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Obsah Contents

THE HUMAN RESOURCES USING EFFICIENCY IN POLISH PUBLIC HOSPITALS - SPATIO-TEMPORAL ANALYSIS

Agnieszka KRAWCZYK-SOŁTYS, Agnieszka TŁUCZAK

Abstract

Within many health care systems worldwide, increased attention is being focused on human resources management (HRM). Specifically, human resources are one of three principle health system inputs, with the other two major inputs: physical capital and consumables. Human resources, when pertaining to health care, can be defined as the different kinds of clinical and non-clinical staff responsible for public and individual health intervention. As arguably the most important of the health system inputs, the performance and the benefits the system can deliver, depend largely upon the knowledge, skills and motivation of those individuals responsible for delivering health services. The article is focused on an identification of spatio-temporal diversification of human resources using efficiency in Polish public hospitals. The data collection was achieved through secondary sources such as The Ministry of Health in Poland. The main human resources issues and questions, along with the analysis of the human resources impact on the health care system was examined, as well as the identification of the trends in health sector reform. These trends include efficiency, equity and quality objectives.

Key words

efficiency, public hospital, human resources

JEL Classification: O15, D61, D60

1. Introduction

In recent years an increasing interest of searching the determinants of the public hospitals efficiency is observed. The competition among healthcare entities is growing – they have to cope a constantly adaptation to occurring challenges. It seems to be especially difficult for public hospitals.

The public hospitals resources protect their functioning, at the same time determining the efficiency achievement of the objectives. However it should be noted, that with the time passing and environmental conditions changing, some hospitals resources become less important in building its development strategy, while others are more important, which significantly affects the formation of hospitals distinctive competences. Therefore, resources are the basis for the public hospitals efficiency and competitiveness.

J.B. Barney, the forerunner of the resources based view (*RBV*) has identified three categories of resources (Barney, 1991, pp. 99 – 120): material, human and organizational. Due to the specific of public hospitals, in the article the analysis of human resources are done, because knowledge and skills of medical personnel have the greatest impact on the medical services provided in these facilities.

The efficiency is one of the organization characteristic that determines its functioning and development. The article is focused on an identification of spatio-temporal diversification of human resources using efficiency in Polish public hospitals.

2. Human resources of public hospitals and their efficiency - terms interpretation

In many definitions the utility of resources for the organization is emphasized, e.g. there are considered as input factors controlled and used by organizations to develop and implement their strategies (Olivier, 1997, p. 700). E.T. Penrose - precursor of the resources approach - defines resources as a bundle of specific services which are able to provide the organization (Penrose, 1959, p. 25). The resources can be divided according to many criteria, e.g.:

- subject - type of resource, e.g. human, financial, material;
- functions or subsystems of the organization - marketing, financial, used in the production;
- characteristics of resources - visible and invisible, material and immaterial, "hard" and "soft".

Among the proposals of resources classification according to the objective criterion, the classification of C. Hofer and D. Schendel often is invoked, who

distinguished five types of resources (Hofer, Schendel, 1978, p. 146):

- material (land, buildings, structures, machinery, equipment);
- human;
- financial;
- technological (creation of high-quality products, responding to market changes, etc.);
- organization, e.g. corporate culture.

In all these classifications the authors take notice to the importance of human resources. Taking into account the specific character of public hospitals, their most important human resources seem to be "white medical staff" (doctors and nurses), which have the most significant impact on the quality of medical services in these facilities (Krawczyk-Sołtys, 2013, p.192).

M. Bielski assumes that the achievement of specific goals is a major prerequisite for the organization creation and people so in the process of its formation, as well as managing, act rationally (Bielski, 1996, pp. 103-112). In this sense, the efficiency is expressed by achieving goals of public hospitals and shaping expected relations between the achieved effects and incurred expenditures (rationality).

Because of existing multiple perspectives of efficiency evaluation, there are many dimensions of this concept. To the basic categories of efficiency in health care can be included: allocative efficiency (also called Pareto efficiency) and technical efficiency (Golinowska (Ed.), 2012, p. 198). The allocative efficiency refers to the results evaluation, their distribution in the spatial and social structure and its relation to incurred expenditures. The assumption of this efficiency category is the assertion about limited resources, which are supposed to be reallocated in order to bring the best health outcomes to whole society. The allocative efficiency depends on the decision of entities responsible for the location of resources in the health care system. In Poland, these entities are: payers contracting health services, institutions that deliver these services (including public hospitals) and control organizations. It can be assumed that achieving allocative efficiency occurs when the position of the entity cannot be improved without deterioration others (Dubas, 2011, p. 104). In this way, the health benefits for the whole population (measured by such indicators as life expectancy, average life expectancy in good health) and not for the selected social group are maximized. The purpose of this efficiency category is to obtain answers the questions about resources distribution, e.g.: What types of health services, diseases, patients or subjects should be financed?

The technical efficiency can be understood as creation a certain number of services at the least possible effort, or creation as many services as possible at a certain expenditures.

Therefore, it generally refers to verify the efficiency of various health entities, to assess, how an organization manages its resources (personnel, technical equipment, infrastructure, materials and tools, finances, etc.). This kind of efficiency is measured by a number of indicators, of which the most common are as follows:

- evaluating the level of resources using, e.g. the level of medical personnel and hospital beds using;
- specifying the amount of resources per capita, e.g. the number of doctors and nurses and hospital beds per 10 thous. residents.

In order to determine the technical efficiency regulation by indicators, it is necessary to make a comparison with the standard or other entities (benchmarking). This is due to the fact that paying attention to obtain the best indicators may not affect on decreasing the quality of medical services. The most important factor determining the health care system efficiency and developing the quality of medical services is human resources (Bloor, Maynard, 2003; Elarabi, Johari, 2014, pp. 13-22; Kane, Lum, Degenholtz, Yu, 2007, pp. 832-839; Harris, Cortvriend, Hyde, 2007, pp. 448-459; Keating, 2011, pp. 677-692; Zairi, 1998, pp. 88-99). Patients health and lives and the quality of medical services depends on the personnel competence and quality management. Occurring stronger environment pressure forcing an increasing quality of services and preserving the economic efficiency, determines the identification and focusing of management changes, allowing on better use of public hospitals resources.

3. Methodology

Efficiency is one of the most important economical categories, it lets to analyze activity, its perceived as estimation of correctness of completing a task through a certain system. Efficiency reflects relations between effects, goals, issues and costs considered in structural and dynamic recognition (Blaik, 2010, p. 411; Manheim, Feinglass, Shortell, Hughes, 1992, pp. 55 – 66). In general meaning efficiency is a ratio of effects and issues which can be shown as an equation (Diez – Ticio, Mancebon, 2002, pp. 51-62; Hofmarcher, Paterson, Riedel, 2002, pp. 7-14):

$$E = \frac{e}{n} \quad (1)$$

where :

E – efficiency;

e – obtained effects;

n – incurred issues.

Measurement of efficiency can be made in different ways depending on range system operation. We can distinguish organizational efficiency which means ability of the system to adapting to changes of the environment and beneficial use of sources. Economical efficiency concerning rational managing of sources. Another kinds of efficiency is technical efficiency that measures value size of production with use of issues, next one is quality efficiency that reflects competitiveness of system relatively to others, characterized by different values (Sherman, 1984, pp. 922-938; Linna, 1998, pp. 415-422; Biorn, Hagen, Iversen, Magnussen, 2003, pp. 271-283).

Nowadays its more common to consider efficiency through defining optimal relations between issues and effects. One of these methods is *Data Envelopment Analysis (DEA)* (Yang, Ma, Koike, 2009, p. 343-354). It lets to study efficiency of assumptions depending on sustained issues, its nonpatametrical method,based on linear programming. Efficiency in DEA method describes itself as quotient of sums considered issues and effects which we can describe as (Edirisinghe, Zhang, 2007, pp. 3311 - 3335; Nayar, Ozcan, 2008, pp. 193–199; Cook, Liang, Zha, Zhu, 2009, pp. 276 – 281):

$$E = \frac{\sum_{k=1}^{p} \mu_k y_k}{\sum_{i=1}^{m} v_i x_i} \quad (2)$$

where :

y_k - size of assumption;

μ_k – weight of certain assumption;

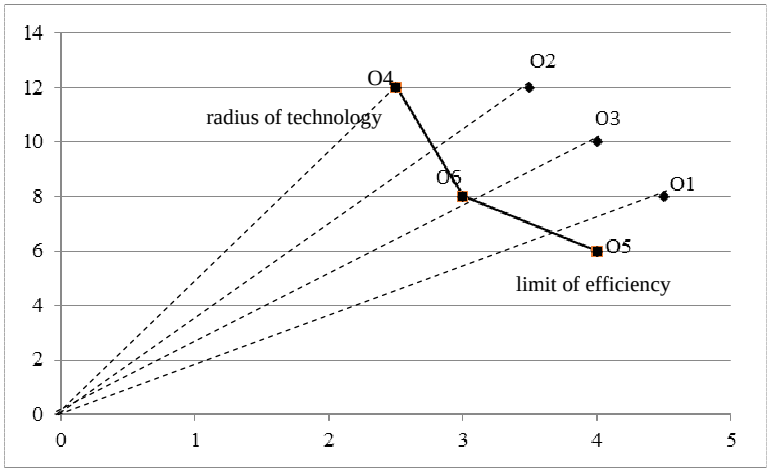
x_i – size of issue;

v_i – weight of certain assumption.

The oldest DEA model is CCR (*Charnes, Cooper, Rhodes*) its canonical model which is also a base for publications about DEA. Model CCR considers efficiency in Farrells sense. It is assumed there that change of efficiency means proportional changes in issues or proportional changes is results. Idea of estimation of efficiency of the object through CCR model focuses on estimating if in set A of projects, the right one is the one which implements tasks in the most efficient way (Cooper, Seiford, Tone, 2000, pp. 21 – 39; Ferrier, 2006, pp. 181 – 182; Jacobs, 2001, pp. 103 - 115).

In many researches from setting efficiency and CCR model, graphics is shown as the only method to solve it. This method it can be used when two issues is needed to get the results. In this case graphical picture pf a problem on the R^2 surface should be created (Yu, Lin, 2005; pp.1005 – 1017; Wen, Li, 2009, pp. 872–878).

Fig. 1. Graphical representation outlays in the analyzed points



Source: own study.

The broken line in figure 1 is the border of efficiency on which there are all efficient points in Pareto sense (O'Neill, Rauner, Heidnberger, Kraus, 2008, pp. 158 – 189). For every object every evidence of vector of empirical issues is not smaller than $x_{nj} \geq GE(x_j)$ for n=1,…, N; j=1,…,J.

Efficiency of object is quotient of distance of interaction point of technological radius j^{th} object and border of efficiency P_j from the beginning of

coordinate system and distance of certain object from coordinate system:

$$\frac{d(0,P_j)}{d(0,O_j)} \quad (3)$$

where distance between 2 points $A(x_A, y_A)$ i $B(x_B, y_B)$ can be counted by using this pattern:

$$d(A,B) = \sqrt{(x_A - x_B)^2 + (y_A - y_B)^2}. \quad (4)$$

Values that we've got from third pattern which are at least equal 1, are efficient and the ones that are smaller than 1 are inefficient.

Resources using efficiency in polish public hospitals can be also tested by the second degree polynomials (Krawczyk-Sołtys, 2013, pp. 194-212).

4. Results

Studying efficiency of using human resources in polish public hospitals has been made for 2007 and 2013. The data used in research is from statistical newsletter from Ministry of Health and from statistical years from Main Statistical Office .The information used in research were about employed doctors and nurses in polish hospitals and number of people cured in public hospitals in analyzed years.

Table 1. Number of doctors, nurses, patient in polish public hospital in 2007 and 2013

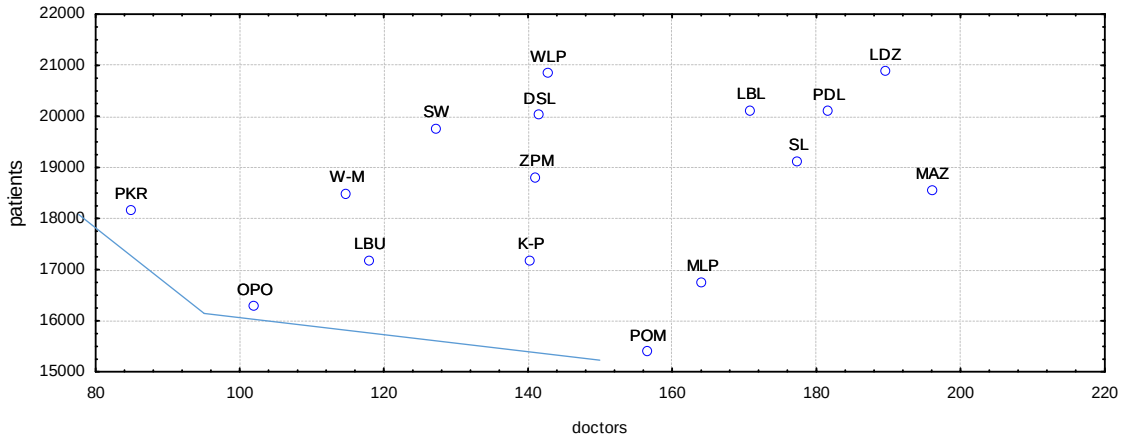
Voivodship		number of doctors working in public hospitals per 100 thous. residents		number of nurses working in public hospitals per 100 thous. residents		number of patients hospitalized in public hospitals per 100 thous. residents	
	Code	2007	2013	2007	2013	2007	2013
dolnośląskie	DSL	141,6	216,5	311,9	346,5	20012,5	22090,8
kujawsko-pomorskie	K-P	140,4	185,3	284,1	327,1	17177,1	19284,1
lubelskie	LBL	170,9	206,9	355,0	371,1	20099,0	22523,5
lubuskie	LBU	118,1	156,6	290,6	300,3	17170,8	19702,4
łódzkie	LDZ	189,6	259,6	326,4	363,9	20877,6	25996,2
małopolskie	MLP	164,3	199,5	301,0	332,5	16755,0	18703,7
mazowieckie	MAZ	196,1	262,6	326,6	375,6	18536,3	23532,9
opolskie	OPO	102,1	145,2	252,1	291,3	16265,3	18924,5
podkarpackie	PKR	114,9	152,1	316,7	345,9	18148,2	21504,5
podlaskie	PDL	181,8	229,7	345,7	347,4	20098,3	22057,2
pomorskie	POM	156,6	202,1	274,9	301,1	15383,1	18480,2
śląskie	SL	177,5	231,2	364,8	378,3	19116,1	21233,6
świętokrzyskie	SW	127,3	173,9	311,6	341,7	19757,8	24058,4
warmińsko-mazurskie	W-M	114,9	162,3	273,5	297,2	18483,8	19682,4
wielkopolskie	WLP	142,8	135,7	296,1	302,0	20837,9	22405,2
zachodniopomorskie	ZPM	141,2	199,4	283,3	315,0	18802,4	20591,5

Source: own study based on Biuletyn Statystyczny Ministerstwa Zdrowia 2007, 2013; Centrum Systemów Informacyjnych Ochrony Zdrowia, Warszawa, https://www.csioz.gov.pl/statystyka/biuletyn-statystyczny

The biggest amount of doctors working in public hospitals per 100 thous. residents has been noticed in 2007 in mazowieckie and łódzkie voivodeship. The average for Poland in 2007 was almost 148,8 doctors per 10 thous. residents but in 2013 it was 94,9 doctors. In 2007 in 9 voivodeships there worked less doctors than the average shown (opolskie, warmińsko-mazurskie, podkarpackie, lubuskie, świętokrzyskie, kujawsko-pomorskie, dolnośląskie oraz wielkopolskie). Than year (2007) it was possible to observe difference between opolskie (where the smallest number of doctors worked: 102,1 per 10 thous. residents) and mazowieckie (the biggest amount of doctors 196,1 per 10 thous. residents). In 2013 not much has changed even though the number of doctors working in hospitals has increased, opolskie still was one of voivodeships with the smallest amount of working doctors per 10 thous. residents when łódzkie and mazowieckie still were on top of the list with the biggest amount of employed doctors in public hospitals per 10 thous. residents. The biggest increase in employed doctors has been noticed in dolnośląskie – 52%; in order there was opolskie 42%. Only in case of wielkopolskie voivodeship has

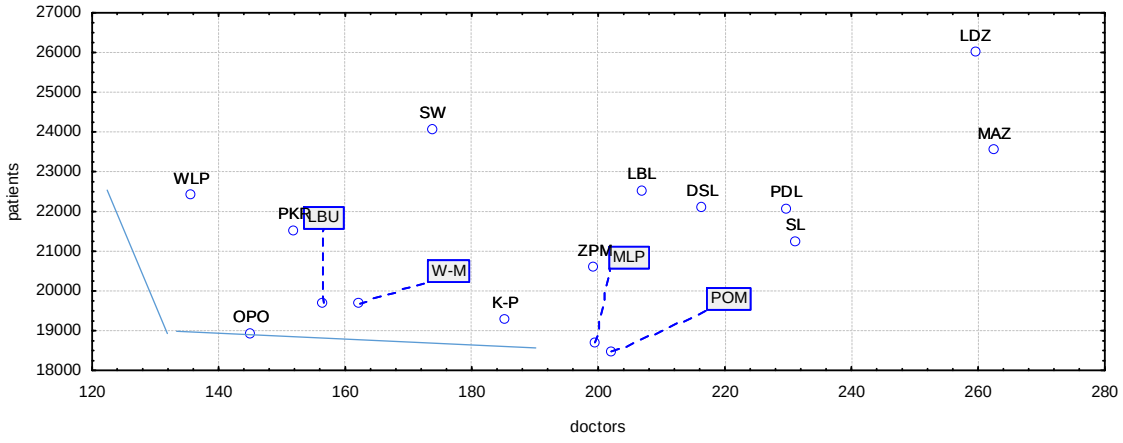
been noticed – 5% decrease in number of doctors. In case of average medical staff – nurses working in public hospitals with the smallest amount of employees, the number of doctors in analogical. Opolskie and warmińsko-mazurskie voivodeship where places in which in 2007 has been noticed the smallest amount of nurses working in public hospitals per 10 thous. residents. It was in order: opolskie 252, warminsko-mazurskie 273. Analyzing coefficient of variation number of nurses working in voivodeships we could estimate that differentiation is not big, in 2007 dispersion was 10 % and in 2013 8,2%. In 2007-2013 a difference between voivodeships with the smallest and biggest amount of nurses employed in public hospitals has decreased by 33 %. Analyzing number of people with higher education (doctors, specialist doctors) and medium one, we could say that the best situation is in these voivodeships where there are medical universities. Graduates of these places usually stay in cities, they finished their education at, to do internships and get more needed education. Average number of patient staying in public hospitals has increased from 18595,1 to 21298,2. The biggest number of patients has been noticed in łódzkie voivodeship where the biggest amount of medical staff has been employed. Level of differentiation of number of patient in researched time is equal, a noticed change from 9% level in 2007 to 10% in 2013. Opolskie, pomorskie and wielkopolskie voivodeships are the ones that had the smallest amount of patients cured in public hospitals (per 10 thous. residents).

