification of savings, the number of registered patents and inventions per employee or per employee development department volume outputs per employee, etc. (Kucharčíková, 2013).

4. Characteristics effective use of human capital

If management knows how to properly determine the value of human capital, which the company has available, it is important to find out whether it is used effectively. If not, it is imperative that company management identify problems and identify measures which could ultimately lead to the improvement and enhancement of each business process.

Quantifying the size of the value of human capital and its efficiency is much to be difficult, in any case, the selection and design of whether direct or indirect (ancillary) indicators in this area is important that metrics are linked to key indicators the organization's performance.

4.1 Conceptual model

On the interconnection of human capital and the overall performance of the organization highlights the conceptual model. This approach emphasizes the strengthening of human capital, which tends to increase the performance of individual employees and ultimately has a positive effect on improved organizational performance.

Investments in human capital are the costs the organization incurs to provide training, education, development of knowledge and skills of their staff. Together with a decline in investments affect the value of human capital in the enterprise, and consequently its effectiveness. Investments have a beneficial effect and contribute to increasing the efficiency of human capital and ultimately lead to an increase in overall business performance. This can take financial and non-financial forms. Financial performance include productivity, market share, profitability of the company, while non-financial performance include customer satisfaction, innovation, improve workflows and skills development workers (Marimuthu – Arokiasamy – Ismail, 2009).

The effectiveness of human capital is within the conceptual model dependent component. The basic measure of the efficiency of human capital is a factor income, which as a proportion of total revenue and total number of employees in the company, and such other instruments be used cost factor, factor income and total return on investment in human capital.

Loss of human capital, which can be caused for example . departure, has negative HCM-impact on human capital management. Loss of workers can be given, for example, the percentage of individuals who left the company voluntarily, or the percentage of involuntary loss of human capital. To calculate the human capital, the company may use a measurement that reflects the compensated factor income, what percentage of proceeds from sales goes to employees or compensated factor costs, what percentage of operating costs attributable to staff (Bontis – Fitz-enz, 2002).

4.2 Human Capital Effectiveness - HCE

According Andrienssen (2011), the effectiveness of human capital- Human Capital Management can be expressed as a share of value added (VA) and human capital (HC)

$$HCE = \frac{VA}{HC} = \frac{\text{operating profit}}{HC} \quad (2)$$

4.3 Effectiveness Metrics human capital by four factors

One of the most widely used understanding of measuring the effective use of human capital based on the study by the authors Bontiy and Fitz-enz (2002). In within it is a measurement of left ventricular implemented through four core metrics that factor is income, cost factor, factor income HC ROI. The main goal of any organization is to increase revenue and profit per employee. Enhancing human capital and their efficiency sets higher financial results per employee. Its development is largely influenced just by raising the level of education along with the overall satisfaction of the employees. For this reason, human capital has a direct effect on the profitability of investment ROI of the company. Indicator FTE in metrics represents full-time equivalent, which includes full and part-time contracts and temporary workers. It shows how much time was spent on income generating business.

4.4 Human Economic Value Added - HEVA

Potential further uses for measuring the efficiency of human capital measurement economic value added human capital HEVA. The indicator is based on economic value added EVA of the company Stern Stewart. The aim of this calculation is to determine whether management activities have added value to the company. Indicator EVA is also useful in measuring human capital. In this case, it is divisible by the entry of FTE (full-time equivalent, which includes full-time employment part-time jobs or temporary workers). Is one of the fundamental metrics to measure a human productivity, how much time people spend creating profit for the company (Fitz-enz, 2009).

$$HEVA = \frac{(NOPAT - WACC.C)}{FTE} \quad (3)$$

NOPAT - net operating profit, WACC - the costs of capital, C - the size of invested capital

4.5 Human Capital Cost Factor - HCCF

Another indicator is the cost factor human capital HCCF, which takes into account costs associated with wage and calculating the value. The basic principles of human capital belong to four rating. Terms of salary and the cost of benefits for employs, wages of temporary workers, the costs and the absence of fluctuations. Item salary is paid fair wages to employer organizations. The benefits are calculated all the benefits provided by the employees. Costs associated with fluctuations imply a number of factors, such as severance pay, or the cost to business needs to make the new employee in the company, whether its total training and inclusion in the community in the enterprise (Fitz-enz, 2009). $HCCF = \text{salary} + \text{benefits} + \text{cost of wages of temporary workers} + \text{costs associated with fluctuations and the absence}$.

4.6 Human Capital Value Added - HCVA

HCVA the indicator of value added human capital, which expresses the sum of all operating costs, which are not taken into account labor costs and other employee benefits associated with it. As a result operating profit an official working full time. In most corporations, the right of employment's greatest asset. Human capital therefore is the main prerequisite for success in the future. On the other hand, are connected thereto are a cost of the investment in other words. Due to this fact is very important to know what added value the company will bring. Through this indicator is found on average profitability per employee enterprise (Marr, 2012).

$$HCVA = \frac{\text{sales} - (\text{costs} - \text{payroll and benefits})}{FTE} \quad (4)$$

4.7 Human Capital Market Value - HCMV

Interesting indicator to calculate the efficiency of LV, the market value of human capital HCMV. Relates the value of the enterprise market and its value based accounting. In some literature is seen as an indicator metric for measuring value human capital. Within a given variable, in addition to human capital included various forms of intellectual capital. Given that takes into account the particular value of intangible assets may be included in addition to

human capital and process capability, brand awareness, and setting the marketing process. The indicator is more interesting for economists, analysts, but for managers is not very useful. Premium reflects the market value per employee (Fitz-enz, 2009).

$$HCMV = \frac{\text{value enterprise market-book value}}{FTE} \quad (5)$$

5. Conclusion

For organizations that operate in the globalized market, it is necessary to use the practical knowledge and skills. It is not enough for success and effectiveness of organizations. It is important to put into practice and understand the shift to management human capital. Published metrics of human capital is not a guide to all organizations. Each organization can adapt to their own corporate strategy, which is applied in practice.

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Competitiveness of the food producing enterprises

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Abstract

The paper discusses the competitiveness of the food producing enterprises assessed through financial performance in conjunction with the level of customer satisfaction. Competitiveness is perceived through the company's performance, ranked by the modified INFA model, which emphasize the role of the owners of the company in evaluating its financial performance. Meeting the needs of customers is examined through a questionnaire survey. Customer satisfaction is thus a marker of quality of the final production of the enterprise. By linking customer satisfaction and financial performance, measured through the concept of INFA model, there is link between the issues of enterprise competitiveness and the quality of the final production.

Methodically, article is based on the model under which it is assumed that if the enterprise is able to produce the positive-customer-rate final production, customers are willing to make greater and repeated purchases, thus it positively reflects in the volume of final production sold, or at prices of final products, and hence in the profit. Better corporate results in financial indicators of turnover and profit are then reflected also in better business performance results, respectively in the ability of enterprises to achieve even better results in the evaluation according to modified INFA model. On the base of verification of the abovementioned hypothesis – about relationship between the level of customer satisfaction and business financial performance – it is possible to speak about conclusions about the ability of enterprises managers, respectively its owners, to make decisions supporting the competitiveness of the company itself.

Keywords: *enterprise competitiveness, customer satisfaction, enterprise quality*

JEL classification: *M 21, L 15, L 66*

1. Introduction

Success is probably the most motivating and encouraging influence in all human activities. And it is the best reward we can get. Running an enterprise is not the exception. Be the best at what we do should be our goal in everyday human life as in the running an enterprise. For each of the entrepreneurs has the success different meaning. It could mean to be the biggest producer at the market, to produce the products with the best quality, to maximize the profits better than others, or not so selfish ambitions and to simply make a world a better place with on a tiny little things done. Nevertheless to pursue the success we are supposed to compare with others. We have to identify our strength sides and to have the results to compare. And this is all about competitiveness abilities.

The term competitiveness is frequently used at least in last few decades. And because of this frequency of use of the term it acquires a lot of meanings and it is very difficult – if not impossible – to get the commonly accepted definition of the competitiveness. Thus it is

important to stress used approach to competitiveness to move forward at least for the purpose of this article.

Competition, as some kind of the struggle between competitors is determined by the character of the economy. And that character changed in last century. Markets, where there were suppliers at dominant side and their most difficult job was to produce the products in the demanded volume, has changed. Nowadays suppliers or producers are supposed to listen to customers' requests. Suppliers in cooperation with producers are supposed to deliver to customers products with appropriate characteristics. Customers create requests on characteristics of the goods such as quality, price and so on. Requirements on production process such as higher efficiency and effectivity are created through the pressure of competitors on the market, on the other hand. This abovementioned pressure is very important especially in the field of quality and competitiveness.

Competitiveness can be seen as the ability of the enterprises to succeed in comparison to others competitors. The common sense of the term implies the meaning of the word as the ability of the enterprise – or the entity in the general sense of the term – to compete with the rivals at the market, or to be successful in compare with – better than – the other competitors. [1] There are factors which has influence to enterprise competitiveness on the one hand. On the other hand there is the evaluation of the competitiveness, maybe is better to say the measurement of the competitiveness. There are two basic approaches to measurement of the enterprise competitiveness – non-financial and financial.

Evaluation of the enterprise competitiveness is connected to its successfulness or in other words with the enterprise performance. Success of the enterprise depends on the business goals and the ability of the enterprise to reach these set of business goals – financial or non-financial. [2] For the evaluation of the financial set of goals key performance indicators can be used to identify the ability of the enterprise successfulness. According to the study of using the business performance by chosen financial indicators there are several groups which are usually used to evaluate business performance. [3] To such financial indicators belongs financial performance – revenues-based indicators, return on assets, profitability (other than ROA); operating performance – market share, productivity; total performance – subjectively perceived performance, competitor-compared performance. According these results most commonly used financial tools for measurement of enterprise competitiveness are represented by profitability, especially by return on assets. [4]

Quality has its own long history and development in that history. There are a lot of important people connected with the term of quality and a lot of definitions of the term itself. Quality can be seen as the ability of enterprise to produce the goods that “fit for use/purpose” as Juran formulated it. [5] Quality can be also perceived as the conformance to requirements which is the quality certificates point of view – family of certificates according to ISO 9000. It is possible to understand the term of quality of the production in the sense of ability of the product to satisfy customer needs. Customers' satisfaction can be seen as the results of the process of customers' comparison between their expectations, visions with the perception of the reality. [6] It can be also seen as the process of making the judgement evaluation of the transaction made. It can be assumed that products that satisfy customers' needs, is interpreted by that customers as the product which obtain certain level of quality. [7]

The linkage between the enterprise competitiveness, seen as the better enterprise performance, and the customers' satisfaction, seen as the part of the product quality, is through the motivation of customers to make repurchase, to be willing to recommend the product to other customers or to be able to pay higher price. All this factors are source for

better enterprise performance, and thus the enterprise competitiveness. Through the higher volume of turnover or through the higher profit of the enterprise.

2. Methodology

The aim of the article can be summarized as finding answer to the question if there is possibility for relation between evaluation of customers satisfaction supplemented by the opinion of managers to the same topic – measured through the questionnaire survey – and the enterprise competitiveness measured through the modified opportunity costs based on volume of return on equity.

Enterprises are divided according to their level of competitiveness measured through the profitability, concretely return of equity. This approach is used by Ministry of Industry and Trade of Czech Republic in its analytical materials “Financial analysis of the corporate sector of industry and construction”. [8] It uses the pyramidal decomposition of profitability, concretely return on assets to the other financial indexes, according to which there is opportunity to evaluate the situation of the chosen enterprise or the whole branch.

The evaluation of the enterprises financial situation is based on the primary goal which is fulfilled by the enterprises – profit maximization. That premise takes in consideration the fact that for the long-term existence of the enterprise it supposed to be able to generate profit in volume satisfying owner as the investors of enterprise capital. The precise volume of the satisfying profit is difficult to identify but modified opportunity model can be used to set the borders for evaluation of return on equity. The risk carried by the owners of the enterprise is incorporated in the opportunity cost of equity (r_e). It represents return on equity (appreciation) that could be achieved if capital is invested to the alternative – second best – investment opportunity with the same risk. According to this return on equity the enterprises were categorized to the three groups using the value of opportunity cost of equity (r_e) and zero value as separating borders.

First group of enterprises which reach the return on equity higher than the value of opportunity cost of equity are considered as the enterprises creating value. Second group is composed of enterprise with positive non-zero value of return on equity which is less than value of opportunity cost of equity. These enterprises are said to be profit-making enterprises and the rest group of enterprises are those which return of equity is less or equals to zero and are called lose-making enterprises.

3. Data and the Results

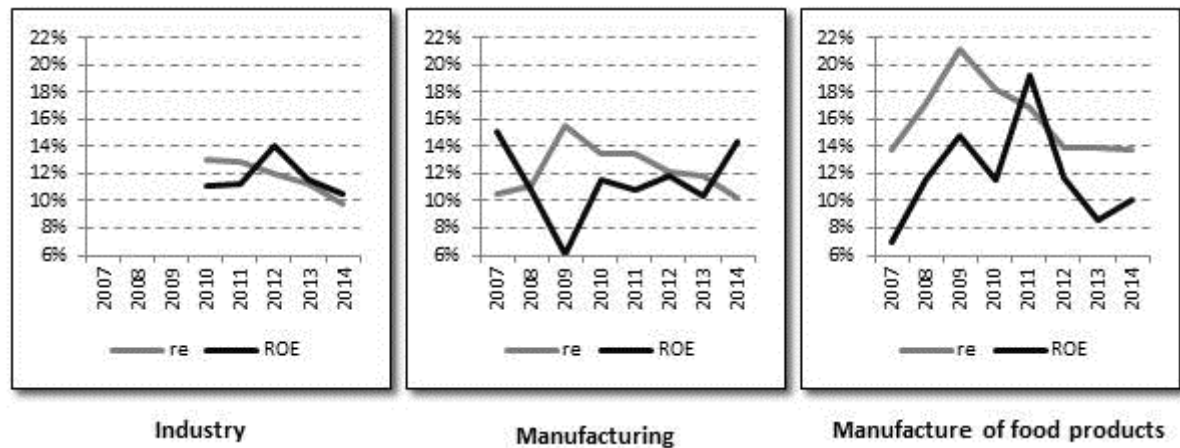
For the analysis of the relationships theoretically expected were used the data about the enterprises of the food producing industry (manufacturing of food products according to NACE classification). There were two sources for the data collection. The first one was the questionnaire survey in the group of selected enterprises focused on the topic related to quality (quality of a production and quality of productive processes) supplemented by the financial data. Complete data used for analysis were obtained in 75 cases. The second source was the questionnaire survey in the group of customers, which were represented by group of students and was focused on satisfaction of the customer connected to specific product of the chosen food producing enterprises. There were 6973 cases with useable data sets.

According to approach to competitiveness evaluation through the part of the INFA model focused on the opportunity cost of equity for the categorizing the enterprises to the groups (value-creating / profit-making / lose-making enterprise) the data from “Financial analysis of

the corporate sector of industry and construction” by Ministry of Industry and Trade of the Czech Republic was used. Based on these financial analysis it is possible to have a briefly look at the situation in manufacturing of food products.

Figure 1

Development of ROE and r_e in the manufacture of food products and wider industry approach



Source: “Financial analysis of the corporate sector of industry and construction” by Ministry of Industry and Trade of the Czech Republic

The development of the opportunity cost connected with the equity (r_e) represents the border in grouping the enterprises to the category of value-making enterprises. As it is seen in the Figure 1 according to development of ROE indicator in presented industry and its parts the enterprises can be categorized in these particular sectors as profit-making enterprises in general. Especially in the manufacture of food products there was a relatively high gap at the beginning of the analysed period of time with the situation going better reaches the peak in 2011 and afterward downfall.

Figure 2

Values of ROE and r_e in the manufacture of food products

Manufacturing of food products	2007	2008	2009	2010	2011	2012	2013	2014
r_e	13,75%	17,17%	21,17%	18,19%	16,84%	13,89%	13,93%	13,79%
ROE	6,91%	11,61%	14,80%	11,57%	19,22%	11,68%	8,52%	10,10%

Source: “Financial analysis of the corporate sector of industry and construction” by Ministry of Industry and Trade of the Czech Republic

Above shown indicators of ROE and r_e were used to categorized enterprises and also the customers related to the specific product. There were 19 value-creating enterprises (I. cat) a same volume as the lose-making enterprises (III. cat). The rest of the enterprises (35) were assumed to be profit-making enterprises (II. cat). The customers related through the product they answered in questionnaire survey about, can be categorized as customers of value-creating enterprises (1718 cases), customers of profit-making enterprises (3394 cases) and the lose-making enterprises (1861 cases).

The questions from the both questionnaire surveys were selected for the purpose of this article. The “satisfaction” represents the direct evaluation of the subjectively felt level of the customers’ satisfaction with the producer and product. The “quality” represents evaluation of the quality of product itself. The “price vs. quality” is about the relationship between the price and quality and the evaluation of this ratio. Next two questions are about quality and price, but for now they are compared with the competitors’ products.

Figure 3

Summarized results of selected question of the surveys (customers / enterprises survey)

	Customers			Enterprises		
	I. cat	II. cat	III. cat	I. cat	II. cat	III. cat
Satisfaction	7,08	7,01	7,05	8,47	8,23	8,56
Quality	6,59	6,52	6,51	8,56	8,56	8,61
Price vs. Quality	5,72	5,75	5,77	6,88	6,91	6,53
Quality - Competitors	6,64	6,54	6,47	8,72	8,71	8,11
Price - Competitors	5,89	5,94	5,98	7,59	6,79	6,89
Approach to customer	6,21	6,14	6,06			

Source: Questionnaire survey results, author

As it can be seen from the figure 3 where there are the average values of evaluation of the each question (the scale was 1 to 10 – where 1 represents the worse and 10 represents the best) there are not so big differences between the groups of enterprises. It means that there are not such intense differences in attitude to products in comparison between the categories. Generally the worst evaluated question was the relationship between the quality and the price. It seems that the customers are not satisfied with the price policy of the producers connected with the product they get. On the other hand, we can assume that higher quality of the product connected with the higher price seems not to be a problem for customers.

The more interesting results which can be obtained from the results points out the big differences in the answers to corresponding questions by managers of the enterprises. The results of each question which were formulated as the assumed evaluation from the customers are higher than in the real evaluation by customers. It is apparent that there is the significant difference in the average value of answers between customers' point of view and the managers' point of view. Managers are in answers to all questions making a better evaluation in compare to customers. It is the very distressing information because if managers are not aware of the real situation (real customers' opinion) they could make bad decisions. Nevertheless it could cause the losing of customers lower the turnover and the lower the profit for the enterprise. Such and enterprises could no longer be successful sufficiently and thus it could mean the damage the competitiveness of the enterprise.

4. Conclusion

The article is presented the partial results of the specific research on the Faculty of Economics and Administration Masaryk University. This specific research is aimed at the topic of customers satisfaction and the relationship to the enterprise competitiveness measured through the financial performance of the enterprise. It is based on assumption that customers with higher level of satisfaction are willing to buy more products (repurchase or recommendations of the products) and thus the enterprise can gain higher turnover and profit. Higher turnover and profit leads to better enterprise performance and better competitiveness of the enterprise. However there are slight differences between the categories of the enterprises according to modified part of opportunity cost of equity (r_e) results leads to no really persuasive differences to conclude clear statements, now. It is the impulse for further research.

More interesting finding is the comparison of customers and managers point of view. There are clearly the sufficient differences between the average values of the evaluation to selected questions (satisfaction, quality, price...). It leads to the conclusion that manager overestimated the evaluation of their products by customers. Overestimation can have

strength impact on the actions made by managers and leads to bad decisions making. It could cast the enterprise some amount of turnover or profit and worsen the financial performance. Thus lower the competitiveness of the enterprise.

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Approaches of systems to solving quality of life of seniors

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Abstract

The aging population as well as the quality of life of seniors is becoming a social problem not only in Slovakia but also in all European Union countries. To the fore not only gets active ageing, during which it is possible to create social value but also is becoming more important "non-governmental form" of social care. Solving this situation reminds of finding new creative approaches to find a solutions which can bring improving in quality of life of seniors.

Keywords: ageing, quality of life, seniors

JEL classification: J11

1. Introduction

The concept of quality of life is actual issue in recent years in many scientific disciplines and extends to the area of ageing. Ageing is a process that not only reaches seniors themselves. It reaches all the population because it begins with the birth of person and end up with person's death.

Period of aging is accompanied by many changes, which are mostly regressive in different spheres of life. That's why old age is still seen as a period of illness, infirmity and loneliness. It is really important to change these attitudes and make proactive approach. In recent years, we could see a noticeable improvement in the level of care for the seniors and it is visible even in social and also health aspect. Changes can be observed also in supply of social service where is a top priority not only to improve the quality of life but also encourage remain at home as long as it is possible and avoid staying in the institutional facilities.

In this paper I would like to compare systems, which are considered as successful in social care for seniors. That means countries which are similar in social, cultural and territorial way, meaning Austria and Czech Republic.¹

How could be maintained the standard of quality of life in the older age? What are the processes of government in countries that have favorable systems for the older population? These are questions that I would like to work and deal with them to find appropriate answers.

2. Quality of life

To find answers on the previous questions is needed to know what quality of life means in particular. The term of quality of life is subject of plenty scientific and pedagogical-scientific

¹ Based on the chart listed on the page 9 in the part: Social-economic aspect of ageing in Slovakia. Austria takes 11th place, Czech Republic 25th place and Slovakia place number 49. Survey made by organization HelpAGe was realized in 91 countries.

interests and there are lots of definitions. The most famous and used are these definitions by Tokárová and Zelina.

A. Tokárová defines “quality of life as an optimal level of existence of human or unit of people and it is expressed by attitude to standard defined in documents of country.” (Tokárová, 2002)

There exist three basic criteria of quality of life which are considered in international comparison (Zelina, 2004):

- health care expressed by average length of life and by costs spent on health care for one person per annum,
- education level of the population, expressed in number of illiterate individuals, high school graduates from the population, college students, the number of university graduates in the population (total population in individual grades, sometimes referred indices only of economically active population);
- Indicators of living standards, operationalized by the work time needed to purchase basic consumer basket.

World health organization determines relation between quality of life and health as *„perception of person’s own position in life in the context of cultural and value systems with regard to their own life goals, expectations, standards and concerns. This concept is characterized by the complex physical health and mental state of a person, the level of independence and its relation to the significant feature of the environment. „*

Quality of life is one of those categories which are signed as a personal and individual and every person could characterize level quality of life in subjective way. But other way quality of life is subject of researches and could be measured by objective and subjective variables.

3. Ageing as a social phenomenon

Ageing is summary of irreversible changes accompanying person's life. It applies multidimensional processes in psychological, social, and mental plane. Many researches show that getting older may not be a barrier to physical, mental and social development. For example the reaction time of seniors in general is slower while knowledge of world and wisdom can grow. Aging reflects biochemical changes and is an important part of all human societies, and reflects the cultural and social conventions. The sequence of weakening of the human organism can be expressed in three approximate stages lasting about 10-15 years. From 60 to 74 years it is the partial old age, period 75-89 years is named as old age and longevity is age over 90 years old. (Antalová – Bednárík – Laluha – Tkáčiková, 2010)

World health organization defines 6 dimensions of successful ageing:

1. The absence of physical incapacity over 75 years old
2. Good subjective evaluation of health status
3. Length of life without incapacity
4. Good mental health
5. Real social support
6. Self-evaluation satisfaction from life in eight areas: marriage, employment, children, friendship and social contacts, hobbies, activities, community service, religion and recreation or sport.

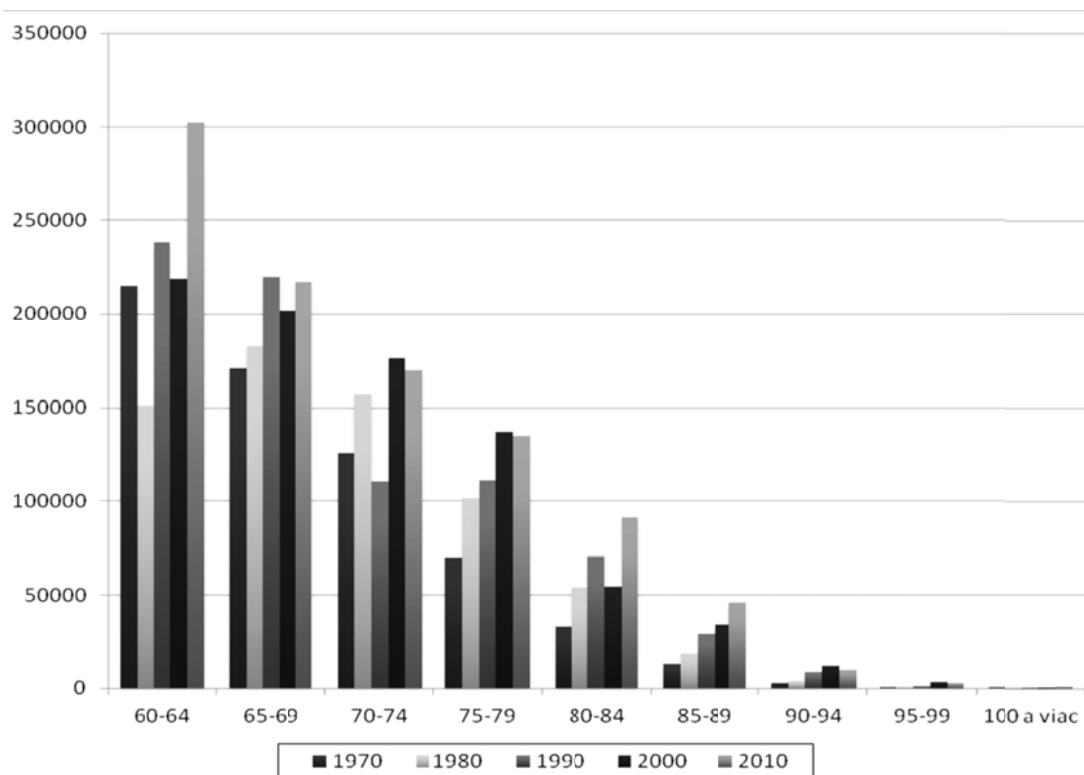
4. Demographic aspect of ageing

Population ageing is understood as a direct result of changes in mortality and fertility. This process is irreversible in the coming decades. Growth of the oldest age groups in national populations has a huge impact on the social, cultural and economic aspects of social development including lifestyle families, labor market, pensions and transfers between generations. Population growth in the post productive age is most pronounced in industrialized countries from the second half of the 20th century, same in the Slovak population. In the 1950 post productive part of population (60 and more for men, 55 and more women) formed 6,7% of population, in 2003 it was 11,5% and number of people older than 80 years increased 2,5 times (from 0,9% to 2,26%). Value of index of ageing had tripled in last 53 years, from 23% in 1950 to 66% in 2003. (Lukáčová – Pilinská – Vaňo, 2005). For the period 2000 - 2010 increased this value by another 20%. (Jurčová – Vaňo, 2011). The concept of an integrated approach to research quality of life is presently one of the most debated topics in several disciplines.

The process of ageing in Slovakia started in the middle of 50s of 20th century after the compensation phase after World War II. (Vaňo, 2011). Dynamic development began in 90s and is expected to continue. Jurčová et al. (2010) in the context of demographic trends at the beginning of the millennium find a substantial increase in the aging population. Population ageing in Slovakia is still significantly affected by a fall in the age category of 14 years due to reduced fertility and birth rates. At the same time of this process also takes place gradual increase in the population in the post productive age.

Figure 1

Development of the number of seniors in 5-years age groups in 1970, 1980, 1990, 2000 and 2010

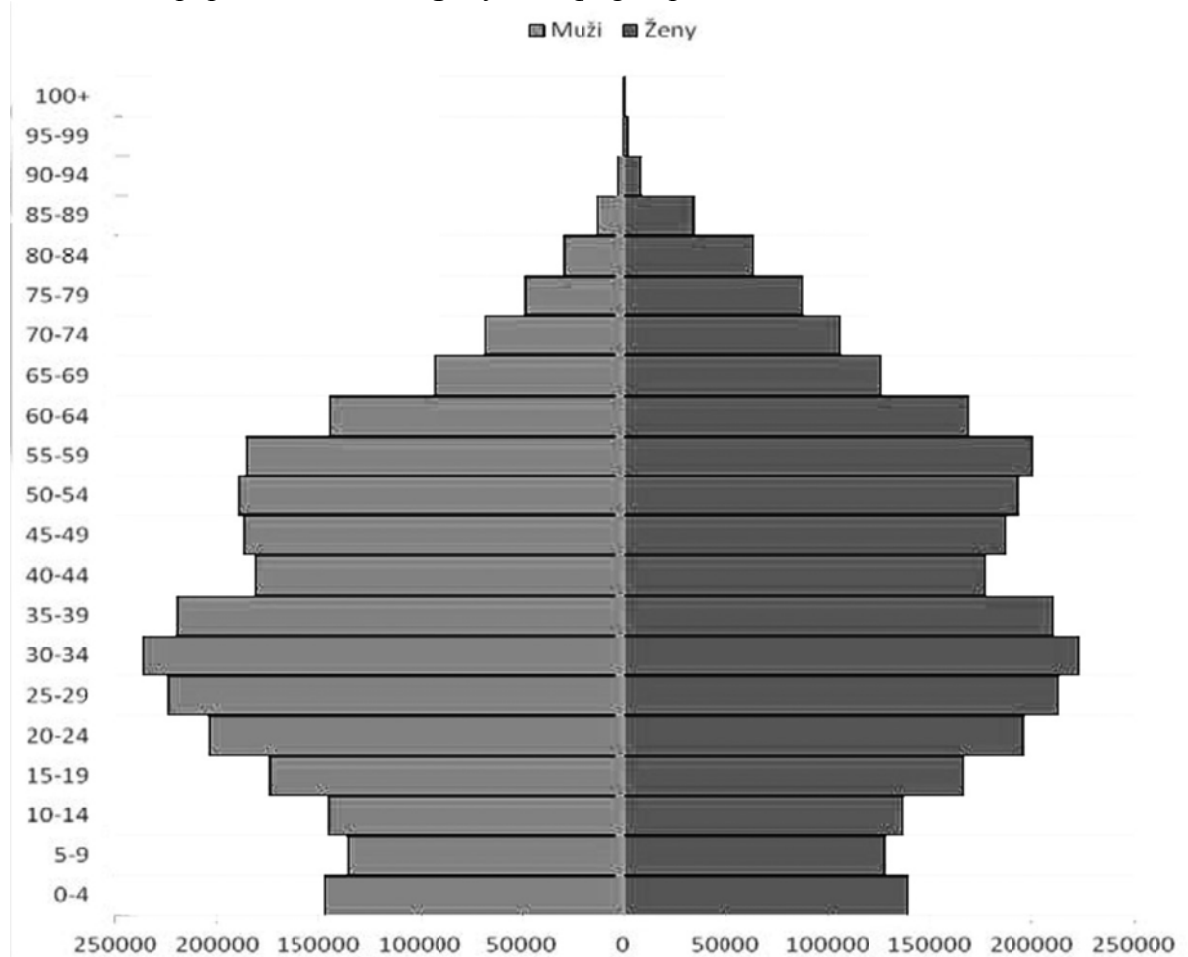


Source: Mitríková, Madziková, Liptáková (2013): Vybrané aspekty kvality života seniorov. Acta Facultatis Studiorum Humanitatis et Naturae Universitatis Prešovensis, Prírodné vedy, Folia Geographica č. 21, Ročník LV., ISSN 1336-6149, ISSN 1336-6157, PU Prešov, p.89.

Figure 1 illustrates ageing of Slovak population and it is connected with absolute growth of senior people and also relative growth of seniors in each observed group. Comparing the development of the senior population in 5-year age categories for the period 1970-2010 (Chart 1), we find the highest growth in the category of 60 to 64-year-old seniors. Reducing mortality and increased life expectancy have a positive effect in the growth of the number of old seniors (in the higher age groups 75-79, 80-84, 85-89 years).

Figure 2

Structure of Slovak population according 5-years age groups in 2011



Source: Mitriková – Madziková – Liptáková. (2013): Vybrané aspekty kvality života seniorov. Acta Facultatis Studiorum Humanitatis et Naturae Universitatis Prešovensis, Prírodné vedy, Folia Geographica č. 21, Ročník LV., ISSN 1336-6149, ISSN 1336-6157, PU Prešov, p. 90

Increase of senior people also affects changes in the age structure of Slovak population in common. This increase contributes to rise of average age of the population. In 1960 it was 30.4 years, in 2000 increased to 36 years and in 2010 it was 38.7 years. Represented by gender (Figure 2) continues to enlarge feminization of old age (marked predominance of women over the age of 60 years), which is related to over-mortality of men and by differences in life expectancy - women live an average of eight years longer than men. (Jurčová – Vaňo, 2011)

5. Socio-economic aspect of ageing in Slovakia

From the survey of organization HelpAge is clear that Slovak pensioners have poorer standard of living than pensioners from Romania and Bulgaria. The best conditions for retired people are in Sweden, Norway and Germany. Slovak seniors take 49th place in contrast with

neighboring countries: Austrian pensioners are at 11th place and Czech pensioners at 25th place. This survey counts with 91 countries and 89 percent of seniors in the world and was created with support from funds of UN². (Foreign news, 2013)

Nowadays number of older people have increasing tendency in the total world population. More than two-thirds of seniors live in poor countries. A recent study shows that in 2050 there would be live four out of five older people. In general, women population lives longer than the male population. In 2012 on every 100 women fell 84 men. According to the Global Age Watch Index 2013 population aging does not necessarily lead to higher costs for health care. Report underlines the need for long-term investments in education and health care for the seniors. (Foreign news, 2013)

Ranking for the quality of life of seniors in the world (selected countries)

1. Sweden
2. Norway
3. Germany
4. The Netherlands
5. Canada
6. Switzerland
7. New Zealand
8. United States
9. Island
10. Japan
11. Austria
25. Czech Republic
40. Hungary
47. Bulgaria
48. Romania
49. Slovakia
62. Poland (Foreign reports, 2013)

In Slovakia, there are currently many programs to provide active aging. The most serious attribute of the quality of life of referred population is natural physical self-sufficiency with accompanying financial self-sufficiency. Self-sufficiency is important for the old people, not only as a relationship to oneself but also as a source of some self-esteem.

Important factor accompanying social care in Slovakia are non-formal caregivers, generally regards to close family members without specific nursing education. Scope of this care is indicated through the providing of care allowances. In 2008, this contribution was provided monthly to ensure the care of 55 thousands of citizens. This care provided in home has a significant impact on the quality of life of seniors; it helps to maintain the dignity and self-sufficiency of the elderly. (Antalová – Bednárík – Lалуha – Tkáčiková, 2010)

² Abbreviation for Organization of United Nations

Providing of social services is specified by the Act of Social Services. A unit for senior people is a provider of social services with long-term residence of recipients. According to the Law of Social Services the provider of social services could be legal person with these characteristics:

- Public providers (founded by the state, the higher territorial unit, municipality)
- Non-public provider (other providers registered in the register).
In this unit provides services to person which is:
 - Natural person who has reached retired age and needs help from other person
 - Natural person who has reached retired age and needs social services for another serious reason.

In such facilities for the elderly are provided: social services in reliance on assistance of another person, social counseling, social rehabilitation, nursing care, accommodation, catering, cleaning, washing, ironing and maintenance of laundry, personal equipment, create conditions for the safekeeping of things, hobbies. (Act no. 448/2008 Coll. of acts of social services)

6. Solving of quality of life of seniors in the Czech Republic

Government of the Czech Republic established in its policy statement pay close attention to the quality of life in old age. Due to this aspect it is necessary to change negative attitudes towards older people, which often borders on old age people. The boundaries between phases "education - work - pension" are becoming more flexible. People of all ages, hence the seniors should have the right to decide in the quality of services provided to them. Health care for the elderly should avoid creating long-term dependency and institutionalization. It is necessary to enhance the activity and self-sufficiency of the seniors. To ensure better quality of life in old age are necessary conceptual change and the adoption of measures in different areas.

In the Czech Republic (same in Slovakia) social care is provided at four levels, namely: Residential custody, field social services, health care and social care. Residential custody includes residential care homes for the seniors and pensions for retirees. Field social services consists of care facilities that provide outreach assistance to seniors in need, for example the purchases, laundry, meal programs.

7. Solving of quality of life of seniors in Austria

Social care in Austria reaches high level of standard. System consists of many components and geriatric patients are located in various facilities, mainly to nursing homes, occasionally to the hospital units. Main aim of hospitals and pensions is restore level of independence to the greatest possible extent. In last period is given greater value to home care. Much credit on this should be contributed to nurses from eastern countries (also from Slovakia). Patients should use also other services: social care, social assistance, which are at the responsibility of the Red Cross and the Municipality, the most is organized by the organization "Volkshilfe - People's Aid" (there is an option of keeping patient in his house according to the needs, 12-24 hours). Quality of care depends on potential of the insuring contact. Geriatric patient is placed in certain degrees of disability. According to that degree is entitled to a medical subsidy (devices, payment of medicines, doctors etc.) Example: grade 4 is entitled to a nurse for 24 hours, from grade 6 has right to have wheelchair. (Certainty elderly care in Austria, 2009)

System of social care and assistance to seniors in Austria is organized in two basic components:

- Institutional care: hospitals, homes for pensioners - Altersheimen, Seniorencentren, Pensionistenheimen, Betagtenheimen, Altenheimen, Pflegeheime, social institutes, institutes for handicapped clients, institute oriented on different diagnoses such as Parkinson's disease, Alzheimer's dementia, coma awake...
- non-institutional care: nursing home care, nursing service, helping seniors, home help, mobile nursing, mobile physical therapy.

Provision of social services in Austria is not unified. Each Land of Austria has its own legislation that regulates the provision of assistance. In general, the focus of care for the elderly is based in transferring from inpatient care to outpatient care with home care supported by professionals.

8. Conclusion and suggestions

Ageing is recently one of the most popular topics; it is caused by increasing the average age in countries and growing group of seniors. Based on the 4th part of this paper- Demographic aspect of ageing- it is obvious that ageing and quality of life is one of the topics with increasing importance. Many studies (Lukáčová – Pilinská – Vaňo, 2005) predict more weight to the “silver economy” (economic action aimed at seniors) in the future. Also Klimko (2015) claims that ageing is important topic in the context of socio-economic changes and has a big impact on many areas of economy. Studies show that quality of life of Slovakian seniors is much lower than quality of life in neighboring countries- Czech Republic and Austria. Social care in Slovakia is provided by public or non-public providers. Increasing popularity is held by non-formal caregivers (close family members). In the Czech Republic social care is provided at four levels, namely: Residential custody, field social services, health care and social care. Social care in Austria reaches high level of standard. System consists of many components and geriatric patients are located in various facilities, mainly to nursing homes, occasionally to the hospital units. The focus of care for the elderly is based in transferring from inpatient care to outpatient care with home care supported by professionals.

The paper shows that the quality of life of seniors in Slovakia is relatively low comparing to the Austria and Czech Republic. According to the Global Age Watch Index 2013 Slovakia ranking at 49th position is caused by the low interest of the government to reform pensioners system. Based on the comparison of Slovakia, Czech Republic and Austria I should suggest avoiding creating long-term dependency and institutionalization of the seniors. It is necessary to enhance the activity and self-sufficiency of the seniors. This can be adopted by the model seen in Austria – deinstitutionalization of the seniors- which brings increasing quality of life.

Acknowledgement

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Key financing possibilities for startups in Slovakia

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Abstract

Startups are hot topic in Slovakia today. Startups are not the same as small businesses, startups work in very different way and have different needs. One of the main reasons, why startups are not the same as small business, is financing. Startups usually have unique idea or product, their processes are new and startups are looking for business model that will work. This is the reason why startups are not suitable applicant for bank loan. For small businesses it is common to get a loan from bank, but for startups it is not an option and also it is a great risk for founders because they don't have guarantee that their idea will work and will make money for them. That is why, startups need to find new, special way of funding. As startups are growing in Slovakia, different financing possibilities are developing as well. There are some options how startups can get finances in single lifecycle stages. This paper describes possibilities which startups can use in each of their lifecycle phases. In Slovakia there exist various options how startups can obtain money they need. For example some government organizations, organizations from private sector, incubators, accelerators, competitions. These organizations support startups in particular phase and they provide package of support for them.

Keywords: *startup, financing, options, cycle, phases.*

JEL classification: *M10, M13*

1. Introduction

Startups are relatively new topic in Slovakia in compare to USA, United Kingdom or Israel. Slovak startup ecosystem is still in development. One part of startup ecosystem is financing of startups and possibilities of financing in Slovakia are not on the same level as in more developed startup ecosystem. Slovakia is still learning and bringing new ways of funding mostly from abroad.

Authors Korosteleva and Mickiewicz (2011) see that the crucial role in the entrepreneurship development plays the institutional environment, composed of formal and informal rules. It is affecting individuals' decision to enter entrepreneurship, allocation of their effort among its various uses (productive or unproductive), and entrepreneurial strategies, including financing and growth. Authors distinguished two key institutional dimensions that can affect financial structure of startups. First is protection of property rights and second is financial openness and financial regulatory environment. In their research authors found out that strong protection of the property rights system has a positive impact on determining the use of external finance and the financial size of the entrepreneurial project. Positive effect on startup financing in its all aspects has financial liberalization. It increases probability of the use of external finance and its volume in startups. Third result is that

informal finance does not lead startup do large-scale. This sets that high-growing, large-scale startups need more sophisticated institutions and well-developed financial system. Fourth statement is that startups benefit from financial openness. It can support using external finances, if exists possibility of using loan from nonresidential bank. On the other hand, in country must exist support system of organization for bringing finances from abroad and also legislation is needed.

Authors Čalopa at al. (2014) wrote that if founders of startups don't have their own finances for opening business, they can use different ways of financing. Traditional methods are bank loans, 3F (friend, family, fools), seed investments, business angels and venture capital investments.

One of the biggest problems for startup is rising funding to launch and operate businesses. Startups are small and are on the beginning of their journey, they don't have any history, credible reputation, they bring high risk and for financial institution it is costly to monitor these businesses. Although bank have advanced technology, including risk scoring techniques, that can apply in financing process. Even today when world is open, there exist deep diversities among business environment in different countries. Globalization brought possibilities to countries which did not have enough supporting organizations in their internal business environment. Thanks to globalization and open economies can startups gain opportunities from several countries, can access international financial markets. International sources can substitute domestic weaknesses. (Korosteleva & Mickiewicz, 2011)

In this article I refer about various financing opportunities in Slovakia that can Slovak startup use. Basically startups can use these funding methods: bank loans, 3F (friend, family and fools), business angels, venture capital, various funds and organizations. In my opinion, bank loans are not suitable for startups, because of high risk they bring. Startups are not target to banks in common way. Mostly, banks fund startups through some grants or competitions, programs. 3F, friends, family and fools, is one of the most common way of getting finances to start startup. This money are used in very first phase of development, pre-seed, when exist only idea and founder need some money to transfer idea into the product. Bank loans and 3F are very basic ways of financing startups so there are not parts of this article. In separates chapters will be explained more interesting funding methods, crowdfunding, business angels, venture capitalists and funds, supporting organizations (incubators, accelerators, competitions).

2. Crowdfunding

Crowdfunding represents new, modern way achieving needed money. It is channel that connects one site, which needs money and the other site with money. Crowdfunding was a direct societal response to the financial crisis of 2007-2008 as an exit way from strict bank loans regulations and decline of funding from state and private agencies. In this time crowdfunding used to finance particular creative projects and it was popular. Crowdfunding became more popular in 2009, when first crowdfunding platform started, Kickstarter. (Antonenko, et al., 2014) Crowdfunding sites Kickstarter and Idiegogo are the way for project of individuals to get money for what they need. Individuals can pledge relatively small amount of money, usually less than 100 USD. The sites collect fee-usually 3% to 9% of the amount raised, for the hosting and administrating the distribution of the funds. (Kristof, 2014)

Crowdfunding can be categorized into two main groups. Difference is the rewards which pledging site expect and get. In the world exist various categorizations of crowdfunding types, but these categories are similar in their basics, differences are in names or in the grouping of

categories. This categorization, based on Crowdfund Insider (The Ultimate Crowdfunding Guide, 2015), is simple, clear and easy to understand.

1. Donation crowdfunding
 - 1.1 Charity model – it is for non-profit organizations to fund projects, also for creative projects. Donors do not expect reward from their contributions. (Buysere, et al., 2012) This type is not always called crowdfunding (E.g. the Red Cross, Wikipedia).
 - 1.2 Reward-based model – this is the best known model of crowdfunding. Contributors expect some kind of reward for money they donate. Usually poster or some merchandise. In this category belong popular crowdfunding portals Kickstarter, Indiegogo. Funded projects can be from various categories, for example art, creative project, or projects from creative industries, startups. (Anon., 2015) This type of crowdfunding is also called pre-selling model (Mollick, 2014). It is suitable for startup in market testing phase.
2. Investment funding
 - 2.1 Equity-based crowdfunding – in this model investors receive some form of equity or some arrangements like equity (e.g. profit-sharing) in the venture they support. One of the best known equity platform is ASSOB, which permit entrepreneurs to sell equity shares to small investors. (Ahlers, et al., 2015)
 - 2.2 Lending or debt model – it is when crowd lends money to an individual or company with the understanding that the loan will be repaid with interest. This model of crowdfunding is suitable for companies and individual planning on multiple rounds of funding, companies who do not want to part with equity. (The Ultimate Crowdfunding Guide, 2015)

Crowdfunding in charity model is well-known in Slovakia, as well as in other parts of the world. But crowdfunding as way of funding project or companies is not as common. First slovak crowdfunding portal was Ideas Starter (Štartovač nápadov). It was launched in year 2013 but is still not underway. Today their website does not work. Latest crowdfunding portal is Marmelada (in English-Jam). It was created as alternative to popular czech portal, where slovak projects used to raise money. It is mostly for creative projects and arts. (Marmelada) For non-profit organizations and projects exist in Slovakia these portals: Dobrá krajina, Ľudia ľuďom, Ďakujeme. A number of Slovaks involved in arts and culture as authors or coordinators use the Czech portal Hithit, because of the natural cultural reach across both countries. Best known world portals for crowdfunding are Kickstarter, Indiegogo, Crowdfunder, Peerbackers, RocketHub, Crowdrise, Somolend, AngelList, Invested.in,. One of the most successful slovak startup on foreign crowdfunding portal was startup CulCharge. It is mini USB charger, that competed on portal Indiegogo and they raised even six-times more money than was aim of their campaign.

3. Angel investors

Angel investors are private equity investors who invest both capital and business expertise in early stage companies. Angel investors are mostly former businessmen, which have successfully run and exited their companies and they have experiences, money and time. Angel investors are interested in early stage startups. In USA exist around 400 000 angel investors, which are willing to invest from 25 000 USD to 100 000 USD. (Payne & Macarty, 2002)

There are two types of angel investments opportunities: angel funds and angel networks. Basic difference between these two is the manner in which they invest. The fund is similar to

venture capital fund. In angel fund are involved more than one angel investors, they invest as a group after based on a vote of the members. Angel network require minimum number of investments, typically size of investment is on angel's decision. Angel invests to startups that he considers as best and it suits to his preferences. (Payne & Macarty, 2002) Angel investment in Europe increased to 5,5 billion EUR in 2013, a growth of 8,7% from 2012, remaining the main financier of Europe startups. In year 2013 existed around 271 000 business angels. United Kingdom is country with the most developed net of business angels. Numbers in this research are just approximate, because not all countries are included. Slovakia is not included in research. (EBAN, 2014)

Investments from business angels in Slovakia are not formalized or public. Usually are result of decision and motivation of one individual person and rarely public knows about these investments. In this condition it is very difficult to provide statistic research about angel investments in Slovakia. Informations about business angels we can achieve from KPMG Startup Survey (2014), which states that 39% of slovak startups used business angel investment. Slovak startups connected with angels through some platforms or associations, which getter business angels.

Slovak Business Angels Network (SBAN) was established in 2011 as the first network of business angels in Slovakia. SBAN is a network of leading slovak entrepreneurs and managers who are interested in investing their expertise, time and money into start-ups. Role of Slovak Business Angels Network in process of angel investment is to network investors (i.e. business angels) and concentrate the offer for venture capital of informal investors in one place. Actively seeks entrepreneurs and projects suitable for investment by business angel, organizes investment forums and other events and makes awareness of investments by business angels (angel investors). SBAN provides pre-selection of projects so that the investors (business angels) receive only projects meeting their investment criteria. The primary role of Slovak Business Angels Network (SBAN) is to facilitate contact between adequately prepared entrepreneurs and potential serious investors. Investment decision is the sole decision of an investor or group of investors. The amount of investment in the project is very variable and depends on many factors, as amount of the share, the quality of the project, stage of the project and so on. In most cases the amount of investment ranges from 10,000 to 80,000 EUR per project. SBAN does not state list of angel investors, but as they are saying business angels are not anonymous, the inclusion of investor SBAN is preceded by personal meeting and also confirmed by positive feedback. (Klub podnikateľských anjelov Slovenska) Slovak business angels network (SBAN) is an informal initiative of the Young Entrepreneurs Association of Slovakia, Slovak Business Agency and Hospodárske noviny.

42angels is a gathering of experienced Czech and Slovak entrepreneurs with a passion for start-ups, providing angel/seed stage financing with added value. 42angels is informal association of experienced and successful IT entrepreneurs from Czech and Slovak republic with an interest in technology startups who want to help new emerging services and products not only financial, but mainly active involvement in the implementation of these projects. Investors in 42angels are for example Michal Truban, Anton Zajac, Juraj Ďuriš.(42angels)

4. Venture capital and funds

It is very difficult to divide up funding under the development phase of the company or the origin of finance, whether from the public or private sector. Since the government funds can be managed by private company and funds may be focused on several stages of development. Therefore, in this chapter I state together different types of funds.

For startups in early stage of development exist special funds. These funds are mostly created by public sector and are focused on developing idea of startup and to support business in country. Other funds available in Slovakia are funds from National Holding Fund (Národný holdingový fond), set by Slovak Business Agency. Currently National Holding Fund manages three venture capital funds without legal personality (Fond štartovacieho kapitálu, Regionálny fond štartovacieho kapitálu a Fond SISME) and four venture capital funds with separate legal personality (Fond Seed Capital k.s., Slovenský rozvojový fond a.s., Fond inovácií a technológií a.s.) (Národný holdingový fond)

Possibilities mentioned above are suitable for startups in early stage of development. In later stage, when product already exists and startup needs money for development, in this phase startup need different kind of funding. In this phase is time for venture capital, or sometimes called development.

Gompers et al.(2008) state that when signals from market are positive, venture capital investments increase their number. Authors Paik and Woo (2014) confirm and extend this statement. In their study they found out that venture capital firms invest more (less) in early-stage companies than in later-stage companies when the amount of capital flowing into the market increase (decrease). They also find that venture capital firms invest less in early-stage companies than in later-stage companies - during an economic downturn associated with the real sector and invest more in early-stage companies than in later-stage companies during an economic downturn associated with the financial sector. These findings can be helpful for innovative startups with decision when is the right time to enter the market and start finding for venture capital investment. In order to complete these findings, is need to add authors explanation of early and later-stage company. Early-stage company is the one which is looking for first-round seed money or startup capital to start their business. Later-stage company have already been funded by investors in their early stage but in this phase are seeking an additional financing round for growth and expansion.

For startups are bank loans not common ways of financing. Startups most commonly build connections with venture capitalist that provides them money but more importantly skills and experiences. In order to effectively monitor progress of startup they arrange them day-to-day operations if it is necessary. Venture capitalists provide money in exchange for convertible securities as preferred stock or convertible debt. These securities can be converted into common equity at some prespecified date. (Lulfesmann, 2000)

Venture capital as process of investment takes place in several stages of startup's lifecycle. Venture capital is used for different intentions. Venture capital investors differ by industry they focus on and lifecycle phase they want to invest into startup. The use of risk capital is always connected with high growth of the company (significantly higher than the industry, than region of higher than average economic growth of the country). The required rate of return is usually several tens of percent. (Podnikajte.sk, 2010) Venture capital can be provided in two basic forms. First of all, it's called seed capital funds that provide young promising projects without sufficient resources. The second option is itself risky investments. It is for companies that the realization of a project already started but need additional capital for expansion. Venture capital funds are not only providers of funds. Most of them have their own experts who provide advice services to prospective businesses. (Záborský, 2001)

For later stage of company development exist in Slovakia these venture capital funds: Fond Fondov, Credo Ventures, Genesis Capital and 3TS Capital Partners, G4 Investments. These are private organizations looking for investing opportunities and mostly are interested in companies in development stage.

Companies in seed phase can use JEREMIE fund created by European Investment Fund. The European Investment Fund (EIF), on behalf of Slovenský záručný a rozvojový fond s.r.o. (SZRF), is supporting high-potential SMEs and start-ups across Slovakia through capital commitments to three funds under the Joint European Resources for Micro to Medium Enterprises (JEREMIE) initiative, with the two selected Fund Managers set to invest in the region of EUR 50 million, together with co-investors, into more than 50 promising Slovak Small and Medium-sized Enterprises (SMEs). Neulogy Ventures has launched an Innovation Fund targeting seed investments, as well as an Entrepreneurs Fund for supporting the international ambitions of established, but growing companies, both primarily focused on the information and communication technology, new energy and medical diagnostics fields. In total, Neulogy Ventures is managing approximately 23m EUR. Limerock Fund Managers has 12m EUR available for investment into attractive businesses in need of further capital for growth, through its co-investment fund, which will invest alongside private investor syndication partners, meaning that the total funding will be in excess of 24m EUR. Limerock Fund Managers has a generalist sector approach, and has mainly target companies outside of Bratislava region with a scalable product/service, a competitive advantage and the potential to penetrate international markets. (European Investment Fund, 2014)

5. Other possibilities

Other possibilities how to obtain the necessary funding for startup are various competitions and grants. One option is to engage in an incubator or accelerator. These are not the typical or basic options of financing, thus I put them together in one simple chapter.

In Slovakia there are several startup competitions where startups can present their idea, or attract investors. An important event is the Startup Awards, which rewards excellent Slovak startups or Central European Startup Awards (CESA), Podnikateľský nápad roka, Mladý inovatívny podnikateľ. For projects with a social focus is determined Social Impact Award. Startups competition organized by private companies, such as Telekom and Tatra Banka. There is also a number of other events that promote startups, e.g. StartupWeekend.

Accelerator or incubators in Slovakia were completely unknown few years ago. Today there are several in use. Incubators and accelerators are not quite the same, the differences between them are not subject of this article. These organizations provide startups working space, mentoring, advice and counseling, and some financial resources. Financials may not be granted in this case directly, but also through various benefits. Incubators usually do not enter into startups ownership, they provide for them space for working and some help. Accelerators enter their projects financially and by shares. In Slovakia, there are some coworking spaces that also provide acceleration or incubator programs. For example ImpactHUB launched in 2015 an incubator for startups in the idea or advanced stage. theSpot (2015) operates incubator-accelerator program the Booster. University of technology operates an incubator, University Technology Incubator. RubixLab coworking space is also providing incubator. Flemio accelerator is focused on the IT sector. For slovak startups are interesting foreign acceleration program such as Wayra based by Telefonica, Telekom Innovation Contest, StarCube acceleration program of the South Moravian Innovation Centre.

Best known and quality accelerators worldwide are YCombinator, TechStars, CRV QuickStart, SeedCamp, Start-upbootcam. (Klačmer Čalopa, et al., 2014) Startups participation in accelerators or incubators is not for free for them. Usually startups must give up some share for supporting company. For example, in Techstars it is from 7% to 10% stakes. Usually startups must give up their stocks before starting program, but Techstars wants to change this game. After startup completes program, founders decide if the program

deserves their stock. Techstarts as incubating program invest approximately 118 000 USD to startup. (Primack, 2014)

6. Conclusions and policy implications

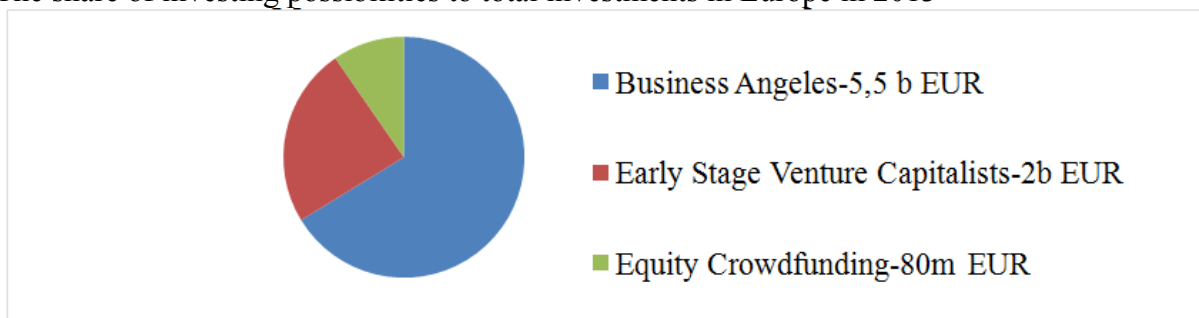
Financing startups is very complicated and complex topic. It is very challenging to present one overall classification of startup funding possibilities. Various typologies are made from different point of view through which we can look at it. Startups have different financial needs at the beginning of its development, others in the product development process and completely different in growth stage. On this basis, at what development stage the startup is in, has different needs, but also exist various possibilities how to get funding.

Based on KPMG Startup Survey (KPMG, 2014) we can say that the major of Slovak startup founders use their own savings, 74%. On the second places are business angels which use 39% of slovak startups. Money from friends and family service in 22%, venture capital occurs in 15%, bank in 4% and crowdfunding in 4% of slovak startups. 20% from KPMG Slovak startup survey sample use other than mentioned possibilities.

Based on EBAN statistics (2014), we can say that in Europe is the most popular method of financing a startup through business angels. Altogether in 2013 invested 7,5 billions EUR. Of which 73% were invested by angels, 26% by venture capitalist in early stages of development and only 1% by crowdfunding.

Figure 2

The share of investing possibilities to total investments in Europe in 2013



Source: own processing, data extracted from EBAN (2014)

According to these surveys, it appears that crowdfunding is more popular in Slovakia than in Europe overall. However, this result is distorted with the availability of other forms of financing in Slovakia and the overall small volume of invested funds. For slovak startups is preferable to use one of the foreign crowdfunding platform than slovak portals.

In the field of venture capital are the most irregularities. There are several venture capital funds in Slovakia, which are administered by either government institutions or private companies. The most famous is the JEREMIE fund, managed by Neulogy Ventures and Limerock Fund Manager. This fund is aimed at the pre-seed stage and developed projects. Venture capital is a long-term process of cooperation and startup investor. Investor may interfere with the development startup in varying degrees. Therefore startups and investors must be very careful a precise with choosing partners.

Business angels are most preferred form of acquisition finance for startups. It is the best combination of experience and money that startups need.

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Optimal placing of objects in reverse logistic followed by circular task planning

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Abstract

Reverse logistics on the basis of its environmental character is becoming a very actual topic. Regarding to the current situation of environmental pollution and littering the areas of collection and recycling of waste are very important. Mentioned themes help to increase the interest of the society not only in economic, but also in environmental goals. Therefore, the aim of the article is to design a model and thus introduce more attractive option to collect the waste and thereby increase the usage of recycling. Article points out that for optimal positioning of the collection points also an easy access of citizens to these points has to be considered, what can greatly affect their interest in recycling. The deteriorating state of the environment is greatly influenced by the traffic and transport. Because of this reason the article also focuses on finding the optimal transport route between collection points not only regarding to the costs but also in regards to the impact of transport on the environment. Article contribution should be to provide a model that takes into account the current state of environmental pollution and waste and suggests the possibility of improving the situation.

Keywords: Reverse logistic, Location task, Circular task

JEL classification: C00, C6

1. Introduction to reverse logistics

Reverse logistic is a scientific discipline focuses on the flow of used products, waste, packaging and other reusable materials. These are mainly recycling of used products, re-using and repairing claimed goods and also ecologic disposal of goods and waste (Škapa, 2005).

The main aim is to ensure their new use or material recovery in a way that is economically viable and environmentally friendly. The main tools are repairing, reprocessing or dismantling and subsequent using of some part of the goods for resale or redistribution. This area began to attract wider community of logistics experts.

1.1 Optimal placement of objects in reverse logistics

A substantial of area of collecting waste materials and "end of life" products, is focused on the return of reuse goods (redistribution to consumers, re-sale, re-distribution) or return the product back to the manufacturer because of its repair, changes in packaging, innovation (networks for remanufacturing, re-design).

Currently, the greatest emphasis is on the collection with the aim of recycling in order to use raw materials for re-production and respect for the environment (Networks for Recycling). In this article we will therefore be considered for localized objects collection points.

1.1.1 Modeling of deployment collection points - Models of Location

Deciding on the placement of collection points can use different types of mathematical programming models. In the literature, these models are known as location models. While maximizing the effect of recyclable materials is the most important availability of collection points for all citizens, whether in terms of time or distance. If the collection point is available for inhabitants, it is much more likely to make use of this option and discard waste products, parts and other reusable material for subsequent reprocessing. The problem can be solved on the basis of the following four models (Pekár et al., 2012):

- The task of locating a minimum number of collection points at the maximum distance.
- The task of finding the minimum distance at a maximum number of collection points.
- The task of the overall minimum distance at a maximum number of collection points.
- The task of maximum coverage by adjusting the number of collection points and maximum distance.

1.2 Circular tasks

After a localization of collection points, is advisable to plan a pick up route for collected materials (waste, products, etc.). For achievement this objective is necessary to visit every collection point once by vehicle and that come back to start node (which is central). Also this task will consider deteriorating state of the environment, which is influenced by the traffic and transport. Therefore, this part of article is focuses on finding the optimal transport route between collection points not only regarding to costs but also due to the impact of transport on the environment.

Optimal route for waste collection from collection points is determined by using a solution of circular task. We are looking for what sequence we must visit nodes exactly once so that the start and end are at the same nodes and total distance of traveled route is short as possible. In literature, mostly foreign authors devote to this issue and most often is referred as Traveling salesman problem.

2. Mathematical formulations

For solving of mentioned topic we will use next models: for locations problems - the task of locating a minimum number of collection points at the maximum distance, and for circular task - traveling salesman problem.

2.1 The task of locating a minimum number of collection points at the maximum distance

The model (Pekár et al., 2012) allows to locating collection points so that it complied with the required availability (time length) of all nodes and a minimum number of collection points. A goal is based on the idea of the availability of collection points for each node. We set the maximum value of the distance K of each node from that collection point.

Task is formulated as a task of bivalent programming, where we have the variables $x_j \in \{0,1\}$, $j = 1, 2, \dots, n$, n – number of nodes, where if being 0, collection center given at the node will not be open and if the value is 1, collection center has to be established at the node. Given the fact that the aim is to minimize the number of collection points, the objective function can be written as:

$$f(\mathbf{x}) = \sum_{j=1}^n x_j \rightarrow \min. \quad (1)$$

In this initial problem we want to ensure the availability of all nodes, which may be registered as structural condition:

$$\min_{j \in J} \{d_{ij} \cdot x_j\} \leq K, \quad i = 1, 2, \dots, n, \quad J = \{j | x_j = 1\}. \quad (2)$$

A number of requirements is n and each node has to satisfy the condition that the distance to the nearest collection point is the maximum K . Parameters d_{ij} are distances (time) between nodes i and j , ie. D matrix is a matrix of minimum distances between nodes. Another condition is the existence of at least one collection point

$$\sum_{j=1}^n x_j \geq 1. \quad (3)$$

Finally, said formulation must contain the domain of variables, ie. their bivalent character

$$x_j \in \{0, 1\}, \quad j = 1, 2, \dots, n. \quad (4)$$

Mathematical formulation of tasks:

$$\begin{aligned} f(\mathbf{x}) &= \sum_{j=1}^n x_j \rightarrow \min \\ \min_{j \in J} \{d_{ij} \cdot x_j\} &\leq K, \quad i = 1, 2, \dots, n, \quad J = \{j | x_j = 1\} \\ \sum_{j=1}^n x_j &\geq 1 \\ x_j &\in \{0, 1\}, \quad j = 1, 2, \dots, n \end{aligned} \quad (5)$$

where d_{ij} – the shortest distance between nodes i and j ,

K – the maximum possible distance.

The problem can be also formulated as a task of bivalent programming, in which the variables are $x_j \in \{0, 1\}$, $j = 1, 2, \dots, n$, where n is number of nodes. If the variable has a value 0, a collection point will not be located in the node, if the value has a value 1, a collection point will be located. Based on the objective of minimizing the number of collection points, objective function can be written as:

$$f(\mathbf{x}) = \sum_{j=1}^n x_j \rightarrow \min. \quad (6)$$

Criteria must ensure that each node has the condition, that distance from the nearest collection point is maximum K . Parameters d_{ij} are the values of the distances between nodes and the i and j , i.e. matrix D (with dimension $n \times n$) is matrix of minimal (time) distances between all nodes. Based on the above matrix D is possible to construct matrix A (with dimension $n \times n$), whose elements a_{ij} being 0 if the distance between the i -th and j -th node is greater than K , or 1 if the distance is less than or equal to K :

$$a_{ij} = \begin{cases} 0, & d_{ij} > K \\ 1, & d_{ij} \leq K \end{cases} \quad i, j = 1, 2, \dots, n. \quad (7)$$

The conditions should ensure the availability of the node for at least one collecting point at a maximum distance K , which may be registered structural conditions:

$$\sum_{j=1}^n a_{ij} x_j \geq 1, i = 1, 2, \dots, n. \quad (8)$$

Said formulation must contain the domain of variables, ie. their bivalent character:

$$x_j \in \{0, 1\}, \quad j = 1, 2, \dots, n. \quad (9)$$

Formulation of tasks:

$$\begin{aligned} f(\mathbf{x}) &= \sum_{j=1}^n x_j \rightarrow \min \\ \sum_{j=1}^n a_{ij} x_j &\geq 1, \quad i = 1, 2, \dots, n \\ x_j &\in \{0, 1\}, \quad j = 1, 2, \dots, n \end{aligned} \quad (10)$$

$$a_{ij} = \begin{cases} 0, & d_{ij} > K \\ 1, & d_{ij} \leq K \end{cases} \quad i, j = 1, 2, \dots, n$$

where a_{ij} – the availability of the i -th node from the j -th node to the distance to the K ,
 K – maximum possible distance.

2.2 Mathematical model for the solution of circular task

For effective modeling of the transport of the collected recyclable materials can be successfully used several types of circular task. For optimization of circular task in this article, we are using method known as Traveling salesman problem. This problem is a typical representative of circular task of operating the transport network nodes.

The basis of this task is to find the optimum distance (time-shortest, or in another sense the lowest costs) circular route in the graph $G = \{U, H\}$ which consists in linking nodes so that the start and end node is identical and every other node in the round trip included just once. Circular task may be complemented by various additional terms and take into account the real constraints of practical tasks. Role in the formulation of Traveling salesman problem is considered as one "salesman", resp. only one vehicle. It is assumed that the capacity of the vehicle is large enough to satisfy the requirements of all the nodes.

The aim is also to determine the road of vehicles, to ensure the operation of all nodes (collection points), while the total length of the circular task traveled by the vehicle is minimal. Graf is perfectly edge weighted graph in which every two different nodes are connected by an edge. Then the matrix $D = \{d_{ij}\}$ represents the shortest distance nodes.

Its components can be defined as:

$$d_{ij} = \begin{cases} d_{ij}, & \text{ak } i \neq j \\ 0, & \text{ak } i = j \end{cases} \quad (11)$$

Traveling salesman problem can be mathematically formulated in various ways, we will use well-known Trucker's formulation of this task.

$$\min f(x) = \sum_{i=1}^n \sum_{j=1}^n d_{ij} x_{ij}$$

$$\sum_{i=1}^n x_{ij} = 1, \quad j = 1, 2, \dots, n \quad i \neq j$$

$$\sum_{j=1}^n x_{ij} = 1, \quad i = 1, 2, \dots, n \quad i \neq j \tag{12}$$

$$y_i - y_j + nx_{ij} \leq n - 1, \quad i, j = 2, 3, \dots, n \quad i \neq j$$

$$x_{ij} \in \{0, 1\}, \quad i, j = 1, 2, \dots, n .$$

3. Solution of case study

Basis is to establish maximal distance of each city/town from the collection center. Input data for the calculation are: matrix of minimum distances between towns/municipalities, the maximum distance of city/town from the nearest collection point. Task can be modified based on specific requirements, such as the necessity of placing the collection point in the regional capital, which is the administrative center of the region, taking into account the location or number of inhabitants.

For solving this problem was necessary to get the matrix of time distances between nodes. We chose the area with 87 nodes where we want to optimally locate collection points (as we can see in Table 1). All data are based on real data, but the test case was generalized (cities have been replaced by numbers for generality of model).

Table 1
Time matrix of 87 nodes

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	...	85	86	87	
1	0	7,74	9,4	8,8	8,36	3,09	10,73	8,55	15,85	11,2	10,98	4,8	11,2	3,1	2,4	15,37	3,98	19,6	35,98	24,44	36,18	30,73	34,8	27,6	...	19,15	27,91	16,1	
2	7,74	0	13,73	13,13	10,36	7,45	15,09	14,55	23,59	15,53	12,98	10,8	17,2	10,84	8,54	21,37	3,76	25,6	41,98	30,44	42,18	36,73	40,8	33,6	...	21,15	29,91	18,1	
3	9,4	13,73	0	3,75	17,13	12,49	20,13	16,96	23,86	6,15	19,75	13,21	19,61	11,11	7	23,78	9,96	28,01	44,39	32,85	44,59	39,14	43,21	36,01	...	27,91	36,67	24,86	
4	8,8	13,13	3,75	0	16,53	11,89	19,53	16,36	23,26	2,4	19,15	12,61	19,01	10,51	6,4	23,18	9,36	27,41	43,79	32,25	43,99	38,54	42,61	35,41	...	27,31	36,07	24,29	
5	8,36	10,36	17,13	16,53	0	7,41	15,05	14,51	24,21	18,93	11,35	10,76	17,16	11,46	10,76	21,34	7,16	25,56	41,94	30,4	42,14	36,69	40,76	33,56	...	19,51	19,55	12,88	
6	3,09	7,45	12,49	11,89	7,41	0	7,64	9,24	18,94	14,29	10,03	5,49	11,89	6,19	5,49	16,06	4,25	20,29	36,67	25,13	36,87	31,42	35,49	28,29	...	18,2	25,96	15,15	
7	10,73	15,09	20,13	19,53	15,05	7,64	0	16,88	26,58	21,93	5,45	13,13	19,53	13,83	13,13	23,7	11,89	27,93	44,3	32,76	44,51	39,05	42,55	35,93	...	17,99	30,8	14,94	
8	8,55	14,55	16,96	16,36	14,51	9,24	16,88	0	20,25	18,76	17,13	3,75	10,15	7,5	9,96	14,32	11,33	18,55	34,93	23,39	35,13	29,68	33,75	26,55	...	25,3	34,06	22,25	
9	15,85	23,59	23,86	23,26	24,21	18,94	26,58	20,25	0	25,66	26,83	17,85	18,27	12,75	16,86	7,5	19,83	23,85	42,62	31,08	42,83	37,37	41,45	34,25	...	35	43,76	31,95	
10	11,2	15,53	6,15	2,4	18,93	14,29	21,93	18,76	25,66	0	21,55	15,01	21,41	12,91	8,8	25,58	11,76	29,81	46,19	34,65	46,39	40,94	45,01	37,81	...	29,71	38,47	26,66	
11	10,98	12,98	19,75	19,15	11,35	10,03	5,45	17,13	26,83	21,55	0	13,88	19,78	14,08	13,38	23,95	9,78	28,18	44,56	33,02	44,76	39,31	43,38	36,18	...	12,53	25,35	9,48	
12	4,8	10,8	13,21	12,61	10,76	5,49	13,13	3,75	17,85	15,01	13,38	0	6,4	5,1	6,21	10,57	7,6	14,8	31,18	19,64	31,38	25,93	30	22,8	...	21,55	30,31	18,5	
13	11,2	17,2	19,61	19,01	17,16	11,89	19,53	10,15	18,27	21,41	19,78	6,4	0	11,5	12,61	10,77	14	8,4	27,18	15,64	27,38	21,93	26	18,8	...	27,95	36,71	24,9	
14	3,1	10,84	11,11	10,51	11,46	6,19	13,83	7,5	12,75	12,91	14,08	5,1	11,5	0	4,11	15,67	7,08	19,9	36,28	24,74	36,48	31,03	35,1	27,9	...	22,25	31,01	19,2	
15	2,4	8,54	7	6,4	10,76	5,49	13,13	9,96	16,86	8,8	13,38	6,21	12,61	4,11	0	16,78	4,78	21,01	37,39	25,85	37,59	32,14	36,21	29,01	...	21,55	30,31	18,5	
16	15,37	21,37	23,78	23,18	21,34	16,06	23,7	14,32	7,5	25,58	23,95	10,57	10,77	15,67	16,78	0	18,17	16,35	35,12	23,58	35,33	29,87	33,95	26,75	...	32,12	40,88	29,07	
17	3,98	3,76	9,96	9,36	7,16	4,25	11,89	11,35	19,83	11,76	9,78	7,6	14	7,08	4,78	18,17	0	22,4	38,78	27,24	38,98	33,53	37,6	30,4	...	17,95	26,71	14,9	
18	19,6	25,6	28,01	27,41	25,56	20,29	27,93	18,55	23,85	29,81	28,18	14,8	8,4	19,9	21,01	16,35	22,4	0	30,78	19,24	30,98	25,53	29,6	22,4	...	36,35	45,11	33,5	
19	35,98	41,98	44,39	43,79	41,94	36,67	44,3	34,93	40,62	46,19	44,56	31,18	27,18	36,38	37,39	35,12	38,78	30,78	0	28,81	10,7	5,25	29,25	20,92	...	52,73	61,48	49,68	
20	24,44	30,44	32,85	32,25	30,4	25,13	32,76	23,39	31,08	34,65	33,02	19,64	15,64	24,74	25,85	23,58	27,24	19,24	26,81	0	27,02	21,56	10,36	18,44	...	41,19	49,95	38,14	
21	36,18	42,18	44,59	43,99	42,14	36,87	44,51	35,13	42,83	46,39	44,76	31,38	27,38	36,48	37,59	35,33	38,98	30,98	10,7	27,02	0	5,45	29,45	11,39	...	52,93	61,69	49,88	
22	30,73	36,73	39,14	38,54	36,69	31,42	39,05	29,68	37,37	40,94	39,31	25,93	21,93	31,03	32,14	29,87	33,53	25,53	5,25	21,56	5,45	0	24	15,67	...	47,48	56,23	44,43	
23	34,8	40,8	43,21	42,61	40,76	35,49	42,55	33,75	41,45	45,01	43,38	30	26	35,1	36,21	33,95	37,6	29,6	29,25	10,36	29,45	24	0	28,8	...	43,8	60,31	48,5	
24	27,6	33,6	36,01	35,41	33,56	28,29	35,93	26,55	34,25	37,81	36,18	22,8	18,8	27,9	29,01	26,75	30,4	22,4	20,92	18,44	11,39	15,67	28,8	0	...	44,35	53,11	41,3	
...
85	19,15	21,15	27,91	27,31	19,51	18,2	17,99	25,3	35	29,71	12,53	21,55	27,95	22,25	21,55	32,12	17,95	36,35	52,73	41,19	52,93	47,48	43,8	44,35	...	0	20,5	12,05	
86	27,91	29,91	36,67	36,07	19,55	26,96	30,8	34,06	43,76	38,47	25,35	30,31	36,71	31,01	30,31	40,88	26,71	45,11	61,48	49,95	61,69	56,23	60,31	53,11	...	20,5	0	15,86	
87	16,1	18,1	24,86	24,26	12,68	15,15	14,94	22,25	31,95	26,66	9,48	18,5	24,9	19,2	18,5	29,07	14,9	33,3	49,68	38,14	49,88	44,43	48,5	41,3	...	12,05	15,86	0	

Source: author's calculations

In the article, we will locate collection points at the maximum distance of 10 minutes. In this way we want to improve their availability for citizens and attract their use. Using collection and recycling points has positive-going impact on the environment. The aim of the model is to locate minimum number of collection points at the maximum distance.

Subsequently, from the time matrix was, based on the conditions (7), obtained matrix A (87x87). I.e. we obtain the matrix A under conditions requisite by time limit of 10 minutes. Matrix contains a value of 1 or 0, depending on whether a given condition is met or not. If the requested connection is valid, and that value is less than the value of the condition, at this places in matrix will be displayed 1. Otherwise, when the condition is false, at this place it will be displayed 0.

Based on the matrix A we can determine where we should to locate (without optimization) collection point under the conditions of distance. With this matrix we continue calculating in the GAMS system. I.e. based on the mathematical model in Chapter 2, we construct a code of optimization calculation.

Acquired matrix A we will use as a Table (i, j) to enter into the GAMS system. After compilation and run of code system offer us a optimal solution. Following the solution from system we can determine the optimal location of collection points.

In the real world we must accept the already existing collection points in search of new localization of the collection point. For the test case we will consider the nodes: 6, 8, 15, 21, 22, 26, 36, 37, 44, 50, 51, 55, 62, 64, 82. This should also be taken into account in the code in system.

3.1 Optimization of location problem by using a system GAMS

Code in system GAMS, for solving the location of the minimum number of collection points at the maximum distance created, was made based on mathematical notation.

Output from the system by which we can determine in which nodes should to be localized collection points:

```

G e n e r a l   A l g e b r a i c   M o d e l i n g   S y s t e m
E x e c u t i o n
----      137 VARIABLE x.L
6  1.000,    8  1.000,    9  1.000,    15  1.000,    21  1.000,    22  1.000
26  1.000,    29  1.000,    34  1.000,    35  1.000,    36  1.000,    37  1.000
39  1.000,    41  1.000,    43  1.000,    44  1.000,    47  1.000,    50  1.000
51  1.000,    55  1.000,    62  1.000,    64  1.000,    69  1.000,    74  1.000
82  1.000,    83  1.000

```

3.2 Optimization of circular task by using a system GAMS

After a localization of collection points, is advisable to plan a pick up route for collected materials. For achievement this objective is necessary to visit every collection point once by vehicle and that come back to start node (which is central). Now the focus is on finding the optimal transport route between collection points, what is also part of reverse logistic.

We are looking for the optimum, the shortest route between localization 26 collection points. Code in system GAMS for solving circular tasks between 26 nodes, by the Traveler salesman problem was made based on mathematical notation.

Output from the system by which we can determine circular task:

```

G e n e r a l   A l g e b r a i c   M o d e l i n g   S y s t e m
E x e c u t i o n
----      59 VARIABLE x.L
          1          2          3          4          5          6
1          1.000
2          1.000
4          1.000
5          1.000

```

13					1.000	
22	1.000					
+	7	8	9	10	11	12
3					1.000	
6						1.000
7				1.000		
9		1.000				
10			1.000			
12	1.000					
+	13	14	15	16	17	18
11		1.000				
14	1.000					
15				1.000		
17			1.000			
19					1.000	
20						1.000
+	19	20	21	22	23	24
8		1.000				
16			1.000			
18	1.000					
24					1.000	
25						1.000
26				1.000		
+	25	26				
21	1.000					
23		1.000				

Based on the matrix as a result of the output of GAMS we can determine how should look like a circular route 26 nodes: 82 – 72 – 69 – 83 – 64 – 6 – 15 – 8 – 9 – 36 – 41– 39 – 21 – 22 – 37 – 26 – 35 – 34 – 29 – 50 – 55 - 51 – 47 – 43 – 44 – 62 – 82. The minimum time of route is 338.16 minutes. In keeping with the sequence will be satisfied the conditions of optimal route. For starting of road we can choose any node, which we provide as a central, but we have to keep the sequence of nodes.

3. Conclusions

The issue of reverse logistics associated with collection points and also optimal placement of recycling/collection points is very current topic for the society. Just the accumulation of waste and used materials present dangerous to society because of negative impacts to environment. It makes increase of society interest to recycling (using collection points). Recycling of materials representing not only ecological waste management, but in many cases it can also bring economic recovery of waste. One of these processes is of course also the collection of recyclable waste.

This article is also focuses on the possibility how to more attractive collecting by using collecting points and thereby contribute to increasing the use of recycling. Article characterizes the process of optimal localization of collection points, methods of location

problem and the subsequent circular task. Specifically, the article through the using of GAMS system, solve location problem of placing a minimum number of collection points at the maximum distance and circular task of travelers salesman problem.

Based on the output of GAMS program, we determined that in requirements to collection points available within the limits, we have to add 11 new collection points to the existing collection points. The 26 collection satisfy the required conditions and they are accessible within 10 minutes from each node. By improving accessibility we expect an increase of their use. Optimal localization is followed by optimization of transport from nodes. For that task we used Traveling salesman problem. It was used to find the optimal road. Based on the results of the GAMS program we have planned optimal circular road between localized 26 nodes. This universal approach and its results are applicable in practice. It can also be used for other areas of placement optimization (service centers, sales centers, etc.), when after changing the input data we can get the desired results.

Last but not least is important also the fact, that basis of these proposed optimization methods, is possible not only minimize costs, but by waste collection has positive impact on the environment therefore meet the economic and environmental goals.

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Financial ratios as a tool for financial distress detection

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Abstract

Corporate financial distress has become a subject of the several empirical studies because of the recent worldwide economic crisis. Motivation of this research is straightforward - in-time detection of corporate financial distress. This paper deals with bankruptcy prediction in Slovakia, with a focus on the main characteristics of distressed companies. Dichotomous classification test will be employed on a sample of two groups of companies: distressed companies and healthy companies

Keywords: *financial distress, financial ratios, corporate bankruptcy, univariate analysis, dichotomous classification test*

JEL classification: *G32, G33, G34*

1. Introduction

In recent years, a discussion about financial crisis has been opened among both academics and practitioners. The most common topic of these discussions is ability of bankruptcy prediction models to timely predict growing weaknesses of a company. Tinoco and Wilson (2013) note that financial crisis that erupted in 2008, highlighted drawbacks in corporate risk managements. Bankruptcy prediction has also become very important to financial institutions. The reason was new Basel III accord adoption, emphasizing capital adequacy of financial institutions (Altman et al., 2010). The increased importance of bankruptcy prediction nowadays is reviewed in Wang et al. (2014); Laitinen and Suvas (2013); Kuumar and Ravi (2007) etc.

In the previous years, growing incidence of bankruptcy was recorded. Such a tendency is supported by increasing corporate complexity, associated with acquisitions, mergers, holdings and other connectedness. The other reason of growing incidence of bankruptcy it would be consider the so-called “contagion effect”. According to Bun and Redwood (2003), filing a bankruptcy petition of any company could lead to other companies, which rely on receiving payments from the bankrupt company, subsequently goes bankrupt.

Given the contagion effect, it is of important to develop bankruptcy prediction models. Casey and Bartczak (1985) and Dimitras et al. (1996) provide two reasons for which are bankruptcy prediction models useful: (i) bankruptcy prediction model as early warning system. Especially, such models are useful for those (managers, authorities etc.) who can take actions to prevent company’s bankruptcy; (ii) these models could help financial institutions employee in assessing and selecting the companies to extend credit.

Since, a unified theory of corporate bankruptcy has not been developed yet, the most studies are based particularly on trial and error iterative process. Following the Su and Li

(2009); Zhou et al. (2014), the common attempt of such studies is to find a uniform characteristic of bankruptcy companies and based on these characteristics, develop a predictive model.

Our objective in this paper is to empirically investigate the ability of a single financial ratio, in advance, to predict impending corporate financial distress. This approach is referred to as univariate statistical analysis. For the purposes of the present paper, dichotomous classification test will be employed in order to find whether financial ratios can distinguish between bankrupt and non-bankrupt companies.

2. Sample and data

This section describes our sample and data. Our sample consists of 2 types of companies, bankrupt and non-bankrupt. Sample comprises only companies operating in Slovakia economic environment. The company is classified as bankrupt provided that meets one of the following criteria: (i) company is allowed to initiate restructuring process; (ii) company files a bankruptcy petition; (iii) company enters liquidation. The initial sample of bankrupt companies covers the period 2013-2014, for which data of 214 bankrupt companies were gathered. In the sample, there are 118 companies that went bankrupt in 2014, and 96 that went bankrupt in 2013, included. In summary, the sample of bankrupt companies is formed by 214 companies.

In this study, each bankrupt company was paired with corresponding non-bankrupt company. To this end, paired-sample design sampling method was employed. Based on this sampling method, each bankrupt company is paired with another non-bankrupt company according to industry and asset size in that order. These criteria were also used by Beaver (1966); Altman (1968); Deakin (1972); Dambolena and Khoury (1980); Aly et al. (1992); Baldwin and Glezen (1992); Dimitras et al. (1999). The main feature of this process is that for each bankrupt company in the sample, corresponding non-bankrupt firm from the same industry and of the nearly same asset size is selected. In this case, as the proxy for the asset size, total asset sum was chosen. The process of pairing samples is as follows: (1) we look at industry type of a bankrupt company; (2) we search for non-bankrupt companies from the same industry and for the same year; (3) within that industry group, we select the non-bankrupt company whose asset size are the closest to the asset size of the selected bankrupt company; (4) this process is repeated until each bankrupt company finds its non-bankrupt company meeting mentioned criteria.

The final sample was made up of 428 companies, of which 214 are bankrupt, and identically, 214 have non-bankrupt status. A description of the final sample is given in Table 1.

Table 1
Description of the final sample

	2013	2014	Total number of companies
Bankrupt	96	118	214
Non-bankrupt	96	118	214
Total number of companies	192	236	428

Source: own processing

Data regarding bankruptcy companies' status were obtained from Commercial Journal (Obchodný vestník) and CRIBIS database. Accounting data were collected from database ORBIS of Bureau van Dijk. At the present, the database ORBIS covers over 85 million

companies. As for Slovak companies, ORBIS covers accounting data of more than 19 000 companies categorized as medium sized, large or very large companies.

To be included in the sample, company must be classified as medium or large. Small companies were deleted from initial sample, primarily due to missing data in database. In addition, sample includes only industrial companies. Any company from the financial sector is not included in the sample. The reason for no inclusion is that companies in this sector are structurally different and have specifically financial statements. Data for the bankrupt companies were taken one year prior company was classified as bankrupt. For instance, if company is allowed restructuring process in 2014, accounting data from 2013 were used. The same holds true for the year 2013. In the same way, this approach was also in non-bankrupt firms employed. In terms of industry classification, companies were classified by NACE Rev.2 classification.

3. Methodology

This section describes ratio selection and data analysis. Du Jardin (2009) conducted literature review over the last forty years and found that it has been used more than 500 various financial ratios in model developing. Moreover, author in his paper follow the most common criteria employed in ratio selection. He found that financial ratios popularity and its prediction ability was principal criterion in ratios selection in 40 % of previous studies. Therefore, this approach will also be applied in this study.

In the variable selection process, the popularity and prediction ability of financial ratios in the studies of Balcaen and Ooghe (2007); Bellovary et al.(2007); Dimitras et al. (1996); Du Jardin (2009); Keasey and Watson (2005); Laitinen et al. (2014) and Tinoco and Wilson (2013) are used. At a first stage, 25 ratios based on previous criterion were selected, of which seven ratios were dropped because of missing data in database. The final list of variables is compiled from 18 financial ratios. These ratios were divided into 4 groups, particularly profitability ratios, turnover ratios, liquidity ratios and indebtedness ratios.

3.1 Profile analysis

For each of the 19 ratios, summary descriptive statistics was computed. It includes the following measures- mean, median and standard deviation. This approach is referred to „profile analysis“, as indicated by Beaver (1966) and Ohlson (1980). Profile analysis was undertaken for both years studied, 2013 and 2014. Subsequently, two independent samples t-test (with a confidence level of 95 %) was conducted in order to find significant differences between group's means. In order to use the two independent samples t-test, assumption of equal variances between two samples must be verified. For this purpose, F test for equality of two variances was used. If two independent samples do not meet condition of equal variances, Welch's t-test was used. One another assumption is that both groups are sampled from normal distributions. Since our sample is large enough (the central limit theorem holds), this assumption is valid. The results of profile analysis and statistical tests for the year 2013 are recorded in Table 2.

Table 2
Profile analysis of financial ratios in 2013

Variable	Bankruptcy 2014		Nonbankruptcy 2014		F test (p-value)	two-sample t-test (p-value)	Welch t-test (p-value)
	mean	stdev	mean	stdev			
NI/Sales	-0.304	1.563	-0.681	4.128	0.000		0.6511
NI/Net WC	-0.078	4.170	0.851	4.937	0.000		0.9991
NI/TA	-0.399	1.067	-0.025	1.031	0.1064	0.006615	
EBIT/TA	-0.371	1.078	-0.038	1.153	0.6122	0.01671	
NI/total debt	-0.099	1.148	0.411	2.075	0.000		0.1604
sales/net WC	-5.318	69.232	2.595	61.724	0.3201	0.3862	
sales/TA	2.037	2.642	2.051	6.350	0.000		0.7277
QA/sales	1.446	7.548	2.257	7.756	0.9873	0.7834	
current A/sales	1.520	7.539	2.302	7.752	0.9766	0.8069	
WC/sales	-0.837	6.727	-0.107	4.336	0.000		0.3902
TA/sales	2.560	9.698	3.822	12.826	0.00801		0.7838
current ratio	1.411	2.812	2.692	3.597	0.000		0.0003619
acid test	1.310	2.811	2.573	3.499	0.000		0.001171
WC/TA	-0.429	3.394	0.105	0.294	0.000		0.08084
QA/TA	0.534	0.335	0.634	0.263	0.02442		0.9384
current A/TA	0.608	0.318	0.677	0.260	0.02816		0.6338
current liab./TA	1.642	5.027	0.549	0.359	0.000		0.0196
total debt/TA	1.840	5.023	3.327	8.329	0.000		0.02261

¹ Explanatory notes on single ratios are shown in footnotes
Source: own processing

In the table 2, it is evident that the highest mean differences between bankrupt and non-bankrupt groups for financial ratios in 2013 were recorded with Sales/Net working capital and current ratio. In addition to profile analysis, t-test for finding means difference between two groups is considered in Table 2. The null hypothesis states that there is no difference between two sample means. In hypothesis testing, *p*-value approach was used. Based on this approach, if the *p*-value is less than or equal to α (significance level=0.05), then the null hypothesis is rejected. Otherwise, we cannot reject null hypothesis. For those financial ratios, which bankrupt and non-bankrupt group have equal variances (based on F-test for equality of two variances), two independent sample t-test was employed. In other cases, Welch's t-test was employed.

The *p*-values for t-test indicate that six following ratios are statistically significant at the 0.05 significance level: (i) Net income/Total assets; (ii) EBIT/Total assets; (iii) Current ratio; (iv) Acid test ratio; (v) Current liabilities/Total assets; (vi) Total debt/Total assets. In other words, ratios mentioned above exhibit largest mean differences between bankrupt and non-bankrupt class of companies. Results show that both financial ratios from the indebtedness ratios group (Current liabilities/Total assets; Total debt/Total assets) are statistic significant. It can be argued that just these ones single ratios have ability to distinguish between bankrupt

¹ NI- Net income; WC- working capital; TA- Total assets; EBIT- Earnings before Interest and Taxes; QA- Quick assets; A- assets; B- bankrupt; stdev-standard deviation;

and nonbankrupt companies one year prior bankruptcy. It is of particular interest, any of turnover financial ratios cannot distinguish between bankrupt and non-bankrupt companies.

Profile analysis of bankrupt and non-bankrupt companies in the year 2012 are recorded in Table 3.

Table 3
Profile analysis of financial ratios in 2012

Variable	Bankruptcy 2013		Nonbankruptcy 2013		F test (p-value)	two-sample t-test (p-value)	Welch t-test (p-value)
	mean	stdev	mean	stdev			
NI/Sales	-0.586	2.048	0.038	0.423	0.000		0.4892
NI/Net WC	0.798	1.803	0.008	0.992	0.000		0.06568
NI/TA	-0.815	2.681	-0.179	0.711	0.000		0.02339
EBIT/TA	-0.809	2.682	-0.168	0.719	0.000		0.02246
NI/total debt	-0.191	0.241	-0.116	4.373	0.000		0.2036
sales/net WC	-8.491	31.526	-1.672	26.251	0.5345	0.327	
sales/TA	1.944	3.119	2.530	4.024	0.6048	0.7807	
QA/sales	0.694	1.406	2.381	14.545	0.000		0.3148
current A/sales	1.001	1.904	2.457	14.535	0.000		0.3207
WC/sales	-0.265	1.487	0.565	3.546	0.000		0.6822
TA/sales	2.850	9.257	5.348	9.257	0.000		0.3138
current ratio	1.378	4.681	2.010	2.473	0.000		0.4404
acid test	1.196	4.693	1.666	2.253	0.000		0.4234
WC/TA	-0.455	1.545	0.067	0.629	0.000		0.1418
QA/TA	0.454	0.347	0.535	0.299	0.3133	0.8524	
current A/TA	0.608	0.323	0.633	0.285	0.5216	0.7406	
current liab./TA	1.658	2.832	1.196	2.674	0.000		0.1033
total debt/TA	1.946	3.006	1.477	3.304	0.000		0.1088

Source:own processing

Considering companies filed for bankruptcy in the year 2013 (data are retrieved one year prior bankruptcy, 2012), *p*-value of F test indicates that, in the case of four ratios (Sales/Net working capital, Sales/Total assets, Quick assets/Total Assets, Current assets/Total assets), we cannot reject the null hypothesis about equality of two variances. All the other ratios have significantly different variances in the class of bankrupt and nonbankrupt companies. While in the year of 2013, mean differences of six ratios based on t-test were statistically significant, in the year 2012, just two ratios (Net income/Total assets, EBIT/Total assets) have significant mean differences between bankrupt and nonbankrupt companies. Both ratios stem from the group of profitability ratios.

3.2 Dichotomous classification test

Referring to Beaver (1966), the dichotomous classification test predicts the failure status of a firm, based solely upon knowledge of the financial ratios. This test overcome profile analysis weakness regarding to prediction inability. According to Haber (2011), the dichotomous classification test has been the standard model for use in evaluating bankruptcy prediction models. It is worthwhile to mention some other studies utilizing dichotomous

classification test, e.g. Platt and Platt (1990); Grice and Ingram (2001); Ricci (2003); Dugan and Zavgren (1988); Casey and Bartczak (1985) and many others.

Unlike profile analysis, the dichotomous classification test is predictive tool for bankruptcy prediction. The idea behind dichotomous classification test is to establish prediction classifying the company as bankrupt or nonbankrupt. The nature of this test results from finding an optimal cut-off point. This is the point that minimizes the percent of incorrect predictions.

The process of finding an optimal cut-off point is of trial and error character. Procedure of this process is as follows: (1) single values of financial ratio for bankrupt companies are arrayed; (2) for the selected values of cut-off point, it is assessed how many values of given ratio are below and above selected cut-off point; (3) the same process is repeated for bankrupt companies; (4) for bankruptcy (non-bankruptcy) companies, Type I error (Type II error) is computed; (5) single Type I and Type II errors are added up; (6) Cut-off point, for which sum of Type I and Type II error is the smallest, is optimal cut-off point.

In this context, comparing cut-off point to companies' ratio, it is possible classify company as bankrupt or nonbankrupt. If a value of ratio is below (in the case of indebtedness ratios above) the cut-off point, the company is classified as bankrupt. On the other hand, if a value of ratio is above the cut-off point, the company is classified as nonbankrupt. As far as each company is classified, the predictions are compared with the actual bankruptcy (non-bankruptcy) status. This approach is repeated for each ratio.

One way of interpreting Type I and II errors is contingency table breakdown. Table 4 shows values in contingency table concerning the ratio Net Income/Total Assets in 2013 (company bankrupt in 2014).²

Table 4

Contingency table of Net Income/Total assets ratio in 2013

Predicted outcome	Actual outcome		
	Bankrupt	Non-bankrupt	Total
Bankrupt	76	55	131
Non-bankrupt	42	63	105
total	118	118	236

Source:own processing

As for ratio Net income/Total assets ratio, in the year 2013, the total number of bankrupt companies was 118, of which dichotomous classification test (using optimal cut-off point) correctly classified 76 of them and 42 companies were not correctly classified. The total number of nonbankrupt companies was also 118 (paired-sample design), of which 63 companies were correctly classified and 55 were not.

The Type I error is the ratio of number of companies actually bankrupt, but predicted as non-bankrupt to total number of bankrupt companies. In this case, the Type I error is $42/118=0.356$ (or 35.6 %). The Type II error is the ratio of number of companies that was classified as bankrupt even though they do not bankrupt to total of nonbankrupt companies. In case of Net income/Total assets ratio, the Type II error is $55/118=0,466$ (or 46.6). Total percentage of misclassifying firms was $(42+55)/236=41.1$ %. This indicator can be considered to be principal output of dichotomous classification test. The smaller the percentage is, the stronger predictive ability ratio is. As a result, such ratio has better performance in

² Values of all other ratios are available upon request

distinguishing between bankrupt and non-bankrupt companies. Percentage of companies misclassified along with corresponding optimal cut-off points are presented in Table 5.

Table 5
Percentage of misclassified companies in single years

Variable	cut-off score 2014	% of misclassifying firms 2014	cut-off score 2013	% of misclassifying firms 2013
NI/Sales	-0.1	33.90%	-0.05	30.73%
NI/Net WC	-0.5	47.46%	-0.4	46.88%
NI/TA	-0.05	35.59%	-0.04	29.17%
EBIT/TA	-0.08	34.32%	-0.04	28.65%
NI/total debt	0.06	20.34%	0.08	15.10%
sales/net WC	-0.2	34.75%	0	35.42%
sales/TA	0.8	44.49%	0.2	46.35%
QA/sales	0.5	45.76%	0.18	45.31%
current A/sales	0.55	44.07%	0.25	46.88%
WC/sales	0.05	37.71%	-0.03	34.38%
TA/sales	0.5	46.61%	0.2	45.83%
current ratio	1.4	33.47%	1.3	33.33%
acid test	0.7	36.86%	0.9	33.85%
WC/TA	0.07	35.17%	-0.02	34.90%
QA/TA	0.35	43.22%	-0.36	46.88%
current A/TA	0.3	44.49%	0.3	47.92%
current liab./TA	0.7	33.47%	0.65	28.13%
total debt/TA	0	50.00%	0.65	29.69%

Source: own processing

Table 5 clearly demonstrates that the best predictive ability in both years measured by percentage of misclassifying companies has the ratio Net income /Total debt at the level of 20.34 %. On the contrary, the worst predictive ability was demonstrated by Net income/Net working capital ratio (47.46 %) in 2013 and Current assets/Total assets (47.91 %) in 2012. Such a percentage error is very similar to prediction ability of random prediction model. The predictive ability of all other ratios in the year 2013 ranges between 30-47 % and 28-48 % in 2012.

4. Concluding remarks

In this study, the goal is to empirically investigate the ability of single financial ratios, in advance, to predict impending corporate financial distress. The prediction ability was examined by the dichotomous classification, attempting to predict financial situation of company based upon financial ratios. Just before the dichotomous classification test, descriptive statistics of financial ratios was computed. In this sense, two independent t-test was conducted in order to find the mean differences of financial ratios in the group of bankrupt and non-bankrupt companies.

Results of t-test indicate that based on financial ratios in the year 2013, six ratios recorded statistically significant mean differences between bankrupt and non-bankrupt companies. It includes Net income/Total assets, EBIT/Total assets, Current ratio, Acid test ratio, Current

liabilities/Total assets, Total debt/Total assets. For all other examined ratios, values are not statistically significant. Further, for companies that went bankrupt in 2013 (data are collected for 2012 year), only two ratios (Net income/Total assets, EBIT/Total assets) had statistically significant mean differences. Furthermore, any ratio from the turnover group is not statistically significant. Findings indicate that two ratios mentioned above demonstrate statistically significant different means between bankrupt and nonbankrupt companies.

Empirical evidence based on dichotomous classification test indicates that just one ratio has predictive ability of classify company as bankrupt or nonbankrupt. It includes ratio Net income/Total debt characterized by the smallest percentage (20.34 % and 15.10 % respectively) of misclassified companies in both years. Percentage error of misclassified companies for other ratios range between 28-50 %. In all, results are inconclusive due to high percentage error in terms of dichotomous classification test that approaches to random prediction model outcomes. Inferences drawn from this study show that univariate analysis is not useful tool in bankruptcy prediction regarding Slovak economic environment. Our effort in future research will be focused on multivariate statistical analysis like discrimination analysis or logistic regression.

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Modeling of Stock Returns with Analysis of Seasonality and Trading Volume Effects

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Abstract

The aim of article is to find the most appropriate model of class GARCH and EGARCH by using economic software. Model of "Stock Returns" volatility identifies the most possible volatility development of selected time series of logarithmic returns of company IBM. The main target is analyzing of the impact of seasonality and the impact of the traded quantity. In verifying seasonality of model we use artificial variables (working days of week) for defining of the impact of each working day for development of logarithmic returns of share prices. Results of the model analysis are forecasts of the chosen models in next day.

Keywords: Logarithmic returns, Seasonality, Traded quantity

JEL classification: C53, G12

1. Introduction

Nowadays the Stock market is barometer of the Economy, as the performance of securities and commodities react very quickly to the different economic changes. Important components of the Stock market are tradable shares. The basic task of this effective tool for monitoring the financial markets is the truest representation of current events in the Stock market through a single value – price of the company's share. Increase or decrease the value of the returns will be explained by increasing or decreasing of the shares. Based on this information, which is updated during the trading hours in the real time, we can decide on the suitability of investments.

Most investment plans is possible to solve by using of mathematical and statistical methods. These methods consist of the validation of acquired data base, verifying of model and forecast for the future. This article analyzes models of GARCH and EGARCH, have known especially since the 80s of the 20th century. Models are applied to returns of chosen shares in logarithmic form and examine the seasonal effect of working days and the impact of the traded quantity of shares for the development of returns on the Stock market.

1.1 Used models

Time series is chronological sequence in time, space and materially, which comparative the dependent variable of any random variable. For analyzing of time series we use decomposition of the time series for the individual components – trend, cyclic, seasonal and random components.

1.1.1 Models of volatility

The model of volatility is characterized by conditional variance, which is a linear function of the squares of residuals. These models suggested Engle in 1982.

ARCH(q) characterizes autoregressive conditional heteroskedastic models whose long-term unconditional variance is constant, but there are periods when is variance relatively high. ARCH model is general type of GARCH model, when unconditional variance is

$$h_t = \alpha_0 + \alpha_1 u_{t-1}^2 + \alpha_2 u_{t-2}^2 + \dots + \alpha_q u_{t-q}^2$$

where $u_t = v_t \sqrt{h_t}$. v_t is independent, equally distributed random variable with zero mean and unit variance. u_t is the time series with variance $\sigma^2 \alpha_0 > 0, \alpha_i \geq 0$ where $i=1\dots q$ and with autoregressive conditional heteroskedasticity.

GARCH(p,q) model is an extension of ARCH models of delayed conditional variance what was explained by Bollerslev. Model is called as a model with generalized autoregressive conditional heteroskedasticity and the conditional variance is a linear function of squares residuals of model and delayed conditional variance, which is expressed as

$$h_t = \alpha_0 + \sum_{i=1}^q \alpha_i u_{t-i}^2 + \sum_{i=1}^p \delta_i h_{t-i}$$

where $\alpha_1 + \delta_1$ is the inertia of random shocks. The time series $u_t = v_t \sqrt{h_t}$ is called as the time series with generalized autoregressive conditional heteroskedasticity GARCH.

ARCH and GARCH are linear models are used in financial time series for ability to model clustering of volatility, where may be failures. Similarly disadvantage is the ability to capture only the impact of failure's size and inability to capture the impact on the decrease or increase of volatility (when bad news causes a increasing of volatility and good news a decreasing. For removing was implemented a new model called as EGARCH model.

EGARCH(p,q,r) is nonlinear model of ARCH class. The exponential GARCH was explained by Nelson in 1991, where were highlighted many shortcomings of GARCH. The main shortcoming of GARCH was inability to work with asymmetrical distribution of financial returns - Leverage Effect. The logarithmic shape of the nonlinear model may be represented as

$$\ln(h_t) = \omega + \sum_{i=1}^q \alpha_i \frac{|\varepsilon_{t-i}|}{\sqrt{h_{t-i}}} + \sum_{j=1}^p \beta_j \ln(h_{t-j}) + \sum_{k=1}^r \gamma_k \frac{\varepsilon_{t-k}}{\sqrt{h_{t-k}}}$$

This model is symmetric, positive and negative random component of previous period will affect the volatility equally. The model shows differences, where volatility may react asymmetrically to the good and bad news.

1.1.2 Volatility and the impact of seasonality

Seasonality is the regular repetition of the events at the same intervals and its proper understanding enables the early identification of nonstandard changes not defined by seasonality. These non-standard changes are good to know, because it could affect the future development. In the equation of the conditional mean value will include artificial variables corresponding to the seasonal affects. In this article, artificial variables are working days. In equation of conditional variance are involved artificially variables.

1.1.3 Volatility and the impact of the traded quantity

The volatility of stock prices may be highly depended on traded quantity. The traded quantity strongly correlates with all the volatility measurements. It is extremely difficult to determine the causality in this relationship, but the impact of traded quantity on basic price of shares causing volatility. Also, volatility induces needs of trade for investors. The Access of Lamourex and Lastrapes in 1990 wrote that the inclusion of traded quantity in the equation of conditional variance should results a reduction of inertia conditional variance.

1.2 Data of time series

Under research of article is the development of Stock Returns of company International Business Machines - IBM. Company is a major employer in an international environment and a traditional supplier of information systems and hardware about in 130 countries, where has built own development and administrative centers, test laboratories and factories. It was founded in 1911 in the United States of America.

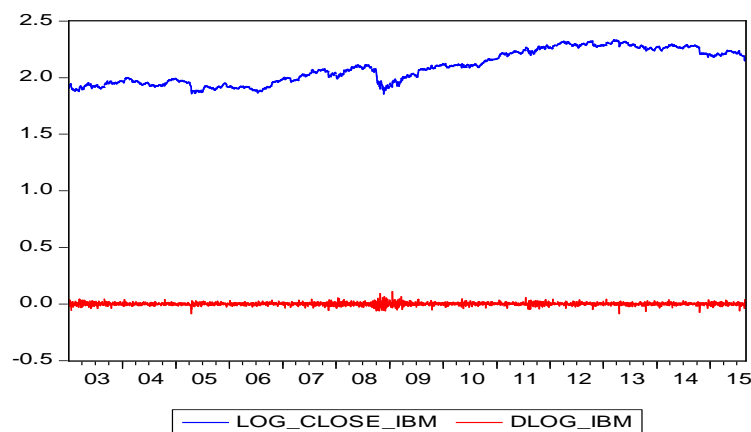
Data were obtained from an Internet portal www.yahoo.finance.com. The database consists of daily closing prices of shares and amount of daily traded quantity. In both time series was created logarithm time series and consequently in daily closing prices of shares were counted their differences – the daily logarithmic returns of IBM shares.

Logarithmic returns of IBM shares are analyzed for GARCH and EGARCH models and consequently with impact of the seasonality by introducing artificial variables – working days. In the last part are time series of returns of IBM shares analyzed by the impact of the logarithmic values of traded quantity.

Historic database of IBM shares has possible downloaded since 1962, but there were more rapid changes in 1980 and 1995. The flatter course has been since 2003, so for analyzing and finding of the best GARCH and EGARCH model was used sample of data since 01/01/2003 till 8/31/2015. The chosen sample of data consists from 3188 data.

Figure 1.1

Time evolution of logarithm prices and logarithm returns of IBM shares



Source: The own output of the Eviews

The course of logarithmic prices of IBM shares and their logarithmic returns is visualized in Figure 2.1, where is possible to state mostly steady running of data up to 2008. In 2008 the price of shares fell to the lowest historical bottom by crisis shocks. The price maintained this minimum until early 2009 and then was price increasing to the highest level in 2012. Since 2012 prices had been the steady courses again without significant changes of prices till 2014.

This unprecedented rise was mainly in investor concerns, which have stopped to believe in the real estate market and decided to save money in more liquid funds with possibility of selling. Since the beginning of 2014, the share prices have started to fall slightly again and this falling has lasted until today.

2. Verifying and forecasting of GARCH and EGARCH models

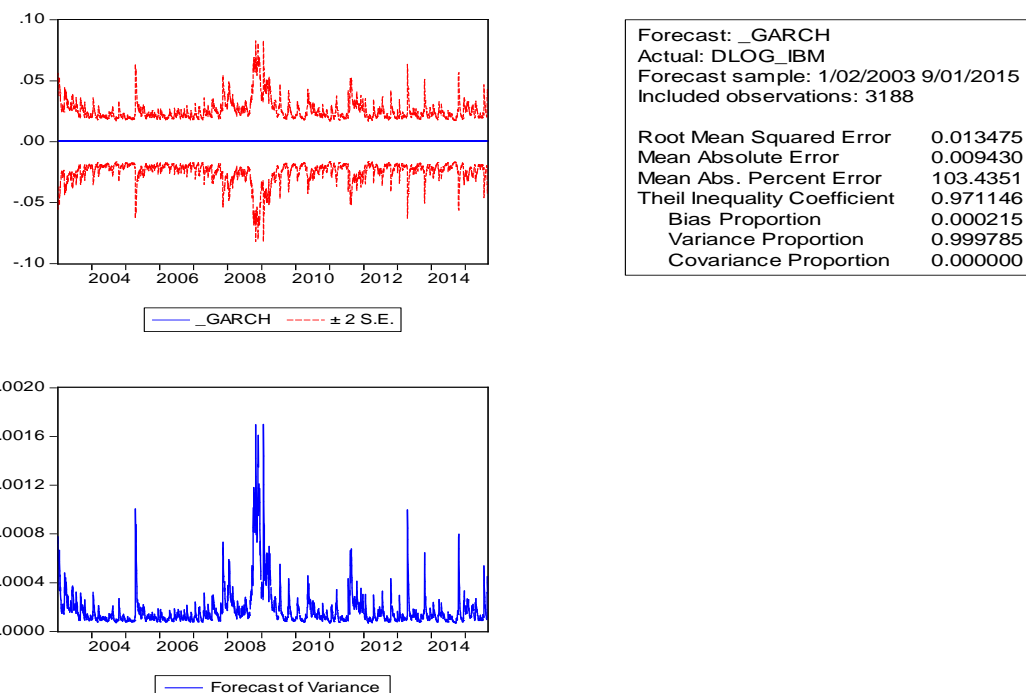
The aim of article is a verification of ARCH and GARCH models, forecasting and forecast's comparison of models for next day 01.09.2015.

GARCH(1,1) model has significant parameters in significance level 0,05 and whole model is significant. Sum of ratios $\alpha_1 + \delta_1$ is less than 1, therefore is evaluation of the covariance stationarity. The average value of the logarithmic returns of IBM shares was 0,0004. In the equation of conditional variance, the mean variance is 0,0000105 and this value rises in average by the influence of $\text{RESID}(-1)^2$ by 0,11709 and by the influence of GARCH(-1) by 0,82444. The GARCH model is without autocorrelation, was verified on the basis of p-values of Ljung-Box Q statistics, which were higher than the significance level of 0,05. Residual heteroskedasticity is not in the model, but the distribution of logarithmic returns of IBM shares is not normal. Value of Jarque-Bar test of normality is 3096,412 what is a very high value of test. In financial time series is often violated assumption of normal distribution, so model is considered suitable based on the assumption of quasi maximum likelihood method.

As the model is suitable, the followed procedure is forecast of GARCH model for the next day – 01.09.2015. The forecast for the next day is average value 0,0004. This logarithmic value is predicted for all days. The forecast is documented in Figure 2.2.

Figure 2.1

Graphical forecast of logarithmic returns of IBM shares for GARCH(1,1)



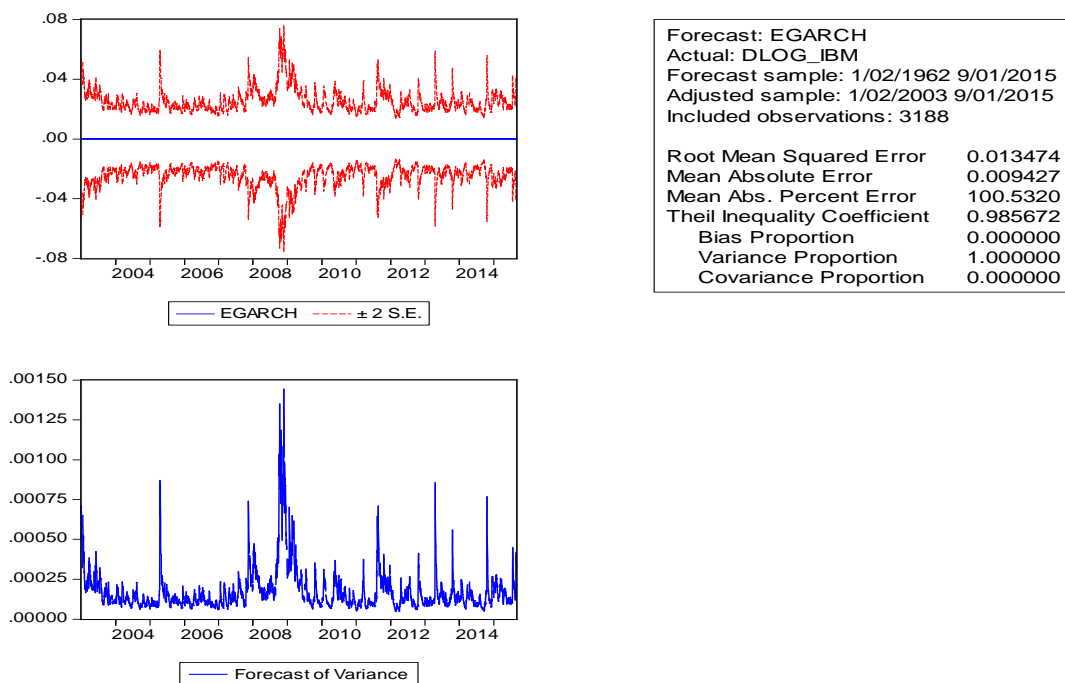
Source: The own output of the Eviews

Typical for financial time series is a leveraging effect. From this reason is verified EGARCH(1,1,1) model as well. EGARCH model is significant at the significance level 0,05 and all parameters are relevant. The average yield of logarithmic values of IBM shares is 0,000194. In the equation of conditional variance, the mean variance value is -0,594106, by first explanatory variable C(3) increase by 0,201287, by the impact of C(4) decreases by 0,066329 and by impact of the last explanatory variable C(5) increases by 0,949611. Model is without of autocorrelation, heteroskedasticity and also without normal distribution of logarithmic returns of IBM shares.

The followed procedure is forecast of logarithmic returns of IBM shares for EGARCH model for the next day – 01.09.2015. The forecast for the next day is average value 0,000194. This logarithmic value is predicted for all days. The forecast is documented in the figure 2.3.

Figure 2.2

Graphical forecast of logarithmic returns of IBM shares for EGARCH(1,1,1)



Source: The own output of the Eviews

Better explanatory power has the forecast of next day created by EGARCH(1,1,1) model, because of lower values of the basic errors of forecasts. Forecast errors of EGARCH(1,1,1) have lower deviations against forecast errors of GARCH(1,1).

2.1 Verifying and forecasting of GARCH and EGARCH models with the impact of seasonality

For verifying of the seasonality was used the impact of working days (Monday, Tuesday, Wednesday, Thursday and Friday).

By using of a short program in EViews, were counted models of seasonality with a using a different count of artificial variables. This program created more model's combination of artificial variables from 1 till 4.

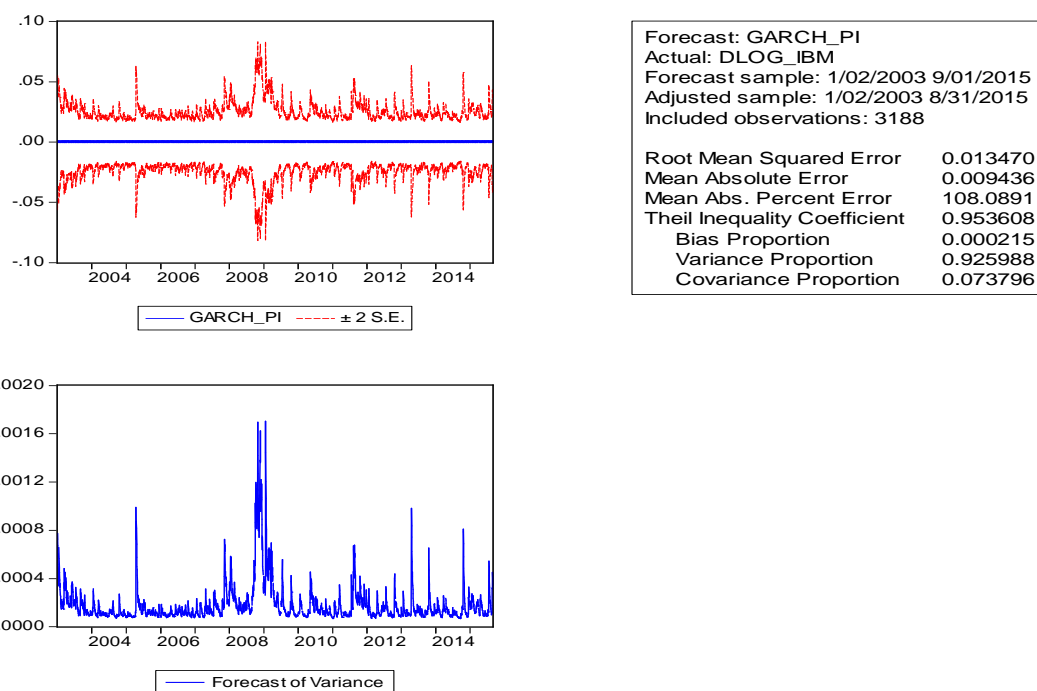
The most suitable model GARCH(1,1) in significance level 0,05 was founded by using of artificial variable - Friday. This model is significant with significant relevant parameters. The

average logarithmic return of IBM shares is 0,000656 and every Friday this value decreases around by 0,00128. In conditional variance equation, the mean of variance is 0,0000103 and this value is risen by impact of $\text{RESID}(-1)^2$ by 0,117623 and by impact of GARCH(-1) by 0,824592. The model with seasonal effects is without of autocorrelation, heteroskedasticity and also without normal distribution of logarithmic revenues of IBM shares.

The forecast of GARCH model with artificial variable Friday was set for the next day 01.09.2015(Tuesday) in average logarithmic return of IBM shares 0,000656. In Friday the logarithmic returns of IBM shares decrease by -0,000623. The forecast is in below figure 2.4.

Figure 2.3

Graphical forecast of logarithmic returns of IBM shares for GARCH(1,1) with the impact of seasonality



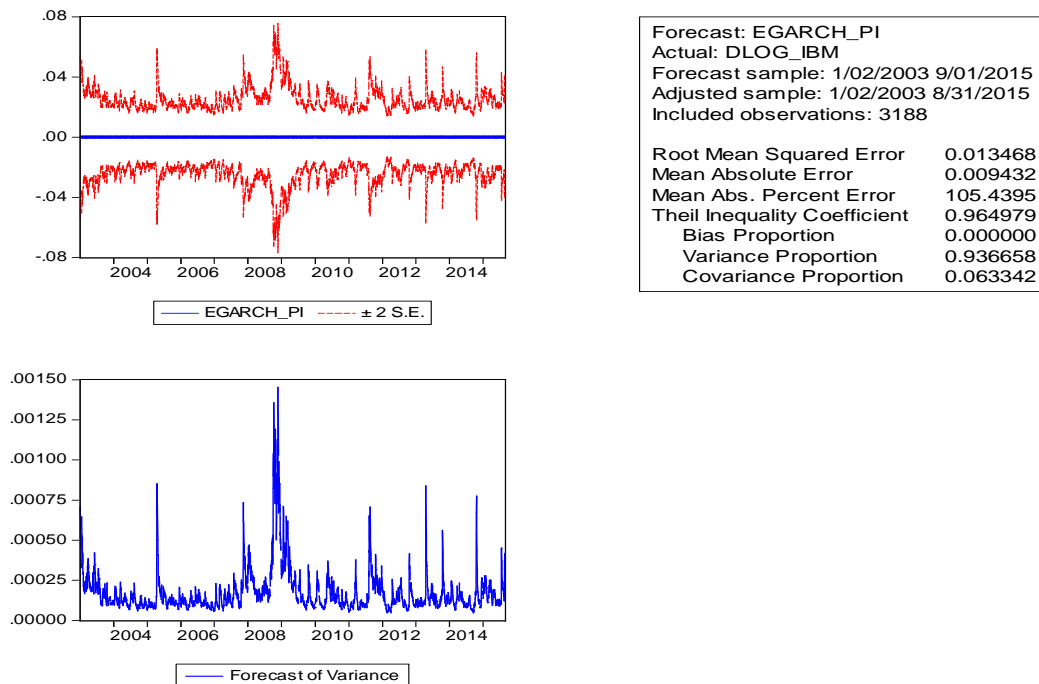
Source: The own output of the Eviews

The most suitable model EGARCH(1,1,1) in significance level 0,05 was founded by using of Friday artificial variable as well. The average logarithmic return of IBM shares is 0,000417 and every Friday this value decreases around by 0,001098. In conditional variance equation, the mean of variance is -0,586131, which rises by impact of C(4) by 0,202005, by impact of C(5) decreases by 0,065366 and by impact of C(6) rises by 0,950613. EGARCH(1,1,1) model with seasonal effects is without of autocorrelation, heteroskedasticity and also without normal distribution of logarithmic returns of IBM shares.

The forecast of EGARCH model with artificial variable Friday was set for the next day 01.09.2015(Tuesday) in average logarithmic return of IBM shares 0,000417. Every Friday the logarithmic returns of IBM shares decrease by -0,000681. The forecast is in below Figure 2.5

Figure 2.4

Graphical forecast of logarithmic returns of IBM shares for EGARCH(1,1) with the impact of seasonality



Source: The own output of the Eviews

Both models of impact of seasonality are significant, but better explanatory power for forecast for next day 01.09. 2015 is generated by EGARCH(1,1) because of less level of basic forecast errors.

2.2 Verifying and forecasting of GARCH and EGARCH models with the impact of traded quantity

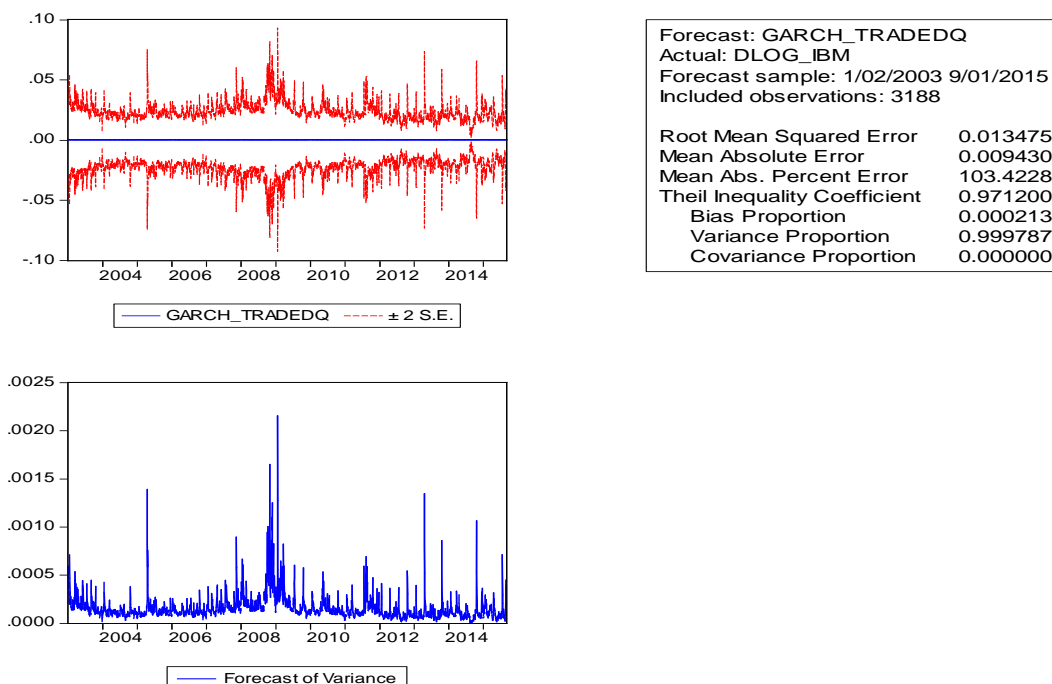
Similarly as analyze of GARCH and EGARCH models by the impact of seasonality was examining the impact of the traded quantity for logarithmic returns of IBM shares. For testing was added time series of logarithmic values of traded quantity of IBM shares in the equation of conditional variance.

Firstly is tested GARCH(1,1) model of logarithmic returns of IBM shares with the impact of traded quantity. Model is significant with every significant relevant parameter in level of significance 0,05. The average logarithmic return of IBM shares is 0,0004, In conditional variance equation, the mean of variances is -0,000633, which rises by impact of $RESID(-1)^2$ by 0,156701 and by impact of GARCH(-1) by 0,542297 and by logarithmic values of traded quantity by 0,0000435. The model with impact of traded quantity is without of autocorrelation, heteroskedasticity and again without normal distribution of logarithmic returns of IBM shares. The traded quantity has only a minor impact for an explanation of logarithmic yields of IBM shares.

The forecast value of GARCH(1,1) model with impact of traded quantity for next day 01.09.2015 was set at 0,0004. This value is assumed for all days. The results are documented in Figure 2.6.

Figure 2.5

Graphical forecast of logarithmic returns of IBM shares for GARCH(1,1) with the impact of traded quantity



Source: The own output of the Eviews

After verification of GARCH(1,1) model was verified EGARCH(1,1,1) model with the impact of traded quantity. Model is significant in significance level 0,05, but in conditional variance equation s is not significant parameter $C(4)$, so in further will not EGARCH(1,1,1) model tested for assumptions of model and used for the forecast.

3. Conclusions and policy implications

Values for comparison of GARCH(1,1), GARCH(1,1) models with the influence of seasonality and GARCH(1,1) with the influence of traded quantity are $RESID(-1)^2$ and $GARCH(-1)$. For adequately comparison of GARCH models we created values in Table 3.1. As the sum of these values is in the model with the influence of seasonality is bigger than in the model without seasonality, conclusion of comparison is a small affect of seasonality for explanation of GARCH(1,1) model. As the sum of these values is less in model with influence of the traded quantity than in model without traded quantity, the conclusion of comparison is the real affect by traded quantity for explanation of the returns volatility.

Table 3.1

Comparison of parameters GARCH models: GARCH(1,1), GARCH(1,1) with the impact of seasonality and GARCH(1,1) with the impact of traded quantity

IBM	GARCH	GARCH seasonality	GARCH traded volume
$RESID(-1)^2$	0,11709	0,117623	0,156701
$GARCH(-1)$	0,82444	0,824592	0,542297
Logarithm of traded quantity			0,0000435
Sum	0,94153	0,942215	0,6990415

Source: The own output of the Excel

Values for comparison of EGARCH(1,1,1) models: EGARCH(1,1,1), EGARCH(1,1,1) with the influence of seasonality and EGARCH(1,1,1) with the influence of traded quantity are C(3), C(4), C(5), C(6). For adequately comparison of EGARCH models we created Table 3.2 with these values. As the sum of these values is in model with the influence of seasonality bigger than in model without seasonality, conclusion of comparison is a small affect by seasonality for explanation of EGARCH(1,1,1) model. Model with the impact of traded quantity we do not compare because of no significant relevant parameters.

Table 3.2

Comparison of parameters EGARCH models: EGARCH(1,1,1), EGARCH(1,1,1) with the impact of seasonality and EGARCH(1,1,1) with the impact of traded quantity

IBM	EGARCH	EGARCH seasonality	EGARCH traded volume
C(3)	0,201287		-
C(4)	-0,066329	0,202005	-
C(5)	0,949611	-0,065366	-
C(6)		0,950613	-
Sum	1,084569	1,087252	-

Source: The own output of the Excel

For relevant comparison of every forecast, real logarithmic value of IBM return for 01.09.2015 is -0,01558 (according of data from the Internet portal www.yahoo.finance.com).

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Big data and analytics

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Abstract

In this paper authors discuss phenomenon of “Big data” regarding the analytics. They pose a question why do we need them and why we’ve been without them before.

In Big data discovery and analytics both statistical and machine leaning approaches have similar goals but use different steps and techniques. Authors tries to compare these approaches and also introduce and briefly review analytical tools around the big data framework.

Keywords: *big data, fastdata, machine learning, statistics, analytics, data growth, data sources, IoT, internet of things*

JEL classification: *C31, C38, M31*

1. Introduction

“It’s about revealing insights in literally every field imaginable.”¹

Big data phenomenon began to arise together with social network companies’ growth. They faced problems how-to store, analyze and monetize tons of data their subscribers have created. Also other businesses have had possibilities to get interesting data. But they stumbled with traditional approaches. Traditional RDBMS² or transactional systems could do the same job, but in non-real-life acceptable terms: huge costs of the system environments and exponentially increase of time needed. With no surprise these traditional approaches “stopped” any new insights driven analyses when facing big data has been a must.

Regarding the ’14 Domsphere³ infographics we could appoint few interesting figures what could happen in 60 seconds:

- Facebook users share nearly 2.5 million pieces of content.
- Twitter users tweet nearly 300,000 times.
- Instagram users post nearly 220,000 new photos.
- YouTube users upload 72 hours of new video content.
- Apple users download nearly 50,000 apps.
- Email users send over 200 million messages.
- Amazon generates over \$80,000 in online sales.

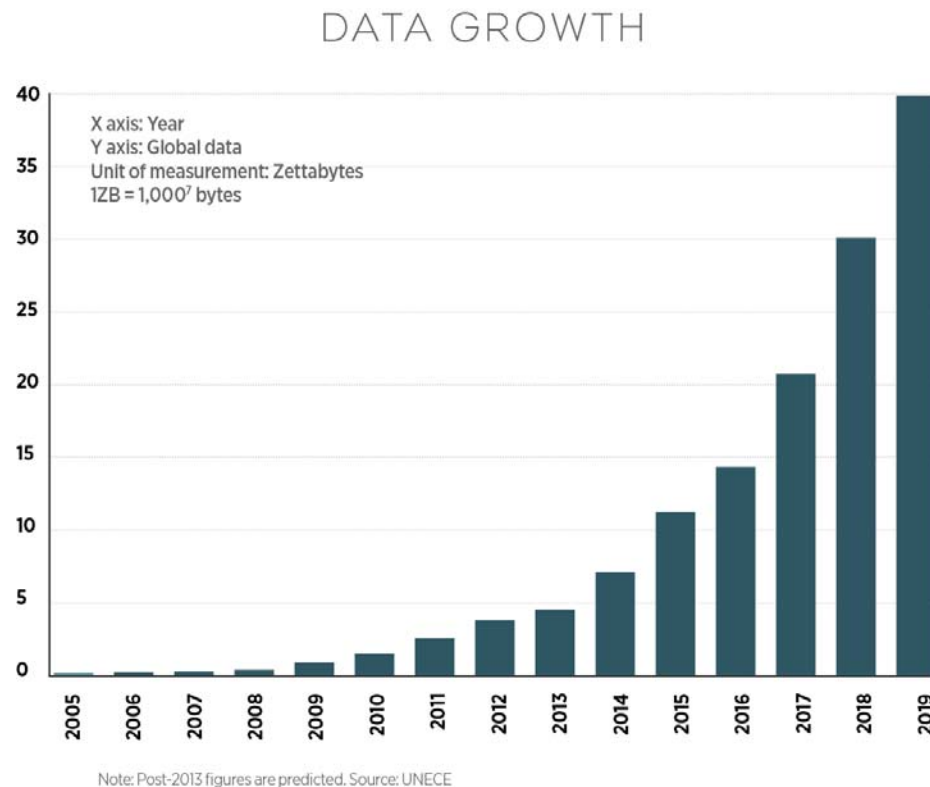
¹ Source: Big data universe beginning to explode, <http://www.csc.com>

² Relational data base management systems

³ Source: Domsphere infographics <https://www.domo.com/blog/2014/04/data-never-sleeps-2-0/>

With this rapid data growth, we need new capabilities how to handle and analyze data. Now only 0.5% of digital data are ever analyzed⁴. That is a huge potential for further data analysis development and new insights discovery. And as we could see on figure 1, data will grow very fast in upcoming years.

Figure 1
Data growth forecast



Source: <https://www.theneweconomy.com> , UNECE

2. Data sources, “nowadays” definition and business parallels

Nowadays we could define a “big data” through these attributes (Hilbert, 2015):

- **Volume**, the quantity/size of data is “big”, but it could determine also the data value, and change of size itself – regarding the data and other circumstances,
- **Variety**, “50 shades of gray” in content and its context, to know effectively data and use the data in right way,
- **Velocity**, the time at which data are gathered, processed and analyzed on demand,
- **Variability**, data change in time because of many reasons, also handling and managing process should be effective,
- **Veracity**, data quality could vary, we have to take into the account when we analyze it,

⁴ Source: IDC Research

- **Complexity**, by means of data management and data lifecycle within large data volume when we try to crunch the business value from it.

With aim to gather valuable information from data we could define “big data analytics” as “steps, procedures and algorithms to extract the information from data”⁵ to make a better decision, to uncover hidden patterns and correlations. We need also add additional dimension of data analytics because of data volume and complexity where standard analytical tools are not able to handle such huge data volume and moreover to analyze it. That is why we need new approaches and tools.

On the other hand, we still could bear in mind, that 80:20 rule, so 80% of our discoveries will probably be done with 20% of our data.

And now, when we’re ready to explain what the big data are, we could focus more on where we could get these data.

We’re surrounded by many interesting data sources. For example, our mobile phone or smartphone is probably one of the biggest personal data bearer. But with year to year cheapest computer storage and other hardware we have possibilities to gather more new data. IoT, or Internet of Things is one of the best example:

“IDC predicts by the end of year 2020, the IoT will encompass 212 billion of things.”⁶

Much more or less complicated machines could be very chatty. This will bring us new and extremely huge data in volume which we’d like to transform into the information.

Besides IoT, other fast growing data sources we have to mention are:

- Social network profiles
- Financial markets data
- Weather data
- Various sensor data (could belong to IoT as well)
- Books transcript data
- Multimedia data (for example, photos and videos from social networks)
- Etc.

3. Analytics, statistical approach vs. machine learning

“Does it do well on the training data? If no, go for a Bigger network. Does it do well on the test data? If no, go for a more data. Otherwise, you are done!”⁷

Big data address another data technology. We add deeper analysis of these data to turn it into insights. But finally we need to validate the value of the insights against business or real life, e.g. business decisions, or actions we have taken, or need to be taken, to create continuous learning, the System of insight.⁸

⁵ Margaret Rouse, <http://searchbusinessanalytics.techtarget.com/definition/big-data-analytics>

⁶ Source: OReilly/IDC, <http://www.technologyreview.com/view/530371/big-data-creating-the-power-to-move-heaven-and-earth/>

⁷ Source: Prof. Andrew Ng, Baidu, Nvidia GPU Technology Conference 2015

⁸ Source Brain Hopkins, All your big data will mean nothing without system of insight, Computerworld, 2015

The idea behind the development of statistics discipline was to measure uncertainty in experimental and observational science. The study of machine learning has been growing to computer engineers trying to explore whether computers could learn and mimic the human brain. Machine learning plays crucial role in knowledge discovery from data and has many applications.⁹

The difference between statistical approach and machine learning is how they deal with uncertainty. While facing this problem, statistician must understand the underlying distribution and comes with parameters that will have a predictive power. The goal is to predict an interaction between target and explanatory variables with some degree of certainty. On the other hand, machine learners try to build algorithms that predict, classify and cluster with the most accuracy. They continuously learn in order to improve the accuracy. They operate without uncertainty or assumptions.

Figure 2

	MACHINE LEARNERS	STATISTICIANS
Network/Graphs vs. Models	Network/Graphs to train and test data	Models to create predictive power
Weights vs. Parameters	Weights used to maximize accuracy scoring and hand tuning	Parameters used to interpret real-world phenomena - stress on magnitude
Confidence Interval	There is no notion of uncertainty	Capturing the variability and uncertainty of parameters
Assumptions	No prior assumption (we learn from the data)	Explicit a-priori assumptions
Distribution	Unknown a priori	A-priori well-defined distribution
Fit	Best fit to learning models (generalization)	Fit to the distribution

Understanding other domain, building wider knowledge, and applying the methods outside the field would lead to new insights. It makes sense to connect these two different worlds and “bridge the gap” between them. Collaboration, communication and understanding allow us to make a better decisions based on better insights thanks to “data science”.

Another view or definition what machine learning is “using algorithms to iteratively learn from data to find hidden insights without being explicitly programmed where to look”¹⁰. The reason of increased popularity of machine learning also lies in mentioned data growth and in the fact that with data volume and variety we’d like to still have actionable results in real-time and that is, not possible without automation involved.

Typical application could be find in Netflix’s and Amazon’s recommendations engines, where machine learning algorithms combined with artificial intelligence try to learn

⁹ Source: Galvanize

¹⁰ Source http://www.sas.com/en_us/insights/analytics/machine-learning.html

from customer's behavior and in real-time predicts next movie to watch or things you could put in your shopping basket.

4. Big data framework

Rapid development of big data itself led to many fast evolving projects and applications development. Some of them focus on data storage, other to search and discovery, other ones to predict and visualize. While some business ones try to be "serious" in naming, open-source family based projects are named by animals. Therefore, some authors mention about "big data zoo". We will briefly introduce some analytics related tools for data analysis.

Apache Hive data warehouse software facilitates querying and managing large datasets residing in distributed storage. Hive provides a mechanism to project structure onto this data and query the data using a SQL-like language called HiveQL. At the same time this language also allows traditional map/reduce programmers to plug in their custom mappers and reducers when it is inconvenient or inefficient to express this logic in HiveQL.¹¹

Elastic search is a highly scalable, distributed open-source full-text search and analytics engine. It allows you to store, search, and analyze big volumes of data quickly and in real time. It is generally used as the underlying engine/technology that powers applications that have complex search features and requirements.¹²

Apache spark is a fast and general engine for large-scale data processing.¹³ Spark includes stack of libraries including SQL, MLlib for machine learning, GraphX and Spark Streaming. Is able to run on Hadoop, standalone, on EC2, YARN or Apache Mesos. Thanks to its DAG execution engine and in-memory computing it is possible to run queries 100x faster than Hadoop.

Impala raises the bar for SQL query performance on Apache Hadoop while retaining a familiar user experience. With Impala, you can query data, whether stored in HDFS or Apache HBase – including SELECT, JOIN, and aggregate functions – in real time. Furthermore, Impala uses the same metadata, SQL syntax (Hive SQL), ODBC driver, and user interface (Hue Beeswax) as Apache Hive, providing a familiar and unified platform for batch-oriented or real-time queries. (For that reason, Hive users can utilize Impala with little setup overhead).¹⁴

Tableau's powerful big data software enables the people who know the data the best to do their own analysis. With drag & drop, point & click ease to build charts, reports and dashboards, Tableau gets people throughout an organization connected directly to their data. There's no more waiting in an IT queue to answer questions, so now you can begin getting answers from your data.¹⁵

5. Fastdata as another development phase

As we discuss above, phenomenon of "big data" is changing our views and bringing new insights thanks to data we haven't been able to process. This allows us to make a better decision not only in the business field.

But data growth acceleration, IoT phenomenon, new data sources and the way how we will think about data and use it will change the game again. And will change it in very short

¹¹ Source: <https://hive.apache.org/>

¹² Source: <https://www.elastic.co/guide/en/elasticsearch/reference/current/getting-started.html>

¹³ Source: <http://spark.apache.org/>

¹⁴ Source: <http://impala.io/overview.html>

¹⁵ Source: <http://www.tableau.com/solutions/big-data-analysis>

time, because in business we need insights very quick to be in shape or to differentiate from competitors. It will move to “fastdata”, our new phenomenon. We will enhance and automate our decisions in real-time and move to real-time analytics as we will analyze data as they come. We will be able analyze the entire data streams in real-time or near real-time. This will move our analytics capabilities into the new level.

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Basel Committee 2015 Corporate Governance Principles for Banks

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Abstract

Corporate governance in financial institutions has come under the spotlight after a banking crisis in 2008-2009. Corporate governance failure, especially within financial institutions, has been at the core of many of the problems during the global financial crises and numerous corporate and organizational scandals and failures. Many governments have responded by issuing louder calls for increased regulation. A principles-based, stakeholder-driven approach to governance-implementing governance guidelines in accordance with the “apply or explain” principle has a stronger chance of success than a heavy legislative approach. From this point of view, it is positive that the Basel Committee on Banking Supervision has improved its Corporate Governance Principles for Banks.

In this paper we draw on an overview of key changes in corporate governance practices published in the document titled “Guidelines: Basel Committee 2015 Corporate Governance Principles for Banks. On the basis of the comparison between two versions of BIS guidelines - in its consultative document with the published document titled “Guidelines: Basel Committee 2015 Corporate Governance Principles for Bank - recommendations are proposed concerning how to increase the level implementing principles of corporate governance in banks.

Keywords: *Banks and Financial Institutions, Government Policy and Regulation, Risk Management, Corporate Governance*

JEL classification: *G21, G28, G32, G34*

Introduction

On July 8, 2015, the Basel Committee on Banking Supervision (“Basel Committee”) of the Bank for International Settlements (“BIS”) issued revised guidelines on corporate governance principles for banks (“2015 Principles”)¹.

“One of the primary objectives of this revision is to explicitly reinforce and expand the collective oversight and risk governance responsibilities of the board. Another important objective is to emphasize key components of risk governance such as risk culture, risk appetite, and their relationship to a bank’s risk capacity. The revised guidelines delineate the specific roles of the board, board risk committees, senior management, and the control functions including the CRO and internal audit and distinguish the role of the board from the role of senior management. Another key emphasis of the guidelines is strengthening banks’ overall checks and balances”².

¹ Basel Committee on Banking Supervision, Bank for International Settlements, Guidelines: Corporate governance principles for banks (8 July 2015), <http://www.bis.org/bcbs/publ/d328.pdf>

² <http://aabd.org/the-clearing-house-and-basel-committee-on-banking-supervision-issue-bank-board-corporate-governance-reports/>

1. What Banking Institutions need from Regulation?

The policy makers constantly – and with considerable effort since the subprime crisis broke out – try to improve current legislation to enable better monitoring of bank activities, including their risk - taking. It is widely recognised that the recent financial crisis is to large extent attributable to excessive risk – taking by banks and that shortcomings in bank corporate governance may have had a central role in the development of the crisis. An OECD report argues that “the financial crisis can be to an important extent attributed to failures and weaknesses in corporate governance arrangement’s (Kirkpatrick; 2009). Moreover, the crisis revealed the potential, underestimated consequences of unregulated systemic risk – taking by banks.

Regulation comes in many forms and needs to be fit for purpose to achieve the right outcomes. But when it comes to corporate governance, the principles of good practice are universal. The need for assurance that these principles are applied means that the importance of internal audit extends across the corporate spectrum. Corporate Governance is turning out to be a very topical worldwide issue. International standards setters like the Bank for International Settlements, has recommended that bolder initiatives be taken to promote higher corporate governance standards in banking institutions. These initiatives, were driven mainly by the corporate governance failures and lapses noted during the global financial crisis. The crisis has shown that there is not only the need for banks to improve their corporate governance practices, but that supervisors also must ensure that sound corporate governance principles are thoroughly and consistently implemented.

2. About the Principles

“Good corporate governance is not an end in itself. It is a means to support economic efficiency, sustainable growth and financial stability. It facilitates organizations' access to capital for long-term investment and helps ensure that shareholders and other stakeholders who contribute to the success of the corporation are treated fairly.

During the last decade, corporate governance rules and practices have been improved in many countries and companies. But much remains to be done. And today, policy makers and regulators are faced with the important challenge to adapt corporate governance frameworks to rapid changes in both the corporate and financial landscape.”³

Originally developed by the OECD in 1999, then updated in 2004, the 2015 revision of the Principles of Corporate Governance addresses these and other emerging issues that are increasingly relevant. Building on the expertise and experience of policy makers, regulators, business and other stakeholders from around the world, the Principles provide an indispensable and globally recognized benchmark for assessing and improving corporate governance.

The Principles have been adopted as one of the Financial Stability Board's key standards for sound financial systems, and have been used by the World Bank Group in more than 60 country reviews worldwide. They also serve as the basis for the guidelines on corporate governance of banks issued by the Basel Committee on Banking Supervision.

³ *OECD Principles of Corporate Governance* [online] 2004. [cit. 2009-03-10] Organization for Economic Co-operation and Development. Available from: <http://www.oecd.org/corporate/principles-corporate-governance.html>

The Corporate Governance Principles were drawn up in 1998 by representatives of the central banks affiliated with BIS and were previously revised in 2006 and 2010. After a public consultation procedure (October 2014 - January 2015), the third revision was published on 8 July 2015.⁴

The revised Corporate Governance Principles are part of a broader trend towards an increased focus on the governance of financial institutions. This is one of the pillars of CRR/CRD IV, the European project which as at 1 January 2014 raised the Basel III agreements to the level of legislation.

3. Corporate Governance in Banks

Based upon the sad fact that banks and the banking industry are held in historically low esteem, and upon the assumption that the failings in bank culture contributed to the financial crisis of 2007 – 2009 continue to dampen the country's economic recovery and undermine the long-term prospects of the industry, banking regulators and supervisors have focused increased attention on the need for cultural reform within the industry.

As for bigger companies in other industry sectors also banks do have complex organization structures. "Thus, general thoughts and approaches on corporate governance in other (bigger) companies and organizations normally are suitable for banks, too."⁵ Nevertheless, there exist bank-specific aspects and requirements why corporate governance in banks has to be considered differently⁶.

3.1 Bank – specific aspects

A first point to be mentioned is the general legal and societal environment of banks which equals the one of other companies with the same legal form. Also banks have to recognize, to identify and to differentiate important stakeholders and define those stakeholders' influence and expectations on/towards the company and the impact which banks' business operations have on those stakeholders.

A second point is that banks do have to consider different markets, too. In case where those markets influence the bank it has to mind this information within its decision making processes and strategy formulation as far as it limits or enlarges its scope of action and as far as it provides and changes incentives for action, e.g. on internal and external labor markets - including the market for managers⁷, equity and debt markets, including stock exchanges (market for corporate control)⁸ and markets for banking services.

A third point to be mentioned is that banks do have to comply with the same standards and principles of corporate governance than all of the companies in other sectors. Nevertheless, there are further markets of special interest for banks, which are only in part relevant for other companies, e.g. the interbank market providing a disciplining function for banks' business

⁴ Basel Committee on Banking Supervision, Bank for International Settlements, Guidelines: Corporate governance principles for banks (8 July 2015), <http://www.bis.org/bcbs/publ/d328.pdf>

⁵ http://www.virtusinterpress.org/IMG/pdf/A_Sample_Chapter.pdf

⁶ MACEY J & O'HARA M (2003), The corporate governance of banks; Economic Policy Review, 9, 91-107

⁷ DUFÉY G, HOMMEL U & HOMMEL-RIEMER P (1998), Corporate governance: European vs. U.S. perspectives in a global capital market, Scholz C & Zentes J (eds.): Strategisches Euro - Management, Part 2, Stuttgart, 45-65.

⁸ EASTERBROOK FH & FISCHEL DR (1991), The economic structure of corporate law, Cambridge;Mass.

operations⁹. Furthermore, especially for banks and other financial institutes there exists specific regulations and supervision authorities which don't comparably exist in other industries but are an important part of banks' corporate governance system.

4. Spotlight on Bank Corporate Governance and the Financial Crisis

The global economic crisis that erupted in 2008 challenges current theories of effective corporate governance. The boards of many financial institutions were unable to prevent their executives from making risky decisions and to protect organizations against the financial meltdown. Many complex and interdependent forces led to the economic crisis, and corporate governance is one of them. Some academic studies also highlighted that flaws in bank governance played a key role in the performance of bank during the crisis (Diamond & Rajan, 2009; Bebchuk and Spamann, 2010).

The idea is generally that banks with poor governance engaged in excessive risk – taking, causing them to make larger losses during the crisis because they were riskier. In other words, to the extent that governance played a role, we would expect banks with better governance to have performed better. Among several corporate governance characteristics, the Basel Committee on Banking Supervision (2010) in its consultative document “Enhancing corporate governance for Banking Organizations”, places the board of directors as an essential part of bank regulatory reforms. In addition, the second pillar (Supervisory review process) of the 2004 Basel Accord identifies the role of the board of directors as being an integral part of risk management (Basel Committee on Banking Supervision; 2005: 163 – 164). The board of directors is even more critical as a governance mechanism in credit institutions than in its non-bank counterparts, because the director's fiduciary responsibilities extend beyond shareholders, to depositors and regulators (Macey and O'hara, 2003). Moreover, the bank board plays a vital role in the sound governance of complex banks: in the presence of opaque bank lending activities, the role of the bank board is more important, as other stakeholders, such as shareholders or debtholders, are not able to impose effective governance in banks (Levine 2004).

There is a need to reemphasize the respective roles of the board in the risk management processes. Boards need to be educated on risk issues and provided the means to understand risk appetite and the bank's performance against it. While management develops appropriate procedures to identify, manage and mitigate risks, boards of directors should satisfy themselves that the risk management processes designed and implemented by management are adapted to and integrated with the board's corporate strategy and are functioning as directed, and that necessary steps are taken to foster a culture of risk – adjusted decision making throughout the organization.

5. 2015 Corporate Governance Principles for Banks

“The recent emphasis on improving the corporate governance of banking institutions mirrors the global emphasis that has been given on this topic since the financial crisis of 2007 – 09.”¹⁰

⁹ SCHMIDT RH & NOTH F (2010), Die Entwicklung der Corporate Governance deutscher Banken seit 1950, Working Paper, Frankfurt University.

¹⁰ <http://aabd.org/the-clearing-house-and-basel-committee-on-banking-supervision-issue-bank-board-corporate-governance-reports/>

The Basel Committee for Banking Supervision published a consultative document in July 2015 titled: “Guidelines: Corporate Governance Principles for Banks”.¹¹

Generally, the enhancements to the Basel Principles are welcomed as they specifically aim:

- to strengthen risk governance,
- to clarify the role of the board of directors,
- to emphasize board competence,
- to provide guidance for bank supervisors, and
- to point out the influence of compensation systems.

However, the guidelines provided under the Principles are typically very detailed and prescriptive, which might promote a compliance culture rather than a values-based and behavioral route to better governance, risk management, and internal control across, and throughout, the organization. Arguably, such compliance efforts might draw attention and resources away from those areas where they should more appropriately be directed.

In this light, many commentators suggested that consideration shall be given to presenting the guidelines at a higher level, describing principles *more focused on desired outcomes* and less on detailed implementation guidance to achieve those outcomes.

The proposed Principles also provide a detailed set of risk management terms, concepts, and guidelines rather than describing the desired outcomes with reference to already existing international frameworks, standards, or guidelines. Principles also emphasize the importance of the “three lines of defense” model, but the subsequent principles and detailed guidelines pay little attention to the first line of defense - the business line – which is arguably the most important line of defense. Instead, they elaborate mainly on the risk management function (second line) and compliance and internal audit (third line).

Therefore, interested parties suggested the Basel Committee place greater emphasis on the roles and responsibilities of the first line of defense to help governing bodies, management, and staff assume and discharge their governance and risk management duties.

Last, but not least, the management of risk is an integral part of the governance and management of an organization, and, as such, a specific/separate risk governance framework should not be defined, as proposed by the Basel Committee. Instead, the principles could better promote integration of risk management tools and processes into existing approaches to managing an organization—with a special focus on integration into the first line of defense.

5.1. New in Comparison to the Previous Revised Version

The revised Corporate Governance Principles reiterate the importance of effective corporate governance to the proper functioning of the banking sector and the economy as a whole. New in comparison to the previous version and the consultation version is the description of the primary objective of corporate governance: *"The primary objective of corporate governance*

¹¹ Basel Committee on Banking Supervision, Bank for International Settlements, Guidelines: Corporate governance principles for banks (8 July 2015), <http://www.bis.org/bcbs/publ/d328.pdf>

should be safeguarding stakeholders' interest in conformity with public interest on a sustainable basis. Among stakeholders, particularly with respect to retail banks, shareholders' interest would be secondary to depositors' interest."

The Principles were inspired by the OECD's corporate governance principles, which **are not directed specifically at banks**. A revised version of the OECD principles, endorsed by G20, was published on 5 September 2015.

On the basis of theoretical knowledge acquired and comparison of enhancing principles, our study contributes to understanding the main changes in principles of corporate governance, risk taking and financial performance in financial institutions.

5.1.1 Risk Governance and the "Three Lines of Defence" Model

One of the main goals of the revised Corporate Governance Principles is to strengthen the risk governance of banks. Borrowing the definition formulated by the Financial Stability Board, the Principles define "risk governance framework" as: *"the framework through which the board and management establish and make decisions about the bank's strategy and risk approach; articulate and monitor adherence to risk appetite and risk limits vis-à-vis the bank's strategy; and identify, measure, manage and control risks."*

The revised Principles assign a central role to the "three lines of defense" model. This is not surprising because it has been the leading model used by supervisors around the world for some time, as the Basel Committee concluded in its 2011 publication "Principles of the Sound Management of Operational Risk". In connection with the revision of these Principles an extensive compliance investigation was carried out in 2014 into the degree of compliance with the "three-lines of defense" model. It would appear that not all of the findings and recommendations of that investigation have been incorporated in the revised Principles; at least for the time being there are thus multiple sources that should be consulted.

The first line of defense is the business line, which bears the primary responsibility for risks and their control. This line of defense is more or less ignored in the Principles; it is also on the outer limits of what can be called corporate governance.

This is otherwise for the second line of defense, the risk management and compliance's function. New in the Principles is the obligation to appoint a chief risk officer (CRO), or group CRO (Principle 6), although in the guidelines elaborating on the Principles this obligation seems to be made dependent on, among other things, the relevant bank's risk profile. The description of the risk management and compliance function has been significantly expanded and attention has been given to safeguarding its independence, a point that is often wrestled with in practice.

In response to reactions received in the consultation phase, the Basel Committee has given more concrete guidance in two situations. The first is where employees are rotated between business line and risk management roles. Although it is acknowledged that this practice can have several benefits, the revised Principles provide that risk managers should not be charged with overseeing activities for which they previously held management responsibility or participated in strategic business decision-making. The second situation involves the risk that a CRO who sits on the bank's credit committee and voted to approve a credit, can be placed in a conflicted position if that credit subsequently becomes problematic; the Basel Committee

points out that it could be better to provide the CRO with veto authority only (as opposed to approval authority) in such situations.

With respect to the third line of defense, the internal audit function (IAD), the board's responsibility is increased, among other things with regard to respecting and furthering the independence of that function and increasing its effectiveness. The importance of this final line of defense within the model is underlined by the requirement — introduced only after the consultation phase — that if the chief audit executive is removed from his or her position, this should be disclosed publicly and the bank should discuss the reasons for such removal with its supervisor.

5.1.2 Structure and Practices of the Board

Naturally, the revised Corporate Governance Principles devote a lot of attention to the structure and practices of the board, both classic corporate governance themes. As far as the terminology is concerned, the revised Principles are strongly oriented towards a one-tier board system but also apply in other governance structures. The necessary translation exercise can give rise to interpretation problems.

The revised Principles provide that the board should consist of a sufficient number of independent members; the 2010 version merely stated that independence could be achieved by including a sufficient number of non-executive members. In addition, the chair should be an independent or non-executive member and should not chair a committee.

With regard to board committees, the revised Principles again make a distinction based on size although using different categories compared to the 2010-text. Banks that are "systemically important" (presumably within the meaning of CRD IV and the further EBA guidance) should establish an audit committee, risk committee and remuneration committee. For other banks these committees are strongly recommended, depending on the size, risk profile and complexity. The status of the nomination committee remains somewhat ambivalent; it ("or its equivalent") is both prescribed and recommended at the same time. With respect to all committees, their duties have been expanded and there are additional rules on composition and membership.

Finally, the board is clearly expected to make a greater effort to evaluate the structure, size and composition of the board and the various committees, the suitability of individual board members (also in view of their functioning on the board) and the governance effectiveness as a whole, and to make any necessary adjustments.

5.1.3 Remuneration

Not surprisingly, the relationship between remuneration and risks is an important subject in the revised Corporate Governance Principles, as it was in the earlier versions. "Systemically important banks" should have a board compensation committee, "relevant banks" are subject to increased disclosure obligations regarding remuneration and the obligation to review the remuneration policy has been expanded to include the remuneration plans, processes and outcomes. The relatively strict rules on the granting of variable remuneration have been scrapped but in the meantime have been replaced by legislative rules: at EU level the CRD IV.

5.1.4 Supervisors

An interesting aspect of the revised Corporate Governance Principles is the role assigned to supervisors and in particular their role in assessing governance effectiveness, an assessment based in large part on behavior and culture. Evidently, the Basel Committee sees no further role in this for shareholders; it was previously up to them, together with the supervisor(s), to hold the board responsible for good governance practices. Under other noteworthy provisions, supervisors are expected to be particularly mindful of consistency of treatment across the banks they supervise and to ensure that their own employees have the skills necessary to make the judgements involved in assessing governance effectiveness.

An entirely new section is devoted to the interaction of supervisors with a bank's board, individual board members, senior management and those responsible for its risk management, compliance and internal audit functions. The frequency of this interaction may vary according to, among other things, the relevant bank's size, complexity, structure, economic significance and/or risk profile, its decision-making hierarchy and of course the circumstances of the case. The aim of these rules is to promote a timely and open dialogue on issues such as the bank's strategy, business model and risks, governance effectiveness, culture, management, succession, remuneration and incentives.

Finally, the revised Principles provide that supervisors should provide insights to a bank on its operations relative to its peers, market developments and emerging systemic risks; in the consultation version this was raised as a mere possibility.

Conclusion

Many studies examine corporate governance, but only a few papers focus on bank's corporate governance. The systematic differences found between the governance of banking and other firms highlight the point that governance structures are in fact industry-specific. In order to be effective, the banking governance reforms should take industry differences into account. Having an adequate governance code, updated to the latest insights, is a good start. The quality of governance in an organization is mainly dependent on *how well* a corporate governance code, *is implemented* and *how effective* the various principles and guidelines *are applied* in a specific bank.

This short study contributes to understand that the enhanced principles are designed to facilitate more effective board oversight, enhance bank safety and soundness, promote confidence in banks, and encourage consistent supervisory guidance.

As the recommendation for well and effective implementation of the enhanced principles we see the need of sustained focus on conduct and culture by banks and the banking industry, boards and management.

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Enterprise Valuation by Using EVA method in Slovakia

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Abstract

From the perspective of valuation in the current competitive environment for responsible company governance it is one of the crucial factors company performance. Therefore, the company must dispose of a set of financial as well as non-financial indicators that characterize as accurately as possible its performance. Traditionally managed company are managed through financial objectives and combinations of strategic goals (e.g. Increasing the enterprise performance, increase market share, develop new products and technologies). Economic Value Added is one of the methods of financial analysis, which is an inherent part financial enterprise management. It's feedback information that says whether a enterprise entity creates enterprise value of (gain) or it loses. The role of the economic-financial analysis is to identify factors that are of varying intensity participated in the creation current economic and financial situation of company. Financial situation of company sometimes referred to as "the financial health of the company." Financial analysis is an essential resource for assessment of the economic processes of the company and simultaneously creates a presumption of sound financial decision-making in the future. Economic Value Added quantifies and identifies problem areas of the company, control and evaluates the past process of the company, is an indispensable basis for the preparation and control of important decisions and allows entrepreneurs to assess the company based on the results. The aim of the present paper is to analyze the impact of the economic value added on the basis of implementation in selected company in Slovakia.

Keywords: economic value added, performance, valuation

JEL classification: G32, M 13

1. Introduction

Evaluation of businesses is a quiet common matter abroad. Under the condition of Slovak Republic and other post-communist countries are with this problematic concerned after the transformation of their economies 20 years ago. Practically is evaluation of business most used in transactions related to changes in the business ownership, which in conditions of centrally planned economy did not exist? After the change, approaches concerning the business evaluation were relayed abroad, particularly from the US, respectively, from German literature. Slovak economy and its corporate sector compared especially to the United States economic environment is characterized by some particularities. Probably the most significant particularity in terms of valuation is the use of the capital market. In Slovak conditions, shares issuing on the stock exchange is just a matter of a few companies. Also, the majority of businesses does not use the possibility of trading equity securities of these companies on the public market. Since most procedures for business evaluation is primarily intended for the US

market environment, where capital market participation is more common, it is necessary to objectively assess the suitability of these methods in the Slovak Republic. Another important difference is the Slovak terminology, which is not fully consistent with international practice. In foreign literature the terms as pricing and evaluation are defined as follows: The term pricing is used "when the price is set, particularly in relation to tax and other purposes, in particular concerning the state matters." Evaluations on the other hand describes "a process where is estimated value for the general market transactions of a private nature" (Krabec, 2009). According Harumová¹ (2009), pricing in the Slovak Republic conditions means "way of expression of value in monetary terms. It is the determination of price between the involved parties. Evaluation in the Slovak Republic conditions on the other hand, is "the process of determining value based on use of appropriate valuation methods"² It is interesting that while the American and international standards define the terms of pricing and evaluation based on the entities for which the individual calculations are provided, in Slovakia there are differences in terms of pricing and the evaluation according to methods used for these purposes. Pricing that is within the worldwide standards used to determine the prices, thus especially in relation to tax and other purposes, is in Slovakia used to determine prices between the involved parties. And while under evaluating in worldwide practice is understood value estimated for the general market transactions of a private nature, in Slovakia according to Harumová (2009) is under evaluation understood each process in which are used evaluation methods.

1.1 Methodology

While working on theoretical part of paper dealing with indicator EVA, a secondary research of available literature dealing with given problematic was evaluation of businesses using the EVA method.

2. History of EVA indicator

Although the EVA method is currently one of the most famous and most used tool of evaluation, the main idea on which it's based, is not a new discovery. Methodology of EVA is based on the financial measure of performance often referred to as residual income (RI) (Moradi et al., 2012), which is defined as operating profit reduced by the cost of capital. Alfred Marshall pointed to the concept of residual income already in 1890 (Wallace, 1997). Marshall defined economic profit as an accounting profit exceeded implicit cost of invested capital. According to Dodd and Chen (1996) idea of residual income has first emerged in the accounting theory, already in this century, for example by Church in 1917 and by Scovell in 1924 and in 1960 has emerged in the literature of management accounting. Finnish academics and financial newspaper discussed about the concept as early as 1970. This concept has been defined in complementarity with control ROI (Virtanen, 1975). In the seventies, however, residual income achieved widely publicity and was regarded as a leading tool for measuring performance of large companies. The difference between RI and EVA method rests in a set of edits (adjusted value of NOA, NOPAT, WACC), of which it is necessary to modify the balance sheet data. With these modifications methodology of residual income didn't calculates.

In September 1993, the article on EVA indicator in Fortune magazine garnered attention, which describes in detail the concept of EVA (Stern, Stewart, 1993), as well as the experiences of Stern Stewart company in adapting of this metric by majority of US

¹ according to A. Harumová, from http://hn.hnonline.sk/2-27866130-k10000_detail-f3

² according to A. Harumová, from http://hn.hnonline.sk/2-27866130-k10000_detail-f3

companies. On this basis, similar indicators of business performance were also developed by competition. These indicators were in the following form: Cash Flow Return On Investment (CFROI) - company Boston Consulting Group (which was acquired by acquisition with consulting company HOLT Value Associates), Shareholder Value Added (SVA) - Company Rappaport's Corporate Performance Systems, Adjusted EVA (AEVA) - company Villiers, Refined EVA (REVA) - the company Bacidora et al., Discounted Economic Profits (EP) - the company Marakon Associates and the Economic Value Management (EVM) from KPMG.

2.1 Definition of EVA indicator

Economic Value Added (EVA) means a measurement of financial performance, based on the concept of cost of capital, whose proceeds create more value for shareholders, than the value of cost of capital. It's net operating profit after tax (NOPAT) without capital expenditures. Economic profit consists of its own costs. If the return on capital exceeds the equity of the company, then the company creates value for shareholders. The substance of EVA is to create economic value added for the owners and company management. For today management is a turning point to find a way, where the company creates value for owners. The fact is that it is based on accounting profit, which doesn't create real value for the owners. But may arise from the calculations. On the other side, the accounting profit is needed for conversion to the economic profit. EVA indicator thus includes any distortion in the accounting format, that can be identified and accounting profit can edit these distortions and put them into the final shape of the value of EVA. Stewart (1990) defined the EVA indicator, as net operating profit after tax (NOPAT) reduces by the cost of capital. Algebraic is defined as follows (Stewart, 1990):

$$\begin{aligned} EVA &= NOPAT - \text{cost of capital} \\ &= NOP(1-T) - \text{contributed capital} \times \text{cost of capital} (I) \end{aligned}$$

2.1 EVA versus traditional indicators

EVA is based on the general accounting, which is based on items such as interest bearing debt, equity capital and net operating profit. It differs from traditional indicators, mainly by including the cost of equity. Solomon and Laya (1967) studied the account rate of return (ARR) and the area, which approaches to the actual return measured by IRR. Harcourt (1965), Solomon and Laya (1967), Livingston and Solomon (1970), Fischer and McGowan (1983) and Fisher (1984) defined the differences between the account rate of return (ARR) and the real rate of return, that are so large, that this pattern isn't used to indicate (De Villiers 1997). Among all the traditional indicators, return on equity is a general and relatively good performance measurement. Different companies quantify the return using a variety of different patterns, known as return on investment (ROI), return on invested capital (ROIC), rentability of invested capital (ROCE), return on net assets (RONA), return on assets (ROA), etc.. The main error of rate of return in all cases is, that they don't maximize the rate of return, but only maximize the return for shareholders. On a similar principle are based the observed rate of return and pricing of products according to "gross profit of sales" as a percentage. The product with the highest "gross profit of sales" belongs to the most profitable products. The difference between EVA and ROI is actually the same as between the NPV (net present value) and IRR (internal rate of return). IRR is a good procedure to determine investment opportunities, but we shouldn't prefer one over the other investment projects only on IRR.

3. Characteristics of research subject

By analyzing the individual assessment models of business based on performance measurement, we decided to focus on one sector, thus eliminate external cross-sectoral impacts caused by evaluation of businesses and comparing the results from another sector or another field of activity. To fully verify the capabilities of assessment models, we decided for the food industry, which is characterized by a broad range of products and performances.

In this paper we will deal with analysis of the 20 enterprises of the food industry in Slovakia. Enterprises were selected to reflect the structure of the food industry in Slovakia. The sample includes companies of small, medium and large enterprises. The proof of the propriety of the choice may be the fact, that 14 of the 20 selected companies' denominated Trend magazine between the 200 largest companies in the food sector in Slovakia.

4. Identification of input parameters

The business evaluation by EVA requires many data of current and past financial performance of businesses. For the purpose of this paper is possible to divide input data necessary to calculate the economic value added into three groups:

- a) the data published in the financial statements,
- b) the data published in Management Accounting,
- c) the estimated data.

The data published in the financial statements – these are basic data, which should publish most businesses. The structure of this financial statement is precisely defined by national, respectively international law and any deviation from these standards in reporting is considered to be criminal act. In Slovak republic, structure, form and method of presenting financial data is defined by the Accounting Act. These statements are called balance sheet and profit and loss account. Input data for these statements are typically available also for an external evaluator, but they are not sufficient for an accurate calculation of the company value. Evaluators, who don't have access to other internal data of business have to for the determination of the value of business estimate respectively simulate some indicators.

The data published in Management Accounting – one of the negatives of the methodology EVA is, that in order to get more accurate evaluation of the business value, it is necessary to obtain internal data of given business. It is data, which aren't available in the balance sheet or profit and loss account. As the list of those indicators is a trade secret of the business, which developed this methodology, in this paper we will focus on the two most commonly used indicators, namely the data relating to the financial leasing and marketing expenditures of the business. As these are a fairly sensitive data, which are usually confidential, we will model in the paper these indicators. The analyses will identify the impacts of changes in these indicators on the value of EVA. In addition to the above-mentioned two characteristics, it's necessary to involve into this group all financial characteristics, which can business accurately, measure and shown on the basic of generally applicable procedures, which hold within accounting of the country or the international corporations. The basic characteristic of these indicators is, that several independent evaluators would achieve the same results, if they had available the same information.

The estimated data – one of basic negatives, which is often criticized by the evaluation of the business based on the EVA method is, that this method includes several indicators, which the evaluator have to estimate. In order to enable evaluation of a wide range of businesses, for each such parameter was set several methods as it can be estimated. These

methods use tools such as analysis of the external environment, industry and competition analysis, analysis of domestic and foreign stock market. In paper we will focus on one of these indicators, which are typical for determining the value of the indicator EVA and is called *estimate cost of equity* (ECE). Although there are several ways to estimate this parameter, it is difficult to identify the approach that would best meet the conditions of the Slovak environment. Since the application of the procedures to estimate ECE is determined by the properties of individual business (e. g. if it is publicly traded company or we can find on the stock exchange appropriate benchmark, or if can we estimate the risk factor of the industry, etc.). We decided to investigate how small changes in estimate of this parameter influence the overall value of the indicator EVA.

5. Evaluation of businesses using the EVA method

Whereas detailed representation of calculating EVA for each company separately is very difficult to scale and exceed frame of this paper, the way the individual calculations were made, we illustrate on the company - Hamé Slovakia, Ltd.. The same method of calculation we applied for other businesses in the sample, and in the tables of this subchapter will be presented as final values of EVA indicator for each of the businesses. Some data were due to their confidentially and protection of know-how altered.

The first step in determining the value of EVA is a thorough analysis of the company's balance sheet (in our case the company Hamé, Ltd.), from which we need to identify important indicators. It should be noted, that at the time of data collection (January 2013) for the research were not available information for the year 2012, therefore they aren't taken in the analyses. Since for the calculations of EVA indicator are needed all data from four last balance sheets, for the purposes of our further analysis, we have collected the balance sheets for the period of 2008 - 2011 for all 20 businesses of our sample.

All data are in €, unless otherwise stated. Assets and liabilities, that are denominated in another currency (Sk), we calculated to the currency Euro with exchange rate set by the ECB (1 € = 30,1260 Sk).

6. Conclusions and policy implications

Economic value added (EVA) is, similar to the ratio indexes, very popular method for determining the value of company. Its main advantage is, that in the context of pricing reflects past performance, opportunity costs (in theory), but primarily reflects the price of company by single number.

Although it initially appears, that the quantification of price expressed as one number removes subjectivity of evaluation, since in the evaluation the evaluator doesn't have to assign weights to each criterion, it is the quit opposite. The methodology for determining the value of EVA only transmits subjectivity from output to input. While in traditional ratios evaluator added weights to each result (ROA, ROE, ROCE, ...) within the EVA methodology is subjectivity of evaluator reflected in estimate of the cost of equity, which represents the input variable, when calculating indicator EVA. Although, there are several methods for determining this value, it must be emphasized, that the evaluator can subjectively choose, which methodology uses and which business determine as an appropriate benchmark. Also the actual method of estimation of the cost of equity contain parameters, that can't be precisely specified and therefore they are only estimated. On the other side, the analysis in this study showed, that 1 % change in the estimate may cause up to 26 % change in the value

of EVA, which in practice means, that only 1 % distortion may increase respectively reduce the value of business for more than a quarter. Results of regression analysis also demonstrated the relationship between ECE and EVA value which changes from company to company. Under the condition of our sample (20 companies) we have shown, that by four companies it can be assumed linear impact of ECE to EVA indicator. In the other 16 companies hasn't been confirmed the linear relationship. Shapes and slopes of the regression lines also differ from business to business. It follows that, although impact of ECE on the value of EVA seems to be quite significant, is very difficult to estimate the change by 1 % on the total price of the business, as well as the actual impact of the distortion is diametrically different from business to business.

Another negative associated with the determination of the value of EVA is a great range of data necessary for its calculation. In addition to standardly published data for exact quantification of the value of EVA, it is necessary to know the internal documents such as corporate marketing costs and data related to financial leasing. This data are for external evaluators difficult to obtain, so they are forced to estimate them. Our analyses show, that estimates of these variables have little influence on the final value of EVA. For example, change in the estimated marketing expenditures didn't show any change in the value of the indicator EVA. In the context of parameter estimation of lease payments, purchase a truck worth 6 540 € changed the value of EVA only for SMEs, with no more than 5 %. In the context of financial leasing within the EVA indicator by evaluating Slovak businesses, there is a much more severe problem. In Slovakia it is the subject of a financial leasing property of leasing company, and therefore is not reflected within the accounting of the company. Therefore, it is possible that the company in the middle of leasing maturity has the worse value of EVA, than the company at the beginning of the leasing relationship.

As the above analysis shows, the value of business based on EVA indicator should be interpreted and compared very carefully. Value of indicator EVA in fact largely depends on the selected input parameters. The price estimate, which could be compared with the estimate of the price of competitors is thus possible only in case, that the input values into the EVA equation are set for all companies on the basis of same instruments, using the same indicators in the external environment (the same risk-free rate, the same external benchmark, and etc.). Although this process doesn't exclude subjectivity from the accuracy of the price estimate, that is the price estimate will be still influenced by subjective opinion of the evaluator. Using the same input variables mitigate the consequences of an incorrect estimate of inter-company comparisons.

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Preconditions of Effective Communication at Workplace

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Abstract

The article is dedicated to the preconditions of effective communication at workplace. The aim is to highlight the contribution of different factors that play a key role in effective communication. Knowledge of the factors of effective communication has a strong social significance. What assumptions must the process of communication fulfil in order to function effectively? Since effective communication is essential at workplace, it is necessary to pay enough attention to it. We can examine how effective communication influences social interactions.

Keywords: *effective communication, social interaction, preconditions of effective communication, motivation, interpersonal relationships*

JEL classification: *D 83, L 14*

1. Introduction

Day in and day out we are in constant contact with other people. Whether this contact is in the home environment, or in a work environment, we are eager to communicate our needs and wants. All of life is affected by the process of communication and, in particular, by how an individual can deal with new situations and respond to them. Reactions and behaviour of the individual must be in respect of its surroundings. Reactions towards other people is affected by many factors, and in particular, by his personality, experience, and the interactions that take place between members of the communication process and not in the last place the interpersonal relationships.

Interpersonal relationships are formed in many ways by the willingness of people to communicate, seek solutions, and apply them in practice, also by being able to create new solutions and ideas. The relationship of humans to other people is considered to be the active nature of the man. What else could be considered as a standard for assessing the nature of an individual as its ability and willingness to communicate. In other words, social intercourse specifies the collection of information from the environment.

1.1 Communication and its essence

Personal and work life of people are in mutual interaction and on many different levels are similar. On what level are they similar to each other? There are individuals who are less responsive and in the same form avoid social contact, but when it occurs they must come to the level of mutual interaction. In the already mentioned social contact, the greatest importance is attached to social interaction. It is a process that represents a complex process of interactions, how to respond and influence individuals. Part of the social interaction is social perception, which means the mutual perception of people. The perception of their personality, assumptions, characteristics, but mainly the uniqueness of the individual in the social intercourse and what identifies him as a separate being.

Communication is one of the most important components of the workplace. Expressions of human behaviour and cognition are an essential component of the outside world. Mutual getting to know one another, exposure of people to each other, creating a common social environment is important for all areas of life of the individual. An individual search for opportunities to communicate, through which he creates the immediate feedback and communication act. Communication has a specific meaning, in particular, in economic practice, where people without an appropriate interpretation of interests fail to settle.

1.2 Effective communication

Effective communication means to define the basic procedures to be followed in communicating. It is one of the major competitive advantages for your organization. Effective communication is influenced by several factors, including expertise, thinking, ability to react, the expression of refinement, behavior, and social principles and standards compliance pleasant behavior. In particular, it is important that the organisation intends to reach out to a group of people (used by various means, tools and techniques). External and internal communication must be effective. It is not possible to have a perfectly revised internal communication and neglect external, it is essential to have them both in mutual compliance.

Effective communication enables you to:

- to follow a common goal,
- increase customer satisfaction,
- increase customer loyalty,
- improve the image of the organization,
- motivation of employees,
- productivity,
- equality between the members (the elimination of the barriers of communication),
- mutual trust (openness),
- improved internal and external communications,
- respect (the opinion, idea, comments).

1.3 Principles of the effective communication

The principles of effective communication have been facilitating the achievement of the desired objective. These are the basic procedures to be followed in communicating. This means respecting certain rules, which contribute to the smooth transfer of information. By the principles any communication process shall be governed.

The communication led to the goal being, it needs to respect certain principles, which contribute so much to the smooth transmission of the message and its meaning, as well as to the necessary communication atmosphere. (McLaganová – Krembs, 1998)

Under directness we understand the objective pursued by the communication. Straightness is the ability to talk directly to provide answers to almost all questions. Under the joint efforts of every member of the communication process, we understand the responsibility for the successful outcome of the communication. Among the principles are still relevant:

- search of contexts and connections-the same information content.
- feedback – survey of understanding specified tasks.
- filtering information – information that is needed and not unnecessary.
- optimal time – it does not mean that you need to talk for too long.

In particular, the following communication shortcomings may be demotivating:

- failure of the objectives, context, and meaning of tasks,
- incorrect wording, language deficiencies, improper use of foreign words,
- lack of interest in the needs and opinions of co-workers, the inability to listen to them,

- the tendency to take information only from "his" people,
- underestimating subordinates,
- underestimating the process of communication,
- the deliberate failure to our own employees as well as the general public, and others.

1.4 Barriers to effective communication

Communication takes place in a specific context and always in an environment that can in some cases cause a stem, or even failure of the communication process. A group of people without communication does not work, because it would be unable to coordinate its activities. The inability to communicate, but also an unwillingness to basic communication skills lead to shortcomings. Communication problems arise because the sender and the recipient properties are in conflict relationship. They may be caused by:

- semantic reasons, when the same attribute gives different meanings to words,
- different people, when the head of the higher position does not pay much attention to the proposal to lower managers, employees,
- variable power of people,
- different perceptions, or the understanding of the situation.

The most common communication problems and causes of inefficient communication in the business environment includes:

- different opinions, attitudes, knowledge, and experience as a result of misreading, or an incorrect understanding of the content, information,
- underestimating information needs of subordinates and their ability to participate in the undervaluing of the business planning activities, troubleshooting,
- selective perception, focusing on other sources of information, difficulty for the substance of the information,
- errors in the assessment of reports,
- filtering the messages for the media,
- lack of preparation on time and proper respond to the information.

The result of the said communication problems can be a disruption of the communication system, interaction, deformation of the information needs, the disruption of the motivation, the launch of negative emotions, aggression but also a sense of helplessness, insecurity, fear and panic.

2. Teamwork as part of effective communication

When it comes to effective communication the willingness of individuals to communicate is crucial. Individuals are grouped into teams and try to exchange their views and reach a common conclusion. The company has to act as a team. The process of communication needs to have a number of supportive elements. Teamwork can help to create long-term relationships with suppliers and customers, built on trust, to seek new paths to the satisfaction of the clients. All of these activities can benefit in professional and social development of the company. Teamwork associates with modern society, leads to better decisions, improves the quality to lower costs and applies greater commitment to collaborators. Team is characterized by the following features:

- All have the same rights and obligations.
- Different characters, different personalities, experience and knowledge contribute to the optimalization of the results.
- Employees have a greater area of glazing.

- Responsibility, they can better identify with the objectives and tasks.
- Last but not least it supports intensive collaboration, joint communication, which is important for the achievement of good results.

Teamwork creates synergies, it is the energy, which stems from the cooperation and constant communication between individuals. People in a group are associated with certain ties, for their skills, ideas. It means that other deficiencies of one member should stimulate the thoughts of others. The very nature of teamwork is associated with added value, which can be caused by the following:

- People in the team have different knowledge and experience.
- Ideas are an inspiration to other team members.
- People have a different approach to work.
- Team members feel a responsibility towards colleagues.
- Pressure increases efforts of individuals.
- The team is becoming a mainstay for the weaker members of and adds them to the power.
- Presentation of the results of the work is better perceived, as if it were the outcome of an individual.

If we want the teamwork to be effective, it is necessary to select the appropriate communication and organizational framework. On the other hand, however, it must be said that under certain circumstances, can be the results of the communication and the team for various reasons worse. In this case, the negative synergy arises, which can be caused by a number of reasons:

- The diversity of objectives.
- Inability to enforce good opinion.
- Inadequate control of the debate.
- Negative group pressure.
- Fear of differences.
- Inappropriate interpersonal relationships (antipathy, arrogance, intrigue).

2.1 Preconditions of effective communication

The basis of each cooperation is the willingness of employees to communicate and collaborate. People who rarely see each other do not maintain strong contacts in order to establish strong interpersonal relationships. Even though there are plenty of opportunities to communicate, it does not necessarily mean that will also be used. The lack of exchange of information is one of the major barriers to effective teamwork and communication. Studies show that interpersonal communication is productive when participants have a free field of action. Individuals in the context of interpersonal relations should carry out decisions separately. Too strict hierarchical structure in connection to effective communication are not preferable. The objectives of the people in the workplace highlight their ability to work together. In this case, we are talking about working objectives, but there are also goals that stem, for example, in a harmonious team and also in the working time spent together. Both of the goals are important, because they are the engine of good cooperation for the workplace. And last but not least, we should also mention the professional duties. Interpersonal

communication gives to the members a sense of belonging, a sense of "We". Joining a group is characterized by a positive atmosphere. This connection depends on the sympathy, which connects individuals within a group experience, in the name of tolerance and helpfulness. These assumptions are at the same time the potential barriers to successful communication in the team. It is still necessary to remove problems and improve communication and collaboration. Only in this way, you can take advantage of the strengths, the ability of employees to create success. I used the following checklist, which allows the individual company to assess the conditions for the successful development of communication in the team:

- You can better organize your business tasks in the team.
- You can expect synergy effects.
- Members of the group have a great interest in intensive cooperation.
- Colleagues are responsive, have the social intelligence.
- Effective work and interaction.
- Enough time for communication.
- The team has enough space and opportunities to meet.
- Most team members will attend social events.
- The team is instructed on how to interact and communicate productively.
- Communication with colleagues is controllable.

The list only has informative character and serves as a guide to a deeper examination of the issue. Whereas interpersonal communication is required from all of the participating members. Few skills create inseparable part of effective communication, which are the creative problem-solving, communication and negotiation, motivating and guiding people to listen and empathize with the situation of the others, a thorough analysis of the situation, critical thinking, dealing with crisis situations. All these skills can contribute to the strengthening of the productive interpersonal relations. On the other hand, there are also weak, negative abilities of the individual, which are: lack of concentration, light loss of interest, suggestibility, impatience, indecisiveness, rigidity, lack of perspective, spacing, inadequate understanding of the different forms of real ideas into professional approaches.

2.2 Motivation as part of communication

Almost all the skills have been mentioned as key to effective communication, but only one have been omitted, emotional intelligence, which is not only connected to psychology, but there is a link between emotional intelligence and economy. Individuals in the company are giving a great deal of work into everyday decision making. A series of studies shows that companies that work with the concept of emotional intelligence, are much more successful than companies that do not pay attention to it. The truth is that this discipline is still in its infancy. So far, there are no clear conclusions if employees involved in the process of communication use emotional intelligence.

There are three components that make up emotional intelligence. The first component is the perception of own feelings. A lot of people in our society have been developed in the emotionally poor environment, which causes repression of own feelings, feelings of anxiety, aggressive tendencies, the inability to manifest feelings appropriately. People often do not

realize their feelings. In this context, it is a difference between emotional and intellectual intelligence, most scientists considers that intellectual intelligence is the received ability.

The second component is the perception of the feelings of others, which is referred to by the term empathy. It is about the ability to recognize feelings of another individuals, so called ability to translate into your system and adequately respond. It may be the reason why emotional intelligence improves the results of team work. People who possess high levels of empathy can better communicate and work in a team and achieve extraordinary performances. Feelings greatly determine the success of the people. It is not enough just to be aware of your own feelings and yet have only minimally developed ability of empathy. Emotional intelligence is also very closely linked the fact, how we can tune in to new situations, which by the way is probably the most important. One of the most important tasks of the individual is to be learn to deal with emotions consciously and purposefully. I do not mean that a person is able to get 100% control over your emotions, but may try to develop your own personal freedom.

3. Conclusions and policy implications

In every workplace communication is a unique and focused on other aspects of effective communication. In order to raise the level of effective communication is necessary to find common solutions and conclusions. If there are individuals in the workplace who are content, this can serve as a motivational resource. The effectiveness of communication in the workplace affects a number of factors, which are mainly caused by human behaviour. Our task is to find the optimal way to create the space for effective communication.

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Fiscal Decentralization in Ukraine as Important Part of Reforms of Public Administration and Public Finance

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Abstract

In the circumstances of growing economic tension and deepening the debt crisis in developed economies the question of efficiency of public finances at the all levels of government comes to the forefront of economic interests again. While the problems of managing the central government budgets have devoted a lot of attention, the issue of local and regional budgets remains unsolved. The article highlights the main shortcomings of the system of local finance in Ukraine in recent years, and analyses changes in the basic rules of financial and budget management presented by the amendments to the budget and tax legislation designed to extend the competence of local authorities in the field of formation and distribution of financial resources at the local level in order to realize the concept of fiscal decentralization in Ukraine.

Keywords: *fiscal decentralization, local revenues and expenditures, intergovernmental relations*

JEL classification: *H 71, H 72, H 77*

1. Introduction

At the present stage of socio-economic development of society the formation and distribution of public funds by the state and local authorities is provided by using different fiscal instruments that allows adopting balanced public policy at the macro-, meso- and micro-levels taking into account the interests of society as a whole, and problems of individual territories taking into account the institutional peculiarities of economic systems.

The main financial instruments that affect the development of territories and local governments are tax and budgetary instruments depending on legally allocated powers of local authorities regarding the establishment and collection of mandatory payments in the territory and allocation of resources mobilized applying the well-known principle of subsidiarity, i.e. the level of their most effective use. In this context, the questions on the division of powers and responsibilities between levels of government in the state in solving social and economic problems, detection of the main instruments to influence state and local government, and assessment of their impact on economic growth at the local level remain debatable.

At present more and more researchers tend to consider devolving fiscal and political powers to sub-national governments as a positive trend. The basis of political decentralization is the European Charter of Local Self-Government (Council of Europe 2010) ratified by 44 of the 47 Council of Europe member states as of 1 January 2010, and the basis of the administrative decentralization is an idea that local authorities are more aware of local issues and make more effective decisions, and that to delegate is a prerequisite for the decentralization of collective economic decisions (McLure and Martínez-Vazquez 2000). The recent survey concerning the impact of fiscal decentralization on the economy, society and politics shows that "...there are reasons to be optimistic about the overall positive impact of the decentralized systems that have been introduced all over the world in the past several decades especially when those decentralization processes have been well designed and implemented" (Martínez-Vazquez, J. and Lago-Peñas, S. and Sacchi, A. 2015, 20). The measures of tax autonomy, the spending power of sub-central governments, and the stringency of regulations attached to intergovernmental grants are considered to be decentralization indicators along with the traditional spending and revenue ratios. However, there is no single indicator for measuring fiscal decentralization, and dealing with intergovernmental fiscal frameworks requires a multi-dimensional approach (OECD/Korea Institute of Public Finance 2013).

The problems of fiscal decentralization and its implementation are reflected in many scientific publications. Scientists investigate the nature of fiscal decentralization as such, the basic tools for its implementation and measurement, its influence and results. The publications of academics, scientists, practitioners and analysts in the sphere of local finance such as Balatskiy, Ye. (2011), Makarov, G. (2014), Martínez-Vazquez, J. and Lago-Peñas, S. and Sacchi, A. (2015), McLure, C. and Martínez-Vazquez, J. (2000), Paentko, T. (2012), Salo, T. (2013), Slack, E. and Bird, R. (2013), Vishnevsky, V. (2012) and others are devoted to these issues. However, taking into account the latest developments in the public sector and taxation in Ukraine, it seems reasonable to conduct permanent search for the ways of overcoming the drawbacks in local finance development in Ukraine, both for the shortcomings existed before and appeared after the legislative changes.

Ukraine has chosen the way of realizing the concept of fiscal decentralization through implementation of reforms in public administration and finance. The study aims to determine the main weaknesses of public finance and administration at the local level in Ukraine in recent years, analyse changes introduced by amendments into the budget and tax legislation related to public finance at local level according to the trend of fiscal decentralization. Specifically, two aims are addressed. First one is to highlight the main shortcomings of the system of local finance and public administration in Ukraine in recent years. Second one is to analyse the main changes in the basic rules of financial and budget management presented by the amendments to the budget and tax legislation designed to extend the competence of local authorities in the field of formation and allocation of financial resources in order to realize the concept of fiscal decentralization in Ukraine.

1.1 Methodology and Data

Methodological background for the research constitutes general principles and methods of scientific research such as methods of analysis and synthesis, theoretical generalization and comparison. Theoretical and methodological base of research is publications of domestic and foreign scientists in the field of fiscal decentralization, public administration and finance. Informative base of the study is normative and legislative acts of Ukraine, analytical reports of different organizations and experts in the sphere of local finance and fiscal decentralization, researches results of domestic and foreign scientist, etc.

2. Public Administration and Finance at Local Level in Ukraine: Issues in Brief

The specialists in the sphere of public administration in Ukraine have proclaimed that effective formulation and implementation of public policies aimed at ensuring welfare, health and security of the citizens of Ukraine should become the purpose of public administration. Public service institutions must act on the basis of the principles of decentralization, efficient government, and European standards (Reforms Support Center 2014). However, public administration in Ukraine has a lot of shortcomings that have to be overcome.

Concerning public administration at the local level Pukhtetska (2013) underlines some problems relating to convergence of post-Soviet and modern European administrative traditions in Ukraine. One of them is doctrinal misunderstandings and lack of scientific research in the field of introduction public administration demands in activities of executive authorities and local self-government bodies. Another problem is that administrative services should be primarily provided at the local level directly connected with their customers, but still the notion of budget deconcentration is not used in Ukrainian doctrine and legislation leading to the lack of necessary resources for local self-government to performing such a wide scope of functions. Another problem concerns the issue of differentiation of functions of central and local level based on the principle of decentralization. In spite of formal fixation of this principle in the Constitution of Ukraine, the system of executive bodies is specified on the basis of centralization principle originating from the Soviet period with strong impact on organization of the mechanism of Ukrainian state. And special attention Pukhtetska (2013) pays to modern understanding of the principle of decentralization and practice of its realization.

It is important to note that public administration reform is now in process in Ukraine, but implementing of its stages is significantly behind the schedule. According to the National Reforms Council (2015a), for now the reform implementation is 33 percent to the prospected. The main shortcomings concerning local issues are as follows: development and adoption of law(s) on decentralization of essential administrative services (20 percent implemented); adoption of a new law On Service in Local Self-Government in line with European principles of public service, supporting regulations to implement the new Law (70 percent); development and adoption of indicators of effectiveness and efficiency of government performance and civil service including effectiveness of the use of public funds (0 percent), etc.

Concerning public finance at local level the situation is rather similar. In Ukraine in recent years theorists and practitioners in the field of local finance have stressed that the full-fledged development of local socio-economic systems is impossible without stable and sufficient own financial base for local economic development, and meanwhile the real possibilities of state development in general are at a disadvantage. Thus, despite numerous tax reforms, the situation with local taxes and fees have remained paradoxical for years – legally they have always existed, but in practice their receipts have not allowed forming the sufficient revenue of local budgets (Paentko 2012).

At the same time the use of state taxes as an instrument of public finance for local social and economic systems development on the one hand is due to the problem of "soft budget constraints", and on the other hand concerns the restriction of the ability of local governments to influence local economic development systems using tax instruments (such as setting tax rates and benefits). In turn, it is sufficient revenue base of local budgets that the level of autonomy of local authorities largely depends on. According to calculations of Ukrainian scientists, over the last 10 years the local budgets revenues in the consolidated budget revenues in Ukraine declined by more than 2 times (Salo 2013, 327-328), which confirms a

change of state regulation of revenue distribution among different branches of the budgetary system and the trend towards centralization of local finance.

However, it is important to allow for the fact that the processes of formation and use of local budgets is an important financial instrument for regulating economic and social development at the local level, and the concentration of significant financial resources in local budgets meets the challenges facing local government at this stage of development (Balatskiy 2011, 69-70).

3. Ongoing fiscal decentralization processes in Ukraine

Proclamation of the course towards decentralization in Ukraine has led to significant changes in the tax and budget legislation in view of the above drawbacks. Changes adopted in Budget and Tax Codes of Ukraine under which the budget is executed in 2015 is the most significant shift towards fiscal decentralization in recent years designed to solve the problem of constant shortage of financial resources in local budgets. According to the experts, the change in legislation will ensure sustainable economic growth and 100 percent execution of local budgets this year (Decentralization of Power 2015).

According to the National Reforms Council (2015), the decentralization reform in Ukraine is on schedule with implementation at 76 percent for now. Among completed tasks are as follows: adoption of the Law of Ukraine "On Voluntary Association of Territorial Communities" with the purpose of legislative settlement of organizational and legal grounds for the emergence of capable territorial communities that can provide the entire scope of public services within the community; adoption of laws of Ukraine on amending the Budget and Tax Codes of Ukraine as to decentralization of finance, strengthening of the material and financial basis of local self-government; adoption of the Law of Ukraine "On the Principles of the State Regional Policy" that regulates the legal, economic and organizational grounds of the state regional policy with the purpose of improving the efficiency of the state regional development administration system; approval of the new procedure of preparation, assessment and selection of investment programs and regional development projects to be financed from the State Fund for Regional Development; Adoption of the Law of Ukraine "On Self-Organized Bodies" (new version), etc. Among the unimplemented tasks are as follows: adoption of the Law of Ukraine "On Service in Local Self-Government Bodies" (new version) (60 percent); development of the Single Unified List of Standards for the Provision of Public Services (10 percent); adoption of the Law of Ukraine "On Amendments to Certain Legislative Acts to Extend the Powers of Local Self-Government Bodies in Disposal of Land Plots and Monitoring Use and Protection of Land (50 percent), etc.

The main changes to the Budget Code of Ukraine affecting the independence of local budgets are as follows: independent formation of local budgets (Art. 75); authorization of local budgets irrespective of the terms of adoption of the state budget – 25 December of the year preceding the planned one (Art. 77); simplification of the procedures of providing local guarantees and local borrowing from international financial institutions (Art. 74); entitlement to carry local external borrowing for all the cities of regional importance (Art. 16); entitlement to independent choice of institution (in the Treasury or banks) to service the funds of local budgets and own revenues of budget organizations (Art. 78). The financial independence of local budgets, in turn, is realized through: the establishment of standardized deductions of national taxes (personal income tax and corporate income tax) for each element of the budget (Art. 64, 66, 69, 69¹); cancellation of indicative planning of local budgets indicators by Ministry of Finance with bringing them to the local budgets; forming a single basket of general fund revenues; expansion of the sources list of the general fund revenues; replacement

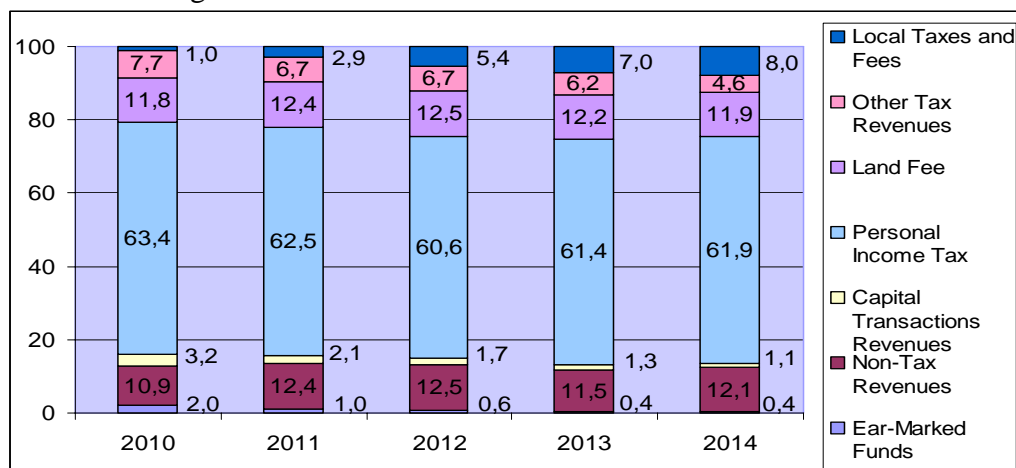
of the system of local budgets revenues and expenditures balancing by the fundamentally new system of territories fiscal capacity equalization (Budget Code of Ukraine 2010).

In 2014 local budget revenues accounted for 22,2% of consolidated budget revenue, which is 1,6 ppt less than in 2013 (IBSER 2015). According to the amendments adopted, the revenues of the general fund of local budgets have been expanded through: transferring from the state budget 100 percent of the administrative services fee, 100 percent of the customs duty, 10 percent of corporate income tax for the enterprises of the private sector; transferring the single tax and property tax (taxation of real estate and cars with large engine capacity) from the budget of development, and environmental tax from a special fund (except radioactive waste) while increasing its share to 80 percent (the previous rate was 35 percent); imposition of such new compulsory payment as excise tax on retail sales of excisable goods. In turn, the share of personal income tax (one of the major tax sources of local budgets in Ukraine) has changed: in accordance with the amendments 25 percent of tax revenues from the territory of regional centers, districts, budgets of amalgamated territorial communities is allocated to the state budget; 15 percent – to regional budgets; 60 percent – to the budgets of regional centers, district, amalgamated territorial communities (60 percent of revenues in the territory of Kyiv allocated to the state budget, 40 percent – to the budget of Kyiv) (Budget Code of Ukraine 2010).

The fiscal equalisation mechanism involves calculating fiscal capacity index for budgets of different levels (regional, budgets of regional centers and districts as well as the budgets of amalgamated territorial communities) and providing opportunities for reverse subsidy at the expense of certain alignment sources. Basic subsidy is provided to enhance the fiscal capacity of local budgets. Besides above mentioned other transfers are provided as stabilization grants and subventions: educational, for labor training, medical, for ensuring the health measures of certain governmental programs (Budget Code of Ukraine 2010).

Major changes in the Tax Code relating to decentralization concern local taxes and fees. Thus, the aforementioned excise tax on retail sales of excisable goods has been imposed; property tax has been reformed by including tax on real estate other than land, transport tax, and land fee in it; simplified taxation and reporting system has been reformed, etc. Thus, despite the reduction in the actual number of local mandatory payments from five (single tax, tax on real estate other than land, the fee for parking of vehicles, tourist tax, fee for parking certain business activities (fee for trade patent)) to four (property tax, single tax, fee for parking of vehicles, tourist tax) this year an increase in revenues from local taxes is expected (Tax Code of Ukraine 2010). Figure 1 shows the increase in local taxes and fees in local budget revenues (without inter-budget transfers) as a result of ongoing reforms.

Figure 1
Structure of local budgets revenues in 2010-2014



Source: IBSER (2015) *Budget Monitoring: Analysis of Budget Execution in 2014*

Notes: according to the data provided, tax revenues in 2014 account for 86,4% of local budget revenues (without inter-budget transfers), which is 4,2% less than the 2013 figure.

Despite the scale of changes in public administration and public finance in Ukraine, specialists and researchers of local finance allocate certain risks associated with the decentralization process at this stage (Makarov 2014; Yurchenko and Hudz 2015). Thus, one of the risks is tendency of the central government to maintain control over the allocation of funds since decentralization of the budget process in modern conditions can lead to unbalancing the whole system of budget formation in Ukraine, for example, by building unrealistic expenditures into local budgets in advance, and therefore the changes proposed do not exclude the impact of the center on the allocation and use of financial resources at the local level. For instance, the mechanism of delegated powers funding has been changed: the expenditures of public health care and education are financed by block grants excluding the reallocation of these funds, while the previous equalization system allows for such reallocation. Despite the fact that local authorities have the right to increase expenditures for these sectors at their own expense, they may not have sufficient financial resources. Also, the state retains control over capital expenditures for development, concentrated in the budget program "State capital expenditures, distributed by the Cabinet of Ministers of Ukraine." The appearance of subventions from the state budget to local budgets for projects on elimination of coal and peat industry and the maintenance of drainage facilities in safe mode in co-financing (50 percent) is in doubt because the local authorities are not related to the closure, and performing their own functions shall be provided by the state in full. Also, the control over movement of local authorities funds on Treasury accounts remains centralized by state as transactions on payment orders are made within five trading days provided the performance of the revenues of consolidated budget of Ukraine, that is a risk remains of inability to use the financial resources of local budgets.

Other risks of fiscal decentralization include: lack of funds at the local level (despite the planned increase in revenues of local budgets through reform of the tax and budget legislation a large number of public institutions transfers to the local level at the same time; problematic is the question of funding for small communities due to the reduction of revenues from personal income tax to 25 percent); the process of communities amalgamation (only through amalgamation the communities reach another level of budget category and corresponding tax revenues including 60 percent of personal income tax) (Yurchenko and Hudz 2015).

On the issue of communities' amalgamation it is significant to notice the recent research of Slack and Bird (2013) arguing that in spite of common belief in municipal amalgamation as in a way to ensure that municipalities are large enough to be financially and technically capable of providing the extensive array of services with which they are charged, dealing with economies of scale and coordination of service delivery over the enlarged territory as well as share costs equitably and reduce (even eliminate) spillovers of service delivery across local boundaries, the research shows that amalgamation probably increased the financial viability of at least the smaller and poorer municipalities by increasing their access to the tax base of the amalgamated city as a whole and it also equalized local services so that everyone can enjoy a similar level of services. In this case the question is whether it is reasonable to undertake the complex, extended and painful process of amalgamation in exchange for the small and questionable gains.

4. Conclusions and policy implications

The use of the main instruments of public finance concerning local social and economic systems such as tax and budget ones depends on the degree of centralization of public financial system in the country as well as the effectiveness of public administration system. In Ukraine in recent years there was lack of funding at the local level associated with instability and lack of financial base. Acclaimed course on decentralization has changed the focus of local development securing legislative changes in the fundamentals of the revenue base and financial independence of local budgets.

According to some experts, the changes introduced have some risks to the economic development of certain territories and the country as a whole. Despite these risks, decentralization processes and the use of related basic tools of public finance for the development of local socio-economic systems are designed to influence positively on the formation and allocation of financial resources at the local level, which in turn largely determines the level of social welfare and is the main source of the citizens needs, not only at the local level, but throughout the country.

Further research should be focused on careful coordination of decentralization trends for development of local social and economic systems in Ukraine with the strategy of country's development to achieve the welfare of the wide sections of the population. The processes of fiscal decentralization should be based on the Ukrainian fiscal and administrative tradition taking into account the institutional peculiarities of the country's development with respect to international and regional treaties ratified.

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Economic Policy Based on Quantitative Methods

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Abstract

The paper deals with modelling approach towards decision making in the field of economic policy. It describes the principles of chosen quantitative methods that can be used in the area of macroeconomic modelling, namely the framework of computable general equilibrium models and multi-criteria decision making methods with a proposition of how to combine these two into one decision making model. Using a particular multi-criteria decision making method as an objective function, with the whole CGE equation setting serving as a set of constraints, an example of such model will be demonstrated and discussed.

Keywords: CGE model, multi-criteria analysis, policy objectives

JEL classification: C68

1 Introduction

In the area of public policy decision making, a decision maker has to be well-informed about the impacts chosen policy instruments will have on various macroeconomic indicators. These can be analysed both in qualitative and quantitative manner, depending on the tools at hand, scope of the analysis as well as particular purpose of analysis. In this article the focus lies in quantitative methods one can make use of in order to provide for a better-informed decision making process.

There are different policy areas which are of interest for a decision maker, coverage of which can be expressed in terms of objectives. Attainment of objectives depends on particular policy tools which serve as instruments for achieving better outcomes in terms of each of these. Policy objectives might be either developing in accordance with each other (implying that achieving better outcome in one signals that another will develop positively as well) or they might be conflicting with each other – implying that with better achievement in one objective a detriment in another one of lesser or greater extent can be expected.

It is the ambition of this paper to shed light on chosen methods which can be used to answer the above stated prospects. In particular, two quantitative methods will be described in the following text followed by the application of these two in a combined manner.

2 Computable General Equilibrium Models

Computable General Equilibrium (CGE) models present one of frequently used tools for quantitative analysis on macroeconomic level. They are often used tool as a substitute for econometric modelling, or input-output models. General equilibrium models can be used for different purposes and depending on specific aim of analysis they can be modified to capture the development of various agents and sectors in the sense of more or less specified behaviour

in terms of equation representation. These models are widely used in the process of decision making on the macroeconomic level and are well suited for quantification of impacts that particular change in the economy setting might have on various agents. In this process typically the optimization is done in a single objective manner.

Although they are used for analysing development on macroeconomic level, CGE models are based on microeconomic principles. The assumption of market-clearing, perfect competition, and having one representative subject among a whole sector are all among principal suppositions of these models. As an advantage to other modelling techniques, CGE models provide a full-scale environment for capturing the links and relations of various sectors with others. Within a general structure of model, both producer and consumer side of economy along with foreign sector can be represented in terms of equation blocs.

2.1 CGE Equation Framework – Theoretical Basis

As for general setting, the microeconomic theory is applied for both producer and consumer. All production sectors are expressed in terms of a single representative firm which aims at maximising its profits (which is tantamount to minimising the production costs). Typically two factors of production are distinguished – labour and capital. The production process is depicted via chosen form of production function. Normally the underlying assumption (although disputed and potentially modified in these days) is that firms operate under perfect competition, thus ensuring a zero profit condition holds.

Consumer sectors can comprise institutions, government and households, depending on the model specification. In case of model described below, consumers are solely households. These aim at maximisation of their utility derived from consumption of products according to preferences (inclination towards consuming a particular product is depicted in social accounting matrix – data source for CGE models).

The equation blocs of both sectors are optimized, so that the optimal solution is found. This is done in terms of adhering to general assumptions and following the Walras law of zero excess demand. Accordingly, economy is said to be in a state of equilibrium if aggregate demand for each of produced goods is equal to its aggregate supply, implying zero excess demand on all markets. The state of equilibrium is represented in terms of a calculated price vector which satisfies this condition. In addition to this all representative agents have to fulfil a condition of equality – value of goods held at the end of cycle has to be equal to initial endowments.

3 Multi-Criteria Decision Making Methods

The underlying reason for exploring multi-criteria methods is that in today's world there is seldom a situation where one decides upon a single criterion. On the contrary, a decision making process typically entails various different criterions, which might be in conflict with each other. Same can be said of decision making process in economic policy. As there are multiple objectives which are important for achieving overall well-being, multi-criteria analysis presents a reasonable approach in this field.

For different policy areas there are different objectives at stake. In this paper two objectives will be further examined, exemplifying potential conflict between economic prosperity and ecological burden – development of overall production (in terms of GDP) and amount of emissions produced. These two objectives are expected to be conflicting with each other – while a decision maker aims at maximizing GDP growth and stabilising it, at the same time it is desirable to maintain a low level of emissions with the ambition to further decrease their level.

Problem of conflicts between chosen objectives is closely linked to concept of Pareto efficiency. Solution to an optimization problem is considered to be Pareto efficient if and only if there is no other solution from the range of feasible set (achievable solutions) which would be strictly better in some criteria and equally good for all other criteria. Thus Pareto solution to a problem is the one for which improvement in one of criteria under consideration would necessarily lead to degradation in performance of one among other criteria at minimum. Considering this regarding two proposed objectives – maximizing economic prosperity while minimizing ecological burden, it is reasonable to expect that significant increase could be achieved in terms of GDP, nevertheless this would imply increase in emissions as going green and tending towards more ecologically friendly production has plausibly some negative effects on total economic performance.

4 Combining CGE Models and Multi-Criteria Decision Making

To date, there has only been limited number of papers published related to combination of CGE modelling framework with multi-criteria decision making methods. Number of studies was published in this respect concerning exclusively economy of one country and concentrated around a single group of authors.

Beginning with Andre – Cardenete (2005) the proposition of modelling policy making with use of multi criteria problem optimization with choosing a particular solving method was brought around. In this paper an efficient set of policies was calculated together with illustrating this empirically on Spanish economy. The exercise considered two policy attributes, GDP growth and inflation with trade-off between these two quantified. Based on the results authors proposed recommendations on how to modify currently used instruments in the fiscal policy in order to achieve higher efficiency.