Fig. 2. Relation: doctors – patients in 2007



Source: own study based on Biuletyn Statystyczny Ministerstwa Zdrowia 2007, 2013; Centrum Systemów Informacyjnych Ochrony Zdrowia, Warszawa, https://www.csioz.gov.pl/statystyka/biuletyn-statystyczny

Fig. 3. Relation: doctors – patients in 2013



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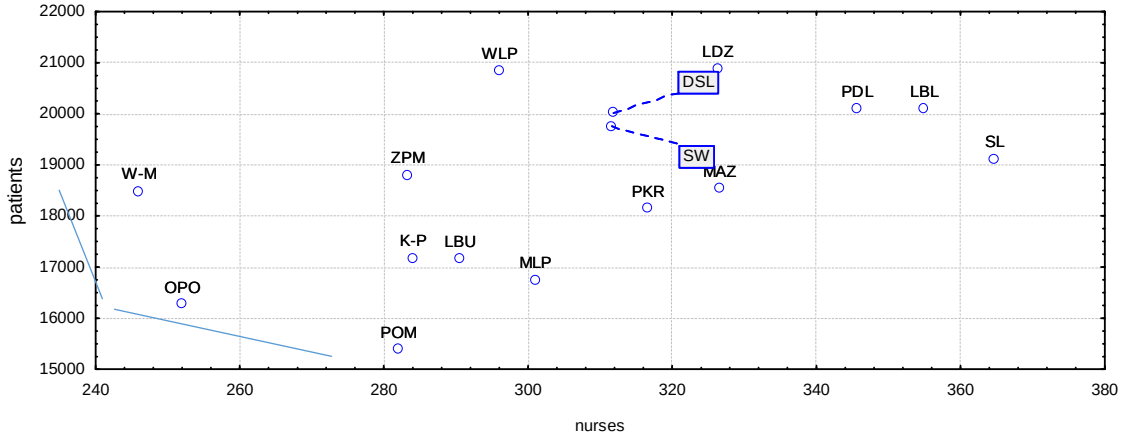
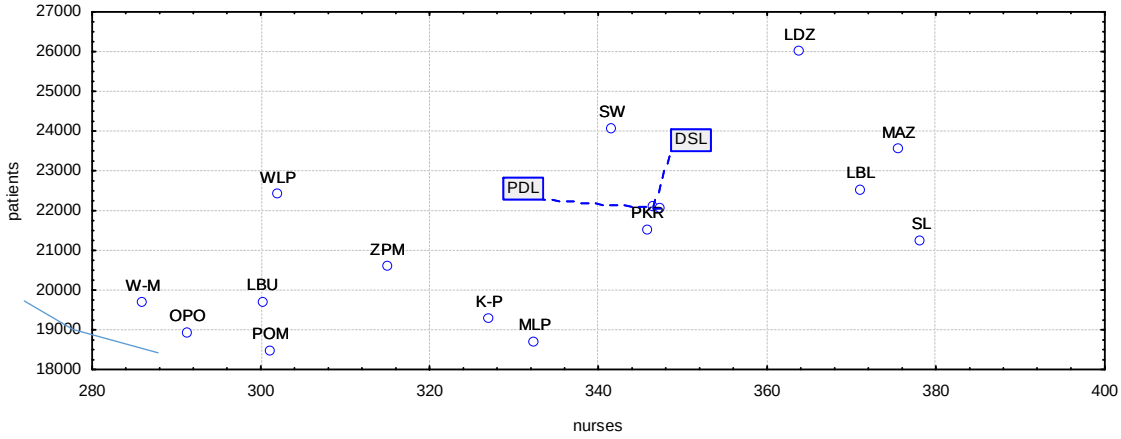
Figures 2-5 are graphical presentation of issues considered sources in public hospitals. Broken lines reflect borders of efficiency, based on them and datas in table 1, it was possible to describe efficiency of analyzed system of Nationl Health System through public hospitals. Voivodeships that are on the line picture border of the system in which national health system is efficient. This mean that the number of employees of medium and higher level is enough to provide good medical help for patients in public hospital. those voivodeships that distance from the beginning of coordinate system is the biggest, we can say that this system of health isn't efficient. On the border of efficiency there is always opolskie and pomorskie voivodeship where the number of staff employed is efficiently used according to number of patients cured in those hospitals.

Fig. 4. Relation: nurses – patients in 2007



Source: own study based on Biuletyn Statystyczny Ministerstwa Zdrowia 2007, 2013; Centrum Systemów Informacyjnych Ochrony Zdrowia, Warszawa, https://www.csioz.gov.pl/statystyka/biuletyn-statystyczny

Fig. 5. Relation: nurses – patients in 2013



Source: own study based on Biuletyn Statystyczny Ministerstwa Zdrowia 2007, 2013; Centrum Systemów Informacyjnych Ochrony Zdrowia, Warszawa, https://www.csioz.gov.pl/statystyka/biuletyn-statystyczny

Using graphical interpretation and equation number 3 to measure efficiency we could say that in 2007 in issue expenditure doctor-patient: opolskie, pomorskie and podkarpackie were on the border of efficiency, but in 2013 it was opolskie, pomorskie and warmińsko-mazurskie (tab.2). It means that needs of patients had been pleased by certain amount of employees. Opolskie voivodeship is worth a little attention as despiting the smallest amount of employed doctors per 10 thous. residents got the title of place where health system is efficient. In ratio of issues nurse-patient in 2007 opolskie, pomorskie and wielkopolskie when in 2013 opolskie, pomorskie and warmińsko-mazurskie were on border of efficiency, they should be recognized as the ones where human resources are effectively used.

Table 2. Efficiency of public hospitals in 2007 and 2013.

Voivodship	Efficiency of hospitals based on relation: doctors – patients		Efficiency of hospitals based on relation: nurses – patients	
	2007	2013	2007	2013
Dolnośląskie	1,015	0,979	0,770	0,850
Kujawsko-pomorskie	0,835	1,154	0,897	0,942
Lubelskie	0,722	1,057	0,766	0,817
Lubuskie	1,127	1,518	0,897	0,967
Łódzkie	0,709	0,809	0,738	0,756
Małopolskie	0,906	1,023	0,918	0,951
Mazowieckie	0,842	0,763	0,830	0,792
Opolskie	1,000	1,000	1,000	1,000
Podkarpackie	1,000	0,901	0,848	0,864
Podlaskie	0,735	0,898	0,766	0,850
Pomorskie	1,000	1,000	1,000	1,000
Śląskie	0,780	0,876	0,804	0,837
Świętokrzyskie	0,888	0,789	0,780	0,812
Warmińsko-mazurskie	0,905	1,000	0,836	1,000
Wielkopolskie	0,924	2,198	1,000	0,923
Zachodniopomorskie	1,211	1,068	0,820	0,921

Source: own study based on Biuletyn Statystyczny Ministerstwa Zdrowia 2007, 2013; Centrum Systemów Informacyjnych Ochrony Zdrowia, Warszawa, https://www.csioz.gov.pl/statystyka/biuletyn-statystyczny

Liders in rankings of efficiency are opolskie and pomorskie which should be recognized as highly efficient. Additionally we should mark lubuskie, wielkopolskie and zachodniopomorskie voivodeship which got more than one if scale of efficiency. It means that issues described in medical staff with higher education are higher than previous needs described in patients. It may indicate to losing potential of human resources in doctors in previously mentioned voivodeships and should be directed to different voivodeships in which there is lack of medical staff.

5. Conclusion

Research that has been made proves that DEA model even in the easiest version are good tool to study efficiency of polish health system. In next steps we should widen analysis through considering and taken attention to additional issues argumentative and/or financial.

Surely considering efficiency of health system only based of human resources (doctors, nurses) is not enough. In 2013 Information Agent Bloomberg has made ranking of efficiency of health system in the world. Measure has been made based on 3 things: expected length of life, cost of relative health insurance *per capita* and cost of absolute cost of health insurance *per capita*. Ranking has shown that efficiency of polish health system is not the worst. From 48 countries from research, Poland was on 21st place. Expected length of life was 76 years, on health system it was spent 7.1 % of PKB *per capita*. Our placing is decreased by absolute cost of health insurance which costs about 899 $ per year *per capita* (Baliszewski, 2013).

The issue of efficiency in health care is therefore particularly relevant. The constant shortage of funds needed to finance the system forces to special concerning about public hospitals efficiency. However, assessing the efficiency of these entities their specific social role concerning the most valuable good, which is humans health and life, should be pointed. For this reason, the dual view on such organizations is necessary, which include both economic and social results. It is therefore needful to take into account the multidimensional efficiency, doing analysis of many areas of activity, from the different perspective of system participants. This is a contribution to the further, in-depth research in this area.

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HUMAN RESOURCES IN THE MANAGEMENT OF FLOOD SITUATION IN THE SLOVAK REPUBLIC

Zuzana KRIŽANOVÁ, Ján KÚTIK

Abstract

The flood situation are now the most common crisis phenomena of the natural character of Slovakia. Although they have often local, respectively regional character, it is very difficult to prevent them. Therefore, floods it is necessary floods to predict and then well to prepare for them. Complex solution of the flood protection in Slovakia is ensured mainly by the creation of strategic and program documents, crisis plans, territorial plans, systems of tie-in legislative, system of managing authorities of the state administration, The article deals with human resources that can be used in the management of flood situations. Their use is clearly regulated by the legislation of the Slovak Republic particular in the field of crisis management, but ordinary citizens, and even officials often not well known. Therefore we serve the comprehensive review and seek to achieve a clear allocation of responsibilities of public authorities in that human resources management. End of article summarizes the direct effect of human resources in food situacions.

Key words

human resources, management, flood, crisis situation, crisis management, public administration

JEL Classification: H12, H84, Q54

1. Introduction

Flood situations belong to the frequent natural events in the country. From the country functioning point of view, these events do not have only negative impacts. Moreover, regular floods are the precondition for the existence of some ecosystems, for example the ecosystem of alluvial forest. Water and its strength also have an effect of significant land-shaping and land-forming agent. It creates riverbeds, forms valleys, gaps, meadows, terraces. The overflow of some massive rivers of the world brings life to the surrounding steppe, or desert environment. However, the human perceives the floods as something stressful. It endangers his life, property and destroys created values. When floods appear, they are immediately perceived as the crisis situations.

In Slovakia, flood-protection precautions were first recorded in 15th century, although during this period they had the form of only uncoordinated building of barriers. Building of protection lines on so-called "Žitný ostrov" in 15th century belonged to the first works of this kind within the area of former Hungary. Active flood protection in Slovakia was gradually built since 19th century, while its foundations were established already in 18th century (Horváthová, 2003, p. 38).

The crisis situations caused by the natural agents cannot be forecasted with sufficient advance. We need to be prepared in advance for their course and control. Significant part of the crisis management is planning and subsequently also the control of the crisis progress itself. In both parts is applied the use of human resources. The paper focuses on their use mainly by the flood course. The problem is supported mainly by the effective legislative of Slovak Republic. By its analysis, we can complexly understand the need to apply and use the human resources in the case of flood conditions and situations. Significant precondition of an effective crisis management is the cooperation and communication on the vertical, but also horizontal levels. In relation to it, inseparable is also the need for involving the responsible and informed persons. Another aspect is the ability of prompt acting of all involved persons, not only managing units.

By the elaboration of submitted issue, we have used the methods of the analysis, purpose synthesis and the interpretation.

2. Objectives and methodology of the paper

The objective of the paper was to create the integrated overview of human resources participating on the flood crisis situations. Their use is expressly stated in the legislative of SR, mainly from the field of the crisis management. By the elaboration and processing of submitted issue, we have used the methods of analysis, purpose synthesis and the interpretation of achieved results.

The methodological procedure was based on the analysis of human resources in the flood situations arising from the state administration authorities' structure and the self-administration units performing the flood-protection activities, and also organizations directly involved into the preparation and realization of flood-protection plans and precautions. The analyses were performed in relations to the basic effective legislative from the field of the crisis management of Slovak Republic.

On the basis of this structure, we have created the overview of human resources operating in the given structure, as well as the overview of main activities performed by authorities and organizations regarding the flood-protection. Further, we have focused on the analysis of basic requirements on the employees´ quality, as well as their certain and specific position.

In the synthetic part, we have created the structure of authorities and organizations according to their position and tasks within the system of the flood protection. The synthesis of the information was a basic precondition on the quality of human resources by the solution of flood crisis situations. Our main findings within submitted issue arose from the synthetic part of this paper.

3. Problem analysis

According to the Flood Protection Act of the NC SR No. 7/2010, as amended, the Flood is the natural event, by which water temporarily inundates the area, which is usually not flooded by water. Further, flood protection means activities focused on the decrease of the flood risk on flood-endangered area, on avoiding the floods caused by flooding and on the decrease of negative impacts and consequences of the floods on human´s health, the environment, cultural heritage and economic activities.

Complex solution of the flood protection in Slovakia is ensured mainly by the creation of strategic and program documents, crisis plans, territorial plans, systems of tie-in legislative, system of managing authorities of the state administration, and finally the creation of practical precautions focused on the care of the country, and precautions of the technical character (Repka, Ubrežiová, 2002, p. 9).

To the most important documents in Slovakia related to the flood protection belong:

- Water-management Policy Conception until 2015
- Flood-protection Strategy until 2020
- Anti-Erosion Precautions Program for the increase of the retention ability of partial floods
- Area plans on all planning levels
- International programs and agreements
- Flood management plans
- Water plan as the strategic document of the water planning for the area of the Danube river basin and for the area of the Vistula river basin
- Flood plan of support works and rescue works
- Flood-risks management plans

The flood protection in Slovakia is performed by:

a) flood protection authorities, which are according to the § 22 sec. 1 of the Act No. 7/2010 Coll., as amended:
   - Ministry of the Environment of SR,
   - district offices,
b) other authorities of the state administration,
c) territorial self-administration authorities,
d) flood committees,
e) the administrator of water-management significant watercourses, and administrators of small watercourses,
f) owners, administrators and users of areas, buildings, objects or facilities located on the watercourse or the inundation area,
g) other persons.

§22 sec. 2 of above mentioned Act determines: The flood protection is controlled and supported also by municipalities. The significant part of the flood-protection system in Slovakia is the monitoring of the condition, amount, quality and quantity of water, which ensures the Slovak Hydro-Meteorological Office (SHMÚ). The part of the Flood-Protection Program in Slovakia is the creation of the Flood Warning and Forecasting System (POVAPSYS), of which task is to decrease possible damages caused by the floods by means of the hydrological forecasts, warnings and cautions.

Slovak Republic is the area with significant relief segmentation. Also other characteristics of the area are the conditions for the fact that significant amount of precipitation, which falls by us in the form of rain, flows out of our area (Matulík, 2013). By this fact, there is determined one of the basic tasks of the water-management, which is the retention of water during the period of its surplus, and the effective allocation in the period of its deficiency. Floods as geopolitical factors causing the government expenditure growth (Kútik, Klierová, Hošták, 2014 p. 441) However, as stated by Bačík and Ryšavá (2011, p.1), the flood protection is the all-society task, which is related to all of us, from individuals, through municipalities, to the government, and in any way it cannot be narrowed only to the obligations of a small group of state authorities and organizations.

From the point of view of the use and the involvement of the human resources into the flood situations solutions, as the most significant seems to be the Flood-Protection Act of the NC SR No. 7/2010,

as amended, and the State Control in Crisis Situations except the war period and war condition Act No. 387/2002 Coll., as amended. From the European legislative, we can apply mainly the Regulation of the European Parliament and the Council 2007/60/ES on the Assessment and Management of Flood Risks. The regulation was transported into our legislative by above mentioned Act No. 7/2010.

In the document Floods Risks Management - prevention, protection and mitigation (2004), the cycle of floods risks management includes:

1. The prevention based on the consideration of flood risks in the area planning, and in the building works on safe locations, in the suitable use of the land, rational management in the woods and on the agricultural land;
2. The preparation, realization, maintenance and repairs of preventive, technical and non-technical precautions for the protection of areas against the floods in the country, urbanized locations and watercourses;
3. The organizational, methodical, technical and personal preparedness of watercourses´ administrators and units of the integrated rescue system for the execution of interventions during the period of floods and their risk;
4. Effective reaction on the flood situation conditioned by continuous monitoring of the meteorological and hydrological situation, issuing of meteorological and hydrological forecasts and timely warnings on the flood dangers, performance of the intervention in the form of flood-protection supporting and flood-rescue works, and other precautions for the protection of human´s health, the environment, cultural heritage and the economic activities against the floods.

The elimination of floods´ consequences and learning from its course by the restoration of conditions for the normal life in by-floods-influenced areas, by the moderation of social and economical impact of the floods on affected population, by the analyzing of causes, the course and consequences of the floods, by the analysis of the effectiveness of preventive precautions and precautions made during the period of floods, by the updating the flood risks management plans and flood plans.

Precautions for the flood protection are divided by the Flood Protection Act of the NC SR No. 7/2010 Coll., as following:

1. Preventive precautions for the protection against floods,
2. Precautions during the period of the flood situation,
3. Precautions after the flood.

4. Human resources analysis in flood situations

From the human resources point of view, public administration authorities and institutions directly involved in the course of the floods can be divided into:

1. Managing units – central state administration authorities and their personal support, other state administration authorities and their personal support, self-administration authorities and their personal support, and personal support by them established boards and units;
2. Executive units – the administrator of water-management significant watercourses and their personal support, integrated rescue system and its personal support, personal support of the fire brigade, health rescue service, police, civil protection units, army, coordination center of integrated rescue system, regional road administration and the Slovak Hydro-Meteorological Office (SHMÚ).

Naturally, also within particular authorities, institutions and organizations, there is a division on the managing and executive units given by their organizational structure.

From the point of view of the flood management support by the human resources, to the executive units belong also normal and legal persons obliged to participate on the flood-protection support works and to provide personal help and means for the protection of the health, property, environment, cultural heritage and the economic activity according to the Flood Protection Act of the NC SR No. 7/2010 Coll.

Managing (control) units are in great extent applied within the preventive activities, mainly by the preparation of plans, concepts and strategic documents.

On the level of the state administration central authority (the Ministry), it is mainly the creation of the water plan, plans of the river basins management, confirmation of the flood plans and ensuring of the flood risk maps elaboration. For the personal support of the state administration central authority is important the professional preparedness of the employees. In the field of the flood protection, the Ministry fulfills the tasks arising from the membership of Slovakia in the European Union in the assessment and management of the flood risks. Moreover, the Ministry, as the managing authority,

ensures through its employees the methodical directing and professional preparation of the flood-protection authorities, organizing the announcement flood service and the service of warning the population.

District offices in the residence of the region, and district offices within the preventive activities create also the flood plans, and perform the flood inspections on the watercourses. By this, there are given high claims and demands on their personal support and professional preparation of the employees. Above mentioned offices also ensure the workforces and means for the flood protection. District offices organize trainings on execution of the announcement flood service and warning the population, on execution of flood rescue works for the employees of the district offices and municipalities. On this management level, we can encounter the horizontal involvement of the executive units, mainly in the area of the cooperation with the administrator of water-management significant watercourses, the administrator of small watercourses, fire brigade and health rescue service.

In relation to the preventive activities, the municipality elaborates the flood plan of supporting and rescue works, executes the flood inspections, cooperates with the administrator of the watercourse flowing through the municipality area, and ensures the workforce and means for the flood protection.

During the period of the floods, within precautions, managing units fulfill their coordination tasks. District offices in the residence of the region, district offices and municipalities announce and retract the emergency situation on their area. They have the information and communication obligations, which puts the focus on the responsibility and prompt decision-making of the managing persons. Moreover, they ensure the activity of flood committees, providing or requiring the help, execution of the announcement flood service and others. On the horizontal structure, they cooperate with the units of the integrated rescue system, fire brigade and the health rescue service. The municipality establishes the patrol service, and supervises the performance of the flood protection precautions according to the rescue works plan.

After the floods, the tasks of the managing authorities are focused on the creation of reports about the causes and the course of the floods, executed technical precautions, costs on the execution of the flood rescue works. District offices in the residence of the region and district offices nominate the verification committees for the verification of the flood damages summarization correctness and determine the inundation areas.

To the executive units within the flood protection belong also units of integrated rescue system (IZS). The operation of the IZS is legislatively given by the Integrated Rescue System Act No. 129/2002 Coll., as amended. From the human resources in the IZS point of view, the important aspect is the training and professional preparation of the rescue units employees. It is a permanent process, which does not end by the reception of the employees and their occupational assignment. On the contrary, by this step, the employee enters to the system of the permanent preparation and training, of which aim is to achieve the required level of the employees´ preparedness (Šimák, 2015, p.139). The part of the training is also the periodical check of the knowledge, professional skills and the physical preparedness.

Individual executive units are the administrators of the watercourses, who fulfill their important tasks within the preventive precautions in the period of the flood situations, as well as after the floods. Their professional activity focuses on the assessment of the flood risk, searching for the optimal technical solutions, announcement of the degrees of the flood activity on the watercourses, and the professional cooperation with the managing units (Ministry, district offices in the residence of the region, district offices, and municipalities). The administrators of the watercourses ensure the maintenance of the watercourses, elimination of the obstacles and buildings on the watercourses, realization of the technical precautions by means of the subjects of the water-management construction. Their employees have to possess a professional knowledge from various economic areas and also from the area of the crisis management.

According to Šimák (2015, p. 136), employees operating in the offices, organizations, executive units fulfilling the tasks by the solution of the crisis situations, can work as:

- Professional employees – within organizations operating in the system of the crisis management, or within the organizations, which can be purposely sent to fulfill concrete technical tasks by the liquidation of the crisis situations (construction, transport, or other enterprises)
- Voluntary workers

It is worth to note that significant part of the workers working in the executive units of the crisis management have the character of state employees (policemen, firefighters, soldiers). Regarding to their operation, there apply individual legislative norms. The persons in the crisis management in the area of the flood protection have to fulfill the tasks with high level of professionalism, from the demanding ones requiring the university education, up to the simple

manual works requiring mainly the physical force and manual skills.