In the following year a work by the same authors was published (Andre – Cardenete (2006)). In this paper multi-objective programming was used to tackle different policy objectives with constraints of the model being set via CGE equation setting. As in the previous work authors have depicted bi-criteria problems – taking into account the conflicts between unemployment and inflation, followed by GDP growth and unemployment). Additionally to these the problem of five different criteria was solved leading to identification of efficient solutions.

In an attempt to include environmental policy in the problem solving, Andre – Cardenete (2009) analyse the trade-offs between purely economic objectives and environmental goals. Specifically the attributes representing such goals comprise of GDP growth and amount of emissions produced – results of calculations are presented in the payoff matrix with subsequent discussion on how the attributes counteract between each other.

Based on above mentioned works a textbook by Andre – Cardenete – Romero (2010) was published – it is considered to be the first comprehensive literature source for the modelling approach combining CGE framework with multi criteria decision making.

5 The Model

In order to be able to analyse what are the effects of choosing only single criterion for an optimization and how this affects the obtained values of the second objective, in the following paragraphs a simple model framework is proposed which will illustrate this situation. Based on this a pay-off matrix with results obtained in single objective optimization will be constructed and discussed.

The proposed model is a combination of both CGE modelling framework and multi-criteria analysis – in this setting all equation blocs of CGE model serve as a constraints to the optimization problem of given objectives. CGE model equation specification is as follows:

- The model comprises a static form of a closed economy setting – no foreign sector is present and only one time period (equivalent to one simulation step) is calculated.
- There is no government present in the model – consumption sector is represented solely by households. Behaviour of households is illustrated in terms of one representative household which attempts to maximize its utility from consumption of chosen goods – utility is calculated based on Cobb-Douglas utility function which is subjected to budget constraint. The representative household is also an owner of factors of production.
- As regards production side of economy, there are three firms, represented in terms of one representative producer whose goal is profit maximization. These firms produce three different goods, with the presence of intermediate consumption. There are two factors of production – labour and capital. Leontief aggregation function is used for intermediate inputs, along with CES¹ function as a production technology for labour and capital use.
- Based on the production approach for calculating GDP, this is calculated for all three production sectors.
- Ecological perspective is set in terms of measuring emissions produced from all three sectors. More precisely, this is set according to Andre – Cardenete - Velazquez (2005):

$$E_i = \alpha_i Q_i \quad (1)$$

where E_i denotes the amount of emission pollution in tons of deleterious particles in sector i , α_i is a measure of pollution amount for every produced monetary unit of output denoted as Q_i . Furthermore, there is a tax (measured in monetary terms) for every ton of produced pollution, denoted as t , resulting in T_i paid in taxes for emission activities (this amount is paid to household sector as government is absent)

$$T_i = t E_i \quad (2)$$

Substituting (1) to (2) we can rewrite

$$T_i = \beta_i Q_i \quad (3)$$

where $\beta_i = t \alpha_i$ stands for marginal and average tax rate of sector i as regards monetary expression for how much is paid in addition for producing one monetary unit.

Goal of this model is to bring about some results as regards methodology and thus data input represents a fictitious economy. The SAM (Social Accounting Matrix) is provided in Table 1 below. Original data as well as scheme of the CGE part of the model were retrieved

¹ Constant Elasticity of Substitution

from sources provided by EcoMod². The structure was then modified according to specifications stated above.

From the table we can derive initial values of principal variables – intermediate consumption, factors of production, levels of consumption, investment as well as due environmental tax – all of these clustered according to three sectors. In order to better specify environmental aspect in the model, three production sectors were further divided in terms of differentiating the ecological burden imposing on environment – thus t comprised a vector (0.1, 0.3, 0.6) respectively.

Table 1

Data input for the model (SAM)

		Production		
		Sector 1	Sector 2	Sector 3
Production	Sector 1	20	15	50
	Sector 2	40	5	20
	Sector 3	0	0	0
Factors of production	Labour	90	20	120
	Capital	50	60	60
	Consumption	108	35	249
	Investment	15	5	0
	Environmental tax	6	18	135

Source: EcoMod, author's calculations

6 Obtaining the Pay-Off Matrix

Aim of this paper is to present the starting point results of a simulation of above stated model which would serve as a precondition for further analysis and discussion in author's dissertation. After calibration of the model (which should reproduce the original input values) the first step in the process of analysing economic policy in terms of CGE model and multi-criteria analysis is to obtain a pay-off matrix.

Pay-off matrix is a square matrix (dimension is dependent on number of criterions taken into account) where the pay-offs for each criterion are reflected. In the matrix obtained objectives values are recorded after a single objective optimization of each. This implies that each row of the table is representative in terms of a single objective optimization, with all other objectives recorded, but not regarded in the calculation. Usefulness of payoff matrix lies in analysing to what degree individual criteria are conflicting with each other – and how all other objectives would be affected having done a straightforward single objective calculation.

The pay-off matrix can be seen in Table 2. Two bold figures represent ideal values for each objective, while other two figures stand for anti-ideal values. Based on this, we can see that the single criterion optimization for economic goal – maximizing output yielded 605 monetary units (in bold), however with this came negative reflection in amount of produced emissions – 379.5 units. On the other hand, when taking into account a single criterion

² Network of Economic Modelling Researchers, the sources for this paper were obtained during EcoMod Summer School of Economic Modelling, in 2014.

optimization as regards ecological target, we see that emissions drop to 310.5 units bringing down also amount of production – to 511.9.

Table 2

Pay-off matrix

	Production	Emissions
Production	605	379.5
Emissions	511.9	310.5

Source: author's calculations

Comparing these values with their benchmark estimates, we conclude that while in single optimization process for first objective the production rose from 550 (benchmark – without taking into account optimization process) to 605, for the second objective it was attainable to decrease amount of produced emissions from 345 units to 310.5.

7 Conclusions

Based on the results obtained in previous chapter it can be concluded that when measuring economic welfare and ecological burden these are coming in opposite direction, and thus that these two objectives are conflicting with each other. This analysis should serve as a starting point for further research, both theoretical and empirical. Therefore next steps in elaboration of the proposed modelling approach will be to determine efficient frontier as regards these two objectives.

It also has to be noted that this model presents an experimental proposition – model could be augmented by compiling and inserting a matching SAM for a specific country, or possibly region. Furthermore, wider scope of objectives could be considered as well as the dynamization of proposed model could be taken into account.

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The determinants of national competitiveness in the ongoing recession in the case of the Republic of Serbia

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Abstract

Improving the countries' ability to compete globally is now becoming an extremely important problem faced by the companies, countries but also the entire integration groups. They must solve the optimal setting of institutional environment that in addition to economic institutions also includes social, societal and political institutions. The competitiveness, as an object of theoretical research, is present already in the works of Adam Smith or his followers. The importance of this issue is demonstrated by the development of this theme in the works of relatively new schools of economics. A significant role in the development of the Republic of Serbia plays, in addition to ordinary macroeconomic impacts, also the state of war that the republic has experienced in modern history and that meant a significant deterioration in the competitiveness of the country. The article analyses the position of the Serbian economy in the competitiveness rankings as well as the main macroeconomic indicators and aims to determine factors that affect these economic results.

Keywords: *Competitiveness, New Institutional Economics, Serbia*

JEL classification: *F 00, F 18*

1. Introduction

Currently it is very interesting to deal with the issue of competitiveness. This term is not new. The nature of the problem can be already found in the works of Adam Smith. Authors of this paper consider the new institutional economic theory as a progressive economic theory which seeks the issue comprehensively as well as develops partial theory of transaction costs.

As the microeconomic sphere necessarily affects the macroeconomic sphere, it is advisable to look for the factors of competitiveness among specific issues that affect business - business environment. We have applied this approach in the case of Serbia and we have identified these factors in structure by sub-indexes of the Global Competitiveness Index compiled annually by the World Economic Forum. The Serbian economy has been selected for its specificity. This country combines, in the post-war period in the last decade of the 20th century, the potential for development and seeking its competitive position. The article analyses the position of the Serbian economy in the competitiveness rankings as well as the main macroeconomic indicators and aims to determine factors that affect these economic results.

1.1 Methodology

The analysis was used throughout this paper as the basic method of scientific work (Grančay, 2013) in order to fragment the issues, but conclusions were formulated by synthesis. By induction and deduction, we clarified the development of the competitiveness

theory and we tried to identify factors of the Serbian competitiveness using the Global Competitiveness Index. We also applied correlation and regression analysis using program Microsoft Excel. Correlation analysis was used to identify links between competitiveness factors disaggregated by sub-indexes of the World Economic Forum. The second degree polynomial regression analysis helped reveal the links between the overall positions in the competitiveness ranking and export performance.

This bond can be explained on the basis of microeconomic and macroeconomic theories dealing with competitiveness. Since the works of Adam Smith and David Ricardo competitiveness can be understood as a result of the benefits that an individual or any country has over another. Following up on these theories, we can formulate the hypothesis that the development of the competitiveness index will be accompanied by the development of performance indicators in the same direction.

2. Theoretical basis for definition of the competitiveness

Competitiveness at the macro economical level is a set of competitive advantages, whose owners are individuals, for example households, businesses and governments, i.e. micro economical entities. Exceptional competence of companies by D. Lesáková (2008) is the ability to do things better than the competition. Thus, companies achieve and occupy their position in relation to competitors, which means that they secure their competitive advantage. This advantage stems from 1. Exceptional competencies; 2. Way of using resources and 3. Selection of markets.

For a conscious achievement of competitive advantages it is necessary for companies to analyse vital business process - micro economical view (Table 1). Companies can reach an advantageous competitive position via two types of activities - supporting (business infrastructure, human resources, corporate research, development, procurement of production factors) or primary activities (storage, preparation, production, storage of finished products, sales and marketing, sales and after-sales service). This kind of analysis is also suitable for subsequent identification of factors of competitiveness of the entire national economy.

Table 1

The value chain in the company

S U P P O R T I V E S	Business infrastructure					S C A L E
	Human resources management					
	Technological development					
	Procurement					
	Management of input operations	Production	Management of output operations	Marketing and sales	Service	
	PRIMARY ACTIVITIES					

Source: Lesáková, et al., 2008.

Historically, already in the work of Adam Smith (1958) *Wealth of Nations* we encounter with competitiveness at the macroeconomic level, specifically the theory of absolute advantage. "*The natural advantages which one country has over another in the production of certain goods are sometimes so great that the whole world accepts that compete with such countries is simply impossible.*" (Smith, 1958)

Later this theory was modified by David Ricardo as the theory of comparative advantage. Nations, according to D. Ricardo differ among themselves by labour productivity. "*The country will import those goods that can produce relatively more effectively (at a lower relative opportunity costs), and will import those goods that produces relatively less effectively (at a higher relative opportunity costs).*" (Lisý, 2007)

This theory operates with the category of alternative costs. Relative price is the amount of one good that the country must give up in order to procuring a second good (Table 2). This theory was later revised and used as the basis for the modern theory of foreign trade. Example - Heckscher-Ohlin model (HO theory), which operates with a modern terminological apparatus of production factors (for more Baláž, 2010). It must be noted that the proportional relations between the factors of production, land, labour, capital are not rigid. This means that the competitive ability that results from national ownership of specific productions factors is variable. This situation is clearly contained in Rybczinsky theorem (Lipková, 2011): "*The growth of offer of some factors - ceteris circumstances - is leading to an increase of production volume of goods, which is manufactured using this production factor and a reduction in the volume of production of other goods.*"

Table 2

The theory of comparative advantage - an example

	Country A	Country B
Price of car	4000 monetary units	40 000 monetary units
Price of coffee / tonne	800 monetary units	4000 monetary units
Relative price of car	$4000/800 = 5$	$40\ 000/4000 = 10$
Relative price of coffee	$800/4000 = 0,2$	$4000/40\ 000 = 0,1$
	Country A – comparative advantage = production of cars	Country B – comparative advantage = production of coffee

Source: Lisý et al., 2007.

According to P. Baláž (2010), from a macroeconomic perspective, we distinguish 1. The natural comparative advantages; 2. Internal and external economic conditions, such as the status and development of macroeconomic indicators basis (level of purchasing power, market structure, quality and condition of international relations and links); 3. Socio-cultural factors (state of the business and institutional environment, etc.). It is also necessary to deal with theoretical papers of M. Porter. According to this latter named author M. Porter (1994 in Baláž, 2010) interconnected competitiveness with productivity: "*Competitiveness has become a productivity through which a nation uses human, capital and natural resources.*"

Like the business process analysis (Table 1), it is appropriate to apply the method of analysis at the level of the national economy. M. Porter thus gradually constructed his model - diamond of determining factors of national competitiveness. G. Márkus (2008) presents the possibility of quantification of the individual factors of competitiveness: I. **Conditions** (Knowledge base; Financial prospects; Lack of qualified experts); II. **Related and supporting industries, clusters** (Cooperation with other organizations; Demand conditions; Demand index); III. **Firm strategy, structure and rivalry** (Past tendencies of sales revenue growth and expected future tendency; Past tendencies of headcount growth and expected future tendency); IV. **Innovation** (Innovation activities). There are two more dimensions in the Porter's diamond: **Government** and **Chance**.

As mentioned before, for a topic of our work, it is interesting to deal with innovation – a factor of the national competitiveness. Alone the issue of innovation processes was elaborated

in evolutionary economic theory, in particular in works of - among others - J. A. Schumpeter and A. A. Alchian. The starting point for their analysis is the approach of neoclassical type, achievement of economical equilibrium. However, this balance is constantly disturbed by innovation activities and companies are forced to apply two market processes – adaptation to the new conditions, or selection (exit from the market). *"Even cyclical fluctuations can be compared to a certain wave of innovation, which is at the beginning of the process - as multiplier – generator of subsequent innovation (economic growth phase), innovative operators are making extraordinary profits, then the demand for credits is increase. Later this innovative wave is exhausted and unit prices are lower, also profit too and entities that have requested loans from banks for their excess activities find that they poorly evaluated the situation on the market, they desinvested. This leads to a recession, but to a depression too."* (Volejníková, 2005 in Steinhauser, 2015)

Another important area of this work - from a theoretical, but also from a practical point of view - is the business environment. This environment can be analyzed in background of the new institutional economic theory. For further understanding of the issues it is useful to deal with the available literature. Even the authors have dealt with the application of economic theory to various areas in the previous publications. L. Furdová and D. Steinhauser (2014) used the conclusions of this theory to clarify the benefits of introducing a Single window for improving the competitive position of the Slovak Republic. Single window has been characterized as reform element to reduce the transaction costs. Followers of this economic school considered institutions as the basic unit of analysis. According to Ľ. Mlčoch the institutions are commonly discussed in sociology. *"Institutions are ... crystallized "congealed" conventions ..."* (Mlčoch, 2005).

Table 3

Quality of business environment



Source: Okruhlica, 2013.

Below the author defines the specific institutions, such as the language, family, money, ownership, market (Mlčoch, 2005). They are generally divided into formal and informal institutions (Table 3). Between this two groups F. Okruhlica identified the factors of quality of business environment, which are either positive (+) or negative (-). Institutionalism, including original American institutionalism (J. R. Commons) brought as real novelty the concept of transaction costs. However, the greatest contribution to the development of the theory of transaction costs brought R. H. Coase, who is known by the Coase Theorem (Liška et al. 2011): *"In a certain sense, every economic deviation from Pareto optimum is attributable to the existence of transaction costs, because if it had been zero, all contracts aimed at Pareto optimum should be implemented"* (Lisý, 2003 in Furdová – Steinhauser,

2014)." „*Pareto optimum is the optimal condition where market participants can not achieve better advantage without damaging the other participant (under condition of the same allocation of resources, income, preferences)*“ (Lisý, 2007 in Furdová – Steinhauser, 2014).

2.1 The competitiveness of the national economy – the case of Serbia

Serbia is a small open economy located in the central part of the Balkan Peninsula at the border of the European Union and the intersection of the Pan-European corridors X (international highway and railroad) and VII (Danube). Serbia's strained external relations have recently improved, which helped the country gain the status of EU candidate country in 2013. The accession negotiations are primarily aimed at improving the key areas of rule of law including the judiciary and relations with Kosovo. Regarding the current economic situation, state ownership prevails in different economic sectors and burdens public finances with subsidies for a number of loss-making enterprises. Serbian structural problems, especially its poor export performance and the dominant role of the public sector bring substantial deficit. A characteristic feature is the lack of domestic demand, bad business environment and weak foreign direct investment. The economy still faces challenges, deflationary pressures and further stagnation (see Table 4) (MZVaEZ SR, 2014).

Table 4

The main macroeconomic indicators

	2010	2011	2012	2013	2014
Real GDP growth (%)	0.6	1.4	-1.0	2.6	-1.8
Unemployment rate (%)	19.2	23.0	23.9	22.1	18.9
Inflation (%)	6.1	11.1	7.3	7.7	2.1
Budget deficit (% of GDP)	3.4	4.0	5.9	5.2	6.4
Public debt (% of GDP)	41.8	45.4	56.2	59.6	71.0

Source: The World Bank, 2015.

Due to the postponement of various structural reforms the country is at the relatively early stage of the transition to a market economy. The government proceeded with labor law, pension and subsidies reforms that aim to improve the business environment and the sustainability of public finances. However, four interrelated areas of reform - fiscal consolidation, public sector reform, the economic environment improvement and anti-recession measures are insufficient and require further austerity measures. Public sector reform, with a few exceptions, has not yet been realized. Ongoing generous state subsidies for employment and investment as well as tax incentives for new employment are not economically or fiscally sustainable. Rising macroeconomic risks associated with large fiscal deficit and rapidly growing public debt represent the primary threat to the stability of the economy and its growth. The main reasons for Serbia's economic decline in 2014 include poor economic environment, with catastrophic floods reinforcing this negative trend. Poor economic environment, risks associated with the fiscal deficit and public debt directly affect investment and lending activities by the growth of interest rates. The deficit is unacceptably high for a country that is largely based on a government loan (MZVaEZ SR, 2014). In the long term, it is necessary to take measures to promote the development of exports and export-

oriented economy and to adapt business strategies to the changing conditions in the international markets (see Zorkóciová & Brynkusová, 2012).

Serbia's ranking in Doing Business 2015 that provides an aggregate ranking on the ease of doing business based on indicator sets that measure and benchmark regulations applying to domestic small to medium-sized enterprises during their life cycle, dropped from 77th to 91st out of 189 countries. Among 11 indicator sets, Serbia has the worst position in the following areas of business regulation. Serbia stands at 186 in the ranking on the ease of "dealing with construction permits", i.e. how easy it is for an entrepreneur in Serbia to legally build a warehouse. It requires 16 procedures, takes 264 days and costs 25.7 % of the warehouse value. Regarding the ease of "paying taxes" Serbia stands at 165 in the ranking. On average, firms make 67 tax payments a year, spend 279 hours a year filing, preparing and paying taxes and pay total taxes amounting to 38.6 % of profit. Serbia ranks 96th on the ease of "trading across borders". Exporting a standard container of goods by ocean transport requires 6 documents, takes 12 days and costs 1635 USD, importing requires 7 documents, takes 15 days and costs 1910 USD. The same ranking is obtained in the indicator set "enforcing contracts", i.e. how efficient is the process of resolving a commercial dispute through the courts in Serbia. Contract enforcement takes 635 days, costs 34 % of the value of the claim and requires 36 procedures (The World Bank, 2014).

On the other hand, according to Ernst & Young European Attractiveness Survey 2014 Serbia was one of favorite investment locations in Central and Eastern Europe (CEE) in 2012. The success continued in 2013 - number of new jobs was up by 18% and 63 new projects made Serbia the 2nd most attractive location in CEE (the 1st - Poland) (SIEPA, 2015). The advantages of investing in Serbia include favorable geographic position, well-developed transport infrastructure, inexpensive skilled workforce, membership negotiations with the EU etc. There are 14 free economic zones (Pirot, Novi Sad, Sabac, FAS Kragujevac, Smederevo, Subotica, Zrenjanin, Uzice, Krusevac, Svilajnac, Apatin, Vranje, Priboj and Belgrade) where activities are carried out with many business benefits, such as fiscal benefits (exemption from payment of VAT in specified cases), exemption from payment of other import duties for raw materials, equipment etc., financial benefits (free movement of capital, profits and dividends), efficient administration, simple and fast customs procedures, local government incentives, some services available under preferential terms (transport, insurance,...). Substantial preferential trade agreements allow Serbia to serve as a manufacturing hub for duty-free exports to market of 1.1 billion people: (Ministry of Finance and Economy of the republic of Serbia, 2014)

- ✓ Stabilisation and Association Agreement with the European Union,
- ✓ Central European Free Trade Agreement (CEFTA) - regional free trade agreement - Macedonia, Albania, Bosnia and Herzegovina, Moldova, Montenegro, Serbia, UNMIK on behalf of Kosovo,
- ✓ Free trade agreement with the Russian Federation, Belarus and Kazakhstan,
- ✓ Free trade agreement with Turkey,
- ✓ Free trade agreement with European Free Trade Agreement (EFTA),
- ✓ USA - Generalized System of Preferences (GSP).

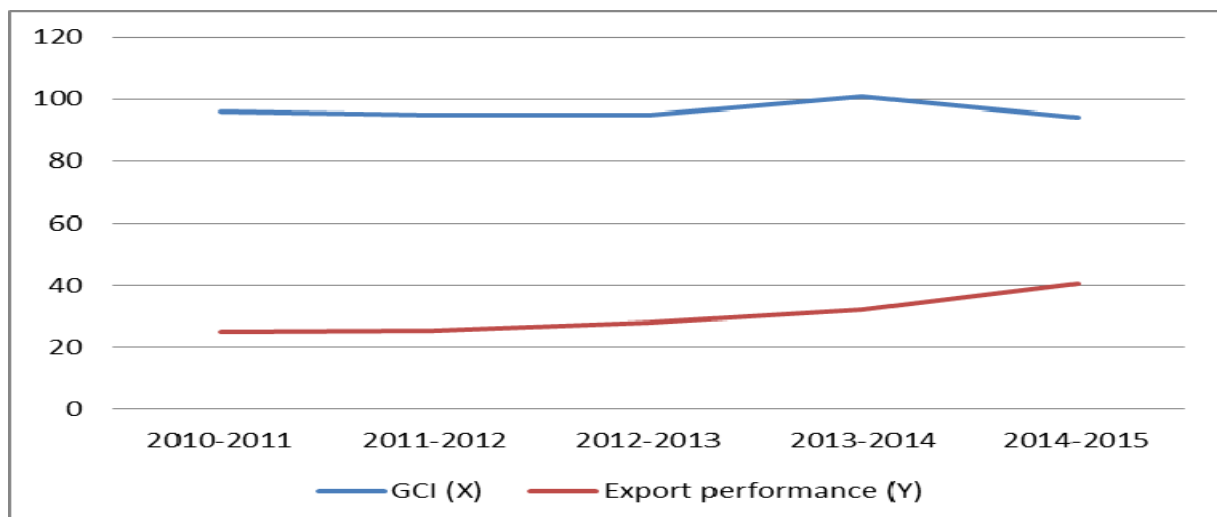
The World Economic Forum Global Competitiveness Report 2014-2015 ranked Serbia 94th out of 144 countries. In order to know the determinants of competitiveness that affect the Serbian economy, we have applied correlation and regression analysis (Table 6). We have started with the hypothesis that better position in the ranking of economies' competitiveness will have a positive impact on Serbia's export performance.

Table 5
Serbia's Global Competitiveness Index (GCI) rankings

	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
GCI	96	95	95	101	94
Institutions	120	121	130	126	122
Infrastructure	93	84	77	90	77
Macroeconomic environment	109	91	115	136	129
Health and primary education	50	52	66	69	68
Higher education and training	74	81	85	83	74
Goods market efficiency	125	132	136	132	128
Labor market efficiency	102	112	100	119	119
Financial market development	94	96	100	115	109
Technological readiness	80	71	58	60	49
Market size	72	70	67	69	71
Business sophistication	125	130	132	137	132
Innovation	88	97	111	112	108
GDP (bn. EUR)	29.766	33.423	31.683	34.262	33.059
Export (bn. EUR)	7.393	8.439	8.836	10.999	13.36
Export performance (% of GDP)	24.84	25.25	27.89	32.10	40.41

Source: The World Economic Forum, 2015. Businessinfo.cz, 2015. Export performance - authors' calculations by Kaššáková – Ružeková, 2012.

Figure 1
Serbia's Global Competitiveness Index (GCI) and Export performance



Source: The World Economic Forum, 2015. Businessinfo.cz, 2015. Export performance - authors' calculations by Kaššáková – Ružeková, 2012.

Even without the use of statistical methods, we argue that the Serbia's stagnation in competitiveness ranking during the reporting period was accompanied by a rise in export volume. We used a simple method of observation. This finding can be demonstrated graphically.

We realize that there has not been a sufficient number of variables in correlation and regression analysis; therefore we processed correlation and regression analysis as support for a simple method of observation of statistical data. Correlation and regression analysis were applied to the relationship between the evolution of the Serbia's position in the competitiveness ranking and export performance.

Positive correlation (moderate indirect linear relationship) arises only in the case of the sub-index "Infrastructure" (correlation coefficient -0.49). It is noteworthy that we have identified a moderate relationship between export performance and the current deterioration of the position of Serbia in the sub-indexes "Macroeconomic environment", "Health and primary education" and "Labor market efficiency".

In the case of the overall Serbia's GCI score the analysis failed to demonstrate a relationship between the evolution of competitiveness ranking and export performance. Therefore we decided to proceed with the second degree polynomial regression analysis, which helped reveal the links between the overall positions in the competitiveness ranking and export performance. Regression analysis equation can be written in the form:

$$\text{Export performance} = 1.4577 * \text{GCI}^2 - 285.14 * \text{GCI} + 13962 \quad (1)$$

According to this equation we can obtain the estimated export performance if Serbia's competitive position has improved or worsened. For example, if Serbia was ranked 93rd, hypothetical export performance would reach 51.63 % of GDP, if Serbia worsened its position to 100th place, export performance would amount 25.0 % of GDP.

Table 6
Correlation analysis and polynomial regression

Variables	Correlation coefficient	Polynomial regression analysis			
Dependent variable (Y):		x^2	x	Coefficient	R Square
Export performance (% of GDP)					
Independent variable (X):					
<i>GCI</i>	-0.05	1.4577	-285.14	13962	0,8501
<i>Institutions</i>	0.05				
<i>Infrastructure</i>	-0.49				
<i>Macroeconomic environment</i>	0.73				
<i>Health and primary education</i>	0.75				
<i>Higher education and training</i>	-0.30				
<i>Goods market efficiency</i>	-0.12				
<i>Labor market efficiency</i>	0.71				

Source: own processing (from Table 5) in Excel by Grančay et al., 2013.

Notes: Evidential value of analysis is limited due to a variable number of the countries in Global Competitiveness Reports (2010-2011 – 2014-2015).

3. Conclusions

Since the beginning of economic science there is an effort to analyse and interpret the competitiveness of enterprises and the whole national economy. At this time, the attention is focused on production efficiency, availability of production factors. Currently, during the synthesis of various disciplines, modern business schools are looking for competitiveness across the spectrum of human activity. The focus is on the quality of institutions.

These institutions (formal or informal) set the framework for the functioning of economic processes. State intervention affects quality of those institutions that are measurable using the competitiveness rankings. For our needs, we used the Global Competitiveness Index and its internal structure. Using correlation and regression analysis, we tried to identify Serbia's competitiveness factors. We were looking for the link between these factors and the composite indicator of export performance, its level is influenced by the country's GDP and export volume per time period, in our case annually.

Based on macroeconomic indicators, it can be seen that the Serbian economy shows serious economic disturbances. Economic performance (measured by the GDP) shows that the country is in economic recession. In contrast, the export volume is increasing continuously, except for 2012. This means that the indicator of export performance (expressed in percentage) is increasing. We have seen deterioration in the country's position in competitiveness rankings. This trend is also supported on the basis of correlation analysis when link between the final placements of the country's position shows weak linear bond to export performance. In contrast, the regression analysis showed that improving competitiveness positions would hypothetically be accompanied by export performance growth. This bond was explained by the polynomial regression line.

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Factors of growth slowdowns & convergence of Slovakia

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Abstract

Dynamic convergence process of the EU members was stopped by economic crisis. Using empirical studies we aim to identify principal factors of growth slowdowns and main risks of convergence in Slovakia and the other new EU members. In first step, we identify relevant growth slowdowns, in a further step we estimate the slowdown's dependence on various factors using probit models. By testing relatively large number of available factors and their combination as accurately as possible, we try to explain the consequences of such a slowdown. Institutional, demographic, infrastructure, macroeconomic conditions and factors of competitiveness are covered in a sample as descriptive indicators of the countries' economies. We also found that long-term or significant slowdown, however, occur not only in less developed countries but also in Europe and high-income countries. Basically, significant slowdown factors in these countries do not differ.

Keywords: growth slowdowns, probit, convergence

JEL classification: C25, O11, O43

1. Introduction

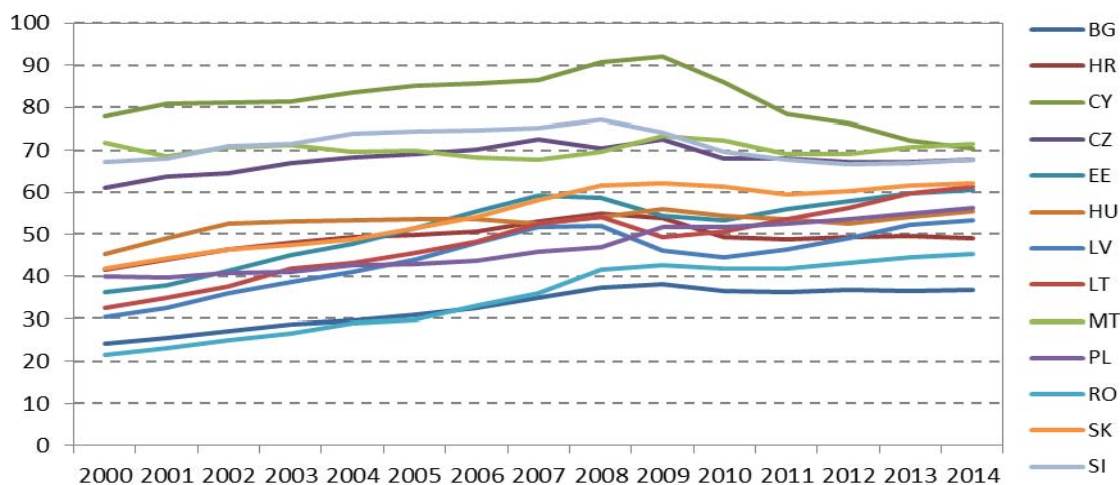
Dynamic convergence process of the EU members was stopped by economic crisis. Current state shows that not all countries are able to achieve significant recovery in economic growth. Average GDP growth for the new EU members is much lower than before the crisis.

Since 2009, new EU members have stopped catching up the Germany and now stands at 30-70% of economy performance, what represents Chart 1.

GDP ratio of advanced economies (Cyprus, Slovenia and Czech Republic) to Germany's GDP over the year fell by 5-6 percentage point. None of the new EU members have succeeded to refresh catching up process noticed before crisis. Baltic countries, Poland and Romania relatively exceeded performance levels. Low convergence rate as the main reason is broadly described on example with several Latin American economies. They theoretically could be stuck in the "middle-income trap". This approach draws the attention to reaching the middle-income threshold, there may be difficulties to get new sources of growth and continue catching up with high-income countries.

Chart 1

GDP per capita - PPP terms new EU members (Germany=100)

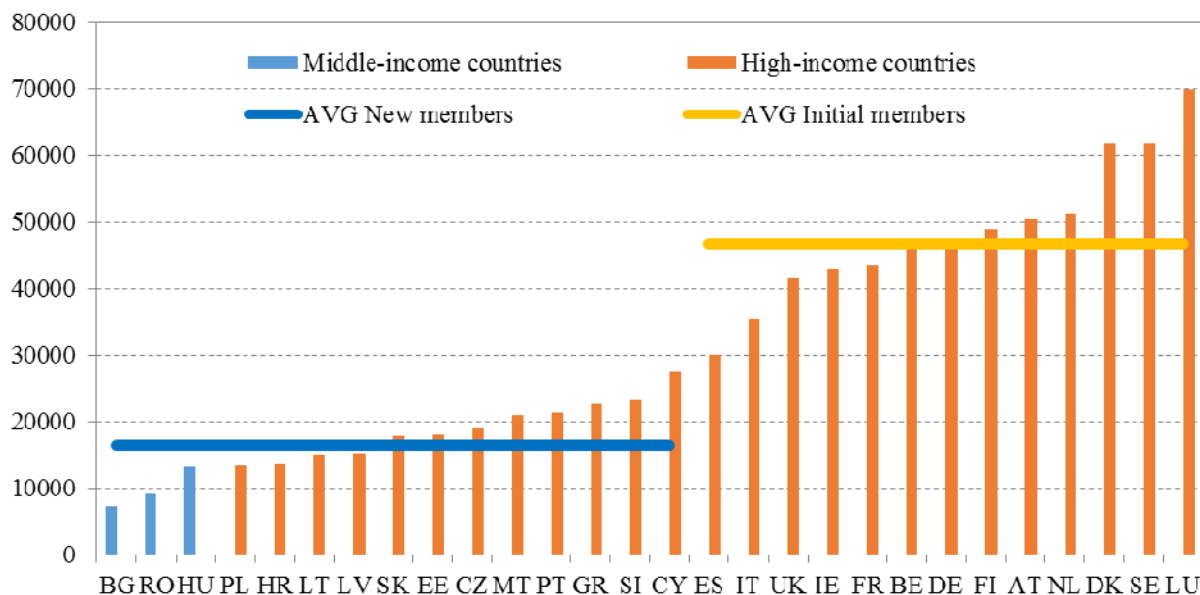


Source: Eurostat, own computations

The most of new EU members, except Bulgaria, Romania and Hungary have already rank in the high-income countries according to income definition of the World Bank. Theory of middle-income trap countries is not therefore directly applicable to these countries.¹ Considerations about slowdowns in Slovakia or in other less developed EU countries are either temporary or permanent, is in place. Chart 2 shows there exist a possibility for catching up richer countries.²

Chart 2

GNI per capita EU (USD, 2013)



Source: World Bank Atlas

¹ Nowadays, threshold for middle-income countries represents GNP per capita between \$1045 and \$12746 in 2013

² Average GNP of initial EU members is still three times higher than average of new EU members. In case of GDP, the differences are lower.

2. Identifying growth slowdowns

Growth slowdowns are relatively frequent phenomenon. In terms of sustainable growth we primarily focus on significant and possibly long-term slowdowns in GDP growth. Therefore, the first step is to identify the relevant growth slowdown and then proceed with next step, to estimate dependency ratios among different factors.

There are several approaches to identify growth slowdowns. Some authors use statistical methods for calculating the break-even point, others use easier methods. Abiad et al. (2012) use the algorithm of Harding and Pagan (2012), which look for a local minimum and local maximum under specific conditions relating to the length of the business cycle and the differences in its phases. Hausmann et al. (2006) define the beginning period with decline in production per effective labor ending with the value prior to the slowdown.

At first, we apply approach by Aiyar et al. (2013) in which are taken into account the theoretical assumptions. Growth slowdown is therefore understood as steep and sustained deviation from the predicted growth, but low frequency occurs.³ By holding these conditions we haven't identified any slowdowns on our sample using standard five-year period.⁴ Reducing time period by two years brought 38 slowdowns for countries all over the world since 1990 to 2013.

Identifying growth slowdowns by different approach allows us to focus on smaller and more homogeneous groups of countries.⁵ According to Eichengreen et al. (2012) we only consider a significant slowdown in growth rate greater than or equal to 2%, in which precedes the growth rate at least 3.5% per year. Our sample is not only covered by countries with a GDP per capita of less than 10k USD in PPP, because they are likely to struggle with various serious economic problems.

To be complex, we identify growth slowdowns by two approaches along with five-year, four-year and three-year periods. Shorter period of time the greater number of observations is required for a robust quantitative analysis. On the other hand, shorter periods may not be consistent with the definition of long-term development on which should be based on analysis of the catching-up process.

Table 1

Number of identified growth slowdowns

	Aiyar and team (2013)	Approach 1	Approach 2
		according to	according to
		Aiyar and team (2013)	Eichengreen and team (2012)
5-year interval			
World	123	0	74
Europe & Central Asia	4	0	44
High Income Countries	-	0	53

³ Prediction is based on the relationship between GDP growth and lagged GDP, physical and human capital. To consider growth slowdown as significant (difference in standard deviation between t and t-1), it has to be in the bottom quintile of growth slowdown distribution. Growth acceleration

⁴ Due to the availability of input data to estimate potential growth slowdown, we could identify only the data for significantly shorter period of time as the original author, who worked with the data between 1955 and 2009.

⁵ The number of observations for EU countries is not sufficient for thorough quantitative analysis, therefore, we estimate the impact of slowdown factors and the larger, but still relatively similar samples countries in Europe and Central Asia, and high-income countries.

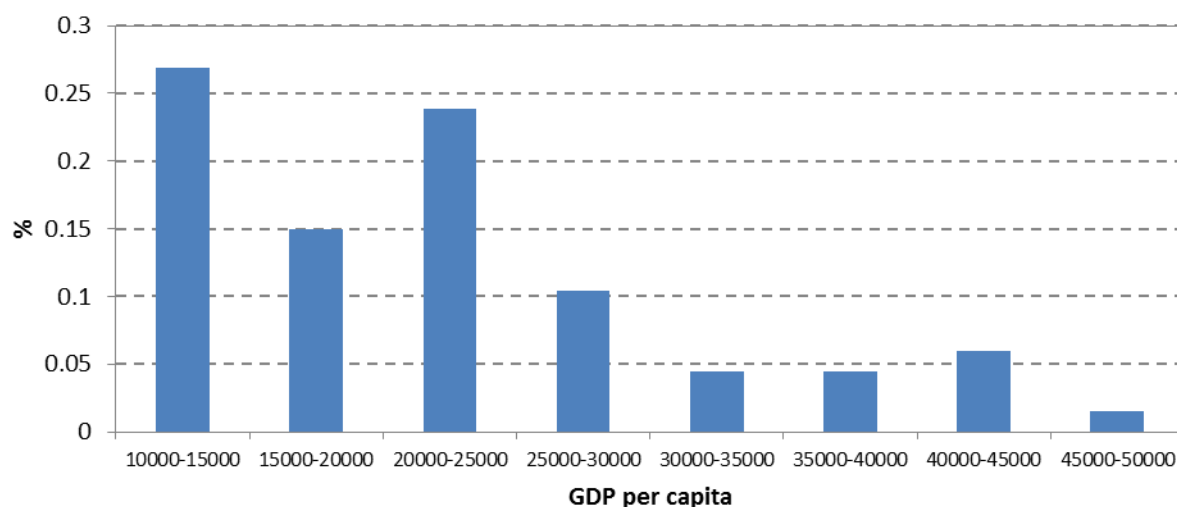
4-year interval			
World	-	0	86
Europe & Central Asia	-	0	52
High Income Countries	-	0	85
3-year interval			
World	-	38	106
Europe & Central Asia	-	8	61
High Income Countries	-	16	71
<i>Interval</i>	1955-2013	1990-2013	1960-2013
Total number of countries	138	133	133

Source: Own computations

Data used after 2009, bring us a greater number of slowdowns in Europe occurred either in last or last two annual periods (depending on the duration of period). As confirmed by the following chart, according with the findings of other authors, slowdowns occur more likely in countries with low incomes. Slowdowns fall steadily and identified slowdowns are present with high probability even in high-income countries. Long-term or significant slowdowns make up approximately half of all slowdowns detected in middle-income countries. More than a quarter take place in high-income countries and the rest (less than one quarter) slowdowns are identified in low-income countries.

Chart 3

Distribution of identified growth slowdowns



Source: Own computations

Note: Slowdowns identified by Eichengreen (2012) approach

3. Analysis of growth slowdowns

The usual approach used in the literature measures impact of factors on slowdowns quantified by probit models. This model allows us to examine the relationship between the probability of occurrence and potential explanatory variables. We test a relatively large number of available factors taking into account wide range of possible impacts. Dataset covers institutional, demographic, infrastructure, macroeconomic conditions and competitive factors.

According to Aiyar et al. (2013) relationship we test between the slowdown in the current period, than the value of explanatory factor at the beginning of the period and the change in value of explanatory factor in the previous period.

$$Y_t = \alpha + \beta_1 x_t + \beta_2 (x_t - x_{t-1}) + \varepsilon$$

Following the Eichengreen et al. (2012) slowdown also depends on the income level of the country, while considering the nonlinearity influence income and other explanatory factors.

$$Y_t = \alpha + \beta_1 x_t + \beta_2 x_t^2 + \beta_3 GDP_t + \beta_4 GDP_t^2 + \varepsilon$$

Slowdown factors estimated on three-year periods by Aiyar et al. (2013) is not in line with our expectations. Because for an adequate number of observations estimation provides a small number of statistically significant factors. The analyzed period is excessively short to identify long-term context. It captures mostly short-term impacts of the analyzed indicators that can be reversed in the short term impact on economic growth.

4. Growth slowdown risks for new EU members

Identification of statistically significant factors of slowdown allows us to think about the risk of long-term growth slowdown in Slovakia. To visualize representation of the relative risk rate compared to other new EU member states we use a simple *heat map*, which displays the current values of statistically significant factors colored according to their values.

Slovakia has very good relative position in the overall international competitiveness of exports, technological development, trade international barriers and in view of the probability of the slowdown in the fertility rate. On the other hand, in Table 2 we see that **Slovakia in comparison with other countries lagging behind in the proportion of university-educated workers.**

Table 2

Growth slowdown risks for new EU members

Country	Fertility rate	Tertiary labor force ratio	Investment to GDP ratio	Freedom to trade internationally	Business regulation	TFP	Foreign direct investment	Terms of trade	Index of economic complexity
BG	1,50	26,6	20,5	7,58	7,92	56,4	3,46	107,0	0,71
HR	1,51	21,6	23,9	7,67	6,98	70,4	1,02	97,7	1,05
CY	1,46	41,5	24,6	7,66	6,80	72,2	15,65	92,2	0,89
CZ	1,45	20,0	25,0	7,94	7,73	59,2	3,52	101,6	1,68
EE	1,56	37,2	26,1	8,25	7,82	61,8	3,55	94,1	0,93
HU	1,34	24,5	19,4	7,65	7,50	55,8	-3,08	95,2	1,42
LV	1,44	31,1	26,5	8,08	7,56	59,6	3,20	104,2	0,83
LT	1,60	37,1	19,1	7,61	7,81	67,2	1,53	93,4	0,87
MT	1,43	20,9	13,5	8,12	7,60	69,0	6,07	124,8	-0,64
PL	1,30	28,2	19,6	7,36	7,47	80,3	0,00	97,9	1,15
RO	1,53	17,6	26,3	7,75	7,71	52,2	2,17	109,7	0,91
SK	1,34	19,8	22,1	7,88	7,26	72,7	2,20	91,6	1,61
SL	1,58	29,1	24,9	7,38	6,48	59,5	0,18	94,6	1,56

Source: Absolute values ordered by ascending (detailed in appendix Table 4)

In the next years saw a fall in the terms of trade, the value of which was, according to the World Bank in 2013 in Slovakia, similarly unfavorable as in Cyprus. Risk in terms of probability greater deceleration is present relatively low level of the business environment and partly a lack of investment.

5. Conclusions and policy implications

Quantitative analysis of slowdown factors shows that the significant and long-term growth slowdowns moreover occur in high-income countries what is for Slovakia more relevant group in terms of development level and economy structure. Probability of long-term slowdown in these countries depend on similar factors as for middle-income countries. Growth slowdowns were more severe in countries with unfavorable demographic developments, the poor quality of the business environment and weak external competitiveness.

Statistically significant slowdown factors showed that the risk from the perspective of potential long-term growth slowdown for Slovakia is the current value of the terms of trade. However, positive values indicate a technological level measured by TFP and export competitiveness measured by the index of economic complexity, shortcomings in terms of price competitiveness are offset by non-price competitiveness.

Risks directly influenced by political decisions are appropriate to improve the relative position of Slovakia in higher education, the quality of the business environment and promotion of investments. Failure to address deficiencies in this area may lead to long-term Slovakia's lagging behind the catching up with the advanced countries and may reduce in the relative living standards in Slovakia.

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Appendix

Table 3

Probit results Eichengreen (2012)

		GDP per capita	GDP per capita squared	Level of indicator	Squared indicator	Constant	No. of observations
Demography	Higher education	16.03***	-0.792***	-3.627***	3.111**	-81.08***	955
	Fertility rate	21.07***	-1.051***	54.03**	-4.727	-107.2***	1,251
	Mortality rate	19.04***	-0.937***	2,698***	-80,760***	-118.9***	1,251
Economics	Consumer price index	19.46***	-0.976***	4.874***	-4.803***	-97.90***	1,048
Institutions	Freedom to trade	16.88***	-0.841***	-4.516*	2.655	-83.59***	889
Competitiveness	TFP	20.92***	-1.052***	-4.713***	2.040***	-102.1***	920
	Index of economic complexity	16.08***	-0.802***	-0.306***	0.0859	-81.36***	695

*** p<0.01, ** p<0.05, * p<0.1

Source: Own computations

Table 4

Sources of variables

Name	Source
GDP per capita (constant 2005 US\$), World Development Indicators	World Bank
Output-side real GDP at chained PPPs(in mil. 2005US\$), PWT 8.1	Penn World Tables
Age dependency ratio (% of working-age population), World Development Indicators	World Bank
Labor force with tertiary education (% of total), World Development Indicators	World Bank
Fertility rate, total (births per woman), World Development Indicators	World Bank
Life expectancy at birth (years) / 1 , World Development Indicators	World Bank
Services value added (% of GDP), World Development Indicators	World Bank
Share of gross capital formation at current PPPs, PWT 8.1	Penn World Tables
Capital Openness, The Chinn-Ito index	Chin and Ito (2006)
Total reserves (includes gold, current US\$), World Development Indicators	World Bank
Gross general government debt (% GDP)	International Monetary Fund

Inflation, consumer prices (annual %), World Development Indicators	World Bank
Regulation, Economic Freedom of the World	The Fraser Institute
Freedom to trade internationally, Economic Freedom of the World	The Fraser Institute
Financial freedom, Index of Economic Freedom	The Heritage Foundation
Investment freedom, Index of Economic Freedom	The Heritage Foundation
Size of Government, Economic Freedom of the World	The Fraser Institute
Net barter terms of trade index (2000 = 100), World Development Indicators	World Bank
TFP level at current PPPs (USA=1), PWT 8.1	Penn World Tables
Foreign direct investment, net inflows (% of GDP), World Development Indicators	World Bank
Trade (% of GDP), World Development Indicators	World Bank
Index of economic complexity	The Atlas of Economic Complexity

Modern approaches to appraisal of work performance

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Abstract

Generation Y which has grown up with e-technologies and cannot imagine its work or day-to-day life without them is entering the labour market. This generation is represented by self-confident employees who have used the Internet and cell phones since early childhood; they love freedom, flexibility and expect accommodating environment, flexible work time, perhaps even home office. They like to evaluate through Twitter or Facebook by giving "likes" and by the means of games and competitions, so called gamification, they tend to achieve higher professional levels. Those can be the new approaches in human resources management; having information about employee's expertness in various applications, having employees earning points through educational and career programs to get more qualified tasks.

Keywords: Labour performance evaluation, manager, employee, generation Y, feed-back

JEL classification: M54

1. Introduction

In recent years there is an increasing pressure on a company management to respond flexibly to changes in an environment especially to the changing labour market. In this process there are parallel changes in the area of labour force, work place design and business environment itself. Globalization is closely related to technological development; Dejonckheere - van Hootegem (2001) points at mutual conditionality between these two aspects which appear on the market. Informational and communication technologies change the nature and content of tasks not only in a production area but also in services area; they increase the requirements for knowledge, skills and abilities of employees and their adaptability and flexibility (Brandsman, 2001, Mertaugh, Hanushek, 2005 and co). Organization structures are changing; they are reorganizing towards team cooperation and teams are directly linked to the central management.

The term flexibility is more and more often mentioned in the context of new task organization which changes the employee-employer relationship. The traditional work style which is based on a lifelong work contract between an employer and an employee has vanished. Despite having a sophisticated Labour Code that defines dependent work which sometimes counter-productively limits both an employer and an employee thus decreasing flexibility on the labour market, new elements are starting to appear in work contracts such as flexible work time, telework and home office¹.

For some time, there have been several digital trends in organizations, such as a possibility to connect to organization's systems from any location, a possibility to connect

¹ Note: A home office or telework is defined in a Labour Code § 52. A home office employee is the one who works from home or other place agreed in a work contract. It can be any kind of job that is not necessary to do at a workplace. An employee can work at a technical or software devices of his employer or his own. The measures that an employer should define in telework are stated in point 2 of the same paragraph.

own cell phone to organization's network - BYOD, or an establishment of a uniform electronic platform to share information. Similarly, internal communication brings new elements such as blogging², video messaging³, or interactive games used to inform about new products, projects and strategies (Berecová, 2014).

2. Generation change on the labour market

The age structure of population is changing radically. Following is the classification of population according to years and generations⁴ provided by Solnet, Krajl, Kandampully, (2012)

- Traditionalist generation – the generation born before 1945
- Baby Boomers – the generation born between 1945 and 1964
- Generation X – the generation born between 1965 and 1978
- Generation Y – the generation born between 1979 and 1994
- Generation Z – the generation born after 1995

According to the population census realized in Slovakia in 2011, there has been an increase in the ratio of productive population (15-64 years old) in the past 10 years; from 68,9% in 2001 to 72% in 2011 as well as the ratio of post-productive population (65+) from 11,4% in 2001 to 12,7% in 2011⁵.

Let's compare work and social characteristics and management styles of each generation to find out if it is necessary to change the approach in human resources management. The comparison is worked out from the periodic Journal of Behavioural Studies in business (2011) plus own contribution.

Traditionalist generation, born before 1945	
Work characteristics	Management styles
<ul style="list-style-type: none"> - Hard-working - Saving \$\$ - Stable - Sacrifice themselves - Respect authority - Prefer formal to unformal - Communicate personally 	<ul style="list-style-type: none"> - Much personal communication – asking and listening - Give clear (written) goals and expectations - Expect to be honoured for their age and experience - Support technological coaching

Generation Baby Boomers, born between 1945 and 1964		
Work characteristics	Management styles	Social characteristics
<ul style="list-style-type: none"> - Competitive - Team players - Open to changes - Put emphasis on success 	<ul style="list-style-type: none"> - Show care and interest - Often provide recognition - Communicate as with 	<ul style="list-style-type: none"> - Free decision-making - Optimists and idealists - Need to work till exhaustion

² Blog is an abbreviation of weblog which means a discussion or information published on www and consists of individual contributions in a chronological order – the first contribution is the latest. Publishing blogs is blogging. Microblogging means publishing very short contributions especially from the areas of education – such blogs are also called edu-blogs.

³ Messaging is a kind of on-line chat which offers a real-time text transmission over the Internet texts.

⁴ *Note:* Generation is often referred to as a group of people who entered life in the same historical era and their values, needs, interests and goals were formed by the same socio-cultural environment (*Source:* Všeobecná encyklopedie, 2001)

⁵ *Source:* <http://portal.statistics.sk/files/obyvatelstvo-slovenskej-republike-krajoch-sr.pdf>

- Clear steps and focus on moving forward - Desire for leadership, status and recognition	peers, do not manage but coach - Provide room to manifest oneself	- The bigger, the better - Enthusiastic about tasks - Task-oriented - Self-satisfaction and investing into oneself
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Generation X, born between 1965 and 1978		
Work characteristics	Management styles	Social characteristics
- Entrepreneur view - Seeking feedback and room for own opinions - „Technological“ - Creative - Multitasking, but individual planning - Emphasis on quality of life	- Creating “entertaining” workplace - Goals defined in writing - Creating team work and atmosphere - Demanding openness and frankness - Separate career and private life	- Rely on themselves - Pragmatic/ cynical - Need to live life - The smaller, the better - Experience oriented - Global thinking - Technological literacy

Experts, mainly from the human resources management area, are debating about the possibilities how to manage Generation Y which has a significant place on the labour market and constitute 39% of productive population. In order to take a standpoint whether it is necessary to change the approach to the human resources management of Generation Y, let's have a look what influenced the evolution of this generation.

The term Generation Y⁶ first appeared in September 1993 in the journal Advertising Age, describing the generation of children born between 1985 and 1995. Generation Y is often referred to as Millennials in foreign periodicals, because as Strauss, Howe (2000), states, the members of this generation themselves prefer this term as they want to distinguish themselves from Generation X. Generation Y is also known as Generation C (Content, Collaboration, Communication) – 3C that defines it, or Generation Net (Cheese, 2008) – first generation to use information technologies since childhood.

In 2012, the publication „The Journal of Applied Management and Entrepreneurship“ vol. 17, No.3 lists following characteristics of Generation Y (Source: authoress's translation + inputs from Slovak statistics):

Who is the typical representative of Generation Y:

- 95% of them have a university degree and 10% continue in postgraduate academic studies
- 70% of them have at least a short-term experience living abroad,
- go to work in flip-flops and listen to iPad during work,
- want to work, but work is not their life,
- live here and now – want an immediate feedback about their effort,
- motivated, work hard, accommodate quickly,
- willing to accept employment through acquaintances,
- convinced they are worth receiving an adequate value for their work; if the reward does not reflect their idea of it they search for a better opportunity,
- have problems with being loyal to their employer,
- want to work better and faster,

⁶ Note: this term is derived from the question WHY – PREČO which asked very often by this generation, sometimes there is a claim that WHY is a equivocal form „I“ which defines this generation – fixing on oneself and ones needs.

- want a fair and direct boss,
- search for creative ways of education,
- have no problems of being in debt and have no need to save money in long-term.

What Generation Y employees offer:

- can intake amounts of information as well as find them in a few seconds,
- they are good at building global relations, have strong social network which is not limited by borders,
- make decisions in groups – teams; they do not decide on their own, like to communicate and find out what others think,
- multitasking is natural for them; they get bored, if their brain receives only one stimuli,
- expect to get a task assignment and they provide a solution – they bring new professional principle to teams; Generation Y employees do not want to see procedures, but want to see things in context,
- their perception of the world is influenced by the existence of human rights and antidiscrimination codes; they need a work environment which includes such values.

What Generation Y employees lack:

- employees disclose their private life in blogs; they present their opinions openly in discussions. They do not understand those who protect their privacy nor other internal regulations which protect the privacy of other people. Communication at a workplace is strongly influenced by this fact – the discussion between a manager and his subordinate which is considered confidential will be a common discussion in the future.
- their manager will have to undertake the task of coordinating and giving advice, coaching – not managing. Generation Y employees have not learnt to find out what to do next on their own – they are used to receive help from parents, friends, the Internet.
- they are used to e-mail or phone communication. Meeting and discussing face-to-face is a problem for them.
- basics of grammar is absent, they use software to correct grammar mistakes, use Americanisms and various abbreviations (thx, btw, fyi, xoxo, 4y ...) which impact the level of their grammar skills. A university graduate cannot write a text without a spell-checker.

How to manage Generation Y – advice:

- provide them with a basic training in personal skills: communication with a client, colleague at a workplace and even with their manager,
- explain to them, what lies behind the procedure: it is not enough to say, what you want, you must explain what the goal is. Generation Y wants to learn continually and see things in a context,
- put emphasis on results and provide constructive feedback, just like with videogames. Generation Y wants to see the score they reached and how they did. Immediately, not at the end of a year. They are better at project jobs because it has a clear beginning and a clear goal – just like a videogame,
- provide work-life balance; a manager should accept the fact that personal calls, the Facebook, etc. are a part of their life even during worktime. They are willing to work overtime, but in turn we have to enable them to work from home from time to time and let them arrange personal issues at work (Lyness, Judiesch, 2014),
- Generation Y employees should be given an interesting project or task, which would enable them to grow and develop because otherwise their loyalty to the organization is not ensured

- a Generation Y employee expects adequate evaluation immediately, otherwise he will leave. Promises to increase his salary in 2 two years are pointless. A Generation Y employee thinks that he deserves a job with a high salary and a right to be promoted, with a good social status and a lot of free time (Alsop, 2008).

3. New approaches to work performance appraisal

Mentoring programs are one of the new approaches to evaluate employees' work performance. It is a task of human resources departments to create a functional mentoring program which would engage employees who have skills, know their organization well and are leaders in their area among younger employees who need such type of cooperation. Nowadays, personal departments are gradually shifting from the position of a solution creator to the position of an environment creator – they make sure that information is provided to everyone who seeks a mentor. Personal departments make sure there are tools available to connect both future colleagues. Social technologies provide detailed profiles of employees and evaluate their professional level; they enable to search for colleagues according to the field of interest, to observe employees' attitude to their colleagues or problem solving. Personal departments are becoming experts in creating and maintaining new relationships. They create a room for the employees to find their coach and mentor they need for their career and growth. It is highly probable that a self-directed mentoring and coaching will not replace traditional programs of career management, because an organization in a self-directing process will lose the control over values through its mentors on which it stands and grows (Whitmore, 2004).

Engagement through a game (gamification⁷) is a new approach to a work performance appraisal. It is based on the theses that most of the employees including managers play in their work process. In many ways a job performance depends on the nature and attitude of an employee to “the game”. A game gives us an opportunity to experience the intensity or emotions which is not provided by the surrounding reality. You can determine employee's patience, analytical thinking, willingness to risk for a financial reward, emotional intelligence or empathy by the means of game. Sceptics however oppose that such games can discriminate older candidates.

The last recognised modern approach to a work performance appraisal is an appraisal through social technologies. It is common to evaluate work performance of employees in multinational companies through an internal social network since the managers manage their subordinates remotely as the location of the manager's workplace might be in a different country than the members of the team he manages. There are multinational companies which have a system of work performance appraisal and performance management based and carefully worked-out on a “cloud” design. An employee has his personal profile, classification in an organizational unit as well as tasks he is working on or projects he participates in. If we use a feedback tool, his superior, the members of the organizational unit or the members of the project team can express their opinion about his performance, either immediately or at the end of a certain phase. Similarly, the employees can give their opinion on their manager. They can use the system we know from the Facebook – giving “likes” or “stars”. Such evaluation can be divided into various spheres or areas which an organization wants to follow about its employees; for instance the ability to work in a team, communication skills, the ability to make decisions, problem solving, etc. These are quite valuable pieces of information not only for a supervisor but also for the employees of a human resources department, for example

⁷ Gamification appeared in Beck's article (2004) „Got Game: How the Gamer Generation is Reshaping business Forever“, which deals with the matter how playing games have changed the psychology of the new generation.

when they are looking for a type of an employee for a certain position or new project from their internal sources; or suggest an employee's training.

4. Conclusion

There are elaborate methods of work performance appraisal, there are many criteria a management can choose from and apply those criteria that suit the organization and organization culture the best and reflect such matters which are essential and important for their organization. There are elaborate procedures and studies how to lead an appraisal dialogue, how to concentrate on the strengths of an employee at the beginning and how to give a feedback about his weaknesses.

However there are elements entering those elaborate procedures of work performance appraisal and performance management which cannot be neither separated nor eliminated from day to day or work life. Globalization, technological development and demographical changes that influence the age structure of employees as well as the work system of managers. The management of an organization is forced to adjust the procedures in their organization to various development changes, including the work performance appraisal procedure and performance management, thus react to new trends.

E-technologies open new management opportunities. It is supposed that especially Generation Y employees will be the leaders in implementing the possibilities mentioned above. Generation X is probably not prepared for such a shift brought by social tools and technologies. The traditional management style is also suitable to ensure that all of the procedures are captured, interlocked and effective. Management has a set structure and employees must comply with it.

Generation Y wants to achieve a work-life balance, have flexible working hours, work from any place or in a pleasant work environment. They can appreciate when wellness programs are provided in a company, the presence of SMART mobile applications and company networks which support a healthy lifestyle and exercising or even provide training plan consultations. Thanks to applications on the web some organizations measure the stress levels of their employees as well as their physical condition. Modern approached to human resources management emphasise the need of creating tasks and workplaces made-to-measure for abilities and preferences of every employee. Thus it is very demanding to synchronize employees' preferences and organization's requirements so that organizations get a required work performance from their employees, generating profits for them. A work performance assessment will be the subject of various discussions in theory as well as practise even in the future.

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The Options of the Location for the new Shopping Centres in Bratislava

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Abstract

The significant changes in the Slovak market of consumer goods were recorded in the last 20 years. The changes of the competitive environment of the market, which is currently characterized by different stores and formats affect the everyday consumer behaviour. Visiting the mall is becoming the part of the normal city life. The paper approach is characterized by two levels, theoretical, which presents the characteristic of shopping centres and the operative level, which explains the location of expected and 17 operating shopping centers in Bratislava on the basis the data of realised survey. The paper is a result of the scientific research project VEGA No. 1/0039/11 Geographic information system as a source of strategic innovation company in terms of strengthening its competitiveness.

Keywords: shopping centres, location of shopping centres, shopping center

JEL classification: M31

Introduction

The current development of the world economy is characterized by rapidly progressive globalization of trade commutation, which in economic terms is connected with the growth of the global market and qualitatively new global users. As a result, there is a change of the competitive environment of the market with consumer goods, which is currently characterized by not only the different forms and various degrees of intensity of cooperation between producers and distributors, but also Chirouse (2013) the process of concentration in distribution. The Slovak internationalization of trade in the 90s of the 20th century led to a considerable increase mainly in supermarket and hypermarket formats. The enormous growth in the construction of large shopping centres is typical for current retail market in Bratislava as for other cities and their concentration in cities with the best availability.

The aim of the article is based on the conducted marketing research to formulate a perspective assessment of the issue in the retail and synthesize major issues.

1. Shopping Centre

The first shopping centre was opened in 1948 in the USA. In Europe, shopping centers arise in the context of post-war reconstruction of the town boroughs. By the definition of Urban Land Institute, the shopping center is a single set of operating trade units that are planned, built and managed as a whole and has parking spaces. In contrast to the city's shopping center, a business center is a result of a deliberate project focused on creation the optimal conditions for comfortable purchasing and operating retail units (spacious parking lot which is free, commercial galleries protected from weather fluctuation and traffic, centralized management, etc.). The size of business centres corresponds to the purchasing power of the

population of the territory. The centre as a whole must give customers the option of complex shopping. The indoor environment creates conditions to make people understand the shopping as an experience forming its backdrop of greenery, rest areas, air conditioning, entertainment places, restaurants, cinemas, etc. (Čihovská – Čihovský, 2011). In these business centres, there are the sales units of various brands of clothing and footwear producers, bookshops, shops and cinematographic, drugstores, optics, musical instruments, antiques, pharmacies and so on.

The shopping behaviour and shopping itself acquire a new dimension. It means that large distributive companies try more to adapt to the strategy based on consumption patterns than the sales area (Chirouse, 2013). The successful implementation of the format requires the detailed knowledge of local competition and the needs and wishes of a consumer.

The new dimensions of large-format chain stores and shopping centers displace traditional retail consumer interest into the background. As stated by Pospech (2010), the shopping centres have become one of the key carriers of this change. Not only for young people but also for the senior citizens in retirement visiting the mall has become an attraction, entertainment, leisure, respectively a form of social events.

According to Gfk Global (2016) in Slovakia there were built and operated 79 shopping centres in 2012. In Bratislava there were operated 17 shopping centres representing a 21.51% share in all the places where the shopping centres are built. At the same time Bratislava is an example of the most intense competition of shopping centres (Table 1) in Slovakia and in terms of numbers is even capable to cover the territory of eastern Slovakia where there are a mere 14 shopping centres. The absolute sales area of shopping centers in Bratislava is 470,795 m².

Table 1
Shopping centres in Bratislava operating in 2013

O r d e r	Name of shopping centre	O p e n i n g	District	Living area of commercial operation	Stores chosen according to SK NACE	Super/hyper market	Retail chain
1.	Apollo Business Center	2005	Ružinov	5 720 m ²	50	1/0	Terno supermarket (CBA)
2.	Aupark	2001	Petržalka	58 000 m ²	240	1/0	Terno supermarket (CBA)
3.	Avion Shopping Park	2002	Ružinov	84 000 m ²	160	0/1	Hypernova (Ahold)
4.	Cubicon	2010	Karlova Ves	7 600 m ²	53	1/0	Billa
5.	Danubia	2000	Petržalka	30 000 m ²	49	0/1	Carrefour
6.	Galéria	2008	Lamač	5 700 m ²	37	0/1	Tesco

7.	Galleria Eurovea	2010	Staré Mesto	60 000 m ²	150	1/0	Billa
8.	Polus City Center	2000	Nové Mesto	40 100 m ²	170	0/1	Carrefour
9.	Shopping Palace	2004	Ružinov	76 000 m ²	100	0/1	Tesco
10.	Shopping Park Soravia	1997	Ružinov	15 000 m ²	20	0/0	-
11.	Vienna Gate	2012	Petržalka	10 000 m ²	2	1/0	Tesco
12.	Retro	2012	Ružinov	14 000 m ²	49	1/0	Terno supermarket (CBA)
13.	Centrál	2012	Ružinov	36 000 m ²	114	1/0	Billa
14.	Tatracentrum	2002	Staré Mesto	4 499,8 m ²	9	1/0	Billa
15.	Hron	2008	Podunajské Biskupice	9 375 m ²	15	0/1	Tesco
16.	Glavica	2011	Devínska Nová Ves	8 000 m ²	16	0/1	Tesco
17.	Saratov 2	2008	Dúbravka	6 800 m ²	28	1/0	Billa

Source: The results of the research of the project VEGA number 1/0039/11 Geographical information system as a source of strategic business innovation in terms of strengthening its competitiveness.

2. Methodology of Work

The conducted survey in 2011 at the territory of the Slovak capital Bratislava, aimed to produce the maps with spatial distribution of retail outlets in the city using the knowledge of geomarketing and the creation of a database on the retail sector as a part of a geographic information system. Among other things it deals with visiting various types of retail stores by customers in connection with the producing the structure of stores of new shopping centres located in Bratislava.

Table 2

The number of stores according to the boroughs of Bratislava in 2011

	District 1	District 2	District 3	District 4	District 5
The number of citizens	41 086	113 764	63 866	97 092	116 993
The number of stores	1072	1179	570	541	731
Total sales area of all stores in m ²	102 401,00	135 733,50	113 277,50	53 715,25	133 818,49
The average retail sales area in m ²	95,79	126,97	105,97	50,25	125,18

The number of grocery stores	175	185	97	110	136
The number of specialized non-food stores	813	901	429	285	522
Density of commercial facilities per number of population	2,49	1,19	1,77	0,55	1,14

Source: The results of the survey of the project VEGA no. 1/0039/11 Geographic Information System as a source of strategic business innovation in terms of strengthening its competitiveness.

To obtain the answers there was used a standardized questionnaire completed by 11,389 respondents shopping at retail establishments located in various urban areas in Bratislava. Respondents to satisfy the conditions had to have a lasting or temporary residence in Bratislava and be at least 18 years old. At the same time a survey was conducted to map the retail outlets in 17 urban areas of the capital divided into 263 urban districts. There were mapped 4,089 retail units (Table 1).

Table 1 shows the responses of respondents regarding the frequency of visiting various types of retail stores in terms of assortment. They could give three options. It turns out that the groceries are visited by customers most frequently and so they constitute an important part of everyday life of a customer. The food shops are followed by the stores of clothing and footwear. This suggests that customers spend a not inconsiderable proportion of their income on personal consumption. It is related to the fact that the citizens of Bratislava, respectively respondents reach an average income of 501-660 € (Hasan, 2012).

Table 3

Most visited stores by customers

Shop	Percentage
Grocery	31,05 %
Clothes shop	26,00 %
Footwear	12,92 %
Drugstore	11,70 %
Other shops (specialized food store, jewelers, houseware, sports equipment, etc.)	7,98 %
Stationery	2,95 %
Electrical appliances	2,27 %
Pharmacy	1,88 %
Tobacco shop, magazines and daily press	1,78 %
Bookshop	1,47 %

Source: The results of the survey of the project VEGA no. 1/0039/11 Geographic Information System as a source of strategic business innovation in terms of strengthening its competitiveness.

Table 3 shows the answers of customers of the most visited outlets whose attendance exceeded the level of 1%. It does not contain the traditional stores of fruit and vegetables (0.66%), traditional butchers (0.58%) and textiles (0.16%), and so on. It turns out that the shops of foodstuff which have a wide range of assortment and in most cases are characterized by large sales area, reach more frequent visits and overcome specialized food shops. The same example are shops of household cleaners, respectively clothes shops within which competition intensifies the entry of foreign chains. This proves the fact that hypermarkets and supermarkets are an essential part of every shopping centre.

The placement of new stores and shopping centres are governed by certain criteria, recommending the number of outlets in a given area, thus expressing the minimum level of commercial facilities of the village (Table 4). Therefore, finding an unoccupied area of competitors, which would meet the minimum population required to provide a sufficient number of customers disposing by the sufficient purchasing power is the main challenge for proper implantation of stores at present and it is the basis of future high sales and acquisition the market share of stores etc.

Table 4

The standards of minimal facilities of villages in The Slovak Republic

Retail		STANDARD FOR THE SIZE CATEGORY OF MUNICIPALITIES IN THOUSANDS OF INHABITANTS						
		less 5	5 – 10	10 – 20	20 – 30	30 – 50	50 – 100	100 and more
Shop	Indicator							
Small supermarket 400 – 1 000 m ²	min. number of operations	(1)*	1	1	2	3	4	5
Big supermarket 1 000 – 2 500 m ²	min. number of operations		(1)*	1	1	2	3	4
Small hypermarket 2 500 – 5 000 m ²	min. number of operations				1	2	3	4
Big hypermarket 5 000 – 10 000 m ²	min. number of operations						1	2
Hobby market 1 000 m ² and more	min. number of operations			(1)*	1	1	2	3
Smaller department store and shopping centre to 2 500 m ²	min. number of operations		(1)*	1	1	1	2	3
Discounts stores 400 – 1 000 m ²	min. number of operations		(1)*	1	1	1	2	3
Bigger department store 2 500 m ² and more	min. number of operations				(1)*	1	1	1
Expected development of standard area		0,90	0,93	0,95	0,96	0,97	1,10	1,20
Current state		0,41	0,37	0,37	0,35	0,36	0,58	0,70

Retail		STANDARD FOR THE SIZE CATEGORY OF MUNICIPALITIES IN THOUSANDS OF INHABITANTS						
Shop	Indicator	less 5	5 – 10	10 – 20	20 – 30	30 – 50	50 – 100	100 and more
<p>Note: (x)*- the existencie of facilities depends on the functions of municipalities with city status (an important tourist centre, spa and so on) Subregion for hypermarket: from 50000 inhabitants Subregion for a smaller hypermarket: over 25 000 inhabitants. The construction of various types of commercial formats depends on the particular conditions and is influenced by the factors such as:</p> <ul style="list-style-type: none"> • function and significance of residence, • subregion of residence, • the distance of residence from other places of higher category, • unemployment degree and purchasing power of the population and so on. 								

Source: Available on the website : www.build.gov.sk [online 4. 12. 2008].

Table 5 shows the responses of respondents regarding the most visited shopping centers in Bratislava . The four most important shopping centres in Bratislava together represent 67.71 % of the responses . The table shows only those shopping centres that have achieved a minimum level of 5 % of the responses.

Table 5
Preference shopping centers in Bratislava

Name of shopping centre	Percentage
Aupark	24,30 %
Eurovea	16,95 %
Avion Shopping Park	15,61 %
Polus City Center	10,85 %

Source: Results of the survey project VEGA no. 1/0039/11 geographic information system as a source of strategic business innovation in terms of strengthening its competitiveness.

3. The Results of the Debate

From the amount of shopping centres located in the individual districts of the city Bratislava results that in the second district there is a majority of shopping centres with the most spacious floor area designed for commercial operations , e. g. 164,095 m² (Table 6).

Table 6
Shopping Centres in Bratislava operating in 2013

Township	The number of inhabitants till 31. 11. 2010	The number of present shopping centre	Minimal number of facilities	Useful area designed for commercial operations
District 1	41 086	2	1	64 499,8 m ²
District 2	113 764	7	1	164 095 m ²
District 3	63 866	1	1	116 100 m ²
District 4	97 092	4	1	28 100 m ²
District 5	116 993	3	1	98 000 m ²

Source: The results of the survey project VEGA no. 1/0039/11 Geographic Information System as a source of strategic business innovation in terms of strengthening its competitiveness.

From Table 6 generally results that the number of current operating shopping centers exceeds the minimum number of devices specified as a standard minimum commercial facilities of the area.

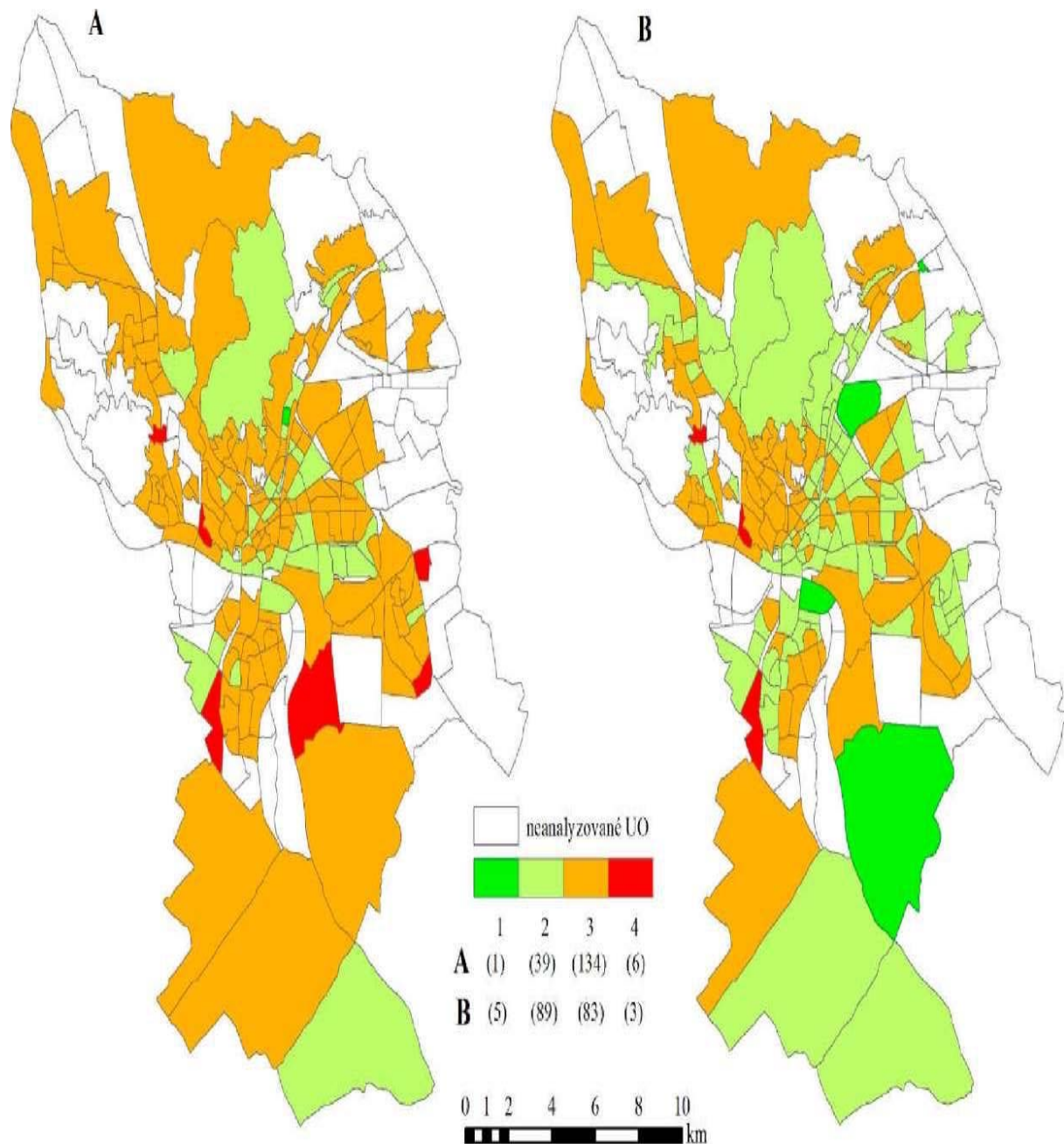
Currently, in Bratislava the two new shopping centres are being constructed. Both shopping centres will be located in the suburb of Ružinov (Pharos) and Devinska Nova Ves (Bory). The new shopping centres are significant primarily by their location near the highway D1, respectively D2.

Bory mall is being built with new residential areas Bory. It will offer a sales area of 55,000 m² for the retail shops and 7 ha area for 25 large-scale stores (Mestská štvrť Bory, 2013). In contrast, Pharos shopping centre is being built in order to offer mainly office space (Reality.trend.sk, 2008). It does not aim to compete with the current shopping center Avion, but only complement it. The total area intended for retail stores is planned to 112 000 m².

For the location of the new shopping centre it is important to explore the satisfaction of respondents with the shops offering non-food goods (map 3A) and availability (Map 1, part 3B). The respondents mostly rated the level of quality as good, 74.4% of respondents. In comparison with the sales of the dominant food range it was recorded deterioration in these retail shops by the respondents. Regarding the assessment of the availability, the respondents expressed a slightly better assessment than was the case for quality assessment. The respondents rated the level of availability mainly by the grade 2, which represents 35% of the respondents.

Map 1

Assessment of the quality of other retail trade (3A) and availability (3B)



Source: The results of the survey of the project VEGA no. 1/0039/11 Geographic Information System as a source of strategic business innovation in terms of strengthening its competitiveness.

At the beginning of the building there is the multifunctional project Twin City, which will also include a small shopping centre. The shopping centre will be located in the city centre and is located in the district Ružinov near the bus station.

Conclusion

Current 17 shopping centers with a total sales area of 470,794 M² offers mainly brand stores offering food and non-food products. Almost 50% of shopping centres is a part of multipurpose buildings offering mainly administrative and residential space, such as ABS, Apollo Business Center, Polus City Center, etc. The new projects of large shopping centres in

order to enforce the existing strong competition will have to provide the customers satisfaction in addition to purchases and attractions also something that will be considered as specific, respectively exceptional, since it is related to the customers' willingness to travel and spend a large part of a day shopping. Likewise, the new shopping centres will no longer have many opportunities to place near the city centre. It means that the additional construction may continue only with the arrival of new brands of foreign retail chains such as brand retail chain Decathlon with sport goods, using only large-scale retail.

Acknowledgement

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Selected Aspects of the Armed Conflicts

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Abstract

One of the basic principles in international relations is the prohibition of the use of force. However, the contemporary conflicts do mostly have a domestic or semi-international nature, thus the traditional provisions of the law of armed conflicts cannot be applied in full, with regard to specifics of some situations. The international criminal responsibility for international crimes is closely related to armed conflicts. Such crimes are committed on the territory of the state mainly during conflicting and unstable situations. The aim of the authors is to demonstrate the conclusions of the project (named "Selected Questions of Armed Conflicts") on the example of the Syria conflict, particularly on the negative consequences of this conflict, as the international community currently faces an extensive humanitarian crisis. The research paper provides an analysis of the forced migration and limits of the public international law and international criminal law as part of transitional justice related to armed conflicts, and resulting negative consequences of such conflicts, solving which should be the interest of the entire international community, as the basic values of the international legal framework are concerned. The last part of the research paper identifies possible ways, factors and measures which might be supportive in the process of prevention of armed conflict itself as well as in the process of prevention of its negative impacts.

Keywords: armed conflict, international law, Syria

JEL classification: F51, K33, F22

Introduction

Armed conflicts and various repressive regimes pose a serious threat to the international community, not only because of the so-called "*spill-over effect*", relating in particular to massive committing international crimes, migration (especially illegal) export of terrorism, production and distribution of weapons and drugs, and thus organized crime (including trafficking), and last but not least - poverty. The threat of spillover effect can be prevented with adequate and effective means from the international community, which must also be the right time to be able to work and ensure peace and security in the region, together with the establishment of rule of law (which is not necessarily democratic) based on protection of human rights and fundamental freedoms. Choice of proper and effective means for the particular conflict, respectively for the particular country / countries affected by the conflict in consideration of a cause and a form of conflict and adequate timing is a key issue. Without creating the necessary peaceful measures, states have the tendency to relapse into conflict within five years of the signing of the Peace Treaty (Collier & Hoeffler, 2004).

The right to use force in international relations is one of the most controversial areas of international law, and many authors consider it as ineffective. The key provision is Art. 2 par. 4 of the UN Charter, but the non-compliance occurs usually common, mainly because the states remain the primary subjects that create international law and international law is

interpreted and enforced by them, and it is largely influenced by their own interests. There are only two legal exceptions from prohibition of use of force and it is authorized attack under UN Security Council Resolutions, and activation of Art. 51 of the UN Charter and therefore use their right of individual or collective self-defense.

The UN Security Council comprises a sui generis body, which is only authorized to solve global security and peace issues. The UN Security Council has under Art. 24 UN Charter, the primary responsibility for maintaining peace and security in the world. UN Member States vest that power by the Charter to the United Nations Security Council, while they committed to accept and implement its decisions.

According to The School for a Culture of Peace (ECP, 2014) “*armed conflict is any confrontation between regular or irregular armed groups with objectives that are perceived as incompatible*”. There are further conditions determining the conflict being armed conflict:

- a continuous and organised use of violence has to be present;
- a minimum of 100 battle-related deaths in a year and/or a serious impact on the territory and human security;
- and “*demands for self-determination and self-government or identity issues; the opposition to the political, economic, social or ideological system of a state or the internal or international policy of the government, which in both cases leads to fighting to seize or erode power; control over the resources or the territory.*” (ECP, 2014)

On the other hand, Wallensteen and Sollenberg (2001) describe armed conflict as “*a contested incompatibility which concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths*”.

1. International Legal Qualification of the Conflict and its Implications in Syria

In the military literature phrases like insurgency, guerrilla warfare, irregular crew, unconventional and revolutionary war and terrorism are used synonymously. Insurgency should be more serious than classic internal disturbances or demonstrations. It should be noted that the term “*insurgent group*” / from a military, political science or security point of view / is really possible to apply to the armed forces in the revolutionary struggle, the struggle for freedom, in a guerrilla war or civil war, because for them are the characteristic some military and political characters.

Under international law, it is not possible to find a clear definition and that causes a lot of uncertainty. However, there are two groups of international legal theorists with different viewing at the given issue. Authors like Higgins or Greenspan perceive the status of “*insurgents*” as recognition as a subject of international law, whereas, according to Castren status of rebels confers specific rights of a group of people and still regards them as subjects of domestic law, particularly criminal law. “*Despite the fact that the definition of insurgents is unclear, perhaps as rebellion can be accepted some kind of civil unrest, which is largely limited to the part of state territory with the support of a minimum part of the national population*”(Verma, 1998).

Analysis of international legal norms and rules of conduct, it is possible to identify some general characteristics under which certain rebel groups can be recognized as rebels. Basic conditions that are necessary for recognition as insurgents can be characterized as follows:

1. The control of the state territory by the rebels,

2. The majority of the population living on the controlled territory support rebels on their own beliefs, not as a result of the coercive measures adopted by the rebels,
3. insurgents must be able and willing to comply with international obligations.

Rinehart (2010) adds even more characteristics:

- the aim of rebel groups is to overthrow the lawfully established government, or fundamentally change the political and social order in the State or region, or debilitate the control or the legitimacy of the government;
- insurgent group's means for achieving their objectives are mainly attempted coup, armed violence / armed conflict, persistent violence, disrupting social stability, and various political events;
- their goal is usually the autonomy requirement or requirement for independence of the ethnic group/minority or requirement of more democratic government, or more political or economic rights for a certain social class.

Not all the (or rather - hardly any) armed groups in Syria, will meet these characteristics. In Syria operates fragmented opposition, militia /local militant groups/, different terrorist groups, private mercenaries, and of course the militant government military units. At present, the conflict in Syria also involved troops from USA, Turkey, Iraq, the Russian Federation, etc. - on different sides, usually against the Islamic state. The real situation is also (due to the involvement of those foreign armies against the terrorist organization Islamic state) more than complicated.

From a historical perspective was a war (armed conflict) solely prerogative of the state, and therefore could not be a state of war between the state and non-state actors. In the current applicable international law it is possible at least in one case identify when the law of armed conflict can be applied to non-state actors - insurgents.

Insurgents can be regarded as fighting party on the basis of the Second Additional Protocol II (1977) to the Geneva Conventions (1949) relating to the protection of victims of international armed conflicts. According to Article 1 par. 1, this Protocol shall apply on conflicts "*which take place in the territory of a High Contracting Party between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations and to implement this Protocol*". Once the requirements of Article 1 are fulfilled, there should be no proclamation of combatants and Protocol II becomes automatically to apply (Fuchs, 2007).

But it is necessary to note, that the majority of world countries did not ratify the Second Additional Geneva Protocol, however some theorists say that the principle, based on which also non-state actors have rights and obligations in armed conflict, is part of the general customary international law.

This contention was partially confirmed by the International Criminal Tribunal for the former Yugoslavia in the Tadic case, where the judgement stated that the international humanitarian law and international human rights law is applicable also on armed conflicts, that do not have an international nature, so it is applicable also on intrastate insurgence.(Tadic Case, ICTY)

In the mentioned case, the armed conflict is perceived as a "*turn to armed force between states, or longer lasting armed violence between state authorities and armed organized groups or such groups within the state*"(Moir, 2002).

In the current conflict areas in the world we can identify groups, that are characterized by both, attributes of insurgents, but also terrorist and they cannot be explicitly classified. For

example insurgent groups in Afghanistan, Iraq or Syria commit terrorist attacks against civilians in the long term, including suicide bomb attacks, directed towards international organizations, embassies, schools, markets, but they are also acting as a war party in the traditional guerilla warfare against government armed forces or NATO.

Law of armed conflict differentiates between two legal statuses. First being a classical state of war with military violence according to rules and principles of international law of armed conflict, including regular armies (having uniforms and/or a distinguishable marks, openly armed with weapons, under administration and respecting the rules and conventions of war). Second being a legal status of international humanitarian protection irrespective of whether it is based on state of war or not. The insurgent group will abide by the law of armed conflict, and thus by international humanitarian protection if their members have a status of combatant and the warring party, and if thus benefiting from international capacity (and therefore also a international responsibility). If this status is absent, their status is similar to terrorists and falls under national law (they cannot carry out war violence, and thus any violent actions establish criminal liability, even if not infringing the rules and customs of war or international humanitarian law).

International Humanitarian Law (IHL) is a set of legal rules serving to limit the effects of armed conflict. International humanitarian law protects persons who are not or who are no longer participating in a conflict, and it also prohibits certain means and methods of warfare. IHL protects persons who are not fighting in conflicts such as civilians and medical and religious personnel. A war crime is a violation of the rules of international humanitarian law, which directly establishes criminal responsibility under international law. War crimes law does not apply only to international armed conflicts, but also to intrastate armed conflicts, except the crime of aggression.

Article 8 of the Statute grants ICC the jurisdiction over war crimes, "*especially when they are committed as part of a plan or policy, or as part of a large-scale crime commission of this type*" (Rome Statute of the International Criminal Court, 2002). The word "*especially*", in this case could be explained, that it is in the interest of the international community under certain circumstances to sanction individual war crimes (not just their long-term committing).

Article 8 is one of the longest and most important provisions of the Statute. In the interests of legal certainty it brings a causative definition of war crimes. In spite of difficult negotiations and the resistance of some countries, we can conclude that a broad definition of these crimes was put through in the end. It includes both grave breaches of the Geneva Conventions of 1949 and other serious violations of the laws and customs applicable in international armed conflicts. Moreover, it also applies to other than the international, i.e. internal armed conflicts, if there is a serious violation of Article 3 common to all of the four Geneva Conventions (1949) and other serious violations of the laws and customs applicable to this type of conflict.

Some treaties, such as the Geneva Conventions explicitly criminalize violations of the provisions. War crimes can also be found in customary law. For example, the Nuremberg Tribunal said that the key provisions of the Hague Convention (1907) reflect customary law, a breach of which can be considered as crimes, although the convention itself clearly do not criminalize such violations (Nuremberg Judgment 1947).

The following elements of war crimes within the jurisdiction of the ICTY were appointed by The Board of Appeal in the Tadic case (Tadic Case, ICTY):

1. it shall be a breach of international humanitarian law,

2. rule infringed must be embedded either in customary or within the applicable contract law,
3. the breach must be serious in the sense, that the rule, that is not complied with, protects a considerable value or the breach is causing severe consequences for the victims,
4. the violation must entail individual criminal responsibility.

International Centre for Transitional Justice (ICTJ) defines the transitional justice as a "*response to a systematic and massive human rights violation*", while it is defined as "*a set of judicial and extrajudicial means which are implemented by various states in order to correct massive human rights violations*". Transitional justice should primarily ensure that States are competent and able to investigate and prosecute violations of human rights, international humanitarian law, including sexual violence. Apart from that, the rights of victims to reparation, rights of victims as well as the whole society to knowledge of the truth and a guarantee of non-repetition it should be guaranteed. Within transitive justice, four different kinds of mechanisms can be identified, legal (criminal) tribunals, reparation commission, truth commissions and institutional reforms.

2. Humanitarian Crisis in Syria

Humanitarian assistance is to help the affected population, whose primary aim is to save lives and alleviate the suffering of people affected by the crisis. Humanitarian aid is necessarily provided in accordance with the fundamental humanitarian principles of humanity, impartiality and neutrality. These principles applicable to all humanitarian actions are embedded within the norms of international humanitarian law.

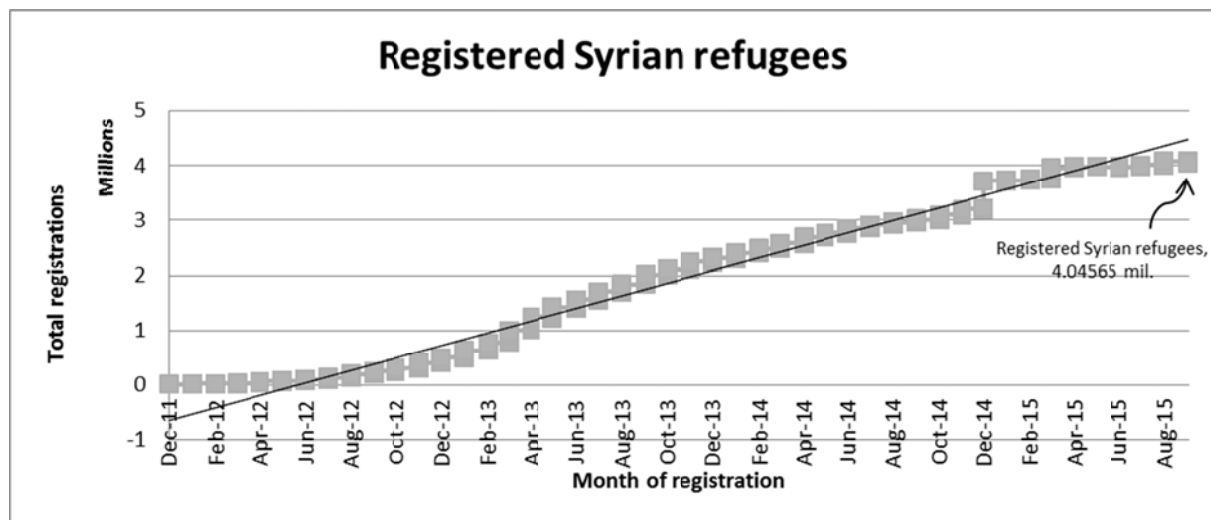
"The extent and number of crises in 2014 led to overload of the international humanitarian system" (OCHA, 2014). The volume of humanitarian aid in recent years dramatically increases, which can be explained by the increasing need, as a result of armed conflict and natural disasters. In Syria there are 12.2 million people in need of this help.

Humanitarian crises are inevitably linked to humanitarian standby, which is typically a failure of political, economic and / or social system of the State, and this failure is often accompanied by escalation of violence in the affected areas. The number and extent of the humanitarian crisis now puts extraordinary demands on the humanitarian system of the international community and individual states. *"Humanitarian organizations must be able to define the priorities of the situation, in a time, when there are so many crises"* (UN News Center, 2014).

Uppsala Conflict Database Program (Gleditsch et al., 2002; Pettersson & Wallensteen, 2015) identifies 5 conflicts since 1946 across years in Syria with unique parties involved. Out of these, 3 are internal armed conflicts occurring between the government and opposition groups. Latest conflict is defined as having been fought between the government and Syrian insurgents since 2011, therefore categorized as internal armed conflict, but described as internationalized internal conflict by the ECP (2015).

Figure 1

Number of registered Syrian refugees by month of registration in Iraq, Jordan, Lebanon, Turkey and North African countries, including trend line



Source: UNHCR (2015)

Several determinants influence the likelihood of international migration of inhabitants of conflict zones. In the determination of internal and international migration one of the most important factors is the economic situation of the individual, household or group, as the higher resources might influence decision to favour international migration over internal migration. The decision of the destination country is very much related to the perception of the relative human security in the particular country. On the other hand, the relative perception of the human security might change due to the new situation emerging from the arrival of new group of persons. Marginalisation of the immigrants instead of integration possibility might lead to further movement or where possible (if the perception of human insecurity weakened during a period of time in the country of origin) to return migration.

The relations between conflict, human security perception and migration are explained in the Scheme 1.

Scheme 1

Conflict and migration



Source: Based on Sirkeci and Martin (2014)

As the Syrian armed conflict is still ongoing, it proves difficult to estimate the overall impact on the region and beyond, although there are some parallels and similarities when comparing the conflicts in Afghanistan, Iraq and Syria. Based on the analysis of the armed conflict in Afghanistan and Iraq, we might derive several possible impacts of the armed conflict in Syria.

Syrian armed conflict and the struggle of the neighbouring countries are as well interconnected with the armed conflict in Iraq in 2003. Although the US intervention in Iraq took place 12 years ago, the instability of the region and the refugees displaced before as well as after 2003 do contribute to the limited capacity of the neighbouring countries regarding the reception of Syrian refugees (Fargues & Fandrich, 2012). Current instable situation due to ongoing violence in Iraq does not simplify the situation. Furthermore, the reception of Syrian refugees might cause conflicts within the local host communities due to the differences of supporting parties in Syria (either pro- or anti-regime support). Turkey, Lebanon and Jordan have to bear a huge share of asylum seekers from the region, due to the closest neighbourhood to Syria.

3. Internal and international displacement and their impacts

First, internal displacement¹ of Syrians might lead to several rather serious issues. Doocy et al. (2015:1) argue, that besides being displacement a “*survival strategy*” for persons in direct peril, in Syria it is both the strategy of the governmental as well as opposition forces in order to force people to move across regions, eventually to cross the borders to create “*areas with more homogenous populations*” within the country. In Iraq and as well Afghanistan, despite the experience from the past, the measures preventing the manipulation and militarization of the displaced people were marginal if any. Due to the internal displacement ongoing in Syria, similar threat might appear, if not already in place.

Internal displacement contributes to a feeling of non-belonging, as the social exclusion prevails in the relations with inhabitants in regions where internally displaced persons temporary settle. This continues even upon return, especially in case of long lasting displacement, interconnected as well with the problems concerning claims of regaining their own properties and reestablishment of the lost relations within the community.

The vulnerability of the displaced groups is manifested to a higher extent in the group of asylum seekers and refugees compared e.g. to migrant workers². The international displacement of the Syrian nationals leads to a higher potential of the loss of the status in the society. The social inclusion in the host country depends on the conditions in the country, including relations and attitudes the towards asylum seekers, both on the political as well as

¹ According to the Basic principles of the internal displacement from 22 June 1998, person or group of persons is considered being internally displaced persons if they “*have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border*” (See UNHCR. Guiding Principles on Internal Displacement.).

² Refugee is according to the Geneva Convention from 1951 and New York Protocol from 1967 a person who „*is out of the country and has well-founded fear of being persecuted for reasons of race, religion and ethnic reasons or membership of a particular social group or political opinion and is unable or, owing to such concerns, rejects protection of that country; or a stateless person who is outside the country of his former habitual residence as a result of such events, is owing to such fear or is unable or unwilling to return*”. An asylum seeker is a person requesting in the host country asylum. It is a broader category in terms of the reasons for the status determination as well as it is country-specific.

local level. Furthermore, the access to the labour market is crucial in terms of the social inclusion of the internationally displaced persons. The Iraqi case in Iran manifests the difficulty to become part of the society based on the frustration of no future prospects when having limited access to employment and being banned from crossing the international borders³. This might be the result as well if the recognition of the status is not foreseeable and stretches across years, which is impending in the case of Syrians.

Although the prevention of long waiting periods concerning the status award leads sometimes to the application of the measure of granting asylum based on the prima facie reasons, this leads to different problematic issues. In Afghanistan and the neighbouring countries the group approach led to the refusal of persons entitled to the refugee status, which could be interpreted as the infringement of the non-refoulement principle.

The important aspect of the relations between the host countries and the international community was its unsupportive approach regarding financial and material assistance concerning large influxes. Despite the funding schemes evolving (e.g. the EU and the EU member states financial allocation for relief and recovery assistance), there is still lack of funding of the Syria Response Plan, where the contributions of donors cover only 36% of required financial means as well as the Syria regional refugee and resilience plan, which is financially covered only by one half (50%). This transfers most of the burden on the host countries, which have to bear not only the immediate socio-economic, administrative and humanitarian costs, but as well the financial ones.

Large numbers of internationally displaced persons present as well human, socio-political and economic potential, as they are channels of influence on the country of origin, especially if some family ties exist in the previous residence. This is many times omitted by the international community. Although in the case of Syria due to the ongoing armed conflict current influence would be limited, in the long-term perspective a comprehensive approach to the communities of Syrian internationally displaced persons needs to be taken into consideration.

Conclusion

Within each of the armed conflict, regardless of whether non-international or international, a widespread violation of the law of armed conflict is taking place, and thus committing international crimes, generally by all parties to a conflict. Lately, it is possible to identify two phenomena within the conflict zones that threaten the safety and security of the State and the population, namely terrorist and insurgent movements. There is only a thin line distinguishing between the concepts of mercenary, insurgent, terrorist, a combatant. In a complex national (and/or international) conflict that exceeds the borders of the state (does not have to necessarily occur), it is difficult to distinguish who is who and in what position he operates. Anyway, it should be noted that any use of force in international relations is governed by certain international legal standards, irrespective of the fact that whether the mere use of force was legal or not. Investigation and prosecution of international crimes (international and domestic criminal proceedings involving genocide, crimes against humanity and war crimes) are an essential part of the transitive justice and are based on the idea of "*determent*" of future offenders.

³ The status assigned to the Iraqi displaced was „involuntary migrants“. See Chatelard, G. (2009). Migration from Iraq between the Gulf and the Iraq wars (1990-2003): Historical and sociospatial dimensions. *Centre on Migration, Policy and Society, Working Paper No. 68*. University of Oxford, 2009.

Current situation in Syria also due to the complicated status resulting from the involvement of different parties, extremely restrains effective resolution of the armed conflict. Moreover, the number of victims from different perspectives, including forced migrants, whether internal or international, gradually increases. This has severe socio-economic implications and might be used as a political tool in the future.

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Use modern technology in management of stocks

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Abstract

Today we see that many companies want to be competitive and try to improve their position in the market. Therefore must to adapt to the demanding requirements of customers, which in many cases means the transition from the standards based on a limited number of products and goods in stock in order to minimize financial resources that are tied up in stocks as well as all of its activities to adapt to new trends that bring the company to improve its economic situation. Management of stocks is a key part of each company, because it represents minimization of costs and moreover, guaranty of anything necessary for production. Effective management ensures the overall company success at a market.

The aim of article is to present modern technologies within the area of stock management that improve company profitability applying stocks reducing. In this article will be described stocks and also selected technologies - Kanban, Just in Time and Cross docking, which are used in many companies, while helping the company to reduce stocks.

Keywords: management of stocks, Kanban, Just in Time, Cross docking

JEL classification: D 20, M 11, G 31

1. Introduction

An important activity of each company in the current dynamic environment is the management of stocks. Stocks represent a significant cost investments and their effective management any company can achieve higher return on investment at minimal costs that are linked with stocks. Each company should think about the stock management system and look for ways to improve company profitability applying stocks reduction.

The main aim of the article is to present not only the stocks and their management, but also introduce selected modern technologies in the management of stocks out. Of technologies we focus on Kanban, Just in Time and Cross docking. Just these technologies are considered a necessary part of the effective functioning of the management of stocks in each company.

2. Stocks and their company management

Stocks are for majority of companies large and expensive investment. Their good management can achieve better cash flow and also investment return. Generally, we consider the term stocks as a summary of materials, work-in-progress, semifinished own goods, products, animals and goods that have not been consumed or sold to customers yet.

For many companies, especially those whose business is the production and sales activities are important part assets of stocks. It is in them have bound by significant sums cash inflows. Therefore, they should "optimize" their condition so that they can ensure their activities operative and seamlessly. Stocks may be procured from own resources (cash

payment respectively of bank accounts) or even from foreign sources (on bank loans, respectively liabilities to the supplier that is of a commercial loan).

Under the stocks mean "any swift economic resource that is not in the specified time interval fully exploited, but its height is fixed so as to economically provide you with the best coverage of future demand" (Rosová, 2012).

Viestová (2007) defines stock "as some often made use values which are temporarily withdrawn from circulation intended to meet needs. Stocks solve the time discrepancy between production and consumption, local discrepancy between production and consumption, capacitive discrepancy follow manufacturing and transportation systems."

Stocks are substantive conditions of the production process (stock of raw materials, fuel, purchased semi-finished goods, the subject of gradual consumption). It is also the result of some or all stages of the production process (stocks of unfinished products, semi-finished products, finished but unrealized products and in marketing operations and supplies are purchased items being in the same state passed further (Cibulka, 2008).

Stocks in the company showed a positive and negative way. Positive meaning of stocks is that they contribute: to solve chronological, local, capacity and product lines disagreement between production and consumption; to natural and technological process to be carried out in an appropriate range (the optimum); to cover unforeseen fluctuations and disorders (ensuring the continuity of the production process, covering fluctuations in demand and in replenishment of stocks). The negative effect of stocks is that it consumes capital resources and future work, which carries with it the risk of depreciation, unusable or any salability. Competition in markets with high interest rate for short-term loans may lead to the fact that the capital invested in stocks is missing in the financing of technical and technological development and endangers the liquidity of the company (Horáková – Kubát 1998).

Without stocks can be no company although high stocks being depleted companies financially. Management of stocks must respect two conditions - business performance and cost-effectiveness of operations. Management of stocks understands the purpose to focus on stocks at levels in order to achieve the continued satisfaction of demand and customer service while ensuring competing and cost-effectiveness company.

Stock management can be characterized "as a summary of the mathematical methods used to model and optimize processes for the stocks of various items, in order to ensure the smooth operation of the company" (Sixta – Žižka, 2009).

Management of stocks is applied by employees primarily in these company areas: purchasing and procurement, production, sales. Their task is to meet a certain limit of stocks with the date; well, it is not seen as management in its literal word sense. Applying appropriate system of stock management we achieve costs reducing, higher machine and staff utilization, streamlining of planning and production management, productivity increase, and thus better economic indicators of the company (Dupal', 2002).

Synek (2006) sees a role of stock management in keeping stocks at a level which enables high-quality performance of their functions, including balancing of time or quantitative discrepancies in the manufacturing process at the supplier and at the customer's consumption, reducing and identifying the effects of random fluctuations during these successive operations. Operational management of stocks is designed to ensure and maintain various types of inventories in such amount and structure which correspond to the internal company production needs or the needs of customers. Strategic management of stocks is a set of decisions about the amount of financial resources that a company can earmark from the total available resources for inventories.

Hofman and Tomek (1999) task the management of stocks considered to be "keeping them at a level that enables high-quality fulfillment of their functions, which means matching the time or quantitative discrepancy between the manufacturing process at the supplier and consumption at the customer and further inhibit or completely captures the effects of random fluctuations in the course of two successive processes, including their logistics interconnection."

According to Synek (2007) level the management of stocks influences the following factors:

- exterior, including: purchasing marketing, transportation, company location and flexibility suppliers,
- interior to which we include: technical preparation, the level of logistic processes, nature of the production process, range of the assortment, the nature of consumption and the level of management and involvement.

3. Modern technology in the management of stocks

The effort of each company is to supply in the right amount, time and required quality. Another important aim is to shorten lead time of production or supply, inventory minimalization, and creation of quality management system for manufacturers or suppliers. It is no longer enough to produce a good product, but it is important to deliver it as quickly as possible in the right amount and type to a customer.

New technologies are being created that must meet high availability, reliability of supply and production flexibility. It is also important to bring the character to manufacture custom production with low endowments. In the next part of the article we focus on selected major technologies and it Kanban, Just in Time and Cross docking technology, which in management of stocks are used in many companies.

3.1 Kanban

Kanban technology ranks among the most revolutionary concept that seeks excellence in production management. Kanban was established in Japan in 1947 as a production system of Toyota Motor Company. Taiichi Ohno suggested it because of to maintain its competitiveness in the company with American companies. Means for transmitting information between suppliers and customers the card, called Kanban. Kanban technology uses a Kanban card to transfer information. The card is a tool that is used for production management and provide work authorization for the production of components; it can exist in different forms: from a label, which is encapsulated in plastic, to the barcodes. Kanban card must contain details of the consumer information about the supplier, marking of the goods, product number, box for safe hanging cards, and data on the quantity. While answering questions What? - Product name, Who? - The manufacturing site, How much? - The quantity For who? - Excise place.

Novotný (2002) defines Kanban as "sign for a card that identifies customer supply requirements for a particular product or service in defined amount. This notification card can take the form of a paper or plastic card, but it can also be a container. Kanban is a carrier of information about supply requirements."

Technology Kanban is "pulling" component production process to the demands of assembly, without unnecessary storage. Summary of this technology is that it is used with call or also known as a pick-up principle which is the impulse becomes a pulse which is the subsequent production of the article. Otherwise, commonly used infeed called the delivery principle which is the impulse impulse that comes from a previous manufacturing cell. In this technology enters Kanban card, which becomes the carrier of information for the necessary

materials from a previous manufacturing cell to the next. Kanban technology meets the requirements of the customer, because through short intermediate times of production reduces supplies the result of prompt delivery to production.

Kanban technology is based on the following elements (Sixta – Žižka, 2009): self-managing regulating rings, which are formed by a pair of the elements: supplier – customer, order quantity is the content of one mode of transport, supplier guarantees required quality, customer's obligation to take the order, a supplier or a customer do not create any stocks.

Among the reasons for Kanban technology introduction we include (Mičieta, 2001): decrease of production units size and thus we are more flexible to respond to any customer needs, smaller production units means less parts in production, less space requirements and smaller losses from poor quality manufacture means saving money, Kanban technology represents shift from printed to the hauled material flow; thus we produce just on the basis of a record order, Kanban technology helps to produce Just in Time, Kanban technology is considered to be a simple visual management system.

Kanban technology is used in large-scale production with a permanent sale and where the one-way flow of material, because manufacturing operations can be easily to reconcile and there are no great changes, which would affect final production. In order for Kanban technology to function properly must be created proper conditions and they must abide by the rules.

Among the most important rules for this system include (Kováč – Kováčová, 2006): from the previous process must take parts following a process based on data from Kanban cards; Kanban card permits, which can be produced; if you are not Kanban card is not possible implementation of any activity; pallets and components are always transported and Kanban cards; production staff are responsible for one hundred percent quality products that will be inserted into the pallet to the next process etc.

Each technology has its advantages and disadvantages. We are the advantages and disadvantages of technology Kanban clearly summarized in the table.

Table 1

Advantages and Disadvantages of Kanban

Advantages of Kanban	Disadvantages of Kanban
continuous production without interruption	production is bound to order existence
reduction of wastage and waste	loss of communication with customers
reducing of transport costs	not suitable for short production series
reducing of space requirements	requires stable production plans
stocks decrease	possible loss, damage of Kanban card

Source: own processing

3.2 Just in Time

Just in Time technology has its roots in Japan and its origin dates back the Second World War. Just Toyota Motor Company began as the first to use this technology, created by Taiichi Ohno, who along with other engineers figured out that it is necessary to minimize stocks since then did not have enough warehouse space, which ultimately laid the foundation of this method. It was formed 20 years of experience managing Japanese, American and European companies. In the 70 years of the 20th century, the Just in Time is spreading swiftly in Japanese companies and the 80s of the 20th century and came to the United States and Western Europe.

Dessler (2004) defined Just in Time "as a way of production management, which serves to provide a minimum level of stocks using supplies of materials and components at a time when they should be used. It also refers to production philosophy, which aims to optimize production process applying constant wastage reduction."

According to Slack et al. (2013) is Just in Time "way of planning and management philosophy that aims to satisfy the request immediately to perfect quality and without waste."

Among the main Just in Time goals we include (Gregor – Košturiak, 1994): elimination of unnecessary stocks, reduction of stocks in temporary warehouses and operating storage devices, circulating assets value reducing, continuous production time shortening, supply ability improvement in the form of immediate response to customer requirements.

Stated objectives can be achieved by actions, and that in two respects (Gregor – Košturiak, 1994): from the perspective of the customer (precise planning needs, precise management of futures-reasonable needs, working in partnership with suppliers, taking just a day, taking just an hour the supplier, who are close to the production, management of stocks in warehouses); from the perspective of the supplier (production with safe and process control, precise production planning, moving planning system and production management, production processes are well coordinated, appropriately adjust production disposition of the workplace, machine control and preventive maintenance).

When applied Just in Time is to be understood as an important strategic objective of production, which could not be applied immediately, but gradually over time and after the creation of appropriate conditions. This method has some assumptions that company has to comply, but every company is different and Just in Time can adapt to their own conditions. Among Just in Time implementation preconditions we include (Keřkovský – Valsa, 2012): minimum design changes and deviations, reducing the scope of the product, stable business environment - reliable suppliers, demand, high quality subcontracting, a high degree of communication among staff, automated production in large volume, reliable equipment – regular maintenance, maximum use of productive resources, total quality management, minimum stocks, active participation of employees in Just in Time implementation.

Just in Time as a "new philosophy of thinking" that allows improvement in production efficiency without increasing the cost of have number of principles without which the application and operation was not possible. The main principles of Just in Time include (Sinay, 2007): managing the material flow must correspond to the delivery requirements; reconciliation of operations and production processes purchase of production components; production flow is driven by production process; seek to reduce downtimes minimizing the intermediate times of production; seek to minimize buffer stocks reconciliation of production batches; priority of Just in Time is the material flow balance compared to utilization of machine capacity; precise application quality management of production; ensuring flexibility of production whose main role is promptly respond to market demands, realization of simple and understandable information flow, reduction are too high work rate using the potential manpower and teamwork.

Each technology has its advantages and disadvantages. We are the advantages and disadvantages of technology Just in Time clearly summarized in the Table 2.

Table 2

Advantages and Disadvantages of Just in Time

Advantages of Just in Time	Disadvantages of Just in Time
stocks reducing	difficulty of implementation
unfinished production reducing	high cost of introducing
reduction of production areas	benefits can be seen after some time
reduction of warehouse space	cargo transportation increase
higher productivity	environmental degradation
quality increase	decline in conditions for customers
customer service improvement	insufficient cooperation from suppliers
operating costs reducing	

Source: own processing

3.3 Cross docking

Cross docking is a technology that does not require products storage, but the products are loaded and quickly dispatched further. This technology makes it enables to shorten delivery time, to stimulate circulation of goods, to reduce costs for storage and employee wages, to save warehouse space. Cross docking is a flexible form of transport of goods, which is based on the use of synergy effects, which are associated many consignments of different owners of goods one vehicle. Its essence lies in synchronizing the flow of goods, which are directed to the distribution center and on to final consumers. Just synchronization it ensures that there is no example processing of defective supply, excessive storage and other.

Cross docking launched in 1930 in the USA car industry, in 1950 he began to use American military since 1980 and was transferred to the retail industry and, consequently, to hypermarkets.

The technology is based on the principle that a distribution center is incorporated between a supplier and customer as a part of a logistic chain. It is typical that stocks are stored less than 24 hours. Cross Docking center accepts shipments that are assigned to a particular route. The goods are not stored but intended to be dispatched. There should be balance between incoming and outgoing goods in cross docking center. Thus, the goods the incoming goods should have a steady customer interest.

According Buková (2008) is Cross docking "distribution system, in which the goods are delivered to the distribution center is not intended for storage but is predisposed continuously in the required amount and the composition (the process of completing the supply) into a specific retail unit."

Ceniga and Majerčák (2007) Cross docking characterized "as direct technology to supply the most common food products, the nature of which consists in integrating the flow article - logistics center - the logistics chain between suppliers and retailers. The cross docking center sorts, completes and consolidates goods. The main initiator of cross docking is especially hypermarkets and supermarkets."

Currently Cross docking the most dynamically developing in the distribution of retail goods, which records two important directions. The first arose from a need to decrease the financial value of the warehouse and unsorted unnecessarily long goods whose value decreases. It is about low speed goods with high price, it is mainly about electronics and cosmetics. Supplier, based on harmonized orders completes the palette, according to the requirements of the retail chain as a whole but not by the individual sampling sites. Palette is decompressed in cross docking center and individual cartons are allocated to contracts for the various delivery points. The other has a different philosophy than the first direction of cross

docking, as it focuses on the revolving transport of goods such as drinks, pastries and others. Minimum transport unit, which a customer must order the whole pallet and just at the pallets are transported. The main task of cross docking center is to unify pallets example afternoon of incoming supplies from different manufacturers into trucks by the following morning shall remove the goods to various points of supply or till cross docking center. Increasing efficiency of transport is the main reason why the use of Cross docking in this case (Kubasáková – Šulgan, 2013).

Cross docking technology uses two basic approaches to the pallet cross docking and the boxed cross docking. Essence of pallet cross docking is that the pallets without adjusting, loading to vehicle and palletes from individual suppliers are arranged according to the destination and transported to specific recipients. For boxed cross docking is a characteristic that the goods on pallets is combined in one shipment, and all pallets that come from a supplier are transferred to distribution warehouse where the pallet will analyze the contents of the components and the further shall complete the goods by other suppliers (Buková, 2008).

Each technology has its advantages and disadvantages. We are the advantages and disadvantages of technology Cross docking clearly summarized in the table.

Table 3
Advantages and Disadvantages of Cross docking

Advantages of Cross docking	Disadvantages of Cross docking
decrease of storage requirements due to less storage space usage	needs to be planned carefully
reducing the number of storage operations	high quality information system of the company is necessary
increase of vehicles efficiency	creation of a cross docking center requires initial investment
shorter delivery time between a supplier and customer	some suppliers do not always deliver the goods to cross docking center in time
risk of damage associated with manual handling of goods is decreased	strict observance of delivery schedule
goods delivery financial saving	it requires a sufficient number of carriers, in order to guarantee smooth running of Cross docking

Source: own processing

4. Conclusions

Management of stocks in company presents an important factor of a company business goal – better performance. Effective stock management can obviously influence amount of cash tied up in stocks. With insufficient levels of supply, companies are at risk of lower productivity and increase of cash tied up in stocks. For this reason, companies should use modern management technologies in the management of stocks which help them to reduce stocks and improve their supply operations in company.

In this article we have provided not only view at stocks and their management, but we described selected modern technologies in management of stocks. In our opinion using modern technologies in management of stocks can save companies financial costs, achieve competitive advantage on the market against competition which does not use these technologies.

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Chocolate as a functional food

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Abstract

A functional food is food that contains an active compound that provides health benefits beyond basic nutrition. In this article we will focus on foods that belong to functional foods. Good nutrition for its energy value and composition meets the requirements of primary prevention of several diseases. The quality of the ingredients and their origin, freshness and nutritional value are the basis for the food market. Functional foods have been specially developed to ensure the health and reducing the risk of disease. One of those foods is even chocolate. Chocolate has been consumed as confection, aphrodisiac, and folk medicine for many years before science proved its potential health benefiting effect. The aim of this paper is to determine whether people are aware of functional foods, actually if they know that even the chocolate are among them. In following research was used method of questioning questionnaire.

Keywords: chocolate, functional food, health benefits

JEL classification: I1, Q13, D12

Introduction

Trends in socio-economic changes and population demographics point to the need for foods with added health benefits. An increase in life expectancy, resulting in an increase in the number of elderly and the desire for an improved quality of life, as well as increasing costs of health care, have stimulated governments, researchers, health professionals and the food industry to see how these changes can be managed more effectively. There is already a wide range of foods available to today's consumer but now the incentive is to identify those functional foods that have the potential to improve health and well-being, reduce the risk from or delay the onset of major disease. Combined with a healthy lifestyle, functional foods can make a positive contribution to health and well-being. At present we know 42 functional food and one of them is chocolate.

1 Methodology

This paper represents an introduction into the study of functional food and especially chocolate. At the outset, we examined the theoretical part of that issue, the characteristics of functional foods from different authors, the history of functional foods and the current state of the subject.

In the second part, we examined the method of questionnaire inquiring on a sample of 115 respondents, their knowledge of functional foods, especially the chocolate and we assessed their consumption habits when buying chocolate and chocolate products.

2 Results and discussion

2.1 Characteristics of functional food

Considerations on health were made already in ancient times. For centuries extracts of plants and their additives were used in beverages and foods to improve the health and well-being (EUFIC, 2006).

Health and food are inseparable concepts associated with a mankind. The idea of functional foods is derived from the culture of the East, where it was thought that food should be a remedy. Currently, functional foods are a continuation of this trend. Food products, which are attributed to the specific health-promoting effects, have been known for a long time in southern and eastern Asia, and more than a dozen years ago, market of both traditional and newly developed products offered under the name of „functional foods“ developed there. The concept of functional foods was born in Japan. In the 1980s, health authorities in Japan recognised that an improved quality of life must accompany increasing life expectancy for the expanding number of elderly people in the population if health care costs were to be controlled. The concept of foods that were developed specifically to promote health or reduce the risk of disease was introduced. Functional foods found their way from Japan to the United States and from there to Europe (Sawicka, 2015).

Figure 1

List of functional foods (whole foods) with health benefits

Apples	Dairy products	Sesame seeds/sesame butter
Beef	Eggs	Sweet potatoes/yams
Blackberries	Eggplant	Sweet peppers
Bran	Fish/fish oil	Soy
Cantaloupe	Flax/flax seeds/flax seed oil	Spinach
Carrots	Garlic	Strawberries
Celery	Ginger	Sunflower seeds
Cheese	Hot Peppers	Tea/green tea
Citrus fruit (grapefruit, lemons, oranges)	Ketchup	Tomatoes
Chocolate	Legumes/lentils	Watermelon
Corn	Nuts (almond, walnuts)	Wine
Cranberries/cranberry juice	Oats/porridge	Whole grains
Cruciferous vegetables (broccoli, cauliflower, Brussels sprouts, cabbage, kale)	Onions	Yoghurt
	Parsley	
	Pumpkin	
	Prunes	

Source: own processing

2.2 History of functional food

Although the term „functional food“ is commonly used, there is not the official definition in the European Union. Probably, it will not be in the nearest future, as introduced health claims fulfil the requirements posed by the functional foods. Usually products and food preparation of scientifically proven beneficial effects on the human body are referred to as functional foods. Their action is to improve the health and well-being, as well as reducing the risk of diseases, especially the civilization ones.

Functional foods are defined as any food or food ingredient that may provide a health benefit beyond the traditional nutrients it contains. A functional food is similar to a conventional food (EUFIC, 2006).

However, only a few food ingredients have scientifically proven positive impact on human health. There are: omega-3 fatty acids, polyphenols, plant sterols, unsaturated fatty acids and minerals stanols.

Japan uses at present new and wider notion of this food: Food with Health Claims (FHC). Such foods became an important segment of food product markets. Functional food is needed not only in health and disease, it is also necessary in creating a healthy lifestyle. As interest in this category of foods has grown, interest has turned to the development of standards and guidelines for the development and promotion of such foods (EUFIC, 2006).

2.3 History of chocolate

Cocoa and chocolate are consumed by humans for a thousand of years. For Mayan people, cocoa pods were symbols of fertility and life and food of gods. Chocolate refers to many raw and processed foods produced from the seed (bean) of the *Theobroma cacao* tree found in Mexico and Central and South America. It was first documented around 1100 BC. The Aztecs and Mayans made a chocolate that had a bitter taste. They used chocolate for ceremonial purposes and believed that chocolate had medicinal properties. They also believed that consumption of cocoa gave wisdom and power and they used cocoa as currency. Aztecs and Mayans made dark, unsweetened drink based on cocoa, which was called xocoatl. They spiced it with chili peppers and added corn meal but sugar was unknown to them (Albrecht, 2010).

In 1492 Columbus brought cocoa beans from America to Europe, but at that time they were not interesting to Europeans.

Hernan Cortez in 1528 brought cocoa to Spain along with secret of making xocoatl. In Spain, sugar, vanilla, nutmeg, cloves, allspice and cinnamon were added to the original recipe and aphrodisiac shortly made breakthrough in Europe. However, chocolate bars were not produced until the 18th century, when mechanical mills for squeezing cocoa butter from cocoa mass were produced; Milk chocolate was first produced in the 19th century by Daniel Peter and Henry Nestle. Rodolphe Lindt invented a process called conching, which enabled formation of smooth chocolate aroma and Milton Hershey was a pioneer of mass production of affordable chocolate bars (Albrecht, 2010).

Through the centuries, chocolate was considered as an aphrodisiac and was used to treat fatigue and diarrhea.

2.4 Chocolate as a functional food

According to recently published data, chocolate is the most craved food in North America and most of the chocolate craves are women. A recent study focused on the effect of chocolate on depression. The researchers found, that people, who are clinically depressed, are more likely to eat chocolate and the more depressed they are, the more chocolate they eat. The researchers cannot conclusively state, if depression stimulates chocolate craving. The fat content, sugar content, caffeine, texture or aroma may be responsible for the mood enhancing effect of chocolate. Components in chocolate (theobromine, tyramine and phenylethylamine) may be responsible for this effect on mood (Rihoskova, 2009).

Several studies focused on chocolate craving. A compulsion to eat chocolate may be similar to a drug addiction; the chocolate addict may have a heightened sense of well-being during consumption. The drive for chocolate may interfere with performing everyday activities and thoughts and may influence mood (Sawicka, 2015).

Recently, compounds in chocolate have been found to have health benefits and chocolate sometimes is referred to as a functional food. Components in chocolate include antioxidant flavanol compounds (such a catechins) which reduce free radicals produced by oxidation. Lower LDL cholesterol reduces blood pressure and platelet aggregation. The amount of the antioxidant flavanol compounds in chocolate product depends on the type of chocolate and the processing method. By use of dutched method of cocoa-processing have chocolate lower levels of antioxidants. Dark chocolate is higher in these compounds, whereas white chocolate is very low in antioxidant flavanol compounds (Ackar, 2013).

Cocoa butter contains stearic acid and small amounts of plant sterols. Studies of stearic acid in chocolate demonstrated a neutral cholesterolemic response in people, who consumed the chocolate-enriched diet (Rihoskova, 2009).

Magnesium is a mineral found in significant amounts in chocolate products. A serving of milk chocolate (744 grams) provide 8 percent of the recommended daily allowance (RDA) and a serving of dark chocolate provides 15 percent of the RDA for magnesium. Milk chocolate products contribute calcium to the diet (Ackar, 2013).

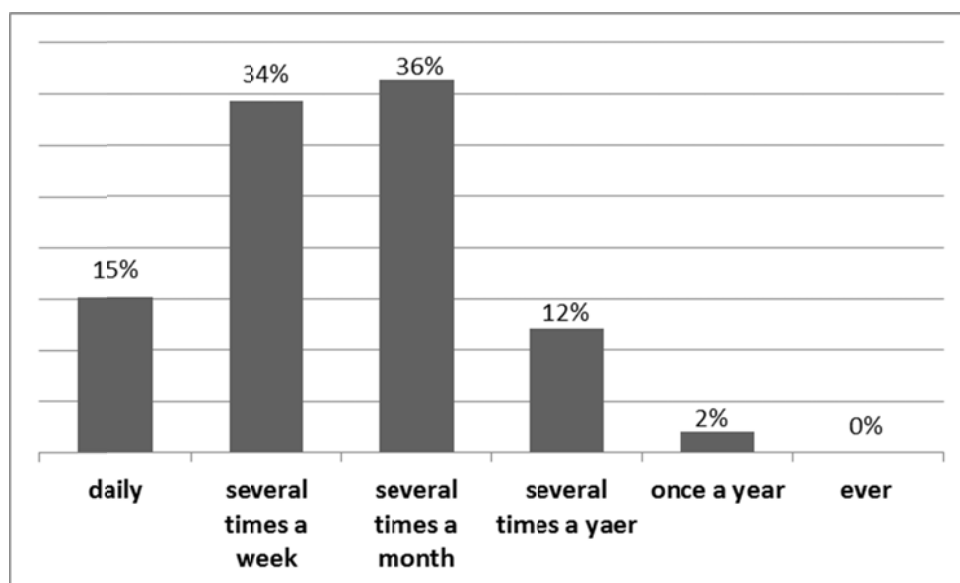
2.5 Results of the surveying questionnaire

115 completed questionnaires were analysed. Patterns of consumption when buying chocolate and knowledge of respondents about functional foods were examined. The survey was conducted in April-June 2015 and questionnaire contained 16 questions.

In the following analysis will be deal with various issues in detail.

Graph 1

How often do you eat chocolate?

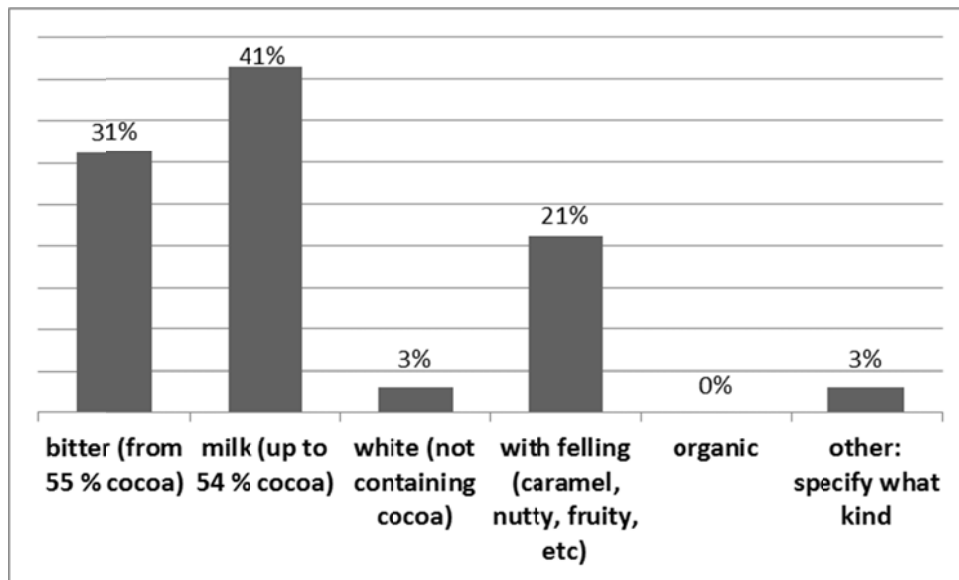


Source: own processing

The most number of respondents consumes chocolate several times a month or several times a week.

Graph 2

What kind of chocolate do you consume most often?

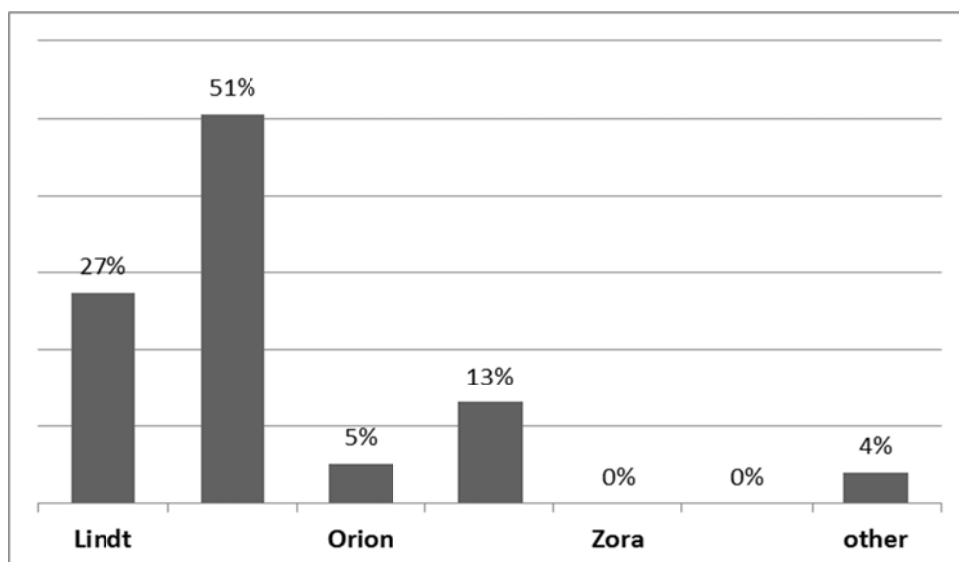


Source: own processing

The most number of respondents consumes milk chocolate, then hot and then chocolate with filling. Some respondents expressed their views as follows: prefer particularly bitter 55% chocolate, but also all other: filled, fluid, cocoa beans and all other types of chocolates.

Graph 3

Which brand of chocolate you can think of as the first?

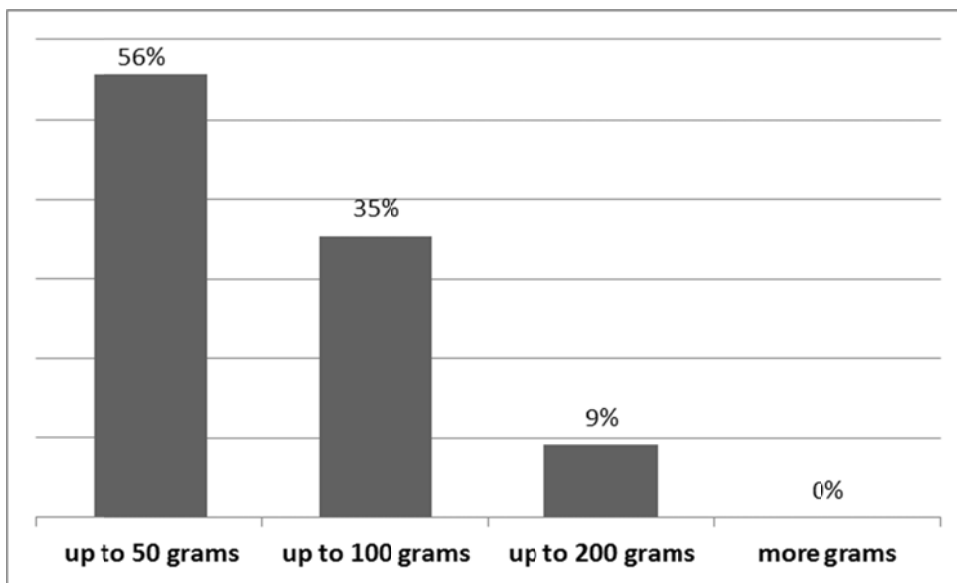


Source: own processing

On this question, respondents have in mind most Milka chocolate. As part of self-expression was supplemented with the following brands: ILLUI, Callebaut, Belcolade, Zotter, Dolfín, Stainer, Ritter Sport, Läderach.

Graph 4

How big pack of chocolate do you consume at once?

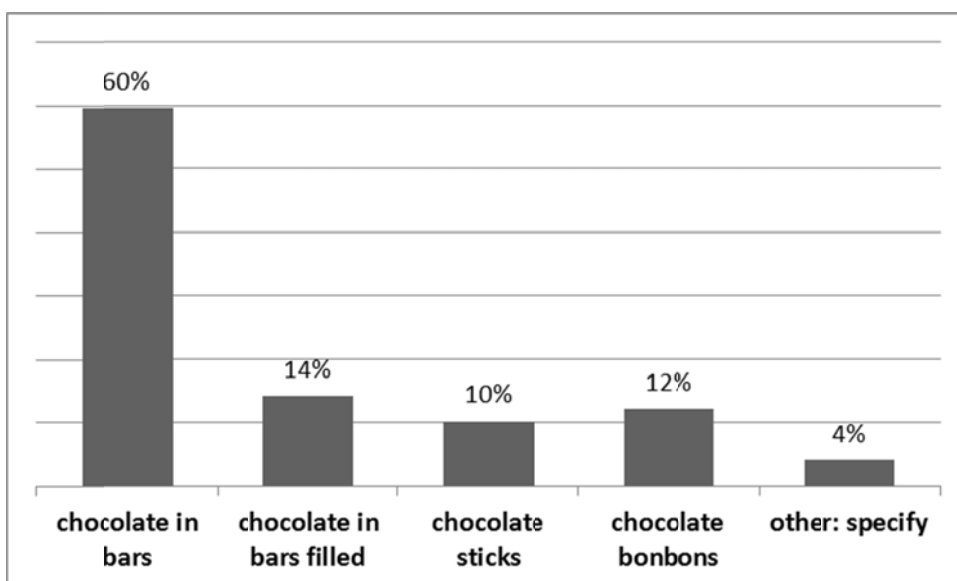


Source: own processing

More than half of respondents say that they consume at once up to 50 grams of chocolate.

Graph 5

What kind of chocolate do you prefer?

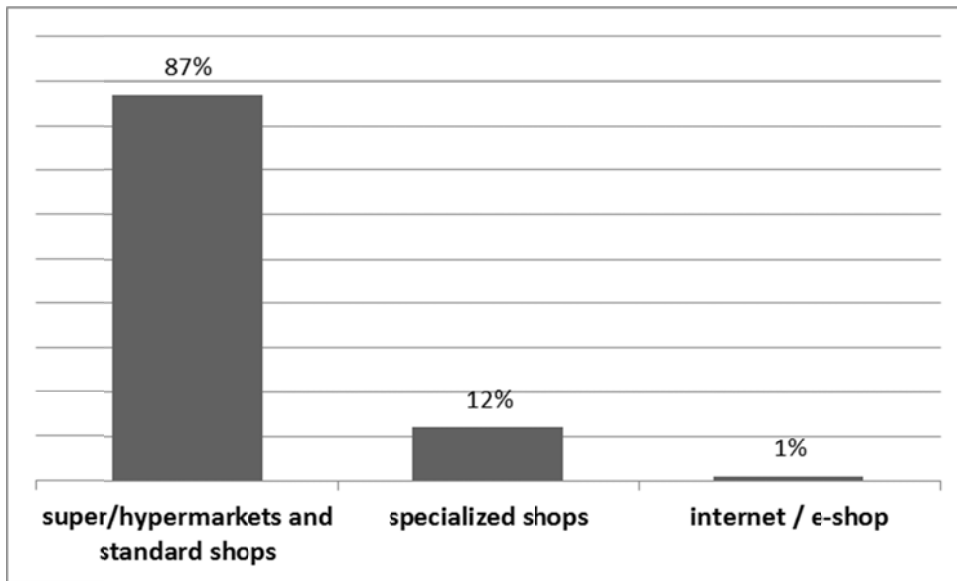


Source: own processing

For most respondents is popular chocolate in bars. As other possibilities are mentioned liquid chocolate, roasted cocoa beans, hot chocolate, thin chocolate in bars.

Graph 6

Where do you most often buy chocolate?

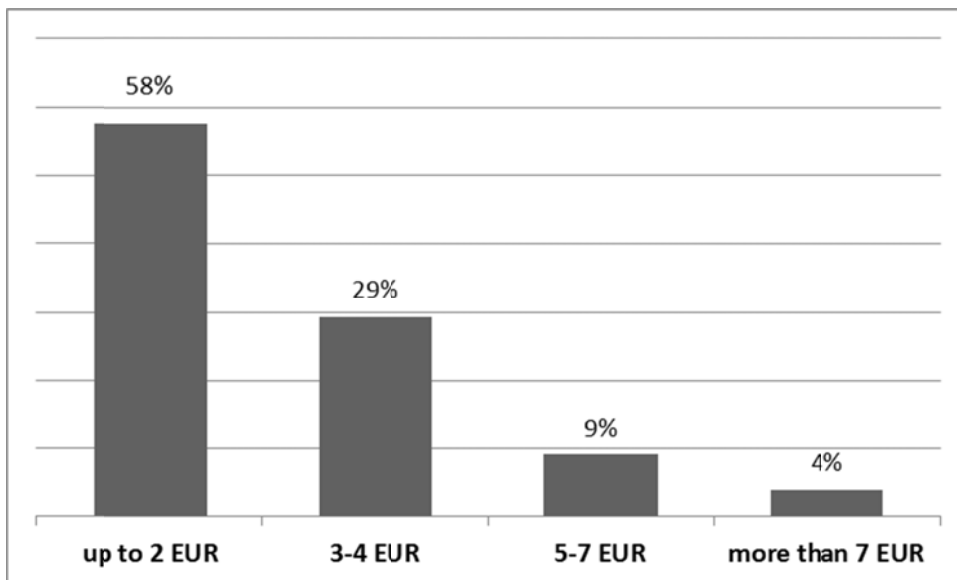


Source: own processing

A significant majority of respondents buys chocolate in supermarkets/hypermarkets and standard shops.

Graph 7

How much money do you spend weekly by purchase of chocolate?

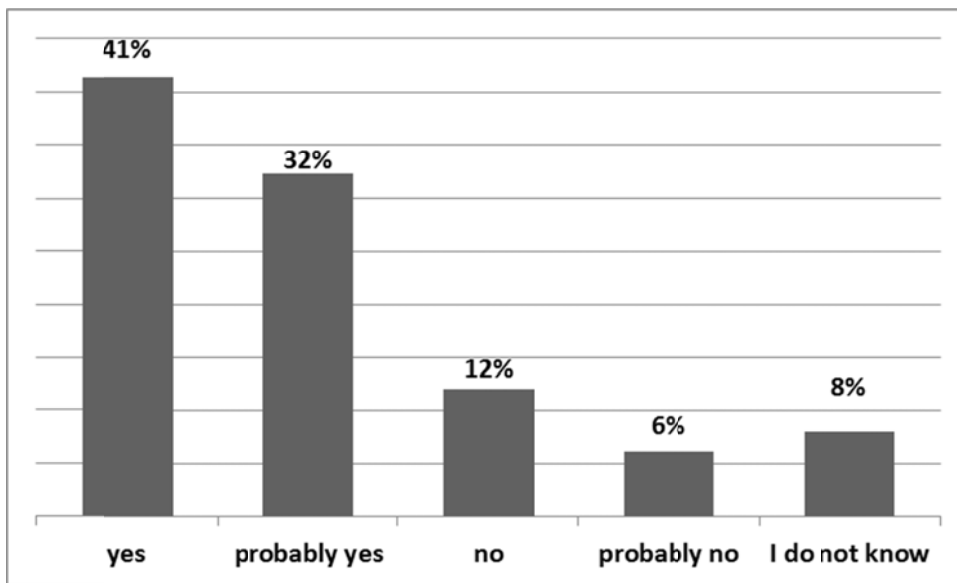


Source: own processing

A significant majority of respondents spends weekly up to 2 EUR by purchase of chocolate.

Graph 8

Are you willing to spend more money by purchase of chocolate of higher quality?

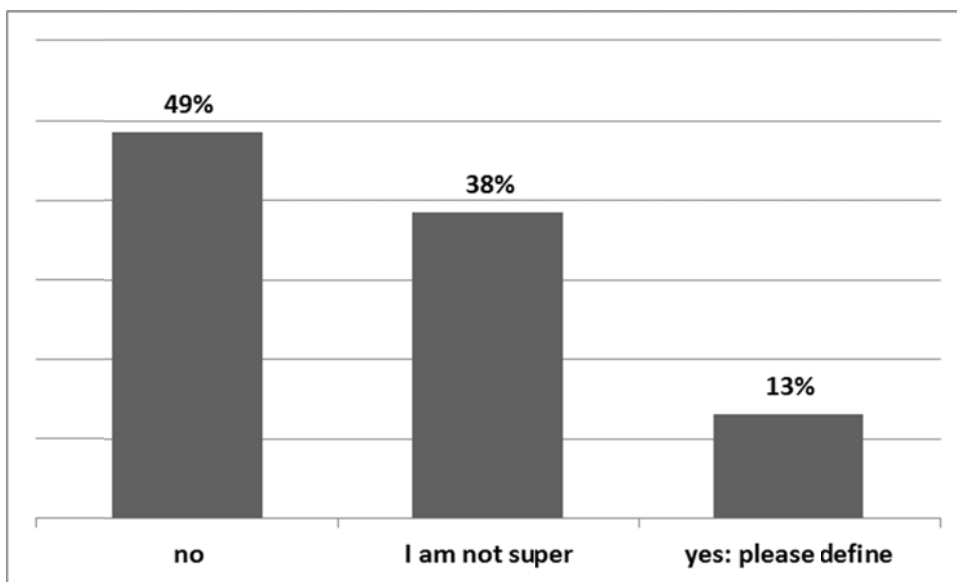


Source: own processing

Approximately two thirds of respondents are willing to spend more money by purchase of chocolate of higher quality.

Graph 9

Do you know what are the functional foods?



Source: own processing

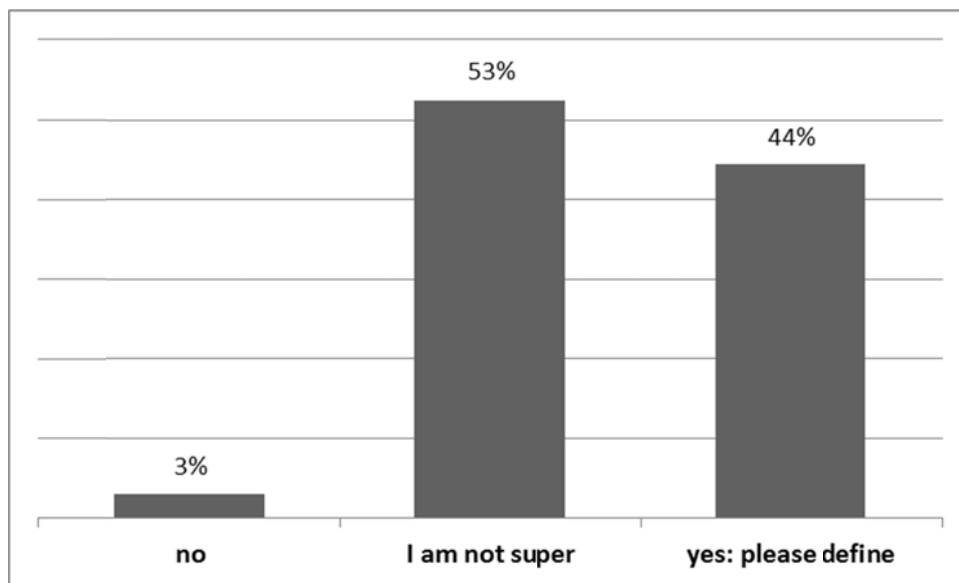
Almost half of respondents say that they do not know what the functional foods are. More than one third of surveyed is not sure what the functional foods are. Those who say that they can indicate what the functional foods are, mention the following answers:

- they are common foods, but they contain ingredients with positive effects for sanitation of humane organism, for example like chocolate,

- they are beneficial to our health and they has positively influence for metabolic processes in humane organism,
- they contain natural things which are benefit for health,
- foods with a positive impact on specific functions of the body,
- help the body obtain substances for proper function,
- food has positive health effects and positive impact to the body, also contain health-promoting substances,
- Positive effect for human health.

Graph 10

Did you know that chocolate has beneficial effects for human organism?



Source: own processing

To the question of the effects of chocolate for human organism, half of those surveyed stated the following answers:

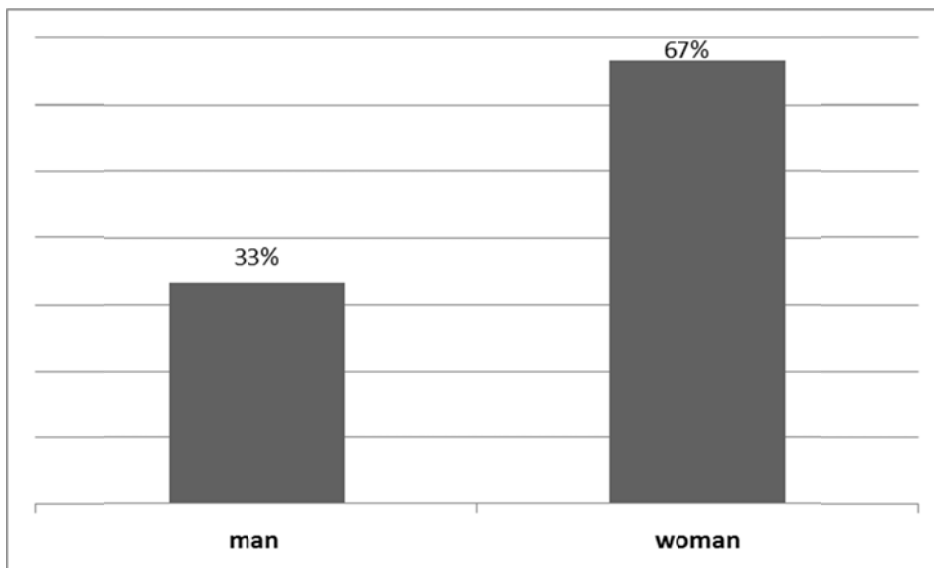
- friendly, sedative, aphrodisiac, a source of calcium for skin problems, heart, blood vessels, antioxidant,
- chocolate contains a high content of antioxidants, magnesium, vitamin B, it's also a good antidepressant,
- health benefits, helping the proper functioning of the human organism,
- it protects the body from heart disease, heart attack, high blood pressure,
- it helps with stress, improves mood, helps with abdominal pain, with digestive problems,
- effective against stress (increases serotonin levels), positive effect on brain function, has demonstrated beneficial effects for the functioning of human organs,
- it contains, for example lecithin, improves concentration,
- anti-inflammatory, good for the heart (ideally 70% + cocoa content),- provides energy, smile,

- it produces hormones of happiness, it helps with digestive problems,
- cellulite body wraps,
- helps people to be happier and well-balanced,
- it reduces stress, depression and migraine,
- it beautifies.

Finally, a few questions for statistical purposes:

Graph 11

Your gender?

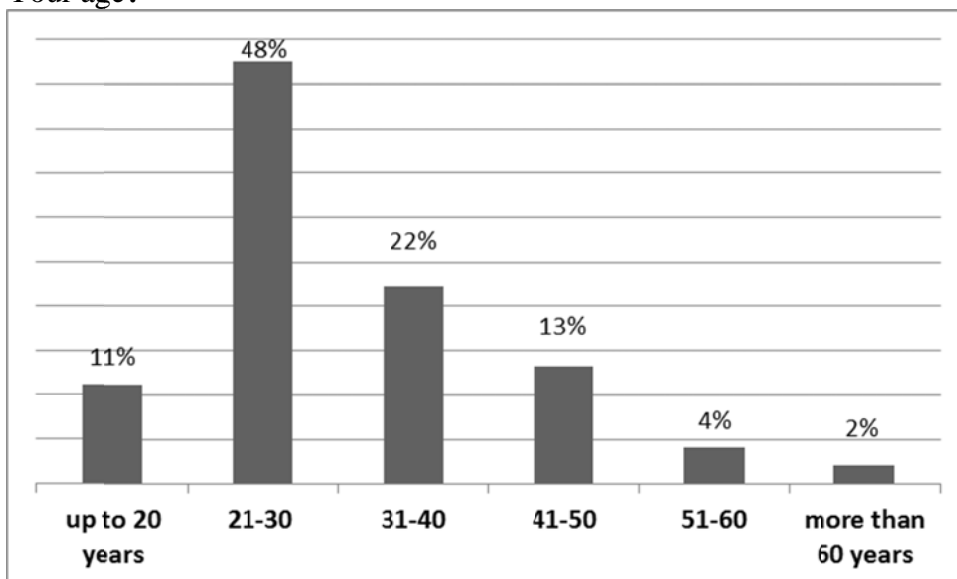


Source: own processing

66,7 % of surveyed are women, rest the men.

Graph 12

Your age?

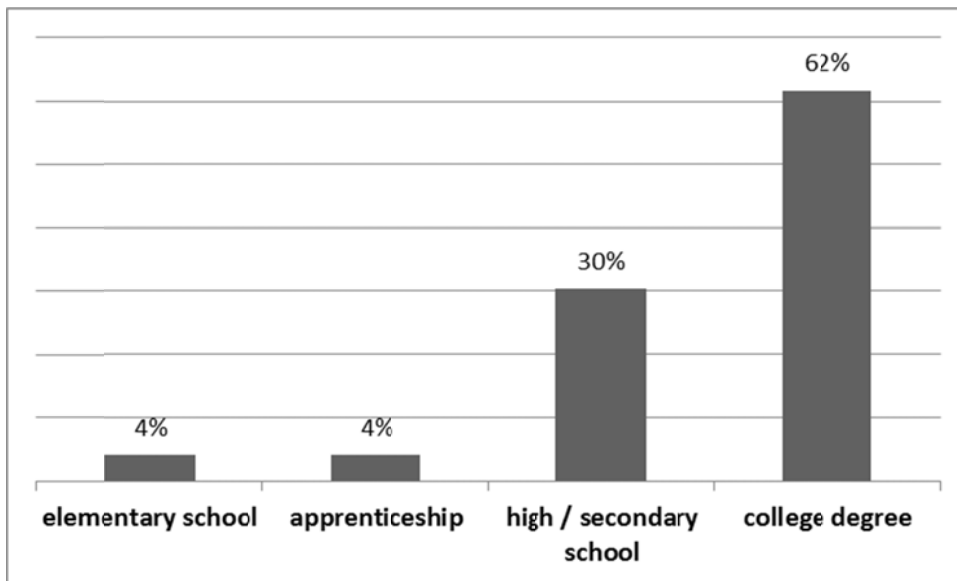


Source: own processing

Most respondents were aged 21-30 years.

Graph 13

Your level of education?

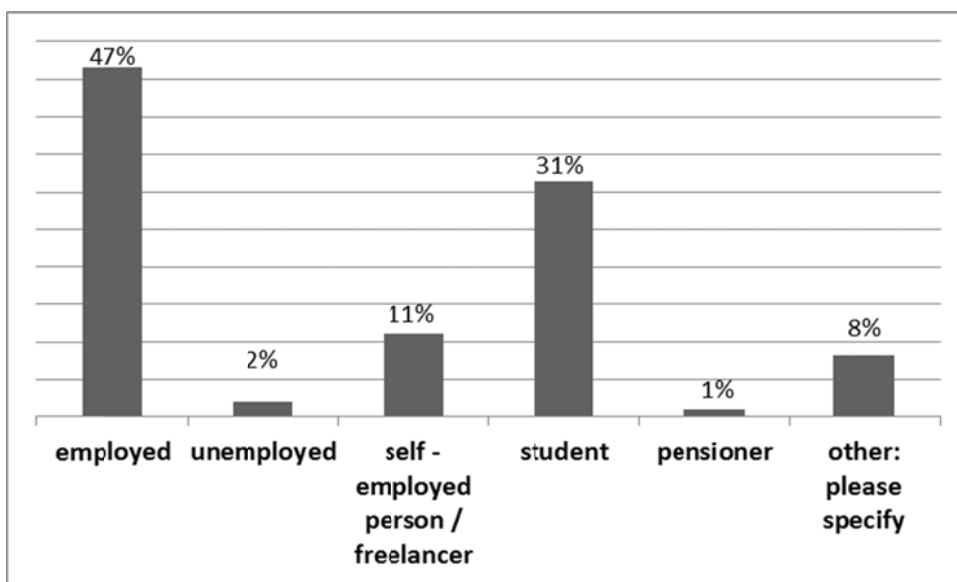


Source: own processing

A clear majority of the respondents are alumni, one third are high/secondary school graduates.

Graph 14

Your current status?

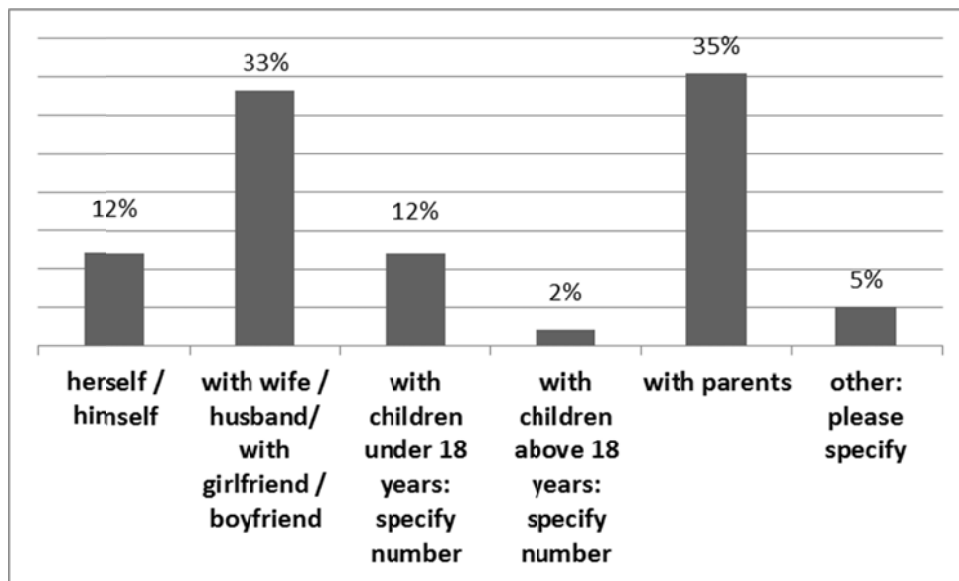


Source: own processing

Nearly half of the respondents were employed and about one third of respondents were students.

Graph 15

You live at home?

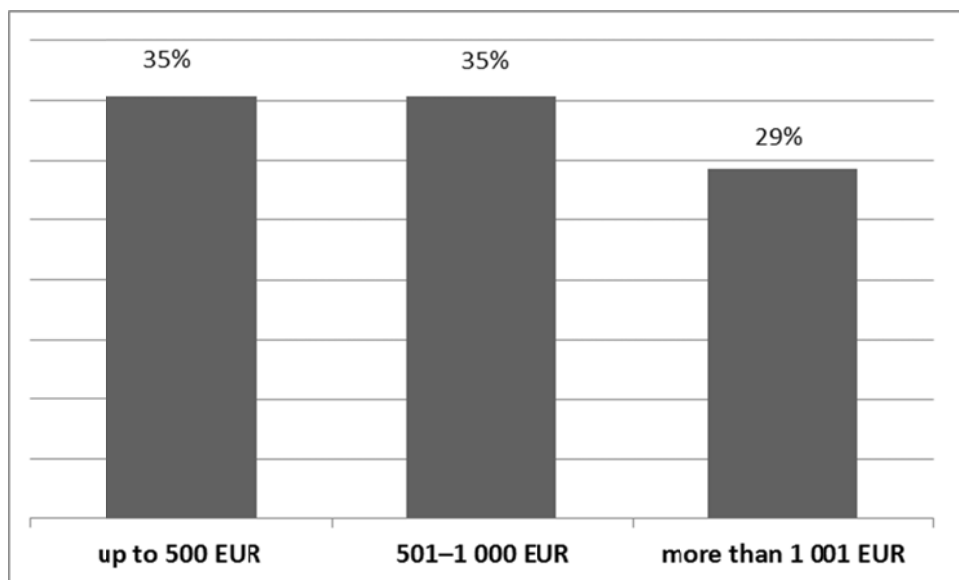


Source: own processing

Most of the respondents live in a household with others, either with parents, spouses, friends and children.

Graph 16

What are your net monthly income?



Source: own processing

Respondents are divided almost exactly into thirds. At least of surveyed are in the category more than 1001 EUR.

Conclusion

The questionnaire emerged interesting conclusions. A third of surveyed consume chocolate several times a week, about 40 % consume chocolate milk, more than half of surveyed consume at one time about 50 grams of chocolate, 60% consume chocolate bar. The functional food is awarded by approximately 40% of surveyed, more than half of respondents are aware, that chocolate is a functional food.

Functional foods offer great potential to improve health and/or help prevent certain diseases, when taken as part of a balanced diet and healthy lifestyle. The subject of health claims is becoming increasingly important and there is need of broad consensus for regulatory framework in the EU that will protect consumers, promote fair trade and encourage product innovation in the food industry. The research opportunities in nutrition to explore the relationship between a food or a food component and an improved state of health and well-being or reduction of disease present the greatest challenge for scientists now and in the future. Communication of health benefits to consumers is also of critical importance, so that they have the knowledge to make informed choices about the foods they eat and enjoy.

Up to now there are only a few dozen foods with adjective „functional“. Ongoing research of functional food is expanding gradually. The chocolate as regular approved functional food was demonstrated in our study in fact. Likewise, this article seeks to contribute to refute the myth about the harmfulness of this food.

Acknowledgement

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Comparison of economic and environmental aspects of tailing ponds of slag and ash mixture

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Abstract

Tailing ponds belong to economically costly and environmentally dangerous objects. Slovakia registered 53 different types of ponds. Environmental-security threats related to tailing ponds and their negative impacts on the environment and human health point to the fact, that new approaches and solutions to problems are necessary for the future. The paper introduced research fundamentally new technology remediation tailing ponds slag and ash mixture, which is realized in operating conditions EVO Vojany. The focus is on the funds needed to implement bioremediation tailing pond of slag and ash mixture of economic and environmental technologies of new remediation technology.

Keywords: tailing ponds, environmental technologies, funding, experimenting

JEL classification: O44

1. Introduction

Combustion of coal in power plants leads to formation of by-product waste ash and slag known as dross ashes mixture. It is hydraulically abolition on the tailing pond, which is not harmful only to the environment near the power plant, but also in the broader area. Waste should be environmentally safely stored after the conclusion of the tailing pond. Practice shows, that waste disposal has its pitfalls, so is necessary to search for new technologies of tailings ponds remediation. It happened a few cases where serious accidents have occurred on the tailings ponds. That was the impulse for the EU to allocation of significant funds through development programs for the environmentally safe remediation of tailings ponds in the EU, including Slovakia.

2. Risks tailings ponds from an environmental perspective

To environmental safety of tailings ponds affects a number of factors, which include, for example, the absence of funds, the technical condition of the tailing pond, responsible workers, skilled workers, tailing pond surrounding area, the availability of technology, etc. (Hronec et al., 2009)

Danger of an emergency situation, respectively accidents is directly related with the formation and existence of the tailing pond. This is the reason for carrying out the technical and safety supervision for tailings ponds. Within the project is to determine the causes of emerging disorders, providing for the prevention of disorder or proposing possible remedies.

Operation of tailings ponds, also those tailing ponds, which have already been concluded, accompanied by various types of accidents and failures, for example the shedding of the dam caused by abnormal occurrence of rainfall, failure the water intake structure, or for example in eroding the element of the dam. For these reasons it is not possible to accept the shedding of the dam. Additional cause of failures and accidents tailings ponds include flat erosion, erosion of leakage, insufficient slope stability of the dam, disorders coal slurry pipelines and subsequently releases of pollutants to environmental, disturbances caused by internal erosion and the others. (Majerník et al., 2012)

In that regard, it is also the scientific problem of how to safely store the waste in the long term and close the pond so, that we can prevent environmental disasters and how to implement the closure, respectively. remediation of tailings ponds effective and environmentally safe and economically efficient manner. Faculty of Business Economy with seat in Košice for several years dealt with, and this year complete a scientific project bioremediation of tailing ponds of slag and ash mixture in power plants EVO Vojany. This project is connected to the topic of my dissertation "Economically and environmentally oriented research and development of remediation technologies of tailings ponds". In the present article are summarized the results so far of laboratory experimentation and process of small parcels attempts on tailing pond with emphasis on the comparison of economic and environmental aspects of the remediation technology regulated by law and newly-developed technology, including the indicative yields of biomass production on the tailing pond for the purpose of co-combustion of coal.

2.1 The original Act established way of conclusion of tailing pond

To closing the tailing pond is lawfully use the drainage system on tailing pond overlaps by geotextile and hydrofoil. When using this method, there would be an area on closed tailing pond and at the stage of landscaping edit, would be a stable surface for different use with system of drainage ribs and collecting conduits, which resulted in the accumulation tank. In the first layer is deposited on the prepared surface, for example a nonwoven geotextile CHS-tex B 28, whose technical characteristics are shown in Table 1, thereby solving the project foresees.

Table 1

Technical parameters of geotextile

Nonwoven geotextile CHS-tex B 28	
Areic mass	500g/m ²
CBR-test	6.000 N
Resistance to dynamic cross-section	8 mm
Tensile strength	28/28 kN/m
Elongation at break	60/70 %

Source: Internal materials

This will provide a protective layer for the installation of insulation foil VFPE. For example, there can be use as a waterproofing membrane GSE UltraFlex hr. 2.0 mm with which already worked in setting up experimental fields directly on the pond EVO. Its technical characteristics indicated Table 2.

Table 2

Technical parameters of the waterproofing foil

VFPE the waterproofing foil GSE UltraFlex 2,0 mm	
Breaking strength	33 MPa
Elongation at break	900%
Resistance breakdown	4.600 N
Multiaxial elongation at break	> 30 %

Source: Internal materials

Waterproofing foil which is proposed, should also be resistant to the impact of differential settlements. It is necessary to take account of the draining in the case of excess rainwater. For this reason, it should be used for tube drainage geocomposite DRAINTUBE 450 FT2 D20, whose parameters are shown in Table 3.

Table 3

Technical parameters of tube drainage geocomposite

Tube drainage geocomposite DRAINTUBE 450 FT2 D20	
Areic mass	450 g/m ²
Tensile strength without minitubes	12/12 kN/m
CBR test without minitubes	2,7 kN
Resistance violation to minitubes	700 kPa
Transmissivity at $i=0,3$ and $\sigma=100$ kPa	0,45 l/s/m

Source: Internal materials

Constructed waterproofing closing layer are then dunes layer of soil with respect to the proposed vegetation and related requirements. The project is considered a biomass production for its co-coal directly in the EVO. Current must EVO incinerated with coal 14% biomass. Part of this volume in the form of Swedish energy willows and grasses grow by the tailing pond. This would represent a synergistic environmental-economic benefits in terms of a "green economy".

When installing the above materials, it is important to follow the instructions of the relevant application materials and make the necessary tests to verify tightness to achieve impermeability of the waterproofing layer. Wholly waterproofing ability have to prove the newly-exerted technology-based stabilizer (a breakdown product of desulphurisation) and structured layers of soil and land.

2.2 New developing technology of remediation of tailings ponds

In a closed pond EVO Vojany is realized experiment, focusing on research and development of new environmental-safety and economically acceptable remediation technologies of tailings ponds. This is a fundamentally new solution according to which, the tailing pond slag and ash mixture would be concluded by layers stabilized, soil and land. At the same time the treated surface considers the growing biomass, which can be incinerated with coal. If experiments already implemented will be successful, this solution could replace since now implemented procedures. There is a presumption that a new way of remediation will be less economically challenging and also environmentally-safe technology. (Majerník, Tkáč et al., 2012)

Research into alternative technologies in terms of project management consists of a number of attempts. Realized was the 12 purpose of experiments in containers and four small parcels attempts, in which were verified different layers stabilized, the soil and the land to determine the optimal ratio of these layers, which will be resistant to environmental influences, and that ensures impermeability of rain water into the lower layers in the tailing pond and the final surface will allow the cultivation of biomass for incineration with coal.

As a waterproofing layer at this technology is used by-product arising in the application of desulphurization technology in the power plant by combustion processes. This is similar to the product of the cement which, in contact with the water has impermeability characteristics - for example, can prevent the penetration of rain water into the elements of tailings ponds.

2.2.1 Laboratory experiments - results framework

As part of laboratory experiments in twelve containers of the same dimensions store in various layers stabilized the subsoil and topsoil. Half of the containers was stored in areas where the climate is controllable, the other half was exposed to the local climate. One of the containers has not included a layer stabilizes, as it served as a control container. All containers were subjected to rainfall simulation based on data obtained from the information Slovak Hydrometeorological Institute. Experiment results pointed out that the six containers exposed to the local climate natural rainfall didn't leak out, so were absorbed by soil layers with water resistance stabilization material. In the case of containers in which was possible to control the conditions and wherein the simulated extreme precipitation, water seeping (the rim of the pot) and collected for the containers prepared with the possibility of measurement. The result are proposed appropriate option layering, which were later realized in the context of small parcels attempts. *"When the maximum daily amount of stormwater to 100mm (70 times the average daily value), so there is considered appropriate option using the 170 and 230 mm stabilizer depending on the differences of thickness subsoil for deployment grass and willow."* Plants planted on top then drain the water, that is soaked into the subsoil through its root system. (Majerník et al., 2012)

2.2.2 Small plot experiments – interim results

The results of containers experiment was further verified through the project of small plot attempts (end of 11/2015). The point is get to know, if the suggested layering as a result of laboratory experiments, really ensure impermeability of the surface water into the lower layers of the tailing pond and over large areas. Moreover, the survey asked if is possible over the entire surface of the tailing pond (29 ha) plant biomass and in what volume, thus ensuring biological environmentally safe and cost-effective reclamation of tailings ponds. Willow Swedish was verified as suitability and one of the fast-growing trees along with grass mixes and ultimately also monoculture grasses. On the bottom was used waterproofing foil on which was imposed a stabilisation material with thickness from 30 to 50 cm. (Majerník et al., 2012)

Created was also four large-sized parcels, but the layer of stabilization material was used in only two of them. By eco-montage of experimental fields will be revision in the root system of plants and layer of stabilized including its impermeability.

A grass mixes planted in plots was adopted unequally and that's why there has been realized another planting to fill unequally parts. Swedish Willow shoots became a part of the food forest animals and therefore in this case occurred during the experiment to another planting.

2.2.3 Biomass planting in tailing pond

To the category of renewable energy crops belong the fast-growing tree species. The hallmark of these species is rapid growth and good calorific value, what is reason why is their cultivation in the intentions of European development strategies for energy purposes. Fast-growing tree species can be grown in hard-usable area, such as tailing ponds, mining dumps and the like. Its use are currently in addressing the compensation of non-renewable - fossil energy sources.

Fast-growing tree species can be classified as renewable energy because during the three-year rotation age is a fast-growing tree species able to grow from five centimeters to seven meters. Typical is a zero CO₂ balance since the amount of CO₂ release when burning it is able to consume as they grow. (Varga, 2010)

In terms of rotation age can be fast-growing tree species classified according to Table 4.

Table 4
Classification fast growing trees by felling time

Felling time	Cycle (years)
Very short	2-3
Shorter	5-8
Short	10-20

Source: Varga, 2010

Currently, is the trend orientation on fast-growing tree species with a very short rotation forestry, that cycle is 2-3 years.

For the Slovak Republic (for energy purposes) recommends planting these fast growing trees: willows (*Salix*), poplars (*Populus*), acacia (*Robinia pseudoacacia*). It can be grown on a short rotation energy, plantations in energy forests. The resulting product is adjusted dendromasa in the form of wood chips or as briquettes, further useful for heating or combined heat and power plant. (Varga, 2010)

The results so far experimentation on pond EVO confirm the previously indicated aspects. EVO Vojany today under the Law, on IPPC and BAT technologies must be incinerated biomass with coal at the moment 14%, with a constant increase.

Willow Swedish

Swedish willow is one of the perennial agricultural crops. It is cultivated to produce wood chips, utilized to produce electricity and heat. Swedish willow wood chip is suitable for both direct-combustion in local heating systems, and the production of briquettes, pellets. There are more than 300 kinds of willows her relatives, but for growing as fast-growing trees only a few suits. Well cultivated plantation of Willow Sweden has an estimated life span of 25 years, this means that the plantation can also pick up seven times during its lifetime. (Marhold, Hindák, 1998)

At present, the Swedish Willow varieties are purpose-cultivated. Their benefits may include resistance, relatively low maintenance, are cost-effective and resistant to many pests and diseases, are characterized by a high degree of success growing and bring high benefits of

short rotation, the energy produced is in high quality, last but not least is one of the advantages longevity plantations. (Bionera resources, 2015)

2.3 The concept of economic and environmental comparison of the maintainer and new remediation technologies of tailing pond EVO Vojany

Vojany tailing pond is located near the power plant. It is a separate state road, which is heading into the villages Besa and Ižkovce. The total area of the pond has an area of 100 ha and is divided into two cartridges with an area of 47.2 hectares and 48.1 hectares. Cassette No. 1 the research subject is now closed and the gradual growing dam is the area on the quota 113.50 meters above sea level on an area of 29 ha, pond no. 2 is still operational with a capacity of about 10 hectares. (Majerník et al., 2012)

Tailing pond is covered with geotextile, which is now defunct and is overgrown with trees and grass. Under the "system of identification of old environmental burdens" in Slovakia was tailing pond classified as an environmental hazard Water construction with the need for the preferred option and in terms of EC regulations. When assessing the economic and environmental efficiency of the investment project remediation of the tailings ponds of slag and ash mixture is necessary to define the one-time cost of the standard solution (legislative and security), the cost of implementation of newly developed technology, compare and identify the economic and environmental benefits. Quantifying environmental benefits at this stage of the solution is more complex due to the nature of the security alike. Their clarification will be the final output of the project (end of 2015). The table 5 shows the ongoing framework economic and environmental costs and benefits. Some of them are mentioned, their value will be continuously surveyed in completing the project.

Table 5
Comparison of the costs

The cost of the standard overlay pond No.1 EVO			The costs of the application of newly developed technology		
Material, activity	Price/1m ²	Price(estimate for the pond)	Material, activity	Price/1m ²	Price (estimate the pond)
CHS tex B28	1,39 €	403 100,00 €	Stabilisation material	0,00 €	0,00 €
VFPE GSE UltraFlex 2,0 mm	4,98 €	1 444 200,00 €	Soil	Unspecified	-
Drain tube 450 FT2 D20	4,70 €	1 363 000,00 €	Land	Unspecified	-
			Planting willows, grasses	0,09 €	26 100,00 €
Σ	11,07 €	3 210 300,00 €	Σ	-	-

Source: Internal materials, Own processing

3. Conclusions

Based on calculations of the cost of implementation of the standard overlay of tailing pond it can be said, that this method is very costly remediation. However, planting is not a high

biomass item, compared with any of the entry material of the standard technology. The stabilisation material is a material which is the accumulation of a tailing pond near the power plant as a product of combustion processes. Its costs are therefore minimal, respectively zero. Despite incomplete information concerning the new method I would argue, that a new way of remediation at this stage appears to be less economically demanding.

Acknowledgement

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Prediction – one of the ways to avert crisis

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Abstract

Crises of enterprises represent inconvenient situation already for a long time. Crisis of an enterprise can be described as negative deviation from normal state, which is ignored or tolerated by such enterprise. Problems which have worsened the image of the company subsequently influence the relations of the company with its business partners, banks, other organizations and the public. If such situation is not being solved, it becomes a threat to the society. Petitions for declaring the bankruptcy, bankruptcy proceedings, declarations or attempts to restructure companies are therefore results of serious crises. Courts in the Slovak Republic receive annually hundreds of new petitions for declaring the bankruptcy. The aim of this article is to present results of successfulness of the predictive model of Balance analysis II. by Rudolf Doucha. The model was tested on 85 Slovak companies, which became bankrupt between 2009 and 2013.

Keywords: Prediction, Business Crisis, Models.

JEL classification: G33

Introduction

While managing the business entities, the managers daily encounter situations in which it is necessary to make optimal decisions. Sustainment of laid down heading of the managed object depends on their decision. Results of managing activities depend not only on the quality of preparation, which can influence successfulness of business goals but also on quality of realization of the business activity itself. The basic requirement, besides of profit, is to avoid the danger, loss or complete winding up of the business. One of more requirements as regards the financial management of company is financial analysis which provides important information for stakeholders as it is part of financial planning and assesses the business in its past and present periods and forecasts the future of financial health of the business. It should be, therefore, essential part of every enterprise. In medicine it is possible to determine diagnosis on a basis of analysis of genetic material of patient or to guess the outbreak of disease in the near future. Also, in the area of corporate finances it is possible to determine heading of the enterprise. It is possible to divert unfavourable state in enterprise by active decision-making. Part of the financial analysis is analysis of ratio financial indexes. It is necessary to compare financial indexes in a particular time and within particular territory, i.e. with other enterprises in the same field of economic activity.

1. Current situation in development of bankruptcy of enterprises

The almost daily reality of each market economy, including the one in the Slovak Republic, is establishment and winding up of many companies (see Table 1.). Unmanaged business crisis precedes winding up of business entity. Corporate crisis does not evade to any company as the enterprise is not isolated from its surroundings. It is part of environmental, economic and social environment and is comprised of particular elements such as people or technical equipment. There exist connections between internal elements of the enterprise as well as between the enterprise and distant environment. These elements and connections affect the enterprise, they mutually interact and such interaction is manifested either as an opportunity or as threat.

Table 1

Trends in the development of enterprises

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Establishment of enterprises [in thousands]	44,7	26,3	31,3	24,0	48,0	49,9	57,6	63,7	53,1	66,4
Winding up of enterprises [in thousands]	30,5	27,7	15,1	35,9	41,1	53,9	42,9	41,2	28,9	71,8
Ratio of winded up / established companies [%]	68,2	105,3	48,2	149,6	85,6	108	74,5	64,7	54,4	108,1
Number of economic entities [in thousands]	70,2	76,1	87,7	99,1	110,6	120,4	140,5	127,4	143	153,9

Source: Statistical Office of the Slovak Republic, own author's research,

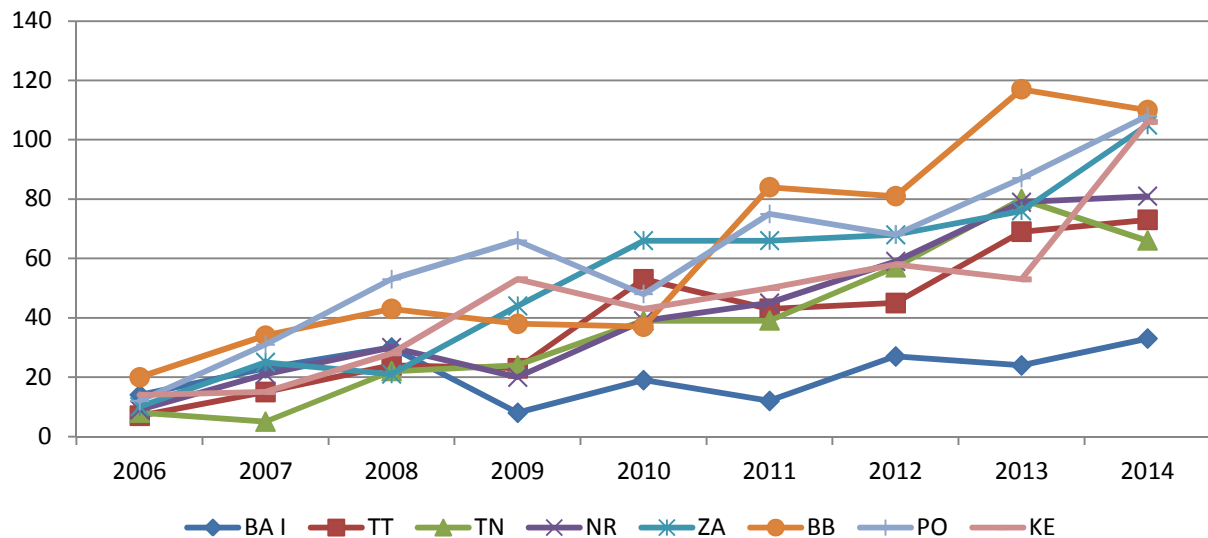
Significant number of enterprises winds up every year, as it results from the Table 1. Percentage of economic entities which were established in 2011 as to the last available data of the Statistical Office of the Slovak Republic compared to existing enterprises was 43,14%, however, compared to the winded up companies the rate was 46,65%. It does not result from such statistic yet how many of the economical entities winded up their activity involuntary (e. g. in bankruptcy, liquidation, etc.), eventually what percentage of the economical entities was only cancelled (i.e. they became part of other entities by mergers, acquisitions, etc.).

The cause of the danger and involuntary winding up of activities of the business entities is non-production of value, non-exploitation of opportunities and oncoming of serious problems which cause winding up of business activities. The form of winding up can happen in various ways, e.g. by liquidation of the business entity or by bankruptcy of the entity. As it results from the statistic of the Ministry of Justice of the Slovak Republic, there persist an increasing trend in annual declaration of bankruptcy. The Figure 1 (below) shows the increase even behind particular judicial registers pursuant to regions of Slovakia. The lowest increase from 2009 is recorded at the District Court of Bratislava I, and contrary, the highest increase of declared bankruptcies since 2011 is recorded in the court register in Banská Bystrica. The situation in particular regions is influenced by more factors. Although it does not make sense to maintain non-functioning and uncompetitive companies, each bankrupt company is not

only a number in statistics but it also represents cancelled job position, increase of unemployment and financial loss in the particular region.

Figure 1

Number of declared bankruptcies in the Slovak Republic (pursuant to regions)



Source: *The Ministry of Justice*, own research. Available at: <https://www.justice.gov.sk/Stranky/Informacie/Statistika-konkurznych-konani-OS.aspx>.

Involuntary winding up of company is in the first place preceded by mismanagement of the risk in its closest neighbourhood. The risk may flow from technical and technological conditions as well as from production. The risks may be of commercial, economic, financial, personnel, social and other characteristics. Unmanaged, underestimated and overlooked risk necessarily causes crisis in enterprise.

Financial statements may draw attention of the management of the company to serious problem. According to the authors Zuzák and Königová (2009), the acute crisis of enterprise is connected with insolvency, inability to fulfil one's liabilities. Cash – flow management may be compared to the final preventive measure which may be performed by business entity. It creates a barrier and the last rescue circle prior to the acute crisis. If there arise cash-flow problems in company they are secondary problems, which are the result of “something” and they reflect insufficiency in other than financial area. These insufficiencies arose in the past and were not adequately or sufficiently solved.

Many financial analysts around the world tried to observe indicators of the enterprise approaching the problems. According to Úradníček (2013), the main and the general aim of financial – economic analysis of the business entity is to identify which factors and with which intensity participated in formation of the past and the current financial – economic situation of the entity and subsequently to prolong their influence in adequately appropriate time period with various scenarios of development.

2. Predictive models

Creation of predictive models was partial answer to preservation of the enterprise value. Currently, there exist a lot of domestic and also foreign systems for evaluation

of manufacturing and business companies pursuant to financial indicators. Some of them are simple, others are more complicated. It results from the practical experience that it is not decisive which system is used on a basis of to its complexity, but the truthfulness of the data filled into such system shall be deciding. Historically, the first bankruptcy model created in Slovakia according to Gurčík (2002) was CHRASTINOVÁ index for the evaluation of the Slovak farms. Another creditworthy-ownership model was Gurčík's index which, according to its author Gurčík (2002) is able to differentiate prosperous businesses from non-prosperous businesses. It was created for agricultural enterprises. The thriving businesses incorporated those which in 1998-2000 made a profit, while their profitability was above 8%. Such a level of profitability is considered the threshold at which the owner's paid-in capital retains its fair value. The non-prosperous businesses were those enterprises that reported losses in three consecutive years. Another effort to help in forecasting financial development of enterprises was according to Zalai (2000) the Binkert's discriminatory formula for Slovak and German joint stock companies. It was founded in the 1990s and concerned the sample of public limited companies from manufacturing, services and trade. In addition to the above models which were created in Slovakia, several Czech financial analysts also contributed to predictive models. According to Sušický (2011), there are known works of Inka and Ivan Neumaier who formed IN-indexes (index of credibility of the Czech company). They created a number of variants over the years, e.g. IN95, IN9, IN 01 and IN 05, depending on the current development of the Czech economy. In 1990s the Czech financial analyst Doucha created site predictive model which exists in three variations. They differ in difficulty and number of indexes. The most simple is the model of balance analysis marked as I., which deals with quick orientational evaluation of an enterprise without analysis in the direct meaning of the word. Only four partial indexes and one entire index which represents weighted average of the partial indexes were used for evaluation. Another variation is marked as model of balance analyses II. It was created in Czech environment while analysing more than hundred of the Czech enterprises. As it is simple and comprehendible, it is possible to use it in companies with different objects of business. It is based on indexes of causes in the fields which influence the financial condition of an enterprise. For its preparation there is required data contained in the balance sheet. It provides system of indicators which assess the enterprise in the area of S-stability, A-activity, L-liquidity (moneyness) and P-profitability. It uses system of 3 to 5 coefficients in each area. Overall, the model is comprised of 17 partial indicators. The resulting index in each area is its weighted average and the overall resulting indicator is weighted average of indicators in individual areas. The individual coefficients as well as the overall index are constructed so that the increasing value points to improving state. According to the authors Kočíšová and Kubala (2012), while calculating the indexes of the balance analyses II, the situation may happen that there will be retrieved very high values which will subsequently distort the overall assessment of an enterprise. In such cases Doucha (1996) recommends to limit the maximal rates of the indexes to the rate 3. Limitations could be used only with indexes of stability and moneyness. There exist performance rates with the indexes of profitability which cannot be limited as it would lead to non-permitted distortion of results.

The overall index C has the following shape:

$$C = \frac{2 \cdot S + 4 \cdot L + A + 5 \cdot P}{12} \quad (1)$$

Variable C is expressed by number which is obtained as weighted arithmetic average of other variables of the equation. The resulting values then show the following:

- $C \geq 1$ quality enterprise
- $C \in < 0,5 - 1)$ average enterprise
- $C < 0,5$ bad enterprise

Pursuant to assigned values it is visible that the most important property in the site predictive model is adjusted to the profitability which represents the ability of an enterprise to reproduce the inserted capital and obtain returns.

The last of the models is marked as the balance analysis III and it is the most difficult variant. It derives from the model of balance analyses II and adds the calculation of cash-flow. According to the author Doucha (1995), the optimal situation for its usage happens when there are available quarterly's balance sheets in the company for at least two subsequent years.

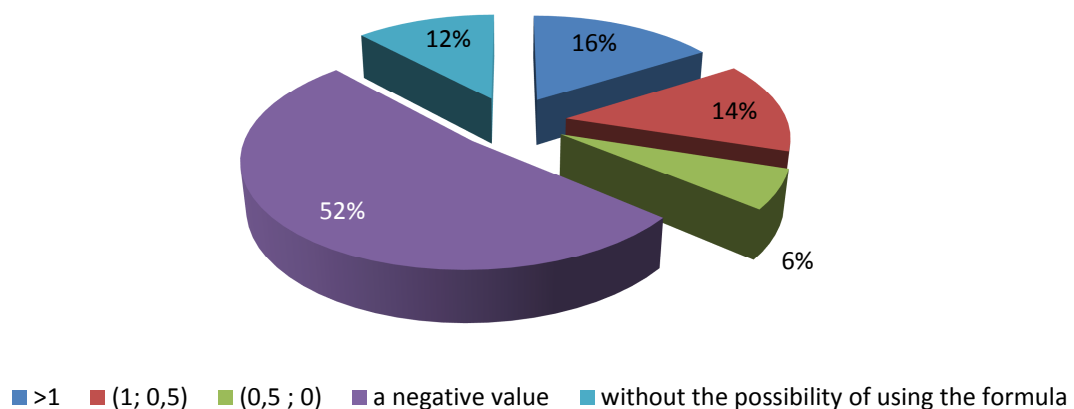
2.1. Model of the balance analysis in conditions of the Slovak enterprises

The model of balance analysis II described above was also tested in 2015 on example of 85 Slovak joint stock companies. The below described research is contained in the dissertation thesis of the author of the present article (Sedláková, 2015). The concerned companies became bankrupt between the years 2009 and 2013. There were available financial statements of each company for at least one year preceding the bankruptcy in the Commercial Journal. The companies were not selected pursuant to specific departments of their activity but only on a basis of information on declaration of bankruptcy of specific joint stock companies issued by respective courts. There was assessed up to which level could the management of the particular company predict the near involuntary winding up of the company in the form of bankruptcy by using the above model of balance analysis II.

The original model of the balance analysis II was proposed and tested on manufacturing companies. However, from the selected sample only 50 companies were manufacturing. The results are documented by the Figure 2.

Figure 2

The resulting indicator C



Source: Own research

Pursuant to financial statements from the year preceding declaration of the bankruptcy, 16% of the manufacturing companies allocated the resulting indicator as $C \geq 1$, what is according to the information stated above rate of quality enterprise. The management of an enterprise

solely on a basis of the balance analysis II could not predict the near end. According to Úradníček (2013), the elementary financial analysis is based on ratio indexes where the common inaccuracy is not taking into consideration definition possibility of the ratio of two negative values, which have as their consequence the positive value of the fraction. If the companies went bankrupt within one year despite the resulting indicator higher than 1, it could be also such case of calculation, respectively other non-financial cause of unmanaged risk.

From the tested companies, 14% was assessed as an average enterprise with the resulting indicator as of $C \in < 0,5 - 1$). The situation in the company could have been marked as bearable, however, despite of the fact that the enterprises went bankrupt.

If the resulting indicator is $C < 0,5$ than the company is assessed as bad with alarming situation. Such amount was calculated in 58% of assessed manufacturing companies. The management already with the highest probability knew that not only financial statements reflect the near end of the company. The situation was also confirmed in reality by bankruptcy of tested enterprises.

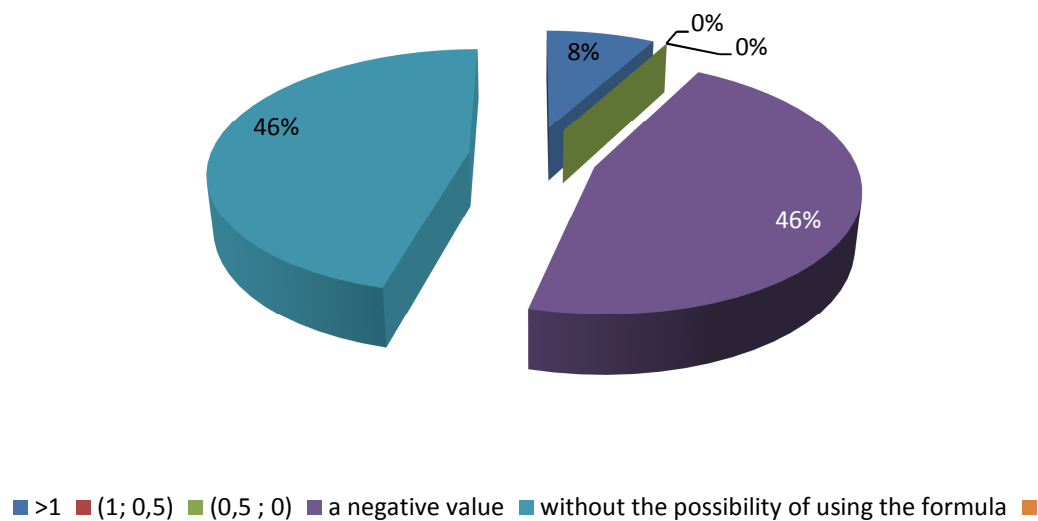
If it is not possible to calculate any of the partial indexes (S-stability, L-liquidity, A-activity, P-profitability), e.g. in the fraction divided by zero, then the resulting indicator C does not have any informative value. Such situation happened in 12% cases of the manufacturing companies.

If we summarize the stated facts, then in 30% of cases the management of the manufacturing companies could not predict the near end of the company solely on the basis of financial statements and using the model of balance analysis II. In 58% of cases the management of enterprise could certainly predict the near winding up of the company while using the model of balance analysis and in 12% cases of the manufacturing companies it was not possible to use the predictive model.

Other 35 companies were non-manufacturing companies (e.g. business companies, engineering, projection companies or companies which profits originated in financial operations). Such companies have only minimum of permanent assets. It is, therefore, necessary to individually find the starting point. Based on the recommendations of Doucha (1996) the resulting index S with leaving out the partial coefficient S_5 is used for the area of stability. Thus, the resulting index C_x is determined for such type of non-manufacturing companies as follows:

$$C_x = \frac{2 \cdot S_x + 4 \cdot L + A + 5 \cdot P}{12} \quad (2)$$

The results of findings are documented in the Figure 3.

Figure 3The resulting indicator C_x :

Source: own research

In 8% of cases were the results of the index $C_x \geq 1$ which showed the quality enterprise. Despite of that, such enterprises became bankrupt. Based on calculations, there were no business companies which could be marked as an average enterprise with resulting index $C_x \in < 0,5 - 1$.

Alarming situation and a label of a bad enterprise was spotted in 46% of business companies pursuant to the index $C_x < 0,5$. The management could predict the near end. In another 46% of the cases it was not possible (similarly as in the case of manufacturing companies) to use the model and so even despite omission of the partial index $S_{5..}$.

3. Conclusions

Predictive models developed in almost all legislative and economic environments. They were derived from expectation that it is possible to detect already a longer time before outbreak of the crisis anomalies in ratio indexes on a basis of analysis. Model of balance analysis II has a higher informative value for manufacturing companies, for which it was also designed. Right contrary, its use for business companies is less appropriate. Data misrepresentation of the resulting value of C or C_x may be caused for example by reaching positive value of the fraction of two negative values (e.g. negative equity). Further, in the cases of the companies one or two years prior to the bankruptcy, the state of zero supplies respectively of other items in the financial statements and, therefore, the state of accumulative inaccuracies for calculation of partial indexes is not an exception.

Despite of that, the partial models have its place as a supplement in the corporate management. With the constant change of the business environment it is possible to warily use them together with other components of the crisis management in order to avert the crisis. However, they reliability is not absolute. It is, therefore, not possible to exclusively rely on that they will detect all risks of future problems and threat to existence of enterprises

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Geopolitics and Geo-economics in the Case of Ukraine

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Abstract

Ukraine as the largest (area, population) post-soviet state of Eastern Partnership countries (and the largest market as well) is the epicenter of two powers' (not very compatible) interests – the European Union and Russian Federation. Its geographical position means geostrategic space with geostrategic visions of all parties involved. The first mentioned has introduced some programmes and activities to develop and strengthen mutual relations subsequently under the European Neighbourhood Policy umbrella and the Eastern Partnership more intensively. A relatively remarkable progress has been achieved when Deep and Comprehensive Free Trade Agreement was signed (even if still not ratified) as a unique sign of Ukrainian tendencies. On the other hand, Russia considers Ukraine as a part of its Near Abroad, sphere of its influence. Dissolution of Soviet Union has brought integration ambitions in post-soviet space, Ukraine included. This country also presented tendencies towards Moscow-led integration projects as Customs Union leading to the Eurasian Economic Union, later rejected. Since 2013 Ukraine has witnessed unprecedented crisis both domestically and diplomatically. Street protests have intensified and diffused countrywide and led to armed conflict. Ukrainian crisis has caused its economy and geopolitical and geo-economic position more vulnerable. It seems that it loses its possible pivot state status. The aim of this article is to identify nowadays Ukrainian geopolitical and geo-economic status and possible ways of action.

Keywords: *Geopolitics, Geo-economics, Ukrainian crisis*

JEL classification: *F 02, F 51*

1. Introduction

Ukraine is one of the most important countries in post-soviet space. It is often described as a bridge between Asia and Europe. It could be said that its geographic location brings power in international area. But (not just) nowadays circumstances tend us to consider that Ukraine loses its possible *pivot state*¹ status. It is a good example of geopolitics and geo-economics implications.

1.1 Methodology

The aim of the paper is to identify nowadays Ukrainian geopolitical and geo-economic status and possible ways of action.

¹ According to World Economic Forum (2015) *pivot state* status means the ability of the state to hedge between major powers to maintain their freedom of action. It compares the ability of Singapore and Ukraine – a country like Singapore can pivot with ease: it maintains its ability to diversify on account of its status as a trade hub with plenty of major economic partners and no overdependence on any one. Ukraine, by contrast, long wanted nothing more than a chance to pivot effectively between Europe and Russia, but now it has clearly opted for the western direction. But it is too tricky to do that painlessly.

Some general research methods as analysis, abstraction, deduction, induction, as well as comparative method to compare geopolitics and geo-economics and two integration models are used when achieving above mentioned aim. For better understanding and to complete the facts some graphic visualizations are used.

2. Geopolitical and geo-economic position of Ukraine

Theories of international relations have conceptualized ‘anarchy’, ‘hierarchy’, ‘balance of power’, ‘bipolarity’, ‘hegemony’, and the like in order to characterize the ways in which nations behave toward one another, in the process possibly establishing some sort of stable order among themselves. In accordance to this concept is defined world in which all states are potentially or actually at war with each other (anarchy reigns). But since humankind cannot long sustain anarchy, sooner or later some mechanism emerges, a structure of governance that establishes certain arrangements for coexistence among states. A system of stability is often built upon a balance-of-power mechanism that usually takes form of a division of the more powerful states into some groupings (two or more), among which some equilibrium is established. When trying to define geopolitics it must be considered about power (mainly military power), conflict, interests, resources, and all this in the view of geography.

The term geopolitics was first presented by Kjellén in 1899 when defining state and geopolitics as science examining state as geographical organism in some geographical features. Geopolitics is sometimes presented as synonym for geostrategy for some diplomatic and military goals, and as equivalent to political geography in terms of territorial variations in the lines of politics. Generally the term introduced Mackinder in the beginning of 20th century. (Krejčí, 2010; Volner, 2010; Iriye & Saunier eds., 2009)

The term geo-economics was introduced in 1990 by economist Luttwak. He suggests that interstate conflicts should be viewed from the perspective of competition for market shares within international trade. When introducing the era of geo-economics new developments in international scene are present, like international conflicts generate economic confrontations over distribution and the use of national and international goods, that can be consider as geo-economic weapons. (Książkowski, 2012)

Baru (2012) defines geo-economics as the geopolitical consequences of economic phenomenon or as the economic consequences of geopolitical trends and national power. Traditionally it is embedded with free trade and liberal democracy. She expresses three most important ideas of contemporary geo-economics. One of them is dedicated to material resources – victory has always gone to the side with the greatest material resources. Second is dealing with Luttwak’s methods of commerce displacing military methods using within logic of conflict. And the third sets the instruments of power in the context of economic competition – they are productive efficiency, market control, trade surplus, strong currency, foreign exchange reserves, ownership of foreign companies, factories and technology.

Sparke (2005) argues that geopolitics and geo-economics are better understood as names for distinct geostrategic discourses – that reflect changing political geographies of governance, that lead to world-changing as well as word-changing results, but they remain discourses all the same that take shape as imaginative geographies and which re-present political geographic complexity through diverse and politically-interested re-mappings and re-stagings.

Distinctions between geopolitics and geo-economics are summarized in the Table 1.

Table 1

Distinctions between geopolitics and geo-economics

Geopolitics	Geo-economics
- Growth in the end of 19 th century remarked by decline of free trade and rise of autarky on a national level	- Growth in the end of 20 th century remarked by free trade expansion and decline of national autonomy
- Beginnings in the era of dissolutions of empires	- Beginnings in the era of the end of the Cold War
- Reflects the rivalry between territories in relation to world system hegemony	- Reflects the rivalry in relation to interface inner global hegemony system with USA dominancy (but not imperial dominancy)
- Application in the context of relative independence of state and market	- Application in the context of state and market interaction through public-private partnerships
- Theoretically is claimed by the authors dealing with security as Halford Mackinder and Friedrich Ratzel	- Theoretically is claimed by the authors dealing with economy as Edward Luttwak and Kenichi Ohmae
- Territorial focus on blocks, national states, borders and frontiers and dividing lines like the Iron Curtain	- Territorial focus on interaction of states at regional level in the form of networks and networking

Source: Báráňová-Číderová (2008)

Speaking about Ukraine and its geopolitics and geo-economics would be nonsufficient without describing its geographical position.

Ukraine has become the area of (not just) economic powers clash. According to Obadi (2015) late events in Ukraine are not the results of internal political changes outgoing only outside the country and not the consequences of long-lasting politico-economical problem between Ukraine and Russia. The European Union (EU) emphasizes current pro-European Ukrainian government to gradually associate country and gain new markets for European products and enterprises as well. USA represents here EU's ally and democracy, though their interests are not only economic, but military-strategic – as Ukraine as new member of North Atlantic Treatment Association (NATO). Third power (but can be said opposite first two mentioned) having interests in Ukraine is naturally Russian federation.

Russian interests in post-soviet space can be explained through Huntington's (2001) concept of civilizations and especially clash of civilizations. Successor of tsar and communist empire is civilizing block that is to certain level analogy of the civilizing block of Western Europe with its core, Russia. Post-soviet space is created by two religions and different level of Russian dependency.² Generally said, Russia creates block with orthodox core surrounded by Muslim states guided by the core at different level.

² Its core is Russia with strong relations with inner circle created with mostly Slavic orthodox countries Belarus and Moldova, along with Kazakhstan with more than 40% Russian residents and historically close ally Armenia. Russia (has) had also very tied but fragile relations with Georgia (largely orthodox) and Ukraine (also mostly orthodox). But on the other hand both of countries have strong tends to national identity and strong consciousness over previous independence. Relatively strong tight relations between Russia and orthodox Bulgaria, Greece, Serbia, Cyprus and less tight with Romania. Muslim post-soviet countries are dependent on Russia, economically and in security issue as well. Baltic States have successfully disentangled from Russian impact when actively reacted on strong gravitation from Europe.

Russian *Near Abroad* can be divided into four groups (Salter, et. al. 2000): Slavic States and Moldova (*Russia*, Ukraine, Belarus, Moldova), Transcaucasia (Georgia, Armenia, Azerbaijan), Central Asia (Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Tajikistan) and Baltic States (Estonia, Latvia, Lithuania). Ukraine is alongside Russia most populated and most important post-soviet republic, from the half of 17th century until dissolution of Soviet Union still under Russian political control.³ But according to Huntington's (2001) line divided the western and the orthodox civilization (the so called fault line)⁴ is Ukraine divided into two parts with different cultures, political orientation, economy. Population of western part (mostly Uniates) speaks Ukrainian and has strong national tendencies and has geopolitical and geo-economic ambitions towards West, namely towards the EU. Population of eastern part of Ukraine (mostly Orthodox) speaks Russian and there are about one third of Russian residents.

The importance of Ukraine in geo-economic matters for Russia (in industrial meaning) illustrates following figure. It expresses one of the most problematic legacies of the breakup of Soviet Union. It stressed the need for heavy industry, but it developed it in just few principal areas of mineral abundance: Ukraine, the Urals and the Kuznetsk Basin. Therefore the main production of each commodity tends to come from only a few areas, such as textiles from the Moscow region; steel from Ukraine, the Urals and areas immediately south and north Moscow; automobiles from the Volga and Moscow areas; and raw cotton from Central Asia. Even Ukraine ranks with the industrialized area surrounding Moscow (Moscow-Tula-Nizhniy Novgorod Region) one of the two most important industrial areas in the region of Russia and the Near Abroad. (Salter et. al., 2000)

According to Kurfüst (2014) Russia in its foreign policy puts emphasis on conservative nationalism and uses Eurasian geopolitical school issues. He expresses four pillars of its foreign policy with beginning in 1993 (after dissolution of Soviet Union). They are revision of dissolution of Soviet Union and reintegration in post-soviet space, opposition to NATO enlargement and EU, emphasis on Russians's rights abroad and looking for allies to opposite USA impact and to play active role in establishing multipolar world.

After disintegration of the Soviet Union some integration tendencies revived in post-soviet space. Commonwealth of Independence States was established with Ukraine as its member. Its aims have been not achieved yet successfully. Relatively new integration project has been developing de facto since 1994 via many different treaties setting steps and activities to establish and put legal framework for higher level of integration. Presidents of Belarus, Kazakhstan, Russian Federation and even Ukraine signed the Treaty on the Establishment of the Single Economic Space (ensuring free movement of goods, services, capital and labour) in 2003. Later Ukraine stopped its membership ambitions in this project, but integration tendencies continues further by the establishment of the Customs Union (CU) of the Republic of Belarus, Kazakhstan and Russian Federation in 2007, when three years later this second level of integration (according to Balassa) was launched. Three members of the CU had higher integration ambitions, therefore in December 2010 the Declaration on the Establishment of the Single economic Space (SES) of the Republic of Belarus, Kazakhstan

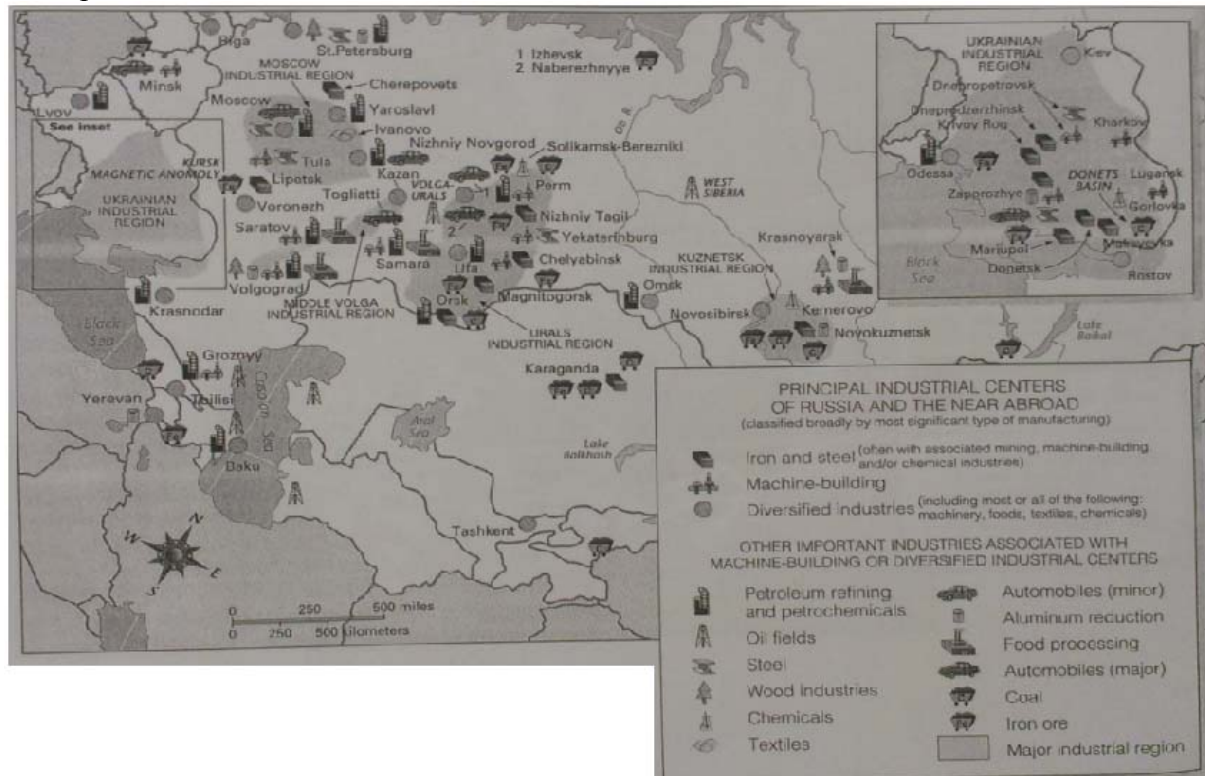
³ With the exception of 3 years (1917-1920) of independence. Following the collapse of the Russian Empire, Ukrainian nationalists formed a central Rada in Kyiv and subsequently on 9 January 1918 proclaimed a Ukrainian People's Republic. But following the occupation of the area by the Soviet Red Army in December 1920 was proclaimed Ukrainian Soviet Socialist Republic. (Green & Hartley, 2011)

⁴ When beginning with this line in the North it contours current Finish-Russian border, then border between Russian and Baltic States (Estonia, Latvia and Lithuania), intersects western part of Belarus, in Ukraine divides Uniates and Orthodox, continues through Romania, separates Transylvania with Hungarian Catholics from the rest of the area and goes through Former Yugoslavia separating Slovenia and Croatia from other republics.

and Russian federation was signed and a year later the transition to next stage of integration announced (coming into force in January 2012). In May 2014 presidents of the CU and the SES members signed the Treaty in the Eurasian Economic Union (EAEU). Armenia (January 2015 – one of partner countries in the context of Eastern Partnership) and Kyrgyz (August 2015) become new members of this integration formation.

Figure 1

Principal Industrial Centers of Russia and the Near Abroad



Source: Salter et. al. (2008)

The EAEU means relatively large market with population of 182 million and quite good developed industry based by great natural resources. Using logic-historical method Ukraine has strong ties with these countries – as members of the EAEU, especially with Russia. It can be expressed that thanks to previous “membership” of former Soviet Union, is not so difficult for these countries to access to an integration stage (in the context of legal framework preparation and harmonization of rules and standards). This might be an advantage for Ukraine or other post-soviet states in comparison to play active role in project proposed by the EU. (eaeunion.org)

On the other hand the EU aiming to develop and strengthen mutual relations with its neighbours on the East and the South launched the so called European Neighbourhood Policy (ENP) in 2003/2004. Though Russian Federation has common borders with the EU, it is not a “member” of the ENP. The EU has proposed some projects towards post-soviet countries like Black Sea Synergy and recent most important Eastern Partnership (EaP). It was reaction on eastern EU’s enlargement in 2007. Through the EaP the EU has offered its eastern neighbours closer cooperation based on conditionality and differentiation (and later using “more for more” principle) in terms of political association and economic integration at bilateral and multilateral level. It means facilitation of EaP countries (meaning six countries of post-soviet

space – Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) in systematic political and economic transformation.

At bilateral level enhanced cooperation would run through signing and implementing of Association Agreements (AA) of new generation with Deep and Comprehensive Free Trade Area (DCFTA) included.⁵ Multilateral dialog aims to facilitate transformation of partner countries mainly via exchanging skills. It covers platforms of democracy, good governance (including fight against corruption), stability, economic integration and convergence with the EU policy, energy security and people-to-people contacts. (eas.europe.eu)

AAs do not set the preconditions for EU membership, but on the other hand they do not exclude it. Ukraine (as well as Georgia and Moldova) express their EU's membership aspirations. These three countries are therefore systematic working to meet their commitments.

After 4-years (2007-2011) lasting negotiations Ukraine and the EU signed AA in 2014, formally announced decision to suspend preparations to sign the Association Agreement at the Eastern Partnership Summit in Vilnius in November 2013, which was impetus for Ukrainian protests. An ensuing political crisis in Ukraine resulted in armed annexation of Crimea by Russian Federation. Unrest in Donetsk and Lugansk led to announcement of autonomous *oblasts*.

In April 2014 the EU in response to recent Ukrainian events and challenges, unilaterally granted to Ukraine preferential access to the EU market – until the end of 2015. To avoid further destabilisation of the country and in particular to guarantee Ukraine's access to the CIS market under the Ukraine-Russia bilateral preferential regime, in September 2014 the EU postponed implementing the DCFTA until January 2016. (European Commission)

Taking into account that Ukrainian industrial area geographically covers Donetsk and Lugansk, as well as Crimea, main areas of current Ukrainian unrests, naturally it has hit Ukrainian economy. Obadi (2015) current Ukrainian developments considers as the consequences of historical circumstances at least from the end of the Cold War in the context of Russian-American rivalry over control of energy sources (mostly from Caspian region).

3. Conclusions

In accordance to main ideas of geo-economics and its instruments to achieve economic power in view of *pivot state* status it can be identified as following.

Ukraine has geostrategic position that can be for the country advantage but it has to consider it as a challenge and transfer it to strengthen. Ukraine is strategic point for world geopolitical and geo-economic powers. Unfortunately, Ukrainian crisis has caused negative impact on its economy, security and international status of the country.

⁵ Association Agreement represent a new type of contractual accord designed to replace previous Partnership and Cooperation Agreement and substantially upgrade EU's relations with the six eastern countries. They establish stronger political relations and cooperation on foreign and security policy, and aim for closer alignment of partners' standards and legislation with that of the EU to facilitate the establishment of deep and comprehensive free trade areas. Agreements are negotiated with interested parties who can meet preconditions including significant progress toward their transformation. Deep and Comprehensive Free Trade Areas provide fullest possible liberalization of trade in goods, services and investment, as well as extensive regulatory convergence on issues including technical standards, sanitary and phytosanitary measures, protection of intellectual property, public procurement, energy-related issues, competition and customs. One of the preconditions is WTO membership. (EUFOCUS, 2010)

The strong overall performance (of regional economy)⁶ is under threat from expectations of prolonged low commodity prices and regional knock-on effects of recent geopolitical developments. Russia (45th)⁷ still faces economic sanctions, while the situation in the eastern part of Ukraine (79th) remains tense. Recession in both countries will necessarily affect the region's prospects. Long-lasting consequences of global crisis have created *new normal* with lower economic growth, lower productivity growth and high unemployment. (World Economic Forum, 2015) The country on international scene needs to be met with these new circumstances. Ukraine is influenced also with lower energy prices and especially with armed conflicts within its borders. Political and government stability are naturally not at good level and are some of most important problematic factors for doing business in Ukraine. But the most problematic is a corruption, which is one of many issues that seek to be improved in terms of the Eastern Partnership.