In the area of the flood management are used also precautions of the economic mobilization, mainly in the case that in the area of SR is announced the emergency state (Novák, 2010, p. 127). The laws related to the system of the economic mobilization are given by the Economic Mobilization Act of the NC SR No. 179/2011 Coll., as amended. From this field is applied mainly the work obligation, which is possible to order to the workers of the economic mobilization subjects.

5. Findings

On the basis of above introduced analysis of human resources in the flood situations, we have created the synthetic information on the operation of human resources in the flood situations.

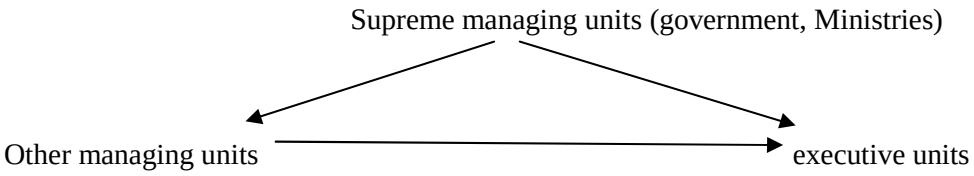
Table 1 Public administration authorities and organizations of the flood situations crisis management

Crisis flood management	
MANAGING UNIT	EXECUTIVE UNIT
government and by it established central flood committee	
state administration central authorities (Ministries and by them created crisis teams and operation groups)	administrator of significant watercourses
District offices in the residence of the region and by them created crisis teams and flood committees	administrators of watercourses, regional police headquarters, regional headquarters of fire brigade and rescue service, IZS units
District offices and by them created crisis teams and flood committees	administrators of watercourses, district police headquarters, district headquarters of fire brigade and rescue service, IZS units
Municipalities and by them created crisis teams and flood committees	administrators of watercourses, municipal and city police, voluntary firefighting units and fire brigades, first aid medical service

Source: Author´s work

Above introduced table displays the public administration authorities and organizations operating in the flood situations crisis management. The table expressly shows also their hierarchical organization. In the crisis management applies the centralization principle and the principle of mutually linked cooperation, which is functional not only on the vertical axis, but also on horizontal axis (Figure).

Fig. 1 Units operating in the flood situations management



Source: Author´s work

Human resources are applied mainly within the structure of flood crisis management introduced in the table, but also within other supporting systems of crisis situations management, such as the population civil protection system and the system of economic mobilization. The complexity and severity of the crisis management issue, and floods as well, determined the claims on the professional preparedness and responsibility of the workers. Managing units' workers need to have a high level of responsibility, managing and coordination skills. Executive units and their workers should have the ability to act in time, with necessary authority and skills. Both units should have necessary competencies for the execution of their obligations.

Planning of the use of human resources in flood situations should presuppose the sufficient capacity of persons, their technical focus, experience, physical strength and skills. During the crisis situations solving, it is necessary to divide human resources according to their priority tasks. The allocation of human resources can be planned and realized also between the competent institutions.

In general, the transfer of information and communication are significant part of the management. In the case of crisis situations, their significance sharply increases. The cardinal precondition for the effective communication between the units and the parts of the crisis management is the creation of communication plans. Problems with

communication between main stakeholders in flood risk management are discussed in a paper of Thaler T.A. Priest, S.J., Fuchs, S. (2016, p. 849 – 851).

Another important part is a simple access of workers to the information. Only relevant and objective information available in the suitable structure enable a prompt and effective communication among workers in the units of the crisis management.

Conclusion

Crisis situations of the natural character, such as floods, accompany the mankind within living memory. Despite even nowadays we cannot prevent them, we can prepare for them, and in this way we can eliminate also their devastating consequences. Flood situations management is the part of the state crisis management, within which there is the structure of public administration authorities, which ensure the preparation on the flood situations and the flood course management itself. The system of the flood management by the public administration authorities is supported by organizations and units, which actively perform the flood-protection activities of various characters and kinds. Within these systems work real persons, on which are put high professional and character requirements and demands. In the case of executive units, these requirements are supplemented by their physical strength, fitness or skills. The fulfillment of introduced requirements is related to the continuous professional or physical preparation of the workers. The part of them has the position of the state employees, the second part is employed within organizations and the final part operates as the voluntary workers. Their different position and tasks have to meet in the case of the solution of crisis flood situations, and should result into the effective cooperation with the objective to prevent, or minimize the threat on lives, health and the property of inhabitants, the environment and the cultural values.

Submitted paper dealt with the human resources, which can be used by the management of flood situations. Their use is expressly stated in the legislative of SR, mainly from the field of the crisis management. In the functioning of Slovak Republic, floods are the exceptional situations, but in the cases that their extent exceeds the area of one self-administration region, they can be solved in accordance to the announced emergency or exceptional state. In such case, on their management participates the system of economic mobilization, which significantly increases the numbers of human resources involved in the solution of the flood situations.

In the end, we can say that the floods and their solution is really the all-society task. This fact is supported also by continuous climatic changes in the area of Slovak Republic. Although we can say that the preparation to these events is sufficient from the state administration managing authorities and the executive units of the crisis management, questionable remains the preparation and informing the public. This problem should be theoretically better elaborated and implemented into the practice. It is clearly the subject for further scientific works and studies.

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IMPORTANCE OF MOTIVATION IN PREPARING UNIVERSITY STUDENTS FOR FUTURE CAREER

Kristína BULKOVÁ

Abstract

A career choice is a very important, deciding point in the life of a young person. The already lengthy academic discussion on the structure of motivation for a career is relevant in its conclusions. As was already mentioned, in modern society the intrinsically motivated professional is desirable. The study is aimed to discover the career motivation drivers of Slovak university students. Connection between instrumental, cognitive and social motivation is compared with selection of variables: gender, education level, duration of studies. Empirical survey was conducted on a sample of one hundred and thirty respondents coming from Slovak universities. The findings showed that there is a direct correlation between instrumental, cognitive motivation and the time spent studying, however the findings are not statistically significant.

Key words

Motivation, university study, student survey, career, Slovak Repulic.

JEL Classification: M51, M53, M54

Introduction

The fast paced modern society has transformed lives and the traditional values of the society. Innovations and change impacted human behavioural patterns including motivation as behaviour is influenced by behavioural direction and life's goals. The study's target is young people undergoing university education and therefore preparing for the future career. Author's interest lied in understanding motivation, life's goals impacting the behaviours in the preparation for the future careers. It is assumed that the motivational patterns during university studies directly impact the later life's quality and approach towards job and career. As Langmeier a Krejčířová (2006) suggest career choice selection is impacted by external conditions and individual motivation. Žiaková and Balogová (2012) suggest it is crucial to understand the motives behind the desire to pursue university degree, as the self- realization of the motives can be connected to active/ passive participation in the educational process.

1. Career motivation in previous research

Nowadays the higher education institutions play an ever-increasing role. The importance is seen in the readiness of the youth to be able to play an active role in the adult life and be flexible as well as critical towards personal and/or professional challenges. The role of the institutions lies in creating motivational atmosphere and opportunities that foster such behaviours. Žiaková and Balogová (2012) claims motivation does not only derive from doing the job but also the career preparation phase. Therefore it is assumed that it's crucial to understand the motives, needs and goals activating the youth to prepare for the future career. The prerequisite of prosperous and harmonized society is qualified and motivated workforce.

Haase (in Marinas, Igret, Agoston, 2014) classify the career selection motives into cognitive personal factors like self-realisation, need of autonomy, social status, personal development or financial success, and contextual or environmental factors such as the social pressure, the families members' professional activities, the labour market or the economic environment According to (Bulková, Hibký, 2016) students are mainly influenced by the external's motivation factors such as having a degree, monetary benefits related to higher education, social status and public admiration.

University education is instrumental in achieving the external motivation objectives. On the other hand the self-fulfilment, satisfaction and the conviction of education's importance are not key driver of motivation. Similarly family background of higher educated parents is neither a factor with high motivational impact for students (Bulková, Hibký, 2017).

Ahmed, Sharif, Ahmad (2017) claim that interest in the subject has strong and positive relationship while; ease in grades, financial outcomes, and future

job opportunities are less related or have minor impact on students' decision for particular field and subject. Interest in the subject is also related and has some linkage with personality type. Mismatch of the personality and lack of interest in the subject is dangerous, and could end up into disastrous results in terms of student dissatisfaction, demotivation, lack of productivity leading to increased drop outs and career failure. On the contrary, the students' performance could excel and deliver better results if the area of study is matching and aligned with the intrinsic factors of the individual's personality, leading to internal satisfaction, motivation and commitment.

A career choice is a very important, deciding point in the life of a young person. The already lengthy academic discussion on the structure of motivation for a career is relevant in its conclusions. As was already mentioned, in modern society the intrinsically motivated professional is desirable. According to Lamanauskas, Augienė (2015) university studies is a significant stage for future career designing. It is obvious, that certain competencies are being formed during that period. It is likely, that their significance is different, and also certain differences in terms of sex are possible. Carried out research revealed career management competency structure. Main competencies were distinguished and the abilities identifying them: problem solving, social, change managing, self-awareness, communicative and leadership competencies. The most expressed in career competency structure is problem solving competency (SI=0.89), the least – leadership competency (SI=0.74). Besides, a statistically significant deviation was fixed in terms of sex. For girls problem solving, social, change managing, self-awareness competencies are more important than for boys. However, communicative and leadership competencies are equally important for both genders equally. More and more stability seeking is substituting lifestyle (private life is more important than professional duties are) as leading career motivation, because of higher social-economic insecurity in the country and the increased number of the unemployed people (Ivantchev, Stoyanova, 2015).

2. Methodology

The aim of the study is to identify the preferred motivation behind university studies among Slovak students. The study has narrowed motivation in the construct of the selected three types: instrumental, social and cognitive. The motivation preferences werecompared with the following variables:

1. Comparison of the motivation types in correlation with education level
2. Comparison of the motivation types in correlation with the gender
3. Comparison of the motivation types in correlation with the study duration

The aim was to identify if there is statistically significant correlation between motivation types and education level, gender and the study duration. The level of the motivation and its structure was defined by M-2 questionnaire. Respondents were offered five point scale that allows the individual to express how much they agree or disagree with a particular statement, this is based on Likert Scale.

Each motivation type was represented in series of statements. The total value of the given motivation type was calculated based on calculation of averages on the given type of the Likert Scale. These values were transferred into percentages, where -5 represented 100 %. $\chi 2$ test was used to validated the selected research hypothesis, to show dependancies betweeb A and B statements. If the p-value is less than 0.05, we reject the null hypothesis that there's no difference between the means and conclude that a significant difference does exist

In this article we set out three scientific hypotheses.

H1: It is assumed that there is a statistical significance between the education level and the preferred motivation. H_1 has not been confirmed.

H2: It is assumed that there is a statistical significance between gender and the preferred motivation. H2 has not been confirmed.

H3: We assume that there is a statistical significance between the study duration and the preferred motivation. H_3 has not been confirmed.

3. Results

Comparisson of motivation type and the level of education

In this section the correlation between the education level and motivation preferences was researched. Comparison was conducted through application of the $\chi 2$ dependency test. The variables were put into percentages as explained in the Methods section.

Table 1: Education Level and percentage of preferred motivation by type

Education Level	Social Motivation	Instrumental Motivation	Cognitive Motivation
1. Bachelor's Level	80,52	79,85	65,5
2. Master's Level	73,6	82,83333	69,92857

Source: Own creation.

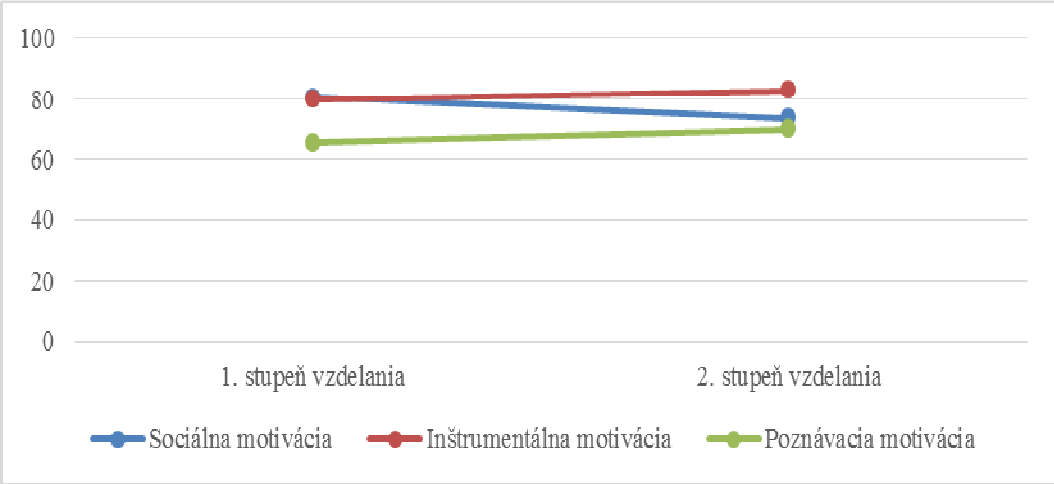
Table 2: χ^2 test for validation of dependency between motivation and Education Level

	chi-sq	*p-value*	*x-crit*	*sig*
Pearson's	**0,509699**	**0,775033**	**5,991465**	**no**

Source: Own creation.

As the p-value is (0,775) > α (0,05), we reject the null hypothesis that there's no significant dependency between the means and conclude that a significant difference does not exist

Graph 1: Comparison between types of motivation and dependency with Educational Level



Source: Own creation.

As can be seen from the graph, social motivation is slightly dominating with instrumental and cognitive closely following. In the secondary/master's level of university education instrumental motivation comes before the social. In comparison with undergraduate/bachelor level of studies cognitive motivation follows an increasing trend. As can also be seen, the following differences within the findings are not statistically significant.

Comparisson between motivation prefference types and gender

In the following section the correlation between the gender and motivation preferences was researched. Comparison was conducted through application of the χ2 dependency test. The variables were put into percentages as explained in the Methods section.

Table 3: Percentage of motivation per defined type

Gender	Social Motivation	Instrumental Motivation	Cognitive Motivation
Male	79,42857	78,71429	63,08163
Female	78,69565	81,03261	67,47283

Source: Own creation.

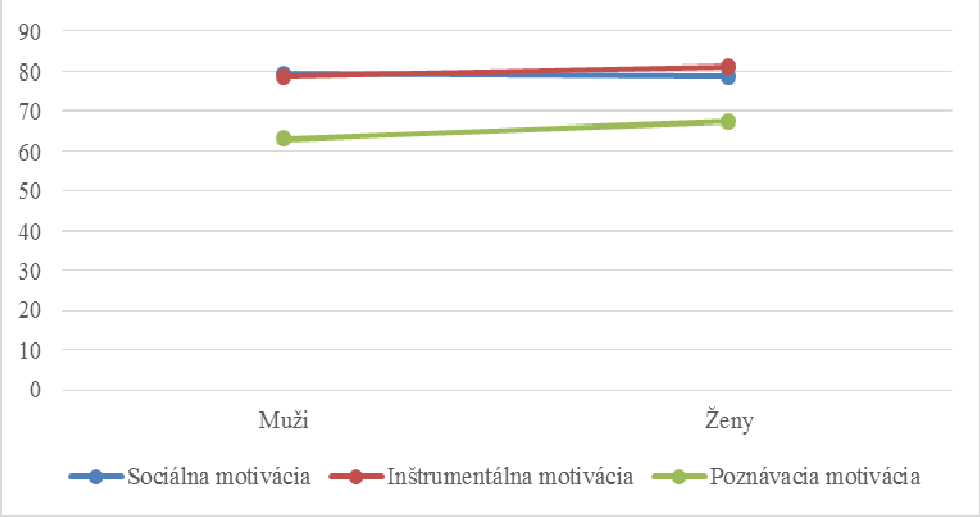
Table 4: χ^2 test for validation of dependency between motivation and gender

	chi-sq	*p-value*	*x-crit*	*sig*
Pearson's	**0,105102**	**0,948806**	**5,991465**	**no**

Source: Own creation.

As the p-value is (0,949) > α (0,05) we reject the null hypothesis that there's no significant dependency between the gender and motivation and conclude that a significant difference does not exist. Similarly graph 2 shows the level of motivation is similar among men and women.

Graph 2: Comparison of motivation types in dependency with gender



Source: Own creation.

As can be seen in the graph instrumental and social motivation is dominant, however there is no statistical significance of the results.

Comparisson of motivation type in relation to the study duration

In this section the correlation between the duration of the education and motivation preferences was researched. Comparison was conducted through application of theχ2 dependency test. The variables were put into percentages as explained in the Methods section.

Table 5: Motivation types in the context of study duration in percentages

Duration of study (in years)	Social Motivation	Instrumental Motivation	Cognitive Motivation
1	78,00	77,50	66,25
2	82,59	75,29	58,38
3	80,38	81,23	67,05
4	84,33	83,33	69,61
5	66,44	82,50	70,14

Source: Own creation.

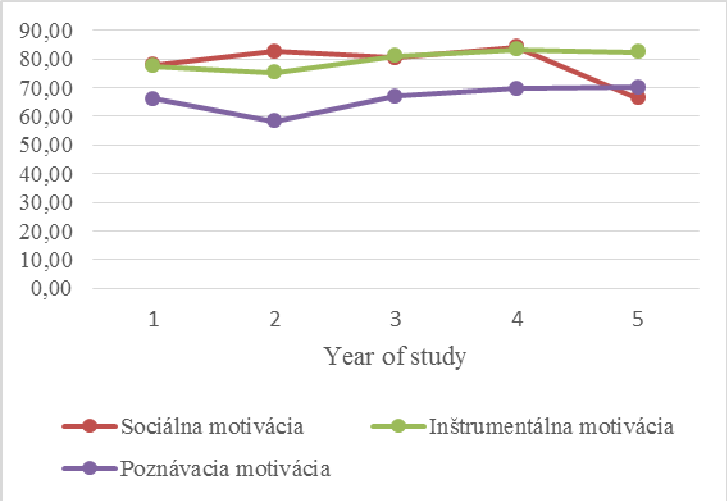
Table 6: χ^2 test for validation of dependency between motivation and the study duration

	chi-sq	*p-value*	*x-crit*	*sig*
Pearson's	**3,303795**	**0,913872**	**15,50731**	**no**

Source: Own creation.

As the p-value is p (0,913) > α (0,05) we reject the null hypothesis that there's no significant dependency between the study duration and motivation and conclude that a significant difference does not exist. Similarly graph 3 shows the level of motivation is similar throughout the duration of the studies.

Graph 3: Comparison of motivation types in dependency with the study duration



Source: Own creation.

Conclusion

The aim of the article is to find out if there is a significant correlation between instrumental, cognitive and social motivation and gender, education level, duration of studies

The results showed that in the undergraduate level (bachelor's) the preferred type was social motivation.

This fact can be connected with the importance of social context in the early years of the study duration.

Students of universities form relationships where prestige and positive appreciation is of an importance. In the graduate (master's) level of education the importance of instrumental motivation grows, that can be connected to clearer career goals and closeness to the actual career. Similarly the cognitive motivation follows a growing pattern in the graduate level of studies that may possibly relate to deepened interest in the study field, career.

Even though some conclusions were drawn, there seems to be no statistical significance between types of motivation and identified parameters. In regards to gender variations men prefer social over instrumental and cognitive motivation. Women on the other had start with instrumental as the premiere type, with social and lastly depend on cognitive motivation. There wasn't any statistical correlation identified in case of gender and motivation types either.

Lastly the correlation between the study duration and favoured motivation type was looked upon. The results showed that with time spent on the studies instrumental and cognitive motivation importance grows. This is a positive finding for the study. The future graduate seeks the need of problem solving, applying gained knowledge and the motivation to reach set goals. For the future research it would be suggested to enlarge the sample to be able to draw statistically significant conclusions.