On the other hand Ukraine has competitive advantage⁸ in the field of higher education and training, which is closely connected to human capability, one of the most important issues of contemporary geo-economics. Market size as another Ukrainian competitive advantage can be also one of its strengths.

Russian federation with its proclaimed policy aiming to gain new members for its integration has caused that countries of the EaP have to decide for further steps towards European integration on one side or for Eurasian integration on the other side. Čiderová (2015) points out that while AA/DCFTA is compatible with CISFTA or other FTA with no impact on them, membership in the CU excludes participation of the country in FTA with other countries or integration units because of commitments to common customs tariffs.

The EU facilitate trilateral talks among the EU, Ukraine and Russia to discuss on implementing of AA/DCFTA.

Taking into account recent events it can be said that at least three countries – Ukraine, Georgia and Moldova – have chosen European direction.

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⁶ Regional is in terms of Common Independent States.

⁷ Ranks in brackets mean rank among 140 countries in view of global competitiveness index.

⁸ Mentioned competitive advantage is used in accordance to methodology of Global Competitiveness Report. In this case it means that for Ukraine ranking 79th place of 140 countries (when measuring global competitiveness index) any individual indexes with the rank of 50 or better are considered to be advantages.

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Corporate social responsibility towards stakeholders – applied on a selected corporation

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Abstract

Significant expansion of trade, represented by rise of new corporations and their subsequent growth, has greatly influenced not only our quality of life, and character of society, but also in nature. This situation has raised interest in corporate social responsibility, which became a very current topic nowadays. Despite some uncertainty in its theoretical and methodological concept, more and more companies make to implement it in their internal organizational settings. Corporations that have decided to include this concept and follow its rules do not focus only on maximizing profit, but also on the welfare of stakeholders. Aim of this paper is to characterize the concept of corporate social responsibility, and to apply theoretical knowledge on a particular corporation.

Keywords: *corporate social responsibility, stakeholders, IKEA*

JEL classification: *M14, Q50*

1. Introduction

The concept of corporate social responsibility (CSR), which in recent decades has experienced its boom, was created in response to a social situation with low quality of life, as well as the quality of working life of employees. Corporate social responsibility are based on the changing external and internal environment began to wonder how they can manufacture and produce products which bring greater benefit to the general mass of people.

Nowadays there are many companies which can be classified as social response because of their activities. IKEA is one of these companies, that its concept and the way of doing business are confirmed by the respective organizational culture. Therefore, the aim of this project is characterize the concept of corporate social responsibility and then this theoretical knowledge applies to IKEA, with the intention of analyzing the level of implementation of social responsibility in its internal settings.

1.1 Corporate social responsibility - Basic theoretical framework

CSR was created as a reaction on answers how correctly business, so that the process of its results should benefit as much people as possible. The concept of CSR is not yet clearly defined. Authors' definitions based on characteristics such as the voluntary, collaboration with stakeholders, enhancing the quality of life of the society, the environment and so on.

The first definition in the European Union was created by the European Commission (2002, p.3) and published in a Green Paper: *"CSR as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis."*

According to many authors, the concept of CSR does not focus „only on profit”, but focuses on business which pay attention on social and environment aspects of activities. The objectives of the company are transformed from short-term to long-term, so the company is able to generate profits in the long term and create long-term development of society. A corporate social responsibility, according to J. Greško, in their business account at achieving 3 „P”:

- people
- profit
- planet

Sponsorship cannot be classified as an area of CSR because the firm in its provision requires from sponsored subject some kind of consideration in the form of company promotion. Follow the legislation and legal requirements also cannot be classified as the primary areas of interest in CSR, because they are forced by law and have no form of volunteering. (<http://www.ekologika.sk/spolocenska-zodpovednost-firmy.html>, 08.02.2015)

1.2. Carroll's Pyramid of Corporate Social Responsibility

By A. B. Carroll (1979) corporate social responsibility includes economic, legal, ethical, and any discretionary expectations, which has community on the company.

By this definition, we are faced with the concept of four separate components, which form the structure of a corporate social responsibility:

1. economics,
2. legal,
3. ethics,
4. discretionary.

Later, these four separate components were processed graphically in the form of pyramid.

Picture 1

Carroll's Pyramid of Corporate Social Responsibility



Source: iMeeta. (2012). <https://imeeta.wordpress.com/2012/05/18/carrollsmodel/>

In the world are many companies with different focus, which can be considered as the cause of differences in the content of individual components of Carroll's model for individual companies. CSR must have each component, but there is no strictly determined where one of the four components begins and ends. Strictly is determined only the hierarchy of these component. (Bašistová et. al., 2011)

Economic responsibility is basic component of CSR. On this component stand all other components. A.B. Carroll consider as the basis for CSR pyramid the profitability and economic responsibility.

The second component is a legal responsibility, which is represent with local, national, as well as multinational laws, legislation, regulations and standards that apply in the country where the company operates.

The main objective of ethical responsibility is to strive for the observance of moral and ethical rules, which are characteristic for society in which it operates.

At the peak of the Carroll's pyramid is philanthropic or otherwise known as voluntary responsibility. It is a component that can be regarded as a superstructure ethical responsibility. It is characterized by a voluntary character. It is up to the company in which extent will be represented. The reason why companies also support in its activities this last component of Carroll's model is involvement in social and environmental issues in society and their effort to become a model for other companies in this field. Building a philanthropic responsibility largely contributes to improving the quality of life in society, which can be another driving force for the companies. (<http://www-rohan.sdsu.edu/faculty/dunnweb/rprnts.pyramidofcsr.pdf>, 10.02.2015)

As the economic and legal setting of the company as well as the ethical standards of the company are constantly changing, the concept of CSR is not fixed. It is therefore necessary for the model to be constantly transformed and improved.

1.3 Stakeholders

Stakeholders are all persons, institutions or organizations that are interest in the organization or they are affected by its actions. This group includes in particular: customers, employees, suppliers, community, shareholders and owners, state and local governments, departments, advertising agencies, financial market, banks, the media, NGOs as well as other local communities, and so on. (Zelený, 2007)

None of the companies has equal representation of the various stakeholders in their organization because the activities of companies are different from each other. For the company it is therefore important to correctly identify the stakeholders that influence the operation of the company. A very important element of the company is called. „key stakeholders" that need to be adequately defined because they influence company the most, so the company must strive to satisfy their needs as much as possible. (online, 2015)

In the following Picture 2 we specify only a few stakeholders who may become crucial for the company:

Picture 2
Stakeholders



Sources: own processing

Corporate social responsibility should pay attention on proper selection of suppliers with whom they enter into business contracts. It is very important that suppliers support the concept of corporate social responsibility and respect human rights, limiting the activities harmful for environment, to create a suitable working setting for its employees and others.

CSR are largely interested in the society and try to create different projects for improving quality of life (culture and sport), healthcare, security, education, social integration, economic recovery and development, local infrastructure, and promoting employment.

Social responsibility towards the environment in the last decades is the most discussed topic. Every company should make as much as can for lower emissions production, use of recycled materials, by limiting the discharge of harmful substances into the soil and others. Companies should therefor use that kind of technology, manufacturing processes, and sell those products which minimize environmental impact and ensuring the quality of life for future generations and protect natural resources and nature.

Responsibility towards employees can be seen in the context of the obligations of the business owner in the form of creating social security, improving the working environment, adequate evaluation of its staff, the appropriate occupation of position, fair promotions based on the skills levels of candidate for job and others. Behave responsibly is also related with the creation of a working setting for its employees, which is safe and prevents the occurrence of any occupational accident.

Responsibility of the company to customers is reflected not only selling safe products, maintaining respectively, improving the quality of products / services and their fair reward but also education and the provision of after-sales services, which increase overall customer satisfaction. (http://ec.europa.eu/enterprise/policies/sustainable-business/files/responsible_entrepreneurship/doc/resp_entrep_sk.pdf, 04.03.2015)

2. Analysis of the social responsibility of Swedish furniture company IKEA

IKEA can be classified according to several surveys among corporate social responsibility that could become their action, vision and business idea as a model for many other companies.

IKEA vision is very clear - *to create a better everyday life for many people*. IKEA try to do it through sale high-quality, safe products for low prices.

Basic financial principle IKEA is to use own resources and thought it achieve its growth. Most of the earned profits reinvested in the development of new products, existing and new IKEA stores, continual price cuts and sustainable solutions. IKEA make long- term investments in the future and is based on a vision whose main objective is to provide a wide range of low prices for everyone.

IKEA focuses on three growth areas, which are:

- 1) High quality products at low prices.
- 2) People and the planet.
- 3) Employees of IKEA.

2.1 Corporate social responsibility towards stakeholders

IKEA is involved in many different activities and projects with undertones of corporate social responsibility. By reason of the limited range of the contribution we will be analyze only a few of them. We will focus in particular on the IKEA social responsibility towards society, the environment and its customers.

2.1.1 Corporate social responsibility towards society

An organization called IKEA Social Initiative was founded in 2005 with the purpose of invitation the companies to involvement in the social programs on a global level. The aim of this organization is to provide children the right to a healthy and secure childhood with access to quality education. IKEA Social Initiative works with two global organizations, i.e. with UNICEF and Save the Children.

The campaign „*One euro is a lot of money*”, IKEA perform annually from November to December in all IKEA stores over the world. The mission of this campaign is that IKEA Social Initiative pays 1 euro from every sold toy to UNICEF and Save the Children. This campaign is carried out in IKEA since 2003 and has collected 23.7 million €, which were used for more than 50 projects in more than 25 countries.

Even nowadays are countries where access to electricity considered is a luxury. IKEA has therefore developed a campaign with one goal: for every sold lamp SUNNAN, IKEA will give the same lamps to Save the Children and UNICEF, which will circulated them to children in Pakistan and India.

IKEA Social Initiative is also involved in projects aimed at improving living conditions in India. This project has engaged with 18 countries to help 80 million children and adolescents, and 10 million women. Everyone aware of the adverse living conditions in many parts of India, in which grow up mothers with children. Aims of this project are to raise awareness and improve mothers and their children health, water, nutrition and hygiene.

IKEA is making a great effort and spend considerable finance to ensure a better life for many people. Its responsibility to society should be an example for many other companies.

2.1.2 Corporate social responsibility towards environment

IKEA make a lot of steps aimed at reducing waste in manufacturing. Also recycles large quantities of material such as glass, metal, cardboard, wood, plastics and paper.

Wood for IKEA is one of the most important raw materials, which produces furniture and furnishings. It therefore strives to prevent illegal logging in cooperation with the World Wide Fund for Nature WWF.

IKEA cooperates with the Swedish University of Agri-cultural Sciences and the Yayasan Sabah Group on „Sow a Seed project”, which aim is to save Borneo's rainforests, which were decimated by logging and damaged by a major fire in 1983. The aim is to renovate 18,500 hectares rain forests and helping to restore biodiversity of the area. The project involved 150 people who are employed by IKEA.

Corporate culture of IKEA is saving energy sources, as evidenced by their password *Renewable IKEA*. IKEA tries to reduce the amount of fossil fuels and replace them with renewable energy not only in the IKEA stores but also in distribution centers, offices and factories. All new buildings are therefore designed to operate on bio-fuels, solar and wind energy and geothermal heating. IKEA tries to transport on this way all of its existing buildings.

IKEA is continuously working to reduce emissions arising from the transport of goods. IKEA try to implement as many of the necessary steps for the reduction emissions of carbon oxide. Flat package, which introduced IKEA as a first, help transport goods in large size with using less space. Thanks to their use, IKEA provides its customers lower cost of products by reducing transport costs, because thanks to flat package minimizes number of trucks and maximizes transported goods, thereby contributing to the reduction emissions of carbon oxide.

Foundation *Pontis* appreciates the corporate social responsibility for several decades. In 2013, IKEA Bratislava received an award *Via Bona Slovakia in 2013* in the category of *Green Company*, gratitude to the paper pallets that this furniture company replaced a wooden pallets. Paper pallets IKEA used not only for transportation but also for storage of goods in stores. These pallets are much more environmentally friendly because they are able to recycling. They are thinner than wooden pallets, what allow saving space in storage and also in transporting. IKEA reduce the number of trucks (about 200 trucks since the introduction of paper pallets) and thus the production of CO₂ and other costs. (<http://www.ikea.com/sk/sk/>, 14.03.2015)

IKEA Bratislava won in the same year award in the MasterCard „Trader of 2013 "in the category of Innovation MasterCard in trade in 2013, for introducing a system of paper pallets. (<http://ww.wbn.sk/ekonomika/clanok/819046-ikea-bratislava-uspela-na-mastercard-obchodnik-roka-2013/>, 10.03.2015)

2.1.3 Corporate social responsibility towards customers

IKEA focuses on selling high-quality and safe products at affordable prices for many people. Responsibility towards customers is also manifested by organizing various events focused on their education and afforded additional and after-sales services.

If the customers use this afforded additional and after- sales services, we try to find out through the questionnaire. Aim of the questionnaire was also in second question detect customer satisfaction with services and goods IKEA under its responsibility. Questionnaire marked the 161 customers IKEA in Bratislava.

145 respondents from 161 marked that they visit IKEA in particular for buying goods. Most popular after-sales services is for customer *Restaurant IKEA*, which use 57,1 % respondents. Second after-sales services which customers use is *Store with Swedish*

specialist. It makes 26,7 %. IKEA Bistro sells a lot of kind of snacks, which use 18,6 % customers. *Småland* is a playing area for children, which is allocated in the IKEA. Its service uses 7 % respondents. Three and less customers marked that use also after-sales services as: planning programs IKEA, montage services, financial services, installation services and others.

Through the second question, customers had opportunity to express their satisfaction with price, quality, customer service and location of products in the IKEA store, and the results were as follows:

Table 1
Satisfaction with the state of the service / goods IKEA

	very satisfied		satisfied		I do not have restricted opinion		dissatisfied		very dissatisfied	
	number	%	number	%	number	%	number	%	number	%
price	30	18,6	108	67,1	18	11,2	3	1,9	1	0,6
quality	20	12,4	100	62,1	29	18	9	5,6	1	0,6
customer service	20	12,4	85	52,8	44	27,3	6	3,7	1	0,6
location of product	29	18	83	51,6	23	14,3	16	9,9	7	4,3

Sources: own processing

The fact that IKEA is trying extensively to produce quality products for as many people as possible for the lowest prices, was also reflected in our survey, in which 85,7 % marked that they are very satisfied or satisfied with the price of products IKEA and 74 % of respondents marked that they are „very satisfied" and „satisfied" with the quality of IKEA products. In both cases, only one person from 161 respondents indicates that is „very dissatisfied" with the quality and price of products. In IKEA work fewer employees who take care of customers then in other store which has similar character of business as IKEA. Customers are least dependent on personal. According to the survey, customers are nevertheless very „satisfied" and „satisfied" with customer service and up to 65,2 %. IKEA stores are built on large areas and offer a wide range of furniture and accessories. Therefore it is very important to easily found goods for customers. Goods are deployed by a certain sequence in order to ensure customer satisfaction with location of product. The results of the questionnaire show that 69,6 % of respondents are „very satisfied" and „satisfied" with the location of product. Only 4,3 % of respondents are „very dissatisfied" with location of products in the IKEA store.

3. Conclusions

The concept of corporate social responsibility includes social responsible activities, implementation of projects aimed at enhancing public welfare and well-being of society. CSR act voluntarily and beyond its business. When applying theoretical knowledge of CSR on business furniture company IKEA, we can clearly confirm its rightful membership in the group of CSR. The level of implementation of social responsibility in its internal setting is very high what we can see in the wide range of projects, services and activities that are aimed at improving the welfare of stakeholders.

Even the customers are evidence that the IKEA concept focuses on the production of quality and safe products at a low price affordable for as many people as possible. About this we could ascertain through the questionnaire, where 65 % customers from 161 showed satisfaction with: quality, price, customer service and location of products. Customers in this furniture company enjoy not only buying goods but also enjoy the amount of after-sales services (IKEA restaurant, store with Swedish specialties and IKEA Bistro), which IKEA provides and increase its social responsibility towards customer.

The best way how to understand CSR is to think of it as a good neighborhood. It means not make things which can aggrieve neighborhood, but make things which can voluntarily help to resolve problems in the neighborhood.

(<https://www.employment.gov.sk/sk/ministerstvo/spolocenska-zodpovednost/>, 10.04.2015)

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Data availability for real estate market research in Slovakia

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Abstract

This paper focuses on data availability for real estate market research in Slovakia. Most research papers in Slovakia focus either on processes involving buying and selling housing real estates or on history of development of housing supply, social aspects of housing or architecture in general. Many experts from real estate market present factors influencing real estate prices from their own experience that is based on their daily negotiations on the market. In this paper I try to analyze a possibility of using hedonic price model (hedonic regression) on real estate market in Slovakia by summarizing methodology of foreign experts and confronting it with data available in Slovakia. Results should serve as a foundation of new research project in this area.

Keywords: real estate, housing, hedonic price model

JEL classification: R31

1. Introduction

Since the velvet revolution in 1989 and a switch from planned economy to market-based economy in the beginning of 1990s many things in Slovakia changed. Real estate market was no exception. Especially the “era of builders” (1948-1989) was characterized by dominant state planning which we, as economists, could realistically describe as:

- lack of market-driven supply,
- lack of market-driven demand.

This fact of course does not mean there was no real supply and demand. Especially the demand for housing is always present but is usually very hard to measure (for example many young people dream about their own place to live in, to have a family etc. but due to unpleasant economic situation they cannot afford to buy a house or flat, they keep living with their parents and therefore their desire to get the place of their own cannot be measured because no transaction on the market occurs).

Previous regime tried to balance supply and demand just as much as market does. The difference was that state determined the aggregate demand (sum of individual demands) via state research institutes (just like today scientists are able to measure space needed for each individual in prisons, state in those times determined how much room should one person have, how many bathrooms, toilets, kitchens etc. are needed per person) and then tried to match this sort of a standard of housing with housing supply. Supply was again controlled by the state, public construction companies built famous concrete blocks of flats to provide housing for the masses. With a rapid growth of housing supply a population started to grow significantly as well and therefore the demand for housing grew each year. This was not a

problem in that time, state was coming very close to balancing out supply and demand. Problems started to occur with many other supportive “services” related to housing. “Green areas” such as parks, ponds or simple grass areas to walk a dog are lacking up to this day, natural environment is somehow disorganized. We did not have many shops to buy common food in the cities 25 years ago, this has vastly improved in some areas. Other facilities like clinics, schools, kindergartens, churches, outdoor activities (such as bike paths) and even transportation have improved.

Why is all of this information important to this paper? Because it is important to understand that people 25 years ago could not choose where they wanted to live. State finished building blocks of flats, people could sign in and wait for an apartment. People’s or perhaps customer’s preferences were ignored and the supply was very limited, usually it was just one area that was recently finished, if this area was next to a chemical factory it was a bad luck, different area would be available maybe in 3-5 years. People also did not pay for these real estates in real market values, payments were tied only to very few characteristics of each individual real estate, for example size (square meters of the flat). Today the situation is completely different, people can choose where they want to live both in the country and within a city, we assume people make their decisions based on many factors such as distance to workplace and they take into account transportation costs.

In terms of buying a real estate (in this case a house or flat) we assume that people take into account many factors influencing the price of the real estate such as proximity of a school if the buyer has children, people might prefer a supermarket located in the vicinity of their real estate, in past few years many people also choose their place of living based on health condition and a need to have a clinic, a hospital or a pharmacy nearby. No research or analysis has been done in this area so far, maybe because in previous regime it was not even possible. Main aim of this article is to present this kind of methodology that could determine what influences the prices of real estates within the capital city of Slovakia – Bratislava and specifically what kind of problems with data can be expected.

1.1 Methodology

In this article we focus on review of literature regarding the hedonic price model and based on that we compare several approaches to collect data for the model. Data availability, especially in Slovakia, is usually a significant obstacle in progression of the research and we try to find the best way of gathering huge amount of data required for the model. Comprehensive analysis of strengths and weaknesses of each data source will serve as a base for our future research.

2. Hedonic price model

Hedonic price model is currently being used mostly to construct appropriate evaluation of real estate price distribution and implicit values of housing attributes as well. Equations of the model represent main part of researching housing market by using analysis of consumer’s demand for housing attributes. Studies using this methodology are widely used in business, sciences associated with investment-based decision-making on real estate market, mortgages, setting a public housing policy and also setting a property tax value.

In the beginning the hedonic price model was used with different types of commodities, one of the first authors in this area was Court (1939) who used this method to set price indexes for automobiles. Other authors focused on price of land (Haas 1922, Wallace 1926),

today the model can be used for personal computers as well (White, et al 2004). In the last few decades the model is also used on real estate market, especially in a segment of housing which we focus on in this article.

Among the newest theoretical contributions to this theory are Lancaster's consumer's theory and Rosen's model. Lancaster (1966) created a model based on utility in which he connected vast amount of products and services (together with vast amount of their attributes) to the production function of a household. These households, under a budget constraint, have a certain level of utility derived from specific combination of products and services they can afford to buy. Lancaster basically deconstructed household's consumption into a sum of partial demands for attributes which are desired or needed by the households and therefore bought on the market.

Lancaster's work was later developed by Rosen (1974). Rosen watched an evolution of prices of groups of attributes (products) and came to a conclusion that these attributes influence not only a consumer but also a producer. The influence of a certain attribute is measured by supply and demand functions. Rosen expanded this theory by adding a change of budget constraint and found out that consumer's behavior can change. The biggest difference between Lancaster's and Rosen's work is that Lancaster assumes linear dependence and Rosen, on the contrary, assumes nonlinear relationship.

The basis of hedonic price model is that it equates price of the real estate to several attributes which theoretically influence the value of the real estate. One of the most important conditions of this model is the necessity of product (real estate) having a group of attributes that are demanded by consumers on the market. From a practical point of view it is very important for the model to contain independent variables desired by households and to have sufficient amount of real estates for sale (aggregate supply big enough) in order for the household to have an option to choose "ideal" group of attributes (Chen, Rufolo, Dueker, 1997). In most cases the literature promotes these basic categories of attributes (Miller 1982, Ridker 1967, Malpezzi 2003, Freeman 1979, McMillen, McDonald 2011):

- physical attributes of a specific real estate (size, quality of a building, number of rooms, bathrooms, existence of a cellar, balcony, fireplace and others),
- attributes of environment in which the real estate is located (median household income, population density, quality of schools, rate of criminality, various minorities and ethnic groups, etc.),
- spatial attributes (distance from the center of the city, proximity of public transportation stops or various different centers of public interest such as post office, clinic, services like supermarkets, pharmacies, etc.),
- and externalities (property tax, public facilities, zoning in the city, natural environment, existence of a river, coastline and many others).

In the literature we may sometimes come across three or four groups of attributes because some authors consider externalities to be a part of other groups. Basic function of the model could be written as:

$$R = f(P, N, L, C, t)$$

where price R (rent) is a function of attributes P (property, property features), N stands for neighborhood characteristics, L represents location, C covers various contract conditions and t

represents factor of time. By using regression method we are able to determine the influence of individual attributes on a final price of a property.

Herath and Maier (2010) identified several dominant areas within hedonic price model that a subject of a current research. They found out that out of 471 reviewed studies the research focused on:

- theoretical and methodological research – 134 studies
- empirical studies – 321 (102 general and 219 specific)
- historical studies – 13 studies
- and 3 review articles.

Out of 321 empirical studies 178 focused on neighborhood characteristics (attribute N) and out of those 178 studies the majority specifically researched the evaluation of environmental factors. According to mentioned authors there are under researched areas such as physical attributes (P) as well as social attributes of the neighborhood (racial segregation, criminality and others).

Future research is extremely dependent on data availability that are at author's disposal. This data (sources) are different in every country. Bigger countries with huge cities have higher chance of constructing good models with a lot of data, studies such as Baumont and Legros (2009) that is working with over 21 000 transactions on real estate market is impossible to make in Slovak republic. Despite this problem the research in this area is very important for public policy makers because knowing the influence of specific attributes on real estate prices can help them better allocate public resources into land development, set property tax or even pay off citizens affected by public expropriation (Bateman, et al 2001). In Slovakia there is a potential of using this methodology along with upcoming property tax reform after year 2015.

2.1 Problems with data – how to deal with them?

The most important part of modelling is collecting the data. For this model we need a lot of information, firstly a (possible) transaction between the owner of the property and a buyer. Secondly we need as much information about the (possible) transaction as we can get. There is no set amount of transaction one should have nor there is any set amount of variables attached to any real estate sold or offered for sale. We differentiate between two groups of possible data sources: real or "official" transactions that already happened and real estates that are for sale.

Real transactions can be obtained from public cadaster (this source is not very usable because project for cadaster's electronic services is behind schedule and the institution currently works "on paper") and from developers and real estate agencies. The latter source might be problematic as well because one is dependent on good will of third parties and many private businesses consider this information to be a part of their know-how.

Advantages of real transactions are:

- transactions that took place in specific time,
- possibility of working with all transactions in a given time period,
- easy gathering process of transactions if given subjects provide them.

Disadvantages of real transactions are:

- tax avoidance obscures data,
- real transactions do not include a lot of information needed for the model (especially spatial variables and other information about the property itself).

Sale offers provide a different approach than what real transactions provide. We can find this data most easily on the internet and real estate agencies along with developers have it as well. Real estate agencies often specialize in specific areas of the city and therefore many subjects would have to be asked to provide this data. Developers usually have information only about their own products. Internet portals are the most accessible data source, there are many sites providing a place to offer one's real estate for sale, these portals might belong to real estate agencies or can be completely independent.

Advantages of sale offers:

- easily accessible data,
- a lot of information related to this type of research (specific location, local services, technical parameters of a building or property itself, presence of elevator, cellar and many other).

Disadvantages of sale offers:

- real estate just for sale, no real transaction occurred yet,
- data might include huge statistical errors (in many cases people can insert their own price and information regarding their sales which might lead to misspelling, unrealistic expectations can also come into play which usually lead to unsellable real estate in the long run),
- price stated on the offer is usually not the final price a buyer pays (this is also a problem with real transactions due to tax avoidance, in this case it may also be a problem as well as a negotiation between buyer and seller and it is very difficult to follow these offers up to a point of the actual sale).

In Slovak republic the relevant source of information might be a database of National association of Slovak real estate agencies (NARKS). This source is however extremely expensive. Due to this fact the best option is to use data from internet offers. This form should guarantee relevant sample size as well as solid amount of variables needed for transactions. Some research regarding the difference between offered and final price of a property has been done. It appears that there is a difference between 5% and 20% with nothing indicating any spatial relations in differences (Špaček 2015). In this case it is possible to consider internet offers to be a valid source of information because if there is an average difference between offered and real price then we can either discount all offers by this value or ignore it completely (especially in a case in which this difference is the same in every part of the city).

3. Conclusion and policy implications

Adaptation to market-based economy in the early 1990s caused many changes to the economy and real estate market was no exception. A shift from planned construction of housing units to supply and demand oriented developers or investors meant that supply started to react more slowly to the changes in demand, price of many real estates adjusted and increased over time. Housing situation changed dramatically in many Slovak cities. In the past

people could not choose where they want to live, a system (or a state) provided them with a job in specific location and a housing (usually) nearby (for example a worker in a brand new factory got a flat in a new block of flats nearby). Spatial attributes of housing were not that important to ordinary citizen.

This naturally changed after we adopted principles of market-based economy. Today the location does matter. People can move freely, can find jobs in different cities and they try to find the best possible place to live (under their budget constraint, a place that gives them the highest utility. We as economists want to know what influences their decision to buy this or that specific real estate. To do this we can use mathematical and statistical methods, namely hedonic regression model, to determine what and to what extent influences the price of a property. As we described in this article the data availability is a problem that can be solved by using internet offers as a relatively solid source of information that is not very far from the real transaction costs that occur between a buyer and a seller of a given real estate. We hope this conclusion will serve as a basis for future research in this area and will also help determine what is worth supporting in local development.

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Workflow of the Management in Printing Production in Condition of Print On-demand

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Abstract

Print on-demand process of printing of publications is defined as process done in short period of time, while you wait. On-demand print production process is closely related to management of resources in publishing, printing, storage and distribution of publications. The market analysis for printed publications suggests that employing high inputs for print, delivery, storage and distribution followed by high number of copies delivered to the final consumer is ineffective. Implementation of Print on-demand technology allows you to print single book up to 200 copies. Correct use of digital printing and binding equipment effectively addresses the economics of this process as well. Process of storing the books is ignored as the number of printed copies is directly related to the number of orders. Publishing house owning the printed version of pdf publication chooses the file from the database and sends it to printing company with on-demand printer. This process is highly effective for printing companies, but also for bookstores as well. They should be no exception in being Print on-demand printer owners.

Keywords: *management, organizational structures, future, company, team, trend, technology Print on-demand, storage and distribution*

JEL classification: *M11, M15*

Introduction

Current markets are experiencing rapid decline of material form of printed products in favour of the digital media. Market slump caused excess of production capabilities and therefore pressure on prices. Because of this market situation, even technologically advanced competitors fight for the contracts, which they would previously reject, especially if the contracts are unprofitable. Nowadays, producers aim to employ all available production capacities disregarding the costs.

Analysis of Current State of Print Medias

In context of economic results the polygraph industry in Slovakia is in state of stagnation and crisis. The economic result, which has been affected by the unfavourable situation of the sector, has fall dawn dramatically. The number of employees is around 3 000, while the average monthly wage decreased to 870,- €.

Chart 1

The polygraph industry in Slovakia

	2009	2010	2011	2012	2013	2014
Sales (mil. €)	279	297	298	263	263	258
Added value (mil. €)	78	79	77	71	63	68
Profit after tax (mil. €)	1	2	5	5	-5	5
Average number of employees	4 244	4 013	3 747	3 397	3 291	3 012
Average wage per month (€)	752	797	839	854	844	870

Source: Štatistický úrad SR.

The number of journals sold is constantly decreasing. The forecasts assume that printed form of journals will slowly fade away until 2020. Daily news as an information sharing will not disappear, but it will transit into a digital form (Figure 1). This is based on the fact that today's reports are available on the Internet for minimal fees and the number of phone and tablet readers is increasing and this trend is irreversible. The reason behind decreasing number of readers of printed products is caused by change in demography as well as new generation searching for information only in the context of the market offered technologies.

It has been confirmed by the research that 35% of the population shifted from printed titles to digital media. New technologies have changed the habits of television viewers and their way of watching television.

The free of charge access to information is growing rapidly. The availability of non-free information is stagnating, which is associated with poor purchasing power of the population and unwillingness to pay for intellectual property.

The critical factors with which material form of information is faced is financial crises that contributed to the disappearance of printed titles, easy access of information on the internet, replacement of human labour with computer technologies while saving costs, stagnation of consumption and the overall decrease of financing of media.

Considering the economic development and minimal investments there is no growth forecast for media. The polygraph institute has never been an interest of banks, and therefore investing money in this sector was never a priority.

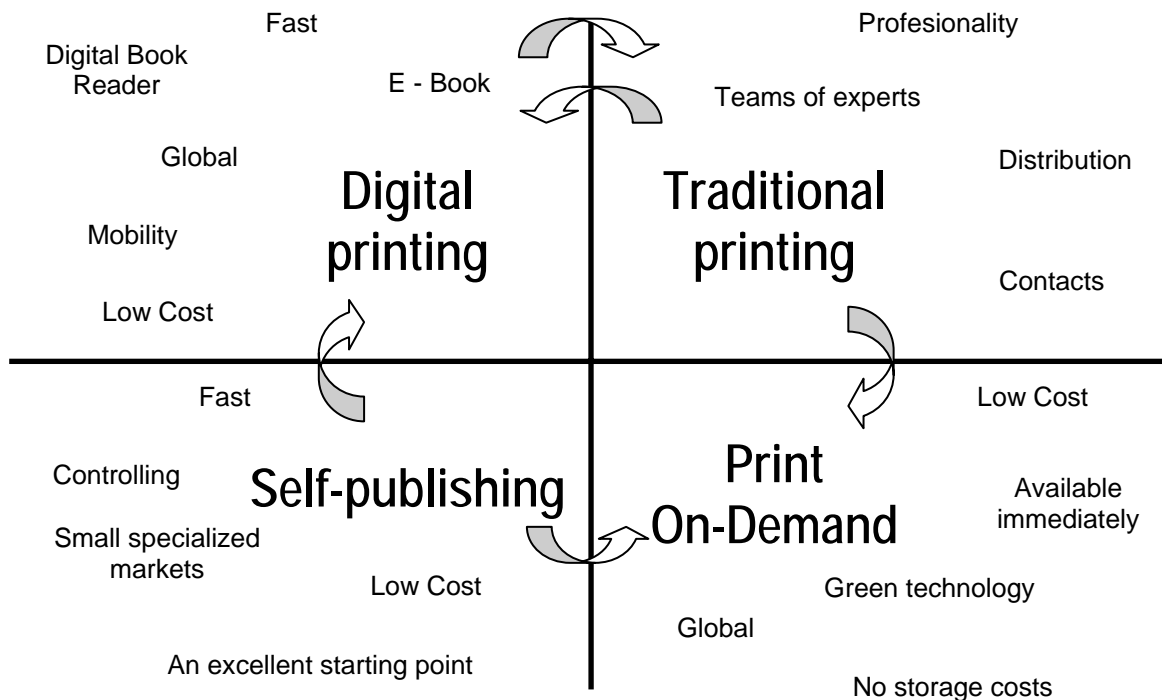
The largest amount of investments into digital media come from commercials, such as advertisement of motor vehicles, banking services, telecommunications, pharmaceutical industry and electronics. Advertisers concentrate mainly on television, which has upward trend and least towards the press, which has a decreasing trend. Definitely a growing share of investments is directed to the Internet.

Media became interest of financial groups and we can follow the acquisition of both periodicals and non-periodicals. This provides owners with influence on the whole sector including publishing, printing and distribution channels. Ideal example is represented by ownership of IKAR, 7plus, Pantarhei, PetitPress, Hypernova with the aim to dominate the market through these brands. The interest of these groups will be penetrating towards other media (such as SME). It comes to further strengthening of the position of leading media groups. The main goal is to own everything "under single roof".

Phenomenon of available information, via Internet, opens the question of copyright ownership. The deficit of legal knowledge does not justify its free distribution over the Internet.

Figure 1

Comparison of printing offerings based on their strengths



The model of the workflow broken down into simpler works and ties describes way of the delivery between all participants in the industry. This model usually describes technology of the process. Workflow is software-predefined system of programmed processes, which should do specific actions in terms of the whole process. The software controls the actions of partial tasks and the process of reconciliation.

The Workflow makes three basic parts:

- rules that regulate processes,
- transmission of information,
- methods and instruments of measurement.

Dealer registers potential customer in the system. Basic identification data could be extended by adding personal characteristics (the ability of communication and to honour code of ethics). The *Calculant* suggests **calculation** of optimal price. He communicates with dealer so that he is able to consider demands of the customer. Out of the potential price calculations, he chooses the right one for the customer and the order is passed to *technologist*, which with regards to **local technology** suggests the process. The suggested technology does not have any impact on the final price. The output is a **technological list** by which the entire production is organized. The *warehouseman* gets the specification of the purchase and check availability of the **material**. Orientation in MIS is quick and easy. If system is connected to barcode readers, it can quickly process intake and outtake of materials in the loading bay.

Production management is performed via **production schedule**, where the **controller** operatively controls flow of orders, their progress, machine status and cooperation through MIS. The system can be supplemented with a sensor monitoring current state of individual machines. It is a collection of data from the system and provides automatic evaluation (currently executed contract in the printing and binding machines, speed of printing, folding, tolerance of stitching, production of book covers). The *warehouseman* expedites finished order according to the date and overlooks completion of production, output quality and prints out a delivery note and pallet labels. Through barcode scanner he inserts data about delivery of finished order into the MIS. Based on delivery notes *accountant* provides an **invoice**. The invoice is generated by the system in accordance with the customer given identification to MIS when price offering was made.

As far as MIS software is connected with the accounting program of the printer, the order is recognized in the economic system.

Print On-demand

On-demand print production process is closely related to management of resources in publishing, printing, storage and distribution of publications. The market analysis for printed publications suggests that employing high inputs for print, delivery, storage and distribution followed by high number of copies delivered to the final consumer is ineffective. The classical technology needs to provide:

- Editorial processing;
- Graphic design;
- Preparation of printing forms;
- Preparation of printing machines;
- Printing;
- Bookbinding.

In contrast, Print on Demand offers the convenience of success by printing the very first book placed on the shelves of the bookstore. The digitalisation and archiving of the created files have brought the simplicity into all technological process. Using them, it is possible to print one piece of copy right in the redaction. Thanks to this technology the publishing house is able to respond operatively to market requirements. Publisher's coverage requirements are to meet number of printed editions to amount of customer orders. Thanks to this technology there is no need to print large amount of high-risk publications and eventually cover storage capacities, where estimated horizon of sales projected to two years cannot be realized and implemented. The high costs of printing process and transport are reduced and return is spread over the entire period of merchantability.

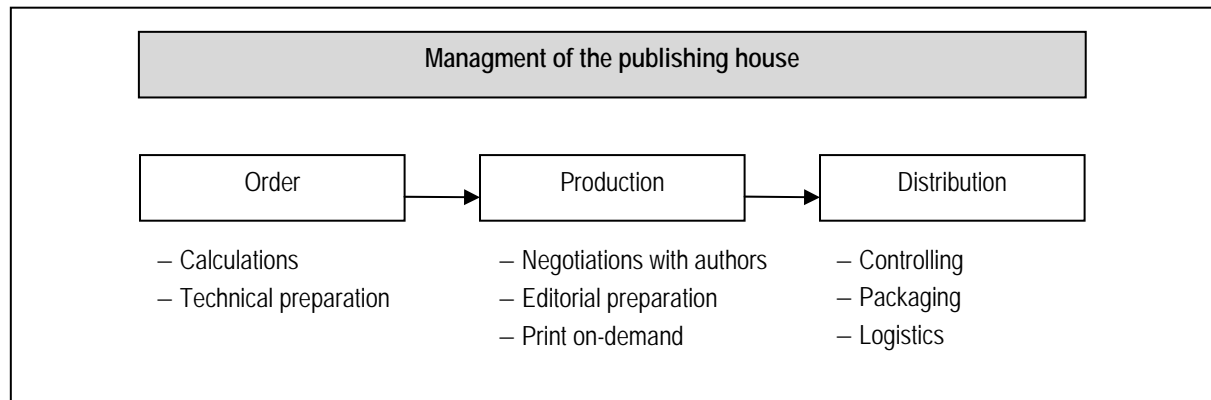
The realisation of publishing books in the publishing house (Figure 2) by Print on-demand technology enables competitiveness to 200 specimens. The correct use of digital printing and the bookbinding machine for paperback is an effective solution for an economic part of the process. The storage of publications is in the end, as the number of printed pieces depends on the amount of orders. The publishing house owning the printing version of pdf of publications chooses file from the database and delivers it for processing. The owner of the print on-demand technology can be publishing house, but bookstore is no exception.

The order lifecycle starts with Internet portal where the customer orders selected title. Afterwards the operator of the digital printing chooses selected book title from the database.

Publication is printed, book-banded and ready for the distribution. This is followed by personal pick up by the customer or by distribution through e-shop. Distribution channels ensure transport of the order right to the doors of the customer.

Figure 2

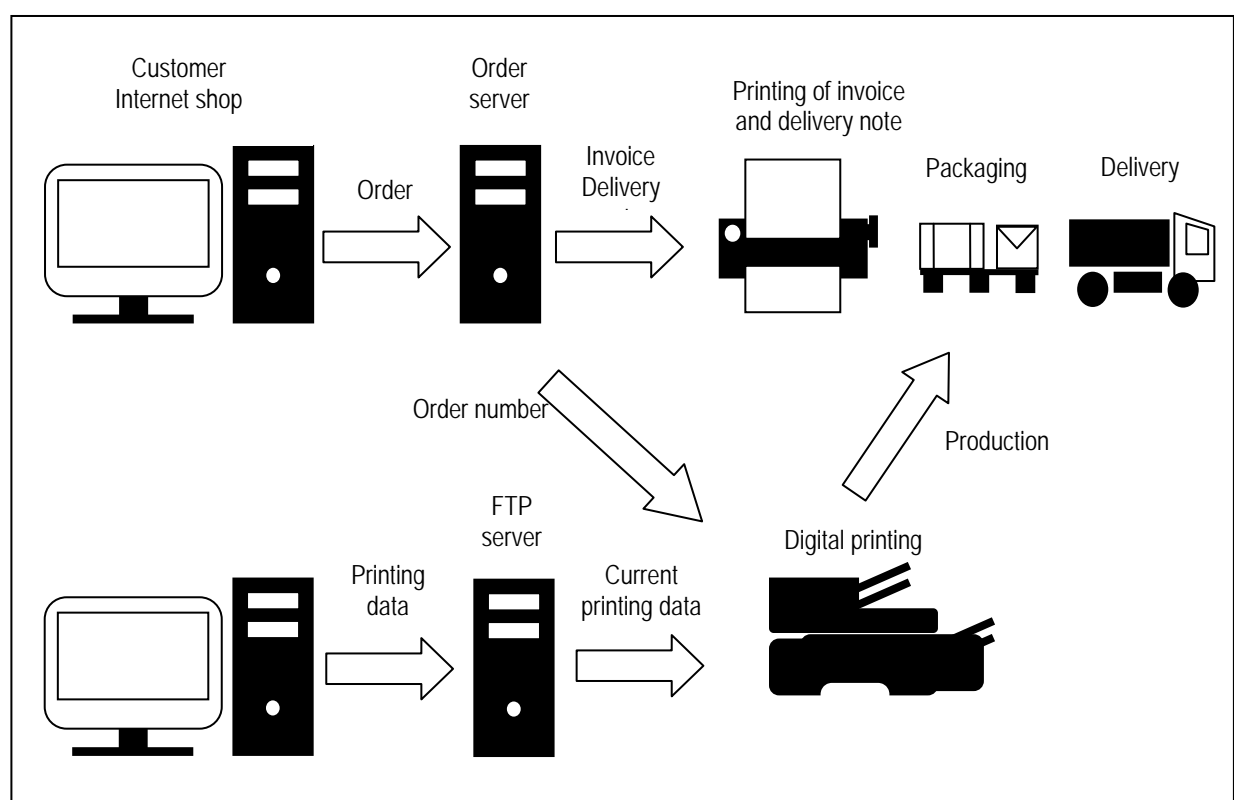
Logistical processes of publishers



The connection between the publishing house, printer and distribution is done through Internet sales – e-shop. Customer provides orders, process sheets for the press operator, invoices, shipping labels for delivery through web application and sales software is activated. The whole process is automatically collected into the economic software and variable number is assigned, which is the number of the order. The state of the whole process is under control of the publishing house, which saves administration costs, process orders, production and distribution. System is controlled through web application and offers list of orders, payments and manufacturing costs.

Figure 3

Lifecycle of publication ordered online using Print on-demand process



This model is based on the operational capacity to satisfy market demand and provides customer with a copy on the day of the order if personally picked up and ensures that the distribution is no longer than two days. Customer is known right at the start of the production process of the book. This way publishing house ensures low-cost full service of niche, academic, technical or encyclopaedic literature, technical documentation and training materials.

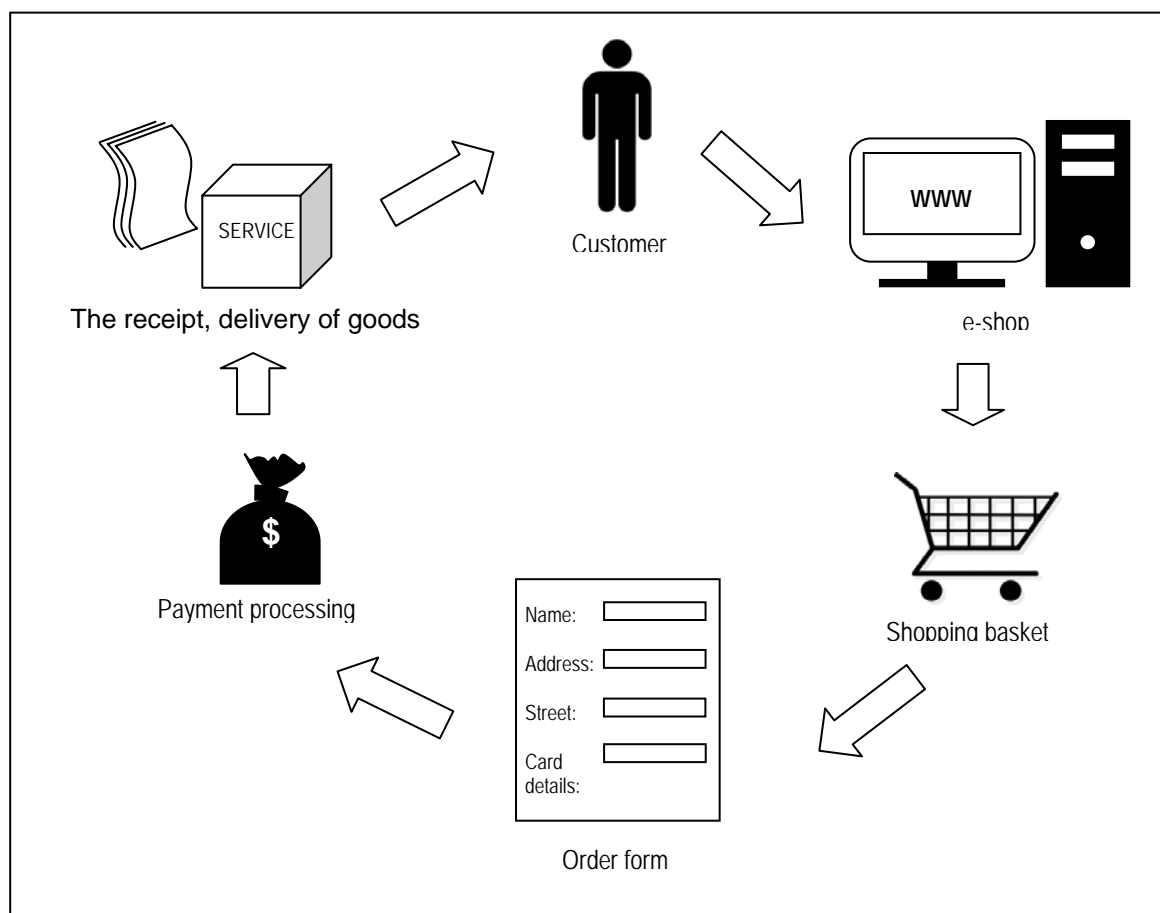
Print on-demand provides titles which commercial offset printing cannot print at the desired price range and in optimal time (Figure 3). Low costs of the process provide opportunities for publishing houses to introduce upcoming authors to the market, which title's marketability and sales are questionable. Following the positive response of the market, this pilot project can be printed using commercialised offset printing.

Distribution in the Concept of Internet Sales

The unforgettable part of the polygraph industry is packaging and distribution of the goods. This part of the operations is directly related to bookbinding, but not part of it. Packaging of the goods in the printing industry ensures its protection during distribution. Wrong choice of packing material can cause irreversible damage to the goods. Because of this, packaging is resolved from the start of the ordering process. If printing house takes care of the transport of orders, these orders are covered with stretch film, which exhibits optimum protection. Subsequently, the goods covered with stretch film are placed on a pallet, where corners are protected with cardboard and the whole pallet is once again strengthened with stretch foil.

Figure 4

Transaction lifecycle of purchase and distribution of goods throughout the internet shopping



Organisation of the company's warehouse is managed through software and system organises technological processes. Sales department takes care of pallet labels indicating the product, amount of printed copies in the package, number of packages in a row, the number of rows and finally the total quantity of copies.

Requirements of the customer could be packaging of the goods into cartons from corrugated cardboard. For this purpose there are standard sizes of boxes, for instance ones supplied by the Slovak Post, or while negotiating the order it is required from customer to enter specific parameters of packaging.

Process of books production with Print on-demand approach introduced changes to packaging and distribution of the publications.

Orders from the e-shop are processed locally on the publisher's server. Publisher prints books one by one, individually, depending on the orders. The total number of printed copies is directly linked to the market demand.

Digitally stored data on the server about the print are automatically prepared for the Print on Demand requirements. Data about orders are automatically sent to the department for distribution and web interface aids customer with an overview of the current state of the order (date of shipment, state of the packaging, distribution delivery by courier, invoice).

Customer obtains account on the server with variable symbol and has an access to the publishing data saved on the server. Through the night these data are automatically processed and are ready for print. Ordered goods will be automatically provided with printed order information, invoices, delivery notes, cover slips and address label.

Publishing educational books for e shopping would not be possible without introduction of printing on demand. Inventory and warehouse space has become too expensive, while turnover fell down. Print on demand reduces costs and eliminates the need of storage space for unsold copies.

Distribution logistics of the publishing house ensure summary of logical strategies, which are related to the flow of goods to customer. Strategy concentrates on efficient distribution of time, reduction of the costs and increase in quality. Wider goal is meeting customer requirements and overall satisfaction. The traditional meaning of logistics oriented on the transport, warehousing, procurement activities, materials management and handling of operations changes into customer service through external logistics processes. Information processes aimed to transfer information about work in progress and order status from publishing house to customer are characteristic for these kinds of processes.

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Liberalization and Regulation of the Electricity Sector in Slovakia

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Abstract

Electricity is an important part of the economy. It is an input in the production of other goods and services and it is also a final good consumed by households. Over the last years the regulatory environment of the electricity supply industry has begun to change. During the late 1990s, the European Union decided to transform the market structure from the traditional monopolistic type to a competitive type. This paper presents an analysis of the change of market structures and regulations due to the liberalization process. In particular Herfindahl – Hirschman Index is computed to summarize information about market concentration in years following the opening of the electricity market to the retail competition.

Keywords: Regulation; Liberalization; Herfindahl-Hirschman Index

JEL classification: L 43

1 Introduction

Many countries around the world have taken the path of deregulation and liberalization over the last few years. Until the early 1990s a vertically integrated monopoly structure was the main model of organization of the electricity industry in most countries. The quality of services and prices for electricity were regulated exclusively by the state authorities. However, it gradually became apparent that many of the positive features of the vertical integration (including the positive impact of economies of scale) ceased to play significant role (Melnik & Mustafina, 2014). The key objectives of separation of services and infrastructure (also called vertical unbundling) include but are not limited to introducing competition, transparency, increased efficiency and accountability and thereby transforming electricity markets from vertically integrated, centralized structure to a deregulated, open and competitive power market environment (Girish & Vijayalakshmi, 2013). The main objective of this paper is to describe the process of liberalization of electricity sector in context of the European integration.

2 EC Energy Legislation Packages

The European legislation addressing the issue of the creation and development of the electricity and gas market is grouped into three different Packages. The First Energy Legislation Package adopted in the late 1990s allowed the opening of the electricity market and a gradual introduction of competition. Moreover, it imposed broad unbundling requirements to integrated companies. The Second Energy Legislation Package further focused on the concepts of unbundling and third party access and defined the need for independent regulatory authorities. Moreover, the Package set two different specific deadlines for the liberalisation of electricity retail market, namely July 2004 for industrial customers and July 2007 for private households. The Third Energy Legislation package established a new unbundling regime and more clearly defined the duties of national regulatory authorities, including the cooperation with the Agency for the Cooperation of Energy Regulators (ACER).

It also improved consumers' rights, provided a number of measures for the functioning of the internal electricity market, and promoted regional solidarity and national emergency measures in the event of severe disruptions of gas supply. (FSR Energy Encyclopedia, 2013). Table 1 contains an overview of directives and regulations concerning the electricity market with short summary of the main liberalization changes divided according to package that they are part of.

Table 1

Overview of EC Energy Legislation Packages

The 1st Energy Legislation Package	
Directive 96/92/EC	TSOs ¹ cannot discriminate between system users, and must become independent from all of other activities not relating to the transmission system, at least in management terms. Integrated electricity undertakings must keep separate accounts for their generation, transmission and distribution activities.
The 2nd Energy Legislation Package	
Directive 2003/54/EC	The principle of unbundling of TSOs and DSOs ² is reinforced. When the system operators are part of a vertically integrated undertaking, they shall be independent at least in terms of their legal form, organization and decision making from other activities. Member states are responsible for ensuring the implementation of a system of third party access to the transmission and distribution systems based on published tariffs. The market must be completely open for both non-household customers (1 July 2004) and household customers (1 July 2007). Member states must designate one or more competent bodies with the function of regulatory authorities, and wholly independent from the interests of the industry.
Regulation 1228/2003/EC	In light of cross-border exchanges of electricity, some mechanisms are introduced for the cross-border transit of electricity, transmission charges and allocation of available capacities.
The 3rd Energy Legislation Package	
Directive 2009/72/EC	Consumers' rights are significantly strengthened, especially with regard to switching between suppliers. Unbundling is at the core of the Directive. Member States are supposed to choose between two different unbundling options in order to separate supply and production activities from electricity networks: <ul style="list-style-type: none"> ➤ Full ownership unbundling – integrated energy companies sell off their electricity grids establishing separate TSOs handling all networks operations; ➤ Independent System Operator – the energy company retains the ownership of its transmission networks but it is obliged to hand over the

¹ Transmission System Operator

² Distribution System Operator

	<p>operation to a separate entity;</p> <p>➤ Independent Transmission Operator – the energy company retains the ownership of its transmission network but must to abide by specific rules, such as the creation of a supervisory body – composed of energy companies’ representatives, third party shareholders and TSO representatives.</p>
Regulation (EC) No. 713/2009	An Agency for the Cooperation of Energy Regulators is established, in order to monitor and coordinate the development of energy regulation in the internal energy market as well as the activity of the national regulatory authorities. Further relevant tasks in the field of the promotion of market integrity and transparency were assigned to ACER by Regulation (EC) 1227/2011 (so-called “REMIT”).
Regulation (EC) No. 714/2009	In light of the access to the network for cross-border exchanges in the electricity sector, the previous Regulation (EC) No 1228/2003 is repealed and ENTSO for Electricity is established.

Source: (FSR Energy Encyclopedia, 2013)

3 Data and method

The main objective of this paper is to describe the process of liberalization of electricity sector in context of the European integration. For the analysis of this process market shares of the electricity suppliers are obtained from the annual reports of the Regulatory Office for Network Industries (ÚRSO – Úrad pre reguláciu sieťových odvetví) and Herfindahl – Hirschman index (HHI) is calculated.

$$HHI = \sum_{i=1}^N s_i^2 \quad (1)$$

The Herfindahl – Hirschman index is defined as the sum of squared market shares of firms in a market and thereby provides an easily interpretable measure of concentration. It was first used in the 1940s as a measure of skewness, but it was not until 1976 that it was formally linked to economic theory (Cowling & Waterson, 1976). The equation derived and estimated in the paper relates change in price-cost margins to changes in concentration. As a measure of concentration HHI and concentration ratio were used. Looking at the results of the estimation the authors concluded that the HHI performs significantly better than the concentration ratio.

The value of the index can vary between 0 and 10 000 (HHI equal to 10 000 means having one monopoly firm on the market) European Commission based on its experience generally classifies markets into three types based on the HHI (ICT Regulation Toolkit, 2012):

- Unconcentrated Markets: HHI below 1000
- Moderately Concentrated Markets: HHI between 1000 and 2000
- Highly Concentrated Markets: HHI above 2000

4 Results

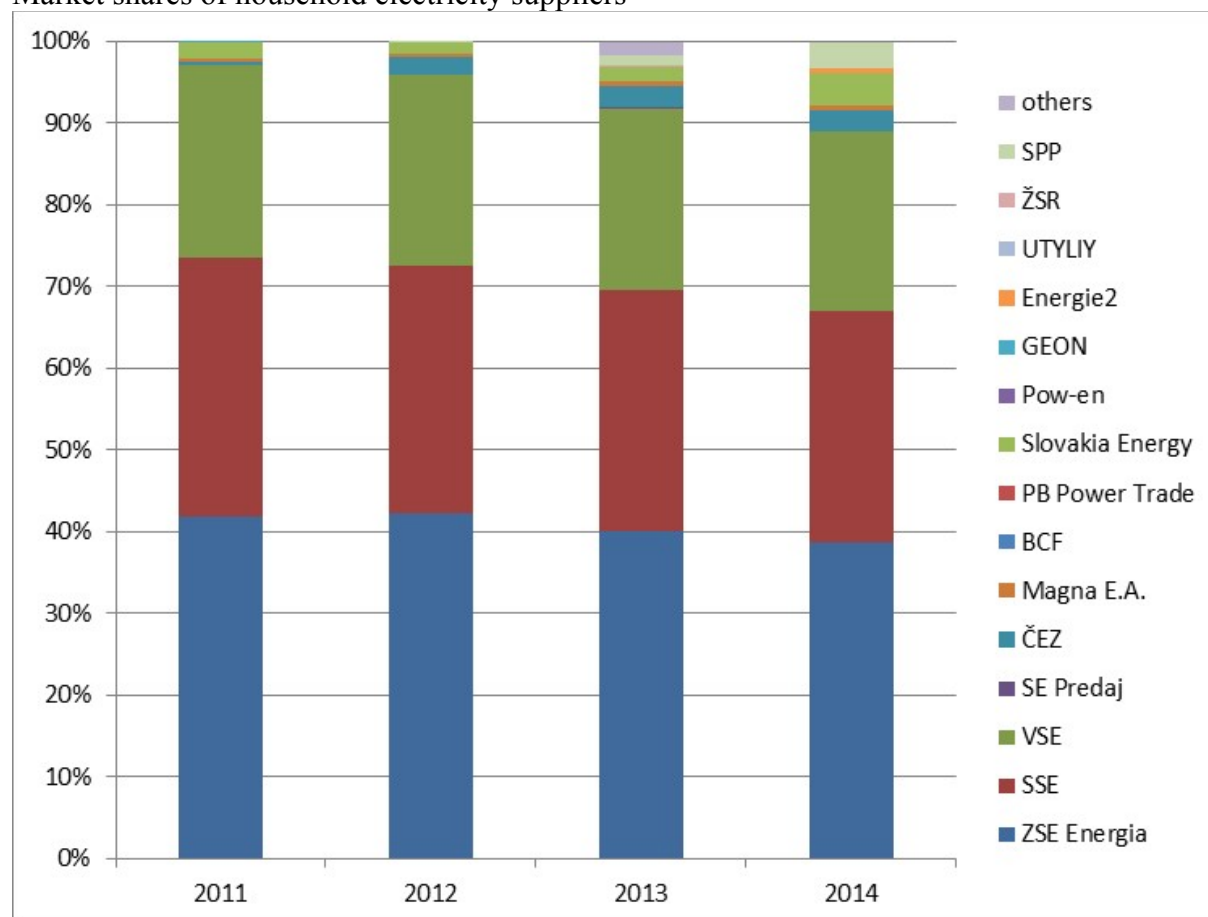
Since 1st of July 2007 the electricity market has experienced the legal unbundling, i.e. the separation of electricity distribution from its sales (supply). The companies Western Slovak Utility (hereinafter only “ZSE, a.s.”), Central Slovak Utility (hereinafter only “SSE, a.s.”) and

the Eastern Slovak Utility (hereinafter only “VSE, a.s.”) no longer own and operate distribution networks. Since this date the newly established distribution companies ZSE Distribúcia, a.s., (Western Slovak Distribution Company), Stredoslovenská energetika - Distribúcia, a.s. (Central Slovak Distribution Company) and Východoslovenská distribučná, a.s. (Eastern Slovak Distribution Company) operate respective distribution systems on their restricted territories.

Under the valid legislation since 1st of January 2005 non-household customers and since 1st of July 2007 households may opt for their electricity supplier based on the bids of suppliers and traders. Despite this fact, since the half of 2008 Slovak households have had for the first time an opportunity to order electricity from someone else than their traditional end supplier. The first alternative supplier with the valid license for electricity supply to households and small-scale companies, which supplied electricity to 29 households as of 31 December 2008, promises several percentage savings in the electricity bill, compared to traditional suppliers (ÚRSO, 2008).

Figure 1

Market shares of household electricity suppliers



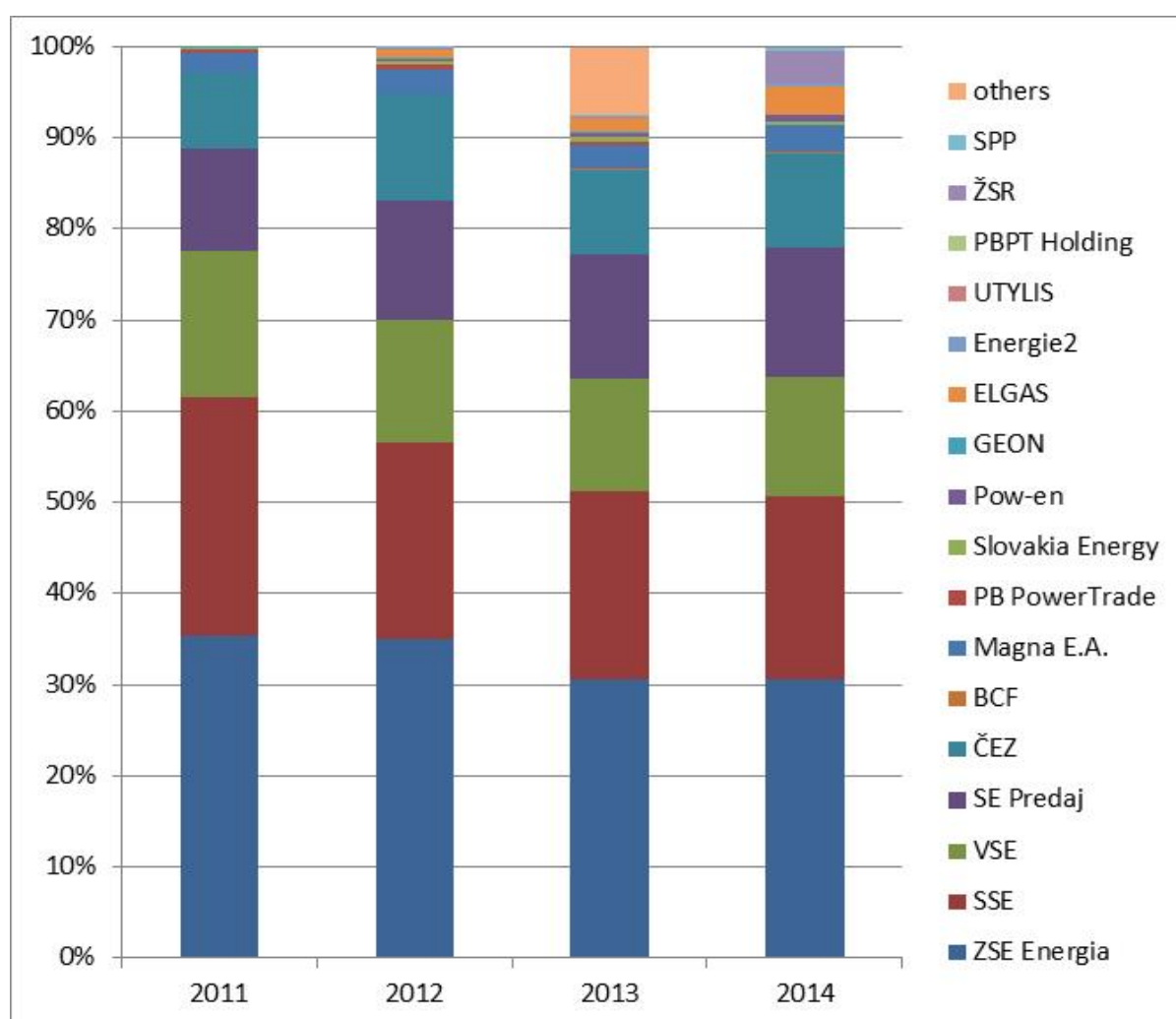
Source: own processing, data extracted from ÚRSO (2014) and ÚRSO (2013)

Currently the choice of a supplier by a customer is not limited at all since each electricity supplier in the Slovak Republic operates in the whole territory of the country providing thus the customer with the same right to choose any supplier. A gradual increase in electricity supplies by new electricity suppliers has reached a significant level and progress of liberalization and the electricity market development is manifested through the annual increase in the number of electricity consumers that had switched their electricity supplier. When switching the electricity supplier the key factor for taking such decision is the

electricity price and quality of services (advisory services, personal approach and individual offer, contractual terms and conditions, the complex services related to electricity supply, etc.) (ÚRSO, 2014).

The market shares of the companies for household and non-household customers are displayed in Figure 1 and Figure 2 respectively. Looking at the first of them it is clear that the combined market share of the three traditional suppliers is very high (being lower than 90% only in 2014) and the number of competitors is relatively low compared to number of non-household electricity suppliers. In the Figure 2 there are not only higher number of competitors but the traditional electricity suppliers have also lower combined market share. This can be at least partially explained by the fact that the household part of the market was open to competition later than non-household one.

Figure 2
Market shares of non-household electricity suppliers



Source: own processing, data extracted from ÚRSO (2014) and ÚRSO (2013)

Table 2 contains the computed values of HHI index for the last four years. We used the market shares displayed in Figure 1 and 2 to compute these values. If we compare the HHI index to the values used by the European Commission it is clear that the household segment of the market is highly concentrated while non-household segment is concentrated only moderately. The results indicate that the degree of market concentration is decreasing with time in both segments. The slow speed of this decrease in the last year for non-household

segment may indicate that the degree of competition on the segment matches the current level of demand for lower concentration on this segment. However these changes in the market concentration would have to be relatively small in longer period to claim this statement to be true.

Table 2
HHI index

	2011	2012	2013	2014
household	3322.163	3254.989	2988.283	2810.086
Non-household	2392.324	2186.938	1852.555	1848.757

Source: own calculations, data extracted from ÚRSO (2014) and ÚRSO (2013)

5 Conclusions

Slovakian electricity sector is in the process of transformation into a competitive market, overcoming the previous system which was based upon vertically integrated monopoly owned by the State. In this paper we described the main changes in the EC legislation as well as on the retail electricity market. HHI was computed for last four years and compared between two market segments – the household and non-household consumers. However it is important to realize that like any other summary measure this index conceals as well as reveals the information about industry structure. Therefore it is important to interpret the index keeping in mind the shortcomings of this type of measure.

Furthermore, there is a possibility of using the VSE, ZSE and SSE combined as one firm in computation of the HHI index, since they used to be one firm and the majority shareholder in all of the three is the Slovak Republic (with 51 % of shares) represented by the Ministry of Economy of the Slovak Republic. In this case the HHI index would differ from the one computed in the paper and the market will be characterized as highly concentrated. However the main decreasing trend of market concentration will prevail even in this alternative.

The purpose of the paper and also the main contribution lies in the fact that it provides an introduction to the issue of liberalization of electricity industry in Slovak republic, the description of changes in market concentration, and raises further research questions. Deregulation connected with this process is an important part of national economy, due to the fact that this industry is currently subject of price regulation. Questions of the right form of regulation and the need of price regulation in general arise. Based on the findings described in the paper the need of further research is evident.

This paper touches only few of the issues connected with regulation and liberalization of the energy sector in Slovakia. It is necessary to realize that the changes of this sector are quite diverse and therefore the paper does not provide exhaustive description of the process. However it can provide an interesting introduction to further study of the question of deregulation of network industries and the effects of liberalization on economy, firms and final consumers.

Acknowledgement

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Validity of CAPM and market beta

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Abstract

One of the necessary parameters for calculating weighted average cost of capital, hereafter WACC, is cost of equity. The mostly used method for determining cost of equity is the capital asset pricing model which was developed almost at the same time by Sharpe and Lintner. It is one of the most important models in asset pricing theory and on how to measure risk and the relation between expected return and risk. The result of this relation is beta coefficient, known as market beta or systematic risk of assets. Even though it is subject to a lot of criticism with respect to its validity, after more than 50 years of existence, it is still widely used by many academics and practitioners. In this article, we introduce basic strengths and weaknesses of CAPM based upon recent empirical studies and provide a simple example of calculation of market beta in real market terms in some countries of European Union.

Keywords: CAPM, Market Beta, Fama Three Factor model, alternative approaches, validity

JEL classification: G 120

1. Introduction

Sharpe (1965) and almost at the same time Lintner (1964) developed a model for calculating market risk and determination of individual stock returns. (Sharpe won the Nobel Prize for this model in 1990). This model was extended and changed by many academics and practitioners during the last decades. By developing this model, a great revolution in modern finance theory occurred which began with the work of Markowitz (1952, 1959) who developed the portfolio theory.

In portfolio theory, investors choose a portfolio in period t-1 which will produce returns in the period t. Investor is averse to risk and will choose the portfolio that will maximise his returns. The Mean-Variance analysis of Markowitz (1952) and the Sharpe-Lintner CAPM are both derived from the expected utility theory.

Asset pricing theory is connected with Theory of portfolio selection and is useful in solving many practical issues such as measuring equity risk premium, estimating the firm's cost of equity and managing diversified portfolios (Jonagathan, 2012).

According to CAPM, the expected excess return on an asset is given by:

$$E(\tilde{R}_i) = R_f + \beta_i [E(\tilde{R}_m) - R_f];$$

, where

\tilde{R}_i stands for expected return on individual security at time t,

\tilde{R}_m stands for expected rate of return on market portfolio,

R_f stands for risk free rate at time t.

The above regression states, in equilibrium, the expected return on assets is a positive linear function of its risk.

It is a *ceteris paribus* model and is valid only under the following assumptions: (Basu, Chawla, 2010)

1. Investors are risk averse individuals who aim at maximizing the expected utility of their wealth.
2. Investors have the same time horizon.
3. Investors are price takers (no single investor can affect the price of a stock) and have homogenous expectation about asset returns that have a joint normal distribution.
4. Investors can borrow or lend money at a risk-free rate of return.
5. Quantities of assets are fixed.
6. All assets are marketable and perfectly divisible.
7. Asset markets are frictionless and information is costless and simultaneously available to all investors. There are no market imperfections such as taxes, no transaction costs or no restrictions on short selling.

Thus, CAPM assumes that all stocks are equally sensitive to any news in the economy and their values fluctuate widely from year to year. While the aforementioned assumptions seem far from reality, as a financial theory, it may be considered to represent reality reasonably well as most of these assumptions can be relaxed. Despite that many researches have tested some of them.

Lintner (1969) found out that if we don't take into account the assumption 3, model is still valid. On the other hand, assumption 4 must always be met. One of the main followers of CAPM were Blume, Fama, Black and Friend. They published many studies in order to prove the validity of this model.

Pratt (1967) analysed relationship between risk and return on assets in period from 1926 to 1960. He confirmed that assets with higher risk have higher expected returns. **Blume a Friend (1970)** showed that errors occur when using CAPM but they are not statistically significant and therefore we can avoid them.

Empirical validity of CAPM is the main topic in finance in the last decades and many researchers conducted sets of studies which are questioning CAPM. The mostly known arguments for criticism of validity of CAPM are: (CAI, CH. X. – CLACHER, I. – KEASEY, K. 2013; LEVY, H. 2010)

- CAPM is based upon normal distribution. Many studies have been performed about quality of normal distribution. In many cases, the null hypothesis was rejected which means returns don't have normal distribution.
- Other studies tested the relationship between risk and return and discovered that there is no linear relationship between them.
- The weight of assets is negative. CAPM is based upon effective portfolio and requires positive weight of assets.
- CAPM is based on normal distribution but in many cases the null hypothesis that the distribution of rates of return is normal is strongly rejected.

Because of the great body of studies questioning CAPM, several extensions of asset pricing model are available for application for example Fama Three Factor model, Cochrane investment based model, Jonagathan and Wang conditional CAPM, Campbell and Cochrane (1999) habit persistence model and the Balvers and Huang (2007) productivity-based model.

In the next section, we will revise the most famous researches that are against the validity of CAPM.

Fama and French (1995) found that systematic risk cannot be explained by expected returns on assets. **Kothari and Shanken (1995)** proved that systematic risk can be priced.

Roll a Ross (1977), Basu (1977, 1983) and Fama and French (1992) rejected the existence of security market line. They confirmed that there is a positive relationship between risk and return but the slope of the security market line is sharper than average market beta. In 90's, Fama and French provided theoretical analysis and empirical support for the relationship between fundamentals, variables and systematic risk.

Roll a Ross (1977) criticised validity of CAPM as it is based upon assumption that the portfolio should include all risky assets. According to that, CAPM cannot be empirically tested. The only hypothesis that can be empirically tested is whether portfolio is mean-variance efficient.

Black (1993) is of the opinion that researchers apply a market portfolio which is very different from real market portfolio; therefore, beta coefficient is estimated with a deviation. It is probable that when analysing beta coefficient real market portfolio would be used, value of beta coefficient would be higher than its value when using market portfolio.

In 1996 Jannagathan a Wang analysed whether CAPM is able to explain cross sectional variability in returns. Analysed sample consisted of 100 beta coefficients from New York stock exchange and Amex shares¹ between 1962 and 1990. Coefficient of determination shows that beta coefficient can explain almost 30%² of variability of returns.

Claus a Thomas (2001) analysed the post return on assets and tried to find out if there is a significant relationship between risk free rate and accounting return on assets. They came to the conclusion that approach based on ex-post index of returns of securities shows different results in risk premium from 3% to 8,4%. Subject of their study was also the question whether there is a link between return calculated based on accounting data and whether price of share is solely related to future expectations of investor related to future income.

When CAPM was developed by Sharpe and Lintner, it was tested with data from US market. It is obvious that concern of the next research regarding CAPM was to prove if the model is valid also with other data as these from US capital market and with other market portfolio as S&P 500. (Basu & Chawla, 2010).

Yalwar and Varna (1988) tested if CAPM is valid on the Indian capital market. **Yang and Xu (2006)** tested model on Chinese capital market. Both of them opposed the validity of the model on these markets but confirmed that there is a linear relationship between risk and return.

Basu and Chawla (2010) conducted test of validity of CAPM on the Indian market. They found out that CAPM fails on the Indian market. The study showed a negative relationship between beta and excess returns indicating an inefficient capital market. Moreover, regressions show poor explanatory power. Thus, it can be concluded that CAPM is not a suitable tool to price assets in Indian market.

¹ Amex shares are shares of American stock exchange market - American Stock Exchange (AMEX).

² Indicator R^2 provides information about quality of analysed model. R-squared values range from 0 to 100. An R-squared of 100 means that all movements of a security are completely explained by movements in the index. A high R-squared (between 85 and 100) indicates the fund's performance patterns have been in line with the index.

Based on the above information, there are at least two hypotheses that cannot be tested which are: (Roll, 1977)

- Between risk and return is linear relationship.
- We cannot test CAPM if we don't know the portfolio structure.

Authors of revolutionary studies against CAPM **Kahneman and Tversky (1979;1992)**, for which Kahneman received in 2002 Nobel prize, came up with the idea that an investor does not behave always rationally as described by theory of marginal utilisation; therefore, validity of all models stemming from this theory is questionable. Revolutionary studies against CAPM were developed in 1980s and 1990s and their fundamentals are in Expected Utility Theory. Authors of the Theory of Expected Utility are Neumann and Morgenstern (1953) which provided theoretical benchmark also for CAPM and theory of arbitration portfolio. Instead of Expected Utility Theory, they developed „*Prospect Theory*“, which they later expanded by „*Cumulative Prospect Theory*“ It was a big step forward in valuation of decisions in a risk environment. Despite this, theory is not used a lot in practice because of complex application in practice. In recent years; however, it is finding its application mainly in financial sector and insurance. In financial sector, it is used mainly in solving following questions: (Barberis, 2013)

1. Why some financial assets have a higher average return than other? This question is dealt with mainly by CAPM but is based on assumption that investor values risk based on expected return. In this respect, question arises whether Prospect Theory is not more suitable for explaining variability of expected return than CAPM.

2. Understanding how people trade with financial assets over time. Investors and mutual fund managers have a tendency to sell assets the value of which increased since their purchase and sell shares whose value decreased since last purchase.

Despite a lot of criticism of CAPM, it is still widely used by managers and recommended as the most appropriate model in financial books. (Partington, 2013; Brown & Walter, 2013). Welch (2008) conducted survey between professors in finance which showed that more than 75 % recommend using this model for calculating cost of equity. Graham and Harvey (2001) conducted research between 392 financial managers in United States. Results confirmed that 73, 5 % of respondents use this model in practise. (Da et al., 2012) CAPM is useful and used also among academics. Fernandez (2010) conducted a survey regarding average risk-free rate using CAPM between academics and practitioners in 56 countries and concluded that average risk-free rate was 5, 5 % in USA and 5, 9% in Spain. Proof that CAPM is popular also between academics is that it is recommend for calculating cost of equity in most financial books such as Brealey's Corporate Finance.

Despite a large body of evidence in academic literature with respect to Fama and French model, practitioners seem to prefer CAPM for estimating cost of equity.

In a short time since development of CAPM it has been subject to criticism. It was argued that estimation of cost of equity is not precise and one can get different results from analysing the same data for example by choosing different time period. The issues that arose were probably caused by simplifying assumptions that must hold. (Fama & French, 2004)

Although CAPM has come under attack ever since its inception, it is nevertheless the main model of asset pricing in modern finance theory.

2. Market Beta

Despite a great body of literature on how to implement CAPM, mostly regarding the key parameter beta, there is no consensus regarding how to get the best estimation of beta coefficient. We can define beta coefficient as a function of the extent to which the stock's return changes when overall market changes. In other words, in the capital asset pricing model, systematic risk (beta) reflects the sensitivity of the return on a firm's stock to general market movements. It is the risk, which cannot be diversified away. There is also unsystematic risk, which is caused by firm or industry characteristics and can be eliminated through portfolio diversification. (McAlister et al., 2007).

Despite of lack of consensus, there are several recommendations in respect to the index, time frame, and data frequency that should be used for estimation (Bartholdy&Peare, 2005), (Schwetzler, 2010):

- *Index should be as broad as possible and contain the full range of available stocks.*
- *The number of observations for the estimate is driven by the choice of the total time frame (5 years, 1 year etc.) and the frequency of the return measurement (daily, weekly, monthly returns). On the one hand, increasing the time frame and frequency will increase the number of observations and eventually the quality of the estimate. On the other hand, long time horizons reduce the reliability of the estimated beta: the risk of the company five years ago is in many cases not equal to its current risk.*

When calculating expected stock returns on individual stock by using CAPM, we can use different time frames, data frequencies and indexes. It is recommended using 5 years of monthly data and an equal-weighted index as a proxy for market portfolio return. Usually beta is estimated via a regression analysis. The stock return being the dependent variable is regressed against the return of an appropriate stock market index proxying the market portfolio containing all assets.

To address the sensitivity of market beta on input information, in this article, we calculated market betas for companies in automobile industry. We downloaded data from Datastream for 15 European countries³ in the period 01.01.2009 – 31.12.2013. We used daily closing market price for each company in the sample and daily price of market index. For calculation, we chose several approaches. We calculated market beta using 1 year of daily data in 2013 then we calculated market beta using 5 years of daily data for each company in the peer group. Both of these regressions were performed using DAX 30 index and MSCI index as independent variables.

The objective of this paper is therefore to compare two indexes –DAX30 and MSCI (Morgan Stanley capital international index) which are used as market proxies in regression on the sample of listed companies in Europe. Results which we obtained were compared with procedure applied by Damodaran. Damodaran estimates beta by *regressing weekly returns* on stock against the local index (in his opinion, generally the most widely followed index in European market - CAC in France), using 5 years of data, then he uses a composite of the two year regression beta and the five year regression beta, weighting the former 2/3rds and the latter 1/3rds.

³ Germany, Great Britain, Belgium, Luxemburg, Netherland, Spain, Portugal, France, Slovenia, Iceland, Poland, Estonia, Denmark, Finland, Austria.

Beta = (2/3) 2 year regression beta + (1/3) 5 year regression beta. (Damodaran, 2015)

Table 1 describes market betas for each company in automobile industry in our peer group. Our peer group is composed of 16 companies listed on the market in EU15. From our peer group, we deleted outliers and we ended up with 14 companies. For each company, we estimated market beta by regression return on assets and return on the market and in the end we calculated industry beta for automobile industry as an average beta in peer group. We can see that the main differences are between betas calculated by using one year of daily data and 5 years of daily data. In some cases, there is slight difference whether we use 1 year, 5 years or Damodaran approach. On the other hand, in case of Renault, Man and BMW there are significant differences between the results when applying different time frames.

Table 1

Market beta calculated based on returns on assets of companies in automobile industry in EU15, proxy parameter for market return is MSCI index

	Name	5year/MSCI	1year/MSCI	2Y/MSCI	Damodaran-approach
1	PEUGEOT	1.23	1.18	1.23	1,32
2	PLASTIC OMNIUM	0.93	0.98	1.11	1,20
3	RENAULT	1.37	1.09	1.20	1,37
4	MAN	0.97	0.19	0.56	0,78
7	BMW	0.96	0.89	0.95	1,09
8	BMW PREF.	0.93	0.57	0.76	0,91
9	DAIMLER	1.09	0.91	0.97	1,16
10	PORSCHE AML.HLDG.PREF.	1.10	0.98	0.90	1,09
11	VOLKSWAGEN	0.87	0.88	0.81	0,97
12	VOLKSWAGEN PREF.	0.89	0.87	0.84	1,00
13	FIAT CHRYSLER AUTOS.	1.37	1.23	1.33	1,41
14	PININFARINA	0.86	0.48	0.82	0,86
	INDUSTRY MARKET BETA	1.05	0.85	0.96	1,10

Source: Author's own processing

In the Table 2, market betas using DAX 30 as market proxy are presented. As we can see, there are differences between market betas estimated by using MSCI and DAX30 index. Comparing results presented in Table 1 and Table 2, market beta estimated by using DAX 30 as market proxy are for each company higher than markets betas estimating using MSCI as a market proxy.

Table 2

Market beta calculated based on returns on assets of companies in automobile industry in EU15, proxy parameter for market return is DAX30

	Name	5year/DAX30	1year/DAX30	2Y/DAX30	Damodaran
1	PEUGEOT	1.35	1.32	1.36	1,36
2	PLASTIC OMNIUM	1.00	1.14	1.34	1,23
3	RENAULT	1.51	1.24	1.38	1,42
4	MAN	1.11	0.21	0.68	0,83
7	BMW	1.12	1.04	1.15	1,14
8	BMW PREF.	1.06	0.66	0.90	0,95
9	DAIMLER	1.26	1.13	1.20	1,22
10	PORSCHE AML.HLDG.PREF.	1.25	1.18	1.09	1,14
11	VOLKSWAGEN	1.02	1.07	1.02	1,02
12	VOLKSWAGEN PREF.	1.03	1.06	1.05	1,05
13	FIAT CHRYSLER AUTOS.	1.48	1.30	1.43	1,45
14	PININFARINA	0.88	0.53	0.85	0,86
INDUSTRY MARKET BETA		1.17	0.99	1.12	1,14

Source: Author's own processing

Table 3 shows peer group of automobile industry which was used for beta calculation by professor Damodaran in automobile industry. In the peer group, there are 16 companies. The industry beta in 2013 was 1.58. Comparing with our results, Damodaran's beta is higher. When using MSCI index, we got Damodaran's beta 1.10. When using DAX 30 index, we got Damodaran's beta 1.14. In both case, Damodaran's beta is higher than Damodaran's beta calculated with our approach.

Table 3

Market beta for companies in automobile industry calculated by professor Damodaran

Auto & Truck		1.58
Market beta for automobile industry		
NAME	COUNTRY	
1 Daimler AG (XTRA:DAI)	Germany	
2 Fiat Chrysler Automobiles N.V. (BIT:FCA)	United Kingdom	
3 Bayerische Motoren Werke Aktiengesellschaft (DB:BMW)	Germany	
4 Peugeot S.A. (ENXTPA:UG)	France	
5 AUDI AG (DB:NSU)	Germany	
6 Renault Société Anonym (ENXTPA:RNO)	France	
7 Ford Otomotiv Sanayi AS (IBSE:FROTO)	Turkey	
8 TOFAS Turk Otomobil Fabrikasi A.S. (IBSE:TOASO)	Turkey	

9	Immsi SpA (BIT:IMS)	Italy
10	KTM AG	Austria
11	Karsan Otomotiv Sanayii Ve Ticaret AS (IBSE:KARSN)	Turkey
12	Pininfarina SpA (BIT:PINF)	Italy
13	Piaggio & C. SpA (BIT:PIA)	Italy
14	Toyota Caetano Portugal, S.A. (ENXTLS:SCT)	Portugal
15	HWA AG (DB:H9W)	Germany
16	PGO Automobiles S.A. (ENXTPA:MLPGO)	France

Source: DAMODARAN, A. 2015. Sample of the companies in automobile industry in Europe with country specification. Available at: <http://pages.stern.nyu.edu/~adamodar/>

3. Conclusion

CAPM is in the subject of interest for the last decades. Since its foundation, many researches tried to prove or question its validity. Nevertheless, CAPM is still widely used by academicians and practitioners and also is recommended as a tool for valuation in many financial books.

Our results show that the OLS estimates are very sensitive to the choice of the index and time horizon for which we calculate regression. Beta is influenced by each decision regarding time period, frequency and market index. Regarding aforementioned results, it is obvious that we can get different betas for a company if we use different market index and date frequency in the same time period. Therefore, many researchers start analysing financial ratios that appeared to be related to have the potential to measure risk.

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Neuromarketing, where marketing and neuroscience meet or what it is all about

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Abstract

Neuromarketing is a new emerging field where science of brain and marketing meet. The emergence of brain imaging encourages marketers to use high-tech imaging techniques to resolve marketing issues. Marketers have exploited the results of many brain imaging studies to know what could drive consumer's behavior. They have found out that some marketing actions can generate added satisfaction. The number of neuromarketing studies is growing and the findings are important for marketing research. However, neuromarketing suffers from many limits that are a barrier to its development. This paper discusses about the potential to improve the effectiveness of commercial and cause-related advertising messages around the world.

Keywords: Neuroscience, neuromarketing, emotions, consumer behaviour, buy button,

JEL Classification: M30, M31, M37

1. Introduction

In recent years we are witnesses the emergence of a new direction for measuring and exploring cortical brain activity. Some new techniques in neuroscience enable develop a knowledge concerning the parts of brain responsible for pleasure and emotions. These tools are now becoming more popular for marketing research, mainly due to benefits they provide (McClure et al., 2004). Zak (2004), Plassmann (2008) and Rustichini (2005) were among first writers who in their works mentioned the term of neuroscience in connection with marketing. The aim of this science was to better understand consumer decision-making process through the application of cognitive psychology and neuroscience. Thanks to their work only in recent years has been developed a new discipline: "Neuromarketing" (Droulers – Rouillet, 2006). The aim of this new field is the transfer of knowledge from neuroscience research on consumer behavior through the application of neuroscience methods for solving marketing problems. Especially therefore consider the neuromarketing the place where meets neuroscience, cognitive psychology and marketing (Stoll – Baecke – Kenning, 2008).

There are used different imaging techniques in the application of neuromarketing research. The best known and most widely used include positron emission tomography (PET), magnetic resonance imaging (fMRI), electroencephalography (EEG), magneto encephalography (MEG) and galvanic skin response (GSR). Most of above mentioned techniques are financially highly demanding, despite that today we can observe an increase researches mainly trough EEG and GSR. Since the establishment of neuromarketing, researchers are focusing on the areas related to memory and impact of advertising on memory (George et al., 1995).

Presented contribution offers a view on neuromarketing from several points of view. At the beginning we try to clarify and identify what actually neuromarketing represent. We show

linking between neuroscience and marketing and define the key aspects of neuromarketing. In the end we will focus on controversy around neuromarketing, because neuromarketing is still in the beginning and the aim is that literacy of people was rising in this direction.

2. Neuromarketing, what is it all about?

People often solve the question what is the reason or why we liked some products, or vice versa. The answers to these questions are often shady, misleading, unreasonable or simply does not exist. This answer we do not exactly define, because preferences for certain goods or services are realized unconsciously. Unfortunately, at the present there are still more questions than answers, even though research in area of neuromarketing has advanced a big step. We still cannot define all the processes take place in our brain and also we do not know decode significant amount of information which can we measure (Plessis, 2011).

Neuromarketing as a union of two on first sight unrelated disciplines provides answers to questions that often put marketers themselves. In fact, it helps to us understand consumers. Why choose Coke instead of Pepsi, why men prefer sports cars, why women do not prefer sci-fi film, it is only a fraction of the questions being asked by marketers to find out why people buy a particular discovered how consumers think (Rice, 1997).

Using neuroscience and studies that describe the way the human brain works, how a person feels, how we make decisions and what motivates us. It is possible to explain the huge number of marketer's problems, including (Johns, 1994):

- long-lasting consumer preferences
- effectiveness of promoted messages
- consumer preferences
- consumer confidence in the brand

All these aspects of consumer behavior can be explained and thus ultimately stimulate. But if we want to find out what the consumer is experiencing when shopping, we have to these effects primarily measured. To measure used previously mentioned devices, which can be combined with each other and thus an opinion or argument several times to confirm.

Even if we assume that the consumers are deciding rationally and buying products for its features, usability, price or functionality, the brain says something completely different. Neuroscience and measuring instruments mentioned above tell us that the consumer is deciding by preferences and intuitive relationship with a brand and not on the basis of advertising communication. Brain cannot filter the messages between marketing messages and the others. Every situation, every experience or information with we come into contact within a particular product or a particular brand, becomes part of our perception of the brand. All this information is transformed into specific consumer response and ultimately the consumer either purchase takes place, which means that the positive impulses predominate, or vice versa, which means that the consumer has a negative opinion about the product (Lindstrom, 2005).

In classic communication process companies are regarded as the issuers of certain information and consumers as recipients of this information. Neuromarketing point of view, this relationship turns in precisely the opposite direction. Companies are subjects providing the information, but also need to receive the information about customer's behavior. This information is necessary needed for further direction of the company like the success aspect. It is not just about information such as whether the consumer purchased the goods or not, but about the decision-making process. Companies are trying to identify the stimulus led to the purchase and support them. Companies can thus build customer relationships (Wilson, 1992).

In this context, we meet every day with bombarding by slogans like a better, cheaper, and faster. However, these terms do not make consumer more sensitive, but just the opposite. Most of these terms aimed on consumer make them mistrustful. If companies want to be successful, they have to understand the deeper levels what motivates consumers and must focus on consumer needs.

Even though many scientific streams of neuromarketing research constantly developing, there still remains the problem of difference between what the consumer says, by what they think and what really buys. It is scientifically demonstrated that 95% of the decisions are realized unconsciously (Pradeepa, 2010). How can we then draw attention to marketing problems? Neuroscience suggests understand motivation as an unconscious stimulus, which can be either positive or negative. These stimulus generates pulses that force consumers to act, or that his actions conversely (LeDoux, 1996).

When companies understand the consumer and the consumer decision-making, they can very efficiently offer goods or services which are necessary for them. They should consider how to communicate with the consumers and on the basis of that use the corresponding tools of marketing communication. Neuroscience gives companies the key that opens the door to the consumer brain. The combination between the results neuro-research and marketing as a selling tool can dramatically change the selling rate of products or services.

A significant purpose of neuromarketing is to understand how the brain determines consumer behavior and decision making. This purpose can be achieved by studying the decision making process and identifying the factors that have the biggest impact on the decision (Montague, 2007).

3. Key aspects of neuromarketing

Marketing specialist Ch. Morin (Morin – Renvoise, 2005) identify some key factors of neuromarketing, which can help to companies with sells, improve their selling skills and assists to identify the right marketing strategy and effective advertising. These aspects are perceived by consumers unknowingly, in the central part of the brain, the hypothalamus and the amygdala. These sections convert emotions and instincts for decision-making and tend customers to purchasing behavior. He also says that customers buy without fear. Based on this allegation, there are features which called as "buy button" and these sites should be under pressure. The following aspects of human decision-making help companies make the right decisions in marketing communications (Morin – Renvoise, 2005):

- *Consumers are selfish* – When we are defining decision is important milestone selfishness. Most people are egocentric and try to order all the decisions they make, have had an impact on the change in their life, reduce or eliminate pain or bring more enjoyment
- *We prefer contrast* – Sometimes a consumer response cannot be explained completely accurate. Contrast is therefore used as a tool through which you can attract the consumer. Ch. Morin (Morin – Renvoise, 2005) also mentioned an example that says that if the consumer received daily ten thousand advertising messages, captivate their attention only those that hold out the greatest contrast.
- *Consumer is naturally lazy* – Simplicity is the basic substance of marketing communication and marketing tool itself. Authors of many studies recommend that the message should be simple but powerful. A large number of companies are trying to attract the consumer by text messages. However, this type of communication is very demanding on the brain activity. The consumers can read only a few words and if they do not find the information which they looking for, stopped perceiving offered

information. There is a definite recommendation: use visual communication tools, with specific reference (Rushkoff, 2004).

- *Consumer loves stories* – Marketing communication presents specific tool to create interest among consumers most at the beginning or in the end of the advertising message. This is because that man is able to receive the most information at the beginning or end of any presented message. If we want the consumer take whole offers information, this information must include a storyline that will captivate the consumer and thus hold his attention for long enough.
- *Consumers prefer visual stimulus* – Consumers prefer visual stimuli because they're easier to remember. It is mainly due to the fact that the visual stimuli may hide other marketers consciously hidden suggestions for other senses. For example, if a marketing tool show fruit, the consumer is unconsciously involved the taste and smell, as this fruit is joined in associations of certain of its smell and taste. Right a visual stimulus can force consumers to buy the most effective, although rationalizing their decision later (Schabner, 2004).
- *Emotional Trumps* – „Give us correct stimuli that give rise to emotion in us and we will buy what you're selling“ (Morin – Renvoise, 2005) emotion enters the brain where the remakes of other instincts and emotions, and a chemical reaction is transferred to the decision-making part of the brain. This reaction produces a chemical change in the brain and hormones progressively flooding our brain, these hormones enable faster communication between neurons. All of these courses remember certain purchases situation and we will connect them with the same or similar situations. As it has no emotion, we do not remember how we felt during buying the product as a very low probability will purchase again.

4. Neuromarketing versus ethics

Many supporters of ethics argued that connection between neuromarketing and neuroscience bring fear of practices that reveal "buying down" in the minds of consumers. If there were to "pressed" that button, consumers could be converted into shopping robots. However, experts from the fields of neuroscience, clearly refute this claim. At present our science allows only show certain reactions that running in the brain, but we cannot infiltrate a product into the heads of consumers. Conversely, supporters of neuromarketing say that this is the way to determine key aspects of advertising as such and thus use the funds for advertising as effectively as possible. They also claim that neuromarketing can identify position of consumers towards the product and identifies how individual consumer evaluated goods and services. G. Ruskin expresses concern about abuse by unscrupulous multinationals companies. This fear is rooted in the abuse of consumer information on individual national markets to lead to dependence on products which can harm consumer mentally and physically. C. Kilts takes the opposite view and argues that research conducted in the field of neuromarketing was never oriented to the change of consumer behavior but rather to help those companies that want to customize their customers and their needs (Lindstrom, 2005).

Based on the above facts there is a place for question: to what extent it should be possible for companies and advertising agencies study consumers and for which operation is possible use information about consumer decisions-making process. The answer may be a statement by J. Reiman, who said; "The goal of neuromarketing is that consumers can change companies, not change consumers by companies (Reiman, 2004).

Conclusion

In these days, technology and research techniques are moving unstoppably forward. An exception is not marketing, which is focusing only on traditional techniques but more often is an innovative by new methods of research. Neuromarketing represents one of these connections. Even though the opinions of neuro-marketers are sometimes different, neuromarketing is booming and around the world has increased research laboratories dealing with the research of the brain for the purposes of marketing.

If companies want increase their sale they have to communicate with customers. Feedback becomes especially important, because by these feedbacks can measure consumer activity and decision-making during the implementation of purchasing behavior. Information about the marketability of the various regions and the identification of the target group becomes insufficient. The essence of information needed for companies is their sensuality. It means that if marketers do not find out what consumers really think he would not move forward. Based on the premise that people lie, it remained is verified information provided by devices that show their real feelings and emotions.

Neuromarketing offer the perspective of obtaining quantitative and qualitative data to determine the effectiveness of advertising, from unnecessary and often inefficient spending of funds for promotion, which is running out of action. Taking into account existing promotional tools and their surplus is neuromarketing research tailored for those businesses that want to better understand customers, its target audience and advertising messages of the others recipients and also to design products that will completely satisfy their needs.

A new application of neuroscience in marketing is definitely interesting and we expect that will used in practice. If we have to synthesize the importance of neuroscience in connection with marketing, we will quote Reiman who said; "No brain, no gain" (Reiman, 2004).

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The BRICS in the 21st century

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Abstract

The cooperation, the striking phenomenon of globalisation, can be considered as one of the relevant prerequisites for the development of the countries. It applies mostly for the developing countries which have very fragile economies, so they count on cooperation with others to become more competitive. One of the best examples of this type of cooperation is BRICS, the association of five major emerging national economies. The aim of this article is to analyse the status of the BRICS in world economy in 21st century and to explore their future expectations.

Keywords: cooperation, developing countries, BRICS

JEL classification: F50, F60

1. Introduction

BRICS is the acronym for an association of five major emerging economies: Brazil, Russia, India, China and South Africa. The term was first used by Goldman Sachs in 2001 and gained momentum quickly afterwards. According to many economists, these five economies should be the most competitive and best performing by 2050. As of 2015, the BRICS countries represent more than 3 billion people and 18 percent of the world economy. But are they the nations which would reshape the world economy? Two of them, China and Russia have the potential to cause some serious reshaping in near future. In case of China, there is a risk of continual economic slowdown; in case of Russia, there is possible economic fallout that would stem from the conflicts in Ukraine and Syria. Brazil, the second weakest performer after Russia and strongly dependent on the commodities business, is projected to grow by only 0,3%, according to IMF. Due to the new government of Narendra Modi, India seems to be causing rather less anxiety in financial markets and international economic institutions at the moment. South Africa, the world's largest producer of platinum, chrome, vanadium and manganese is now considered as a very perspective BRICS member. (Brics, 2014.)

2. Analysis of BRICS

Many developing countries have considered the idea to create strong cooperation complex, but none of them was so successful as BRICS. The massive influence of these nations is shown on Table 1.

Table 1
BRICS economies, 2014

	Brazil	Russia	India	China	South Africa
GDP growth rate 2014	0,1%	0,6%	7,4%	7,4%	1,5%
GDP per Capita	11 384	12 735	1 595	7 593	6 477
Population (millions)	195	143	1220	1329	49

Source: World Bank

In Table 1, we can see the BRICS present very important emerging markets, even though it must be said that their growth has slowed down in recent years. In the next section, the authors analyse the situation of each country in BRICS association.

2.1 Brazil

It was stated that:

Brazil's economy plunged into technical recession in the second quarter of 2015 and recent data suggest that a substantial recovery remains elusive in the third quarter. Business and consumer confidence both fell to new record lows in September and retail sales contracted for a sixth consecutive month in July. Some improvements have been recorded only in the manufacturing PMI and in industrial production. Moreover, the government's efforts to restore confidence and correct the country's sinking finances have been met with political gridlock and President Dilma Rousseff's approval ratings have fallen to an all-time low. In an effort to break the political impasse, Rousseff reshuffled her cabinet on October 2, increasing coalition partner Brazilian Democratic Movement Party (PMDB)'s position in government. Rousseff also slashed eight government ministries and reduced all ministers' salaries by 10% (FocusEconomics, 2015a).

The better view on Brazilian economy is in Table 2.

Table 2
Brazilian economy development 2010-2014

	2010	2011	2012	2013	2014
Population (million)	195,5	197,4	199,2	201,0	203,0
GDP per capita (USD)	10 966	12 539	11 279	11 158	11 567
Economic Growth in %	7,5	2,7	1,0	2,5	0,1
Unemployment Rate	6,7	6,0	5,5	5,4	4,8
Trade Balance (USD billion)	20,1	29,8	19,4	2,4	-4,0
External Debt (% of GDP)	12,0	12,0	13,9	13,8	14,8

Source: FocusEconomics, 2015a

As it is shown in table 2, Brazilian economy is based on increasing population, slowing economic growth and decreasing GDP per capita. The newest predictions state that country's economy is expected to grow by only 1,8% in 2015. Underinvestment in infrastructure, high inflation and high interest rates have all had negative influences on the economy.

The current challenge for Brazil is the Dilma Rousseff approvals. "Her daunting to-do list includes repairing ties with America, damaged by the revelation in 2013 that its spies had tapped her phone calls" (The Economist, 2015b). The country also fight with deforestation in the Amazon region which rises again after a decade of decline. Then, the drought brings energy and water rationing to the industrial part of the land. Moreover, the Rousseff's Party is embroiled in a corruption scandal, so we can definitely say that nowadays situation in Brazil is quite gloomy.

2.2 Russia

For more than a decade, oil and gas exports' income and consumer consumption have delivered growth to Russia, but unfortunately, not any more. It was stated that:

Russia's economy is teetering on the verge of recession. The central bank says it expects the next two years to bring no growth. Inflation is on the rise. The rouble has lost 30% of its value since the start of the year, along with the faith of the country's businessmen. Banks have been cut off from Western capital markets, and the price of oil—Russia's most important export commodity— has fallen hard. Consumption, the main driver of growth in the previous decade, is slumping. (The Economist, 2014)

Table 3

Russian economy development 2010-2014

	2010	2011	2012	2013	2014
Population (million)	140	143	143	144	144
GDP per capita (USD)	10 673	13 192	14 289	15 340	14 099
Economic Growth in %	4,5	4,3	3,4	1,3	0,6
Unemployment Rate	7,5	6,6	5,5	5,5	5,2
Trade Balance (USD billion)	147	197	192	182	190
External Debt (% of GDP)	32,1	28,9	31,1	33,1	29,5

Source: FocusEconomics, 2015b

As it is shown in Table 3, Russian population is slightly increasing. GDP per capita is falling down, as is the economic growth, as a reaction on conflicts where Russia interferes. Due to these conflicts also the economic growth is decreasing.

In the first half of January 2015 the oil prices were below 50 USD per barrel for the first time since 2009. The oil market is searching for a new equilibrium price but the expectations for the global oil market and its return to new balance are set on later in 2016. "The continued

downward adjustment in oil prices amplified the Russian currency crises and the increasing risk to the financial sector” (The World Bank, 2015).

2.3 India

India, the world’s largest democracy is finally stepping into the limelight thanks to its election of a pro-business government in mid-2014 (Picardo, 2014). The victory of the Bharatiya Janata Party introduced a very perspective leader, Prime Minister Narendra Modi, During his tenure as a chief minister in 2003 - 2012, western Indian state of Gujarat achieved 10,3% average growth.

Indian economy is the fourth largest economy in the world, based on Purchasing Power Parity (PPP). It was stated that:

India has become one of the most attractive destinations for investment owing to favourable government policies and reforms in the past few months. The approval of foreign direct investment (FDI) in several sectors have allowed investments to pour into the economy. According to the data provided by Department of Industrial Policy and Promotion (DIPP), the cumulative amount of FDI inflows in the country in the period from April 2000 to September 2014 was 345,073 million USD (IBEF, 2015).

Table 4

Indian economy development 2010-2014

	2010	2011	2012	2013	2014
Population (million)	1 195	1 211	1 227	1 243	1 260
GDP per capita (USD)	1 427	1 534	1 491	1 511	1 632
Economic Growth in %	8,9	6,7	5,1	6,9	7,3
Trade Balance (USD billion)	-118,7	-183,8	-189,5	-136,6	-137,0
External Debt (% of GDP)	18,6	19,4	22,4	23,5	-

Source: IBEF, 2015

As shown in Table 4, India's population and GDP per capita is rising. Growth in India continued in 2015, even though it slowed down to 6.4 per cent compared to previous year. The most perspective sectors of economy are automotive, technology, life sciences and consumer products. Moreover, Indian markets grew by 19 per cent in the first half of 2015, undoubtedly the most from the emerging markets. Furthermore, India has contributed around 10 per cent of the overall 3,9 per cent rise in the global market capitalisation, which has made it the second-highest contributor in the world. In addition, India’s economic growth is predicted to outpace that of China by 2016.

2.4 China

China is going through the period of economy's slowdown and has to cope with structural weaknesses (Americas Market Intelligence, 2015). Growth of 7.4 per cent in 2014 was China's weakest in 24 years (The Economist, 2015a). The industrial activity is trending down and interest rate cuts are yet to produce results, thus it seems likely that China's huge economic rise may have peaked. Today's China is struggling with debt overhang, a real estate bubble, lack of competition and old-world industrial economy. "Moreover, in the wake of president Obama's historic trip to India, China issued an unsolicited and perplexing statement downplaying the relevance of the visit" (Sanghoo, 2015). The country is represented by strikes and protests, weaker demand and downturn. The International Monetary Fund has projected a 2015 growth rate of 6.8 per cent. The actual predictions are shown in Table 5.

Table 5

Annual growth of China

Year	2013	2014	2015	2016	2017
Growth in %	7,7	7,4	7,1	7,0	6,9

Source: The Guardian, 2015

2.5 South Africa

South Africa, the newest and smallest member of BRICS has its GDP ranked only 28th in the world. But in 2014, the unadjusted real GDP at market prices increased by 1,4 per cent, year-on-year compared with the third quarter of 2013, but it is still not as it was predicted. "South Africa is one of the most liquid and traded emerging markets but it is vulnerable to global financial shocks and was lumped with the "fragile five" emerging markets last year" (England, 2014). The South African government is struggling with unemployment, slowdown of world commodities prices, as well as with education and training issues.

3. Conclusions

When the BRIC acronym was used for the first time by Jim O'Neil from Goldman Sachs, he intended to stress on fast growing countries – Brazil, Russia, India and China. As the cooperation between the countries showed as success, South Africa was added to the group in 2011 and became a global economic player. In the article, the authors analysed the status of this association in 21st century. To sum it up, BRICS and its nations still belong to the most important global players but their influence is (maybe except India) slowing down. Brazil is struggling with its domestic problems such as environment and corruption. Russia is strongly affected by low oil prices and its own military activity and conflicts. India, the light among BRICS countries, has its potential rising and cooperation with USA makes it known in world economy. China experienced the biggest economic slowdown in 24 years and has to cope with unemployment, strikes and global financial problems. South Africa is somewhere in the middle, its economic growth is slightly positive but it is not economy of huge influence. It is a member of BRIC mostly because of China's influence in the country.

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The impact of tax license on small and medium enterprises

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Abstract

The article analyzes the introduction of a tax license. It also determines the impact these changes have on the economic results of small and medium enterprises. The analysis focuses mainly on the changes in the legislation concerning the content that affect taxation of economic results of enterprises in question. Changes in tax legislation usually influence either the height of tax levies or the mechanism of their calculation and subsequent payment. This in both cases impacts the final economic results of enterprises. The analysis also looks into the quantity of legislative changes concerning taxation within the specified time period. This can also impact enterprises' economic results, both positively and negatively.

Keywords: tax license, national budget, small and medium enterprises

JEL classification: G 38, M 21, H21, H25

1. Introduction

The function of taxation of the state is the performance of certain national economic and political tasks. Taxation should be efficient – for example, high tax burden might be demotivating for manufacturing enterprises as well as for individuals. Taxpayers in this case dampen their economic activities or transfer part of their business activities to shadow economy and thus avoid paying taxes. The tax burden also includes the costs related to taxation (obligatory bookkeeping, wages for accountants, tax consultant services, etc.).

Tax payment is an obligation which shall not be avoided by any taxpayer. It represents a financial burden, i.e. the expenditures the enterprises and natural persons try to minimize with various means. (Harumová, Kubátová, 2006; Schultzová, et al., 2007). The reduction of tax liability may be achieved illegally, mainly in the highly complex and frequently changing taxation. The taxpayer in such case rather resort to non-standard practices and performs part of the production in the shadow economy. (Babčák, 2015; Schultzová, et al., 2011). These practices include, for example, the exclusion of some accounting documents in the accounting, not registering the earnings into electronic cash register, the artificial increase in tax expenses by collecting foreign cash vouchers, black work, illegal employment or employment at minimum wage plus the so-called „funds on hand“, sophisticated buying and selling of fictional invoices etc. Mostly business entities use the services of experts in the sphere of accounting and taxes legally. The purpose of these services is to minimize the tax liability with methods which are provided by the applicable legislation, the so-called tax optimization, which is a legal way to reduce the tax liability without breaking the law, which means in accordance with the applicable Slovak legislation (Kušnířová, et al., 2011). These methods include, for example, well-designed organizational structure of the enterprise, properly chosen legal form and the purpose of business units, planning of book depreciation

with regard to tax depreciation and planned profits, legal claim for remuneration for work (wage), tax benefits and exemptions, non-taxable amounts, used accounting systems and accounting methods (Mihál, 2015). However, small and medium enterprises do not have these possibilities to avoid paying taxes legally as a rule – as in the sphere of the artificial increase of tax expenditures by collecting foreign cash vouchers, illegal employment or sophisticated buying and selling fictional invoices, so in the sphere of using the services of experts in the accounting and taxes. (Gerber, 2013).

Currently highly complex legislative tax adjustment of the trade, employment, social security, the right of commercial companies and cooperative associations burdens taxpayers with demanding administration and high fees (Babčák, 2015). The objective of the state is to raise the most funds to national budget, which the state solves with the relevant legislative standards related to taxation of enterprises' economic results and income of citizens under Act No 595/2003 Coll. on Income Tax. In September 2013 the amendment to Income Tax Act was proposed in the National Council of the Slovak Republic which changed the provisions on assets depreciation. In the process of its approval the whole Section 46b with the effect from 1.1.2014 on tax license has been included in the Act „unobtrusively” and at the last moment. The actual problems of small and medium enterprises in taxation of income and introduction of tax license become the object of discussions as for experts so for the general public. Resulting from this the main objective of this thesis is to analyze the introduction of the tax license and determine its impact on the economic results of small and medium enterprises and on their overall tax liability. To achieve this goal the following tasks have been determined:

- define the nature of the tax license introduction for business entities in the Slovak Republic,
- analyze the impact of the tax license on the economic results of small and medium enterprises,
- detect, to what extent the tax license from the economic results (profits) of small and medium enterprises was effective at the income raising to national budget.

To achieve this goal and perform the given tasks at work, the theoretical analysis of the nature of such assessed features as a tax license and small and business conditions of medium enterprises, evaluation methods of economic effectiveness and economic purposefulness of the tax license and its importance for business of small and medium enterprises is used.

2. The nature and importance of tax license introduction

The tax licenses as well as other changes in tax laws were introduced originally as the government's effort to stabilize the public finance. Slovak companies as per example of Austria, France or Belgium have already been paying the annual tax fee to the state. By the introduction of business tax licenses the state wishes to raise more funds. In the period before the crisis in the times of equal tax, 53 per cent of legal entities established for the purpose of making the profit paid zero income tax. For the last four years the average of sixty percent of legal entities has not been paying any income tax. These figures show that failure to pay taxes is a long-term problem in Slovakia and the Ministry of Finance is trying to solve it by the introduction of tax licenses. (Dane, 2015).

By reducing the corporate income tax from 23 per cent to 22 per cent the state will lose part of tax revenue, but after counting the resources from tax licenses the state plans to have a positive balance of some ten millions euro per year. In addition to this, using measure the Ministry of Finance wants to fight against the tax evasions. The tax license as a minimum tax amount every legal entity established in the Slovak Republic is obliged to pay for the purpose of business. However, the licenses shall not apply to sole traders. This minimum tax amount

shall be determined in relation to tax liability reported in income tax return for the taxation period after deduction of tax benefits under Art. 30a or Art. 30b, or tax benefits granted yet under *Act* No 366/1999 Coll. on Income Tax as amended. This minimum tax amount is paid by the taxpayer for each and every taxation period for which the tax liability calculated in the income tax return is lower than the amount of the tax license determined for each taxpayer, or if the taxpayer reported a tax loss. (Table 1).

The amendment to Income Tax Act on tax licenses imposes the obligation to pay the tax which might be higher than the taxable income (profit) itself. Small and medium enterprises have paid the tax licenses in the income tax return for the first time in 2015 for the taxation period of 2014. Newly formed companies are exempt from paying tax licenses during the first year. Taxpayers not paying value added tax (VAT) with sales up to EUR 500 thousand pay the tax license in the amount of EUR 480, taxpayers paying value added tax (VAT) with sales up to EUR 500 thousand pay the tax license in the amount of EUR 960 and all entities with sales over half a million euro pay the tax license in the amount of EUR 2,880. Small and medium enterprises which are legal entities may set off the tax license against the tax liability in the next three years – Art. 46b Sect. 5 of the Income Tax Act. It is possible to set off the positive difference between the amount of the tax license (EUR 460, EUR 960 or EUR 2,880) and the tax calculated in the income tax return against tax liability during the next three consecutive taxation periods following the taxation period the tax license has been paid for, but only for the part of the tax liability that exceeds the amount of the tax license.

Table 1

The amount of tax license provided in Art. 46b Sect. 2 of the Income Tax Act

Tax license is paid by the taxpayer who		Tax license (in EUR)
1	is not the payer of value added tax (VAT) with annual turnover * not exceeding EUR 500,000 to the last day of the taxation period, in the amount of	480
2	is not the payer of value added tax (VAT) with annual turnover * not exceeding EUR 500,000 to the last day of the taxation period, in the amount of	960
3	has attained the annual turnover * more than EUR 500,000 for the taxation period, in the amount of	2880

*) turnover means all revenues, not only revenues from goods and services supply

Source: own processing

The state wants to change the trend, when the companies paying the VAT (Value added tax) were established for speculative reasons; these have to pay newly EUR 960 for the license. At the same time the state motivates with lower fees in the amount of EUR 480 per year about ten thousand entrepreneurs with low turnover to become value added tax dodgers. Such market clearance according to the Ministry of Finance gives tax inspectors more time to focus on other enterprises. By introducing the licenses the state also motivates the sole traders establishing the limited liability companies (LLT) in large this year to return back to trade. While the sole trader currently pays at the minimum social and health contributions to the state in the amount of EUR 2 331 per year, the owner of limited liability company (LLT) may live from the income of the enterprise (profit shares, dividends) and at the same time is registered as a voluntarily unemployed person and therefore pays only minimal annual health contributions in the amount of EUR 692. These often speculative limited liability companies

(LLT) are more advantageous than trades even after paying the annual license. Parts of the limited liability company (LLT) owners employ themselves in their company for a minimum wage of EUR 380 per year and thus pay annual contributions in the amount of EUR 2 205. Therefore, after paying the license a trade would be more profitable for them. (Správy, 2015). It was also assumed that the commercial register will be cleared, as there were ten thousand dead business entities, small and medium enterprises not communicating with the state at all, and the owners of such enterprises were by the introduction of tax license motivated to dissolve their enterprises.

3. The impact of tax license on national budget and economic results of small and medium enterprises

In 2014 59,4 per cent of enterprises were profitable, which represents a year-over-year increase by about 10 per cent. On the contrary, the number of enterprises which were in the red or had zero profit decreased. Slovak small and medium enterprises and entrepreneurs have already made their first tax license payment. The Ministry of Finance estimates that the introduction of tax licenses could bring to the national budget more than one hundred million euro per year. This figure is in accordance with the data evaluated by the analysts of the portal IndexPodnikatela.sk. From the data available in 2013 the analysts were investigating how many entrepreneurs and to what extent will be affected by the introduction of tax licenses. Based on the analysis of financial statement of the enterprises the analysts discovered that tax licenses would apply to about one hundred and forty-three thousand entities. About eighty-four thousand enterprises which in 2013 reported a zero profit, or loss, would by means of the tax licenses pay to national treasury more than seventy-three million euro. However, there should be added about fifty-nine thousand enterprises that had paid the tax indeed but it was lower than the amount of the tax license itself.

These enterprises would pay in taxes by about forty-five million euro more. Totally, the state should collect at licenses according to calculations about one hundred and nineteen million euro, while 62 per cent out of this amount would be collected from loss-making companies, inactive companies or those which do not make any profit. The state shall drag of the wallet 38 per cent out of the total amount from the companies which pay the income tax, however according to the state, not in the sufficient amount (Z licencií, 2015).

There was also found the increase of profitable and decrease of zero-making and loss-making companies. The IndexPodnikatela.sk portal was also comparing the profitability of the companies on a sample of one hundred and sixty thousand companies in 2013 and eighty-seven thousand companies in 2014, the economic results of which have been published so far. In 2014 yet 59,4 per cent of the enterprises were profitable, which represents a year-over-year increase by about ten percent. On the contrary, the number of enterprises which were in the red or had zero profit decreased. Therefore, we may say that tax licenses had a positive impact on the profitability of the enterprises. However, the biggest change occurred at enterprises which in 2013 reported zero profit. While in 2013 14 012 companies reported zero profit, last year only 1 078 companies ended up at zero (Z licencií, 2015). It is quite likely that the termination of inactive companies which reported zero is also responsible for a significant percentage of the change in profitability (Table 2). In any case, even this number decreased by about three percent, which represents an important positive change for the Ministry of Finance and the state.

Table 2*The number of companies in the black, red or at zero.*

	2013	2013 in %	2014	2014 in %
Profit	78 398	48.6 %	51 661	59.4 %
Zero	14 012	8.7 %	1 078	1.2 %
Loss	69 038	42.7 %	34 254	39.4 %
Total	161 448	100 %	86 993	100 %

Source: IndexPodnikatela.sk

The Ministry of Finance is aware of the impacts the licenses have mainly on newly established enterprises, therefore the Ministry has prepared the draft for the exemption from the obligation to pay the tax license for startups for the period of three years. The condition is that the company meets the criteria of the startup, its executives and company members are not prohibited to run a business and are not debtors of the Office of Finance and Administration, Social Insurance Agency or one of the health insurance agencies. The change shall enter into force from January 2016.

It is positive that the Ministry of Finance starts to realize the problem of tax licenses. „At the same time it is necessary to point out on the fact that not every commencing enterprise is a start-up and we should not divide the enterprises starting to run their business into start-ups and traditional business.” (Z licencií, 2015).

4. Results and Discussion

The amendment was extensively criticized by the general public as well as tax experts. Experts say that the tax license enshrined in section 46b of the Act No. 595/2003 Coll. on income tax effective from 1 January 2014 is an unfair tax law instrument obliging respective entities to pay the tax which can be higher than the tax base (profit). (Babčák, 2015). In the case of the so-called "dormant" companies, some small and medium-sized enterprises (entrepreneurs) opted for their liquidation in order to avoid paying for the tax license. The introduction of a minimum amount of tax for the purpose of taxing speculatively established companies is considered to be correct. Tax licenses were useful in terms of company profitability. They, however, had a negative impact on setting up new companies. This conclusion was drawn in the analysis of the Slovak business environment performed by the Divino company in cooperation with IndexPodnikatela.sk. Building high-quality business environment is a long-term process, being shaped for years through effective legislation, law enforcement, and the behavior of all actors at the macro and micro levels (Šúbertová, 2012). The number of new companies increased dramatically in Slovakia by the end of 2013, especially from September to December. According to the analysis, this can be attributed the act adopted by the Slovak Government on the need to repay the capital on the bank account (Daňové licencie, 2015). The Act entered into force late 2013. Thus, interest in setting up new companies before the act entered into force was generated as only duly certified founding agreement was needed. The act did not apply to founding agreements signed by 30 November 2013. The registration could be made during the following months, even though the new act had already been in force. The analysis says that this is why so many companies were set up early 2014. There were approximately 700 - 900 newly registered companies monthly in the

remaining months of 2014. Regarding the months of January to August 2013, there were 1,809 newly-established companies on average. From April to December 2014, there were 779 newly-established companies on average. Thus, a dramatic 57% year-on-year decline in the number of newly founded companies can be observed (Daňové licencie..., 2015). During these months, the act on the capital was not applicable. As the analysis puts it, it was due to the introduction of tax licenses. Tax licenses make it harder for small businesses to start. As stated by (Daňové licencie..., 2015) there are only a few companies making in one year such a profit that would not make them suffer from the tax license. Moreover, the analysis also compared profitability of more than 160 000 businesses in 2013 and 87 000 businesses with published economic results in 2014. It was found that 59.4% of companies made profit this year, which is a year-on-year increase of approximately 10%. The number of businesses making a loss or zero profit last year was decreased. Profitable businesses will benefit from the license introduction and income tax reduction. It is estimated that the reduced income tax will cost the state €36 million (CFO, 2015). It should, however, be stressed that the introduction of a tax license will also affect businesses making a loss for the situation on the market, and not for speculative reasons. The Ministry of Finance also considers that fact that businesses will not pay for the license one year following their foundation. Other businesses are obliged to pay for license, and may deduct the amount from tax liability for three successive years. Businesses may also transfer 2 percent of the license fee to the third sector which should be of great help to non-profit organizations. Moreover, it is proposed that loss-making businesses or businesses with low tax base would not be subject to tax licenses, but the reason would not be their efforts to optimize their tax base. Businesses employing people and making their tax payments properly, yet making tax losses or reaching low tax bases due to their actual activities should also be considered in terms of their exemption from tax license payment. There are businesses in which the owner maintained the original number of employees despite the reduced revenues expecting improvements in the future. We personally believe that such businesses should not be additionally penalized for their social policy. We maintain that the obligation of paying tax license should also consider whether businesses provide work to people or not.

Conclusion

According to our findings, tax licenses are rather a compromise than a solution to the tax issue. Public finance consolidation cannot become effective just by another tax burden for businesses. Trade licenses may also worsen the Slovak business environment in the long term. That is why, introducing of the original flat 19% tax as required by entrepreneurs would compensate trade licenses. In addition, businesses might focus their attention to countries in which they will be exempt from paying taxes after the introduction of tax licenses. The act on tax license affected economic activities of small and medium-sized enterprises, and mainly newly established small and medium-sized businesses. In principle, the majority of them reach negative economic results in the early years of making business. Therefore, a number of businesses which were founded before and in 2014 did not expect to be obliged to pay income tax in the form of a tax license even when making negative or zero profit.

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Translation studies: didactic training model of intercultural communication experts in higher education institutions of Russia

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Abstract

The paper presents the analysis of some new training strategies and techniques of linguists-experts in intercultural communication (Bachelor's degree) in higher education institutions of Russia in particular, the newest approach has been developed in the Russian Academy of National economy and public administration Volgograd branch to train students in this recently introduced course. The For the last two decades, the system of training of translators and of intercultural communication experts in Russia has been influenced by global integration processes and internal market requirements. We considered some existing academic goals, strategies, programmes, curriculum and state standards in the field of intercultural and public communication experts. In particular we examined the didactic training model aimed at development of professional translation and intercultural communication skills, choosing translation strategies and technologies, accumulation of experience in the translation of different types of texts in various potential professional communicative situations leading to the formation of translation competence. The innovation of this approach resulted from the need to separate the two specialties – that of translator and that of the specialist in cross-cultural communication, because the specifics of professional activities of the last-named in highest degree includes intercessory and meditative functions. Professional responsibilities of experts in intercultural communication are not limited to the translation component, but include also cross-cultural interaction, advocacy, resolution of disputes and conflicts in government and public administration bodies. Since in the work plan of this new course there are only theoretical courses on intercultural communication, as well as some practical disciplines of business communication, it was extremely important in the course of the translation to form meditative intercultural skills taking into consideration the professional sphere of public administration. We propose a model of formation of translation competences in parallel with the cross-cultural qualifications.

Keywords: Translation studies, linguists-experts in intercultural communication, didactic training model of Russian higher education institution, translation strategies and technologies

JEL classification: I21, I26, I29

1. Introduction

For the last two decades, the system of training of translators and of intercultural communication experts in Russia has been influenced both by global integration processes and growing internal market requirements. On 7th August 2014 a new Federal State Educational Standard 45.03.02 for Bachelor's degree “Linguistics” was adopted in the

Russian Federation. The standard presents a complex of compulsory requirements to vocational educational programs of higher education in this major.

Bachelor linguist program specializing in the "Theory and Practice of Intercultural Communication" is primarily aimed at broadening knowledge and skills in the theory and practice of intercultural communication and translation and its graduates are regarded as linguistic experts in intercultural communication. In the RANEPA Volgograd branch students get serious language training in three foreign languages, studying linguistics, lexicology, stylistics, literature and history of the language, introduction to the theory of intercultural communication and other general professional and special disciplines. The importance is attached to teaching of translation and theory and practice of intercultural communication in business, management and public administration which will help graduates in their future professional activities.

The paper presents the analysis of some translation training strategies and techniques used in the educational program specialization "Theory and Practice of Intercultural Communication" in the major "Linguistics" in higher education institutions of Russia. We have considered some existing academic goals, strategies, programs, curriculum and State Standards in the field of training of intercultural and public communication experts. In particular we examined the didactic model aimed at development of professional translation and intercultural communication skills, choosing translation strategies and technologies, accumulation of experience in the translation of different types of texts in various potential professional communicative situations leading to the formation of translation competence.

2 State Standards, educational program specializations, types of professional activities, academic goals and curriculum

2.1 Federal State Educational Standard

It should be noted that according to the Federal State Educational Standard 45.03.02, the Bachelor's degree "Linguistics" can be obtained only in higher educational institution. The major includes 240 credits which is equal to 8.640 academic hours (1 credit = 36 academic hours).

There are four educational program specializations in the major linguistics:

- "Translation and Translation studies";
- "Theoretical and Applied Linguistics";
- "Theory and Methods of Teaching of Foreign Languages and Cultures";
- "Theory and Practice of Intercultural Communication".

2.2 Types of professional activities

The Federal State Educational Standard stipulates the following types of professional activities for linguist- experts in intercultural communication:

- Language Didactics;
- Translation;
- Consulting and Communication;
- Informational Linguistics;
- Research.

2.3 Academic Goals

2.3.1 Academic goals in translation

The linguist expert in intercultural communication is to deal with the following professional translation tasks which determine academic goals of the course:

- ensuring cross-cultural communication in different professional fields and situations; (Novozhilova A.A., 2011)
- providing mediation in intercultural communication;
- use appropriate types, techniques and technologies of translation, given the nature of the source text and the communicative situation for ensuring maximum communicative effect;
- cross-language information retrieval aimed at improving professional skills in the field of translation;
- compiling vocabularies, guidelines in professionally specialized fields of translation.

2.3.2 Consulting and Communicative Academic Goals

Consulting and communicative academic goals of the major "Theory and Practice of Intercultural Communication" include participation in international business meetings, conferences, seminars with several working floor languages; the use of tactics of conflict resolution in the field of intercultural communication; cross-language information retrieval aimed at improving professional skills in the field of intercultural communication.

2.3.3 Informational Linguistic Academic Goals

Informational Linguistic goals primarily to ensure treatment of Russian and foreign-language texts for practical purposes (for instance annotation or abstracting); expert linguistic analysis of oral speech and written texts; the use of means of informational support of the linguistic areas of expertise; linguistic support of electronic information systems and electronic language resources; participation in the formalization of linguistic material in accordance with the practical tasks.

3. Translation Expertise, Didactic Strategies and Theme plan

3.1 Expertise in Translation and Intercultural Communication

The Federal State Educational Standard presumes that the Bachelor's degree "Linguistics" graduates in profile "Theory and Practice of Intercultural Communication" should possess particular translation expertise. It includes primarily pre-translation text analysis for accurate perception of the source text. Secondly, students learn to prepare for translation, including the use of cross-language information retrieval in the professional literature and computer networks. (Usacheva A.N. Mityagina V.A. Kovalevsky R.L....2012). The educational program is intended to train undergraduates in achieving equivalence in translation and apply basic translation techniques as well as to respect the rules of lexical equivalence, observance of grammatical, syntactical and stylistic norms of the target language.

Added to this is the fact that experts in intercultural communication would possess international etiquette norms and rules of behavior in different situations of translation and interpreting. These are not all the translation skills and expertise but the most relevant to the

written translation which are formed during the studies for the Bachelor's degree "Linguistics" in general and in the course of translation in particular.

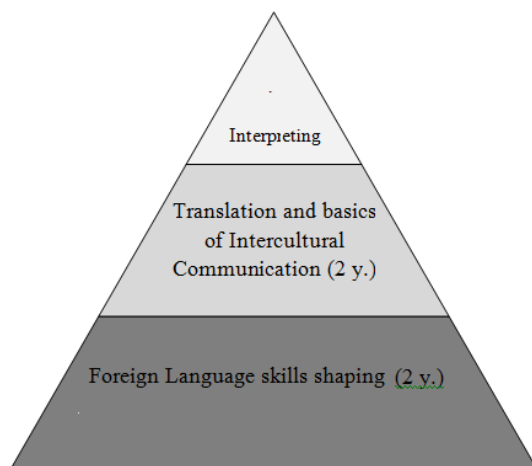
3.2 Didactic Strategy

The discipline "Written translation" plays an important part in the formation of both translation and intercultural communication expertise. It refers to the variable part of the professional cycle and its teaching is implemented in parallel with the course "Theory of Translation", "Recording Technique", "Abstracting and Annotation in Translation", "Technology of business Intercultural Communication", "Stylistics", etc. Students get skills in general translation or business translation working with texts of different genres and types of written communication.

It should be stated that the first two years of studies are primarily aimed at foreign language skills acquisition and translation itself as a form of professional mediation starts up being taught in the first semester of the third year of studies. Written translation is one of the first practical disciplines in the profile "Theory and Practice of Intercultural Communication".

Graph 1

Didactic Strategy in profile "Theory and Practice of Intercultural Communication"



The didactic of translation is based on the following provision that from the very first lesson students should realize that they are not studying word-for-word translation but professional translation which means creation of the text in the target language which will contribute to intercultural mediation. According to the framework curriculum, the training combines theoretical aspects and practical knowledge and skills acquired through work with different texts, doing assignments and exercises.

3.3 Selection of materials and the course structure

It should be stated that training is not built by thematic or topical principle, since we presume that the topic of the text has the least influence on the specifics of its translation. All the studied texts are grouped on the basis of communication areas, types and genres of texts which are relevant for experts in intercultural communication professional activity. (Popova O.I., 2009) Furthermore, we use only authentic texts that reflect national cultural and historical specificity of the source society and certain cultural background information which should be correctly transferred into the target language for adequate understanding of the communicators.

Table 1
Theme plan

Themes	Academic Hours		
	Classroom hours	Individual work	Total
1. Commercial letters. Inquiry.	2	2	4
2. Commercial letters. Offer.	2	2	4
3. Commercial letters. Letter of complaint.	2	2	4
4. Official letters. Invitation letter.	2	2	4
5. Official letters. A letter of congratulation.	2	2	4
6. Official letters. Letter of condolences.	2	2	4
7. Documents of individual / natural person. Birth certificate.	2	2	4
8. Documents of individual / natural person. General Certificate of Secondary Education.	2	2	4
9. Documents of individual / natural person. Higher education diploma.	2	2	4
10. Documents of individual / natural person, PhD diplomas	2	2	4
11. Documents of individual / natural person. Power of Attorney.	2	2	4
12. Corporate documents. Power of attorney of legal persons.	2	2	4
13. Documents of international organizations. Preamble for international agreements.	2	2	4
14. Documents of international organizations. Charters of international organizations	2	2	4
16. The statute of the enterprise	4	2	4
17. Foundational company agreements	2	2	4
18. documents of federal, municipal and regional authorities	2	2	4
Total	36	36	72

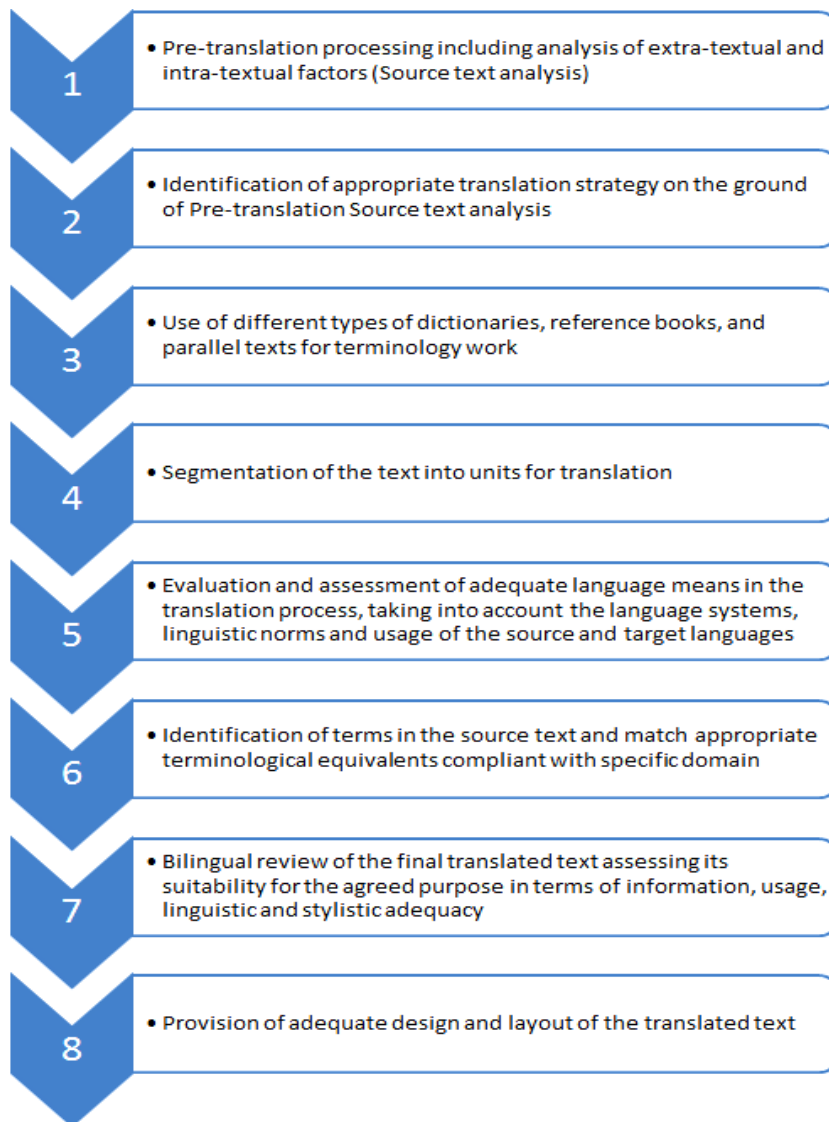
Notes: We structured the data gradually according to translation technologies, skills and technique formed with students for illustration purposes. 1 academic hour is 45 minutes.

Students learn how interpret given texts and produce texts themselves according to the speech task and respecting language and style norms of source and target languages. The translation techniques are not limited to the language level but take into consideration the pragmatic task of the text as well as its type and genre. (Gulyaeva EV, Anikina EA, 2015).

At each stage, training of linguists experts in intercultural communication is devoted to work with a certain type of texts presented in accordance with the principle “from easy to difficult”. All the tasks can be divided into three groups, corresponding to the three stages of translation: pre-translation text analysis, the process of translation and analysis of the translation. (Sidorovich TS, Shovgenina EA, 2013) (Korol'kova S.A., Astafurova T.N., 2014).

Graph 2

Didactic Strategies in translation



Students are successively taught four interrelated activities:

- Information retrieval;
- Comprehension;
- Analysis of vocabulary variability;
- Monitoring and editing.

At the first stage the research competence is formed, undergraduates learn information retrieval and processing including the ability to acquire efficiently the additional linguistic and cultural information important to fully understanding of the source text and to proper rendering it into the target language. Information retrieval ability requires experience in the

use of research tools and development of suitable strategies of translation. The research includes drawing up glossaries of terminology and extra-textual cultural background information. The retrieval competence is of as high importance in preparation for translation process and ensuring adequate impact of the target text as understanding of the source text itself, its cultural background and not less important than translation skills (Kovalevsky R.L. , 2005).

Linguists experts in intercultural communication learn to make use of information about the locale, cultural environment, behavioral standards and value systems characterizing the source language and culture. For example when working with commercial letters being, as we assume, the simplest type of translated material as they contain only cognitive information and are easily translated, intercultural communication experts work with authentic texts. Authentic commercial texts contain a certain amount of specific observable linguistic and non-linguistic traits correlated with the specific business sphere, since in addition to linguistic criteria (lexical, grammar, stylistic and compositional peculiarities of the source and target texts, they learn to take into account extra-linguistic criteria: communicative function, communicative situation, background knowledge, traditional composition and formatting.

4. Conclusion

The innovation of the proposed approach resulted from the need to separate the two professional occupations, that of translator and that of the specialist in cross-cultural communication, because the specifics of professional activities of the last-named in highest degree includes intercessory and meditative functions. Professional responsibilities of experts in intercultural communication are not limited to the translation component, but include also cross-cultural interaction, advocacy, resolution of disputes and conflicts in government and public administration bodies.

Since in the work plan of this new course there are only theoretical courses on intercultural communication, as well as some practical disciplines of business communication, it was extremely important in the course of the translation to form meditative intercultural skills taking into consideration the professional sphere of public administration. We propose a model of formation of translation competences in parallel with the cross-cultural qualifications.

The model of training of intercultural communication experts in higher education institutions of Russia assumes the use of specific authentic educational material. Students are to get familiar with typical translation situations of intercultural communication, determine common principles and particular techniques of translation. During their training students learn the importance of three factors determining the process of translation in a specific situation which are the type of the source text, the purpose of translation and the receptor. The authentic text material includes commercial letters (inquiry, offer, complaint), official letters (invitations, congratulation, condolences), corporate documents and documents of individual / natural person (power of attorney, birth certificate, general Certificate of Secondary Education, higher education diploma), documents of international organizations, statutes of the enterprises, foundational company agreements and documents of federal, municipal and regional authorities.

Linguists get skills in professional translation and intercultural communication, choosing adequate translation strategies and technologies, accumulating experience in the translation based on different types of texts in various potential professional communicative situations. The translation being the process of bilingual communication, for its first priority has the preserving of communicative goal contained in the source text and obtaining equivalent

impact of the target text. The training model is largely determined by the specific content of the communicative situation and the source text components.

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The effectiveness of sponsorship of sports club

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Abstract

The main objective of this work is to show the importance of applying the various instruments of sponsorship on an example of sports club to achieve the success and based on studied expert sources and lessons learned to make some suggestions and recommendations which would enable to improve work in the field of sponsorship. The paper contains 3 graphs and 3 figures. The paper is divided into four chapters. The first chapter introduces to sponsorship. Second chapter introduces objectives and methodology. Third chapter describes application of sponsorships tools in sports club Manchester United. The fourth chapter provides a summary of article.

Keywords: Manchester United, football, sponsorship, sports club

JEL classification: M 31, M 37, M 49

1. Introduction

Sponsorship is becoming an increasingly decisive operation of actors in the field of sport. Sponsorship is important specific tool to ensure adequate financial resources used for organization particular cultural, scientific, charitable and other activities in various spheres of social life. In this way isn't exception even sports organizations that are seeking to raise funds for their extensive activity. We clarify the nature of this concept to begin by mentioning several definitions of authors dealing with these issues. We give a few definitions of the authors dealing with these issues to clarify the nature of this term.

The word sponsorship has the basic meaning of one entity supporting or accepting responsibility in some way for another. In marketing contexts, this support or responsibility is often financial in nature. I prefer the definition of sponsorship from Cornvell and Maignan. They defined sponsorship as an exchange between a sponsor and a sponsee whereby the latter receives a fee (or value) and the former obtains the right to associate itself with the activity sponsored (Cornvell & Maignan, 1998).

All early definitions tended not to see the full potential of sponsorship as a partnership. This is understandable in part since in most sponsorship relationships there are power asymmetries that stem from the fact that sponsees are often dependent on sponsors for financial viability. Significant power asymmetries influence the behavior and attitude of relationship participants.

Many have argued that sponsorship is more akin to a "co-marketing alliance" (Farrelly & Quester, 2005), "cross-sector partnership" (Seitanidi & Crane, 2009), or "marketing partnership" (Meenaghan, 2002). Importantly, on both sides, organizations and properties of all kinds refer to the other as "partners". Under this thinking the relationship is mutually beneficial, a two-way street, and not a relationship where one group exploits another.

Sponsorship is becoming an increasingly decisive operation of actors in the field of sport. Sponsorship is important specific tool to ensure adequate financial resources used for organization particular cultural, scientific, charitable and other activities in various spheres of social life. In this way isn't exception even sports organizations that are seeking to raise funds for their extensive activity .K clarify the nature of this concept to begin by mentioning several definitions of authors dealing with these issues. We give a few definitions of the authors dealing with these issues to clarify the nature of this term.

2. Methodology

The main objective of this work is to show the importance of applying the various instruments of sponsorship on an example of sports club to achieve the success and based on studied expert sources and lessons learned to make some suggestions and recommendations which would enable to improve work in the field of sponsorship.

- theoretical definition of sponsorship in sport,
- comparison of theoretical definitions of sponsorship, tools and processes,
- identification of problems related to sponsorship in sport.

Except obtaining knowledge from expert sources and sources available on the internet, we also used more classical methods of scientific research. Of these methods, we relied primarily on:

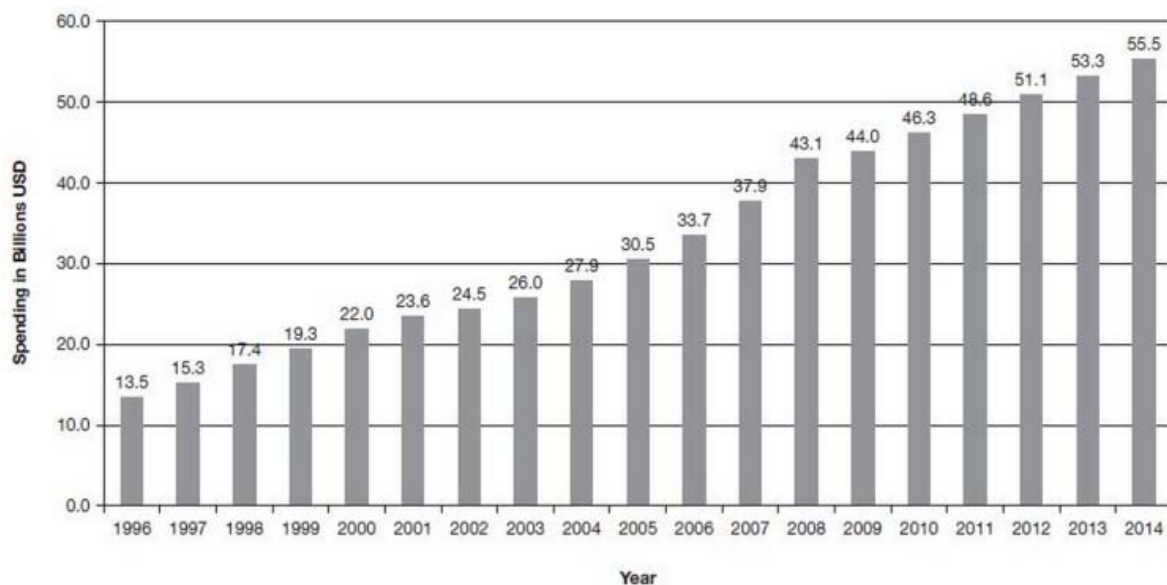
- method of analysis, which is used mainly in the introduction part, in which we tried to find the definition of sponsorship and its dividing for better understanding of the issue,
- synthesis method, for examining the effect of funding in relation to the importance of using the right tools of sponsorship in order to maximize economic benefits
- method of induction and deduction used mainly in formulation of conclusions,
- knowledge as one of the elements of empirical investigations, we have gained mainly by studying vocational subjects in the field of funding and sponsorship and its application areas.

3. Results and discussion

3.1 Theoretical definitions of sponsorship and its tools and processes

Sponsorship growth has been steady and has been only slightly influenced by downturns, at least in terms of overall spending. There is considerable plasticity in sponsorship figures since each deal is negotiated even in times of economic pressure., so prices may decrease and influence apparent patterns, while the number of sponsorship contracts might actually rise. ZenithOptimedia (2015) estimated global advertising expenditures to be \$ 531 billion in 2015. In the same year sponsorship spending worldwide exceeded \$57,5 billion (IEG Sponsorship Briefing 2015). Thus while sponsorship spending is dwarfed by advertising spending, it at the same time fuels and directs the nature of it.

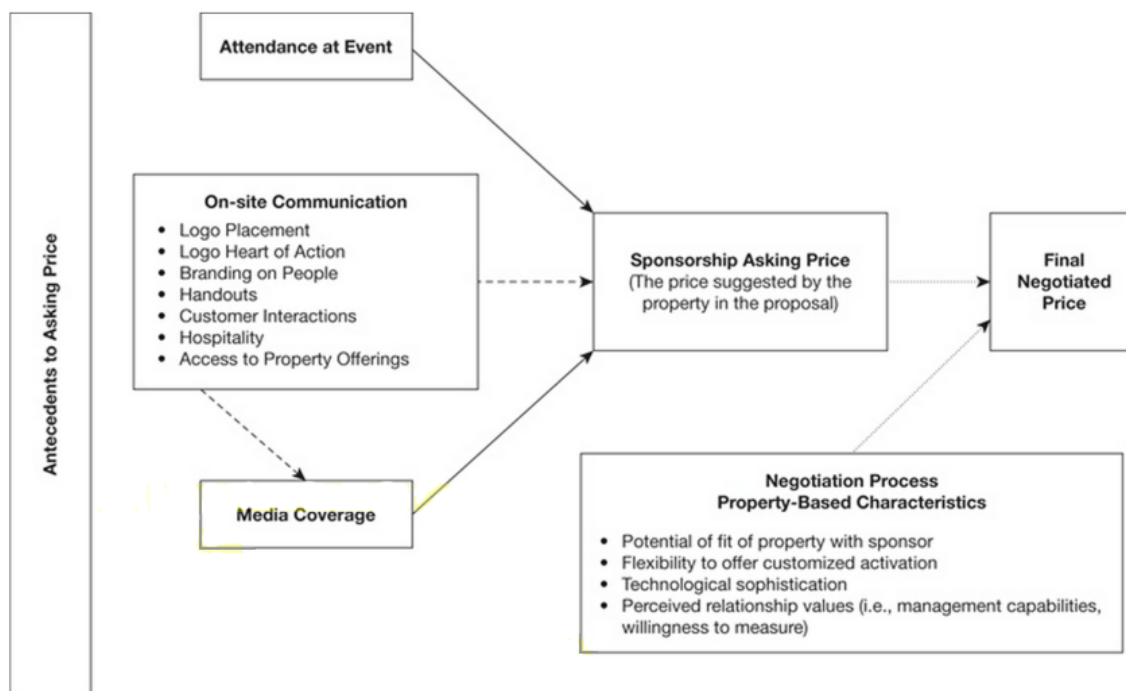
Graph 1
Growth in global sponsorship spending



Source: Based on IEG Sponsorship Briefing (2013)

One of the decision-making sticking points for properties is the price (amount of support) their assets can command. In a study of the asking price for 300 small and medium sport, charity, and arts/entertainment sponsorships the results showed that, as expected, media coverage drives the sponsorship asking price, as does attendance (Wishart et al. 2012).

Figure 1
Determinants of sponsorship asking price



Source: Adapted from Wishart et al. (2012)

Interestingly, however, another variable that was influential in setting asking price was the extent of „Access to property offerings“ such as celebrities, venue and event images for advertising, and databases of customers. These proposal elements were found to be different from on-site variables such as logo placement, hospitality, and customer interaction potential.

Sponsorship evaluation can be thought of as a systematic gathering and assessment of information to provide useful feedback about sponsorships to support decision-making. Sponsorship evaluation depends heavily on sponsorship measurement, but includes more than measurement of any individual or even portfolio of sponsorships. Measurement of sponsorship should ideally feedback into a comprehensive evaluation system. Over the past two decades there has been a shift toward measurement of return on marketing investments (Seggie et al. 2007), an emphasis which is overdue in sponsorship.

Figure 2

The sponsorship process



Source: Hawkins et al., *Consumer Behavior: Implications for Marketing Strategy* (1994)

To carefully plan sponsorship programs, a systematic process is being used by an increasing number of organizations. The process for designing a sports sponsorship program is presented in Figure 3. Before explaining the process, it is important to remember that sponsorship involves a marketing exchange. When designing the sponsorship program, the initial decisions are based on sponsorship objectives and budgets. These two elements go hand in hand. Without the money, the most meaningful objectives will never be reached. After the objectives and budget have been agreed upon, the specific sports sponsorship opportunity is chosen from the hundreds available (Shank & Lyberger, 2015). The first step in the purchase decision phase of sponsorship acquisition is to determine the desired scope of the sponsorship. David Shani and Dennis Sandler have developed a way to categorize various sponsorship opportunities called the Sports Event Pyramid (Figure 4). The final stage of the sports sponsorship process involves implementation and evaluation.

A great many lists of sponsorship objectives can be found. Typical among these are (Cornwell, 2014):

- corporate/brand image enhancement;
- direct on-site sales;
- increased awareness levels;
- reaching specific target market;
- develop/build client relationship;
- gain media exposure;
- increase employee morale;
- trade/hospitality objectives;
- product/service demonstration platform.

In addition to basic communication objectives, brand managers may set more extensive and comprehensive objectives for sponsorship. Top in this category would be utilizing sponsorship to differentiate the brand from competitors and to build brand equity.

Not unlike advertising objectives, sponsorship objectives can be categorized as either direct or indirect. Direct sponsorship objectives have a short-term impact on consumption behavior and focus on increasing sales. Indirect sponsorship objectives are those that ultimately lead to the desired goal of enhancing sales.

Figure 3

Sports Event Pyramid



Source: Shani D., Sandler D., Climbing the sports event pyramid, (1996)

Unfortunately, a sponsoring company can still be harmed by competitors who use ambush marketing tactics. Ambush marketing is a planned effort (campaign by an organization) to associate themselves indirectly with an event to gain at least some of the recognition and benefits that are associated with being an official sponsor (Sandler, Shani, 1989).

Because ambush marketing tactics are effective and consumers do not really care (only 20 percent of consumers said that they were angered by corporations engaging in ambush marketing), it appears that there is no end in sight for this highly competitive tactic. (Shank, Lyberger, 2015).

According to McKelvey, Sandler and Snyder the following ambush marketing tactics, provided in the context of marathon running, are by no means exhaustive, but they serve to illuminate the wide range of tactics typically used in combination by ambush marketers:

- use of generic phrases,
- purchase of advertising time within the event broadcast,
- presence in and around the event venue,
- conducting consumer promotion,
- congratulatory message.

Ambush marketing is rather classified as a competitive tool in the context of a sporting event. The fact that the Ambush marketing is often a "hare-hedgehog-race" is where the

organizer assumes the role of the hare, is therefore to be regarded as a sign of effective competition, in which each of the actors involved in its specific "weapons" used : official sponsorships versus creativity (Supak, 2014).

3.2. Sponsorship structure and revenue from sponsorship in Manchester United

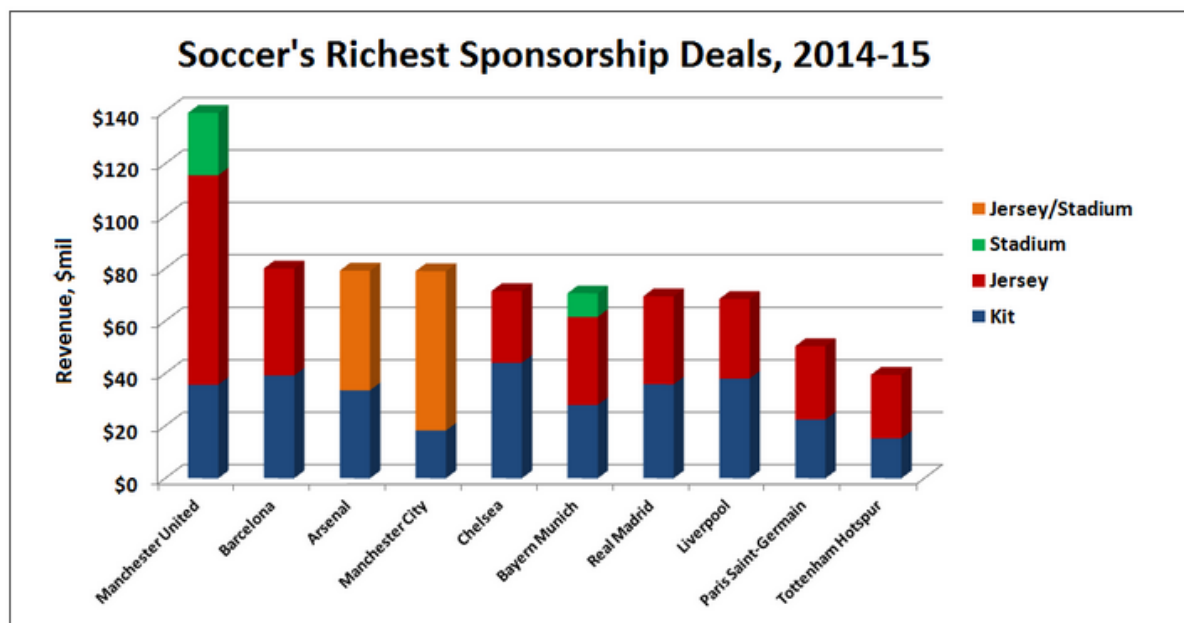
In today's world, football is the question of sponsoring more and more profitable business. While in the past, sports clubs was sponsored by entrepreneurs originating from the vicinity of the sports clubs, top clubs are sponsored particular by global companies. Changes in the amount of income deriving from sponsorship in recent years have continually shifted to higher amounts.

Team jerseys provide two revenue streams – deals with kit manufacturers that make the jerseys and sponsorship agreements with companies that advertise on them – while stadium naming rights provide an opportunity to leverage famed soccer grounds into even greater earnings.

In terms of jersey revenue, Manchester United is way out in front even without accounting for its new Adidas kit deal, which starts this season 2015/16. The Red Devils get an average \$36 million per year on their old Nike deal, which expires at the end of season 2014/15, as well as a staggering \$80 million from the new Chevy sponsorship deal. The seven-year, \$560 million agreement is the sport's single most valuable sponsorship. And the team will break its own record in season 2015/16 when its new ten-year, \$1.14 billion deal with Adidas kicks in. Manchester United's stadium segment represents its eight-year deal with Aon for naming rights to the team's training ground and sponsorship rights to its practice jerseys. (Forbes, 2015)

Graph 2

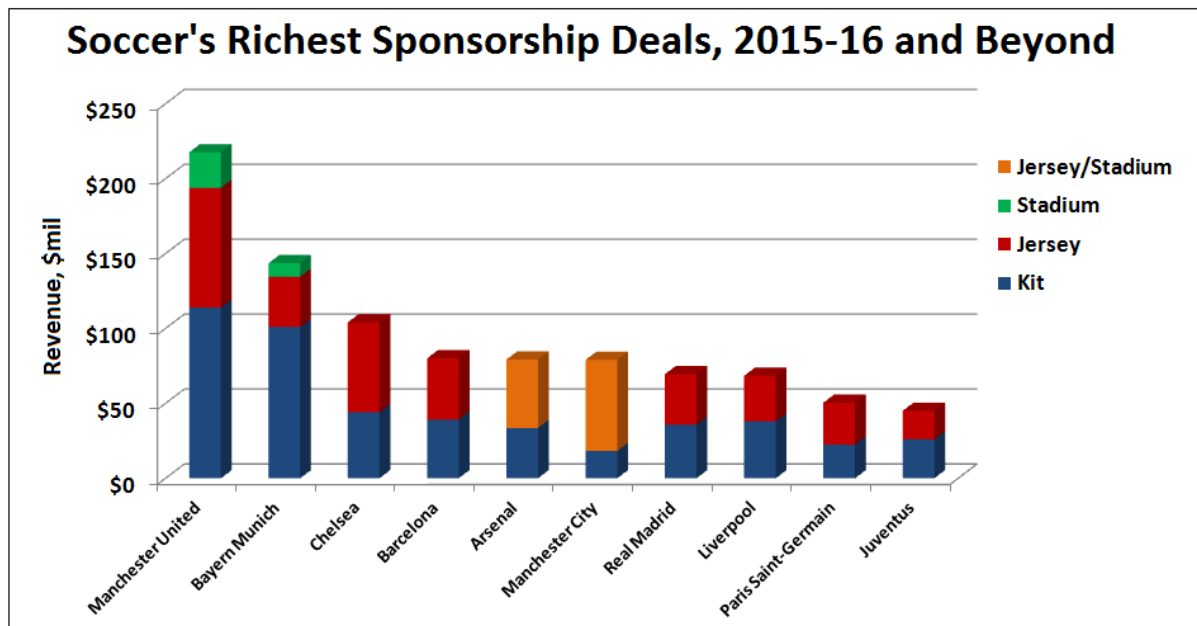
Soccer's richest sponsorship deals in season 2014/15



Source: Forbes, (2015). Soccer richest sponsorship deals

Graph 3

Soccer's richest sponsorship deals in season 2014/15



Source: Forbes, (2015). Soccer richest sponsorship deals

And it's not like the market is slowing down. Above is an updated chart that accounts for new sponsorship deals that won't kick in season 2015/16. Juventus jumps into the top ten thanks to new deals with Adidas and Jeep, but the real story is at the top of the list, where Manchester United is making 52% more than any other team in the sport, even as Bayern Munich and Chelsea move ahead with new deals.

3. Conclusions

Manchester United also constantly working on attracting new sponsors to its portfolio. The current contract may develop into general partnership as well as for Chevrolet. In 2015, Manchester United entered into cooperation with new partners about sponsorships with companies such as Donaco International Limited, HCL Technologies, Sbenu and New Era.

Sponsorship forms one of the most important elements of sports club income. Thanks to this money clubs can build competitive teams that can compete globally and to raise European trophies and achievements in sports.

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Localization factors and its influence on business value

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Abstract

The location of the company is generally a wide topic. In terms of the amount of necessary information and investment resources is deciding about useful location of the company difficult process, so this topic is in the literature often discussed. Therefore, we decided to contribute to this topic from the expert's perspective, because too many authors did not care about this theme from this perspective.

The present article aims to mention the fact that enterprise localization factors are not only the centre of attention of spatial economy, which is part of economics as a science, but also a centre of expertise interest, because the business environmental, respectively its localization is considered as one of the factors affecting the business value.

Key words: localization factors, diagnosis of the business environment, business value

JEL classification: D 46

1. Introduction

Enterprise, resp. entrepreneur must make a large number of important decisions during its business activity. Specific importance yet have decisions of a strategic character predominantly, which consequences are irreversible, feedback is slow and repeatability almost none. Such decisions cover decisions regarding locality of enterprise, as these are strategic decisions with a long-term effect where, mainly when large enterprise is concerned, are not possible to be changed.

Localisation of enterprise represents a wide topic in generally. From the point of number of required information and spent investment funds the decision regarding suitable locality of enterprise represents a demanding process. Therefore such issue is very frequently dealt with in various literature sources. We decided to contribute to this issue also from the point of expert's knowledge, as not many authors paid attention to localization of enterprise from this point of view.

Decision-making process on localization of enterprise is carried out in form of a selection of the best variant from a list of selected localities according to set criteria. According to selected criteria and according to assignment of importance / weight to criteria based on their importance a rank of proposed localities is created and according to created order the entrepreneur decided the best locality for its enterprise. This way the localization strategy should be a part of overall strategy of enterprise which shall come out from primary target of each and every enterprise, i.e. maximising of enterprise market value. Therefore when working-out this article we wanted to pay attention to the fact that even such element as the locality of enterprise significantly enters the process of expert's determination of general enterprise value, as decision concerning locality of enterprise can positively, but also negatively influence the overall economic and business development and growth of enterprise, i.e. also its value.

2. Localization of enterprise

Establishment of enterprise represents a complex and demanding process of decision-making performed by an entrepreneur where the target lies predominantly in creation of complex pre-requisites for successful business activity.

The founder, resp. founders upon establishment of their enterprise must make a clear decision what type of product they shall produce, what service they shall provide, what technology and technique shall be used during production, who will be the target group of products, resp. services, what amount of capital (own or foreign) shall be required to invest etc. Also its localization represents an important issue, which the entrepreneur has to deal with and solve upon establishment of his enterprise.

Localization is understood as a „geographic place where production factors shall be placed, where these create the enterprise with its aim to execute material products or provide services. It is the most suitable place where business activity can be executed“ (Neumannová, 2012).

Mahadevan defines localization decisions as “integral part of organisation supply chain as it defines flow of materials from suppliers of raw materials into plants and finally to customers” (Mahadevan, 2010).

Space localization has therefore a meaning in the view of larger or smaller unevenness in production factors localization, but also from the point of distance from suppliers, buyers, etc. When making decision regarding to locality of its enterprise the owners decide mainly according to costs connected with acquisition (raw materials, goods, labour power etc.), costs related to using of infrastructure and costs connected with purchase and sale of their production, but also according to the fact, whether they want their enterprise to be located in a lucrative historical centre of the town, at the suburbs, or close to chemical plant, or whether they shall do their business in a country with unstable political situation, in a country applying almost zero taxation or in a country with stable economic situation.

According to geographic expansion we can differentiate the following categories of enterprise localization (Neumannová et al., 2012):

- a) **local** – local locality – location of enterprise in municipality / town,
- b) **regional locality** – location of enterprise in specific region,
- c) **national locality** – enterprise has its production or distribution places expanded within the territory of the whole country,
- d) **multinational locality** – location of enterprise branches in various countries.

Upon searching for suitable locality for localization of enterprise the entrepreneur must consider several factors which often compete among themselves. There can be suitable working conditions in one locality and low wages costs for instance, but very low sales and transport possibilities.

3. Localization theories

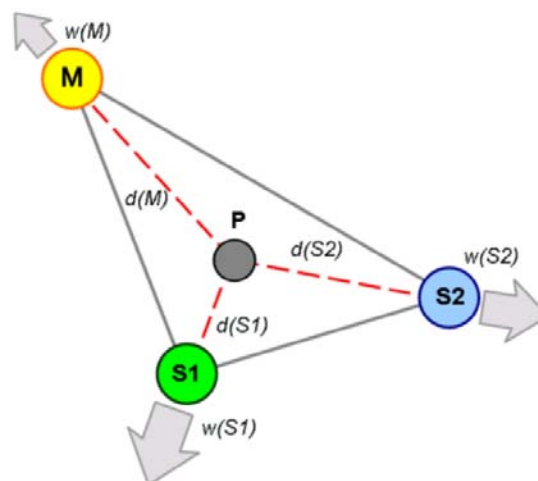
Neo-classic theories which began to be developed at the end of the 19th century were devoted to localization factors as such for the first time. They mainly focused on searching for a general normative module of optimum localization of enterprise in a specific area. J. H. von Thunen is considered the founder of localization theory. However, in his research he mainly dealt with activity in the field of agriculture i.e. predominantly the relation between method of area use and its distance from the market. Application of knowledge from his research was

brought into industrial production by W. Roscher, A. E. F. Schäßle and mainly W. Launhardt. W. Launhardt as the first one elaborated a model of dealing with space localization of industrial enterprise, also called „localization triangle“. In his work he examined transport costs which he considered as being dependent on two components, i.e. distance and weight of transported commodities. Optimum localization of enterprise was found in the gravity centre of the triangle, which two highs are places of exploitation of required raw material and third high represents consumption, i.e. market.

“A. Weber, German economist, considered to be the father of complete theory of industry was also devoted to theory of industrial enterprise localization. In the theory he implemented a notion “localization factor“, which defined strengths influencing the decision of localization of enterprise in a specific points within the area, while upon combination of individual strengths an optimum localization can be found” (Hamalová et al., 1996).

Picture 1

Weber’s localization triangle



Source: http://geography.upol.cz/soubory/lide/hercik/GEDP/dopravni_naklady.pdf

According to A. Weber selection of production enterprise locality is mainly influenced by its aim to achieve minimum production and transport costs of its production. He considers amount of labour costs, amount of transport costs and agglomeration (town with its surroundings) to be the factors of industrial enterprise localization. “According to Weber the enterprise can orientate from the point of labour – in a situation when saving of wages costs in locality with the lowest wages is higher than the saving of transport costs in a locality with the lowest prices of material, or from the point of transport – when the cost benefit is given by transport costs” (Neumannová et al., 2012).

On contrary to Weber who considered cost side of the localization only, Behrens classified factors of localization according to transformation cycle phases. He divided localization factors into categories of acquisition, production and sales. Level of profitability – the higher the profitability the more suitable locality for localization of enterprise was considered by Behrens as a dominant evaluation criterion of a specific locality.

A great number of other authors dealt with theories of enterprise localization. However, the basis for their researches and theories represented mainly Weber’s approaches. These authors cover A. Predohla, P. Sraffa, T. Palander, B. Ohlin, G. Hotelling and others.

Competition can also be considered as a factor of enterprise localization. The most known in this sense is a model called "Hotelling's issue of sellers on the beach". The main idea of this issue covers dealing with the fact how competitors influence arrangement / layout of services. Model of „beach“ has the advantage that it is a model of very simple space model of linear market while it uses the following prerequisites:¹

- customers are equally distributed / arranged along a straight line,
- customers buy goods / services within their nearest sales point and have the same consumption of the sold goods,
- sellers offer the same goods for the same price,
- sellers look for their location in order to get the maximum sales advantage / profit,
- transport costs for localization of sales point are zero.

Hotelling's issue of sellers on the beach can be explained as follows. It is evident that each of the salesmen of ice cream wants to maximize its sales area in a way that according to actual location of its competitor he shall move into more profitable location. According to this simple idea we can show that the salesmen are gradually moved closer to one another until they are in a close distance in the centre of a beach. Of course various results can be achieved by manipulation of conditions related to business activity.

When making decision on locality of its enterprise the entrepreneur himself does not have to be limited to a decision on domestic localities only. Localization factors and possibilities of enterprise localization abroad were dealt with by a German economist E. Gutenberg, who expanded factors and decision-making on locality for a possibility to localize the enterprise abroad.

As it results from presented theoretical foundations of localization various factors have to be considered upon selection of enterprise localization. When deciding on its locality each enterprise must adapt to its potential requirements whereas according to the industry of economy and defined targets the level of intensity of use, selection and evaluation of individual factors of localization can be different in each enterprise.

4. Factor of localization

According to specified knowledge of localization theories and upon detailed examination of factors influencing the business activity the localization actors can be systematized as follows (Neumannová et al., 2012):

1. factors oriented on acquisition:

- a) **land** – price of acquisition, amount of leasing / rental, availability of suitable land – mainly in situations when acquisition of contiguous areas, resp. specially located land is required;
- b) **raw material, material** – price, transport and storage costs etc., optimum locality of processing is in a place where summary of transport costs among warehouse, place of processing and place of sale is the lowest one;
- c) **human resources** – this covers mainly labour potential depending on number and structure of citizens, quality of life in that specific region, amount of wages, qualification of work labour, etc. ;
- d) **energy** – availability, price of acquisition;

¹http://www3.ekf.tuke.sk/re/0%20Poziadavky%20na%20skusku%2007%2008/Oblast%201/Lokalizacia_Hudec.pdf .

- e) *transport* – suitable infrastructure (roads, motorways, railways, air transport, water transport), transport costs;
- 2. factors oriented on production:**
- a) *natural givenness* – like climate, soil;
- b) *technical givenness* – first of all space distance / closeness to cooperating enterprises;
- 3. factors oriented on sales:**
- a) *sales potential* – structure and buying power of citizens, competition, etc. ;
- b) *transport* – continuance / connection of transport, transport costs;
- c) *sales contacts* – sufficiency of sales channels, sales personnel, dealers, advertising agents, etc. ;
- 4. state regulated factors of localization:**
- a) *taxes* – individual tax advantages, tax exemption, off-shore countries – so called tax paradise;
- b) *duties, acts governing foreign business/ trade;*
- c) *economic system governed by several laws and its stability;*
- d) *measures for protection of environment;*
- e) *state aid* – first of all supporting programmes in form of investment aid for structurally weak regions, support of research and development etc. ;
- 5. factors according to place of influence:**
- a) *internal* – represent for instance a capacity of production, size of raw material sources, personal limitations, possibility / amount of financial meant etc. ;
- b) *external* – they have influence through legal system of a specific state, like political interventions, ecological regulations, legal regulations and others;
- 6. factors according to importance:**
- a) *the most important factors* – the following are considered to be the most important ones: acquisition of land, qualification of personnel, costs of production unit, productivity of labour, amount of wages, political stability and tax burden;
- b) *Important factors* – infrastructure, official regulations / orders, working time;
- c) *Less important factors* – like energy costs, distance / closeness of sub-contractors, exchange rate, possibilities of capital acquisition etc. ;
- 7. Factors according to extent of their influence:**
- a) *general* – factors acting in all fields of economics;
- b) *special* – factors acting in some fields of economics;
- 8. factors according to area of their influence:**
- a) *natural-technical* – like raw material base, level of science and research, etc. ;
- b) *social-cultural* – like differences in cultural maturity, character of correct institutions etc.

Hudec defined main levels of space factors influencing localization, as follows:²

- a) *factor country* – political and economic system, economic situation, stability of a government, exchange rate of currency, export and import conditions, climate, culture, taxes and fees etc. ;
- b) *factor region* – costs for labour power, access to raw material and suppliers, types and quality of transport and transport infrastructure, access to sales markets, acts on protection of environment, public services;
- c) *factor municipality* – local self-government, unemployment level, local trade regulations, local taxes, costs for construction and rental of business premises buildings;

²http://www3.ekf.tuke.sk/re/0%20Poziadavky%20na%20skusku%2007%2008/Oblast%201/Lokalizacia_Hudec.pdf.

d) **factor position** – price of land, size of area, urban classification, traffic, customer base, public services.

Rodrigue, Canadian economist classified localization factors as follows (Rodrigue, 2013):

1. **position** – this covers micro-geographic characteristics covering availability of land, attractiveness for important activities, quality of live and last but not least level of availability of local transport;
2. **accessibility** – this mainly concerns availability of labour power (in sufficient quality and quantity), material, energies, market, customers, suppliers, competition, etc. ;
3. **socio-economic environment** – which is created by specific macro-geographic characteristics, which can be subject to territorial units like country or region. Factors like availability of capital, taxes, technologies etc. are considered here.

Consequently Rodrigue drew these factors into a pyramid, while he placed locality, where enterprise shall be located on its top. This means that “position” itself is considered by him the most important factor of enterprise localization. The centre of pyramid covers „availability“ and the lowest part covers „socio-economic environment“, which is created by macro-factors.

To summarise this overview of localization factors classification we have to note that enterprises attribute various importance to individual localization factors. This depends on the industry in which they trade. There are various demands on localization factors from production industrial enterprise, or agricultural enterprise dealing with growth of grape and production of wine, or facility providing recreation.

Each of these localization factors deals with and focuses on evaluation of a specific, individual area, but in a wider sense the individual factors of localization have one feature in common – all these factors influence with a certain level the value of enterprise itself to which they relate. Therefore in an overall sense we could summarise these factors into one complex localization factor influencing the value of enterprise. This prerequisite will be specified in details in the following chapters.

4. Locality of enterprise as a factor influencing the value of enterprise

Localization of enterprise represents an important strategic decision having also an influence on the value of enterprise itself. Localization factors and locality of enterprise as such should not be the centre of attention of „space economics“ only, which is part of economy and science, but also centre of attention of expert´s activity and expert´s opinion as the surrounding of enterprise, resp. its locality is considered as one of the factors having an influence on value of enterprise. Therefore business diagnostics should be used in a process of enterprise evaluation. This diagnostics would not only act as a sources of input data required for calculation but also as a tool objectifying resulting value of enterprise.

“As Wöhe stated, during process of enterprise localization the entrepreneur should decide similarly as when making other decisions, i.e. according to a long-termness of profit achievement” (Wöhe, 1995) Localization strategy should be a part of overall enterprise strategy and this should come out from primary target of each and every enterprise, i.e. maximizing of market value of enterprise. “Suitable selection of locality may have influence on effectiveness of enterprise in the future. Therefore the management of enterprise pays significant attention to it. In order to find the best locality actual, as well as future condition of enterprise surrounding must be analysed. Enterprise diagnostics and its methods of enterprise surroundings diagnostics serve for this purpose” (Smith – Mimick – Thompson, 2005).

Upon diagnostics of enterprise surroundings the company executing diagnostics of enterprise and its surroundings can use one of the following methods, resp. use their suitable combination.

PESTEL analysis represents one of the methods of enterprise surrounding diagnostics. This analysis focuses on characteristics of factor influences which can be classified into several groups:

- *political factors* – evaluate individual decisions of the government in a specific country. They cover factors like the level by which the government interferes into the running of economics, in what extent it uses subsidies for support of entrepreneurship as a whole or selected enterprises, quality and extensity of infrastructure etc.;
- *economic factors* – the most important economic factors cover tax system mainly – its working and changes, exchange rates among currencies of countries, who the analysed company performs trade, development, growth and intensity of inflation and growth of interest rates, etc. ;
- *social factors* – business environment can significantly be influenced by changes in social trends. Important factors in this area cover ageing of citizens, prolongation of length of life, growth of population, migration, etc. ;
- *technological factors* – science-technical advancement as well as new technologies also bring new products and processes. They can also mean an increase of products and services quality, as well as reduction of costs;
- *environmental factors* – recently these factors have been more and more significant from the point of macro environment. The most significant environmental factors cover predominantly climatic changes which can have a significant influence on wide field of economic industries (they mainly influence agriculture and agricultural industry, tourism etc.);
- *legislative factors* – these factors relate to legal system in which enterprise operate. The most important legal standards cover standards from the field of labour law, standards providing for protection of consumer against unfair practices from the side of enterprises, antimony policy of the state, standards of safety and health protection at work and so on.

Level of PESTEL analysis shall also be considered. Influence of external factors from local, national and global (international) point of view can be considered through extended LoNGPESTEL method, where „Lo“ means local, „N“ national and „G“ global.

- *local factors* – this group of factors covers first of all economic growth of selected region of a country,
- *national factors* – these factors mainly describe legal legislation, growth of interest rates, protection of economic competition in a specific country etc. ,
- *global factors* – in this category one considers mainly opening of new markets for a company, entry of new countries into the EU, respectively into Eurozone, adoption of multilateral treaties on release of trade among several countries etc.

Another diagnostic method - **passport (recording) of enterprise surrounding** represents a transparent form of information processing in a specific interest area – region. This overview of information usually includes word, number and eventually also map and picture information related to the following:

- identification of interest area (region),
- main data of economic character:

- macroeconomic indicators,
- economic data of industry,
- economic indicators of enterprise,
- retrospective characteristics and statistics of business activity in a specific industry,
- most significant companies and operations / plants operating in the surrounding,
- desired and non-desired fields and activities,
- legislative and environmental restriction of performing trade,
- labour power,
- weaknesses and strength of enterprise (SWOT analysis).

5. Conclusion

Upon working-out of this article we tried to point out to the fact that localization factors of enterprise are not only the centre of attention of „space economics“, which is part of economy and science, but also centre of attention of expert's field and expert's activity whereas the surrounding of enterprise, respectively its locality is considered as one of the factors influencing the value of enterprise.

We also confirmed that business diagnostics can find its place in the field of determining the general value of enterprise. Expert's field and business diagnostics are inter-connecting scientific disciplines with their extent and focus which require constant implementation of new theoretical knowledge into practice. Wide spectrum fields, like expert's field and business diagnostics, this way create space for further scientific research, advancement and going forward. Business diagnostics then in a process of evaluation of enterprise does not have to act as a source of input data required for calculation of general value of enterprise only, but as a possible medium objectifying resulting value of enterprise.

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Transformation process of the Slovak elderly care services

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Abstract

The main objective of this article is to present a theoretical framework for the relevant factors influencing the transformation of the current structure of social care services for the elderly in the Slovak Republic. As a starting point, the Slovak elderly care system is categorized on the basis of relevant international studies. The results indicate that the Slovak social care services for the elderly is currently in a less advanced level than in other Central European countries but may resemble to the more advanced systems in the future if legislative and financial changes are taken. This transformation process of the Slovak elderly care services is necessitated by many external factors, among others the ageing of the population, the historical path dependency of the service system, the enhanced purchasing power of elderly people (and the general public) and new provisions set out by European legislation – with the help of the theoretical framework, a possible direction of this transformation may become visible.

Keywords: elderly care, social services, transformation

JEL classification: I35, P36

1. Introduction

The post-Soviet countries currently do not face as severe an aging problem as some Western European countries. Nevertheless, demographic forecast suggests that these countries, including Slovakia will have one of the oldest societies in the world by 2050 (Statistical Office of the Slovak Republic, 2013a). One of the greatest challenges resulting from this social restructuring is the transformation of social care provision for the elderly.

The current kind of service provision consisting of a wide-spread informal care system, an underdeveloped formal home care system and an outdated residential care service may not be maintained in the long term for the following reasons: on the one hand, the Slovak institutional care has a high maintenance cost and limited capacity, which will get worse due to the aging of society; on the other hand, the democratic transformation of post-Communist societies involves the recognition of preferences of the elderly people, such as ageing in place – this increased demand cannot be fulfilled by informal care in the future (Zimmerman et al., 2003).

Therefore, there is a need for a modified system of social care services for the elderly. In order to understand the possible direction of the transformation of the current elderly care system, we shall look at the actual current position of the Slovak elderly care system (compared to other Central European regimes). After determining its position, we may forecast a possible transformation trend based on the factors influencing the aforementioned changes in the elderly care system.

2. Categorization of the Slovak elderly care system

It is still very difficult to categorize the Central and Eastern European elderly care systems. The primary reason for this is that elderly care systems are categorized based on the categorization of the underlying state welfare regimes (Rothgang and Engelke, 2009). This is still primarily based on the work of Esping-Andersen (1990) who categorized welfare states on the basis of three principles: (1) decommodification, (2) social stratification, and the (3) characteristics of the private-public mix.

Based on this, 18 OECD countries were divided into three regime types: (1) Liberal, (2) Conservative, and (3) Social Democratic regimes.

Table 1

Welfare state regimes by Esping-Andersen

	Countries	Decommodification	Social Stratification	Private-public mix
Conservative	Austria, Belgium, France, Germany, Italy, Spain	Medium level	Welfare programs based on earnings, financed through social insurance, maintains prevailing social patterns	Subsidiarity (primary responsibility of family, state interferes in cases)
Liberal	Australia, Canada, Japan, Switzerland, USA	Moderate level	Means-tested assistance, strict criteria, minimal redistributive impact, financed mostly by clients' payments	Emphasized role of market actors, together with family responsibility
Social Democratic	Denmark, Finland, the Netherlands, Norway, Sweden	High level	Strong promotion of equality through universal and generous benefits financed by taxes	Interventionist state

Source: Esping-Andersen G., 1990

Notes: Decommodification means the extent to which an individual's welfare (pensions, unemployment benefit) relies on the market. Social stratification means the role of welfare state in positively or negatively influencing given society's categorization of people into groups based on wealth, income, social status, occupation or power. Private-public mix means the relative roles of the state, the family and the third sector in welfare provision.

Nevertheless, this categorization was soon met with intense criticism for theoretical, empirical and methodological purposes (Bambra, 2007). The biggest issue from our aspect is that Esping-Andersen's study did not include countries from the post-Soviet zone. It is still a heated debate whether the welfare regimes of the post-Communist countries can be categorized into one of the welfare state regimes of Esping-Andersen, or form some kind of "mixed" form of them, or constitute an entirely separate regime.

There were several attempts to come to a definite conclusion. Fenger (2007) argued that the post-Communist welfare states cannot be categorized into the three major regime types of Esping-Andersen or any other well-known types of welfare states. Moreover, the post-Soviet countries are so diverse in terms of historical, socio-economic and cultural aspects that they

cannot form only one type of welfare state regime. However, there exists a post-Communist European welfare regime, which the Visegrád countries can be categorized into. Nevertheless, Fenger (2007) leaves it vague whether this post-Communist European welfare regime is a stable, separate welfare system or rather signals a transitory period towards one of the established welfare state regimes.

In order to answer this question we might look further than an elderly care system categorization simply based on the underlying welfare state regimes. We must note that even within the same welfare state regimes, there are more types of elderly care systems.

Elderly care systems were categorized by Timonen (2005) into three groups based on the responsible actors of long-term care: there are countries (1) where the state takes responsibility for long-term care, (2) where families have the main responsibility, and (3) where the state funds the costs and other actors take part in providing these services.

Slovakia falls into the third group, as elderly care is predominantly financed by the state (and municipalities) through taxation, while municipalities, authorities of the self-governing regions and, to a lesser extent, third sector organizations provide elderly care services. The main responsibility is officially borne by municipalities, but the system can be considered to be oriented towards informal care since a substantial (not easily quantifiable) responsibility lies by the families.

More recently, a study within the Housing and Home Care for Elderly and Vulnerable People and Local Partnership Strategies in Central European Cities (HELPS) project, which was financed by the Central Europe EU programme, explicitly intended to assess the factors influencing the structure of elderly care systems in Central and Eastern Europe.

In contrast to previous research attempts that basically defined the differences in elderly care systems on the basis of welfare state typology, the HELPS study identified several relevant factors along three dimensions: (1) demand for formal social care services, (2) available financial resources, and (3) the position of third sector in the provision of social care services.

The authors found that, as regards availability and variety of formal social care services for the elderly, the studied countries can be categorized into the following categories: (1) rudimental, (2) intermediate and (3) advanced systems (Lehmann and Havlíková, 2014).

Slovakia belongs to the rudimental category, meaning that the country only provides domiciliary services and one form of institutional care (nursing home) to the elderly people (contrary to the advanced category where several deinstitutionalized forms of formal home care services complement the home care and institutional care, i.e. the services are “deinstitutionalized”). Slovakia has also a limited availability of elderly care services, which is manifested in the low share of the elderly people receiving formal home care, due to which, informal (family) care must complement formal care methods.

An important finding of the study is that the rudimental system is prevalent in such Central and Eastern European countries that have a relatively low GDP per capita, higher unemployment rate, low care allowance, carer’s allowance, and old-age pension. In contrast, Central European countries with an advanced system of elderly care (Germany, Austria) have higher GDP per capita, lower unemployment rate, higher old-age pensions - together with a well-developed support system for informal caregivers - and high social protection expenditure (Lehmann and Havlíková, 2014).

3. Factors influencing the transformation of the Slovak social care system for the elderly

However, based on economic forecasting by institutions of the European Union, Slovakia may resemble the Central European countries with an advanced social service system in demographic and economic aspects in the mid-term, resulting in the same challenges for the

social care services and, in particular, social care services for the elderly. The question is whether Slovakia will have a similar answer to these challenges and thereby have an elderly care system resembling that of the more advanced Central European countries. This Section provides the most important factors influencing the transformation process into this direction.

3.1 Historical factors

Historical precedent tells us that the current structure where elderly people are mainly cared for in residential settings financed by taxes and municipal budgets, complemented by widely used forms of informal family care can be rooted back in the beginning of the first official legislation regarding social services in the region, which is Act XXII of 1886 on Municipalities, and the 1887 accident insurance and 1907 health insurance scheme (following the early Bismarckian example, within the political-economic framework of the Austro-Hungarian Empire).

The main impact of these early legislative acts was that the responsibility of the care for the elderly people became, to some extent, the responsibility of all municipalities, while generally supported by the care provided by multigenerational families and volunteer activities of the churches.

After World War II, this system of social care services radically changed with the Communist takeover of power. The self-governing functions of former municipal authorities virtually ceased to exist. This model based on state-ownership and centralism displaced the role of municipalities in the social services, including elderly care. However, after the Velvet Revolution in 1989, plurality returned to the service provision in general, and elderly care in particular.

We assume that the break from the historically developed elderly care system (widespread family responsibility for the elderly, while official responsibility lies by municipalities and voluntary associations in the various forms of residential care) after 1945 delayed its further development towards an advanced system of social care services present in Central European countries with similar historical roots (especially Austria and Germany). The next logical step is the appearance of more “deinstitutionalized” forms of home care services, for which we can already see specific institutional examples.

3.2 Demographic factors

The most important trend is the general ageing of the Slovak population. As a short-term effect, it generally results in a higher demand for elderly care services in Slovakia, which is even increased by the more sophisticated needs of the elderly people and the general population. While in the Communist era, elderly people’s needs were not taken into account when providing them with the only available formal institutional service, elderly people (or relatives financing their care) started to demand better and more individualized social services for their money after the accession to the EU. The demographic forecast for selected age groups in Slovakia is detailed below in Table 2.

Table 2

Predicted demographic changes in the Slovak Republic, 2010-2060

	2010	2020	2030	2040	2050	2060
Working age (15-64) as % of total population	72.4	68.0	65.5	63.2	57.4	54.1
Post-productive age (65+) as % of total population	12.3	16.4	20.7	24.4	29.9	33.5
Very old persons (80+)	2.7	3.2	4.7	7.5	8.8	12.3

Total economic dependency ratio	28.5	38.2	48.5	60.9	82.4	97.3
Population (millions)	5.4	5.6	5.6	5.5	5.3	5.1

Source: 2012 Ageing Report, European Commission

Note: The total economic dependency ratio is calculated as the ratio between the total inactive population and employed persons aged 20 to 64

3.3 Socio-economic factors

Regarding economic factors, the resulting higher demand shall be financed from the taxes of the working-age population and the co-payments of the clients. An increasing income from taxes can be forecast based on the recent trends: since the accession to the EU in 2004, Slovakia has had one of the fastest growing economies in the European Union that also resulted in a real growth in income.

Based on the data of the Slovak Statistical Office, the GDP in current prices has grown with 45% between 2004 and 2013 (which is a much higher rate than that of the Western European countries and only Poland has a similarly rapid growth rate in the region) Meanwhile the average income has grown with 56% (from around EUR 525 to EUR 824) in the same period. In parallel with the growth in GDP since 2004, the public expenditure on long term care increased less (the numbers of the Slovak Statistical Office indicate a total increase of around 24% between 2004 and 2013), which can be explained by the fact that social services for the elderly are financed by municipalities and self-governing regions whose financial incomes were hit more severely by the economic crisis. In spite of this, the Slovak Statistical Office reported that the total number of senior homes increased from 186 in 2004 to 300 in 2013 (Statistical Office of the Slovak Republic, 2013b).

This indicates that the supply side was also growing in response to a higher demand for elderly care services, in parallel with the ageing and democratization process of the Slovak society. Therefore it can be observed that the socio-economic conditions of the Slovak Republic are getting more similar to that of the Central European countries with an advanced system of social (and elderly) care services.

3.4 Political factors

There are also strong (external) political reasons pushing the current Slovak elderly care system towards an advanced system: the Europe 2020 strategy's main objective is to generate smart, sustainable and inclusive growth. Therefore the strategy targets, among others, the achievement of full social integration of people in need by means of providing quality community-based services and supporting their social protection by promoting decent living conditions (European Commission, 2010).

Slovakia embarked on a road of transforming its elderly care services based on commitments made in line with the Europe 2020 strategy. The main objective is to shape the path of the Slovak social services (including elderly care services) on the basis of the major European trends in recent decades, namely a more accentuated role should be given to formal home care services, in parallel with a shift from institutionalized care towards home care, and a shift in favor of services complementing rather than replacing informal care – this is one of the main reasons differentiating rudimentary elderly care systems from advanced ones.

4. Conclusions and policy implications

It is difficult to categorize elderly care service system in Central and Eastern Europe. Traditionally the categorization was linked to welfare state typology but recently more sophisticated analyses emerged. The study in the HELPS project categorized the elderly care

systems in Central and Eastern Europe to the rudimentary, intermediate and advanced categories based on the demand for formal social care services, the available financial resources, and the position of third sector in the provision of social care services.

We argue in this paper that – due to historical, demographic, socio-economic and political reasons – the demand for formal social care services will be enhanced and become more sophisticated, while the available financial resources will also grow. With a return to its historical roots, the position of third sector providers will also become more pronounced. This gives a chance for Slovakia to establish an elderly care system resembling that of Austria and Germany. For this, novel forms of community-based services and formal home care services shall appear. The first step of moving away from the rudimentary elderly care provision system by increasing the variety of service provision forms and providing care for people in need left unattended.

There are some essential prerequisites to achieve this: (1) the political commitment to introduce new forms of “deinstitutionalized” services must remain strong, (2) there must be an adequate co-financing on state and municipal level (complementing clients’ payments), and (3) some shortages in the Slovak legislation must be overcome, mainly in connection with the missing legal provisions on the new forms of social care forms and the division of health care and social care services.

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The development level of insurance in selected CEE countries: causes and barriers's

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Abstract

The significance of insurance can be measured by an indicator insurance penetration. Insurance penetration is a share of total premium income in insurance to GDP of country presented in a percentage. Insurance penetration of the emerging economies was at one third compared to average total premium income of OECD countries. At the beginning of the millennium, in selected countries of Central and Eastern Europe, which are members of the OECD, was the insurance penetration at the level of developing countries. For this reason it would be appropriate to measure the natural development of the insurance market by other indicators. It is also advisable to use indicators that take into account the status development in various economics in different countries. In 2008 economists started to deal with the use of global average insurance penetration as a function of per capita income as a benchmark for determining the development of insurance. This makes sense if you are trying to understand what should be the rational development of the insurance sector in the economy. The aim of this publication is to assess the adequacy of the development of the insurance market to the needs of the economy. A subsequent aim is to focus on understanding the barriers that exist in these economies with stagnant insurance industry. In this case we are talking about those barriers that must be removed in order to allow further development of the sector. We also focus on enhancers, which should be strengthened in order to intensify the development of insurance market.

Keywords: Development of insurance. Insurance penetration. CEE countries.

JEL classification: G 22

1. Introduction

The role of insurance, as an important factor for the development of economies, is indisputable. Most governments, through their legislation, try to promote and support the insurance industry, thus helping its development. Despite all legislative action, it is obvious, that insurance industry does not evolve equally in every economy, resp. as would be expected according to the legislative support. The significance of insurance resp. insurance market can be measured by an indicator of insurance penetration. Insurance penetration is a share of total premium income to gross domestic product of countries, expressed as a percentage. Insurance penetration in the emerging economies is at one third, compared with insurance penetration in OECD countries. At the beginning of the millennium, in selected countries of Central and Eastern Europe, which are members of the OECD, was the insurance penetration at the level of developing countries. For this reason, it would be appropriate to measure the inherent development of the insurance market with the other instruments. It is also advisable to use indicators that consider the level of various economic developments of different countries. In 2008, it was published publication that deals with the use of global average insurance penetration as a function of income per capita as a benchmark for determining the development of insurance. This makes sense if you are trying to understand what should be the reasonable development of the insurance sector in the economy. The use of this benchmark is recommended by the authors Zheng, Liu and Deng (2008) in their publication "New Paradigm for International Insurance Comparison: With the Application and Comparison of Seven Insurance Markets". Based on that we stated main aim of this paper, which is to assess the adequacy of the development of the insurance market to the needs of the economy. A subsequent aim is to focus on understanding the barriers that exist in these economies with stagnant insurance industry. We also focus on enhancers, which should be strengthened in order to intensify the development of insurance market.

2. The Role of Insurance in the Growth of the Economy

The importance of the financial sector in the development of a country has been the subject of many publications. There is consensus that the financial sector plays a significant role in development of both as a supply-leading mechanism as well as a demand-following instrument. Both types of mechanisms coexist in the early stages of development while the supply-leading mechanism is the dominant instrument for the development of insurance, as part of the financial sector has a significant role supporting its development. Literature has identified a vast area where insurance contributes to development. The following list aims to highlight the main aspects of the insurance industry which have an impact on this development. Wehrhahn (2010):

- Insurance by merging risks, lowers the overall cost of risk, reducing volatility,
- Households and enterprises have a mechanism to transfer risk at an efficient cost, and release both financial and human resources to focus on their core production activities,
- The long-term character of life and pension insurance promotes long-term internal savings, a key element in any economy to boost development,
- Insurance supports trade and other activities by incorporating risk-averse individuals and enterprises into the production chain,
- Government's fiscal budget is relieved from social security and retirement programs to the extent that these are covered by the insurance sector,
- Catastrophic insurance allows governments to reduce the fiscal impact, especially when international reinsurance is available to spread the risk outside the country.

Insurance is therefore considered as an important instrument to promote and to enhance the development. Likewise, for these reasons, governments have interest in supporting the growth of the insurance sector in almost every occurrence. Successful policy through tax relief, education and compulsory insurance programs, as well as through effective regulation has helped the growth in several countries. As described later, depending on the insurance penetration is possible to follow a slower or faster development of this sector in these countries.

3. Insufficient level of insurance in selected CEE countries

As mentioned in the introduction, the insurance penetration in selected countries of Central and Eastern Europe, which are members of the OECD is three times bigger than in the developing countries. This level represented one third of the OECD average. A common procedure to measure the level of development of the insurance market in the country is to use an approach based on a comparison of the total premium income. This number reflects the overall performance of the sector, but says very little about the actual development of insurance sector in the country, because the factor of population is not included in this indicator. The following table shows the development of total premium income in selected OECD countries.

Table 1

Development of the Total Premium Income in the selected CEE countries during period 2000-2013

Country/Year	Total Premium in million of USD (Total Business - Life & Non Life Insurance)													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	12,16	12,08	13,61	16,80	19,40	19,97	21,27	23,76	26,28	n/a	n/a	n/a	n/a	25,07
Czech Republic	1,83	2,12	2,77	3,77	4,38	4,89	5,41	6,55	8,19	7,57	8,18	8,78	7,86	8,00
Estonia	n/a	n/a	n/a	n/a	n/a	n/a	0,13	n/a	n/a	0,34	0,57	0,56	0,62	0,77
Hungary	1,34	1,47	1,94	2,50	2,97	3,45	3,89	5,07	5,13	4,09	4,06	4,06	3,38	3,58
Poland	4,79	5,46	5,58	6,41	7,57	9,58	12,09	15,81	24,63	16,48	17,97	19,32	19,26	18,31
Slovak Republic	0,59	0,66	0,81	1,15	1,49	0,71	1,81	2,33	2,99	2,89	2,81	3,00	2,77	2,96

Source: OECD stat Metadata available on OECD homepage. Available at: <<http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>>.

As we can see in the table above, in year 2000, the value of the total premium income is around 32% for Slovak Republic in comparison with Czech Republic, which has half of the population in comparison with Czech Republic. In 2013, this ratio increased slightly to 37%. Likewise, this disproportion can be seen when comparing the years 2000 and 2013 in the countries of Poland and Czech Republic, which have a population ratio of 1:4, the ratio of total premium income in 2000 was 38% and in 2013 already 44%. This indicator is quite confusing and inaccurate when using to compare the various countries. This comparison explains mainly the size of the insurance sector in the country, but to compare countries with each other, it is better to choose a different indicator. The insurance density appears to be a proper indicator. The use of this indicator has its advantages in considering the population of the country. Insurance density is expressed as the ratio of the value of total premium income and number of inhabitants in the selected country.

Table 2

Development of the Insurance Density in selected CEE countries during period 2000-2013

Country/Year	Insurance Density in USD (Total Business - Life & Non Life Insurance)													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	1 314	1 372	1 457	1 808	2 063	2 109	2 166	2 376	2 826	2 716	2 630	2 731	2 493	2 604
Czech Republic	178	207	270	367	426	475	524	631	780	715	766	823	734	747
Estonia	n/a	n/a	n/a	n/a	n/a	n/a	94	n/a	n/a	256	422	418	464	580
Hungary	131	144	190	246	292	341	385	502	509	406	403	405	337	358
Poland	124	141	144	165	195	247	313	410	640	427	466	501	495	475
Slovak Republic	110	123	150	n/a	278	n/a	335	431	552	530	515	550	508	541
OECD Average	2 057	1 980	2 063	2 363	2 589	2 752	2 840	3 267	3 417	3 283	3 095	3 337	3 200	3 147

Source: OECD stat Metadata available on OECD homepage. Available at: <<http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>>.

The table above clearly shows the difference in the development of insurance industry in selected countries. While the insurance density, defined as the sum of total premium income per capita, better measures the development of the insurance industry, but ignores the economic development of the country. Therefore, more frequent indicator is the insurance penetration, i.e. the total premium income to GDP. This indicator also includes the rate of economic development in GDP, which better reflects the current status of the country. Therefore, the insurance penetration is the most commonly used instrument for comparing and evaluating the development of the insurance industry. For this reason, this paper is based on this indicator. In the table below, it can be seen the development in the selected CEE countries based on this indicator.

Table 3

Development of the Insurance Penetration in selected CEE countries during period 2000-2013

Country/Year	Insurance Penetration in % (Total Business - Life & Non Life Insurance)													
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	5,50	5,72	5,65	5,78	5,71	5,66	5,53	5,28	5,71	5,90	5,86	5,51	5,32	5,31
Czech Republic	3,22	3,42	3,66	4,08	3,97	3,90	3,76	3,72	3,75	3,94	4,19	4,00	3,92	3,96
Estonia	n/a	n/a	n/a	n/a	n/a	n/a	0,79	n/a	n/a	1,80	2,94	1,86	2,76	3,16
Hungary	2,78	2,75	2,89	2,95	2,89	3,12	3,43	3,65	3,31	3,15	3,09	2,87	2,68	2,72
Poland	2,76	2,84	2,77	2,91	2,94	3,11	3,50	3,72	4,62	3,79	3,79	3,71	3,89	3,50
Slovak Republic	1,91	2,07	2,19	2,33	n/a	2,65	n/a	2,62	2,76	3,04	3,26	3,21	3,09	3,00
OECD Average	8,62	9,05	8,73	8,69	9,03	8,95	9,06	9,09	9,52	8,97	9,40	8,96	8,88	8,56

Source: OECD stat Metadata available on OECD homepage. Available at: <<http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>>.

As we can see in the table above, the insurance penetration (in%) in Austria was in 2001 at about the same level as in 2011, resp. 2013. This means, that the growth of the insurance market is in accordance with market growth and development of the total market population. Regarding the comparison of the Slovak Republic and the Czech Republic, we can see that the insurance market grew faster in Slovakia than in the Czech Republic, from 2001 to 2011, resp. in 2013. It is wrong to conclude, without knowing how the GDP was developed in both

countries. It is not appropriate to use insurance penetration when comparing the level of economic development between countries. This idea was expanded in publication of Zheng, Liu and Deng (2008). In their research, the reference ratio of indicator insurance penetration at a certain value of GDP per capita, (Figure BLID), is recommended as a useful instrument for benchmarking the development of the insurance sector.

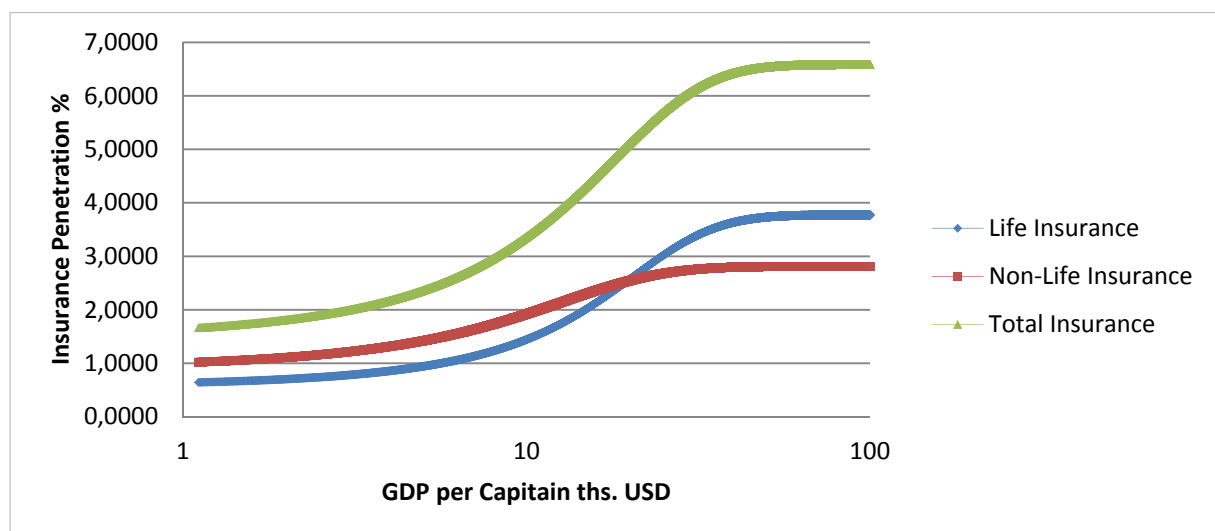
The main idea of this method is to consider the different importance of insurance in the economy within the different stages of its development.

The demand elasticity of insurance has the equally S curve as it is for most goods and services. This issue is discussed, among other publications, by authors Enz "The S-Curve Relation Between Per Capita Income and Insurance Penetration"(2000) and Zheng, Liu and Dickinson "The Chinese Insurance Market: Estimating its Long-Term Growth Size" (2008) who use GDP per capita as a compensation for consumers income. The final S-curve is shaped as a logarithmic function with three parameters:

$$\text{Insurance penetration} = \text{Total premium income} / \text{GDP} = 1 / (C1 + C2 + C3 \cdot \text{GDP per capita}) \quad (1)$$

Regarding to the function above, C1, C2 and C3 are constants estimated by regression on a sample of 90 countries monitored in the years 1970-1998 in the publication of Enz (2000). Following the model of this publication, Zheng, Liu and Dickinson (2008) built its own model with using a sample of 95 countries monitored during the years 1980 - 2006. Both models were estimated separately for non-life and life insurance. The resulting curve of average global insurance penetration has the following shape.

Figure 1
World Average Insurance Penetration



Source: Own processing according to Enz model „The S-Curve Relation Between Per Capita Income and Insurance Penetration“ (2000)

The final parameters of these two regression models from the mentioned publications are listed in the following table.

Table 4

Parameters of regression models by authors ENZ a ZHENG, LIU a DICKINSON

	ENZ		ZHENG, LIU a DICKINSON	
	Life Insurance	Non-Life Insurance	Life Insurance	Non-Life Insurance
C1	26,5%	35,6%	24,37%	35,45%
C2	148,4%	73,7%	111,03%	62,72%
C3	0,8831	0,8612	0,8671	0,8276
Adjusted R2	22,4%	44,1%	53,56%	81,12%
Nr. Observations	1 561	1 574	2 052	2 071
Min. Insurance Pen.	0,6%	0,9%	-	-
Max. Insurance Pen.	3,8%	2,8%	-	-
Inflection Point	13 863	4 871	10 635	3 015
Max. Elasticity of Income	1,9	1,5	1,754	1,425
GDP per Capita at max. elasticity	15 000	9 900	12 438	7 531

Source: Own summary of parameters of regression models in publication Enz (2000), Zheng, Liu and Dickinson (2008)

When selecting the regression model, we decided to proceed with the model of authors Zheng, Liu and Dickinson due to higher adjusted regression coefficient at the level of 81.12%. Therefore, for the calculation of the BLID we use the parameters of the model.

By the evaluation of BLID evaluation (benchmark level of insurance development), thus the reference level of insurance development in a particular country, we follow the reality in the ratio form. This ratio is between the current level of insurance penetration in the country and corresponding world average level of insurance penetration to GDP per capita of the evaluated country. Using BLID to measure the development of insurance eliminates the need for measuring the impact of the stage of economic development because it reflects the size of GDP per capita in the country. Therefore, a value of 100% will represent the development of insurance at the level of the world average GDP per capita. Higher ratios are associated with countries that have overcome the world average and logically countries with lower ratios than 100% are those lagging behind in the development of insurance. Due to the large impact of tax relief to development in life insurance, measurement BLID is the best to be applied to non-life insurance.

The following table shows a comparison of selected countries, their values of insurance penetration in 2013, the ratio as a percentage to the average value of insurance penetration in OECD countries and the ratio of the percentage to BLID indicator.

Table 5

Comparison of selected CEE countries by the Insurance Penetration, Average OECD Insurance Penetration and BLID in 2013

Country/Year	2013	Penetration as a percentage of OECD average penetration (%)	BLID (%)
Austria	3,25	124%	116%
Czech Republic	2,12	80%	77%
Estonia	2,24	85%	83%
Hungary	1,22	46%	46%
Poland	1,59	60%	60%
Slovak Republic	1,35	51%	50%

Source: Own processing of OECD stat Metadata and own calculations

The results presented in this table can be compared with data in the previous tables. When comparing Czech Republic and Slovak Republic, we can see a clear contrast between them. Whereas the difference between the variable BLID is 24%, the average level in the OECD is about 27%. When comparing the actual insurance penetration, where the Czech Republic reached the value of 2.11 and Slovak Republic only 1.43, the relative difference is about 32%.

The development of this indicator over time can be seen in the table below.

Table 6

Development of BLID in selected CEE countries in time

Country/Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Austria	112%	114%	121%	115%	110%	110%	108%	112%	117%	116%	115%	115%	116%
Czech Republic	92%	93%	100%	94%	92%	87%	82%	82%	84%	83%	77%	75%	77%
Estonia	0%	0%	0%	0%	0%	0%	0%	0%	70%	68%	42%	68%	83%
Hungary	73%	75%	76%	72%	72%	68%	65%	61%	60%	55%	49%	48%	46%
Poland	93%	88%	87%	84%	70%	66%	64%	63%	61%	61%	62%	61%	60%
Slovak Republic	60%	61%	0%	69%	0%	56%	54%	55%	60%	56%	54%	51%	50%

Source: Own processing of OECD stat Metadata and own calculations

In this table, it can be observed trends of insurance penetration compared to the indicator BLID. It can be also observed growing trend in Austria, Estonia, the descending trend in countries like Czech Republic, Hungary, Poland and in Slovak Republic. Despite the different trends of development, it is an obvious fact, that the countries of the former Eastern block lag and indicate stagnant development of the financial sector.

4. The growth forces in the development of the insurance sector

Author Wehrhahn (2010) identified in his publication growing force in the development of the insurance sector. The development of the insurance sector is a significantly correlated with the economic growth. Institutional growth is one of the factors that has an impact on the development. Erbas and Sayers (2006) in their publication showed that the correlation between Insurance Penetration and institutional quality is stronger than the correlation between Insurance Penetration and Total Premium Income. Institutional growth can be best measured by institutional quality indicators, which are measured by the World Bank. The

World Bank Governance Indicators (WBI) are Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

Table 7

Comparison of correlations between insurance penetration, BLID, Total Premium Income (2002-2013) and WBI (2002-2013)

Country	Voice and Accountability			Political Stability No Violence			Government Effectiveness			Regulatory Quality			Rule of Law			Control of Corruption		
	Penetration	BLID	Total Premium	Penetration	BLID	Total Premium	Penetration	BLID	Total Premium	Penetration	BLID	Total Premium	Penetration	BLID	Total Premium	Penetration	BLID	Total Premium
A.	0,05	0,12	0,26	0,20	0,31	0,08	0,10	0,07	0,31	0,78	0,70	0,71	0,71	0,66	0,74	0,37	0,25	0,05
CR	0,17	0,20	0,36	0,76	0,73	0,58	0,09	0,09	0,16	0,15	0,08	0,19	0,83	0,85	0,82	0,77	0,77	0,63
E	0,75	0,59	0,66	0,62	0,30	0,22	0,64	0,13	0,19	0,87	0,66	0,58	0,08	0,55	0,60	0,68	0,38	0,42
H	0,96	0,98	0,37	0,58	0,69	0,70	0,80	0,88	0,68	0,82	0,82	0,14	0,89	0,85	0,03	0,91	0,90	0,23
P	0,50	0,19	0,00	0,35	0,63	0,75	0,06	0,31	0,36	0,34	0,65	0,62	0,03	0,32	0,42	0,02	0,12	0,27
SR	0,46	0,15	0,21	0,48	0,09	0,61	0,60	0,03	0,24	0,53	0,02	0,21	0,51	0,19	0,56	0,58	0,37	0,22

Source: Own processing of OECD stat Metadata, World Bank (WBI) and own calculations

Author Wehrhahn identified that the insurance penetration correlates the best with the indicator Voice and Accountability. Many authors explained this effect with the deviation from the model value of S curve (GDP / Insurance penetration), which primarily shows growth linked to the growth of GDP. Wehrhahn observed the development of this indicator in 13 developing countries, in two periods, 2003-2008 and 2005-2008. For those periods he observed a strong positive correlation at level 0,56 and 0,60 between the institutional growth and value of insurance penetration.

In the table 7, we did not focus on the same measuring of correlation between indicators of institutional growth and institutional quality, how Wehrhahn did. We focused directly on measuring the correlation between insurance penetration and indicators of institutional quality, BLID and total premium income.