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THE ECONOMIC EFFECTS OF LABOUR MIGRATION

Helena KAJANOVÁ

Abstract

According to recent ILO estimates, there are 150.3 million migrant workers in the world. Employment – or whether migrants are working or not – is the most important determinant of their fiscal impact. Immigrants account for much of the increase in the size of the workforce; they fill important niches both in fast-growing and rapidly declining sectors of the economy. The aim of this paper is to survey empirical studies on the economic effects in the areas of labour migration. The paper is based on the conceptual analysis and conclusions drawn from the literature on the general review of controlling-related papers. Secondary data sources were processed from ILO, OECD and content analysis of scientific papers which focus on economic effects of labour migration. There are many different ways to measure the fiscal impact of immigration and all methods and approaches rely heavily on debatable assumptions and modelling choices that can significantly change the results.

Key words

Labour migration, economic effects, remittance

JEL Classification: F22, F62, F61

Introduction

Migration is a feature of social and economic life across many countries, but the profile of migrant populations varies considerably. In part this is because of the variety of sources of migration. In much of Europe, for example, citizens enjoy extensive rights to free movement. In Australia, Canada and New Zealand, managed labour migration plays an important role. Other sources include family and humanitarian migration. Whatever its source, migration has important impacts on our societies, and these can be controversial. The economic impact of migration is no exception (OECD, 2014a). The aim of this paper is to assess economic effects in the areas of labour migration. The paper is based on the conceptual analysis and conclusions drawn from the literature on the general review of controlling-related papers. The outputs are listed based upon secondary research. Secondary data sources were processed from ILO, OECD and content analysis of scientific papers which focus on economic effects of labour migration.

The economic effects of labour migration

Immigrants have a broadly neutral impact on the public purse in OECD countries, receiving in state benefits around about as much as they pay in tax and social contributions. Employment – or whether migrants are working or not – is the most important determinant of their fiscal impact. Immigrants account for much of the increase in the size of the workforce; they fill important niches both in fast-growing and rapidly declining sectors of the economy. The share of highly educated immigrants is rising sharply in OECD countries; over the past decade it rose 70%, in part because of immigration from Asia. A lack of internationally comparable data makes it difficult to determine the overall impact of net migration on economic growth (OECD, 2014b).

Migration's impact is in three areas – the labour market, the public purse and economic growth:

Labour markets

- Migrants accounted for 47% of the increase in the workforce in the United States and 70% in Europe over the past ten years.
- Migrants fill important niches both in fast-growing and declining sectors of the economy.
- Like the native-born, young migrants are better educated than those nearing retirement.
- Migrants contribute significantly to labour-market flexibility, notably in Europe.

The public purse

- Migrants contribute more in taxes and social contributions than they receive in benefits.
- Labour migrants have the most positive impact on the public purse.
- Employment is the single biggest determinant of migrants' net fiscal contribution.

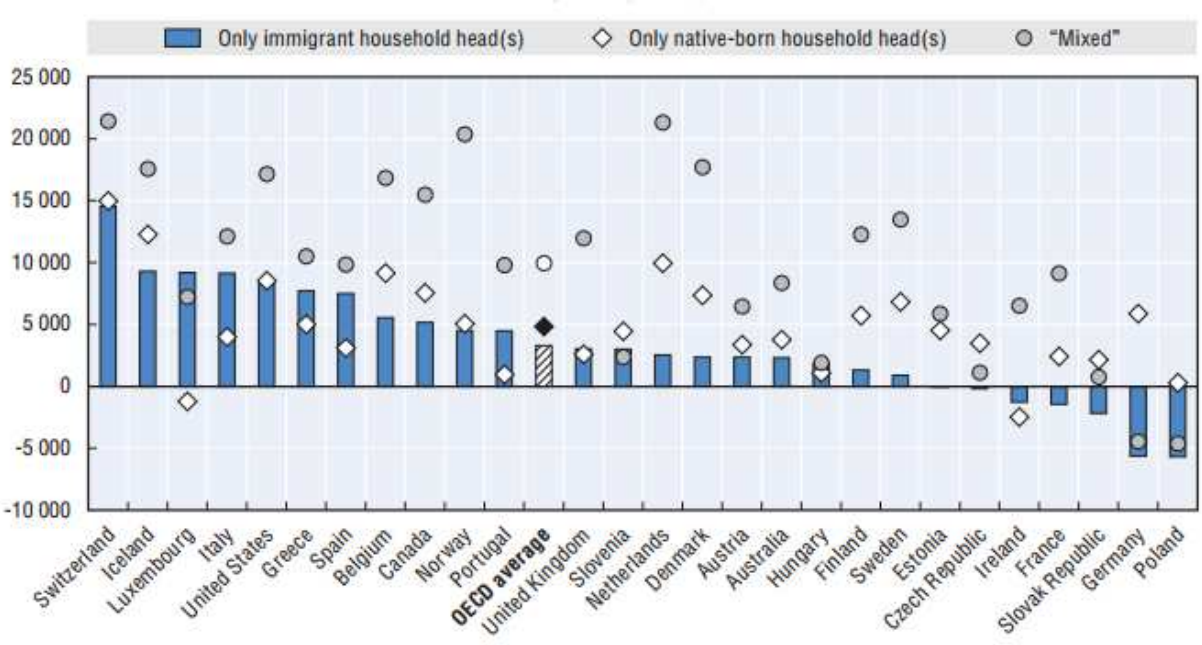
Economic growth

- Migration boosts the working-age population.

- Migrants arrive with skills and contribute to human capital development of receiving countries.
- Migrants also contribute to technological progress (OECD, 2014a).

Looking at the net direct fiscal position of immigrant households – that is, their taxes and social security contributions minus the social transfers they receive – several observations can be made (Figure 1). First, there is wide variation in migrants' fiscal position, but in most countries it is positive. Net contributions are only negative in a number of eastern European countries with small immigrant populations, as well as in Germany, France and Ireland. In these latter countries, with the exception of Ireland, immigrant populations are relatively old and thus overrepresented among the population receiving pensions (Liebig, Mo, 2013). In Ireland, the negative net contribution holds for both immigrant and native-born households and is partly driven by the early impact of the crisis. A second observation is that in most OECD countries, the net fiscal position of immigrant households is below that of the native-born. Nevertheless, the reverse holds in a number of countries, in particular in the Southern European countries of Italy, Greece, Spain and Portugal, as well as in Ireland. In all of these countries, a large part of the resident migrant population consists of recent labour migrants. Immigrant households also have a better fiscal position than the native-born in Luxembourg, the United Kingdom and Hungary. In all of these countries, with the exception of the United Kingdom, immigrants have an employment rate that is above that of the native-born. Finally, in virtually all countries, the "mixed" households have a highly positive net fiscal position, which in most cases is also well above that of the native-born. This result is at first sight surprising but is mainly due to the fact that, by definition, these households have at least two adults in the household. In addition, most of these households are working-age couples, which is the age at which individuals contribute most to the tax system.

Figure 1 Average net direct fiscal contribution of households by migration status of the household head, 2007 - 2009 average EUR (PPP adjusted)



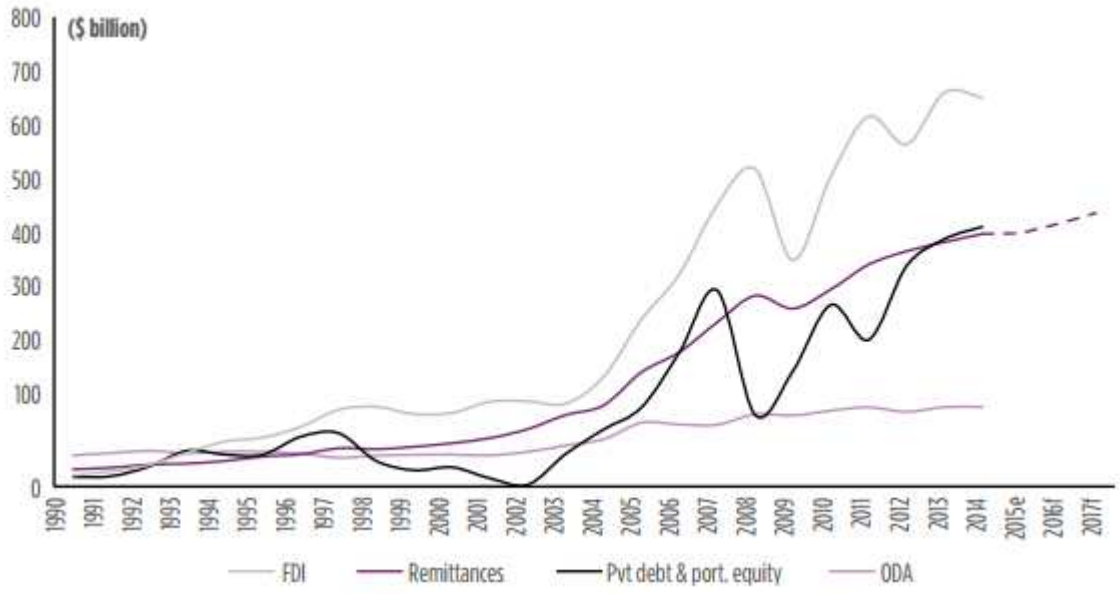
Source: Liebig, Mo (2013)

Among the contributions of foreign workers include increase the economic welfare of the importing countries, major source of workforce, increase the domestic innovation activities, increasing the expected returns on education, complementing domestic human capital and increasing the productivity in manufacturing sectors. Besides, migration will also decrease the unemployment rate and poverty cases in the exporting countries. Migration process is also associated with money transfer issue, or also known as remittance, which actually means the outflow of money from one country to another (Fauzi, Rawi, 2016).

Foreign workers are a major source of work force in the development of the economy, whether it is for the country that imports or exports foreign workers. Migration process is usually associated with the money transfer issue, or also known as remittance,

which actually means the outflow of money from one country to another. Remittance flows are broadly affected by three factors: the migrant stocks in different destination countries, incomes of migrants in the different destination countries, and, to some extent, incomes in the source country. Remittances sent home by international migrants from developing countries are estimated to have risen to $432 billion in 2015, an increase of only 0.4 percent over the previous year (Figure 2). (World bank, 2016).

Figure 2 Remittance Flows Are Larger than Official Development Assistance (ODA), and More Stable than Private Capital Flows



Sources: World Bank Staff calculations, World Development Indicators, OECD. Private debt includes international bonds and borrowing through commercial banks. World Bank (2016)

The outflow of money by foreign workers usually brings benefits to the exporting countries compared to the importing countries. Remittances received have positive and negative effects on economic growth and economic development. Directly, remittances will reduce the rate of poverty and also tend to improve the welfare of poorer rural households. However, there are also studies which found negative effect of remittances i.e., increase of the real exchange rate which then produce so called "Dutch Disease Effect". The common consequences of the remittances flows are on the exchange rate of the local currency and on the rise of domestic price level. The exchange rate is being defined as the price in terms of the local currency; the foreign currencies of the countries where the migrant people live. Any increase or rise of foreign currencies on average the central bank reserves therefore, obliges the bank to issue new local money entailing mechanically inflation (Fauzi, Rawi, 2016). Empirical results support the existence of a significant positive relationship between migrant workers remittances and economic growth. The other control variables such as foreign direct investment, openness to trade and infrastructure are also found to be statistically significant with expected signs (Azam, 2015).

At macroeconomic level, increasing the total capacity of financing of the investments that brings this saving coming from abroad, plays a pro-cyclic role if the migrant workers abroad trust the local economic situation and if the financial system of the country encourages them to invest. But one could also observe that remittances, for certain countries and in certain circumstances, play a counter-cyclic role: it is the case if, when the country of origin of the migrant workers is a poor country which knows a period of economic crisis, these workers send more remittances to help their families to overcome these difficulties more easily (Yaseen, 2012).

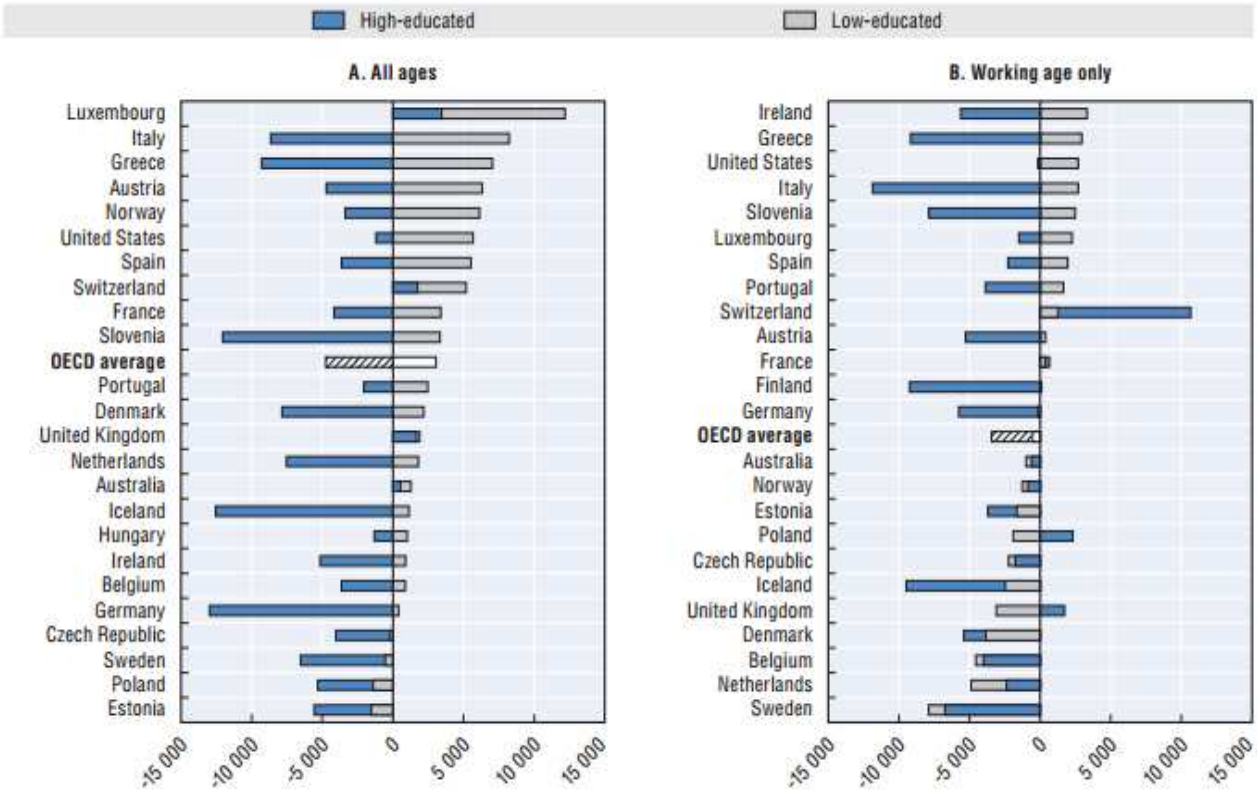
The external migration causes divers effects at macroeconomic level. The most important impacts are connected with severe disequilibrium and dysfunctions on the labor market, such as: *f*

- potential employment capacity of the labor force; *f*
- unemployment rate and its characteristics; *f*

- emigration of high qualified labor force, – the loss of "brains", capable of creating a high level of added value; *f*
- wage distortions and the segmentation of the labor force;
- increasing of underground economy (black labor); *f*
- diminished potential of local labor force – use immigrants in order to complete the lack of local labor force (Roman, Voicu, 2010).

By themselves, differences in age and education of the household head thus explain relatively little of the differences between the contributions of immigrant and native-born households in most countries, in spite of the fact that immigrants tend to have a lower educational attainment on average. In all countries except the United Kingdom, net contributions compare more favourably for the low-educated than for the high-educated immigrant households (Figure 3).

Figure 3 Difference in the net direct fiscal contribution between immigrant and native-born households, by education status of the household head, 2007 - 2009 average EUR (PPP adjusted)



Note: "High-educated" refers to ISCED-Level 5 and above; "low-educated" to ISCED-Level 2 and below.

Source: Liebig, Mo (2013)

The consequences of migration are in the table 1.

Table 1 Consequences Of Migration

Consequences Of Migration On The Country Of Origin	
Economic Impacts	
Positive	**Negative**
The area benefits from remittances sent home.	Loss of young workforce; those with skills and those with entrepreneurial talents move, slowing economic development.

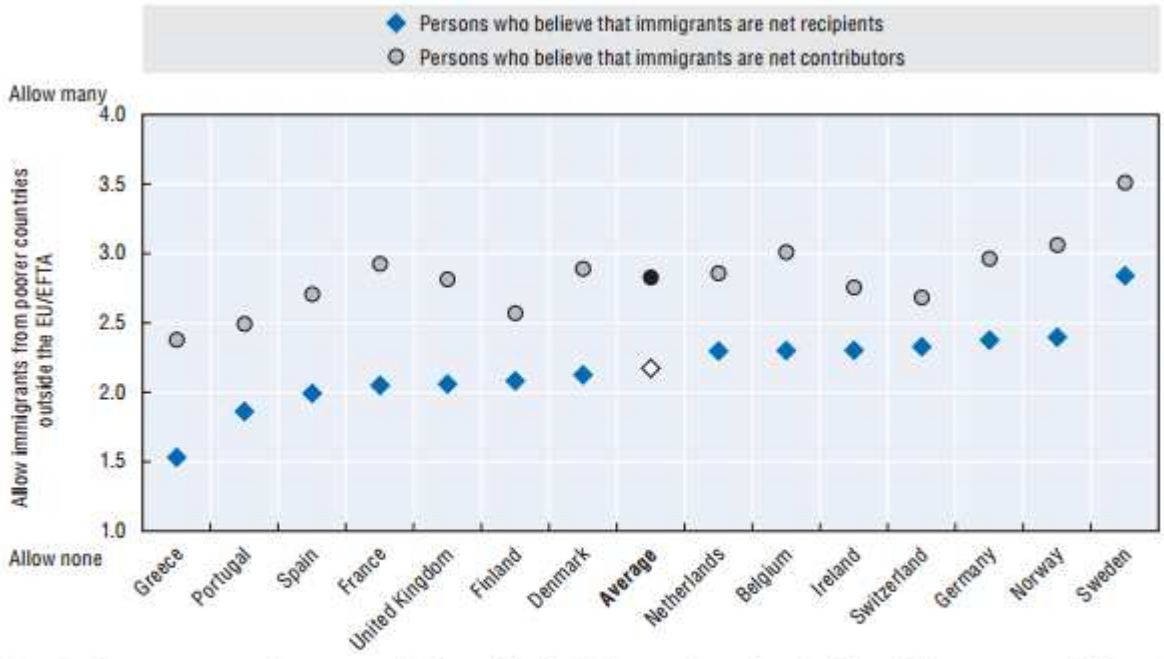
Upon return, migrants bring new skills to the country such as the ability to speak foreign languages. These new skills can help to improve the economy in the country of origin.	Loss of labour may reduce inward investment by private companies, increasing dependencies on government initiatives.
There is less pressure on resources such as food and social services such as health care.	
Consequences Of Migration On The Host Country	
Economic Impacts	
Positive	**Negative**
Migrants take up less desirable, menial jobs which natives would not take but need filling.	Migrants and their children must be educated, they won't necessarily speak the native language of the host country.
The host country can gain skilled labour for cheap.	There is an over dependency in some industries on migrant labour, leading to a lack of jobs for people native to the host country.
There is a labour surplus; those with skills and education fuel the economy.	Much of the money earned by the migrants isn't spent in the host country and is instead sent back to the country of origin.
The skill gap in many host countries can be filled by migrants.	More people increase the pressure on resources and services such as health care systems.
Costs of retirement can be transferred to the country of origin.	

Sources: Katseli – Lucas – Xenogiani (2006), ILO (2008), Stöhr (2014), Bailey (2015), Masárová (2015), Tupá (2016), Vojtovič – Krajňáková – Tupá (2016)

Discussion

Migration can be a contentious issue, with public debate sometimes informed by perceptions that do not stand up to analysis. This is especially true in discussions of the fiscal and economic impacts of migration – complex issues with many strands. These include immigrants' employment rates, the extent to which they pay taxes and receive benefits and their contribution to an economy's capacity for innovation. How are these issues debated? As with so much else in migration, the answer varies greatly around the world, and views are likely to reflect each country's historical and current experience of immigration. However, throughout the economic slowdown in recent years, there have been signs, perhaps especially in Europe, of rising public anxiety about migration. Developing an accurate understanding of the fiscal and economic impacts of migration is essential to informing public debate. It is also vital if governments are to design effective policies that maximise the contribution of immigrants to their new homes (OECD, 2014b). In many countries, there is widespread public concern over immigrants' use of the welfare system. Opinion surveys show a strong association between the public's view about the desirability of further migration and their perceptions of immigrants' fiscal contribution. In European OECD countries, people who believe that the fiscal impact of immigration is positive are also more inclined to welcome additional migration (Figure 4). Although this association does not necessarily mean that the fiscal impact is the main determinant of views on migration, there clearly is a link between the perceptions of the fiscal impact and public acceptance of additional migration.