Based on the arguments that we mentioned in the introduction of this publication, we dropped of the analysis of correlations between Insurance Penetration, Total Premium income and Institutional Quality indicators. We introduced them to comparison with the indicator BLID. It was confirmed, that this correlations could not be considered as an appropriate predictor of development of insurance market in the form of Insurance Penetration indicator.

Further, in a comprehensive assessment of dependency of Institutional Quality and BLID indicators, we can declare that we cannot analyze all the selected countries at once. But they can be analyzed individually in the analysis by each country.

For Austria, we argue, that the Insurance Penetration indicator is strongly negatively correlated with the Regulatory Quality, Rule of Law indicators. This could mean that if the

level of World Bank Governance Indicators is worse, people in the country are not so averse to the risk and therefore the insurance penetration is increasing. This is the possible explanation of the fact, how people react to the increase of the risk.

For Czech Republic, we can say that the Insurance Penetration indicator is strongly positively correlated with the indicator of Control of Corruption, also strongly but negatively correlated with Political Stability, Rule of Law indicators.

In the case of Estonia, we argue that the Insurance Penetration indicator is strongly positively correlated with Voice and Accountability, Regulatory Quality, Rule of Law indicators.

In the case of Hungary, we argue, that Insurance Penetration ratio is strongly positively correlated with the Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption indicators.

In the case of Poland, we say that Insurance Penetration indicator is strongly negatively correlated with the indicators of Political Stability, Regulatory Quality.

For Slovak Republic, we can say that we cannot see any strong positive or negative correlation.

5. Conclusion

When evaluating the development of Institutional Quality indicators and its correlations with Insurance Penetration, we discuss about strong positive or negative correlations, but this does not imply causation. The aim of this paper was to assess the adequacy of the development of the insurance market to the needs of the economy. A subsequent aim was to focus on understanding the barriers that exist in these economies with stagnant insurance industry. For our analysis we worked with The World Bank Governance Indicators (WBGI), which are Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Even the insurance density, defined as the sum of total premium income per capita, better measures the development of the insurance industry, it ignores the economic development of the country. Therefore, more frequent indicator is the insurance penetration, i.e. the total premium income to GDP. This indicator also includes the rate of economic development in GDP, which better reflects the current status of the country. Therefore, the insurance penetration is the most commonly used instrument for comparing and evaluating the development of the insurance industry.

Based on our analysis we can conclude that in case of some evaluated indicators we could monitor impact of attitude to risk. It can be seen as the increase of insurance penetration in those situations when the level of the monitored indicators in the country decreased (became worse). But of course it is necessary to state, that this is not a way how governments and countries should ensure increase in insurance penetration. However, it is necessary to seek and analyze more correlations of Institutional Growth with indicators of Institutional Quality, as the above stated authors mentioned in this publication. Based on our analysis, we cannot confirm nor refute the findings, that author Wehrhahn published in his publication. Therefore, these arguments must be the subjects of further research.

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Determinants of International Labour Migration: theory and practice

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Abstract

Currently, the question about migration and migrants is probably most widely discussed topic in our society. This paper deals with international migration in economic theory from the perspective of different economic schools as well as with the current quantitative research of the determinants of international labor migration. The main objective of this paper is therefore to summarize the different views on international labor migration and current research concerning its determinants. The partial aim of this paper is to highlight the "empty" space in existing research and to provide some recommendations and give a vision for further research. This paper does not contain the most recent migration crisis in Europe with its problems and questions due to high level of politicization and sensitivity of this topics.

Keywords: *Determinants, migration, labour*

JEL classification: *F22, O15*

1. Introduction

International migration is not a new phenomenon. It is rooted in the development stage of human history which is connected with the formation of first states. International migration (the term cross-border migration or foreign migration can be used) is with some simplicity defined as a space mobility of people over borders of states with an intention to be settled and live in foreign country for a definite period or indefinitely. International Organisation for Migration (IOM) defines international migration as a movement of one person or a group of persons from one geographical units to the other one across political borders or administrative borders with an aim to settle definitely or temporarily on a place which is different from a place of origin. Foreign migrant (emigrant or immigrant according to the movement, foreigner according to the place of origin) is thus a person which changes its permanent stay (or usual stay).¹

Nature, scale, motives, types and impacts of international migration have changed together with changes in society and economies. In spite of the topicality of this issues there are still significant gaps with regard to complex database on global migration flows as only several countries monitor sufficiently emigration and immigration flows. There are even some authors which set that in spite of existing definitions of international migration international migration per se is not definable, exactly measurable and forecasted with a high reliability² (Divinský, 2005). The UN data on the international migration scale which are constructed in five years intervals reflects only statistical estimates. According to this the number of interna-

¹ Dimension of international migration is huge mainly with regard to the consequences therefore international migration is studied by several international organisations, mainly UNO, ILO, OECD, IOM, ICPMD, GCIM.

² In the international migration statistics we met with the problem of statistical migrations which results from political borders changes (border crossing people).

tional migrants in 2010 achieved 214 mil.³ Comparing the number with the respective value in 1960, international migration increased 2.8 times. The share of international migrants grew since 1960 only slightly from 2.6 % to 3.1 % (Wickramasekara, 2011). According to the structure, 90 %, i.e. 197 of the total number of migrants in 2010 are labour (economic) migrants. All labour migrants in the world would constitute the fifth biggest country in the world.

2. Approaches of economic theory to international economic migration

Theories of international migration have been developed as a part of micro and macro-economic theory (Popovová, 2010). Macro-economic theories of international migration do not consider behaviour of individuals and focus on the situational context within which individuals take their decisions. Micro-economic theories analyse behaviour of individuals (men and women individually, families, broader societal groups. In the connection with vertical levels of subjects which are affected by migration (Faist, 2000) distinguishes three levels of possible theoretical analyses – micro, mezzo and macro.

Within macro-theories of international migration we find:

- (neo) classical theory of international migration,
- Keynes's theory of international migration,
- Theory of dual labour markets.

Within micro-theories of international migration we find:

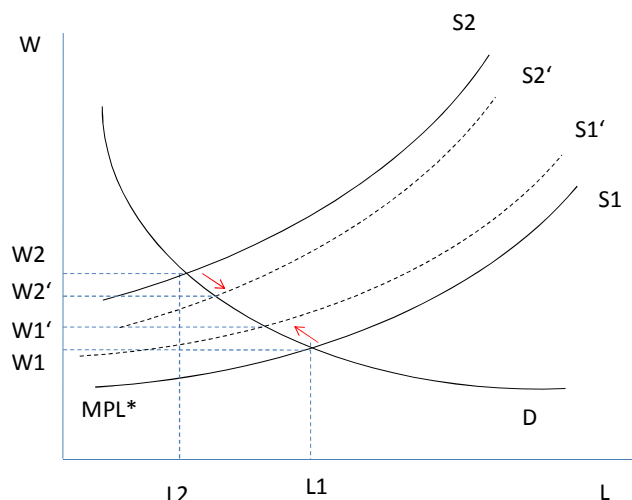
- (neo) classical theory of international migration,
- Theory of expected value,
- New economy of international migration.

2.1 Macro-economic theories of international migration

Neoclassical economy of international migrations is the most famous among the theories of migration. This theory sees differences in the supply of labour and demand for labour as main factors generated international migration. The differences are resulted from a different endowment of countries with regard to production inputs.

Figure 1

International migration according to neoclassical theory: labour markets



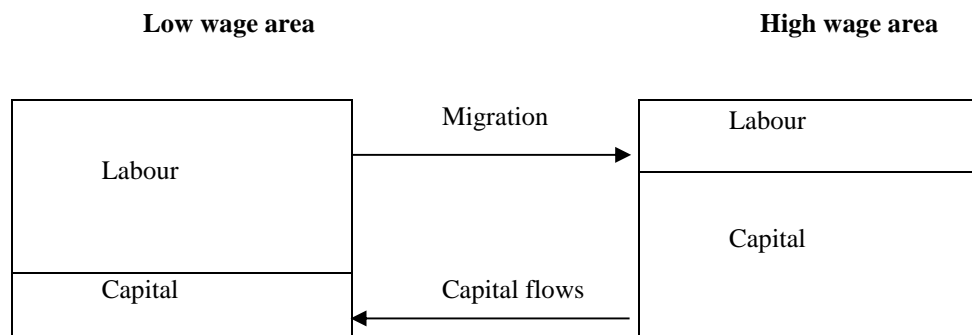
Source: Popovová (2010)

³ This is a migrant stock indicator.

While country 1 better endowed by labour in comparison with capital has a lower level of wage in equilibrium compared to country 2 which is better endowed by capital and records a higher wages at equilibrium. Migration between countries will affect decrease in the supply of labour in country 1 and increase in country 2. It results in higher levels of wages in equilibrium and a difference between them is given by costs of transfer and other social and psychological factors. Supply of capital changes in the opposite direction as depicted in Figure 2.

Figure 2

International migration according to neoclassical theory – graphic chart



Source: Popovová (2010)

Neoclassical theory of international migration suppose full employment and differences in wages are regarded to be a main reason for international migration. Hypothetically, if there were no such differences, there would not be any reason to migrate. However, as it is noted by Popovová (2010), international movement of human capital, i.e. high skilled workers is more influenced by the return of investment in human capital what can be different from level of wages. According to the neoclassical theory labours markets move international migration and mechanism of international migration is hidden in labour markets. Therefore, we can consider any governmental measures into labour markets as measures of international migration as well.

According to Keynes' approach international migration equilibria in labour markets of countries are being achieved through elimination of unemployment's levels, not through elimination of differential in wages. It means that international migration is of pro-cyclical nature (with some time lag of net migration with follows economic cycle). Keynes' theory is focused on nominal wages (including remittances) and explains migration flows among countries by nominal wages which contrasts with neoclassical theory based on real wages.

According to the theory of dual markets real demand for labour causes migration in modern industrialized economies. It means that migration is not affected by push factors in sending countries (low wages, high unemployment), but pull factors in receiving countries (the needs of workers). According to Massey economic migrants demand results from four basic factors in receiving country:

- Structural inflation,
- Motivation problems,
- Economic dualism,
- Demography and supply of labour.

Summarizing, according to this theory international flows of immigrants to countries reply to structural needs of receiving country. Theory of dual labour markets supports philosophy of globalisation tendencies.

2.2 *Micro theories of international migration*

Neoclassical theory of international migration explains decisions of individuals to migrate by expected costs and benefits as expressed in the following equation (Massey, 1993):

$$\bullet \quad ER(0) = \int [P_1(t)P_2(t) Y_d(t) - P_3(t)Y_0(t)] e^{-rt} dt - C(0)$$

Where:

ER(0) is expected net income of migrations stated before the time of emigration in time 0,
T is time,

P₁(t) is a probability to mitigate deportation from a destination country,

P₂(t) is a probability to be employed in a destination country,

Y_d(t) is an income from labour in a destination country,

P₃(t) is a probability to be employed in a country of origin,

Y₀(t) is an income from labour in a country of origin,

r is a discount factor

C(0) is a total sum of transfer including other, i.e. psychological etc. costs.

According to this theory decision of individuals to migrate is influenced by the sum of potential net income from emigration. International migration is according to this theory influenced by differential in wages and unemployment in countries. Specific attributes of human capital (qualification, skills, etc.) increase rate of expected net income as well as probability to be employed in destination countries. Therefore, in line with this theory attitudes towards migration are predominantly individual and unique and ought to reflect an existence of several labour markets (high skilled workers, low skilled workers etc.) and overall migration is then a sum of individual decisions in a specific individual context.

Theory of expected value generalizes micro-economic motivations to migrate and is defined as follows:

$$MM = \sum_i P_i \cdot E_i$$

Where:

MM is an individual motivation to migrate,

P_i are preferred results of migration,

E_i are subjective probabilities of migrants with regard to migration results,

I is an index marking values and wishes of individuals.

The above-mentioned theory is listed among economic theories of migration, however, it considers also social, psychological, cultural etc. results of migration not focusing only on economic ones.

Theory of new economy of international labour migration regards migration decisions as group results consisting of family members, friends, etc.). This theory sets that any migration

decision is affected not only by an effort to maximize income but also minimize the risks and barriers with market failures. This theory explains well emigration from developing countries where there are many failures in institutional mechanism to manage the risks. The theory works with so called relative deprivation feeling of dissatisfaction:

$$RD(y) = \int_y^{y_{max}} h[1 - F(z)]dz$$

Where:

RD is a relative feeling of dissatisfaction. of analysed group with income y,

F(z) is a cumulated distribution of income in the group,

Y_{max} is a maximum income in the group

h is a function measuring dissatisfaction with regard to the relative position of income in the group in the reference community.

From the above-mentioned results that differences in wages are not inevitable needed to migration and that effort to minimize the risks could be a strong motive to migrate. In line with this theory international migration and local activity are not eliminating activities each other.

3. Review of current research

In this chapter we discuss results of studies which devoted to international migration. Two groups of studies will be covered in line with the subchapters – migration among the EU member countries and external migration among countries without international migration within the EU.

3.1 Research of migration among the member countries of the European Union

Van der Gaag et al. (2003) mapped in their study on interregional migration trends in the EU countries the state of statistics of these flows, moreover they were focused on modelling approaches in the research of interregional migration. The study was demanded by Eurostat.

Sprenger (2013) investigated determinants of international migration among 21 member states of the EU covering 2000 – 2009 years using panel data. The determinants were split to economic, demographic, geographic, cultural ones and factors of social networks. The research confirmed the role of traditional determinants (GDP per inhabitant, rate of unemployment) for migration flows among member countries of the EU, but the determinants were revealed stronger for receiving countries. The distance between countries were confirmed among the strongest determinants within the European Union.

Verwiebe et al. (2014) identified new forms of internal migration in the European Union taking into account emerging transnational labour markets in the European Union. They investigated social stratification as a factor of internal migration within European Union.

3.2. Research of external migration (without migration among the EU countries)

Mayda (2005) studied economic and other determinants of international migration of 14 OECD countries in 1980 – 1995. Besides standard determinants (GDP per inhabitant) she investigated impact of relative poverty on migration in line with Borjas theory.

Vikhrov (2013) researched economic, non-economic and institutional determinants of international migration of chosen OECD countries. Using panel data of 67 sending countries and 13 receiving countries covering 1996 – 2006 years it was found that restrictive and selective migration policy disturb conventional push and pull factors of international migration. The author verified relative poverty as a factor of migration (using Gini coefficient).

Liebig – SousaPoza (2003) analysed impact of relative poverty on international migration of chosen European countries and countries out of Europe as well. They used results about willingness to emigrate. The results are opposite against the theory of Borjas. Higher income inequality in the country of origin was confirmed as a factor leading to a higher willingness to emigrate. This was not, however, verified for groups of high skilled workers for which income inequality is not relevant for a decision to migrate.

Ravlik (2014) investigated determinants of international migration for 188 countries having 35 404 observations. The author worked with a hypothesis about attractiveness of countries for emigrants and this aspect was regarded as a complex covering three aspects of human life – economic, cultural and political. Economic attractiveness was described through index of human development, cultural attractiveness was explained by colonial history and political attractiveness was expressed according to the rules of law by Delta Rule of Law results. The research confirmed hypotheses about push factors of international migration which are found in economic, political and cultural attractiveness of receiving countries for migrants.

Fagiolo – Santoni (2014) investigated using regression analysis impacts of social networks within gravity model of international migration (GDP per inhabitant, number of inhabitants in destination countries, distance etc.). Bilateral migration flows of 190 countries were studied between 1960 and 2000. Existence of social network in receiving countries works as a determinants of immigration flows.

Beine – Parson (2012) as the first researched impact of climate factors on international migration. The factors were distinguished according to long-term and short-term ones. They found climate factors do not have direct and considerable impact on international migration.

Ah Oh – Jung (2012) analysed determinants of international labour migration of South Korea and verified the previous findings of studies applied on USA, Great Britain and further OECD countries according to which demographic pressures in sending countries operate as a determinant.

Jones (2008) tried to describe trends in international labour migration in Asia, possible influencing factors were analysed, too.

Ullah (2012) researched economic, demographic and cultural determinants of international labour migration from Bangladesh taking into account sending country. The analysis confirmed that cultural determinants (religion, language etc) are stronger determinants in comparison with other determinants. Gravity model of international migration was used covering years 1995 – 2009.

4. Conclusion

Our research of current studies devoted to international migration revealed that international migration as a research issue is covered by many studies, even unconventional determinants like environmental ones (Beine-Parson, 2012) were studied. On the other hand, there are only several studies focused only on internal migration among member countries of the European Union. According to our findings, the most comprehensive is a study of Sprenger (2013). In spite of a large scale of researched determinants, only 21 countries were included in the analysis and researched period is not sufficiently long covering only 2000 – 2009 years. Labour migration was not researched as a separate migration problem. Alikes, in the study factors impacting on internal migration were not included in the analysis (relative poverty etc.). We also admit that in several studies migration of the EU countries is studied as a part of a broader geographical space covering also further countries in the world (Liebig-Sousa-Poza, 2003), Ravlik (2004), Mayda (2005), Vithrow (2013).

Resulting from the above-mentioned there is not at a disposal a comprehensive study covering determinants of international labour migration covering both internal migration within the EU and external labour migration of the EU and encompassing all member countries of the EU. On the other hand, there are a lot of studies devoted to the problem of international labour migration, however, covering only individual countries.

Summarizing our research we can stipulate:

Current research does not take into account redistribution of human capital in space within the EU. Such study is needed to reveal and explain competitiveness of the EU in global economy based on knowledge.

Current research ought to identify determinants of international labour migration between the EU member countries to explain the determinants according to the workers with different qualifications and skills.

We are not aware of any study covering determinants of internal international labour migration in the EU on one side and external migration of the EU as a whole. This is highly needed to formulate sound policies aimed at labour market in the EU to ensure effective functioning of transnational labour markets in the EU. This is highly demanded also by effective external migration policy of the European Union.

We deem that globalisation and competition of economies based on knowledge is a new context of international migration therefore a new research track ought to be taken to consider globalisation and sharpening competition of economies more in economic theory and economic policy as well.

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Presence of negative income tax forms in personal income taxation of the OECD countries

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Abstract

Currently, the trend of increasing tax burden dominates within the income taxation, especially through the expansion of tax base and eliminating of the possibilities of its reduction. The reduction of the tax burden of low-income individuals is advocated, as a component of the policies of employment and combating the poverty. This article discusses the importance of negative income tax, respectively its forms, as well as methods of their implementation nowadays in OECD countries. The negative income tax is treated as a fiscal policy tool of the one of strategies, addressed to a problem of high unemployment and poverty. Based on empirical analysis of selected publications aimed at negative taxation, there was identified lack of the theoretical apparatus, which is used as a term of the forms of negative income tax. It has been removed and replaced by definition of key criteria of the negative tax forms. Based on analysis of the OECD countries studies addressed to personal income taxation, countries were divided into groups in terms of utilization rate of the negative tax forms.

Keywords: negative income tax, employment, poverty

JEL classification: H24, E24, I30

Introduction

In the last 15 years tax credits have become very popular within the OECD countries. The trend of increasing tax burden in most OECD countries is mainly the result of the enlargement of the tax base and solving the problem of taxing low-income individuals. An effort to reduce the personal income tax base of low-income employees leads to removing the items which are reducing the income tax base and their replacement by tax credits or forms of tax benefits. Tax credits reduces the tax liability itself, while the tax payer is entitled to tax benefits, even the tax liability is zero.

1. Setting a key criteria of negative income taxation

According to Milton Friedman, the substance of the negative income tax's concept is to determine the maximum amount of income and the constant tax rate. „Currently, the minimum amount of income, which does belong into federal income tax, is 600 USD per person (plus the minimum flat-rate deduction 10 %). If an individual received a taxable income of 100 USD, he would pay tax. In case, that the taxable income represented the minimum non-taxable amount including deductions – 100 USD, he would pay negative income tax, in fact he would receive a subsidy. If the rate of subsidy was for example 50 %, he would receive the subsidy 50 USD. If he had no income and no deductions to simplify, he would receive the subsidy 300 USD. (Friedman, M. 1993). As it's reported by the OECD study (Haveman, 1996), negative income tax or its variations belong to the key instruments of

the strategies aimed at the problem of high unemployment and poverty. They are divided into two main areas – the strategies aimed at the income support and the strategies aimed at the labor market support:

1. The strategies aimed at the income support

1.1. Credit income tax - CIT

The principle of CIT consist of setting certain minimum life standard, represented by the amount of credit. Credit is set for every person annually. Subsequently, the total tax liability is calculated from the amount of all earnings. If the amount of total tax liability exceeds the level of credit, an individual will pay tax to the state. If the tax liability is below the level of credit, and individual will receive a transfer from the state. At the same time, it's assumed that the implementation of credit income tax should replace all other personal deductions and exemptions, which reduce the tax liability of individuals.

1.2. Negative income tax - NIT

The principle of NIT is similar to the CIT principle. The difference is that NIT can be implemented without drastic changes of the existing tax system. In other words, there can be two parallel systems of taxation, existing at the same time. Therefore the disadvantage is, that one and the same entity with low income may become subject of both programs, and receive two or more benefits and subsidies.

1.3. Basic income guarantee - BIG

The key idea of this concept is to provide support to everyone – the rich or poor ones – nevertheless the level of their other incomes.

1.4. Earnings supplements – ES or Earned income tax credit - EITC

The difference between NIT and ES is that individual is not entitled to receive any transfer, when no earnings are generated by him. Also there are used different kinds of tax rates on the income below and above particular level of income (for instance poverty level). The total income is taxed at the marginal negative income tax rate and the income exceeding the mentioned level is taxed at the implicit marginal tax rate.

The table 1 presents summary and highlights the main advantages and disadvantages of implementation the previously mentioned strategies.

Table 1

The advantages and disadvantages of the concepts of CIT, NIT, BIG and ES.

Concept	Advantages	Disadvantages
<i>CIT</i>	<ul style="list-style-type: none"> - Simplicity - Reducing social inequalities - Administrative modesty 	<ul style="list-style-type: none"> - It brings difficulties for implementation (complexity of the tax system) - It brings lower social effectiveness compared to the system of social benefits - The entitlement to benefit arises after the end of the tax period
<i>NIT</i>	<ul style="list-style-type: none"> - Simplicity 	<ul style="list-style-type: none"> - there is required administration

	<ul style="list-style-type: none"> - reducing social inequalities - the possibility of implementation without significant affect on the tax system - it does not exclude the paralel existence of social security system 	and creation of the separate responsible institution
BIG	<ul style="list-style-type: none"> - it provides low administrative costs - it provides support for low-income working population 	<ul style="list-style-type: none"> - it usually requires a high margina tax rate - it reduces employment initiative
ES	<ul style="list-style-type: none"> - simplicity - administrative modesty - activation of the unemployed population in the labor market - the possibility of implementantion of it, without significant affect on the tax system - it does not exclude the paralel existence of social security system 	<ul style="list-style-type: none"> - it can't be used as a national program of income support

Source: Processed according to: Haveman, R. 1996. *Reducing poverty while increasing employment: A primer on alternative strategies and a blueprint*. [online]. OECD Economic studies. No 26. Available at : <<http://www.oecd.org/eo/growth/2502824.pdf>>.

2. The strategies aimed at the labor market support:

2.1. The subsidies to the wage rate

In addition to earning supplements, similarly this kind of the subsidy is determined by the work activity. The key point is to set the target wage rate and percentage rate of the subsidy. Afterward, it subsidizes to every worker a certain percentage of the difference between target wage rate and partilular wage rate of the worker.

2.2. The subsidies based on the marginal employment rate

Similarly as the subsidies to the wage rate, this instrument is designed to increase income from employment, in terms of economic support of the employees and their families. While the previous instrument provides support for low-skilled labor force from the side of supply, this is provided from the side of demand.

Based on the data from OECD studies (OECD, 2014), I have identified the differences between the concept of the basic income guarantee and negative income tax. To the attention I am also stating the tax credit concept and the earned income tax credit concept, which represent a forms of the negative income taxation of individuals. Accordingly, I set out the basic criteria, that should comply a tool, as the one of the forms of negative tax:

- 1) Negative income tax is not guaranteed to all individuals without exception. This criterion will be deemed to be satisfied, if individual is generating taxable income from some source. As the subjects of this research were the countries summarised in the studies, devoted to the personal income taxation, I consider this criterion was met.
- 2) Negative income tax is reducing the final tax liability.
- 3) Negative income tax permits the subsidy from the state budget in case of non-fulfillment of a specific minimum income threshold.

These crieteria I selected based on theoretical assumptions and I consider them as a representative for the assessment of negative income taxation of individuals.

2. Verification of presence of the negative income taxation of individuals in OECD countries

The last published OECD study (OECD, 2011) addressed concretely to the topic of taxation and employment was in 2011. It included also the overview of the countries, which were using labour tax credits (in-work benefits). Table 2 presents a part of this scheme.

Table 2

In-work tax credits (and equivalent benefit schemes) in OECD countries, 2010

OECD country	Name of the item of negative taxation
Belgium	Reduced social security contributions
Denmark	Earned Income Tax Credit (operates as allowance)
Finland	Earned Income Tax Credit (operates as allowance)
	Labour Income Tax Credit (central income taxation)
France	Prime pour l'emploi
Netherlands	Labour Credit
	Income Dependent Combination Credit
Ireland	Family Income Supplement
Canada	Working Income Tax benefit
Korea	Earned Income Tax credit
Luxembourg	Employee tax credit
Hungary	Employee tax credit
New Zealand	In-work tax credit
Italy	Labour Income Tax credit
Slovak republic	Child tax credit
	Employee tax credit
Spain	Earned income deduction
	Earned income credit
Sweden	Earned Income Tax Credit
USA	Earned Income Tax Credit
United Kingdom	Working tax credit

Source: Processed according to: OECD. 2011. *Taxation and Employment*, OECD Tax Policy Studies, No.21. [online]. OECD Publishing. 170 s. Available at: <<http://dx.doi.org/10.1787/9789264120808-en>>.

Based on mentioned entry sources as well as many more OECD studies, I have analysed all 34 OECD countries. Recent data showed, that for 28 OECD countries there can be interested to search for a presence of negative taxation. The most used form of negative taxation is tax credit, mainly used as:

- Employee tax credit and its equivalents
- Child tax credit and its equivalents

Although the studies of OECD countries show in the context of negative tax usually on the example of Slovakia, Czech republic, Germany, Great Britain, Mexico and Canada, based on collected data, negative income tax in the form of tax credit may be found in many more tax systems. Table 3 presents the forms of tax credits appearing in the tax systems in OECD countries.

Table 3

The forms of negative income tax in personal income taxation in OECD countries, 2013

OECD country	Form of tax credit
Australia	Child tax credit
Belgium	Refundable tax credit for low-income from Professional activities
	Refundable tax credit for low-income workers
Czech republic	Tax credit per taxpayer
	Credit per spouse
	Credit for children
	Credit if taxpayer is in receipt of a partial disability pension, full time disability pension, ZTP-P cardholder, Ph.D. programe
Denmark	Personal tax credit / Conflict !
Finland	Tax credit standard
France	Employment bonus
Greece	Tax credit standard
	Tax credit for hospital and medical care
	Tax credit for alimony
	Tax credit for donations
	Tax credit per spouse
Netherlands	Standard tax credit / Conflict !
	Work credit / Conflict !
	Combination credit / Conflict !
	Income dependant combination credit / Conflict !
	Single parent credit / Conflict !
Ireland	Basic reliefs
	Standard marital status relief
	Emplyee credit
	Single parent family relief
	Relief for interest on qualifying loans, medical insurance, mortgage interest relief, work related expenses, home carers allowance
Iceland	Basic tax credit / Conflict !
	Standard marital status relief / Conflict !
	Tax credit for fishers / Conflict !
Israel	Interest payment relief
	Basic credit
	Additional credit for women
	Child credit
	Single parent credit
	Credit for immigrants
	Credit for soldiers
Credit for graduates	
Japan	Credit for housing loans
Canada	Basic tax credit
	Credit per spouse
	Child credit
	Working income tax benefit
	Canada employment tax credit
	Medical expenses credit
	Charitable donations credit

Korea	Working income tax credit / Conflict !
Luxembourg	Employee tax credit
	Single parent credit
Mexico	Employement subsidy credit
Germany	Relief for children
New Zealand	In work tax credit
	Family tax credit
	Amount for children
	Minimum family tax credit
	Independent earner tax credit
Poland	Standard tax credit / Conflict !
	Child tax credit
	Relief for health and social security insurance contributions
Portugal	Basic credit
	Child credit
	Family member credit
	Credits for health care costs, educating expenditures, permanent residence etc.
Austria	Employee tax credit + traffic credit
	Child credit
	Credit per spouse
	Tax credit for retired persons
Slovak republic	Child tax credit
	Employment bonus
Spain	Maternity tax credit
Switzerland	Child credit
Sweden	Work income tax credit
Italy	Work income tax credit / Conflict !
	Family Dependents credit / Conflict !
USA	Child tax credit
	Work income tax credit
United Kingdom	In-work tax credit
	Child tax credit

Source: Own processed by author

Table 3 contains in total 25 countries where were identified an elements of negative taxation. Here we might be talking about 73% share from the all OECD countries. Despite the criticism of negative income tax concept in the past, currently it's applied, and it appears in different forms and under the differents names. Through the tax systems in OECD countries, I met mostly the tax credits, tax bonuses, employee tax credits or bonuses and others. Many times under the term *tax credits* they call the instrument, which is not, in fact. For instance, they are talking about non-taxable parts of the tax base or tax allowances. These can not be classified as tax credits, because as I pointed out, there are significant differences between the concept of basic income and the concept of NIT. About 17% of all forms of the negative income tax listed in the table 3 are inconsistent with the fundamental characteristics of NIT, mentioned previously. This stems from the fact, that the term *tax credit* is often used incorrectly.

All analyzed OECD countries can be divided into three groups, in terms of the position respectively importance of NIT in taxation of personal incomes:

1. The countries, where NIT has an initial position and other items decreasing tax base or exemptions from income taxation, are either optional or not used at all. Within these

countries we can find Australia, Czech republic, Greece, Ireland, Iceland, Israel, Canada, Poland (8).

2. The countries, where both systems - system of NIT/ tax credits and system of tax allowances, exemptions and deductions – are working parallel. For these countries, it's not possible to clearly determine which of the systems is dominant. It includes Belgium, France, Netherlands, Mexico, Germany, New Zealand, Portugal, Slovak republic, Sweden, USA, Great Britain (12).
3. The countries, where NIT/tax credits are just an additional tool, and do not have significant position in personal income taxation. This group includes Finland, Japan, Luxembourg, Spain, Switzerland. (5)

Obviously the largest group of countries is the one, where we are not able to clearly identify which form is used mainly – if the system of tax credits or system of tax allowances. It allows to them, on the one hand targeting on selected groups of taxpayers and on the other hand supporting their incomes in the form of benefits. Based on the above, we can conclude that the implementation of elements of NIT is appearing in current tax system, and the trend compared to year 2010 is increasing.

Conclusion

This research is an evidence, that the issue of negative income tax is supposed to be paid more attention these days. Despite of increasing trend of its using in OECD tax systems, it is not given sufficient attention. This is advocated by the inconsistency which I have found, and as I have demonstrated, there is significant absence of the basic terminology of negative taxation.

Together with OECD countries classification based on NIT position, and the overview of particular forms of its implementation, these are important outputs of my research and published article. It could be great base for further research, in terms of finding out the effect of implementation forms of NIT into tax systems in selected countries.

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Quality of professional and private life during the productive age of employees

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Abstract

Policies of the European Union are still more and more engaged with the topic of employment and quality of entrepreneurship environment. However, this topic cannot be observed separately as the percentual employment rate or the niveau of profits expressed in money terms. For effective and successful entrepreneurship, high-quality human resources are needed, which are more or less independent from the actual employment or unemployment rate. Important factors like work performance and motivation for fulfilling the company goals are present in companies where the private life is in line with the professional one. The main goal of the European policy "Europe 2020" – which has replaced the Strategy of Lisbon – is the improvement of work conditions and job quality, increase of gender equality on the job market as well as reduction of structural unemployment. This paper deals with the balance between the private and professional life of employees in national and international companies. The actual phenomenon of globalization and internationalization also needs to be considered – especially in times of human and labour migration and integration in society. Results used in this study come from the European Working Conditions Survey (EWCS) and their influence on employee performance and European Union policies.

Keywords: *Work conditions, Workplace, Working time*

JEL Classification: *J81, J88*

1. Introduction

Politics within the European Union deal more and more with the question how to achieve a good balance between the working and private life. This balance affects many life factors of an employee. These factors influence the work performance, motivation and the overall fitness of an employee. Corporations tend to apply different forms of work benefits, so that a consensus between the private (especially the family) and work life is established. European Union has already conducted the fifth European Working Conditions Survey (EWCS) among its member states. Following this, the most discussed means of working conditions improvement is the modification of the working time – the time an employee has to spend at his workplace. European Union also tries to reduce the difference between the employment of men, women and young people. Furthermore it tries to minimize the wage distribution for the same job position and helps the young people and women to get the same job opportunities as for the men. Moreover this survey compares different work areas from the viewpoint of a working time, balance between the private and working life, working conditions (physically and psychosocially), work and relationships organization, improvement of professional and soft skills, taking new employees and college graduates and many others.

The main goal of this article is to describe the current state of quality of working and private life in states of the European Union using the EWCS.

2. Political context – the aim of Strategy of Lisbon and economical plan Europe 2020

Creation of the Lisbon Strategy was motivated by the adverse economical development of the European Union in the last decade of the 20th century. The Lisbon Strategy (since 2000 till 2010) was a plan how to achieve a better qualification of the work force and support the company innovation activities. In order to achieve these goals, the educational system and social security system needed to adapt to the fast changing environment. Fulfilling this strategy would make European Union comparable to other world powers like USA, Japan or China. Its strategic goal was to “become the world’s most competitive and dynamic knowledge economy capable of sustainable development and with higher number and quality of work places and social coherence till 2010”¹. However, these were not the only goals, the Lisbon Strategy wanted to achieve in such a short time period. Further goals were the environmental and social goals, which at some point were contradictory and too much generally formulated – making it harder to fulfil the main goal of economical growth and employment stability. Finally, the Lisbon Strategy was based on three pillars – the economical, social and environmental one.

The control of the goal achievement was done by the European Commission every half year. Besides the actual state report a comparison between the EU and other countries was established. Already in year 2004, EU-controllers stated that the strategy goals may not be fulfilled till 2010. This report was named Wim Kok report. Even though the number of working positions was increased, the development of science and knowledge economy stagnated. The main reasons for this failure, as seen by Wim Kok, were the contradictory goals of the Lisbon Strategy in the first place and the fact, that many member states did not incorporate this strategy into their own national policies in the second place. With the new EC president José Barroso in 2005, the strategy priorities were set much more clearly and disadvantages were gotten rid off. Since 2005, Lisbon Strategy had only 2 main goals – achieve a higher and sustainable growth and more stable working positions. On a yearly basis, national governments had to create their own growth and employment plans.

In 2010, the EC president José Barroso summoned the member states to learn from the current economical crisis and cooperate on their common goals. Furthermore, he presented a new plan called Europe 2020, which was to replace the old Lisbon Strategy. “Europe 2020 is based on three interrelated priority areas – the intelligent growth, economical development (based on knowledge and innovation) and sustainable development (low emission industries with low resources consumption and high employment with social and land coherence)”². The EU commissioner for employment and social issues László Andor stated, that “protecting and promoting working conditions in the EU is about taking care of our human capital. We have a remarkable heritage of law and policies to ensure good working conditions that allow for high levels of satisfaction among European workers. But there is a fear also, and a real risk, that working conditions will suffer in the wake of the economic crisis. Together with Member

¹ *Lisabonská stratégia EÚ*. [online]. [cit. 2014-06-01]. Available at: <<http://www.euroinfo.gov.sk/lisabonska-strategia-eu/>>

² *Stratégia „Európa 2020“*. [online]. [cit. 2014-06-01]. Available at: <<http://www.euroinfo.gov.sk/strategia-%E2%80%99Európa-2020%E2%80%9C/>>

states and employee and employer organisations, we need to renew our efforts to preserve and improve working conditions”³.

3. Working conditions and quality of the working positions

The main goal of the European Union and its strategy Europe 2020 is to improve the working conditions, enhance the quality of working positions, improve the gender equality on job market and diminish structural unemployment. To fulfil this goal it is essential to look at the quality of working positions and employers qualification according to a particular sector. Focusing on the sector level makes it possible to identify areas with the biggest differences between the working times of its employees, in qualification and specialisation of their work, in gender inequality or the balance of age groups, or a strict meeting of the work times – so that employers do not tend to have work injuries and many others. Division into specific industrial areas makes it easier to detect malfunctions and various negative aspects in order to find a proper measure to deal with them. High employment rate and ability to keep the job is one of the main goals of the program Europe 2020. Therefore it is absolutely necessary to put together a legislative package of measures protecting working places and work conditions.

Table 1
Average sector-specific wage in Slovak Republic (SR)

Indicator	2012	2013	2014	2015	
	1.– 4. Q. €	1.– 4. Q. €	1.– 4. Q. €	1. Q. €	2. Q. €
Economy of the SR	805	824	858	839	877
Of which: Farmers, forestry and fishing	637	640	686	657	660
Of which: Agriculture	630	626	653	639	656
Industry	857	888	936	907	973
Mining and quarrying	932	933	992	1049	1017
Industrial production	832	866	915	885	952
Electricity, gas and steam	1471	1466	1521	1510	1609
Water supply	823	875	866	821	880
Construction	607	607	600	577	613
Wholesale and retail trade	760	768	799	757	801
Transport and Storage	812	803	822	825	864
Accommodation and food services	511	513	511	484	503
Information and communication	1637	1634	1660	1706	1668
Financial and insurance activities	1658	1531	1657	1713	1793
Real estate activities	907	865	884	892	846
Professional, scientific and technical activities	933	1021	1051	1019	964
Administrative services	815	824	887	864	799
Public administration and defense, compulsory. soc. security	998	1010	1046	1003	1081
Education	682	722	762	734	796
Health care and social assistance	770	800	839	799	842
Arts, entertainment and recreation	633	627	632	598	601
Other activities	584	580	566	528	578

Source: own processing⁴

³TODD, J. – DUBOIS, C. (2014) Pracovné podmienky: Nový prieskum odhaľuje zhoršenie stavu a veľké rozdiely v spokojnosti pracovníkov. [online] Brusel [Septembar 2015]. Available at: <http://europa.eu/rapid/press-release_IP-14-467_sk.htm>.

Within different sectors the working time, working conditions and the danger of work accident varies strongly. The differences in a particular industry occur also in the areas of wages and repayments – which differ not only between men and women, but also between domestic and foreign labour and between labour force from different parts of the state or of the world. There exist differences between the labour organisation as well – in some industries, the team work is dominant, whereas in other industries it is more about the individuals. There is also a difference between the monotony of one's work and a permanent rotation of the work positions – enhancing the working skills and intellectual growth of employees. According to the fifth EWCS from 2010⁵, these inter-industrial differences cause variations in qualities of personal and work life of the employees. Strong imbalance between the personal and work life is for example present in sectors of accommodation services, beverages and food industries, warehousing and transportation.

One of the best tools for job search within the European Union is the system called EURES (EUROpean Employment Services). It constitutes a database with vacant job positions in all EU-member states, in Norway, Island, Liechtenstein and also in Suisse⁶. The goal of EURES is to harmonise the job offers with the job demand within the whole covered area. Besides the bidirectional database (supplying the best job offers for job seekers or vice versa supplying the employers with the most suitable job seekers), EURES offers tips regarding writing a CV and tips about the administration and other requalification possibilities.

4. Physical and psychosocial risks

Risks of physical injuries are logically much higher in production sectors than in services. The risk intensity depends mostly from the quality of the working position, which is measured by four factors – future prospect, reward, quality of the working time and the quality of the work done. Sectors with similar qualities of work positions achieved similar risk levels for physical or psychosocial risks. The survey of European Foundation for the Improvement of Living and Working Conditions (EUROFOUND) stated, that especially the employees in transportation, warehousing, metallurgy and food industry are most vulnerable to the psychosocial problems – a sensed tension from work. High quality of work positions is present in sectors like banking and insurance industries, community services, legal services, financial and accountant services and sectors with high share of team work, or possibility of jobs rotation and personal growth – for example the social work or the institutional care.

As a consequence, the quality of working position is very important for the overall health and fitness of an employee, diminishing the risks of work accidents, work motivation, creativity, harmony between the private and work life as well as the overall life quality. Sectors with higher working position quality carry less discrimination – both intersexual between men and women as well as between the young and old, more skilled employees. Moreover, the fluctuation is lower and productivity is higher. Within the EWCS working

⁴STATdat, Priemerná mesačná mzda podľa odvetví, Available at: <<http://statdat.statistics.sk/cognosex/cgi-bin/cognos.cgi>>

⁵ FOUNDATION. *Pracovné podmienky a kvalita pracovných miest: porovnanie odvetví v Európe*. [online]. [cit. 2014-06-01]. Available at: <http://www.eurofound.europa.eu/publications/htmlfiles/ef13841_sk.htm>.

⁶ EURES, 2015 The European Job Mobility Portal, [online] EÚ [Septemmer 2015] Available at: <<https://ec.europa.eu/eures/public/homepage>>.

positions were assessed according to the working conditions quality⁷. Job positions with the highest quality are taken by highly qualified employees, such as specialists, managers, engineers, clerks and employees in public services or in big corporations. The least job quality can be found in small highly volatile work groups, consisting of young employees, older women or unqualified labour. To cite an example, those are the jobs in agriculture, in trade, in supplies and especially in very small companies, with bad working conditions and high work risks.

Despite the well known correlation between a qualified employee, good job position, higher salary and lower working risks, approximately only half of all the European employees take part in professional preparations leading to a lifelong learning. Considering the EU-efforts and its political goals about the lifelong education, this is quite a negative fact.

4.1 Age and gender differences among the new and stable employees

Despite many legal measures, the employment rate and working conditions are still influenced by gender and age. Men and women are employed in different sectors and job positions, with different contracts, wages and working times. Influenced by the crisis, the gender inequality got even deeper. The fifth EWCS states⁸, that only 5 out of 20 professional fields have a balanced share of both genders. Typical female sectors are public services, health sector, education and administration. Typical male industries are IT, constructions, logistics, production and energy distribution⁹. Considering the time spent on a job, women work for 34 and men for 41 hours per week. However, it is not uncommon, to even surpass the EU-threshold of 48 hours per week. To sum up, women work more as an unpaid labour. Women work altogether 64 hours, whereas men work only 53 hours. Women spend on average 26 hours for caring, whereas men spend only 9 hours. Considering the wages, women earn on average less than men. Both men and women tend to be happier if their boss is of the opposite gender, or if both genders are present in a team. To sum up, men are more satisfied with their work than women. A basic measure to make women feel better in their job is to make it more advantageous for young mothers to find a job or not to lose one during the maternity or because of the structural changes within company.

Table 2

Working conditions influenced by the gender inequality

	Men	Women
Gender dominated industries	IT, construction, logistics, production, energy distribution	Public services, health care, education and administration
Time spent in a paid job	41 hours/week	34 hours/week
Time spent with unpaid household work	9 hours/week	26 hours/week
Salary	The average difference between the men's and women's salary in EU is 16,4% ¹⁰ in favour of men.	

Source: own processing

⁷ FOUNDATION. *Kvalita podmienok zamestnania a pracovnoprávných vzťahov v Európe* [online]. [cit. 2014-06-04]. Available at: <http://www.eurofound.europa.eu/publications/htmlfiles/ef13671_sk.htm>

⁸ FOUNDATION. *Muži, ženy a pracovné podmienky v Európe* [online]. [cit. 2014-06-04]. Available at: <http://www.eurofound.europa.eu/publications/htmlfiles/ef13491_sk.htm>

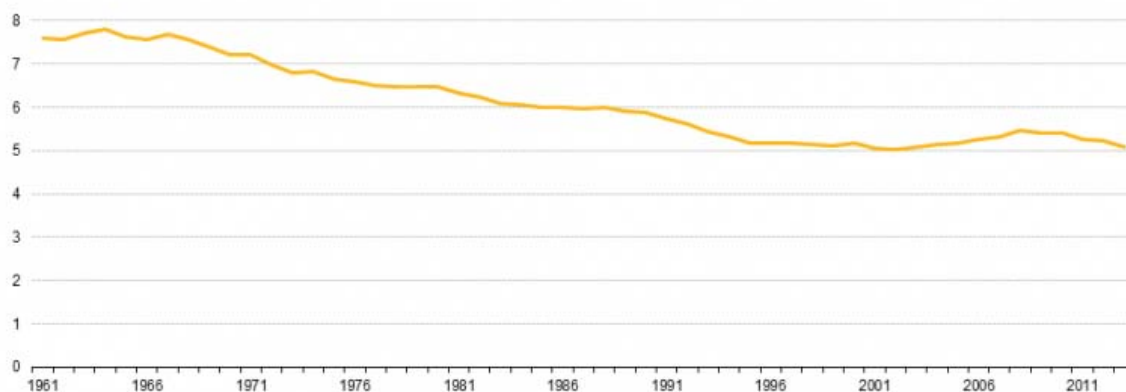
⁹ KOVÁČIKOVÁ. I. *Mužský a ženský element na trhu práce* [online]. [cit. 2014-06-04]. Available at: <<http://karierainfo.zoznam.sk/cl/100325/794772/Muzsky-a-zensky-element-na-trhu-prace>>

¹⁰ EUROSTAT, News release, Woman earned on average 16% less than man in 2013 in the EU [online]. [cit. 2014-06-04]. Available at: <<http://ec.europa.eu/eurostat/documents/2995521/6729998/3-05032015-AP-EN.pdf/f064bb11-e239-4a8c-a40b-72cf34f1ac6f>>

The survey however shows, that the difference between the men's and women's employment in Europe is not big. The big problem is the discrimination of young people¹¹. Since the financial and economical crisis start, the employment rate of young people under 24 years dropped. In 2013 their unemployment rate was 23%, compared to the overall unemployment rate of 12% in the EU. For companies it is advantageous to hire fixed-term employees, giving young people the opportunity to work along with their studies. For full-time employees such a contract represents a risky job position with risky social security. Most of the EU countries have regulations for the fixed-term contracts regarding the contract time and the maximum contract renewal count. During the crisis, these regulations were loosened in order to create new job positions. There were worries about the employees' intake at the expense of their quality – which was thoroughly discussed by the EU in the memorandum “Working together for Europe's young people” from 2013¹². In times of crisis companies could lower their expense by hiring short-term employees, trainees or by the introduction of employee test phase. Furthermore, employers can lower their expenses also by contracting the so called “false free license”. In this case a tradesman is employed under conditions quite similar to those of a regular employee, thus lowering the social security and employment protection expenses of a company. These “false free licences” are thus represented by workers, whose job has the nature of an employer, but formally they work on a free license, and their work is paid by an invoice¹³. This way, they lose most of their employer-related certainties, such as social security of employers, unemployment assistance and financial grants in case of inability or maternity. In many EU countries, special measures were taken, which help to employ young people, by giving them education or professional skills, and giving subventions to their employers.

Graph 1

Change in natality in Europe (in millions of inhabitants per year)



Source: EUROSTAT, 2015, Number of live births¹⁴

Insecurity of young people and instability of their work positions influences badly their work and private life. This results in young people fearing their financial stability, thus

¹¹ FOUNDATION. *Mladí ľudia a krátkodobé zamestnanie v Európe*[online],[cit. 2014-06-06]. Available at: <http://www.eurofound.europa.eu/publications/htmlfiles/ef13771_sk.htm>

¹² EURÓPSKA KOMISIA. *Spoločne pre mladých ľudí – Výzva na prijatie opatrení proti nezamestnanosti mládeže* [online],[cit. 2014-06-06]. Available at: <http://ec.europa.eu/europe2020/pdf/youth_sk.pdf>

¹³ FOLETOVÁ, V. *Falošných živností na jeseň pribudlo*. 4.12.2013. [online],[cit. 2014-06-06]. Dostupné na internete: <<http://ekonomika.sme.sk/c/7027757/falosnych-zivnosti-na-jesen-pribudlo.html>>

¹⁴ EUROSTAT, 2015, Number of live births [online],[cit. 2015-06-09]. Available at: <[http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_live_births,_EU-28,_1961%E2%80%932013_\(%C2%B9\)_ \(million\)_YB15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Number_of_live_births,_EU-28,_1961%E2%80%932013_(%C2%B9)_ (million)_YB15.png)>

planning their parenthood with big delays. As a result, the European population is getting older and natality is low.

As can be seen in the graph, the natality in Europe has sunk since 1961, when it was about 7.5 million of children, to about 5 million in 2001. Since that it oscillates at the value of about 5 to 5.5 million of children per year. These numbers are also caused by the higher age of primiparous women, who concentrate more on their career than on family foundation.

5. Main problems in achieving a balance between the private and work life according to Foundation Findings

European Union strives to solve the problem of life quality and balance between private and work life in many political documents. In the Green Book document from 2005 it describes the demographic decline. Furthermore it describes state policies, which would help men and women to live their professional and family lives in a stronger harmony¹⁵. EU member states collect experiences about the problematic of children and senior care, which are carried out mostly by women.

Despite the higher gender equality, it is still women, who have less paid jobs, and spend great amount of their time doing unpaid jobs - taking care of their children and working in household. There is no common family policy in Europe valid for all the member states. Each state has its own policy which behaves according to the subsidiarity principle. This is also the reason, why there was no mention about common family policy in the EU social policies programs of 2000 and 2005. The main goal for improvement of harmony between the family and work life was the struggle of EU to create equal job market chances for men and women. Inner state legislature was influenced by the EU measures and laws in this area. To state an example, there are the National Action Plans on Employment Creation, maternity protection legislature from 1992 or the maternity leave from 1996.

The main findings of the EUROFOUND show six main drawbacks¹⁶, which hinder a good balance between the private and working life of employees in the European Union:

1. Long working time – achievement of a balance is hindered by a long working time of employees, making it hard to satisfy the family needs at the same time.
2. Evident differences between men and women – men spend more time per week on a paid job, whereas women spend much more time working overall – taking into account the unpaid work such as taking care about children or household.
3. Disadvantaged groups are under bigger pressure – single parents, single people or young people are disadvantaged, because they cannot share their household work with a partner. As a result, their salary and pension is lower, and their working conditions as well as their social securities are worse. This results especially by single parents to a part time job, so that the working and private life can be harmonized.
4. Higher working time flexibility is complicated by financial and social aspects – existing tax, social security and pension systems still have not adapted themselves to the new work organisation forms like part-time or fixed-term job, which could help harmonizing the private with the working life.

¹⁵ EURÓPSKA KOMISIA. *Zelená kniha: Ako čeliť demografickým zmenám: nová solidarita medzi generáciami KOM (2005) 94*. 2005. Luxemburg: Úrad pre vydávanie úradných publikácií Európskych spoločností, 2005. s. 23. ISBN 92-894-9397-6

¹⁶ Európska nadácia pre zlepšovanie životných a pracovných podmienok. 2009. *Rovnováha medzi pracovným a súkromným životom – riešenie dilemy*. [online]. [cit. 2014-06-08]. Available at: <<http://www.eurofound.europa.eu/>>

5. Organisation of care for children and old people – population of Europe is getting older, thus the question of care about the old people and children is becoming more and more important. This question is mostly about the women – also in the context of maternity leave as parental leave, when taking care about children and old people. Maternity and parental leave is limited for men, showing gender inequality.
6. Companies may benefit from helping their employees to harmonize their work and private life – introduction of a flexible working time, enabling families to harmonize their private with their working life may be beneficial for both parties. Another benefit could be the reduction of unemployability and increase in productivity. Furthermore, there may be a decrease in employer fluctuation and higher satisfaction in the job.

Solution to the problem of harmonization of private with the working life was proposed as the usage of different forms of work flexibility. The mostly used measure is the introduction of a flexible organisation, such as flexible working time, part-time work, house office etc. Šipikál (2007)¹⁷ defines some of the advantages and disadvantages of flexible organisation. Advantages of the flexible organisation are the increase of life quality, the unemployment reduction and the possibility of new working positions creation, innovation of working regimes and harmonization of the employer's with the employee's interests. Disadvantages are the insecurity, caused by every change, time irregularity, higher labour intensity, higher organizational, planning and coordination demands and higher expenses to record the hours worked. Introduction of the flexible working time is not positive only for the employees, but also for the employers. Employer does not need to adapt his work purely to his family needs, but can also adapt it to the work load and to different demands at his working place.

7. Conclusion

To sum up, the surveys state, that the labour force is being polarized into two groups. First group consists of highly qualified, time-flexible working places, which are occupied by older more skilled employees. These older employees have got higher salary, a better access to further professional education, lower work risks and they have a good dealing position in the meetings, because they know their company well. The second group consists of low-qualified working positions with low salary and unprofessional work content. These jobs are offered to younger, less qualified or less skilled people as a fixed term or a part time contract or even without a contract. Such employees have worse bargaining position about the company functioning and even about their own salary. Employees from the first group are more satisfied with both their private and work life. This does not apply at all for employees from the second group.

Employer should try to diminish or even eliminate these vast differences by means of various measures. Employer's support to harmonize private with work life of his employees needs changes in company structure, company values and the overall atmosphere of the work place¹⁸.

¹⁷ ŠIPIKAL. M. a kol. 2007. Zosúladovanie pracovného a rodinného života v krajinách Európskej únie, Banská Bystrica: Regionálne európske informačné centrum a Ústav vedy a výskumu v Banskej Bystrici. 2007. s. 50. ISBN 978-80-8083-433-7

¹⁸ LAPINOVÁ.E. JAKAB. M. 2008. Podpora zosúladovania pracovného a rodinného života v zamestnávateľskej organizácii. Banská Bystrica: Regionálne európske informačné centrum a Ústav vedy a výskumu v Banskej Bystrici. 2008. s.68. ISBN 978-80-8083-435-7

Related to the topics discussed in this article, further surveys and papers will be carried out, most notably the sixth European Work Conditions Survey by the end of 2015. Results of the sixth EWCS are very important, because they will not increase the quality of work conditions, but also improve the physical and psychical conditions of employees and bring benefits to companies and the whole society.

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Population ageing and its implications on health-care system

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Abstract

Population ageing is an important aspect that affects public health-care system and its expenses. The current demographic prediction shows expected growth in health-care expenses. Countries of the European Union will be among the most affected. Effective economic measures and policies are needed to mitigate predicted negative effects of rising costs in this area.

Keywords: *population ageing, demography, health-care*

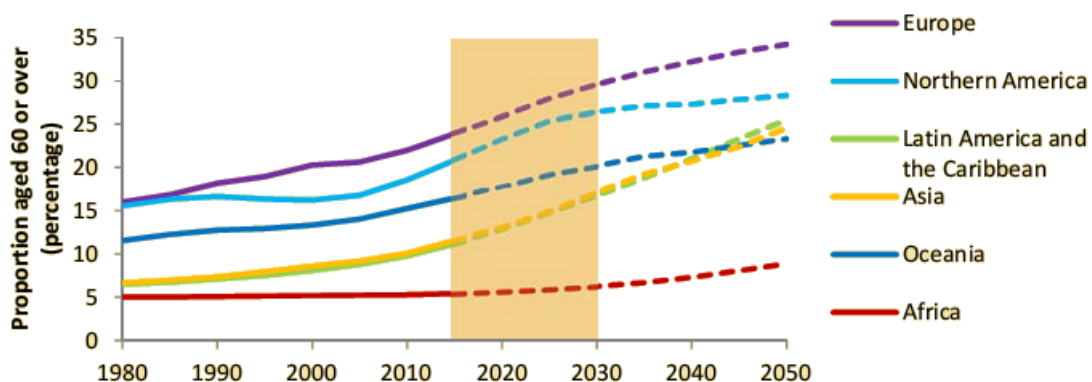
JEL Classification: *I15, I18, J10*

1. Population ageing and the era of non-communicable diseases

Population ageing is one of the biggest challenges nowadays. This phenomenon affects almost all countries of the world. It is unprecedented in human history. It has no parallel and the twenty-first century will witness its implication in full strength. Population ageing is pervasive “global phenomenon affecting every man, woman and child but countries are at very different stages of the process, and the pace of change differs greatly”(UN, *world population ageing*) It is enduring, and humankind will not return to times with young demographic populations. Population ageing has profound implications for the economy. It causes changes in the structure of demand, raises total health care expenditure, affect competitiveness and have many other microeconomic and macroeconomic implications. Current demographic projections show that Europe and the European Union will be soon one of the most affected regions of the world.

Figure 1

Percentage of population aged 60 years or over by region 1980-2050

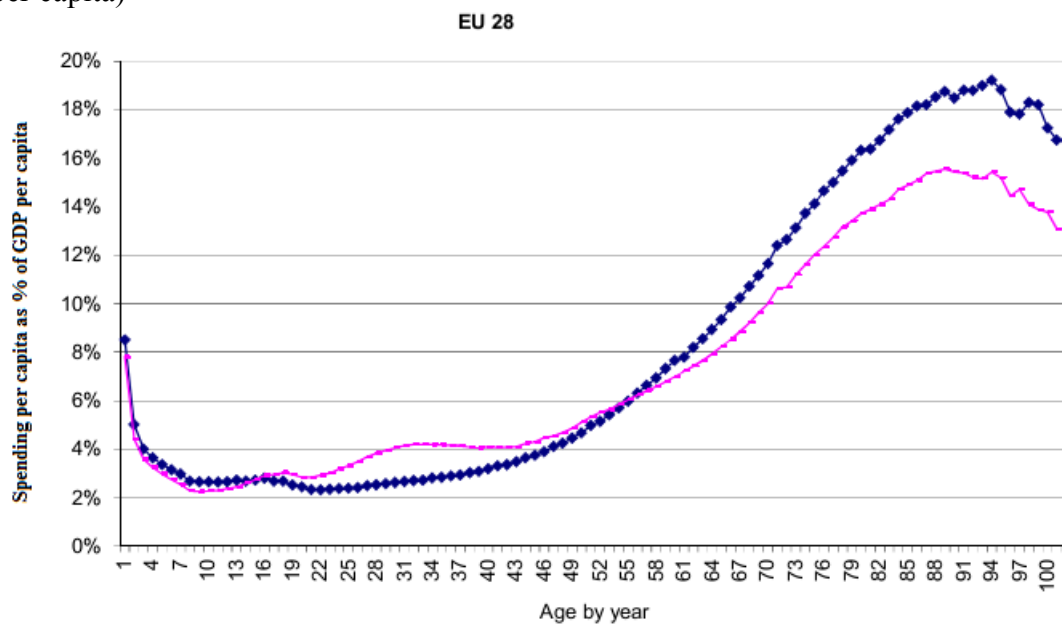


Source: United Nations, Department of Economic and Social Affairs, *Key trends in world population ageing 2015*.

The population of European Union is getting older, and it means that more and more people are starting to be in post-productive age. There is also expected to be the growth of so-called oldest old. This age group is specific by high health care costs. Figure 1 shows that by 2025 there will be 25% of EU citizens older than 60 years old. By 2030, 3 out of 10 citizens will be older than 65 years, and this trend will continue. It is a problem because as we can see in figure 2 higher age correlates with higher health care expenditure. As we can see in figure 2. Age is a significant risk factor. Expenditures related to age groups show that there is a notable increase in expenditure in the age group 55-60 years old and older.

Figure 2

Age-related expenditure profiles of health care provision (spending per capita as % of GDP per capita)



Source: European Commission, The 2015 Ageing Report, *Economic and budgetary projections for the 28 EU Member States (2013-2060)* p. 118.

Current health care expenditure in EU28 is equal 10.1% (EK, ageing report 2015) of GDP in 2012. A substantial part of this expenditure is public spending with the average level on 7.8% of GDP in 2012, but with high variability across member states from less than 3% in Cyprus to 9.4% of GDP in Denmark. When it comes to “Public spending on health care now accounts on average for 14.9% of total government spending in the EU, ranging from 7.2 to 20.1%.” (EK, ageing report 2015) Health care expenditure in the Slovak Republic accounts for 16.2% of total government expenditure and 5.2% of GDP in 2012. Overall, it is expected that public expenditure on health care will rise with time in most EU member states. There are many scenarios¹ all of them in each of the EU28 states show an increase in health care expenditures. Population ageing has a much broader effect, it has tremendous macro and microeconomic implications, it has an influence on education, GDP, pension system and other.

The goal of this paper is to show potential tools to mitigate negative effects of population ageing on health care system, especially in the EU. This paper will not be discussing options how to change demographic structure of society. It will discuss health care-related aspects and

¹ Demographic scenario, base case scenario, high life expectancy scenario, constant disability scenario, shift to formal care scenario, coverage convergence scenario, cost convergence scenario, cost and coverage convergence scenario, AWG reference scenario, AWG risk scenario, TFP risk scenario.

possibilities how to mitigate negative aspects of population ageing. We must say that health care system does not face such a hard problem for the first time. It faced similarly unsolvable situation before the concept of germs and viruses have been discovered. “The great public health success stories of the past century are largely stories of prevention. From sanitation to vaccines to smoking cessation to the use of statins, we have proven much more successful at pre-empting disease than curing it” (TR Insel, EM Scolnick).

1.1 Costs of non-communicable diseases

Most of the current illnesses in EU have non-communicable characteristic and are caused by an interconnected network of factors including manageable risk factors as diet, smoking or lack of movement that could be managed by right policies. Those were most well known risk factors selected according their measurability, stress for instance is well known risk factor with significant influence on health but its hard to measure it in the general public.

According to WHO in Europe, 9 out of 10 deaths are caused by chronic illness. Their economic impact is substantial. According to WHO, 70-80%² of health care expenditures worldwide are spending to cure non-communicable diseases. They are characteristic by mild progress in the long term, they are hard to cure but most of them we can treat. It is why they have a significant economic impact. That is just one aspect of economic costs. The cost of productivity loss is massive. According to EPIC model, productivity loss accounted for mental health issues, and cardiovascular illness representing 68% (Program on the global demography of aging, 2011). According to the green paper on improvement the mental health of the population, mental health problems accounts in the EU for around 3-4% GDP loss most as a result of productivity loss. Many studies have been done on their effect on productivity. In the GB „between a third and a half of all days off work are accounted for by mental illness. Sometimes the absence is mainly due to the atmosphere at work, but in at least 80% of cases it is due to an underlying mental health problem that makes it impossible to cope half of the sick days are depleted due to the mental health issues” (Layard, Clark, 2014). Percentage of days lost through sickness absence in the EU is 100% higher (Layard, Clark, 2014) by people with mental health condition. Mental health issues also have a negative effect on longevity, on average they have in long term similar harmful effect as smoking (Layard, Clark, 2014). Program for the global demography of aging issued in a report called „The Global economic burden of non-communicable disease” (2011) stated that in the USA chronic ill men work on average 6.1% less working hours and woman 3.9% compared to their healthy counterparts. Non-communicable diseases contribute to early retirement, high work fluctuation and productivity loss, thus, hinder person possibility to contribution to economy and health care system. Due to a high correlation between age and incidence of non-communicable disease and due to the ageing population of the EU, we can assume that the EU will be affected by those diseases even more in future. High correlation between age and incidence of non-communicable disease is based on assumption that the longer individual lives the longer is exposed to risk factors and thus, probability that disease emerges rises. Non-communicable diseases (for example cancer) are especially characterized by their age-related prevalence.

1.2 Expansion versus compression of unsoundness

The importance of population ageing on the economy is caused not just by productivity loss. As we can see in Figure 2, there is a correlation between age and health care expenditure. Population ageing means that there will be more people in need of more expensive care. The question is whether there are possibilities to change or induce this negative prospect. Two

premises in gerontology are taking into account.

One assumes that it is not possible eliminate negative health aspects of high age. This assumption leads us to the conclusion that there will be an expansion of unsoundness in total numbers. Population ageing will rise numbers of people who are dependent on others, and their quality of life will be low. From an economic perspective, we could say that demographic change will cause a situation where higher expenditure on health care will be needed.

Contrary to this assumption is the concept of compression of unsoundness. It is based on the assumption that there is way how to mitigate some negative age-related aspects of human life. This concept thinks it is possible to rise the quality of life at a higher age, thus postpone productive age, mitigate illness and rise productivity. It would reframe productive age intervals, thus a new understanding of productive age could shift from 15-60 years to 15-70, or even more. This concept views health as an endogenous growth factor. One of the options how to postpone productive age is by imposing prevention programs. Primary prevention programs are one of the most cost effective because they are targeting population before illness occurred.

2. Future challenges of health care system

Future expenditures in health care system consist out of many interconnected items and aspects. The price of services, medicaments, human capital, energy, food and others. Some aspects are especially important. Its technology and demography.

New technologies for disease detection and treatment are having positive impact on the quality of health care system. Progress in medicine allowed us to diagnose and cure illnesses we did not even know before; it also enables us to rise quality and precision of diagnose. Due to new inventions, some conditions that have been seen as normal changed its classification as an illness due to the better precision of diagnosis and our ability to understand their effect on human health as well as our capability to treat them. Some researchers claim that new technology will raise human expectations, and this will have a significant impact on health care spending. Prognosis targeted to predict the financial balance of health care system in the Czech Republic in the year 2050 (Antošová, Schneider, 2006) estimated that people's expectations will play an even more important role regarding costs than population ageing. It was estimated that until 2050 public expenditure rising in health care system will be 4,57% of GDP. This percentage consisted out of two main factors, 1,94% was accounted for population ageing and significantly higher percentage represented by 2,63 % to people's expectations due to new technology. Contrary to this idea is assumption that even if new technology in medicine will be at first expensive due to technological life cycle of a product the price will fall eventually.

2.1 Challenges of proportion and equivalence

Demographic prognosis shows that pressure on solidarity public resources designated to health care will be strong. EU health care system is characterized with some exceptions by solidarity and equivalency. Solidarity stands for reallocation of resources for those in need of health care service. Equivalency means that all members of the society will receive same service. With rising proportion of elderly, thus rising expenditure in health care service. There will be strong pressure on those two base stones.

One theory proposes that we could maintain equivalence by not extending or even diminishing care that is now provided in basic health care. By this measure, we would be able to keep equivalence, but at the cost of solidarity. Limitations represented by this approach have roots in lower health care coverage of services and pharmaceuticals. This would put

pressure on citizens in need of healthcare service, new resources would be required to meet their demand. More well-off citizens would have much easier access regarding costs to health care services, and thus, this system would create a dichotomy. It would create those who could afford it easily and those who could not. This approach would in the short term push aside government's problems of rising expenditure in this area by shifting government's problems of rising expenditure from states level to individual level.

The balance between private and public insurance will depend on consumer's view of efficiency of this system. In case that they will no longer assume it as valuable because regardless of their contribution to the system they must pay additional costs in significant numbers, they may assume that the system is ineffective.

Another aspect of proportion and equivalence is bound with "inverse relation among degree of equivalence and degree of risk." (Durdisová, 2008) While in public insurance there is a tendency to contribute to solidarity resources at as low level as possible, in the case of private insurance exist inverse relation among measure of equivalence and measure of risk. According to Durdisová and Mertl (2008) the more someone perceives uncertainty and risk the more he is willing to retreat from equivalence. New technologies could put pressure on public insurance. In case that we would be able to better determine health risks of individuals, people would prefer individual tailored private insurance programs instead of public ones.

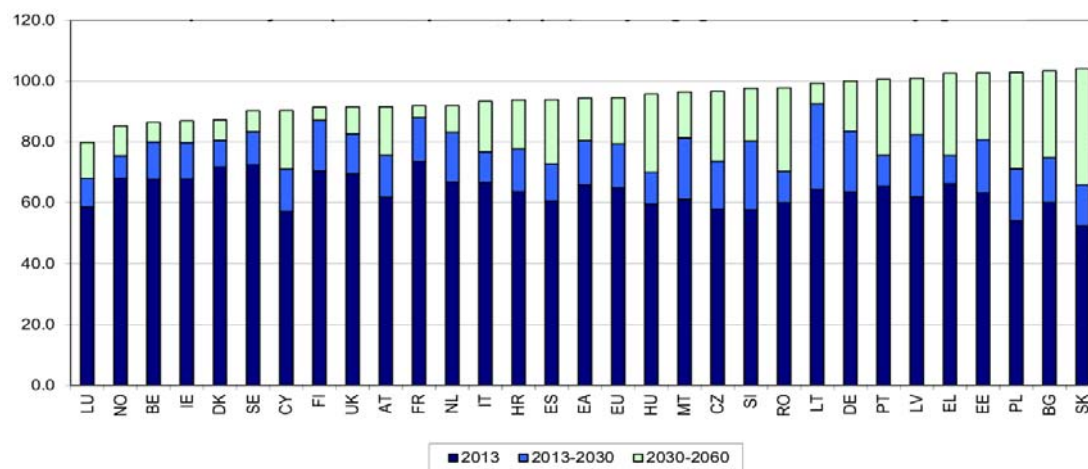
Limited resources could affect discussions over topics such as abortion, euthanasia and even catalyze disputes over ethical questions. In the year 2011/2012 in the UK 3.5 billion pounds (Layard, Clark 2014) have been allocated for treatment of one million elderly patients with mental health problems. At the same time the same amount was provided for treatment of 7 million citizens aged 16-64 with depression and anxiety disorders (Layard, Clark 2014). It is possible that society will be more willing to put a price tag on a life. It could lead to new status quo, one of the disputed questions is which age group and condition will be favoured in treatment.

Population ageing is accompanied with a problem of rising dependency ratio in EU. This indicator measures the ratio of citizens who are no longer in productive age to those in productive age. We can count it as follow, $\text{dependency ratio} = 100 \times (\text{Population (0-14)} + \text{Population (65+)}) / \text{Population (15-64)}$. It could be divided to young population dependency and old-age dependency, those two measures combined creates total dependency ratio. It is a number of persons bellow 15 years old and above 65 per 100 persons aged 15-65. Current demographic predictions show that EU will face growth of a total number of young and older citizens compared to those in working age, thus, ratio will grow.

From the perspective of contribution to public health care system, citizens at the age bellow 15 and retired older citizens tend to contribute to GDP in small numbers. At the same time, those are people who have health care covered from states insurance schemes, states budgets or both. A measure of equivalency for that group tend to be high, insurance for them is often provided from public resources. For example, in the Czech Republic and many other EU countries, the state's payment to public insurance scheme for older citizens and youth is really low compared to costs in their age group. This creates a situation where the state must cover extra costs from states budget instead of public insurance schemes. At figure 3 we can see that each of the EU countries will be affected by rising total dependency ratio. Each of them to different extend in various time perspectives, but growing dependency affects all of them.

Figure 3

Total dependency ratio (ratio of dependent people, both young aged below 20 and elderly aged 65 or above, relative to the working-age population. (20-64))



Source: The ageing report 2015.

Notes: Indicator of dependency ratio has its limitations, it assumes that citizens below 15 and above 65 are not much economic active. While in the EU countries citizens tend to join workforce much later due to longer preparation period characterized for example by participation in educational training.

We can also see that Slovak Republic will be the most affected from all EU countries. It will also experience the fastest growth of total dependency ratio between years 2030-2060. It also has highest old age dependency ratio among all EU member states. Figure 2 shows costs related to age. If we combine those two figures, we can predict that total expenditures in health care will rise. The question is what will be the quality of life of those above productive age. If their quality of life is measured by QALY³ it will be low. QALY with negative value or at a low level except zero. We may assume a positive correlation between low well-being and high socioeconomic expenses. Those expenses would consist from a variety of direct costs for example as treatment, medicine and indirect costs for example their inability to support the family, by factors that are not measured by GDP but are beneficial to society and economy for example babysitting, sharing knowledge. Latest available data show that the Slovak Republic is at the end of the list of countries compared by the Healthy Life Years indicator at age 65. This indicator “measures a number of years that a person at age 65 is still expected to live in a healthy condition. HLY is a health expectancy indicator that combines information on mortality and morbidity. The indicator is also called disability-free life expectancy DFLE.”(Eurostat, Healthy life years and life expectancy) In the year 2013 was in Slovakia this measure 3.7 years while in Norway 14.8 years.

³ “Attempts to measure and value quality of life is a more recent innovation, with a number of approaches being used. Particular effort has gone into researching ways in which an overall health index might be constructed to locate a specific health state on a continuum between, for example, 0 (= death) and 1 (= perfect health). Obviously the portrayal of health like this is far from ideal, since, for example, the definition of perfect health is highly subjective and it has been argued that some health states are worse than death”. Source: Bandolier Journal, Available online: <http://www.medicine.ox.ac.uk/bandolier/booth/glossary/QALY.html>

3. Mitigation of negative effects of population ageing on health care system.

We have already set an example that dichotomy in society could emerge in a situation where the state would insist on equality under the condition of limited resources. We have also shown that age is closely related to costs in health care system. We have also shown that dependency ratio rises, thus, fewer people in society contribute to common public insurance scheme and rising expenditures in health care area must be covered by the state from other resources. There have been also mentioned that one of the biggest breakthroughs in the field of medicine was the prevention of infectious diseases and that non-communicable diseases are on a rise. We believe that quality of life has an influence on expenses on health care, and the healthier the citizen is, the better quality of life he has and that it is accompanied by low expenditure on health. We assume that one of the best prospects how to mitigate negative effects of population ageing is by prevention illnesses with a focus on non-communicable diseases and by promoting economic growth.

Those two factors are interconnected. Determinants of human health as genetic predisposition, lifestyle, resources, socio-economic factors, health care, education and environment influences health. Each of them is manageable to some extent. It is possible to influence risk factors through them, thus promote quality of health, thus reduce expenses. Most of the determinants of health are not in charge of health care system. Bakoss book of Epidemiology (2005) claim that lifestyle has 40-50% influence on health, environment 20-30%, genetic factors 10-20% and health care alone 20%. We can see that health care system has extremely limited possibilities to influence human's health. Success in the use of primary prevention methods consists out of 80 %, not on the health system. Possibility to reduce risk by modifying determinants of health are limited, and it is possible only to some extent. By some determinants, their modification is even questionable. It is extremely hard to change the environment on a big scale, but on the other hand, it is possible on a small scale, for example by eliminating obesogenic environment. By some other determinants, it was shown extremely efficient.

“Examples from the USA shows that healthy life style in a population at the age 40 and more had, as a result, lowering expenses on health care up to 49%”(Program on the global demography of aging, 2011.) On the other side, evidence shows that obesity rises expenses on health care up to 36%. Overuse of alcohol rises expenses to 10 %, and risk factor smoking is rising expenses up to 21%. Another factor that proven to be effective is lowering the information asymmetry about illnesses and prevention and many others. As we can see people's behavior contribute to health care expenditure. This induces possibility to promote such behavior. Public health care systems that do not impose any liability on people's actions could be proven as counter-effective. Despite promising prospects of such actions just a few EU countries are starting to implement such measures and in most of EU countries it is not even on the agenda. At the same time even highly educated citizens do not a response to the need for their health responsible. EU is an example “The majority of European citizens do not engage in sufficient physical activities. Some 60 % never, or seldom, play sport or exercise, although physical inactivity is a leading cause of premature mortality and disease in high-income countries, accounting for 1 million deaths a year in Europe” (European Commission, 2013).

3.1 Concept of economic growth

Economic growth is one of the most important factors of economy. If economic growth will be high enough to cover costs of population ageing they would not cause much socio-economic damage. Good health supports economic growth, it promotes productivity, ability to work even at a higher age, the ability to educate, and generation of capital. Solow views health as an exogenous factor, in his view health care, is just spending resources

produced by the economy. However, at the same time economy needs healthy members of the workforce. Lucas, on the contrary, views health care as an endogenous factor. Van Zon and Muysken elaborated Lucas model of economic growth implemented on health care. They view health care as a factor that supports growth, from the short term they view it as a factor that boosts consumption but in a long term it plays a much vital role in the economy by supporting production base of the economy. “Synthesis of this concept with Grossman’s model of investments to health and Becker’s concept of human capital, we are getting important arguments that supports fundamental of investments in health as factor of economic growth” (Durdisová J. Mertl J. 2008) It changes old concept that health care as a sector does not create economic growth and just spend resources as was proposed in Lucas model. This new model suggests that health care is a direct contributor to economic growth. This understanding created strong baseline for arguments supporting investments in it. It could no longer be understood as altruistic or inefficient transfer costs. According to Bloom (2001), “health has a positive and statistically significant effect on economic growth. It suggests that a one-year improvement in a population's life expectancy contributes to a 4 percent increase in output.” There are also many other studies which show the positive correlation among investments in health and economic growth.

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Leadership Competency Models

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Abstract

The majority of big companies have realized that leadership provides an important role within the organization. Good leader is capable to ensure that strategic goals are fulfilled. Thanks to globalization and rapid changes companies must act quickly and competently if they want to be competitive and profitable. An effective leadership is required to have all the necessary knowledges, competencies and skills. Especially leadership skills are critical to organizations. It is not easy to determinate competencies successfully. And especially for leaders. The object of this paper is to introduce two chosen leadership models. The first one is an effective model for leadership based on theoretical knowledge. It is based on four major competency categories. These are: 1. self-leadership, 2. managing others, 3. psychological factors and 4. environmental factors. These categories together form a Competency model which we call the Model for Effective Leadership. We breakdown the model of the four factors and we make an analysis of each factor. The second introduced model is Leadership Competency Model made by very successful international organization. It is composed of five competency categories: 1. Abilities to achieve results, 2. Focus on Result, 3. Character, 4. Interpersonal competency, 5. Professional skills. At the end we compare these two models and choose competencies and try to tell which is better in which way and why. Successful leadership helps company to achieve and sustain a competitive position in the market, as well as to bring business value and to keep the overall growth.

Keywords: leadership, competency, competency model

JEL classification: M10, M12

1. Introduction

The constant development of personnel area provides a change in orientation and work personnel department. Of course the core activities remain but they must be updated with new innovations and they should change the meaning and importance of these activities. At present the major challenges are: the identification and development of talent, development of leaders and human resources strategy. Also here we can see the trend of increasing importance of human capital, focus on their own internal resources, enhancing the competence of managers and leaders. That is of course related to increased investment in training and development.

Nowadays, companies are increasingly concerned with determining competencies and creating of competency models. One of the reasons is the fact that these competencies represent the company. They can also increase productivity and overall efficiency of the company. There are companies whose competency models are well incorporated into the whole personnel system and are used as often as possible. These competency models are mostly used by managers who are the major professional users of them. However, there are

also companies that do not use competency models or these models do not bring them the desired effect. Mainly because of their incorrect incorporation into the personal work.

The main objective of this paper is to analyze the chosen leadership competency models and on the basis of the analysis suggest their use for practice. The competency model designed for leaders is also part of my dissertation called Competence models in human resource management. This article was created as part of the project VEGA no. 1/0229/14 project approach to the internationalization of SMEs. The project originated at Department of management at Faculty of business management at the University of Economics in Bratislava.

2. Competency models and their meanings

Competency models have many meanings for businesses. A properly designed, implemented and working competency model helps companies and managers to determine what kind of features and capabilities must be encouraged to develop in employees. A company that wants to build a human resources management system and integrate the individual processes in a way they will help to achieve strategic objectives, such company will probably not do so without competency models (Kubeš et al., 2004). This implies that the company most likely will try to modify behaviour and certain characteristics of their employees.

One of the advantages of competency models is their ability to identify areas that would be fitting for the enterprise and ensure its development. By these areas, we mean human resources, their development and work with them. For their development is most often used training, coaching, education or internships. To maintain the continuous development of human resources, staff should be regularly educated in an interpersonal relationship. However, the problem can occur if employees are not motivated enough to educate themselves in the company. And currently, there are few managers who are able to recognize and reward employee's efforts to educate and to improve. Of course there are companies in which the employees are motivated enough to develop in their profession.

But we cannot forget the need to prove how competency model is useful for the company. This should be done regularly and managers should assess whether the competency model has brought the benefits (e.g. Bruothová & Mesároš, 2013).

A competency model represents what the company requires from its employees and what behaviour within the team is important and what performance is required. It also determines the required skills. Therefore it helps to build a system of education, development and evaluation of employees. And for these reasons models are important for performance management across the organization (Mišún, 2013).

Competency model can be classed as a summary of the most important competencies for the enterprise. These competencies are essential for employees to achieve desired performance (Tesarovičová, 2008). Competency model includes the description of a typical behaviour that can be defined, measured and developed. A competency model is therefore a basis for developing capability, skills and abilities of employees and managers. However, this model also evaluates various competencies.

A competency model can be described as a kind of bridge between corporate strategy and human resource strategy. It may also serve to implement various strategies into the daily operations of the company. That is why it is also known as an instrument of effective vertical integration. However, it can also be used in horizontal integration. In this case our competency model defines a common framework for the most important personnel actions.

All the characteristics, capabilities, skills and other qualifications of workers who need to achieve a good performance in their position are often referred as a concept of competence. Perhaps the most attention is paid to managerial competencies especially because the leader will, in large extent, determinate long-term success of the whole company. A competency model for leaders and managers in high positions is often referred as Leadership competency model.

Managerial competencies relate mainly to the performance of manager. He also should have the competences to be able to track and to fulfil business objectives and create favourable working environment for his subordinates. We include here the ability to delegate work tasks, solve any conflicts between employees, recruitment, coaching, as well as evaluation of employees.

2.1 Leadership competency model based on theoretical research

Leaders and managers (managers in high position) have a direct impact on company performance as well as the satisfaction and performance of employees. They influence the present as well as future business. Leaders should have clearly defined competencies and they should know the requirements which they have to fulfil.

Leaders have collections of competencies ready for use when needed. In short, leadership competencies are knowledge, skills, abilities and qualities that leaders must possess and use to answer the challenges and maintain their jobs (e.g. Bueno & Tubbs, 2005). It is important to monitor the development of leadership competencies. Most of the competences of leaders can be learned (e.g. Tubbs & Schulz 2006). Many people can become better leaders than others. To acquire new knowledge, skills and abilities is the basis for managers development. It is not surprising that the development of important competencies is a process that requires planning, implementing new training methods and assessments. Moreover, determination of the leadership competencies is used as the base, which helps to determine the type of training and especially leadership training, which is necessary for the selection of future leaders (Zenger et al, 2000).

Competency models aimed at leaders and leading positions try to describe the competencies that are required for example for the post of Director and Vice President in large enterprises. These models try to take into account the effects of globalization and constantly changing business environment. These changes have resulted in very high requirements for top jobs in the company. In many industries, it is impossible to survive without access to technology, to various new suppliers and foreign investors. This fact creates significant pressures in businesses. These pressures have brought profound changes to how the companies compete and ways how the leaders lead (Morrison, 2000).

The paper describes two Leadership competency models. The first competency model is based on the latest theory and research theory of the field. The second was created on the basis of practical experience of a globally operating company, dealing with the selection, training and development of leaders in leading companies in the world.

Whether it is a head of department, project or the whole company, he is always responsible for fulfilling the objectives that have been set and to achieve results. To achieve these outcomes, leaders should have a certain set of skills and abilities. The ability to encourage, inspire, enable, be a role model and support staff, this also belongs to competent and capable leader (Barry, 2012). In the case of first model these competences are divided into four parts: self leadership, leading others, environmental factors and the skills related to

psychology. Each of the four sections is divided and so it can properly identify the true leadership skills and competencies that are essential for effective leadership.

A heading and a list of competencies was based on the survey. This was carried out through examination of past and current literature on business management, project development and management skills (Redick et al., 2014).

Self leadership

It is the first group of competency in the Four-Factor Model for Effective Leadership Competency model. It includes competencies from areas of emotional intelligence, track personal values, level of cognitive style leadership, the degree of acceptance of change and the ability to self-assessment (e.g. Cameron & Whetten, 2010). Concerning the leader, learning about oneself will help not only lead himself but also lead others. Learn how to control emotions, effectively manage change and to be able to deal with important situations in the enterprise, this knowledge may be essential for company. To know one's strengths and weaknesses can help in learning and guidance of development in the right direction. These competencies are:

Communicate and Relate - the future leader will have to communicate at different levels, either with potential customers, internal employees of the company, ministries and agencies, with project team members, senior management or owners. That is why the communication skills are important, through effective communication, leaders can support the development of individual projects and thus ensure team achievements. It is important to give explicit instructions to achieve the desired results and ensure career growth of team members. Ability to communicate effectively is characteristic for leaders who are able to undergo self-criticism and ultimately be able to engage in communication with understanding and empathy. Communication is modified on the basis of experience. Not everyone is the same and everybody has a different level of emotional control, empathy and communication. Ability to communicate, however, can be learned and communication can also be improved to the desired level.

Stay positive - in case of decision making all eyes are pointed towards the leading position. Especially if it is decision which resolve conflicts between employees or when dealing with dissatisfied customers. Therefore, it is important to have the right attitude and the way to handle different situations. A positive attitude can have a profound impact on the success and can solve the problem. It can help leaders cope with daily tasks and also lead to less stress and better stress management. Ability to remain optimistic leads to a better finishing of the tasks and meet deadlines.

Empower and Delegate - with the ability to empower and delegate can leader gain confidence in the team and workforce. The great leaders do many things at once, but perhaps their best characteristic is the natural and authentic ability to inspire employees and to maintain order. Leader delegates and empowers employees. These people can ensure success and accomplish the desired task. Most great leaders may order, delegate and empower and thereby gain support. Leaders can also fail and if then it is important to acknowledge the error and show a willingness to learn and avoid future errors.

Leading Others

Being able to lead others is another component of the Four-Factor Model for Effective Leadership Competency model that contributes in various ways to help leaders to be more effective. Improving oneself as described in the previous section, concerns the way in which the leader tries to lead and improve himself. Improving may cause the increase of responsibilities and it leads to the better management. It increases motivation, leads to more

successful team building and helps to solve the conflicts. Each of these aspects contributes to the overall improvement in the performance of others and helps to create atmosphere of the company and the team.

When the leader is able to motivate others effectively, is able to build cohesive teams and to resolve conflicts without affecting the teams, then it greatly enhances the potential for successful outcome of the company and the team. Proper management is a key component of business management. Successful leaders must have good interpersonal skills. In addition, the leader should know how to choose the right people. This should help the team to have an optimum combination of skills and this also should ensure that other employees are able to work well together as a team. Competence of staff is incredibly important for the performance of the company and the leader must be able to effectively lead these people. These competencies are:

Motivation - the leader should be able to motivate all employees within the company and ensure for them the sufficiently motivating environment. At the same time, however, he should ensure a balance between internal and external motivation. For example, after the fulfilment of the task requested by the leader, the employee should be rewarded for his efforts. But the employee should also find satisfaction in what he does. Leaders must be able to motivate staff to produce results which are expected.

Cohesive Teams - one of the leaders ability is to build cohesive teams, for example by the help of team building. Effective teams are not built within a few hours, they need to create, build and take care of the right balance between maintaining personal identity and the identity of the team. But they must still focus on the goal or end result. The leader should ensure constant and steady development of individual employees.

Conflict resolution - there are several strategies for conflict resolution. They are considered as ways to resolve conflicts successfully within the team. Model of managing conflicts, which is a general model, helps leaders and leads to the successful resolution of disputes. According to Whetten & Cameron (2010), there are four essential elements for conflict resolution:

1. First we have to diagnose a source of the conflict and obtain the views of associated groups,
2. Selection of the appropriate conflict management strategy based on a combination of diagnostics and their employee's preferences,
3. The effective implementation of the strategy and solve the problem together,
4. The successful resolution of the conflict.

Environmental factors

The left lower quadrant of Four-Factor Model for Effective Leadership Competency model takes into account factors surrounding the leader, the firm and its future. Competencies that are listed in this section are significantly related to the environment of the company and its future. We include here the ability of strategic thinking, managing strategic projects and company's ability to determine the goals and vision of the company. Further attention is paid to management and how external factors influence leaders, their power, authority and ability to solve problems effectively. These competencies are:

Strategic thinking - management and high position managers should constantly pay attention to the development of its strategic thinking. Currently, there is a great pressure to achieve the most strategic objectives using as few steps, task and projects as possible. The company often supports only major projects and major strategic projects to ensure the fulfilment of the objectives of the organization (e.g. Meredith & Mantel, 2009). If some project was not

involved in the strategy and mission of the company then it is possible that such project will lose support. This is also one of the reasons why it is necessary to develop strategic thinking among leaders. Shifting of focus to strategic thinking will therefore improve leadership (Miller, 2009).

Vision - it is an important tool for the management of each company to achieve new values and culture in enterprise policy. The vision sets out a new strategic direction of the entire company and its organizational units. It also attracts and motivates employees. The ability to have a vision is important because it creates the picture of the company future. The ability to tie individual visions in one is very important. It often comes to collision of different visions. It is not correct if certain goals or projects are in conflict with the main vision of the company. This can have a negative impact on its functioning.

Power and influence - power and influence are in a category called environmental factors. Power is the ability of a leader within the organization. Its size may be driven by the political and hierarchical structure within the company. Personal power can also be formed at the level of experts, based on their knowledge, experience, status and their importance for the company. Further, it also depends on the personality attraction, effort or the authority to perform certain activity. Power and influence, although different, go hand in hand in the creation of successful leaders. One without the other is almost useless for the leaders. Whetten and Cameron (2010) conducted studies which confirmed that successful leaders were able to encourage a sense of power and strength in others. Ability to use influence is unique for each person, so every leader uses influence in other way.

Psychological factors

Developing of management and leadership skills are essential for any manager or leader. It is also necessary for leaders to know different departments, projects and the entire company. It is good for them to recognize the conflicts, successfully adapt and implement changes and lessen tensions between co-workers. Personal, interpersonal and team relationships are evolving and changing. These changes are affected by various psychological factors which are not only positive. Success departments, projects and companies also depends on the personal satisfaction and potential conflicts must be solved continuously in order not to harm the department, project and thus the company and its operation (e.g. Whetten & Cameron, 2011). The basic model management skills categorizes and defines basic skills and activities within each group. In the category of personal skills we include for example: creative problem solving, stress management and self-awareness development. The interpersonal skills are: ability to manage conflicts effectively, motivating others, fostering communication and the ability to gain power and influence. The last category included skills and ability to establish positive changes, building effective teams, support staff and their development. To these competencies we include:

Ability to manage stress - currently belongs to one of the necessary abilities. It is an ability to control stress. Stress is a significant risk to the company's management. Therefore leader needs to know the right person to handle certain level of it. Stress can have a significant negative impact on productivity, safety and costs. It is estimated that one million days of sick leave all over the world in one working day is caused or related to stress and about 550 million working days per year is lost due to the stress. Leader therefore must recognize and relieve tension between the employees and eliminate stressful situations.

The results of the research also includes findings about effective management. Expansion of competencies also offers an opportunity for self-reflection and study for everyone who is in the leading position. But the main outcome is Four-Factor Model for Effective Leadership

Competency. This model can serve for new leaders and high position managers who want to expand their skills.

Picture 1

Four-Factor Model for Effective Leadership Competency Model



Source:<http://www.gsmi-ijgb.com/Documents/JITED%20V5%20N1%20P05%20Abigail%20Redick%20Effective%20Project%20Leadership%20Competency.pdf>.

2.2 Leadership competency model based on practical research

Another model is created on the basis of research aimed at leadership positions. It differs from the previous in some points. The research was aimed at determining of competencies which have the greatest impact on increasing profits and sales and which positively influence and motivate employees. These were specifically based on research conducted by Zenger Folkman company. The company is well known in training of leaders, choosing leaders and managers in companies worldwide. From 500 most successful companies in the world (Fortune 500) to non-profit organizations, they are helping everywhere to identify and develop appropriate leadership, strategists and exceptional leaders. Program of this company applies at companies such as Orange, Bayer HealthCare, Aegon, NASA and the others.

The research was conducted on a sample of more than 200,000 ratings from more than 20,000 directors. Examining questions were adapted to the organization and were divided into 360 different sets of questions. The aim of the survey was to find those competencies that have the greatest impact on the results, profits and employees. The result was the identification of a 16-competencies divided into the 5-groups. These groups and competencies are:

- competencies related to the achievement of results - the ability to achieve a result, establishing of long-term goals, ability to take the initiative,

- focus on results - the creation of a strategic perspective, the ability to manage and win over the changes, the ability to establish a connection with the environment, deals with clients
- character competencies to demonstrates a high degree of integrity and honesty,
- interpersonal skills - the ability to communicate and negotiate, inspire and motivate others to high performance, build relationships in the workplace, develop others, ability to work in a team,
- professional skills - the ability to provide professional expertise to solve problems and analyze them, to innovate, interest in employee development, the ability to establish a connection with the environment and deal with clients.

As can be noted, the first model is more focused on medium sized companies. They are more operational and project-oriented. The second model is more general and provides a basic framework for managers and leaders.

2.3 The most frequently occurring errors

Most of large companies and enterprises currently use competency models. Some of them are specifically focusing on competency models designed for managers and leaders. These models are called "Leadership Competency Models". Companies introduce and use these models to clearly identify the most required skills, attributes and behaviours that companies want their managers and leaders to have and develop. These models provide a structural framework for identifying and developing desired behaviours and capabilities that have the greatest impact on the business as a whole.

When creating and implementing competency models we need to be especially careful. Poorly designed or implemented competency model may not bring the desired effect. This is especially true in the competency models designed for positions of leaders and managers. These are the most often errors (Clemmer, 2014):

1. Competencies pulled out of thin air - it is one of the gravest errors. Such competencies are not determinate on the basis of expertise, but are often only listed from the most representative and the most common competencies. They are too general and do not reflect the requirements of the company. White these competencies it is not possible to find any evidence that they have an impact on increasing of productivity, motivation, employee performance, customer satisfaction, safety, efficiency, increasing of sales or profits for the company.
2. Too many responsibilities - competency model often includes too many competencies. At the same time, these competences are from different areas. This may be too big demand on managers and leaders.
3. Consistency of competence - some companies after the introduction of competency model think that all single competencies have the same meaning and importance. It should be noted that certain competencies are important for the manager and some for employees. It also applies to the model, which is designed for manager and leader.
4. Focus on weakness - managers often focus only on their weakness and try to eliminate them as soon as possible. They often do so at the expense of their strength. Improvements should be gradual.
5. Too much focus on performance - excessive focus and pursuit of the overall results may have undesirable effects on managers. Designed competencies listed in the competency model help in achieving of desired results and assist in the development of managers and leaders.

If we know the mistakes that we can do in process of developing and establishing models specially designed for managers and leaders, we can avoid them. However, there are also five

principles that we can abide in implementation of competency models. They are the following (Clemmer, 2014):

1. To proper determination of competencies - select and describe those competencies that have a positive impact on employees, customers, increase profits and sales. What are these competencies is determinate by research.
2. The regular development of competencies - the steady improvement of competencies. Focus on 5-6 competencies and leader can gradually improve. After these competencies are advanced, we can focus on developing of other set of competencies. Learning all competencies at once is financially and emotionally demanding and often does not have the desired effect.
3. Focus on strengths - we should not only check weaknesses, but we should focus on strengths as well. Striving for perfectionism is often counterproductive. Naturally strengths that are even more improved, often overshadow possible shortcomings of a manager.
4. Utilize competency models for their development - the main task of leadership competency models is to increase efficiency in work, not only performance site. As GPS helps in finding ways, competency model helps managers to determine where they are, where are they going and which way to go. It determines the capabilities that are necessary for leaders work, which competency must be developed and why it is useful to learn.
5. Everything in moderation - excessive attention on competencies and developing them may also have an adverse effect.

3. Conclusion

The paper describes two competency models. These models are aimed at leaders of organizations and leadership positions in the company. The first model was created on the latest theory and research theory of the field. The second was created on the knowledge and practical experience in a globally operating company. The company is focused on the selection, training and development of leaders in leading companies in the world. It should however be noted that there are other leadership competency models designed for leaders and high position managers. The detailed comparison of the models can be seen in the table 1.

Table 1

Comparison of Leadership competency models.

	Theoretical competency model	Practical competency model
Suitability for International Enterprises	x	x
Suitability for large enterprises	x	x
Suitability for medium-sized enterprises	x	
Availability for leaders	x	x
Availability for lower position managers	x	
Clarity	x	x
Easier applicability	x	
Confirmation practice		x
More diversified implementation model	x	

Theoretical model	x	
A larger number of competencies	x	x

Source: own processing.

As can be seen in the table, the two models are different. The first model was prepared on the basis of theoretical knowledge and findings. This model is suitable for both large and medium businesses. It may be applied for the position of leaders and lower position managers. It's comprehensible. Its application is also easier and more versatile for a variety of positions in higher and lower position management. This model was based on theories and theoretical knowledge, however, it is not verified by practice. Model contains 11 competencies.

The second model was created on practical knowledge and experiences acquired in the training of leaders of the world's leading companies. Therefore it is also suitable for international and large companies. The model is applicable especially for positions of leaders. It is recommended, however, application of the model to the company should be entrusted in the hands of professionals. Model contains 16 competencies.

Both models have their advantages and disadvantages. Every model however has to be modify before application to the company. The companies have their own characteristics and these have to be brought to account when installing competency model in the company.

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Development of the tax system in the Slovak Republic after 1993 and prospects for tax harmonization as a member of the European Union

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Abstract

The emergence of taxes and the tax system has historically been associated with the development of the state. The tax system of Slovak republic, passed in 1993 after several major reforms. Taxes are economic and financial instruments that the government not only affects the functioning of economic entities, but also households and individuals. Taxes are categorized in several ways, most often in terms of related taxes for the taxpayer, on direct and indirect taxes. Tax systems are made up of elements which include: tax quota, tax mix, tax structure and others. One of the most important macroeconomic indicators of the tax, is tax quota. This indicator represents the share of taxes in GDP and it is used in international comparison. An important and often discussed topic is tax harmonization in the European Union, which aims to bring together member states and creating a strong, economically, politically and culturally unified group of countries. The aim of harmonization is to protect the common market, the removal of fiscal frontiers in the European Union, focusing mainly on direct and indirect taxes.

Keywords: taxes , taxation , reforms, harmonization, competition

JEL classification: E 64, G 28, H 21, H 26

1. Introduction

One of the oldest financial instruments are taxes, that serve multiple purposes. Since the beginning of the formation of the money economy, taxes were part of the life of individuals and society at large. One of the most important functions of taxes for the state and for the leadership of the state, has been the primary funding needs of the state as well as the implementation and achievement of individual objectives of the state. Functions and nature of the tax has varied over time. From initial random a kind of tax, has become a regular and financial income, which gave the basis for the formation of tax policy of the state. Taxes have become an important macroeconomic tool.

1.1. Tax scheme

Tax scheme is a narrower concept than the tax system because tax system together with the institutions, legislation and tax theory constitute the tax system.

In the view of Kassay (2008), tax system it is of great importance for the social sector of the economy. Just as the tax system affects a number of factors, as well as taxation affecting certain factors, such as inflation rates, economic growth, linking domestic and foreign trade and sectoral structure.

The first individual pension tax was said in the UK in the late 18th century and the first comprehensive system of social security, appeared in Bismarck's Germany. For the first time, at the end of the nineteenth century, became known as tax systems, in this period had a European developed countries after the first tax reforms.

Tax reforms conducted in three waves and had a significant impact on all countries. *The first wave* was associated with the department of social security contributions from pension insurance. This reform ran from 1945 to 1965. This period was influenced by Keynes policies and the intensification of the role of the state in economy, resulting in a high tax redistribution of taxes.

The second wave is associated mainly with France and the year 1967, when they first introduced the value added tax, excise duty as well. However, this step of negotiating the Rome Agreement, Belgium, Netherlands, Luxembourg, France, Italy and Germany already in 1956. By the end of 1991, VAT was introduced in eighteen other countries. *The third wave* was intended to restore a sluggish economy through the implementation of supply-side policies. Behind this wave of reforms by President Regan USA, which set three main objectives:

- ❖ to clarify the law and to introduce transparency and fairness of taxation,
- ❖ increase the economic incentive to operators, since it has weakened due to high taxation,
- ❖ introduce fiscal neutrality, by removing tax credits and adjusting the tax mix, focusing on indirect taxes.

According to Schultzová (2011), due to the fact that individual countries through their tax policies have different tax systems, which govern the behavior of the operators, it is not possible to introduce a uniform tax system for all states. The differences are apparent in the structure of the tax system of taxation on income and capital, adjustment of the tax base, shifting the tax burden between direct and indirect taxes and redistribution of tax revenues between the government and levels of government.

An effective tax system should observe the principle of neutrality of taxation, according to which economic agents make their decisions, regardless of the tax consequences referred Kubicová (2009).

Another of views which talks about the optimal tax system, according to Musgrave in Schultzová (2011), that the tax system should offer sufficient revenue from taxation, the uniform distribution of the tax burden, tackling tax transfer and impact of, ensure the collection of taxes, so that the least interfered with the decisions of the entity, for administrative costs to be kept to a minimum. Additional requirements for the optimal tax system as the use of stabilization and fiscal policy should be clear and understandable, and should allow for consistent and inexpensive report.

One of the ways to influence the tax system, the factor "branch structure". Through a number of enterprises it can be expected number of employees. The more companies in the country employing people, the less will be self employed. Under this assumption it can be concluded that taxation of employees is relatively easy because the tax is precipitated directly from wages and the tax base is not affected by an overload of deductible items as for individual entrepreneurs. Using this information, the government can count on relatively easily predictable revenue from the tax on personal income. Conversely, in countries where a greater number of individual entrepreneurs, exceeds consumption taxes which contribute to tax revenues.

1.2. Measuring the tax burden

One of the most important macroeconomic indicators of the tax burden. This indicator represents the share of taxes in GDP and it is used in international comparison. We distinguish the following types of Quotas:

- ❖ simple tax quota,
- ❖ complex tax quota.

A simple tax quota represents tax revenues to the state budget, which are treated as taxes. *Complex tax quota* is more meaningful because along with simple tax quota includes social security contributions, health insurance and contribution to the state employment support.

In Slovakia, there are three types of tax allowances- Tax quota I, Tax quota II and Tax quota III.

Tax quota I is the set of all direct and indirect taxes.

Tax quota II consists of income accruing to the fund of social health protection. *The tax quota III* includes other charges such as franchising, licensing certification fees, road signs etc.

With certain limited offer, tax burden comprehensive view of the tax burden in individual countries. Based on the features of each country, tax quotes say nothing about the tax burden of individuals, but ultimately the wearer of the citizen.

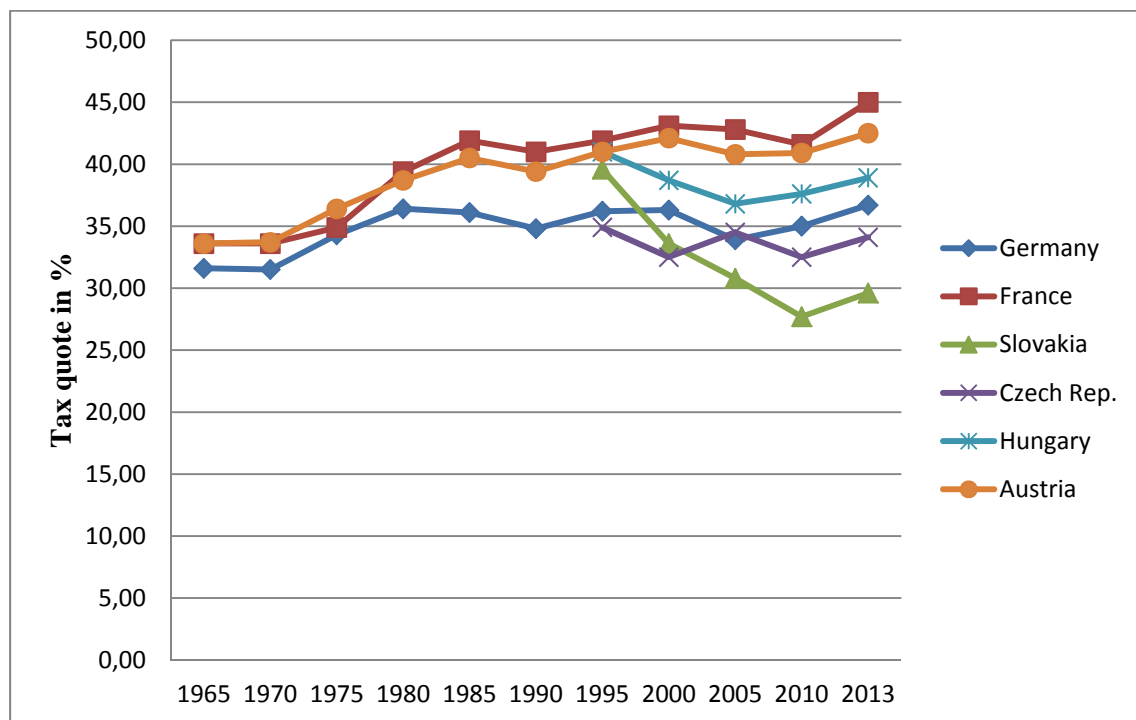
The tax mix is the structural arrangement of the tax allowances with respect to individual particularities and contains the following six kinds of taxes:

1. tax on income, profits and capital gains,
2. social security contributions,
3. the tax on wages and labor,
4. property taxes,
5. commodity taxes and taxes on service,
6. other taxes.