Figure 4 The association between views on migration and the perception of migrants' fiscal impact, selected European OECD



Notes: In the survey, respondents were asked to provide their views on the net fiscal position of migrants on a scale from 0 ("immigrants receive more than they contribute") to 10 ("immigrants contribute more than they receive"); respondents with a score of up to 3 were categorised as having the view that immigrants are net recipients, and respondents with a score of 7 or more as having the view that immigrants are net recipients contributors. The y-axis shows the average score (on a scale 1-4) for openness for additional immigration from poorer countries outside of the EU/EFTA.

Source: Liebig, Mo (2013)

Given these challenges, and the availability of better data, there has been an increasing amount of research on the fiscal impact of immigration in recent years. Yet, the question of how to reliably evaluate the fiscal impact of immigrants is complex (Liebig, Mo, 2013). Should one simply compare immigrants' current tax/benefit balance (including social security contributions), or are forward-looking projections of future cash flows the approach that should be taken to account for a potential demographic impact and economic assimilation over time? If so, how sure can one be about the assumptions and forecasts underlying these approaches? And what about the descendents of immigrants and the indirect effects of immigration on the public finances through the labour and capital markets? There are many different ways to measure the fiscal impact of immigration and all methods and approaches rely heavily on debatable assumptions and modelling choices that can significantly change the results. Understanding these impacts is important if our societies are to usefully debate the role of migration. Such debates, in turn, are essential to designing policies in areas like education and employment that maximise the benefits of migration, especially by improving migrants' employment situation. This policy mix will, of course, vary from country to country. But the fundamental question of how to maximise the benefits of migration, both for host countries and the migrants themselves, needs to be addressed by many OECD countries in coming decades, especially as rapid population ageing increases demand for migrants to make up shortfalls in the workforce (OECD, 2014a). With the right approach to migration policy and the management of immigration, it is possible to some extent to minimize losses and maximize the benefits of immigration workforce (Tupá, 2017). Filling of vacant posts that cannot be filled by the domestic workforce is to sustain economic development necessary. The starting point can be support for immigrants to study at Slovak universities.

Conclusion

But the fundamental question of how to maximise the benefits of migration, both for host countries and the migrants themselves, needs to be addressed by many OECD countries in coming decades, especially as rapid population ageing increases demand for migrants to make up shortfalls in the workforce (OECD, 2014a). Almost 20% of residents of OECD

countries will be 65 or older by 2020 (BNP Paribas Cardif, 2015). Communication, home and transport sectors will receive the biggest silver boost, while sectors such as e-autonomy, nutrition, health and security will also reap the opportunities offered by the silver economy. The population above 65 is the fastest growing demographic. The global spending power of the silver generation will reach 12 $ trillion in 2020, which would be 54% larger than the GDP of Latin America. The global average gross income of the silver consumer is around 14 500 $ annually, compared to the global average of 12 300 $ (Hodgson, 2013). The silver economy will impact jobs in two ways. One is that the effect of increased demand from the elderly will generate 2.6 – 4.4 million new jobs across the EU until 2025. The other results from changes in demand in younger households, resulting in approximately 0.5 – 4.5 million jobs. The change of consumption on employment will either lead to 1.9 million jobs lost in the tough scenario or 3.9 million jobs created in the optimistic scenario. The silver economy has a potential to create jobs especially in the service oriented sectors focusing on wealthy silver consumers in the more advanced countries (Schulz, Radvansky 2014). Europe's societies are aging, placing their pay-as-you-go social security systems under considerable demographic pressure. It becomes increasingly well understood that a regulation of future immigration that is tailored to attract young and economically successful migrants can alleviate some of the demographic burden associated with an aging population (Roman, Voicu, 2010).

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DOES ACTIVATION ACTIVITY HAVE A MEANING ON THE LABOUR MARKET?

Tatiana MASÁROVÁ

Abstract

The main objective of the presented article is to identify the main problems which disrupt the process of activation activity and to form various proposals for their elimination. For the realisation of this objective, the following tasks have been identified: to define key terms, to identify issues of activation activity on the basis of professional literature, questionnaire and the structured interview and to suggest the improvement of activation activity on the labour market. We have used different research methods in the article: theoretical general methods of scientific knowledge – analysis of available bibliographic references, synthesis at formulating of revealed conclusions, statistical and mathematical methods as well. This study is significant for the field of sociology, social politics and social work.

Key words

Activation Activity. Activation Allowance. Material Need. Unemployment. Labour Market.

JEL Classification: J64, R58

Introduction

During the whole 1960s, developed countries were trying to eliminate the poverty but the opposite event happened – the number of poor people increased as the consequence of the crisis. Absolute poverty is a phenomenon that occurs when the income of an individual person can't cover the costs for basic life needs of a household. So-called poverty threshold or subsistence minimum is calculated on the basis of this definition.

The term "social exclusion" was replaced in the early 1990s in the social & science debate by the term "poverty". It also refers to the gradual disintegration of the society as a whole. It relates to the individual person who is unable to deduce his social identity from work and who can't find its place in the society anymore. As work is the basis of social identity, exclusion from the world of work is the primary cause of social exclusion. Exclusion from the labour market leads to the poverty. Poverty becomes one of the factors of social exclusion as it prevents the access to goods and services. Unemployment becomes a factor of social exclusion. Long-term unemployed people do not have a sufficient income to ensure a "normal" life but they also do not have the opportunity to create a social identity acknowledged by the society.

Extension of social security services, increase of social benefits and of minimum wage were the 3 means used by governments to reduce the poverty. Set of these measures, which originated on the basis of social state philosophy, prevented the spread of the most extreme poverty (Pacione, 2003; Montoussé, Renouard, 2005; Scott, Marshall, 2009).

Slovak Republic introduced the institute of activation activity in the fight against the long-term unemployment. Activation activity is the measure of Ministry of Labour, Social Affairs and Family, which should have led to the activation of long-term unemployed citizens receiving material need benefit and contributions to this benefit. This type of employment enables the individual person to become only a member of a favoured group that often lives on the periphery of the society.

The main goal of the presented report is to identify the main problems which disrupt the process of activation activity and to create various proposals for their elimination. For the implementation of this objective, the following tasks have been identified:

- to define key concepts related to the issues of activation activities,
- the evaluation and interpretation of the data from the questionnaire with activation workers,
- the interpretation of data from structured interviews with employees of the municipality office,
- to define the deficiency of activation activity and to create measurements proposal to improve activation activities on the labour market.

Research methods used in this report: General theoretical methods of scientific knowledge – analysis, synthesis, questionnaire, structured interview, statistical and mathematical methods – arithmetic average, minimum, maximum, variation range, median, standard deviation, spread and variation coefficient (Grmanová, 2006).

This report is relevant to the terminology of the social sphere – especially in the field of sociology, social policy and social work for the unemployed,

respectively with the unemployed.

1. Terminology excursion

Activation activity is carried out since 2004; it follows the previously implemented community service. Activation activity is carried out in the form of small community services for the municipality or in the form of volunteering. Activation activity is carried out by every citizen who is unemployed for more than 12 months, who is registered at the office of labour, social affairs and family and who receives the material need allowance (Act No. 5/204 Coll.; Inštitút zamestnanosti, 2016).

Material need is the situation when the income of citizen (and income of people reviewed together with this citizen) does not reach the minimum subsistence income specified by the particular regulation and the citizen cannot ensure or increase his income with his own efforts (Act No. 417/2013 Coll. on material need, as amended).

As we want to present the problematics of activation activities, we need to point out that activation centres are established on all offices of labour, social affairs and family. The website of Office of Labour, Social Affairs and Family (2016) defines the following tasks of activation centres:

- searching, contacting and communicating with institutions which carry out activities of public benefit,
- signing contracts between the authority and the organizer,
- selection of appropriate citizens in material need for the implementation of agreed work activities on the basis of activities mentioned in the agreement,
- service for all citizens in material need who must serve 32 hours (regardless of whether they are jobseekers) to retain the entitlement on the material need allowance
- ensuring the fulfilment of the agreed activities of citizens (Internetový sprievodca trhom práce, 2016).

According to Section 10 Paragraph 3 of Act No. 417/2013 Coll. on the assistance in material need, change and amendment of certain acts, the citizen (the recipient of assistance in material need and household members) is obliged to participate for 20 hours monthly on carrying out:

- „small public service for the community, budgetary organization or contributory organization, which was founded by the municipality
- voluntary activity, or
- work on preventing emergency situation, work during announced emergency situation and eliminating consequences of emergency situation“.

According to the website of Office of Labour, Social Affairs and Family (2016), the organizer of activation activity for recipients in material need can be:

- higher territorial units, budgetary and contributory organizations established by higher territorial units,
- legal entity registered in the Slovak Republic which organizes and offers voluntary work for people with the agreement for its benefit in the public benefit,
- municipalities and budgetary and contributory organizations established by municipalities,
- higher territorial units, budgetary and contributory organizations established by higher territorial units,
- civil associations,
- foundations,
- non-profit organizations offering public services,
- schools and school institutions,
- church or religious society,
- hospitals and other institutions in the field of health service,
- social service institutions, etc.“.

To define work activities precisely, classifier of authorized types of work activities has been created. This classifier is necessary for concluding an agreement with an organizer and for profiling individual citizens who will receive the offer to carry out activities. Classifier contains 25 codes and no additional codes can be added. Appropriate codes suitable for the organizer are chosen from the basic classifier and their character is concretized. It is concretized by selecting of specific activities which will be mentioned in the written agreement. Examples of authorized types of activities:

- maintenance and trimming of public greenery,
- maintenance and trimming of greenery, facilities in kinder gardens, elementary schools and high schools,
- maintenance of cleanliness in public facilities,
- removing of fallen leaves and snow,
- tiding up the slippery surface of pavements during winter,
- maintenance and repair of existing pavements, building of new pavements suitable for cycling,
- cleaning of canal outlets for rainwater in municipalities,
- cleaning of forests and green areas from fallen wood, wood clutter after calamities and logging,
- cleaning of water areas, river beds, river banks,
- help with the disposal of illegal dumping of communal and construction waste,
- performing of supervision at elementary schools,

- performing of supervision at pedestrian crossings during morning and afternoon rush hour at schools,
- transport of meals for socially-dependent citizens,
- cleaning of forest areas from calamity wood,
- activities of social type (assistance to seniors, ill) for dependent citizens (shopping, cleaning, social life, program of active aging, maintaining of mental health) – retirement home, pensioners club, social institutions founded by municipality and higher territorial units,
- maintenance of public cemeteries,
- participation at the cultural and social events,
- helping in public libraries,
- maintenance of municipality facilities, historic landmarks, religious monuments, historic territories and historic sites,
- reparation of castles and other cultural landmarks,
- securing of public order, civil patrol, help in animal shelters,
- delivering of documents,
- administrative work,
- assistance at first aid training,
- assistance at public money collections,
- assistance in school canteens,
- maintenance works in school facilities,
- ironing in kinder gardens,
- painting works,
- excavation works,
- maintenance of sport facilities,
- maintenance of public lighting, town radio, etc.

Activation allowance is provided to support the increase or retention of knowledge, work habits and professional skills. This allowance should motivate the citizen in material need to participate actively on solving his social situation and the situation of people reviewed together with him. Activation allowance amount is 63.07€ (Masárová, Sika, Španková, 2011; MPSVR, 2016).

The current situation on the Slovak labour market, especially the labour surplus is one of the factors why the ban of illegal work and illegal employment is infringed. The main motives for working illegally include existential uncertainty, efforts to improve one's economic situation by accepting any paid work or receiving simultaneous "wages", i.e. remuneration for performing work illegally as well as drawing contributions from social security, in particular unemployment benefits or social assistance benefits (Pšenková, Gullerová, 2016).

2. Research of activation activity on the labour market – methodology, findings

The main goal of our research is to find out how activation activity functions in chosen municipalities and to suggest possible improvement in the activation activity on the labour market. We used the method of questionnaire survey for activation workers and the structured interview for employees of municipality offices who take care of activation workers. 60 activation workers from the municipalities of Dolná Súča, Horná Súča, Skalka nad Váhom and Malá Hradná were the sample for our questionnaire survey. Results of the questionnaire survey were noted by relative countability. We found out that 70% of respondents is actively looking for a job. When the gender was taken into consideration of looking for a new job, we found out that women are more active than men. Based on a different upbringing, socialization, expectations and own attitude, women behave in work environment differently than men (Živčicová, Masárová, Račková, 2015). When we were formulating the activation activity from the time point of view, we found out that 53% of respondents carries out activation work for less than 10 hours, 22% of respondents from 11 to 20 hours and 25% of respondents mentioned the option over 20 hours a week, which is actually in violation of the Act No. 5/2004 of employment services, as amended. With the next question, we were trying to find out if respondents are satisfied with the allowance volume they are receiving for the activation activity. 87% of respondents are not satisfied and 13% of respondents marked options on positive scale (mostly yes, certainly yes). The other responses showed us that 69% of activation workers are satisfied with the employee of the municipality office who takes care of them, 7% of activation workers could not answer the given question and remaining 24% of respondents chose the option on negative scale (mostly no, certainly no). When we used the classification by the age, we found out that the satisfaction of respondents with the activation allowance and with the employees of municipality office declines with the increasing age. The satisfaction with the organization of activation works was depending from the municipality. In Dolná Súča, Mala Hradná and Horná Súča, positive answers prevailed – mostly yes, certainly yes. In the municipality of Skalka nad Váhom, vague answers (I can not assess) or negative answers (mostly no) prevailed. When asked about the satisfaction with the level of protective work equipment, we registered 76% of positive answers, 8% of vague answers and 16% of negative answers. One of the questions was directed to the frequency of activation workers control. 50% of respondents answered that the control is performed once a day, 17% of answers was on the control of twice a day, 28% of answers was on the control of more times a day and 5% of answers was on the less frequent

control. With one of the questions, we were trying to find out whether activation workers are informed about the fact that accident insurance is paid during activation work in the municipality. We were surprised by the answers as 68% of respondents are not familiar with the fact that accident insurance is paid during activation work. The level of awareness was affected by the highest achieved level of education. We decided to use the option of opened questions in the questionnaire survey. We received answers from only 39 out of 60 respondents and they were as follows: activation workers would like to perform more various work and they would like to increase the activation allowance which is currently 63€. Some respondents were referring to the problem of alcohol „on the workplace" and to the necessity of more frequent controls of „co-workers" on alcohol presence. For the opened question regarding the usefulness of activation activity, respondents split into two groups. The first group rated the activation activity as beneficial; the second group did not see any meaning in the activation activity.

We evaluated the results of questionnaire survey with the statistical methods.

Table 1 Calculation of operative question with statistical methods (Part 1)

Statistical representation of operative questions 1 - 8				
Question Number	Statistic Set	Arithmetic Average	Minimum	Maximum
1.	{42,18}	30	18	42
2.	{32,13,15}	20	13	32
3.	{3,5,0,11,41}	12	0	41
4.	{25,16,4,7,8}	12	4	25
5.	{20,29,8,3,0}	12	0	29
6.	{35,10,5,7,3}	12	3	35
7.	{30,10,17,3}	15	3	30
8.	{19,41}	30	19	41

Source: own work

Table 1 represents individual statistical sets, calculated arithmetic average and calculation of minimum and maximum. Questions No. 3 and 5 (satisfaction with the allowance volume and satisfaction with the organization of activation works) contain the lowest possible number of answers represented by number Zero. The highest noted minimum of 19 represents the question No. 8 (knowledge about paid accident insurance). The maximum amount of answers represents 42 in question No. 1. This question refers to active job search, answer yes topped answer No to a large extent. The lowest noted maximum was in question No. 4. This question No. 4 (satisfaction with the employee of the municipality office who takes care of activation workers) allows choosing from 5 possible answers. The answer – certainly Yes (42%) – topped all other answers significantly. Question No. 2 refers to amount of hours performing activation activity, question No. 7 refers to satisfaction with protective work equipment, and question No. 7 refers to the frequency of activation workers control.

Table 2 Calculation of operative question with statistical methods (Part 2)

Statistical representation of operative questions 1 - 8					
Question Number	Variation Span	Median	Directive Discrepancy	Spread	Variation Coefficient
1.	24	30	12	144	0,5657
2.	19	15	8,524	72,659	0,5220
3.	42	5	14,939	223,174	1,3919
4.	21	8	7,616	58	0,7096
5.	29	8	10,899	118,788	1,0155
6.	32	7	11,730	135,593	1,0929
7.	27	13,5	9,975	99,501	1,3023
8.	22	30	11	121	0,5185

Source: own work

Table 2 represents the highest variation span of 42 – we found this out in question No. 3 (satisfaction with allowance volume). The lowest variation span of 19 was found out in question No. 2 (How many hours a week do you perform the activation activity?). Questions No. 3, 5 and 6 noted the highest directive discrepancy. These questions referred mainly to the satisfaction of respondents in various areas of activation works. The lowest value of directive discrepancy was noted in questions No. 2 and 4. Question No. 2 refers to the amount of hours carried out on activation work, question No. 4 refers to the satisfaction of activation workers with employees of municipality office. The highest spread was noted in question No. 3 (satisfaction with activation allowance volume) as we found a notable disparity in individual responses. The lowest spread was noted in question No. 4 (satisfaction of activation workers with employees of municipality office) because the answers were not significantly different (as they were different in other cases). Variation coefficient values stand out mostly in question No. 3 and 7 (satisfaction with activation allowance volume and control during the performing of activation work). Important part of the activation activity research was the structured interview with employees of municipality offices who take care of activation workers. These interviews were done in Dolná Súča (8.3.2016) and in Malá Hradná (12.3.2016). Employees of municipality offices work on the position of independent professional officer for culture, environment and regional development. Malá Hradná registers 6 activation workers (number of municipality residents is 371), Dolná Súča registers 16 activation workers (number of municipality residents is 2973). Activation workers in Malá Hradná spend most of their time working on protection and maintenance of environment – mowing, sawing trees, cleaning of public places, sweeping local roads, picking up garbage, cleaning and maintenance work, planting of greenery, cleaning of bus stops, cleaning of sewers. Employee of municipality office qualified the work productivity as low. One employee of municipality office in Dolná Súča expressed critical opinion about the work of activation workers. He brought to attention their incline to alcohol and the resulting problems during the work duty, respectively absence at work duty. He also pointed out their non-independency and the loss of work tools. In Dolná Súča, activation workers maintain water courses, they take care of the municipality square, they refine the illegal junk yard, they trim the greenery at the cemetery and they help with the works around local retirement home. Filing of attendance depends on the printed sheet which is sent from the Office of Labour, Social Affairs and Family to the municipality office. Printed sheet contains the information about the number of hours and days on which activation workers have to carry out the activation work. On the basis of this printed sheet, activation worker registers the attendance to work in the morning and also registers the leaving from the work place.

Conclusion

We would like to conclude this report by providing our own insights into the researched issues. Activation activity should be contributing to the development. In the accordance with Habánik (2014), we understand the term „development“ in general as a gradual heading towards the higher standard of living and quality of life in a particular area. Situation on the labour market has an impact on the living standards of citizens and employers in the region and it contributes to the overall level of the region (Masárová, Koišová, Gullerová, 2014).

On the basis of vocational literature, questionnaire survey and structured interviews on the researched issues, we see these problematic points: activation worker is not in the employment relation, the work is performed for maximum 20 hours per week, place of work is in the same municipality or town as is the permanent residency of the activation worker, the existence of one employer, respectively non-existence of competition among employers, dependence of the employer on the activation worker in communal elections, absence of output controls. When we evaluate all the named remarks, we find out that the activation work does not have a lot in common with the work on the opened labour market. On the basis of long-term research of objective issues, we would like to state that activation workers are not unemployed in most cases but they are unemployable for the permanent employment. The described fact implies the need and the solution of the given societal problem. Moreover, the production is nowadays based on sophisticated and highly effective technology which does not require a large amount of labour (Vojtovič, 2013). Our disposable labour force does not fit the requirements of the current labour market.

After the structured interview with employees of office of labour, social affairs and family, we came up to the conclusion that the most effective way would be to establish the work position at the particular municipal office or town office. Employee would be in the all-day contact with activation workers. Otherwise, the activation work seems as an inefficient use of financial resources from the state budget, respectively from the EU funds.

Complex solution could be formed by the Ministry of Labour, Social Affairs and Family by the means of individual offices of labour, social affairs and family which belong as institutions under the Ministry and

which solve the issues of unemployment (unemployability) of the disadvantaged jobseekers. In this case, we mean mainly long-term unemployed people who receive material need benefit and contributions to the benefit. Activation workers should be obliged to participate at the course of work as a part of quality of life. The work fulfils essential functions – it is an economic necessity, a means of self-realization and a biological necessity. Employees of offices of labour, social affairs and family should simulate various life situations with unemployed people so that they understand the value of work in the human life. Part of the course should be the detailed training in safety and health at work following the paying of accident insurance for activation workers.

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CYBER SECURITY IN PUBLIC ADMINISTRATION OF THE CZECH REPUBLIC

Eva ARDIELLI, Jiří ARDIELLI

Abstract

The paper is focused on the cyber security in Czech public administration. It deals with the theoretical question of cybercrime, development of emerging trends in the use of the Intranet / Internet and online technologies, the usage of new technologies and systems that are the driving force behind the ever-increasing threats in IT. Health systems, intelligent energy, but also the whole concepts of Czech e-Government currently pose a cyber-security risk. In the introduction of the paper are described the legal standards in the CR and the basic document ensuring the cyber security in the CR. Cyber security law, national cyber security strategy, the establishment of a National center of cyber security and others are concrete steps to ensure or mitigate threats in the form of cybercrime. Despite all these activities there are repeatedly documented the security incidents in IT. There are many different types of attacks, the list of specific cases are documented in the paper. Current statistics show continuing trend of threats. The paper then tries to analyze the trend of increasing efforts to ensure cyber security on the one hand and on the other hand the growing trend in the number of incidents and the growing threat of cybercrime.

Key words

Cybercrime, Public Administration, Cyber security

JEL Classification: H00, H11, H10

Introduction

As is clear from the reports on the state of cyber security in the Czech Republic from 2014 (NBÚ, 2016) issued by the National Cyber Security Center (NCKB), the opening of NCKB as a part of the National Security Agency (NSA) and the adoption of the Act no. 181/2014 Coll., On cybersecurity (Parlament ČR, 2014), these events were the two most significant events of the year 2014 in securing the cyber security in the Czech Republic (CR). The Czech Republic will be faced in the coming years by many cyber security risks and threats and the national networks and systems must by always stable and secure, as stated in the preamble of the key document of the Czech Republic called the National Strategy for Cyber Security of the Czech Republic for the period 2015 - 2020 (NCKB, 2014). According to this Strategy the significant risks are cyber espionage (whether industrial, military, political or otherwise) which is increasingly supported directly by governments, or the security structure of a particular state, than the organized crime in cyberspace, hacktivismus (hacking for political purposes), intentional disinformation in order to achieve the political and military objectives, or in the future the cyber terrorism.

NSA, as the main guarantor of cybersecurity of Czech Republic clearly recognizes the growth dynamics of threats coming from the gray zone. Government and security structures of foreign countries, organized crime, hacker organization - they all make the Internet in the middle of the second decade of the 21st century the equivalent of the war no man's land. It is a land where everything is allowed and where the term of ultimate success justifies any actions (Fair, 2015; Henson, Reyns and Fisher, 2011)

The aim of the presented paper is to evaluate the current security trends in information crime in the Czech Republic and to evaluate the time series of security incidents and to determine the future estimate of incidents.

1. Cyber Security in the Czech Republic

Cyber security becomes steadily in importance and nowadays it is one of the defining aspects of the security environment of the CR. Specifically, the term “cyber security” represents in the CR the summary of organizational, political, legal, technical and educational measures and instruments designed to ensure the secure, protected and durable cyberspace in the CR, both for public and private sector and the general Czech public (Borovička, 2015). Cyber security helps to identify, evaluate and address threats in cyberspace, to reduce cyber risks and to eliminate the impact of cyber-attacks, cyber-crime, cyber terrorism and cyber espionage in the sense of strengthening the confidentiality, integrity and

availability of data, systems and other elements of information and communication infrastructure.

1.1 Organizational and conceptual ensuring of cyber security in the CR

The coordinator and the national authority in the area of Czech cyber security is the NSA established in 2011. The part of its activities was the opening of the National Cyber Security Center CERT (Computer Emergency Response Team) in 2011 in Brno. This organization has a crucial role in addressing cyber security in the CR. NCKB represents an organizational component of the NSA and consists of government CERT (GovCERT.CZ) and the Department of theoretical support for education and research (OTPVV). The mission of GovCERT.CZ is to monitor current trends in cyber security. It addresses technical issues of cyber security including solving of security incidents of subjects that manage important communications and information systems for the government, then the malware analysis, collection and evaluation of information on cyber-attacks and threats and so on. GovCERT.CZ performs tasks such as ensuring the prevention of cyber threats and attacks against crucial information infrastructure operators and public authorities and ensuring and coordination of solutions of cyber security incidents of crucial information infrastructure operators and public authorities (CSIRT, 2015).

NSA took over after his predecessor in this post (Ministry of Interior) the cyber security strategy of the Czech Republic. The National Cyber Security Strategy of the Czech Republic is a document that declares the core values, interests, attitudes, ambitions and tools of the CR to safeguard the security and formulates the principles on which the security policy of the CR was founded. In this strategy are defined vital, strategic and other important interests of CR, the security environment of the CR as well as described the security system of the CR. Security Strategy is the basic document of the Security Policy of the CR. In the text is on the general level stressed also the cyber security. This strategy then builds sub-strategies and concepts. As part of ensuring cyber security are the most important two major follow-up strategies/concepts (Bagge and Pačka, 2014). It's "White Paper on Defense" (Parlament ČR, 2011), which defines in the area of cyber defense the main tasks of the Ministry of Defense and the national "Strategy for Cyber Security in the Czech Republic for 2012 - 2015", which was from 1. 1. 2015 replaced by the "National Strategy for Cyber Security for the period 2015 - 2020". The new strategy compared to the previous version (which operated more in the broader contours and tried to build mainly the basic tools, capabilities and legislative/strategy framework to ensure cyber security) addresses the issue of cyber security more comprehensively and systematically. It currently serves as the default document for the creation of related legislation, policies and standards, guidelines and other recommendations in the area of protection and cyber security of the country.

1.2 Cybercrime in criminal law

The massive emergence of the Internet and ICT in general is strongly reflected in criminal law. The information crime is understood as crime that is committed in an environment of information technologies, including computer networks. The object of attacks is the area of information technologies or this crime is committed with significant use of information technologies as a means for its commission. It is therefore the definition of the offenses, which include a common factor describing the method of committing. At present it is mainly about the abuse of the global computer network Internet (Kuchařík, 2014; Choi and Lee, 2017), and the person-based forms as phishing, hacking and malware (Reyns, 2015).

The basic international document which is dealing with criminal liability for acts committed in the context of cyberspace is the Convention on Cybercrime, the Act no. 104/2013 Coll. (Parlament ČR, 2013), at the European level it is than the Directive no. 2013/40 /EC on attacks against information systems (European Parliament and Council, 2013), which is directly based on the Convention. In the Convention are recognized three types of offenses related to cybercrime. The first types are offenses against the confidentiality, integrity and availability of computer data and systems. These are reflected in the Czech law in § 230 and 231 of the Criminal Code (Parlament ČR, 2009). These include unauthorized access to computer systems (hacking), interception (monitoring of communication at a time when runs) and data interference and system interference (changes, damage). Crimes are also production, provision or disclosure of viruses and other devices (whether hardware or software), created to gain unauthorized access to a computer system or electronic communications network. The second area of crimes described in Convention is the forgery and fraud. The third area is focused directly on the contents of communications. Specifically states the production and distribution of child pornography and impairment of intellectual property right (piracy). Piracy is an only offense related to the content, which is namely given in the Convention beyond child pornography, which negative effects and the needs to combat are indubitable (Hladká and Fousek, 2014).

Cybercrime is often investigates through traffic and location data that are compulsory by law stored by telecommunications operators - § 97 of the Electronic Communications Act (Parlament ČR, 2005) and are provided to investigators that can determine which web sites were accessed by the suspected person, with whom he communicated and where was his physical location. In order to ensure successfully detection of cybercrime and to be pursued it is required the intensive international cooperation. The bodies of criminal justice of different countries help each other in both situations of collecting of evidence and the detention and subsequent extradition of persons.

Since 1. 1. 2015 has been in the CR applied Act no. 181 Coll., On cybersecurity (ZOKB). ZOKB is a major step in the Czech legislation, leading to greater safety in the digital environment of state institutions and companies. The Act significantly increases the safety standard and availability of services that are provided to citizens in cyberspace (Krátký, 2014). ZOKB establishes rules especially for those subjects whose systems, networks and services are crucial for the functioning of the state or the information society. These are so called crucial information infrastructures, as well as significant information systems that are managed by public authorities. The disruption of information security of these infrastructures could endanger or severely limit the activity of public administration. These bodies are obligated by the law to provide systems for detecting cyber security events and incidents. Information security breaches in the operating systems must be reported to governmental centre CERT (Kniewald, 2014).

A crucial step in the implementation of technical measures of ZOKB was to build and launch of the Control Center of eGovernment (DCeGOV) to ensure cyber safety oversight - Security Operation Center for Continuous Reliability (SOCCR), enabling monitoring of communication and information systems within the critical information infrastructure and the significant Information Systems. To the Control Center on eGovernment as from 1 January 2016 are gradually linked information systems in accordance with the timetable set by law.

1.3 National Strategy for Cyber Security of the Czech Republic for the period 2015 - 2020

The director of the NSA submitted to the government of the CR for approval the new National Strategy on Cyber Security of the Czech Republic for the period 2015 to 2020 on the 16. 2. 2015. The approved strategy is based on the original strategy for cyber security for the period 2012 to 2015. The content of this strategy is a comprehensive package of measures aimed at achieving the highest level of cyber security in the CR and for this purpose the strategy defines the vision of the CR in this area. At the same time, the strategy identifies the basic principles that the CR is going to follow and abide in ensuring of cyber security. The strategy also defines the specific challenges and problems in the field of cyber security both for the CR and for the international environment in which the CR is located and to that it has to face.

The main part of the Strategy is presented by the major goals which are to be achieved in the coming five years and which are divided into 8 priority areas:

- Ensuring of the effectiveness and strengthening of structures, processes and cooperation with the ensuring of cyber security
- Active international cooperation
- Protection of National KII and VIS
- Cooperation with the private sector
- Research and Development / Consumer Confidence
- Support for education, awareness and information society development
- Promoting of the development of skills of the Czech police to investigate and prosecute the cyber-crime
- Legislation on cyber security (establishing of the legal framework). Participation on the formulation and implementation of European and international rules.

The Strategy is followed by the Action Plan of the National Cyber Security Strategy of the Czech Republic for the period 2015 - 2020, where are defined specific steps, responsibilities, deadlines for implementation and control.

Regarding the structure and the organization of the text in Strategy there are first introduced the visions of CR in the area of cyber security over the timeframe of the Strategy (2015 - 2020) and subsequently there are defined the basic principles which are followed to ensure the cyber security in the Czech Republic:

- Protection of human rights and fundamental freedoms and democratic principles of the state
- Comprehensive approach to cyber security based on the principle of subsidiarity and cooperation
- Building of the trust and cooperation between the public and private sector and civil society
- Development of capacities for ensuring cyber security.

This first general part is followed by a chapter on specific challenges in the field of cyber security both for the CR and for the international environment

where the CR is located. Finally are presented the strategic objectives that are facing these challenges and these are the basis for the Action Plan for Cyber Security of the Czech Republic for the period 2015 to 2020. In the strategy, there are defined 19 challenges that were identified as crucial in the CR. These are the issues and trends that are for the CR and its citizens actual, and must by responded (by determining the main objectives and actions in the Action Plan).

2. Materials and Methods

The analysis of actual security incidents and the number of incidents is based on the annual reports from the years 2011 - 2015 published by the Ministry of Interior of the CR (MVČR, 2015), that describe the information criminality. Other sources of analysis are monthly reports of security incidents that are published by NCKB, for 2014 - 2015. The research results are determined by the usage of time series analysis and trend analysis.

Absolute growth was determined based on the formula 1:

$$\Delta_t = y_t - y_{t-1}$$

where $t = 2,3,...,n$.

Relative growth was determined based on the formula 2:

$$\delta_t = \frac{y_t - y_{t-1}}{y_{t-1}}$$

where $t = 2,3,...,n$.

Growth coefficients were determined based on the formula 3:

$$k_t = \frac{y_t}{y_{t-1}}$$

where $t = 2,3,...,n$.

Average absolute growth was determined based on the formula 4:

$$\Delta = \frac{y_n - y_1}{n-1}$$

Average growth coefficient of time series was determined from the formula 5:

$$k = \sqrt[n-1]{\frac{y_n}{y_1}}$$

Then was performed the trend analysis. Using graphical analysis was verified the linear character of the trend curve and were estimated the parameters of the curve by the method of the least squares, see formula 6 and 7:

$$b_1 = \frac{n\sum t y_t - \sum t \sum y_t}{n\sum t^2 - (\sum t)^2}$$

$$b_0 = \frac{\sum y_t}{n} - b_1 \frac{\sum t}{n}$$

After that was determined the trend function T_t and the estimate t of the year 2016.

To evaluate the current security trends were observed and mapped current and emerging trends in online networking technologies that have an impact on the public administration. The analysis was based on sources of reputable companies such as Gartner (Gartner, 2015), or IEEE Computer Society (IEEE, 2015). There was performed the systematization of individual trends, their understanding in the broader context and subsequent the categorization and selection of key trends with respect to public administration.

3. Outputs of the research

The outputs of research are twofold. In section 3.1 are presented results of the analysis of current security trends in public administration, section 3.2 contains the outputs of trend analysis and time series analysis of security incidents in 2011 - 2015.

3.1 Assessment of current security trends in public administration

Based on the content analysis of data of reputable companies (Gartner, 2015; IEEE, 2015) were systematized current security trends and identified the key trends with regard to public administration and was done their categorization in tab. 1.

T*able 1 Categorization of key security trends in public administration*

1. Increasing volumes of data (Big Data) and the issue of governance and security of such amount of data
Big Data, thus generating datasets, which both complexity and volumes are growing exponentially, analysis, archiving and sharing is one of the great challenges of the 21st century. Protection and data security is very important for the CR, especially those that are a matter of public interest. In public and private sector is growing amount of data with which is worked and that it is necessary to continue to store. Therefore they began to use new forms of data storage, for example cloud storage. Increased use of these online services and cloud, however, often leads to non-transparent security solution whose credibility is at least questionable.
2. Diversity of mobile devices ("bring your own device" (BYOD))
Significant internal threat is a worrying trend of growing acceptance of model "bring your own device" (BYOD). Cybercriminals Increasingly, this trend will use to penetrate into target companies (initially infect personal employees devices who did not implement strict security measures, and then through them puts Trojan horse that infects the network). Policies on the use of hardware owned by employees must be thoroughly examined and, where necessary, updated and expanded.
3. Security and privacy of cloud
Attacks on cloud services are gaining strength, it is expected a great breach of security in the cloud in the near future. At present, according to IBM three-quarters of a security breach last for days, weeks or even months before they were discovered, and thus greatly increase the damage attackers.
4. Need for tracking the movement of data within the organization
Behavioral analysis technologies enable enterprises (companies, institutions) to monitor users within companies and end users. That may bring to them the warning about suspicious behavior that could be data theft or attacks by malicious software.
5. Attacks to destroy
Some ideologically profiled hacktivist group upheld, that they will continue to try to destructive attacks against the interests of certain companies or public institutions.
6. Safety risks associated with computerization of public administration (eGovernment)
E.g. electronic procurement process will entail new risks that may threaten the credibility of the procurement procedure and safety risks associated with the fact that electronic tools for procurement are connected to the public network.

Source: Own elaboration based on data from reputable companies (Gartner, 2015; IEEE, 2015).

3.2 Trends in cyber-crime

Cyber-crime trends were drawn from the annual reports published between 2011 and 2016, which are published annually by the Ministry of the Interior, Department of Security Policy. Each report on the situation in the field of internal security and public order in the Czech Republic in 2011 (till 2016) describes, among others information crime and cyber security for the previous year, i.e. for the period 2010 to 2015. Except to 2010 year there are in all reports the quantified data about information crime. In the years 2010 and 2011 were the most common manifestations of this crime identical, and ranked among them in particular, copyright violations, the spread of extremist and terrorist propaganda, disseminating of prohibited pornography, fraudulent conduct, threats, blackmail, scaremongering, slander and attacks on information systems and data. In 2012 was added stalking. In 2013 and 2014 were both about copyright violations, threats, extortion and swindling, where is monitored steady growth. Also noticeable was the increase of detection of crimes involving the unauthorized data manipulation. In 2015 the major trend was swindling - it was investigated 2,915 cases of fraud in the information technology and especially the Internet, which is an increase of 19% compared to 2014.

Regarding the number of cases for 2010 have not been published. In 2011, the Czech Police registered a total of 1,502 crimes committed by the Internet or other computer networks. In 2012 it was 2,195 (+693, +46.1%) crimes and in 2013 was registered 3108 (+913, +41.6%) crimes. In 2014, information crime was still rising and was dealt with 4,348 cases (+1240, + 40%). In 2015 it was 5023 cases (+675, +16 %). For the year 2016 the data are not published, so they will be estimated. In the tab. 2 are summarized the characteristics of time series. The number of cases per year increased by an average of 35.2% (average growth coefficient of time series), which in absolute terms represents an average annual increase of 880 cases (average absolute growth).

Table 2. Characteristics of time series

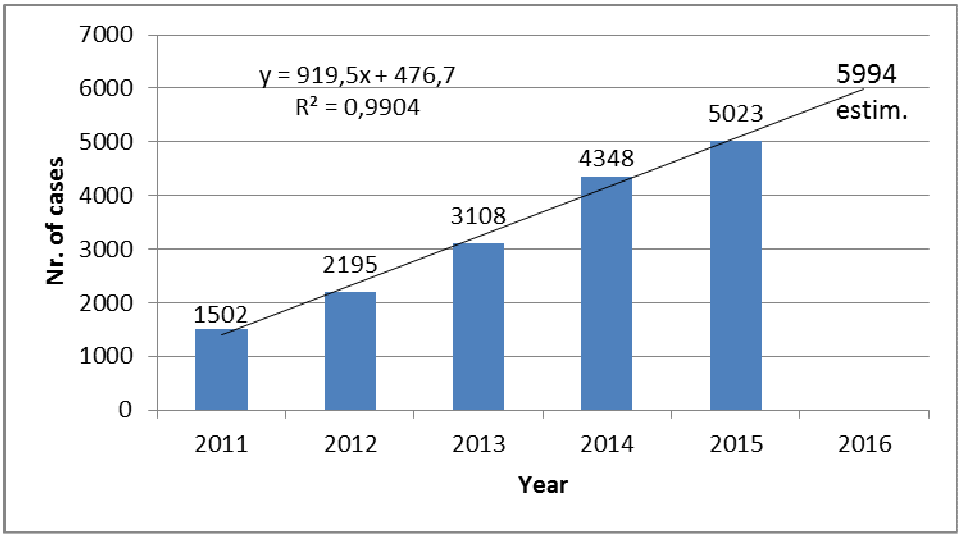
year	number of incidents	absolute growth	relative growth	growth coefficient
2011	1502	-	-	-
2012	2195	693	0.461385	1.461385
2013	3108	913	0.415945	1.415945
2014	4348	1240	0.39897	1.39897
2015	5023	675	0.155244	1.155244

Source: Own elaboration based on data from the annual reports of the MVČR (2011-2015)

Although relatively few observations are available, it is obvious from the graphical record that the trend line will be a regression line.

Linear trend line with a coefficient of determination of 0.99 estimated 5,994 cases in 2016 see graph 1. The parameter b_1 is 919.5, parameter b_0 is 476.7. The trend function is $T_t=476.7+919.5t$, the estimate t is 5993.7.