Countries where the value of the tax mix will not change rapidly, are characterized by strong tax compliance, social security contributions and a high tax burden. By contrast, in economies with unstable tax compliance and the unwillingness of the population to pay taxes, as well as low-income population, the government often relies on the contribution of indirect taxes and tends to increase the tax burden.

Graph 1

Tax quotes in select countries

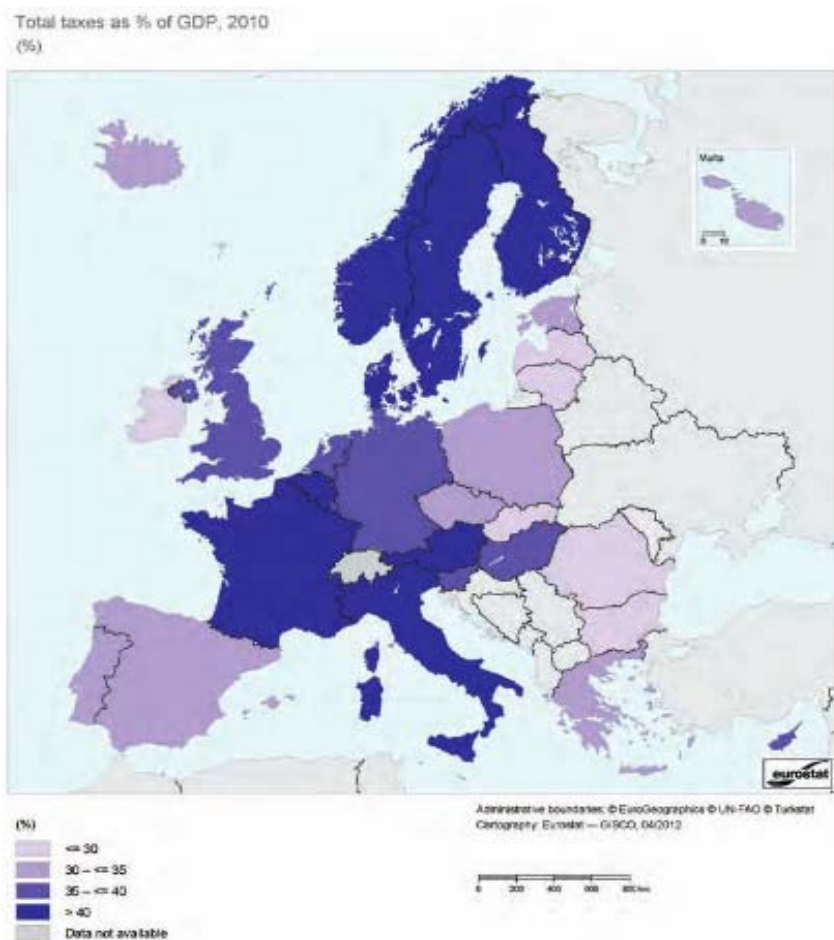


Source: OECD Revenue Statistics 1965-201. Revenue statistics tax changes between 1965-201. [online]. [cit. 2015.04.13]. Available at: <http://stats.oecd.org/index.aspx?DataSetCode=REV>, own processing

Since 2009, the standard rate of VAT had an increasing trend in most Member States of the European Union. The average amount of the VAT rate in the EU increased by two percentage points from 19.5% in 2008 to 21.5% in 2014 (see Graph 2). In this period, 20 Member States recorded growth rates of default. In 2014, the basic rate of VAT in France, Italy and Cyprus has increased, but the highest rate of VAT is situated in Hungary (27%), followed by Croatia, Denmark and Sweden (all countries the VAT 25%). VAT rates are the lowest in Luxembourg (15%) and Malta (18%).

Figure 1 shows the states with the highest tax burden as a percentage of GDP. Among the countries with the highest burden it includes Denmark, Norway, Sweden, Finland, France, Belgium, Italy and Austria with a load of more than 40%. The tax burden in the range of 36 - 40% of GDP are countries like Germany, Holland, Hungary, Slovenia and England. Between 30% - 35% of GDP are countries Iceland, Poland, Czech Republic, Spain and Portugal. Below the 30% of GDP is Slovakia, Ireland, Romania, Lithuania and Latvia.

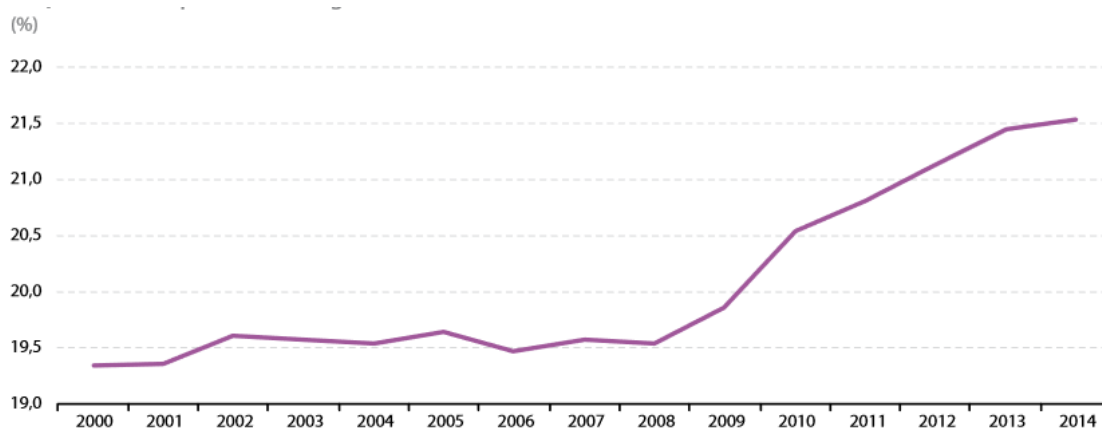
Figure 1: Taxation trends in European Union



Source: EUROSTAT. 2012. *Taxation trends in the European Union*. [online]. [cit. 2015.10.05]. Available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2009/2009_main_results_en.pdf

Graph 2

Development of average standard VAT rate, EU-28, 2000–14



Source: EUROSTAT. 2012. *Taxation trends in the European Union*. [online]. [cit. 2015.10.05]. Available at: http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2009/2009_main_results_en.pdf

2. Tax system of the Slovak Republic

The Slovak Republic, as a member of the European Union, uses to the fulfillment of the state budget of several types of taxes. The current tax system of the Slovak Republic must flexibly respond to changes and requirements arising from EU membership. Slovakia's accession to the European Union meant for the country and the obligation to harmonize the tax system in Slovakia with EU law.

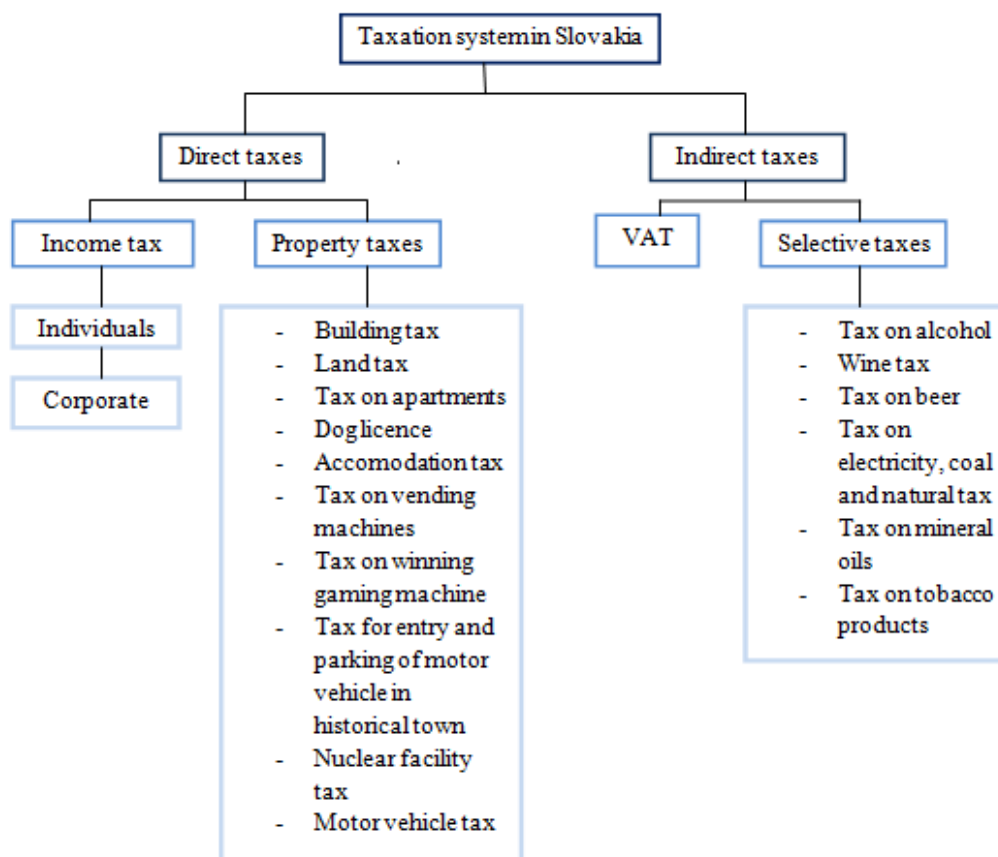
Along with the development of the Slovak Republic in 1993 it started to form the first tax system. Changes, associated with this step is particularly expressed in the Income Tax Act so that tax on income from literary and artistic activities and population income tax was replaced by a tax on income of individuals. Using the corporate income tax to create the conditions by replacing levies taxation on profits, income and agricultural taxes and began to enjoy uniform tariffs. In the beginning was the amount of the rates for legal entities 40% and gradually came in 2013 to a level of 23% in 2014 to current 22%.

Tax calculation is also introducing a unified and progressive sliding calculation of the tax base.

Slovak tax system is formed by three kinds of tax legislation consisting of direct taxes, indirect taxes and local taxes.

Figure 2

Taxation system in Slovak republic



Source: MEDVEĎ, J., NEMEC, J. et al. 2011. *Verejné financie*. Bratislava: : Sprint dva, 2011. 640 s. ISBN 978-80-89393-46-6.

2.1. The development of tax reform in Slovakia after 1993

Tax reforms in the Slovak Republic developed in several stages. The year 1993 was significant for several reasons. Because of the division of Czechoslovakia was the beginning of the tax systems Czech Republic and Slovakia are identical, as well as the newly introduced accounting system. In 1993, the introduction of changes in the social and health insurance, as well as, unemployment insurance. The first tax reform was part of the changes in economic, financial and social sectors. On the basis of identical characters in the tax systems of both countries but of different direction and progress after the split were amended and differences in the system increase magnification.

The tax reforms in 1993 were determined to create a market-based tax system, ensuring the elasticity of revenue and expenditure of the state budget to Gross Domestic Product. Other objectives included such as zooming tax quota to that applied in countries with a market economy, the creation of a level playing field for all businesses, to promote socially desirable economic activities, use the tax system to address environmental problems and approach the newly created tax system, the system of the European Communities (European Union).

The result of the tax reform in 1995, was to reduce the weight of direct taxes. This step was achieved by shifting the tax burden from direct to indirect taxes, as they are in terms of tax collection easier.

For further stages in the development of the tax system in the Slovak Republic was an important year 2004. Complicated, confusing and ambiguous prepared tax laws, the need to simplify and clarify the total until the established tax system in Slovakia. The Slovak Government has concluded that it is necessary to establish a simpler tax system with fewer exemptions, which result in improved controllability, transparency and simplicity of the tax laws all tax entities. The tax reform was consistently apply the principles of taxation as fairness, neutrality, simplicity and efficiency in the tax system of the Slovak Republic, simplify tax legislation and tax systems apply fiscally neutral tax reform to shift taxation from tax directly to tax indirect, to shift taxation of pension tax on tax on consumption and property taxes and introduce a flat tax.

Introduction of the flat tax on personal income tax of 19% which the authors are R. E. Hall and A. Rabushka government wanted a positive impact on the business environment, increase employment and increase the inflow of foreign investments.

A comprehensive package of structural reforms has been linked with a clear strategy for improving the business environment and increasing the degree of economic freedom. Slovakia has made since the mid-1990s and to this day the fastest drop rate of redistribution of tax and contribution rates and the burden of all the countries of the European Union. The share of public expenditure in GDP decreased in the years 1996-2006 by 14.8% (52.1% on 37.3%) and the tax quota II (a share of the revenue from taxes and levies to GDP) of 10.9% (40.4% at 29.5%).

In 2011 it was introduced tax allowances as part of the income tax. This tax, however, the order of the Constitutional Court no. 188/2012 Coll. in 2012 abolished.

The latest reform, which takes account of global trends and experiences from abroad, was reform in 2012. This reform aims to create a single institution that will cover the tax and customs administration, and consolidate and collection of taxes, customs duties and insurance contributions.

Another aim is to reduce bureaucracy, streamline and simplify processes related to tax and contributions, modernization and optimization of the tax system. These steps should cover all subjects covered by the tax liability.

It can be said that the current tax system received its similar reforms in 2004. Since 2014, however, there were some changes in personal income when the law came into non-taxable portion, representing the amount of contributions paid by the employee to supplementary pension schemes (III. pillar).

Changes in the tax system is mainly reflected in:

- ❖ the introduction of a uniform amount of income tax rate amounting to 19% (for individuals as well as corporations), and replacing the previous tax on corporate income tax of 25% and personal income tax rate from 10% to 38%,
- ❖ the introduction of higher tax allowance for taxpayers and tax bonus for a child,
- ❖ repeal a number of exemptions, deductions and special relief in taxation of income tax,
- ❖ unification of VAT rates at 19% (replacing the basic rate of 20% and the reduced rate of 14%),
- ❖ increase in excise duties on rates required by the European Union,
- ❖ abolition of tax on dividends,
- ❖ abolition of gift tax and inheritance,
- ❖ abolition of assignment or transfer of property (since 2005).

Table 1

The share of tax revenue to GDP in%

Tax revenue on an annual basis (cash,% of GDP)	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Direct taxes	6,3	5,1	5,6	5,5	5,5	6,1	6,1	4,3	4,9	5,2	5,5	5,4
Tax on the income of natural persons	3,2	2,4	2,6	2,4	2,4	2,7	2,6	2,2	2,4	2,5	2,5	2,6
Tax on incom of legal persons	2,4	2,3	2,8	2,8	2,8	3,1	3,3	1,9	2,3	2,4	2,7	2,5
Refundable withholding	0,7	0,4	0,3	0,3	0,3	0,3	0,2	0,2	0,2	0,2	0,2	0,2
Indirect taxes	11,2	11,5	12,4	11,6	11,2	10,4	9,9	10,5	10,6	10,0	10,5	10,6
VAT	6,7	7,1	8,0	7,6	7,2	6,8	6,0	6,6	6,8	6,0	6,4	6,5
Excise duties	3,0	3,1	3,3	3,1	3,1	2,8	2,9	2,9	2,9	2,7	2,7	2,7
Property taxes	0,5	0,5	0,5	0,4	0,4	0,3	0,4	0,4	0,4	0,4	0,4	0,4
Local taxes	0,2	0,2	0,2	0,2	0,2	0,1	0,2	0,2	0,2	0,2	0,2	0,2
Other taxes	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,3	0,4	0,4
Total tax revenues	17,5	16,6	18,0	17,1	16,7	16,5	16,0	14,7	15,5	15,1	16,0	16,0

Source: Ministerstvo financií Slovenskej republiky. 2015. *Daňové indikátory*. [online]. [cit. 2015.12.27]. Available at: <http://www.finance.gov.sk/Default.aspx?CatID=7432>

Tax reform built on the flat tax has brought about positive results. The share of tax revenue to GDP is not changed and more Slovakia has managed to achieve fiscal neutrality. The only visible change is the decrease in the share of income tax of physical persons, the

increase after the initial decline in income tax increase and then decrease in the share of income taxes and the start of the value added tax.

According Lenártová (2012) function of taxation "is the most important economic decision of the state because of its design and quality affects the vast majority of economic processes throughout the economy both nationally and internationally." The amount of taxation has a major influence on the decisions of businesses in carrying out its activities, affecting the living standards of the population, the rate of investment and the amount of final consumption. Currently, when globalization and plays an important role for business is much easier to start a business in the country which offers better conditions. It is necessary to create conditions that support and motivate entrepreneurs to perform their activities.

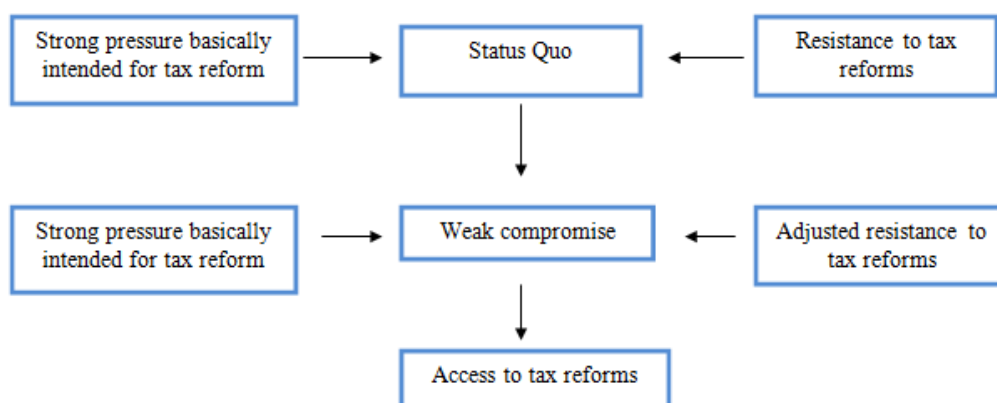
The main principles of the tax reform in the Slovak Republic include:

- ❖ application of taxation principles as fairness, simplicity, neutrality, efficiency,
- ❖ simplify the tax system,
- ❖ fiscally neutral tax reform,
- ❖ the emphasis burden from direct to indirect taxation,
- ❖ the introduction of the flat tax,
- ❖ abolition of progressive taxation,
- ❖ the abolition of double taxation.

Another view on tax reform offers S. James, and called. "Forcefield approach", which means businesses are able to formulate their observations and requirements for effective tax system. The figure shows the process of changing the current tax system, through pressure exerted by entrepreneurs and others. In the event of lack of funds in the state budget, the government is trying to take such measures to change this situation.

Fears and reluctance to implement change occurs on the part of taxpayers due to a higher tax burden. These differences result in a compromise when designing and implementing tax changes.

Figure 3
Forcefield approach



Source: James, S. 2002. *The Future International Tax Environment*. In *The International Taxation System*. Kluwer Academic Publishers.: Boston/Dordrecht/London. 2002. s. 108. ISBN 1 -4020-7157-4.

3. Prospects of tax harmonization in the European Union

Tax harmonization is the highest degree of unification of tax systems of all the Member States of the European Union on the basis of uniform rules. In the process of harmonization are identified three basic phases, namely: harmonization of the tax base, harmonization of tax rates and harmonization of tax administration. The European Union aims to create a grouping of states with strong political, cultural and economic grounds, which should assist in economic decision-making, and therefore even for matters of taxation and tax base.

Tax harmonization is a process and the result. We can be understood as a process of harmonization in order to achieve results, but presents itself as a result of harmonization of tax legislation. In the case of harmonization of understanding as a means of achieving a single market, we can distinguish positive and negative harmonization.

Positive harmonization is a process of gradual harmonization of national economies and tax systems States of the European Community, based on the implementation of the guidelines and legislative instruments used by the European Commission to promote harmonization. The aim of harmonization is a positive introduction to the same rules for all Member States.

Negative harmonization measures on the basis of the European Court of Justice, not on the basis of accepted guidelines and regulations. Negative results of harmonization are different rules for Member States.

A necessary step for the introduction of tax harmonization is unanimous agreement by all Member States, taking into account the specific intention of the State, national policies and interests representing one of the biggest obstacles.

According Ficbauer (2011) exist in the European Union constraints on tax harmonization. Such elements include:

- ❖ personal income taxes, which remain the responsibility of individual states,
- ❖ corporate taxes remain the responsibility of individual states,
- ❖ provided that their policy does not create harmful competition, but only the transport and movement of capital, indirect taxes remaining in the spotlight harmonization process as it affects the overall functioning of the markets,
- ❖ social and pension systems designed to limit discrimination and restrictions on freedom of investment and business in the European Union.

Tax harmonization does not necessarily mean the same definition of the tax base for all states. For political reasons, it only takes to bring them closer. The harmonization process in the Member States is not confined to its own taxes, but also focuses on coordination of tax systems and the efficiency of tax administration.

Harmonization affect different legal instruments, including the primary law of the European Union and secondary EU law.

The primary law of the European Union prohibited from applying a higher tax on imported products than to domestic, allow for a higher deduction for exported goods than what has been paid to them, provide relief from direct taxes to domestic exporters and stores prepare the harmonization of VAT.

Secondary law of the European Union identifies the main instruments of tax harmonization on the basis of regulations and directives of the European Community. The

aim is to ensure the implementation of harmonization, method and implementation is left to the individual countries.

3.1. Impact of tax harmonization and tax competition

The European Union during its existence has made considerable achievements in many areas of mutual cooperation between Member States and the idea of harmonizing the various tax systems is also designed to help the optimal functioning of a single internal market and better mutual cooperation between Member States.

There are strong pressures of tax competition advocates, who argue that tax harmonization must have certain limits, otherwise they will mean exceeding the inefficiency of the whole system of harmonization. Excessive intervention by the state unrewarding and highlight the benefits of free competition of tax systems to enhance the economic incentives of individual taxes and savings funds for public budgets.

According to some authors, the positive competitive tax systems can include:

- ❖ economic stimulus competition,
- ❖ savings in public budgets,
- ❖ the creation of new experiences.

The negative aspects of tax competition is shifting the tax burden from capital to labor, inappropriate structure of government spending and inefficient delivery of public services. Another downside is that companies pay tax in a jurisdiction with low tax burden and use of public services in jurisdictions with high tax burden. Competition does not allow efficient allocation of resources, and may also lead to a distortion of world prices for large and strong countries.

In recent years, several Member States have day reforms that took place in the process of creating a common market. The consequence of tax competition many companies seeking to relocate their businesses to countries with lower tax rates.

Conclusion

The tax system of the Slovak Republic passed a number of reforms since its inception. In the beginning was the amount of the rates for legal entities 40% and gradually came in 2013 to a level of 23% in 2014 to current 22%. Tax calculation is united and introducing a progressive sliding calculation of the tax base. Slovak tax system is formed by three kinds of tax legislation, including direct, indirect and local taxes. The latest reform, which takes account of global trends and experiences from abroad, was reform in 2012. This reform has created a single institution that covers tax and customs administration merged and collection of taxes, customs duties and insurance contributions.

The tax burden of EU countries, as well as height and number of tax rates in the case of direct taxes show the very significant differences in Member States. Specifics and differences in the development of each country is also reflected in large and small differences in their tax systems. Significant progress towards harmonization made by many Member States in areas like the reciprocal exchange of tax information, avoiding double taxation, or so-called combat. tax havens. The controversy on the harmonization of direct taxes is carried out in the European Communities for a long time. to create a single market.

The main objective is to harmonize the tax systems of the Member States, but this step is not retarded efforts of the Union to maintain the fiscal policy instruments in their hands.

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Relationship between wage differences and education level in Slovakia

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Abstract

With development of the knowledge economy, education, as a process of formation of human capital, becomes a dynamic source of growth, and its importance increases. The dynamization is visible particularly in changing requirements of firms on knowledge and qualification of employees, but generally higher level of education is preferred from lower, which is accordingly reflected in employees' remuneration. Apart from the effects on employability, education therefore determines wage differences among workers. This paper focuses on research of the relationship between education and wage differences in Slovakia, using analysis of statistical data on wages, and based on results of the analysis on determination of the influence of education level on wages.

Keywords: *inequality, wage differentiation, education levels*

JEL classification: *J31, I24*

1. Introduction

Wage differences, as the most visible form of income inequalities as well as social inequalities themselves, are a natural component of market economy. Besides external factors, the differences are formed by diverse characteristics of individuals which are accordingly differently remunerated by employees. As labour income is a key source of necessity of life realization, income inequalities get further replicated in other areas. Education, being one of the income level determinants, significantly affects this process. This paper, by using analysis of statistical data as a method, focuses on research of the relation between formal education level achieved and position on labour market, expressed in average income. It aims to use the outcome of the analysis to decide whether or not wages grow with higher achieved education level.

For assure internal comparability of the partial analyses, this paper uses statistical data on wages and employment from 2013, published by the Statistical Office of the Slovak republic (Štatistický úrad SR, 2014a-i, Štatistický úrad 2015a-b, Krišková 2014). The education levels are named based on the source data, where the Statistical office uses either primary, secondary, and tertiary levels, or basic, secondary, and university levels. The achieved level of formal education is certainly not the only component of qualification of an employee, yet for its clear reflection of qualification prerequisite, as well as availability of statistical data for this indicator, the paper uses the formal education levels as a subject for analysis.

2. Education as labour market position determinant

The professional literature lists mostly the following factors of wage differentiation: age, gender, education and profession (i.e. Šipikalová 2013). These factors may further be divided

into personal characteristics of employee (such as gender, age and education), that determine his/her productivity at work, and characteristics of profession of employee (like position, sector of economy, employment type or place of business). Both these sets then affect employee's wage. As stated above, education is one of the factors, being a set of knowledge and skills that increase employee's productivity to a qualitatively higher level, which is accordingly appreciated by employer in higher remuneration. Formal education itself is not the determining factor for wage level, especially in highly specialized positions it is impossible for formal education to provide necessary qualification, and therefore employers prefer overall qualification as a set of skills required for performing specific job role, defined by both formal and informal education. The qualification of an employee as a whole then represents differentiated labour supply, and each qualification set brings a different utility to specific employer, with wage as means to quantify the utility.

Yet it is not possible to generalize that higher education brings higher income just automatically. The ability to apply knowledge and skills plays an important role, too. If we admit for a while that formal education acts as a filter to distinguish the more capable from the less ones during the education process, achieved level of education then is just a formal confirmation of one's set of knowledge and skills at higher quality. In addition to this assumption, yields of higher education are also reduced by taxes which play certain role in decision process on whether or not an investment in education will be a future gain. Progressive taxation of income and education costs may discourage young people from further education (non-economic factors are of significant importance, too). When one does not continue his/her studies, he/she can start working and earn money earlier, while when studying university, he/she starts working later, at higher wage, which is a sort of compensation for later start on the labour market. Progressive income tax then serves as a repayment for society costs of education of given individual (Čaplánová, 1999).

The lifetime income curve depending on education level is concave, the more the higher the education level is. Older people have higher marginal costs for additional education (not necessarily formal one, but informal and general updates with depreciation of knowledge in time) than their marginal revenue, for shorter period of application of the new skills (Čaplánová, 1999). Income initially grows with age, but human capital depreciates with aging, which creates a turn in the income curve and at certain point in life, older people start to get lower wages than younger ones.

In addition, with higher education, unemployment rate falls, better educated people are able to find employment on the labour market more easily, and to secure more stable incomes. Higher education level of women also increases their significantly higher employment rate, more progressive than the one of men, yet from a very low number for the least educated women (Dudová, 2011).

3. Education structure of economically active population in Slovakia

In contrast to countries with higher inequality level, Slovak population dominantly achieves secondary level of education, which creates a wedge between extremely low incomes of undereducated people and highly above-average incomes of people with university education in average. This then lowers the wage differentiation to a more even level than elsewhere. According to the 2011 census, people with secondary education form more than one half of the Slovak population in general (Štatistický úrad SR, 2015b).

Similar data are shown in the more up-to-date table 1, from 2013. In Slovakia, the upper secondary education level is represented the most among the economically active population

over 15. From regional perspective, the Bratislava region stands out with almost 37 % share of tertiary educated economically active people and the region of the capital differs in higher education level from other regions with this number at 17 % in average. On the other hand, the highest share of primary education appeared in Banská Bystrica region, where the rate was almost 10 %, and also in Prešov and Košice regions. The lowest primary education share was in Nitra region, 3.5 % followed by Bratislava region with 3.7 %.

Table 1

Education structure of economically active population by region in 2013

(thousands)	SR	BA	TT	TN	NR	ZA	BB	PO	KE
EAP 15+	2716.2	336.7	298.4	291.0	345.2	336.8	340.9	392.0	375.2
primary	158.7	12.3	17.0	10.8	16.7	11.9	32.6	30.2	27.2
lower secondary	846.8	56.3	104.7	103.2	113.4	114.8	95.7	144.3	114.4
upper secondary	1181.5	144.4	137.7	121.0	157.6	149.7	152.0	152.6	166.5
tertiary	529.2	123.7	39.0	56.0	57.5	60.4	60.6	64.9	67.1

Source: Own processing based on data from the Statistical office of the Slovak Republic

The concavity of the income curve in dependence to age is confirmed in table 2. While for lower education levels the concavity is only slight, it is more visible at the curve of tertiary education, and the maximum is reached in higher age. While people with basic and secondary education earn the most in the age interval of 30-34, or 35-39, people with bachelor or master degree in interval 40-45 and people with PhD. or equivalent degree reach the maximum wages the latest, in interval 55-59.

Table 2

Average wage by education level and age group in 2013

Education / age €	<20	20- 24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	>59
Basic	410	568	634	665	630	630	586	573	575	533
Secondary vocational without "maturita"	534	646	688	719	730	716	688	683	673	670
Secondary education without "maturita"	550	616	708	741	719	683	672	644	645	661
Secondary vocational with "maturita"	533	658	772	839	895	881	841	827	808	809
Secondary general with "maturita"	481	660	848	955	947	907	857	813	797	810
Secondary specialised with "maturita"	495	658	806	917	933	896	866	849	873	875
Higher professional	D	664	855	1022	1004	958	913	925	940	893
University - Bachelor degree	-	717	852	1017	1038	1085	984	1013	1018	989
University - Master degree	-	788	984	1305	1450	1482	1428	1415	1328	1274
University - PhD. degree	-	-	981	1118	1308	1356	1416	1496	1640	1348

Source: Own processing based on data from the Statistical office of the Slovak Republic

Data in table 3 show regional differences in average wage distribution by the education level, and clearly confirm the assumption of wage growth depending on higher formal education level achieved. This is obvious the best in Bratislava region where education is one of the factors of above-average wages. Considering the data on education structure of economically active population, we can state that companies in the capital, as centre of excellent economic activities, seek for the best educated professional and are willing to pay them at corresponding level. Above-average wages of employees with university diplomas, and their outstanding rate on the region's population, take significant part in explanation of the above-average wages in the capital in general. The assumption of growing wage

depending on higher education level achieved was generally confirmed in the data. In all regions, employees with only primary education reached the lowest average wages, the second lowest wages were reached by employees with secondary education without “maturita”, except for Banská Bystrica region, where the second lowest wage were gained by employees with secondary vocational education without “maturita”, who were the third least remunerated in other regions. Generally, the very lowest wages among all groups and regions were identified in Prešov region in group of employees with basic education, followed by employees in Košice and Nitra region with the same level of education. In Banská Bystrica and Prešov region, employees with higher professional education reached higher wages than employees with university education and bachelor degree, this education level being remunerated worse than lower education level.

Table 3

Average wage by education level and region in 2013

education level/wage in €	SR	BA	TT	TN	NR	ZA	BB	PO	KE
SR/regional average	912	1205	860	821	789	839	798	736	883
Basic	587	677	619	571	546	565	556	482	534
Secondary vocational without "maturita"	695	838	742	690	643	689	634	579	706
Secondary education without "maturita"	679	787	731	657	626	665	660	554	690
Secondary vocational with "maturita"	830	1022	874	803	765	808	747	693	793
Secondary general with "maturita"	856	1073	819	781	755	787	750	713	787
Secondary specialised with "maturita"	865	1073	882	806	772	816	779	727	874
Higher professional	938	1205	860	893	790	843	881	899	829
University - Bachelor degree	969	1211	955	901	1006	838	854	791	887
University - Master degree	1331	1715	1238	1208	1157	1167	1119	1013	1197
University - PhD. degree	1355	1405	1389	1632	1269	1263	1153	1115	1414

Source: Own processing based on data from the Statistical office of the Slovak Republic

Looking at the average wage within the same education level across the regions, only data in Bratislava region show values above the national average for given group, with employees with university master degree exceeding the average the most. Within the education level groups, above-average values were observed for some levels in Trnava region, mostly for lower education levels, and also in Košice region, where i.e. wages of employees with PhD. degree exceeded the average national PhD. wages with 4.4 %.

Comparing the wages of individual education levels with average wage in region, above-average values were generally reached starting with higher professional education, one exception being Trnava region, where employees with secondary vocational education with “maturita” also exceeded higher than average wage, by 1.6 %. Another exception the Košice region, where only university education in average guaranteed wages above regional average. Relative measures show that the regional average was exceeded the most by employees with PhD. degree in Trnava region, by 98.8 %. Workers in Bratislava region with primary education gained relatively the least in compare with regional average, only 56.2 %.

In compare with national average wage, secondary vocational education with “maturita” was sufficient in Bratislava region to achieve it, in all other regions university education was needed in average, specifically bachelor degree in Trnava and Nitra region, in all other five regions master degree.

Interestingly, while in all other regions the highest wages were gained by employees with the highest, PhD. education, in Bratislava region employees with master degree were

remunerated the most, at 1715 euros in average (and by 88 % above the national average), which is 22.1 % more than people with PhD. diploma. One of the explanations for this fact may be that excellent technological or financial activities in commercial sector are concentrated in the capital city, that are remunerated high, and where master diploma is a sufficient requirement, while PhD. diploma is held mostly by people focused on research in public sector or academic sphere, where the remuneration is not as high, and is levelled at national level in pay tables.

4. The effects of education on unemployment

The achieved education level influences, besides wages, also the unemployment rate. Structure of employment by education level indicates level of development of economy, relatively higher number of employees with secondary education shows higher importance if industrial sector while more employees with university education indicate significant focus on excellent research and science as well as creation of higher added value and innovations. Unemployment rate of a specific education level then shows supply and demand imbalance on labour market, as well as disharmony between education system and employers' needs (it may not be a perfect indicator of qualification requirements, but when some education levels show extremely high unemployment rates, this fact may indicate certain issues in education system).

While Bratislava region seems not to have notable issues on the labour market, high unemployment rate is apparent in other regions, mostly affecting younger people, absolvents, and people with lower education.

Table 4

Education structure of unemployed population by region in 2013

(thousands)	SR	BA	TT	TN	NR	ZA	BB	PO	KE
unemployed	386.5	21.4	36.5	27.6	45.5	47.2	66.6	71.6	70.1
primary	67.2	2	6.2	3.7	6.1	3.6	16.6	15.8	13.2
lower secondary	146.5	4.7	14.9	10.7	19.5	22.6	24.3	27	22.8
upper secondary	134.6	10	12.5	9	16.9	16.1	21.9	21.6	26.6
tertiary	38.2	4.7	2.9	4.2	3	4.9	3.8	7.2	7.5

Source: Own processing based on data from the Statistical office of the Slovak republic

As shown in Table 4, in 2013, the biggest group of unemployed was formed by people with upper secondary education, which corresponds with their share on total economically active population, similarly for the lower secondary population. Generally for the regions, we may assert that with increasing education level, unemployment falls in compare with relative proportion of given education level on total population, and vice versa. Unemployment of people with primary education was extremely high in all regions, where these people formed 9.6 % of population, but 24.9 % of all unemployed. Relatively lowest ratio was observed in Žilina region, with 3.5 % share of primary education in population and 7.6 % among all unemployed. Lower secondary education also formed over-proportional part of unemployment, yet the disproportion was lower. With higher education levels, the proportion of unemployed was lower than what would correspond with share on total population, except for Bratislava region, where there were still more unemployed with upper secondary education than their percentage on economically active population would suggest. On the other hand, people with tertiary education formed under-proportional share of unemployed people in all regions, specifically in Bratislava region they represented 36.7 % of

economically active population, but only 22 % of unemployed, or in Banská Bystrica with 17.8 % of population, but only 5.7 % of unemployed. As the statistics of unemployment of education levels clearly confirm, the influence of education therefore is significant for employability, and it holds true that with increasing education level of an individual, his/her probability of being unemployed drops.

The data show that while among people with only primary education, 42.3 % were unemployed nationwide, unemployment rate of people with lower secondary education was at 17.3 %, with upper secondary at 11.4 %, and only 7.2 % of people with university education were unemployed. The situation was different among regions. In the capital, where the unemployment rate was generally low, 16.3 % of people with primary education did not have a job. In Trnava, Trenčín, Nitra and Žilina region, roughly every third person with primary education was unemployed, and in Banská Bystrica region, same as in both eastern regions, about every other, with 52.3 % in Prešov region. On the other hand, people with tertiary education were unemployed in lower extent, in Bratislava region in 3.8 % of cases, in Trnava region with 5.2 %, in other regions of western and central Slovakia with about 6-8 %. In the eastern regions, with overall unemployment rate at higher level, the people with tertiary education were jobless in 11.1 % of cases in Košice region and 11.2 % in Prešov region.

5. Conclusion

The analysis of statistical data has confirmed a positive relation between achieved level of education and amount of average wage. In a simple view, wages growth in underdeveloped regions might be elevated by increasing education level (in most cases). Yet, this just by itself would collide with lack of firms that would employ the people. One common problem of low wages and unemployment in central and eastern regions is the lower level of development and rigidity of local economic environment, originated in weak infrastructure, which all together generates vicious circle of low competitiveness of firms and unemployment joint by low wages. Poor or missing infrastructure together with unsuitable education and qualification of economically active population, all these make potential investors not interested to run a business in these regions, which again and again intensifies the problems.

Analysis further shows specific position of Bratislava region, where strong economic performance further replicates into high wages and low unemployment. Concentration of economic activities with high added value in Bratislava, followed with requirements of firms for high professional level of employees, find saturation in local labour supply, with high share of people with university education on total population. Firms are then able and willing to remunerate the labour supply accordingly, with higher wages (Buček et al. 2010). The strong economic performance then generates numerous jobs, which shows in the lowest unemployment rate in Slovakia. This is in contrast with other regions, where wages are pressed down by high unemployment. Regions with higher unemployment rates also show higher share of people with primary education, who are more disadvantaged on the labour market, and make over-proportional share of unemployed in compare with other education levels. Their enormous unemployment level indicated insufficient or unsuitable qualification of labour force, and imbalance of demand and supply on the market. Any solution would require a complex approach. On one hand, effective support of less educated people to continue their education process is required, that would avoid them to dropout schools. On the other hand, a support to renewing and extending qualification in older age is necessary. These two initiatives need to involve both state and municipalities on one side and employers on the other, in order to design education systems that would match the labour market needs.

The targets of the EU, as defined in the Europe 2020 Strategy, like employment rate at 75 % of the 20-64-year-olds, achieving 40 % share of tertiary educated people in population of 30-34 years, and reducing school drop-out rates below 10 %, seem to be too ambitious, considering the fact that EU competency is only supportive in the areas of education, social policy and labour market, with full responsibility on member states. In given conditions, the states can maximize the utility of all EU programmes in partial initiatives, but the complex and conceptual solution must be created at the Slovak government level, and the municipalities, where the problems really appear.

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Long Working Hours: The Most Important Results of the Scientific Project

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Abstract

Long working hours is a very actual topic influencing the competitiveness of postindustrial era companies. It is a topic that many companies must deal with and the results of our research can bring them the competitive edge. In our research we examined the long working hours from the perspective of physical and mental health and motivation. In this paper we covered the most important results of our scientific project. The research was conducted in the year 2014 on a sample of 166 individual respondents. Using the regression analysis we identified relation between working hours, quality of sleep and motivation as well as weakened immunity and workload. Implications of this paper are the identified hot spots that companies can address to achieve positive changes in examined areas.

Keywords: working hours, health, motivation

JEL classification: J01, J22, J24

1. Introduction

In this article, we summarize the most important conclusions from the research project "The Influence of Postindustrial Era on Working Hours and Employees' Performance" which was conducted at the Faculty of Business Management in 2014.

Working hours and its alliance with health and motivation is very actual theme overstated by postindustrial era. Nowadays, in the time of information technologies allowing working from home, it is very important to take in account that the employees under the pressure, either internal or based on company's politics, are working longer than standard working hours. Due to the present literature, it can have a debilitating impact on their health and performance. In our project we studied a sample of 166 employees using descriptive and inductive statistics. The objective of this paper is to summarize and present the results of the scientific project The Influence of Postindustrial Era on Working Hours and Employees' Performance as is the description and identification of the relations between working hours, health and motivation of employees.

The main objective of our research project "The influence of the post-industrial economy on the employees' work hours and effectiveness set right at the beginning was " identification of relations between the length of work time, postindustrialism and employees' performance, more specifically Identification of current and new trends in work time arrangements in connection to employees' overall health and performance. Our partial project objectives to meet the main goal were the literature review of theoretical knowledge and recent research on the topic, conducting own research, data interpretation and evaluation that has resulted in partial publication activity, and finalizing the publication activity with identified research findings.

The research output should represent a tool that firstly helps businesses to choose the most optimal work time plan for their employees in regard to employees' health and effectiveness,

and secondly provides information that would prove effective and useful for HR decision making.

The main objective of our research was fulfilled because, we have explored new forms of work time and workplace arrangements including home office, virtual offices, flexplace and ROWE. In our study, we investigated work from home (telecommuting) and prospective work from home. We have also determined for which employees these work and workplace arrangements are suitable and for which employees are not. We have identified important influential factors on hours worked. We have explored the effect of work time on sleep quality and precaution measures that can alleviate possible negative impact. We have looked at motivational factors for longer work hours. We have explored correlations and suggested precaution measures for the link between the length of work hours and health problems such as migraines and weakened immune system and between the length of work hours and the work strain. The partial objectives were fulfilled as we have implemented them in our research procedures.

The expected and actual outcome of our project is a business tool that enables work time optimization in respect to the impact of work time on employee's effectiveness and health in the long term it is a tool that enables businesses to have a positive impact on their employees regarding their work hours.

2. Literature overview

Physical consequence of long working hours were studied by many authors. For instance, K. Sato et al. (2012) wrote, that working over 55 hours per week is related to headache and lack of physical activity. He also identified the relation between long working hours and health problems as high blood pressure, heart attack, diabetes, depression, neck and shoulder pain, lack of sleep and also the impact on cognitive function. On the contrary, the positive effect of reduced working hours on health can be positively influenced by using the leisure time for physical activity. A very similar opinion has A. Spurgeon et al. (1997), who found that working hours over 50 hours per week are connected with health consequences. C. P. Loh (2009) points out that the longer working hours reduce a lot of time spent on physical activity. Y. Cheng et al. (2014) said that "*long working hours and short sleep duration contribute independently to the risk of cardiovascular diseases in men*". They recognized the relationship between tendency to heart disease and short sleep. Men who slept less than six hours a day or were worked more than 60 hours weekly were most prone to heart disease. Also a negative effect was related to smoking and body mass index (BMI) over 27. T. Ohtsu et al. (2013) found that in order to avoid short sleep it is important to avoid long working hours. Men who sleep shorter than 6 hours per day usually worked 9 and 11 hours daily. It means, overtimes between 3 and 4 were associated with short sleep with comparable impacts of overtimes more than 4 hours a day. Among women they identified the relationship of short sleep and working hours more than nine hours a day. This problem of long working hours also affected short sleep during days off. T. Kobayashi et al. (2012) in a study of 933 men found that number of hours worked per day, beyond which the likelihood of metabolic syndrome increase among Japanese workers was 10 hours. He also found, that 11.8% of them were suffering from metabolic syndrome. The authors argue that the measures against metabolic syndrome are needed in the fight against cardiovascular disease. I. Jeong et al. (2013) also mentioned that there is a relation between working hours and increased risk of cardiovascular disease. Surprising finding was the relation between short working hours and cardiovascular diseases. The employees who worked more than 52 hours a week were the most prone to cardiovascular disease, followed by employees working for 40 hours or less per week and

employees working between 48.1 and 52 hours per week. The least prone to cardiovascular disease were employees working between 40.1 and 48 hours per week.

M. Jansen et al. (2003) claims that people with longer working hours and overtimes will have an increased need for recovery. Interesting is, they found that there is a difference between men and women in relations between working hours, schedule and need for recovery. K. M. De Almondes and J. F. Araújo (2011) studied the subjective perception of sleep quality. They identified that people working during the day have usually a higher quality of sleep. K. Wada et al. (2010) wrote: "*Some physicians need some support to maintain their mental health. Physicians who do not take enough days-off, who reduced sleep hours, and who have certain number of days on-calls may develop depressive symptoms.*" Around every tenth study participant was diagnosed with depression. They found that those most likely to suffer from depression were those with no off-duty days, those who were on call more than 8 times a month, those who slept less than five hours a day and those who had six or more days of overnight work per month.

Hill et al. was dealing with the questions of traditional office, virtual office, home office and flexplace. Although the results of the impact of teleworking and the virtual office were ambiguous, he found that while employees perceived increased productivity when working from home a significant difference compared to the work in the office was not identified and the virtual office even showed a reduction in performance compared to the work in the office. On the subject of motivation, work from home and virtual office had a positive impact on work incentives. According to him flexible place gives the employee some degree of control over where can be work done. Virtual office gives its employees a portable means to carry out their work anywhere, anytime. In this research positive impact of flexibility of time and place, both for the company and for the employees were identified.

In this connection Damaske et al. (2014) wrote that the majority of participant had lower level of stress at work compared to home (measuring the level of cortisol). However this effect was not subjectively identified. It also has to be mentioned that the higher level of cortisol was measured during working days. So the observation is a combination of home and work influencing the stress level.

Flexible working hours were also studied by Bohle et al. (2011). In his work he studied the high intensity work, psychological pressure and unpleasant working hours. This study found that permanent employees feel greater intensity of workload than temporal. It was associated with greater conflict between work and personal life. That means, that conflict of work and personal life has been manifested by a higher level of fatigue and psychological symptoms.

Longer working hours and satisfaction were observed by Andresen et al. (2007). This study showed stressful working conditions as unsocial and irregular working hours create tensions with work and family factors and reduce the job satisfaction. They argue that older workers were less satisfied with the work, which was caused by poorer health. Prevention in the form of better time management and deployment of technical aids reducing orthopaedic problems would be recommended.

Numbers of studies overview of many authors clearly demonstrated relationship between longer working hours and health of employees and its negative influence on it.

3. Objectives and methods

The objective of this paper is to summarize and present the results of the scientific project The Influence of Postindustrial Era on Working Hours and Employees' Performance as is the description and identification of the relations between working hours, health and motivation of employees.

The first step of the research was a survey of the current literature using ScienceDirect, Springer and Google Scholar. Keywords for this survey were working hours and work from home. Subsequently selection and study of relevant sources were conducted. Next step was based on preparation of questionnaire from the current state of theory. On this basis was designed 62 relevant questions in 6 areas, such as basic information about the respondent, working conditions, working hours, the effects of work, motivation and leisure. Dissemination and collection of questionnaires with the assistance of students followed. In this connection, the questionnaires were further processed and analysed. After sorting invalid questionnaires, 166 remained usable, which were further subjected to detailed analysis. For the analysis were used methods as descriptive statistics to identify the location, spread and correlation. To identify mean and median in order to find the one number that can best describe the sample were used methods of location. The methods of spread, like standard deviation, were used to identify the volatility of data. Correlation analysis identified association between the elements. Using inductive statistics were further analysed and explained causation and made judgments on the population.

4. Results and discussion

The research project led to 15 academic activities, more precisely to the participation in 2 international and 10 national scientific conferences, as well as to 3 publications in scientific journals. In the following subchapters we present the most significant findings.

4.1 Work from home

In Table 1 we analyzed the factors influencing the share of telecommuting and in Table 2 factors influencing the potential share of telecommuting. The main results are as followed:

More than 50% of business participating in our study offers their employees the option to work at least partially from home. More than 66% of business has the potential for telecommuting activities. No direct correlations have been identified between telecommuting and productivity or health. The biggest impact of home work compared to office work has been identified in following variables: 1st type of work requiring presence at the workplace, 2nd position title, and 3rd the daily hours worked (Table 1). Management positions require the presence at workplace. Managers need to be seen by other employees, thus their work can be performed from home only with great difficulty. Telecommuting is suitable rather for administrative and data processing activities. Telecommuters work shorter hours than employees working at company's workplace (Table 1).

Table 1

Regression analysis of the factors influencing share of telecommuting.

	Model 1 share of telecommuting	Model 2 share of telecommuting
Company size	-.96 (1.28)	
Work position	-1.85* (1.09)	-2.84** (.83)
Income	1.62 (1.70)	
Lunch break	.65 (4.47)	
Involvement in setting of the	.17 (1.33)	

goal

Share of the intellectual work	.01 (.05)	
E-learning	-.02 (1.14)	
Time management	-1.18 (1.12)	
Daily hours worked	-4.65** (1.47)	-3.79** (1.21)
Telecommuting – working from home	-12.45** (1.27)	-13.26** (1.33)
Flexible working hours	-.18 (1.11)	
Satisfaction with income	-.10 (.92)	
<hr/>		
R ² adjusted	.51	.54

Source: own research

Notes: Standard error in parenthesis. **significance ≤ 0.01 * significance ≤ 0.1

Employees with higher income have better chances for telecommuting. This relates mainly to data analysts who enjoy higher income than labor workers and at the same time, their presence at workplace is not as inevitable as in case of managers. Similarly, the higher income of data analysts creates good opportunities for working from home (Table 2).

Table 2

Regression analysis of the factors influencing potential share of telecommuting

	Model 1 potential share of telecommuting	Model 2 potential share of telecommuting
Work position	-.31 (1.64)	
Income	4.00* (2.36)	4.54** (1.99)
Lunch break	5.45 (7.19)	
share of the intellectual work	-.06 (.08)	
E-learning	-1.01 (1.81)	
he need of education / the need to learn	-1.80 (2.49)	
Daily hours worked	-2.78 (2.29)	
Telecommuting – working from home	-15.17*** (2.55)	-15.09*** (2.11)

Flexible working hours	-4.62*** (1.70)	-5.64*** (1.49)
Satisfaction with Income	-1.80 (2.49)	
R ² adjusted	.40	.40

Source: own research

Notes: Standard error in parenthesis. ***significance ≤ 0.01 **significance ≤ 0.05 *significance ≤ 0.1

4.2 Hours worked, sleep quality and motivation

In Table 3 we analyzed the factors influencing daily hours worked; in Table 4 factors influencing the quality of sleep, in Table 5 the motivation for hours worked and in Table 6 the factors influencing the migraine. The main results are as followed:

Significant factors influencing long working hours include high workload, higher earnings and the home office option (Table 3). Longer working hours have a negative effect on sleep quality (Table 4). Sleep problems may result in migraine (Table 5). Earnings and working at themselves motivate people to work long hours (Table 6). Taking these facts into consideration can lead to preparing and implementing suitable precaution measures at workplace. Businesses can monitor workload perceived by the employees and set pay policy in the right direction in order not to motivate employees for long hours. Negative impact on poor sleep quality caused by improper work time plan can be tackled by promoting sport activities, special perks for visiting the gym, the pool, or creating a corporate running club.

Table 3

Regression analysis of the factors influencing daily working hours.

	Model 1 Daily hours worked	Model 2 Daily hours worked
Gender	-.18 (.15)	-.21 (.14)
Age	.00 (.08)	
Marital status	.06 (.22)	
Company size	.00 (.07)	
Work position	-.05 (.06)	
Income	.14 (.08)	.21** (.07)
Foreign participation	.04 (.10)	
Share of intellectual work	.00 (.00)	
Share of telecommuting	-.01** (.00)	-.01** (.00)
Flexible working hours	.09 (.06)	.07 (.06)
Workload	.34**	.35**

	(.10)	(.10)
R ² adjusted	.17**	.17**

Source: own research

Notes: Standard error in parenthesis. **significance ≤ 0.01 *significance ≤ 0.05

Table 4

Regression analysis of the factors influencing quality of sleep

	Model 1 quality of sleep	Model 2 quality of sleep
Gender	-.39* (.16)	-.39* (.15)
Age	-.00 (.06)	
Lighting	.12 (.14)	
Share of telecommuting	-.01 (.00)	-.01* (.00)
Daily hours worked	-.13 (.09)	-.16* (.08)
Overtime	.04 (.07)	
Alcohol	.00 (.08)	
Cigarettes	-.04 (.06)	
Nutrition	-.03 (.07)	
Workload	-.07 (.11)	
Sport	.10* (.05)	.12** (.04)
Free time activities	-.06 (.04)	-.06 (.04)
R ² adjusted	.07*	.10**

Source: own research

Notes: Standard error in parenthesis. **significance ≤ 0.01 *significance ≤ 0.05

Table 5

Regression analysis of the factors influencing daily hour worked

	Model 1 daily hours worked	Model 2 daily hours worked
Money	-.09 (.05)	-.09* (.05)
Equity share	.01 (.04)	

Self-realization	.05 (.05)	
Appreciation	-.03 (.05)	
Independence	-.05 (.05)	
Working at themselves	-.09* (.04)	-.09* (.04)
Career	-.08 (.05)	-.07 (.04)
Free time and vacation	.00 (.04)	
R2 adjusted	.03	.06*

Source: own research

Notes: Standard error in parenthesis. **significance ≤ 0.01 *significance ≤ 0.05

Table 6

Regression analysis of the factors influencing migraine

	Model migraine	Model migraine	Model migraine
Gender	.41 (.27)	-	-
Age	-.07 (.10)	-	-
Working hours	.24* (.13)	.14 (.12)	-
Overtime	.07 (.12)	-	-
Hours of sleep	.10 (.14)	-	-
Sleeping problems	-.46** (.13)	-.49** (.12)	-.51** (.12)
Alcohol	-.05 (.13)	-	-
Cigaretts	.11 (.09)	-	-
Sport	-.02 (.07)	-	-
R ² adjusted	.09	.09	.09

Source: own research

Notes: Standard error in parenthesis. **significance ≤ 0.01 *significance ≤ 0.1

4.3 Weakened immune system and workload

In Table 7 we analyzed the factors influencing weakened immune system and in Table 8 factors influencing the workload. The main results are as followed:

Our study can serve as a tool that enables businesses to address health problems of their employees, who are, needless to say, the most valuable asset of an enterprise. Thank to our

findings, the businesses can identify risk groups and consequently implement measures to address risks. There has been found no significant correlation between long hours and weakened immune system. Here it is advisable to point out that weakened immune system can be influenced by other diseases and health factors that were not investigated in this study. The disease risk can be decreased by addressing the negative effect of the high number of employees in an office (Table 7), e.g. by providing a proper air ventilation system, the home office option, or by adequate sick policies. The negative effect of illnesses with migraine (Table 7) can be reduced by offering vaccination to employees prone to this disease. The meal plan options in the company's cafeteria promoting health food helps decrease the disease risk in employees (Table 7). Internal communication channels should inform employees about the risks associated with presence in high density areas in the company (Table 7), and provide guidelines on infection control during the flu season.

Table 7

Regression analysis of the factors influencing weakened immune system

	weakened immune system	weakened immune system
Number of fellow workers in an office	.16** (.07)	.15** (.07)
Feeling of rest	-.03 (.08)	-
Sleeping problems	-.09 (.08)	-
Migraine	.10* (.04)	.11** (.04)
Alcohol	.05 (.06)	-
Nutrition	.10* (.06)	.11* (.05)
Shopping centers	.05*** (.02)	.05*** (.01)
R ² adjusted	.14***	.15***

Source: own research

Notes: Standard error in parenthesis. ***significance ≤ 0.01 **significance ≤ 0.05 * significance ≤ 0.1

Monitoring of perceived workload by the employees can be helpful at identifying risk groups of employees who work long hours in an unstable working environment and whose work requires continuous learning. It can reduce the negative effect in these groups caused by high workload (Table 8). After a risk group is identified, it can be offered special options to rearrange the working conditions such as proposing flextime, and offering other special meal plans or vacation benefits. These measures are expected to have a positive effect on the risk groups (Table 8). Promoting healthy meal plans in the corporate cafeteria can reduce both perceived workload and risk factors for workplace illness (Table 7 and Table 8).

Table 8
Regression analysis of the factors influencing workload

	workload	workload
Company size	.04 (.05)	-
Character of changes	.23*** (.08)	.24*** (.08)
Dates	-.09 (.06)	-
Time management	.16 (.12)	-
Daily working hours	.16*** (.06)	.15*** (.05)
Overtime	-.03 (.05)	-
Flexible working time	.07 (.05)	.08** (.04)
Alcohol	-.10* (.05)	-.10* (.05)
Nutrition	.10** (.05)	.12*** (.04)
The needs of education / the needs to learn	-.14** (.06)	-.17*** (.06)
Vacations	-.08* (.06)	-.11** (.05)
Restaurants	.02* (.01)	.02** (.01)
R ² adjusted	.25***	.25***

Source: own research

Notes: Standard error in parenthesis. ***significance ≤ 0.01 **significance ≤ 0.05 * significance ≤ 0.1

5. Conclusions and policy implications

In this paper we presented the most interesting results and conclusions from our yearlong research. The results are too complex to be explained in one paper so we recommend you the further reading where the research, the results, the conclusions and the implications are described and explained more thoroughly. For further reading about telecommute we recommend you Vybrané aspekty vplyvu práce z domu na zamestnancov (Zagoršek 2014), about long working hours the papers Long working hours and its influence on health (Zagoršek 2014) and Working hours and its impact on quality of sleep and motivation (Zagoršek 2014).

The outcome of our project is a business tool that enables work time optimization in respect to the impact of work time on employee's effectiveness and health in the long term it is a tool that enables businesses to have a positive impact on their employees regarding their work hours.

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Selected Aspects of Cash Pooling

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Abstract

Currently many companies are looking for different ways how to improve their financial situation. Cash pooling can be considered as an instrument improving financial situation of a company because it provides more efficient cash management, interest cost savings and tax savings. The aim of this paper is to analyse different aspects of cash pooling employed by companies, especially tax aspects, and to identify current situation in cash pooling utilization.

Keywords: Cash pooling, tax, efficiency

JEL classification: G 32, H 25

1. Introduction

Cash management is considered as an appropriate instrument in order to improve efficiency of companies' financial management. Polster-Grull et al. (2004) found that cash management involves an active liquidity management and interest costs optimization. Wehrli-Ducaud (2011) understand that cash management is an instrument employed by companies to achieve financial and economic objectives using liquidity management. It includes all activities related to a short-term liquidity policy, i.e. planning and control of all cash flows within a concern. It also provides various advantages, for example optimal utilization of centralized financial know-how or interest favourable gaining and saving of liquid assets. Cash management is influenced by various external factors including tax law that can be limiting for gaining benefits. Companies are using services provided by banks in form of automated system of Cash pooling in their cash management.

2. Cash pooling

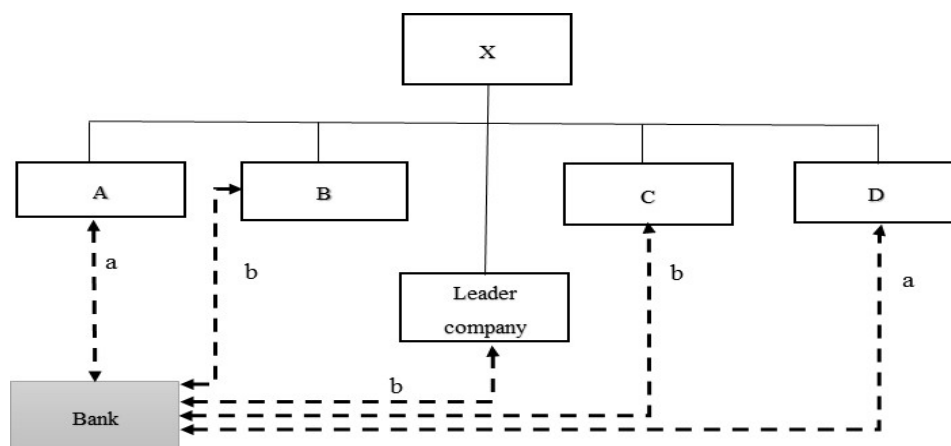
Cash pooling ("CP") may be used as an instrument for improvement of financial performance of a company. It is defined by Wehrli-Ducaud (2011) as an inter-concern liquidity settlement between consolidation participants (companies that are a part of concern or international associated group of companies) or as a concentration of net liquidity of a concern in one place respectively. Polster-Grull et al. (2004) defined Cash pooling as an instrument helping companies to improve their interest income through an automated concentration of liquidity at Master accounts with minimum costs. Based on this definition we can declare that Cash pooling is an instrument for achieving objectives of cash management (Wehrli-Ducaud, 2011). Therefore Cash pooling can be considered as an instrument for managing of financial resources of economically related companies in order to achieve efficiency in their management and a reduction of interest costs and bank fees. In practice cash pooling consists of cash transactions between netted accounts of companies that are members of a group of companies and a bank. In the literature there are different classifications of cash pooling, for example (Polak, Kocourek, 2007):

- notional or physical CP
- domestic or cross-border CP
- multi-currency or one-currency CP

Figure 1 shows an example of a simple notional CP. In this CP structure, there are not any real balances transfers from accounts owned by members of a consolidation to a Master account owned by a leader company. Surplus balances are not really zeroed on accounts but they are moving to the Master account only fictitiously and also the Master account balance is only fictitious. Within these transactions no intercompany payables and receivables are created because transfers are not considered as intercompany granted loans. In this regard, by using notional CP fewer tax issues arise than by using physical CP. But it is necessary to provide cross guarantees.

Figure 1

Example of notional Cash pooling



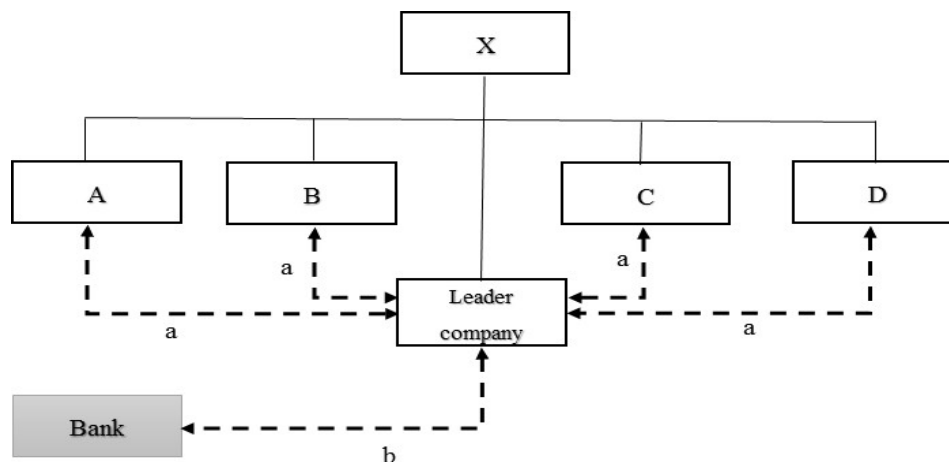
Legend: a- cross guarantees; b – interest paid/received

Source: Prepared based on http://www.bakermckenzie.com/files/Uploads/Documents/Amterdam/Ahead%20of%20Tax/pn_amsterdam_aheadoftax_fiscaletransferpricingenjuridischeaspectenvancashpooling_mar10.pdf.

Figure 2 shows an example of physical CP. By using physical CP individual account balances are transferred to the Master account. On the Master account credit and debit account balances of individual members of a consolidation are accumulated. Payables and receivables are created between a leader company (that is managing the Master account) and other members of consolidation.

Real CP can be divided into "Zero Balance CP" and "Target Balance CP". Using zero balance CP account balances have to be zeroed at the end of each day, i.e. credit balances are moved to the Master account and debit balances are zeroed by cash from the master account. In case of Target Balance CP target account balances are set at a certain amount that will be maintained.

Figure 2
Example of physical Cash pooling



Legend: a – intercompany debt/receivable; b – interest paid/received

Source: Prepared based on http://www.bakermckenzie.com/files/Uploads/Documents/Amsterdam/Ahead%20of%20Tax/pn_amsterdam_aheadoftax_fiscaletransferpricingenjuridischeaspectenvancashpooling_mar10.pdf

According to Kubicova (2012) implementation of a cash pooling structure may bring advantages in form of:

- liquidity improvement of related companies as a group;
- reducing financing costs of related companies as a group;
- reduction of cash loans from third subjects,

but on the other hand it can endanger motivation of companies to create own cash.

Reinoud and Russo (2011) identified the following benefits of Cash pooling:

- improvement of interest costs;
- reduction of a need for external financing;
- reduction of group's balance sheet;
- access to the group's net liquidity;
- facilitates administration.

Szlezak-Matuszewicz (2014) state that an advantage of cash pooling is costs minimisation of companies that are in a position of crediting company.¹

2.1 Cash pooling in the Slovak Republic

Cash pooling as a product is provided by banks to their clients. Nowadays many banks in Slovakia are providing this product². Based on the research results of Divincova (2014) and websites of banks we can observe that almost every big bank in Slovakia provides this product, e.g. VÚB, UniCredit Bank, ING Bank, ČSOB, Slovenská sporiteľňa.

¹ Factoring can be considered as an alternative financial instrument. A big advantages of the factoring is that it can be used by companies which are not able to obtain any ordinary operating loan – liquidity improvement. Disadvantages of the factoring are increased costs related to fees paid to a factoring company. Some authors consider factoring to be a more expensive form of financing as current overdraft loan.

² It is not possible to find any statistics about number of companies that are using CP because this information is not public.

Divincova (2014) in her research also states that in many cases Slovak banks provide both notional and physical CP and domestic and cross-border. From this point of view, Slovak companies have an opportunity to choose from a wide range of banks providing Cash pooling.

2.2 Tax aspects of Cash pooling in the Slovak Republic

As we have already mentioned many banks can provide cash pooling to companies as a product developed for their special purposes. Proposed cash pooling structures may bring more efficient use of internal resources, interest savings or generally improve the cash management. It is important that such structures are efficient not only from the financial point of view but also from tax point of view. Therefore companies should also take into account tax issues of proposed cash pooling structure.

For tax purposes it is very important to distinguish between physical and notional cash pooling and between domestic or cross-border cash pooling. Much more tax issues appear in physical CP than in notional, and also much more tax issues appear in cross-border CP than in domestic CP.

From direct taxes point of view it is necessary to follow up mainly these tax issues in Slovakia:

- **Withholding tax**

In case of cross border interest payments it is necessary to take withholding tax into account within tax analysis of a cash pooling structure. In the Slovak Republic, cross border interest payments are subject to 19 % (based on a relevant double tax treaty this tax rate may be reduced or interest payment may be tax exempted after fulfilment of Interest-Royalty Directive conditions) or 35 % withholding tax (this rate applies for non-residents from countries which did not conclude a double tax treaty with Slovak Republic or International treaty about exchange of information).

- **Tax deductibility of interests and Thin capitalization rules**

Thin capitalization rules have a big influence on tax deductibility of interest paid to related companies. They determine a limit for possible tax deductibility of interest. In the Slovak Republic these rules have been applied for intercompany loans since 1.1.2015. According to the § 21a of Slovak income tax act, interests paid to a related company are tax deductible expenses to the limit of 25 % of EBITDA (earnings of the debtor before tax plus amount of interest expenses plus depreciation and amortization). Thin capitalization rules are applied mainly on physical CP because some transactions are considered as intercompany loans.

- **Transfer pricing**

As of 1.1.2015 transfer pricing rules have been also applied on Slovak domestic transactions between related companies (not only on cross border transactions between related companies). From transfer pricing point of view it is necessary that all transactions within the cash pooling structure are in accordance with arm's length principle, as already mentioned above, intercompany transactions are occurring mainly in physical CP. This principle is applicable for example on setting up of interest rate between related companies or on dividing of interest revenue between companies. Based on the § 18 of the Slovak income tax act companies are obliged to obey the arm's length principle in case of transaction with related companies and also they are obliged to prepare transfer pricing documentation.

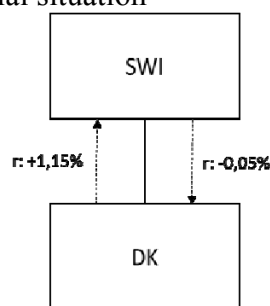
2.3 Transfer pricing tax issues

Currently there are no special cases about tax issues related to cash pooling in Slovakia. However special tax cases have already appeared in other countries. We will analyse 2 cases related to transfer pricing issues in Cash pooling.

In Denmark, the first court decision about Cash pooling was published recently. The initial situation was following: a Danish subsidiary of the Canadian Bombardier group has borrowed funds from the Master account administrated by Swiss subsidiary because its funds were tied up in short-term deposits. This Danish subsidiary was always in a surplus (except of 2 months). In the cash pooling arrangement it was agreed that the rate spread is $-0,05\%$ on the subsidiary's deposits and $+1,15\%$ on the loan from the Master account administrator. But the Danish subsidiary hasn't submitted any transfer pricing documentation to the Danish Tax authorities. Figure 3 shows the initial situation.

Figure 3

Initial situation



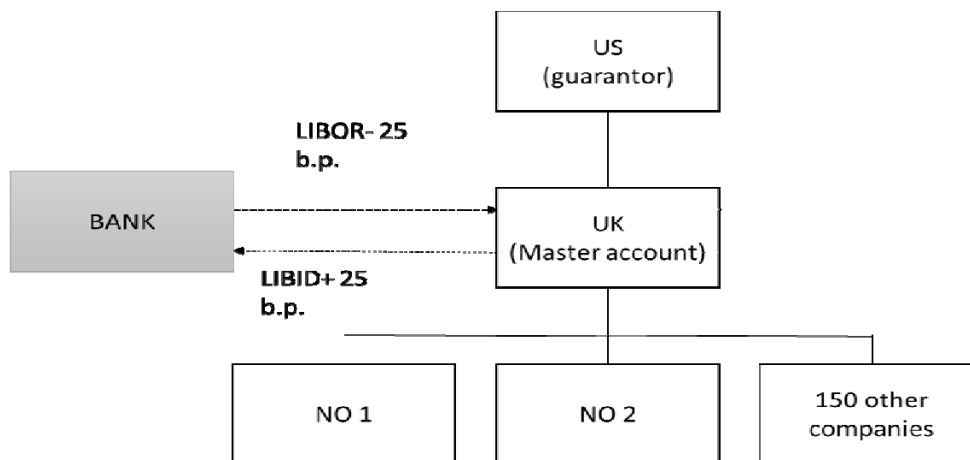
Source: Author.

As the company was not in position to provide any transfer pricing documentation to the Danish tax authorities, they started to challenge the rate spread. Tax authorities have disregarded the difference between deposit rate and borrowing rate. They have calculated the transfer pricing rate base on the net balance of deposits. The result was that average rate spread on net balance is $1,18\%$ (but they upheld the rate spread of $1,15\%$ on the negative balances of the subsidiary during 2 months). The Danish company was not satisfied with their conclusions and instituted proceedings against them before Danish National Tax Tribunal. The Court decided that the rate on loan and deposits should be the same, but the spread should be $1,15\%$, the interest rate should be applied to a net balance of deposits and tax authorities were entitled to assess the transfer price due to the lack of transfer pricing documentation (Vistisen, 2014).

The second case about cash pooling and transfer pricing is from Norway. Figure 4 shows the initial situation where a group of companies has established a cash pooling arrangement. US company is a guarantor to the bank and UK company is an administrator of the Master account. It was agreed that if the Master account has a positive balance, the interest rate will be LIBID – 25 basis points (b.p.). If the balance is negative, the interest rate will be LIBOR+25 b.p. However, the Master account balance was always positive (interest rate LIBID-25 p.b.). This group of companies use interest rate LIBID-25 p.b. also for intra-group deposits and drawings. As Norwegian companies had net deposits in the Master account, they received this interest rate. Norwegian companies stated that CUP (transfer pricing method) method was used to determine the correct interest rate that should be in accordance with the arm's length principle.

Figure 4

Initial situation of the case



Source: Author.

The Norwegian tax authorities have challenged the interest rate because they did not consider the interest rate of LIBID-0,25% to be in accordance with the arm's length principle. They are of the opinion that Norwegian companies reduced their income as a result of an incorrect allocation of benefits of the cash pool. They assessed the transfer price (interest rate) of LIBID + 25 b.p. The Norwegian company instituted proceedings against them before Borgarting Court of Appeal. The Court concluded that CUP as a pricing method cannot be applied in this arrangement but a profit method should be applied. Also the court stated that the benefit derived from the CP should be split between the participants based on the individual companies' actual contributions. In this case the Norwegian companies have not received the benefit based on their contribution (Andresen, H. M. – Pearson-Woodd, N., 2010)

Tax authorities have analysed the initial situations, e.g. the CP arrangement, credit risk, pricing methods and based on this, they decided how should be the transfer price calculated. In both cases the companies were not in position to defend their transfer price and they lost.

Due to incentives of OECD and EU to fight against tax evasions, tax authorities will start tax examinations focused on transfer pricing also in Slovakia. As cash pooling is used by Slovak companies, it is necessary that Slovak companies will be able to determine their interest rate in accordance with the arm's length principle.

Results of these cases can have a big impact on the future tax cases about transfer pricing and cash pooling in Slovakia. Slovak tax authorities can have the same view as Norwegian or Danish tax authorities. Therefore Slovak companies should care about transfer pricing issues related to their Cash pooling structures.

3. Conclusions and policy implications

The use of Cash pooling for improving financial efficiency of a company can be considered as a good choice for a company. It brings many positive impacts on performance of the company.

Many banks in the Slovak Republic already provide Cash pooling as a product that can be prepared according special requirements of a company. From accessibility point of view there are no barriers for use of Cash pooling by Slovak companies.

From tax point of view, mainly thin capitalization rules and transfer pricing rules may constitute an obstacle for making full use of cash pooling in Slovakia. The main reason is that transfer pricing rules are very strict and financially and administratively complicated and thin capitalization rules cause reduction of tax deductible costs and increase tax liability of a company.

Acknowledgement

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Managing relationships with stakeholders in the company

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Abstract

Different market circumstances such as increasing competitiveness and increasing social and environmental demands on business due to the depletion of natural resources conditioned the reorientation of enterprises from selling products to providing value to customers and taking into account social and environmental concerns alongside economic goals of the enterprise. An opportunity for businesses to create value for customers is the stakeholder relationship management. This article deals with the identification of the main stakeholder groups and of their importance for the company, characterizes the relationship between the management of relations with stakeholders and financial performance of the company and describes the stakeholders relationship management. The main groups of stakeholders for the company regardless its size and sector of activity are customers, employees, competitors, suppliers, local communities (local governments) and shareholders (owners). Each stakeholder is characterized by several attributes that determine the level of its influence to the company. Finally, the models describing the influence of stakeholder relationships to the firm financial performance.

Keywords: *relationship marketing, stakeholder relationship management, triple bottom line*

JEL classification: *M 14, M 31*

1. Introduction

Today, it is possible to observe a number of phenomena which can influence events in the market and cause rapid and significant changes. This concerns mainly the globalization and the development of new technologies, especially information and communications technologies, including biotechnology, nanotechnology etc.. These phenomena form a highly competitive market environment in which it is increasingly difficult for companies to navigate and maintain customer loyalty.

For this reason, it is desirable for the companies to change their philosophy and to pass from the orientation to the products towards customer orientation. Enterprises must focus on creating value for customers and meet their individual needs in order to maintain their long-term loyalty and the resulting long-term and sustainable profits. Meeting this objective involves a number of requirements oriented mainly inside the company itself but also to its partners and collaborating entities. The company must first set up their individual departments and ongoing processes, so that the value provided to customers becomes a central motivation. At the same time, the value provided to customers must be the central motivation in all of the cooperating entities. It is necessary for the company to transform its collaborators on true partners and also to maintain balanced relations with all stakeholders and to take into account their needs and requirements. Problems of creating such a value chain are treated by holistic marketing. It mainly deals with providing value for customers and other stakeholders and at

the same time is an important element in the formulation of marketing strategies for the company that will lead to sustainable action on the market.

In this article we focus on the stakeholder approach resulting from the holistic marketing approach. We define the most important stakeholder groups for companies and different approaches to their management according to different attributes.

2. New holistic marketing concept

The current trend in developing the marketing concept is called holistic marketing concept. This concept is based on the cooperation between a company and its customers, but also to other cooperating entities. *“The holistic concept of integrated marketing activities in the field of observation, creation and provision of value for the purpose of building long-term and mutually satisfactory relationship between these stakeholders and their common prosperity.”* (Kotler et al., 2007) The starting point of this concept are individual customer requirements. For creating and providing individual customer value, it is necessary to involve all stakeholders – customers, employees of the company, collaborating entities, various local communities and communities etc.

A key element of the new marketing concept is providing value to customers. Businesses are oriented to detect individual customer's needs and to satisfy them in such a way as to build a profitable long-term relationships between businesses and consumers. In general, this concept is called relationship marketing. Kotler and Armstrong (1999) define the relationship marketing as follows: *“Relationship marketing involves creating, maintaining and strengthening strong relations with customers and other stakeholders. Relationship marketing is a long-term oriented. The aim is to bring long-term value to customers and success is measured by long-term customer satisfaction.”*

This definition implies the existence of relationships with other stakeholders in addition to customers, but further focuses on providing value to customers only. Such a concept is referred to in the literature as myopic. Elkington (1997) formulated a corporate philosophy TBL (Triple Bottom Line), which is characterized in that a holistic objective of the company is to create sustainable economic, social and environmental value for all stakeholders, taking equal emphasis on all three value components placed in the business.

3. Stakeholderism and stakeholder theory

Murphy (1994 in Murphy et al., 1997) defined the stakeholderism approach as follows: *„The nurturing of mutually beneficial, long-term, ethical relationships between stakeholders of a business based on affirmation, integrity, efficiency and equity, in order to create sustainable economic, social and environmental value for all stakeholders.“* The operationalization of this definition is, according to Murphy et al. (1997), analogous to that of relationship marketing. Thus, the similarity of principles of stakeholderism and relationship marketing is evidenced (Julien and Lampe, 1994, in Murphy et al., 1997). In this definition we find the above-mentioned Elkington concept of triple bottom line, whose implementation leads to the creation of long-term sustainable value for various stakeholders of enterprises, thus contributing to sustainable development of enterprises. At the same time, this definition also includes a relational aspect. Thus, the relationship marketing initially focused on providing long-term value for the customer solely in the context of sustainable development moves towards the implementation of the stakeholder approach.

Payne et al. (2005) examine stakeholder theory in terms of value creation, arguing that “*organizations creating exceptional value for stakeholders are likely to gain a competitive advantage*”. They elaborated their theory in the context of the six markets model. This model assumes that the companies serve six different markets, each of which is composed of different stakeholder groups. These markets include:

- internal markets (the organization including internal departments and staff),
- supplier markets (traditional suppliers, organizations with which the firm has some form of strategic alliance),
- employee markets (attracting the right employees to the organization),
- referral markets (secondary markets in which the firm commercializes its products),
- influencer markets,
- customer markets (existing and prospective customers).

According to Payne et al. (2005), the company must be able to create exceptional value for each of the above six markets in order to maintain competitiveness. Creating this value is possible through creating and maintaining relationships with each of these markets. According to Prior (2006), the application of relationship marketing brings to the business reducing transaction costs, creating a more efficient management of resources and knowledge, and creating barriers to competition. Each of these benefits can be assessed in terms of stakeholder management. Prior adds that “*relationship management is considered as one of the fundamental issues of stakeholders management*” and relations between the company and the various stakeholder groups could ultimately lead to a reduction in transaction costs for businesses, better knowledge sharing, resource efficiency and creating competitive barriers.

Relational aspects of stakeholder theory are also dealt by Polonsky (1995), who defines the latter as “*an implicit part of*” relationship marketing. For stakeholder theory, it means that the relations are long-term oriented, there is the sharing of responsibilities and benefits, mutual trust and coordinated planning (Dwyer et al., 1987 in Polonsky, 1995). By creating a long-term relationship between the two sides, each party obtains a share or interest in the activities of the other party.

3.1 Different groups of stakeholders

In the original sense of the word, the term “stakeholder” means a person who bears responsibility for deposits (in the material sense) submitted by people who went on strike on the outcome of a game or competition, and who handed over the prize to the winner. Later, the term stakeholder has also acquired additional importance and marked the subjects which influence or are influenced by the activities of a company.

There is no unanimous agreement on the fact which subjects and entities can be counted among stakeholders. Polonsky (1995) identifies the next groups of stakeholders:

- customers,
- competitors,
- courts and legal system,
- employees,
- financial bodies,
- wide public,
- government,
- media,
- owners,
- R&D community,

- suppliers.

Murphy et al. (2005) identify the groups of stakeholders as follows:

- customers,
- employees,
- suppliers,
- local communities,
- shareholders.

Prior (2006) identifies the groups of stakeholders as follows:

- customers,
- suppliers,
- employees,
- representatives of environment,
- local communities,
- shareholders.

Based on the realized research within 120 companies in Czech Republic, Slabá (2013) identified the main groups of stakeholders in relation to the different size categories of companies. The findings are resumed in the next table 1:

Table 1

The main groups of stakeholders by the size of enterprise

No.	Micro-enterprises	Small businesses	Medium-sized businesses	Large businesses
1.	customers	customers	customers	customers, competitors, media, national government
2.	employees	employees	employees	
3.	competitors	competitors	competitors	
4.	suppliers	local governments	suppliers, media, local governments	shareholders, suppliers, employees
5.	transport, local governments	suppliers		

Source: Slabá (2013)

The table shows us clearly that the three most important groups of stakeholders, regardless of the business size, are the customers, the employees and the competitors. The small and micro-enterprises focus on local governments, whereas the medium-sized and large businesses focus on governments on national level.

Based on the findings of authors mentioned above, we can synthesize that the main groups of stakeholders for the company regardless its size and sector of activity are the following: customers, employees, competitors, suppliers, local communities (local governments) and shareholders (owners; depending on legal form of a company). The relationship between a company and its stakeholders is characterized as follows: The company is financed by *shareholders*, exists due to the *local community*, has *suppliers* supplying materials and services for *employees* who create goods and services that *customers* buy and prefer them over *competing* goods and services. In return, the stakeholders can reasonably expect from the

enterprise a sustainable business that creates for them the economic, social and environmental value by excellently providing services to customers, managing relationships with employees, partnerships with suppliers, relations with local communities and achieving the shareholder return on investment, and this behavior venture will be based on respect for ethical values, integrity, efficiency and equity.

3.2 Classification of stakeholders

There are several criteria for classification of stakeholders. At first, we can distinguish voluntary and non-voluntary stakeholders of a company. According to Clarkson (1994, in Částek, 2010), not all the stakeholders enter into the relationship with a company on voluntary basis. For example, the citizens of a town in which there is an oil refinery. The citizens have power over the refinery (through the local government), have the legitimacy of requiring the safety of activities, etc. However, they are not in a voluntary relationship with the refinery.

Another classification of stakeholders is the division into primary and secondary stakeholders. Clarkson (1995, in Částek) considers primary stakeholders as those subjects that are essential for the long-term survival of a company. According to him, these are owners, creditors, employees, customers, suppliers, State, communities. Secondary stakeholders are those that influence or are influenced by a company but there is no transaction between them and they are not vital for the company. For example, these are the media or some special interest groups. Nāsi (1995, in Částek, 2010) understands that primary stakeholders are those that have an official, contractual relationship with a company and the secondary stakeholders are all the other subjects in the environment of a company.

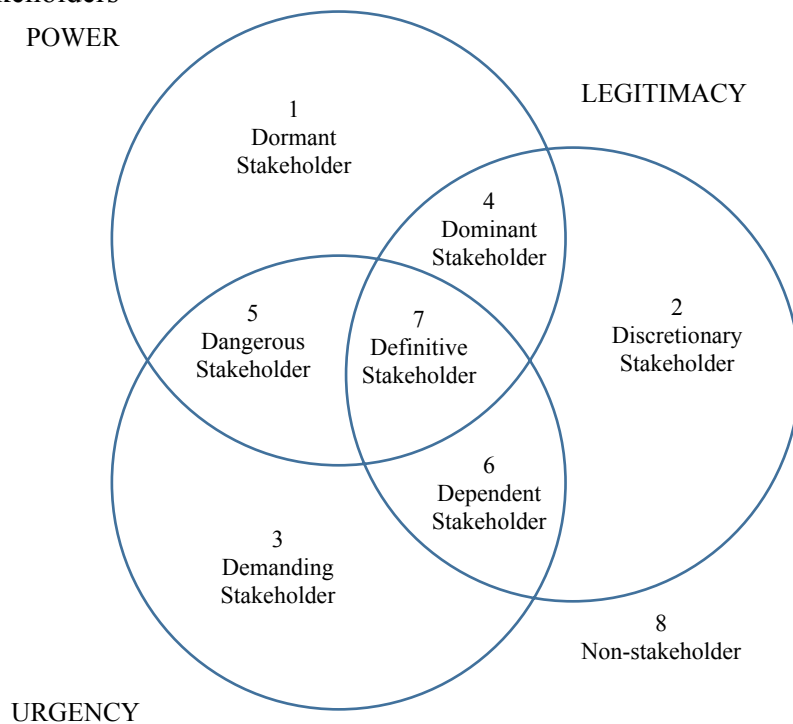
3.3 Attributes of stakeholders

Different stakeholders are characterized by various attributes that express the level of their involvement in company's activities. Mitchell et al. (1997) have proposed a three-attribute model called the salience model. It is composed of three attributes as follows:

- power, i.e. capacity to achieve the objective. Power can result from physical force, ownership of material or financial resources or property symbolic resources (prestige, esteem).
- legitimacy, i.e. the assumption that the action is proper or desirable. Legitimacy may stem from legal or moral norms.
- urgency, i.e. the call for an immediate attention. The degree of urgency is determined by the degree of time dependence, i.e. to what extent the delay in fulfilling demands is unacceptable to stakeholders, and the degree of criticality, i.e. to what extent the requirement is critical for a stakeholder. Částek (2010) states that the attribute of urgency is the most important asset of the model by Mitchell et al. (1997), because no other authors work with the attribute of urgency.

Mitchell et al. (1997) defined eight types of stakeholders that are schematized in the next Figure 1:

Figure 1
Typology of stakeholders



Source: Mitchell et al. (1997).

The different types of stakeholders can be characterized as follows (according to Mitchell et al., 1997):

- Dormant stakeholders are the individuals or groups that have the power to impose their wills on the organization but they do not have either legitimacy or urgency. Hence, their power is not used and there is little or no interaction between these stakeholders and the company. However, the company management has to be aware of these stakeholders and to monitor them in order to evaluate their potential.
- Discretionary stakeholders are the individuals or groups that have legitimacy but they have neither the power to influence the company nor any urgency.
- Demanding stakeholders are the individuals or groups in which the most important attribute is the urgency. They do not have power or legitimacy, but they require monitoring because of possibility to gain a second attribute (power or legitimacy).
- Dominant stakeholders are the individuals or groups that influence the company by having both power and legitimacy. They expect and receive a lot of attention from the company.
- Dangerous stakeholders are the individuals or groups that have both power and urgency but have no legitimacy. These stakeholders represent a threat to the company.
- Dependent stakeholders are the individuals or groups that have both legitimacy and urgency but do not have any power. They depend on another stakeholder for their claims to be taken into consideration.
- Definitive stakeholders are those who hold power, legitimacy and urgency. The managers pay them immediate attention and prioritize them.
- Non-stakeholders are those who neither hold any influence nor are influenced by the company's activities.

Based on these eight types of stakeholders, we can identify three classes of stakeholders (Mitchell et al., 1997; Částek, 2010):

- Latent stakeholders which possess only one attribute and it is probable that they get the company management's attention only after the requirements of other stakeholders are satisfied.
- Expectant stakeholders which possess two attributes. In these groups of stakeholders, we can expect more activity towards a company and more attention from the company management.
- Definitive stakeholders – see above. The possession of any attribute is evolving in time so any expectant stakeholder can become a definitive stakeholder in a short period.

According to Friedman and Miles (2006, in Mainardes et al., 2012), the typology of attributes presented by Mitchell et al. (1997) is the most popular among theoreticians and practitioners. However, very few studies have empirically tested this typology and there are some limitations that have been revealed (Mainardes et al., 2012):

- Mitchell et al. (1997) consider the attributes as binary – either you do or you do not have power, legitimacy or urgency. However, there are doubts if they can be measured in binary way, for example dealing equally with stakeholders having a lot of power and those with less power, both of them actually having a power.
- Another limitation concerns the quantity of attributes. If a particular stakeholder has only a minimum of power, legitimacy and urgency, according to the model, it should be considered as a definitive stakeholder, however minor the attributes are.
- Another limitation concerns the prioritization of different stakeholders within the same category. If more stakeholders are perceived as definitive, there is no mean of differentiating between them.

All these limitations are related to the lack of scale determining how much power, legitimacy and urgency is actually granted to a stakeholder. For this reason, Mainardes et al. (2012) realized a research aiming to overcome the shortcomings of Mitchell's model. The research was realized at eleven Portuguese public universities and its objective was to determine the stakeholders of the universities and the scale of different attributes. The analysis of gathered data showed that the relationships of influence between a university and its stakeholders cannot be measured only by four factors (only influence, are only influenced, influence and are influenced, do not influence and are not influenced). On the contrary, it is necessary to take into account whether the stakeholders are influenced more than they influence and vice-versa.

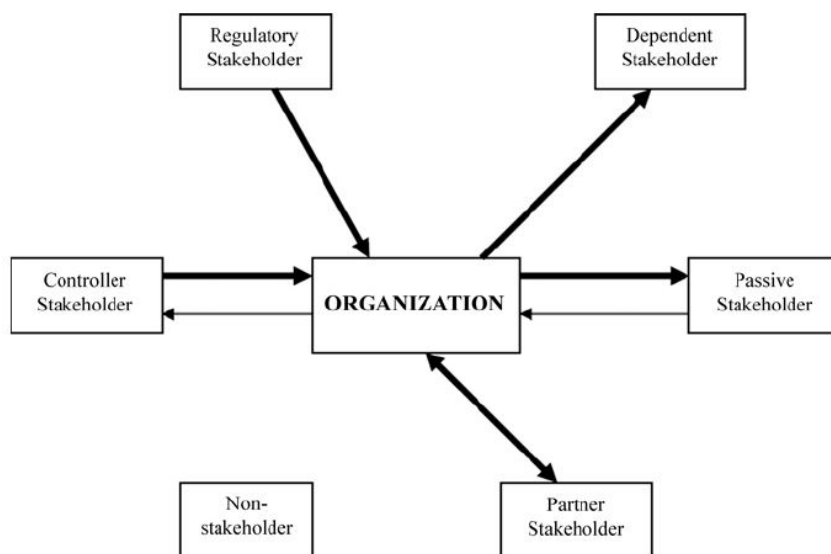
By generalizing these results, Mainardes et al. (2012) defined six types of stakeholders:

- Regulatory stakeholders who hold influence over the organization while the latter holds no (or very little) influence over them.
- Controller stakeholders who are in a mutually influencing relationship with an organization even while the stakeholder has more influence over the organization than the inverse.
- Partner stakeholders who are in a mutually influencing relationship with an organization where neither party predominates, and there is an equilibrium.
- Passive stakeholders who are in a mutually influencing relationship with an organization, the latter having greater influence on the stakeholder than the inverse; the stakeholder accepting decisions made by the organization.

- Dependent stakeholders who are influenced by the organization but do not have any (or just a little) influence over the organization. This type of stakeholder depends on the organization to meet its needs.
- Non-stakeholders that do not influence and are not influenced by the organization.

Figure 2

Relationships of influence between an organization and its stakeholders



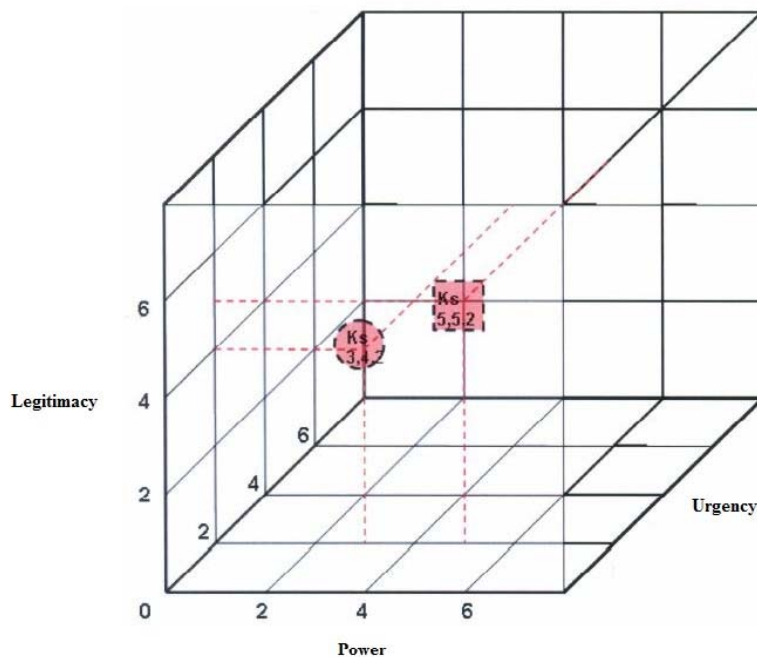
Source: Mainardes et al. (2012)

These six types of stakeholders are represented by the Figure 2, different thickness of arrows representing different strength of the influence between the respective parties. The limitation of this model is related to the measurement of perceptions and analysis of the efficiency in relationships. The perceptions of stakeholders may vary over time so it is necessary to take the measurements regularly in order to be able to adjust to the new requirements of stakeholders and to eliminate no longer relevant demands.

The stakeholder model on its own cannot identify different factors influencing changes in stakeholder relationships. However, to identify them, it is possible to use the tools of strategic analysis to map the external and internal environment of company. It is possible to use any method of strategic analysis; methods such as PESTEL analysis, 4C analysis, analysis of key factors of success, value chain analysis etc. are commonly used (Částek, 2010).

Částek (2010) presents a three-dimensional (3D) model to represent the salience of different stakeholders (Figure 3), arguing that the two-dimensional models are not suitable because the three-attribute salience model of Mitchell et al. (1997) was empirically validated. Each element in the 3D model is entitled by a code of stakeholder and its distance from the origin gives the information about sources of stakeholder's salience. The square represents the future position of stakeholder whereas the circle represent the current position, so it is possible to draw the development expectations. Different colors may be associated to the different stakeholder groups.

Figure 3
3D model representing the stakeholders' salience



Source: Částek (2010)

The evolution of stakeholder perception was studied also by the research led by Myllykangas et al. (2010). The time period of case study they did began in June 2004 when the case company was founded and ended in April 2007 when the company was bought by another company. This time period was divided into several sub-periods and in each sub-period, the salience of different stakeholder groups was studied. The stakeholder salience varied from one period to another, using Mitchell's (Mitchell et al., 1997) classification of latent, expectant, definitive stakeholders and non-stakeholders. The changes in stakeholder salience perception indicate that the stakeholder relationships are processes evolving over time. However, the change of a relationship does not lead to an understanding of what is expected of the stakeholder relationship in different periods. Myllykangas et al. (2010) propose the six characteristics of stakeholder relations as follows:

- history of the relationship;
- objectives of the stakeholders;
- interaction in the relationship;
- information sharing in the relationship;
- trust between stakeholders;
- the potential of a stakeholder to learn.

The authors argue that these six characteristics should be emphasized when stakeholder relations are studied from the perspective of value creation.

4. Stakeholder management and financial performance of the company

Sometimes, there is an opposition between the stakeholder approach and the shareholder approach (Částek, 2010). The notion of shareholder meaning the owner of the company, the

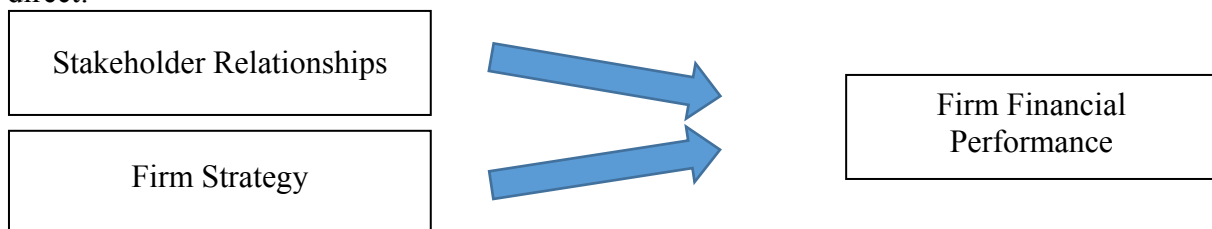
shareholder approach seeks to maximize the value for company owners whereas the stakeholder approach seeks to maximize the value for all stakeholders.

Two most frequently used forms of stakeholder approach are the Strategic stakeholder management model and the Intrinsic stakeholder commitment model (Berman et al., 1999). In the first one, the interest of managers in different stakeholders is determined by the possibilities of specific action leading to improve the financial performance of the company. The second one supposes that companies have some commitment towards their stakeholders that forms their strategy and thus is translated into financial performance.

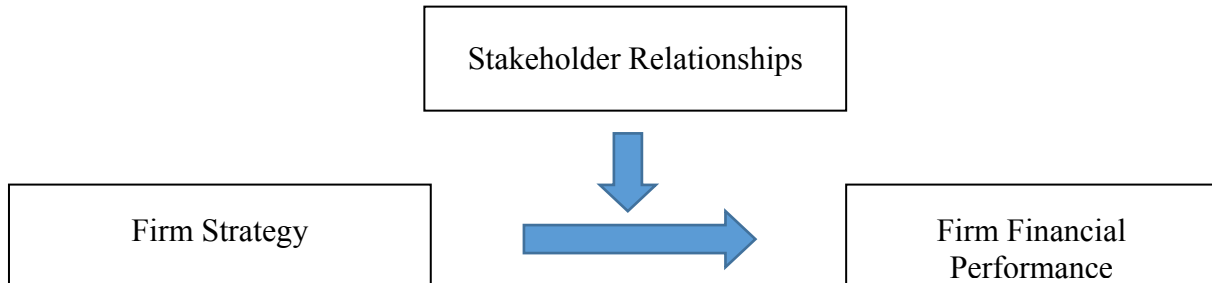
The Strategic stakeholder management model is represented in the Figure 4. It has two faces – direct and moderated. The direct model supposes that the firm strategy and the stakeholder relationships have direct and separate influence on the financial performance of the company. The moderated model supposes that the direct relation between the firm strategy and the financial performance is influenced by the stakeholder relationships.

Figure 4

The Strategic stakeholder management model
direct:



moderated:

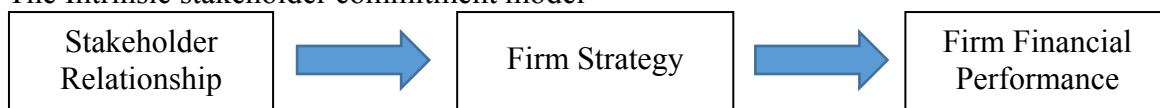


Source: Berman et al. (1999).

The Intrinsic stakeholder commitment model is represented in the Figure 5. This model supposes that the stakeholder relationships are taken into account in the firm strategy and the latter is reflected in the financial performance.

Figure 5

The Intrinsic stakeholder commitment model



Source: Berman et al. (1999)

Berman et al. (1999) have verified the validity of these models by an empirical study. Both strategic stakeholder management models were validated, however the intrinsic

stakeholder commitment model was not. In the studied sample, relationships with stakeholders did not influence the firm strategy.

Probably the most famous critic of stakeholder approach (Částek, 2010) has been Milton Friedman in his article in New York Times (1970), entitled “The Social Responsibility of Business Is to Increase Its Profits”. In this article, Friedman criticizes the corporate social responsibility (CSR) in two levels:

1. When company's resources are allocated to the company's CSR projects without owners' consciousness, it is robbing the owners.
2. Despite the fact that company owners agree with allocation of resources to the CSR projects, it is questionable if one company can be more effective than a State – the company takes here the role of the State, but according to Friedman, it is unlikely to have the same capacity as the State.

We agree with the Částek's (2010) argumentation that this critics concern solely the stakeholder group of communities, more precisely some special activities that are beyond standard activities. The different tools of CSR are used for the marketing reasons, fulfilling requirements of different stakeholder groups leads to better performance of the firm and finally to a better satisfaction of owners' requirements. Moreover, the multinational corporations have capacity to impose conditions to the States and to modify legislations, so the State may not be the most effective in allocating resources and regulating the business ethics.

5. Conclusions and policy implications

In this article, we dealt with the issue of managing relationships with different stakeholder groups of the company. The stakeholder theory explains that taking into consideration different requirements and demands of various stakeholder groups may lead to a better meeting of organization's objectives. Moreover, the relations between the company and the various stakeholder groups could ultimately lead to a reduction in transaction costs for businesses, better knowledge sharing, resource efficiency and creating competitive barriers (Prior, 2006).

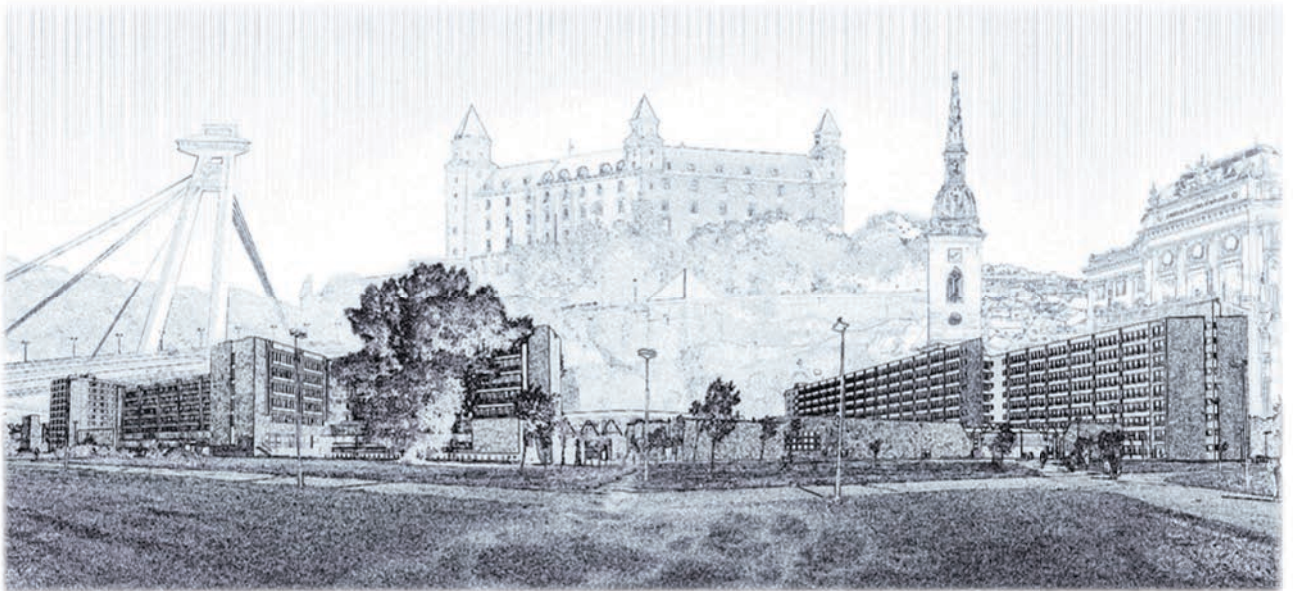
To be able to fulfill correctly the demands of different stakeholders, it is necessary to determine the importance of each stakeholder group. This can be done by applying the stakeholder salience model developed by Mitchell et al. (1997) that defines each stakeholder's power, legitimacy and urgency. Different combinations of these attributes allow to the organization to prioritize the stakeholder groups. However, this model lacks a dynamics as the relationships evolve over time. In this article we present various models that are based on Mitchell's salience model, adding the dynamics aspect. The correct fulfilling of stakeholders' demands can be helpful in achieving the objectives of the organization, such as the financial objectives.

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