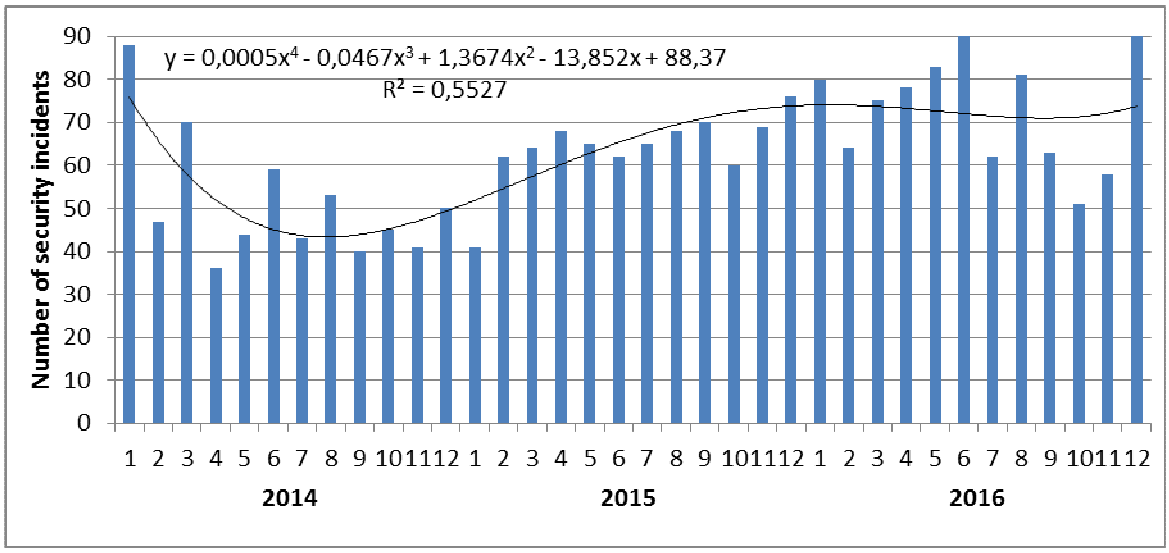
Fig. 2 Trend in cyber-crime in the years 2011-2015



Source: Own elaboration based on data from the annual reports of the Ministry of the Interior (2011-2015).

In addition to the data monitored by the Ministry of Interior has been also compiled data of cyber incident from NCKB, for the years 2013 to 2016. It was based partly on annual reports - Report on the state of cyber security in the Czech Republic, available for 2013, 2014 and 2015 (NBÚ, 2016), and partly on monthly statements published in the bulletin - Security incidents, available for the years 2014, 2015 and 2016 (NCKB, 2016). In annual reports is monitored number of requests and in report from 2014 and 2015 also the numbers of incident reports. In the monthly published bulletin Security incidents there are described individual incidents in a given month, see Fig. 2. The amount of incidents for 2014 is 616, for 2015 it is 770 incidents and for 2016 it's 881. Up to polynomial functions of 4th order with satisfactorily coefficient of determination of 0.55 reveals a slightly increasing trend for the future.

Fig. 2 Trend of security incidents in the years 2014-2016



Source: Own elaboration based on data from security incidents NCKB (2014-2016).

4. Discussion of the achieved results

As shown by the analysis of trends in cybercrime and security risks in the future it is expected that with the increase in the number of devices using computer technology and their network interconnection it will increase the possibility of abuse. It is documented by works of other authors on international level, that identified computer crime as a primary threat to computer systems, users, and organizations (Lu et al., 2010 or Leukfeldt et al., 2017). At the same time we can expect an increase in the sophistication of attacks. To sum up, in the future, are to be feared of significant attacks and because of dissemination of advanced technologies it will be able to cause much more damage. This corresponds to researches of experts in this field who predict the risk of "cyber wars", the conflict led through a computer network; see Singer and Friedman (2014), Kaiser (2015), Arquilla and Ronfeldt (1993). This may be conducted by individual states or by their security agencies (in this context, e.g. attack in Estonia was attributed to the test of potency of "cyber weapons" of NATO). From this perspective, there is a real possibility of a similar attack as well as in the Czech Republic, as highlighted Herzog (2011). NSA itself in the National Strategy 2015 - 2020 notes a lack of public confidence in the state and its security apparatuses. Not very positive NSA view the e-government, whose services and applications to citizens and to private enterprises indicates as considerable cyber security risks.

Czech Republic for its security use technology used by other countries. Therefore, CR can be served to attackers as a test object before the attack on allies or other countries with greater strategic importance, using the same technology and security mechanisms and processes, as shown NCKB (2014). This is suggested by the fact that the number of cyber-attacks is increasing steadily. From own analysis of cases of Internet crime revealed that the most prominent manifestations of cybercrimes include swindling and embezzlement, forgery, defamation and electronic vengeance, hoaxes, warez, system penetrations, a computer bank robbery (Phishing, Pharming, IP spoofing). This is confirmed by studies of other authors; see Bagge and Pačka (2014), Shamsi et al. (2016). At this point it should be noted that the obligation to report cyber-attacks by law (ZOKB) is mandatory and for non-compliance are applied fines (Parlament ČR, 2014).

Protection and security of data for the Czech Republic is very important, especially those that are a matter of public interest. In public and private sector growing amount of data with which to work that is needed to continue stored. Therefore they began to use new forms of data storage, for example cloud storage. Increased use of the online cloud services often leads to non-transparent security solution whose credibility is at least questionable, as stated NCKB (2014). But it is also essential for every citizen to use online crime prevention behaviors (Reyns, Randa and Henson, 2017).

Conclusion

Ensuring cyber security of the state is one of the key challenges of our time. Dependence of public and private sector on information and communications technologies is becoming apparent. Sharing and protection of information is nowadays essential to protect the interests of the state and its citizens in the

area of security and the economy. While the general public is most concerned about financial losses or loss of their data and misuse of personal data, the reality of the whole issue of cyber security is much larger. Risk currently represent not only a very frequent cyber-attacks carried out in order e.g. economic benefits, but also security breaches and network integrity caused unintentionally, e.g. by human error, natural disasters and the like. The State must therefore be able to provide an effective response to all current and future challenges in an ever-changing cyber threats, which may come from dynamically evolving cyberspace and thus guarantee secure and reliable cyberspace.

The strategy of the national cyber security of CR is a fundamental change in the approach to the fight to preserve the Czech cyber security information environments. Czech Republic as a modern Central European country and active member of the European Union, NATO, the United Nations and other international organizations, will be to aspire in the coming years to leading positions in the field of cyber security, and both within their region and throughout Europe.

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HISTORY OF PUBLIC ADMINISTRATION IN SLOVAKIA

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Abstract

The history of public administration could be examined from several points of view. In the past the territory of present Slovakia belonged to different states. The first stable administration was created in the Hungarian Kingdom but the Christian church founded its own administration. The Osman invaders formed their specific public administration to achieve only one goal: to collect enough tax revenues. The Habsburg supremacy tried to modify the traditional county system twice, from 1781 to 1790 and from 1850 to 1860. The foundation of Czechoslovakia brought a new age. The historical public administration was completely reconstructed. After the fall of iron curtain and fifteen years later, when Slovakia became o member of EU not only the system but the function of public administration was changed. There were realised some waves of reform to make the public administration modern, more effective and "citizen friendly".

Key words

public administration, reform, region, state administration, territorial government

JEL Classification: N93, N94, H83.

Introduction

Our present and future is based on the past. The history offers wide range of experience, which we have to utilize. The history of public administration begins in the far past and has several roots. The optimal design of the state administration was described both in ancient Greek polis states and Chine. Plato, one of the greatest philosophers in the world, already wrote a book about the favourable attributes of the states. There were already published articles about the history of public administration in Slovakia, e. g. Koišová, Masárová, Habánik, 2016; Masárová, Koišová, Habánik, 2017; Klierová, Kútik, 2017. In this proceeding we listed all the specific forms of public administration which exited in the territory of Slovakia including the Osman or Christian administration.

1. Outline of state administration development in the Middle Ages

During the Middle Ages and the New Age, the territorial division of the area of present-day Slovakia had been unchanged for centuries. It started to form at the beginning of the 11th century, and the same frontiers remained unchanged until 1922.

In the area of Northern Carpathian Mountains there was no public administration before Slovakia was incorporated into the Hungarian state. The first state, which arose in Europe and which created public administration, was the Roman Empire. This state did not immediately reach the territory of present Slovakia, however, created some military and commercial settlements on the left bank of the Danube. After the migration of peoples, 4th – 6th century AD, the Barbarian tribes have completely disproved the Roman administration. During the Middle Ages in Central Europe some nations created so called states, but those were rather densely populated settlements without any characteristic features of the state as the sovereign's stronghold, universally valid and recognized laws, more or less designated borders and taxation. Their existence was generally short. Some have lasted several generations – e. g. the Empire of the Longobards, existed only during a single ruler – Empire of Samo, or they could have a multi-year duration – Empire of the Avars, but nevertheless did not attempt to create frameworks of the state in medieval perception. Many other nations lived on our territory, left nothing but archaeological sites. It is to be said that even in the case of Great Moravia we cannot talk about the state, because it lacked many attributes of statehood, it still had the character of a free union of separate tribes which was unified by a powerful chief.

Among the territorial division of public administration should also mention the views of the Christian Church. During the 3rd and 4th centuries A. D. this religion became the dominant belief in the whole of the Roman Empire. Christianity at first was persecuted by the emperors, later they supported it. The believers of Jesus' teaching began to build their own administration network based on the bishopric.

During the existence of the Roman Empire, even the area of Catholic Church activity still did not reach Slovakia, it did so in the period of Great Moravian and Franc Empire. At the time of the Christianization of the Danubian Slavs there were serious political and diplomatic efforts which political-cultural centre has the prerogative to propagate the Christian faith in our area. Two ideas were fought with each other: the Eastern Franconia, which represented the bishops of Salzburg and Passau, and the Byzantine, based on the historical law at that time for several centuries ceased bishopric in Sirmium, today Sremska Mitrovica, Croatia. As is well known, the Western branch of Christianity, subordinate to the Roman Pontiff, won. Although for a time the Eastern Church had a greater impact. In this process the foundation of a church in Nitra, dated to 830, was a remarkable milestone. This church became the basis of the Nitra bishopric, founded around 1083. The Christian Administration later developed autonomously alongside the state administration and in the New Age during the Reformation, the individual departments of Christianity created their parallel networks of administrations.

The foundations of public and ecclesiastical administration began to be built by King Stephanus Sanctus I. (997-1038). The public administration unit was the county (lat. comitatus). Its centres were castles and hill forts often founded during the Great Moravian times – these especially to north from the Danube, or they had Franconian or Roman tradition – these especially to south and west from the Danube. They were administrative, judiciary and military areas. The head of this unit was comes of the castle. Later this function became rather formal, the real head became the vice comes. The process of establishing counties lasted two-three centuries. There were also border counties, which later merged with other counties, resp. some counties split, other ones united. Example for first case is County Nitra and a small border county, for second is Zvolen, which was dived into county Zvolen, Turiec, Liptov and Orava and for the last case is example County Malohont-Gemer (Žudel, 1984, p. 11-15, Marsina 1986, p. 170). By the end of the 14th century the following counties were formed which partially or totally situated on the territory of today's Slovakia: Bratislavská, Nitrianska, Trenčianska, Tekovská, Liptovská, Turčianska, Zvolenská, Oravská, Spišská, Abovská, Šarišská, Zemplínska, Užská, Turnianska, Gemerská, Novohradská, Hontianska, Ostrihomská and Komárňanská. The smaller units were districts (lat. districtus and processus), which began to form from the 13th century.

The development of territorial administration is closely related to the progress of the settlement of the country. The territory of Slovakia is inhabited since the Stone Age, but the number of inhabitants increased gradually. Even in this case was valid the general rule: the lower areas were inhabited first. After the Celts and Germans from the 5th century the Slavs appeared here, since the end of the 9th century they followed the Hungarians. From the 12th century the so-called the guests (lat. hospes) began to come to this territory to colonize the uninhabited areas, to bring special professions or expanding mining activities. From the sovereign many of them received special rights, self-government, or relying on a foreign legal model. In the case of the founding of cities it was the Magdeburg and Nuremberg Laws, and in case of the colonization of mountainous territories used the Vallachian Law because the colonizers were Wallachians. The Wallachian Law is a summary of legal norms and customs of the Wallachian population living in Slovakia from the 14th to 17th centuries. According to this law, the Wallachs was for some time exempt from all duties of a servant, later from the payment of a church ninth and robots, on the other hand they have to guard roads, borders and perform military service. Their rights have ceased since the mid-16th century.

In Hungary there were other self-governing units that were excluded from the jurisdiction of the countie. These were the free royal cities. We could mention about the curious situation when the Hungarian king Sigismund gave to pawn to the king of Poland Vladislav II. thirteen towns in Spiš in 1412. The region returned to the Hungarian administration during the first division of Poland in 1772.

2. Public administration in the New Age

After the acquisition of the Hungarian crown by the Habsburgs the centralization tendencies began. Taking in to account that the central territories of the country were occupied by the Ottoman Empire, the main Hungarian authorities had to been resettled. The Hungarian parliament was moved to Bratislava. This fact facilitated to Habsburgs to establishment of new central offices. Ferdinand I, for the internal administration of Hungary established the Council of Gubernium, which replaced the then elected land official, the palatine. The Austrian rulers' family secured the state incomes for themselves. In the first half of the 16th century the tax administration was reorganized. They established the Hungarian Treasury, but for example the administration of the Chambers of Mines and the mints of the Central Slovak Mining Towns, some thirty-day stations and the administration of some royal estates came into the hands of the Lower Austrian Chamber. In order to collect taxes and other payments in the northeastern

part of the country, the Chamber of Spiš was founded. The geographical name of the Hungarian Chamber became Lower Hungary, the Chamber of Spiš the Chamber of Upper Hungary (Matula, Vozár, 1987, pp. 28-29, Kohútová, Vozár, 2006, p. 17).

The system of counties was exceptionally stable. Their privileges, borders were unchanged even during the Turkish invasion, when about a third of Hungary, a large part of Slovakia, became part of the Ottoman Empire. An important interference to their self-government, but not territorial distribution, was the reform of Joseph II. In 1781 the king several counties merged into three districts. The sovereign revoked his reform before his death in 1790 (Žudel, 1984, p. 14). After the revolutionary years of 1848/49, the Vienna Court redistributed the territory of Hungary again, this time to five districts, which Bratislava and Košice included the territory of Slovakia. The reorganization lasted shortly, only until 1860. However, the revolutionary years brought a significant change: from the noble (self-governing) counties became administrative territorial units of the state. During this period, the borders of the counties were modified only partially. The last significant changes were realized in 1873.

In the newly established Czechoslovakia the county establishment was preserved until 1922. The first reform was realized on January 1, 1923, when they created six so-called large counties. In 1928 were established the system of regions. In the new scheme the only administrative units became sub-districts and the whole of Slovakia became one region of four. During the first independence of Slovakia the county establishment was reintroduced in 1940. In 1949, the basic units became districts again. By the words of Žudel (1984, p. 179-181), this was the last period, when in the case of Žilina district was partly taken into account on the county system. In this year were set up six districts. Originally were created additional 89 sub-districts, but later their number changed.

Another significant reorganization of administrative units can be dated to 1960. As the part of the general centralization effort, the number of districts decreased to three plus one (capital). In the beginning the number of sub-districts was 33, but this figure fluctuated.

3. Alternative forms of administration

In some historical moments in our territory were created extraordinary administrative units. During the Turkish invasion, large parts of the country were occupied by the enemy. The highest level of Ottoman public administration was the vilayet or elayet, which was established in Buda and later in Timisoara. On the head of these units stood beylerbey, in the Buda his title was pasha. The vilayets further divided into sandjaks, these further to nahiyes. The first administrative units run the beys. The borders of these units did not correspond to the Hungarian county system. In the years 1545-46 were established sandjaks in Ostrihom and Novohrad, between years 1553-54 in Sečen and in the following year also in Fiľakovo. The task of these territorial units was to ensure the tax collection.

Hungary and the Habsburg court were ready to defend the country, and therefore created military districts called “Captainity”. In the years 1563-64 created the Cis Danubean Captainity, in the territory of Western Slovakia and the western part of Transcarpathian Ukraine was formed the Upper Hungarian Captainity. Later in Central Slovakia was also founded the Captainity of Mining Cities. These units came to an end in the finish of Turkish wars (Matula, Vozár, 1987, p. 32-33).

The county system was exceptionally durable and did not change even during the hundred and fifty year long Ottoman rule. It is true that there were territories where the rule of law of the king and the nobility did not take hold, but the tradition was nevertheless maintained. For example, the congregations of the Ostrihom county were called in Nové Zámky after its conquest by Turkish troops in Komárno. Novohrad congregation were called to Fiľakovo, then to Zvolen, Banská Bystrica, again to Fiľakov, to Lučenec, to Gács and to Sečén, according to the current military situation. It has to be said that there was a more or less wide frontier of double, sometimes even triple taxation, where regularly visited the tax collectors of the Ottoman Empire, the Kingdom of Hungary and the Duchy of Transsylvania (Varga, 1986, p. 6-7).

Table 1 Overview of the territorial structure of Slovakia

Period	Administrative regions		Number of main administrative regions		Number of small administrative regions
11th -12th century	counties/comes of the castle		8 completely, 9 partly, 2 insignificantly		castle districts
from 13th century	counties		11 completely, 7 partly, 2 insignificantly		generally 4 to county
1785-1790	districts	counties	3	Stable	stable
1849-1860	districts	counties	2	Stable	stable
1878-1884	counties		11 completely, 8 partly, 2 insignificantly		*62 completely, 31 partly
1918-1922	counties		16		95
1923-1928	large counties		6		79
1928-1939	regions		1		79+2
1940-1945	large counties		6		60
1945-1948	regions		1		79
1949-1960	districts		6		89+2
1960-1998	districts		3+1		33-38
1998-present	districts – larger territorially units		8		79

Source: Výrostová (2010, p. 238, amplified);

**there were municipal towns as well, which were administratively equal with the counties, four of them were situated in the territory of Slovakia, also there were cities with bylaws, in the territory of Slovakia were 36 of these towns*

4. Slovak Republic Public Administration Development after 1989

Following significant political and social events (1989), the changes have also begun in the field of public administration (e.g., territorial and administrative arrangements). These changes are linked to previous states and measures. As an example is the Procedure for elaboration of the long-term concept of settlement development No. 100/1967. As a result of this process till 1989, was the reduction in number of municipalities in Slovakia by 20% (from 3344 to 2694). The decline of the settlement structure occurred when small municipalities were merged into cities or merged several smaller municipalities. However, the precedent is the fact arising from the adoption of Act no. 369/1990 Coll. about the general establishment. As a result of this law, the disintegration process is initialized. The number of municipalities increased, in 1991 there were 2825 municipalities in Slovakia.

However, we will return back to 1989. As mentioned, the year 1989 is linked to the commencement of several significant changes affecting the Czechoslovak environment and society. Changing the political regime, the institutional set-up of public administration, but especially the role and status of the citizen in the state, are steps that represent a shift towards democracy and respect for fundamental human rights and freedoms.

4.1 Public Administration Reform - Phase 1

During the former political regime, the public administration was highly centralized and socialized. Under the "transition period", e.g. in the first post-revolutionary years, only the most urgent changes were made. However, in many cases these can be classified as non-systemic.

Within the first stages of the reform we are talking about the abolition of national committees on all previously existing levels, e.g. local, urban, district and regional. In connection with this, a new scheme of public administration is being built that concern both central and local government. The creation of territorial districts (121 sub-districts) and the preservation of the district structure (38 districts) is a two-stage management of the local state administration. The districts were formed on the basis

of the division of sub-districts into 2-5 districts with the exception of Veľký Krtíš and Stará Ľubovňa. At this stage, we have combined two levels of artificial spatial units that are significantly different from the traditional natural sub- districts system.

As part of the first phase of the reform, was the abolition of the existing system of 4 regions and creation of an area for the real functioning of the self-government at its basic level. The revival of the level of territorial self-government meant the renewal of the local self-government. As a result, the municipality became an independent legal entity, which, in cooperation with Act no. 138/1991 Coll. on the property of the municipality, manages its own property, which has not yet been admissible. As Hajšová adds (2016), "it is the authorization of a particular social organism to carry out on its own responsibility the state's competencies in compliance with legal norms." It can be said that imposing obligations on municipalities or interfering with their responsibilities is possible only under the relevant legislation forces. Under the terms of the SR we can talk about a law - The Constitution of the Slovak Republic, the Act on the General Establishment, etc.

The fact that reflects the problem of citizens' association is also worth mentioning. Institutions that justify their existence by constitutional law (the right to associate), fit into the concept of interest self-government, which has already acquired a significant status in the system.

4.2 Public Administration Reform - Phase 2

Activities related to the transformation of the public administration were officially launched in 1995. Their intention was to establish a functional organizational structure of the public administration. Consideration was given to the stabilization, integration and restitution model of local government (Table 2).

Table 2 The Visions of Functional Organizational Layout of Public Administration

Public administration model	
State Administration	**Local Government**
Stabilization model - asymmetry at region level - the stability of the district level - consolidation of the settlement structure	
3-4 higher administrative units 32-44 lower administrative units	12 higher self-governing territorial units 110-150 local administrative units
Integration model - model symmetry - the original boundaries of regions	
7 higher administrative units 110-170 lower administrative units	7 higher self-governing units 110-150 local administrative units
Restitution Model - asymmetry of the Territorial Structure of Public Administration - a new structure of districts - the original boundaries of the regions and counties - county territorial division	
7 higher administrative units 75-90 lower administrative units	16 higher self-governing units 250-300 local administrative units

Source: own processing according to Hamalová et al. (2014)

However, on the basis of a relatively long discussion, neither was accepted. Therefore, at the level of regions and districts, the offices of general government were built. This removed the system of region offices. Their competencies were transferred to 79 district offices (Act No. 221/1996 Coll., On the Territorial and Administrative Arrangement of the Slovak Republic). A new administrative breakdown was introduced into which the 8 regions were re-established. Some of the original competencies of the district authorities have been transferred to the region. However, this newly adopted territorial government

(Bratislava, Žilina, Trnava, Banská Bystrica, Trenčín, Prešov, Nitra and Košice region) did not go beyond the historical or cultural-ethnic identity of the regions. The government's emphasis was mainly on political-strategic goals and size criteria.

However, even the results of the second stage did not produce the desired effect in the area of self-government. On the contrary, the imbalance between it and the state administration deepened.

4.3 Public Administration Reform - Phase 3

Trends in the development of public administration systems are built on the principles of good governance within the third stage. By adopting the Strategy for Reform and the principles of building a separate model of public administration, local level also forms the second, regional level. This concept consisted of the creation of up to 12 higher territorial units. The proposed model of self-governing regions was closest to the historical division of the territory of Slovakia, which were the former counties. The deviation from this original plan led to the establishment of the apparatus of 8 self-governing regions (Act No. 302/2001 Coll.). They have their sub-districts identical to the sub-districts of the regions. At the same time, these units are responsible for the management of public affairs within the territory of a specific region.

For the public administration environment, this is a significant milestone in the transfer of competences from the state administration to the local self-government. This means that the division of responsibility for the economic and social development of the country has been divided between central government, self-governing regions and municipalities. This equivalent position is based on the Concept of decentralization and modernization of the SR public administration. As stated by Kútik (2006) *"This concept includes a list of decentralized competences in these sectors and areas of the public sector: education, health, culture, social affairs, transport, water management, spatial planning, regional development and tourism."* It was a rational strengthening of the power and responsibilities of self-government by bringing them closer to citizens. That is why, in the 2004, the local state administration is being prepared. District offices are being abolished. Of the original 79 district offices a set of 50 sub-district offices is established. Therefore, the districts remain only as circuit units. In addition, the apparatus of offices of specialized local government is being built. However, they have a network of up to 64 workplaces, so the big reduction can not be said even within the most optimal perspectives.

4.4 Public Administration Reform - Phase 4

Modernization of state administration, reduction and efficiency of public administration, raising the standard of transparency and openness are characteristic features of the epochal reform of the state administration of the Slovak Republic - Reform ESO (Effective Reliable Open). The global objective of the reform is the efficient and transparent functioning of the state administration through the restructuring of local state administration (bodies and processes), support for socio-economic growth of the Slovak Republic, informatisation and personal development at all levels of public administration. The ESO reform represents a fundamental qualitative change in the performance and availability of local government. The way to achieve this goal is to optimize the structures and processes of the local state administration, the services provided to citizens and electronization of the whole state environment, respectively. The local government, the second-level of local state administration, have been abolished the regional authorities. An analogous method of restructuring also occurs in the case of district offices and specialized local government agencies (Table 3). Their tasks and competences were taken over by the integrated local government bodies, whose representatives are district offices (72 district offices). Sub-districts of newly-built district offices are essentially identical to the districts of the abolished districts in 2004. All of these offices carry out civil protection, crisis management, economic mobilization, cadastre, state defence and environmental management agendas. However, district offices (49 sub-district offices) also carry out activities in the road and road sectors, agriculture, hunting and forestry, general internal administration and trades.

At the same time, new elements such as contact-administrative sites for citizens (KAMO Centers) and integrated service points (IOMs) are also being introduced into the system. Their role is to provide a wide range of services to public administration clients in the form of active and passive contact.

Table 3 Shift of local public administrations competences – ESO reform

Shift of the competences to the sub-districts	
Cadastral Office	– Office of Geodesy, Cadastre and Cartography of the SR
Regional Land Office	– Ministry of Agriculture and Rural Development of the SR
Regional office of Building	– Ministry of Interior of the SR
Regional office of Education	– Ministry of Education, Science, Research and Sport of the SR
Regional Office of Road Transport	– Ministry of Transport and Construction of the SR
Regional Office of Environmental Policy	– Ministry of Environment of the SR
Territorial military administrations	– Ministry of Interior of the SR
Shift of the competences to the districts	
Sub-district Land Office	
Sub-district Forest Office	
Sub-district Office for Road Transport and Communications	
Sub-district Office of the Environment	
Cadastral office	

Source: own processing according to Hamalová et al. (2014)

The parallel in the field of modernization of the state administration environment we find also within the existence of territorial self-government. It may be based on the issue of the transfer of competencies, which establishes the obligation for the municipality to carry out the transferred execution. At the same time, this concerns the issue of the arrangement of the territory of the Slovak Republic; e. g. basic units are regions and districts.

Conclusion

The system of public administration in the territory of Slovakia was stable for a long period. From the 11th century until 1922 there were only small border changes. These changes were caused by two main reasons: The Turkish occupation during the 16th and 17th century and the attempt the Habsburg court to centralise the state. The general and permanent reconstruction of public administration began at 1922 and followed during every change of political system. The main milestones of modification were in 1928, 1938, 1948, 1960 and 1996. After the EU membership has begun the process of broad reform of the public administration. The changes concerned both the increase of effectiveness and modernization included electronization and adoption of European rules.

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THE ASSESSMENT OF SOCIAL PROGRESS REGIONS OF SLOVAKIA

Dana JAŠKOVÁ

Abstract

Regional policy is characterized as a set of objectives, measures and decisions in the development activities of stakeholders. Regional development is defined as a system of economic, cultural and environmental processes. In the article is construction a composite index of social progress for the regions of Slovak Republic, the Social Progress Index. The Social Progress Index is an aggregate index number of social and environmental indicators that capture three dimensions of social progress: Basic Human Needs, Foundations of Wellbeing, and Opportunity. Each of this three dimensions including four components of the Social Progress Index. The main aim of the paper is to construction of the by Social Progress Index for condition of the Slovak regions. Input indicators included in the Social Progress Index are analysed using statistical methods. Internal data consistency within each component is verified by Principal Component Analysis. The normalized data are aggregated into a composite indicator and compared.

Key words

Regional policy, Social progress, Composite indicator, statistical methods

JEL Classification: C34, C52, R23

Introduction

Regional policy is characterized as a set of objectives, measures and decisions in the development activities of stakeholders (Habánik a kol, 2014). Regional development is defined as a system of economic, cultural and environmental processes. These processes take place in the region. Regional development contributes to its competitiveness, sustainable economic, social and territorial development. The region is defined as an administrative unit of the national and local levels (Cooke, Piccaluga, 2006).

In most studies, the starting inter-comparison is analysis of their economic level. The level is expressed by macroeconomic indicators GDP (Annoni, Kozovska, 2010). Looking for suitable measures of well-being to assess people´s quality of life is becoming more important on the agendas of governments and central institutes of statistics in several countries. An increasing number of programmes are being implemented in European countries. Since its introduction, GDP has been the most widely used indicator of country´s economic performance. However it is also highly criticized as a measure of people´s wellbeing. Indeed, GDP is measure of production, but it ignores the undesirable side effects, such as pollution, environment, which often accompany production growth. GDP does not include in its calculation a number of factors which significantly affect people´s quality of life. Included there are, for example, the quality of education, health care, environment, social relations, personal safety, decent housing (Ferrara, Nistico, 2015).

The European Union Regional Social Progress Index (EU-SPI) was a joint project of several European institutions. Index was constructed by Global Social Progress Index developed by the Social Progress Imperative. This organization is non-profit, non-governmental. The Global Social Progress Index has been published in 2014 and 2015 for over 130 countries in the world. The Social Progress Imperative defines concept social progress as the capacity of society to meet the basic human needs of its citizen. The definition further includes three broad elements of social progress: Basic Human needs Foundations of wellbeing and Opportunity. The EU-SPI provides a consistent and comparable measurement of the Regions of the EU social and environmental area. The EU-SPI is based on a different set of indicators but set of dimensions and components is the same.

1 Index construction methodology

The indicator can be considered as a special subset of the statistical results. A general definition of the concept, which would be applicable in all areas of official statistics, does not exist. There are several approaches to this definition. By the first approach the indicator is characterized as a combination of statistical results using a defined algorithm in the form of derived measurements. The second principle uses normative interpretation with the possibility of

determining categories. The third principle involves mainly social statistics such as health, education, quality of work. In this sense, indicator includes something wider than is actually measured. The fourth approach is engaged in synthetic indicators. They are formed by combining of individual indicators, while using different methods "weighting" of each group.

The indicator is a statistical tool that monitors the nature and level of phenomena and processes monitor their development, changes and trends. This results in certain properties of the indicator:

- significant, relevant, understandable,
- transparent,
- analytical,
- complete,
- credible,
- internally comparable ,
- externally comparable ,
- intertemporal (Michálek, 2013).

The composite indicator is an indicator that is constructed from sub-indicators. The indicators are often presented in the different units have different levels and have different variability (Minařík, 2013). The EU-SPI is an aggregate index of fifty social and environmental indicators that capture three dimensions of social progress: Basic Human Needs, Foundations of Wellbeing, and Opportunity. Each of three dimensions including four components of the SPI:

Basic Human needs: Nutrition and Basic Medical Care, Water and Sanitation, Shelter, Personal Safety.

Foundation of Wellbeing: Access to Basic Knowledge, Access to Information and Communications, Health and Wellness, Ecosystem Sustainability

Opportunity: Personal Rights, Personal Freedom and Choice, Tolerance and Inclusion, Access to Advanced Education.

Each component is measured through several indicators. One of the main differences with other Wellbeing indexes is that the regional SPI includes only social and environmental indicators. SPI excludes regional GDP or income-based indicators. This is because the aim is in fact to express social progress directly. By excluding economic indicator, the SPI can systematically analyse the relationship between economic development (measured foe example by regional GDP) and social development.

Regional index EU-SPI allows regions comparing to any degree of economic levels. Helps regions with a lower SPI learn from regions with higher SPI. All components included in EU-SPI will identify significant differences, for example, of access to health care, quality of housing, personal safety, higher education, access to ICT, environmental pollution. In the design of EU-SPI have been used 50 indicators.

Data source are EUROSTAT, EU-SILC, European Environmental Agency, the Gallup World Poll, the Quality of Government Institute of the University of Gothenburg and Eurobarometer. Comparison was 272 EU regions. The study concluded alignment of EU regions at NUTS 2 level by EU-SPI values. Best Rated region was the region Övre Norrland in Sweden (1/272). Worst rated Yugoiztochen region was a region in Bulgaria. Of the 272 regions of the Slovak regions placed as follows: Region of Bratislava (181/272), West Slovakia (229/272), Central Slovakia (221/272) and East Slovakia (243/272).

Construction of EU-SPI consisted of the following steps:

1. Selection of observational units (assessing of the best possible geographical coverage given data availability and reliability).
2. Checking for statistical internal consistency within each component.
3. Normalizing.
4. Aggregating indicators.
5. Regional comparison score.
6. Testing scores and rankings through an extensive robustness analysis.

The achievement of main aim of this paper is basic research of regional differences in the social field of Slovak regions. The comparison is made using aggregate indicators the Slovak Regional Social Progress Index S-SPI. The process design is identical to the steps described above.

2. Construction of S-SPI

This section is designed summary indicator. The process of S-SPI (Slovak Social Progress Index) construction is in accordance with the methodology published in document “The EU Regional SPI: a measure of social progress in the EU regions, methodological paper” (Annoni, Dijkstra, 2013). The advantage of the summary indicator is a simple comparison of regions. The disadvantage is the different interpretations using different methods. Custom design composite indicator is described in several sub-sections and steps.

2.1 Selection of observational units

Those requirements must be respected in selection of appropriate indicators. The number of indicators should not be not even small (distorted the real

situation) or too large (loss of clarity and transparency of interpretation). Indicators need to be regularly measured and officially published.

EU-SPI was constructed for all regions at the NUTS 2 level. This paper provides a description of the regional S-SPI calculated for all NUTS 3 regions in the Slovak Republic (eight self-governing regions): Bratislava, Trnava, Trenčín, Žilina, Nitra, Banská Bystrica, Prešov a Košice. Appropriate division of observational units is fairly debated issue. For observation of the RD, it is recommended to divide into district or functional regions. But for this kind of division, some important indicators are not available (Sloboda, 2006).

2.2 Selection of appropriate indicators

In the design of the S-SPI have been used 20 indicators. The composite indicator was calculated from the data for 2015. Selection of appropriate indicators was based on the official availability on NUTS 3 level. Data were retrieved from Slovak Statistical Office, Eurostat, Ministry of Interior, and Ministry of Education. It is clear that some of the relevant data were not available. Due to the mutual comparability of the data, they were divided by mid-year population in that region in 2015.

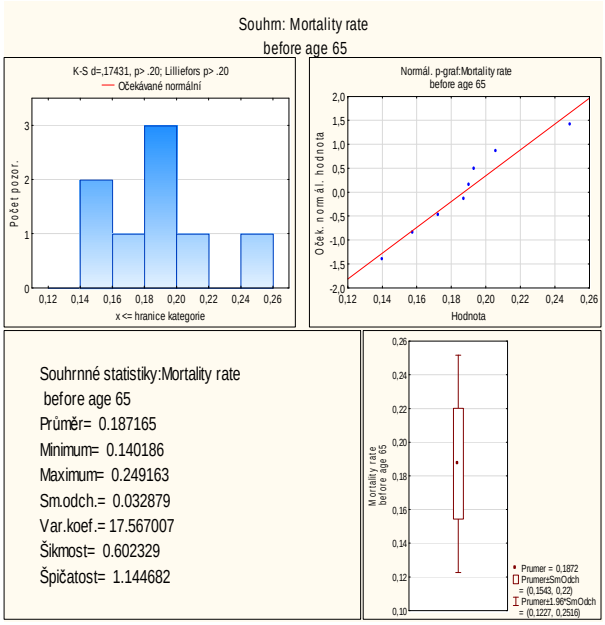
At level of self-governing regions, we encounter the problem of missing data in official databases. The literature on the analysis of missing data is extensive and rapid development more comprehensive methods can be found in Little, Rubin (2002). Whenever one or more indicators are observed at the country level only, an imputation method is adopted which imputes data by statistical estimates using available data. The formula for the calculation of the indicator values $y_{j,r}$ at NUTS 3 level, from y_{nat} at NUTS 1 level, is described in the next:

$$y_{j,r} = \frac{y_{nat}}{\frac{1}{k}\sum_{i=1}^{n} \frac{x_{inat}}{x_{i,j}^{reg}}},$$

where x_{inat} is the value of indicator x_i at the country level and $x_{i,j}^{reg}$ is value of x_i for region j.

For Basic human needs dimension we selected indicators: x_1 - Mortality rate before age 65 (MR), x_2 - Infant mortality (IM), x_3 - Beds in health facilities (HF), x_4 - Water supply from public water supply (WS), x_5 - Sewage treatment (ST), x_6 - Living area (LA), x_7 - Burdensome cost of housing (BCH), x_8 - Number of offenses (NO), x_9 - Number of forfeited (NFF), x_{10} - Homicide rate (HR) and x_{11} - Number of fires (NF). For dimension of Foundations of wellbeing: x_{12} - Secondary enrolment rate (SE), x_{13} - Number of Posts (NP), x_{14} - Internet at home (IH), x_{15} - Risk of poverty (RP), x_{16} - Life expectancy at birth (LEB), x_{17} - Environmental quality (EQ), x_{18} - Production of pollutant emissions (PPE). In the dimension of opportunity was selected following indicators: x_{19} - Gender gap (GG), x_{20} - Tertiary education attainment (TE). Given the direction, it went into the analysis of eleven positive indicators and neigh negative indicators.

Graph 1 Exploratory analysis



Source: own calculation

2.3 Components Internal consistency

The issue of aggregating indicator into a single composite indicator is an increasingly discussed topic. The aggregation process always implies the choice of weights or use aggregation method. Both issues play crucial role when assessing regional disparities.

Internal consistency is verified by classical multivariate method, Principal Component Analysis (PCA). PCA is useful statistical technique for finding patterns in data of high dimension. Using method is based on the properties of the correlation matrix of variables. Initial variables (manifest) will be replaced by a smaller number of new variables, called latent variables – the main components. This process consisted of several steps.

Step 1: Exploratory data analysis

Table 1 Descriptive statistics

Variable	Descriptive statistics (indicators in 2015)				
	Mean	Std. dev.	Coeff. of variance	Skewnes	Kurtosis
MR	0,19	0,03	17,57	0,60	1,14
IM	4,94	3,20	64,67	1,52	1,67
HF	7,87	1,37	17,46	-1,02	0,83
WS	88,60	5,01	5,66	-0,12	0,50
ST	12,46	4,43	35,57	0,26	0,07
LA	72,24	5,02	6,95	-0,08	-0,55
BCH	375,75	55,04	14,65	1,97	4,75
HC	1,38	0,63	45,62	1,52	2,47
NFF	10,09	2,63	26,06	0,20	0,11
NO	803,74	314,69	39,15	1,96	4,44
NF	200,25	39,06	19,51	0,91	0,70
SE	0,82	0,32	38,85	1,94	4,36
NP	30,66	6,02	19,64	-0,83	1,33
IH	77,91	3,61	4,63	-0,05	0,53
RP	11,98	3,63	30,30	-0,11	-1,65
LEB	73,25	1,06	1,44	1,19	0,21
EQ	107,46	90,12	83,87	2,26	5,28
PPE	0,70	0,27	38,15	0,13	-1,97
GG	0,80	0,06	7,76	1,21	0,66

Source: own calculation

Exploratory data analysis is a critical first step in analysing data from an experiment. The purpose of the analysis is to detect the presence of particularities between the data and verify the assumptions for further statistical processing. For this purpose, were calculated descriptive statistics (position, variability, and asymmetry). By graphical methods we have identified the presence of outliers, data independence (ACF), homogeneity (Box Plot) and normality (K-S, N-E, Lilliefors's test). The picture exploratory data analysis shows one of the outputs of analysis variable Mortality rate before age 65. The following table contains some statistics all tested variables.

The value of the coefficient of variation was used in subsequent analyzes as a decision criterion for the selection of appropriate indicators. The exploratory analysis shows that the data meet the required minimum prerequisites for further analysis.

The next step consists of variable´s transformation for some indicators, due to the value of the coefficient of skewness, where the absolute value of this coefficient was higher than 1.

Step 2: Correlation analysis

Table 2 Part of the correlation matrix

Proměnná	Mortality rate before age 65	Infant mortality	Beds in health facilities	Water supply from public water supply	Sewage treatment	Living area	Burdensome cost of housing	H
Mortality rate before age 65	1,00	-0,41	-0,04	0,22	0,12	-0,64	0,12	
Infant mortality	-0,41	1,00	0,12	-0,92	0,58	0,44	-0,65	
Beds in health facilities	-0,04	0,12	1,00	-0,18	0,39	-0,35	0,02	
Water supply from public water supply	0,22	-0,92	-0,18	1,00	-0,75	-0,38	0,86	
Sewage treatment	0,12	0,58	0,39	-0,75	1,00	-0,12	-0,74	
Living area	-0,64	0,44	-0,35	-0,38	-0,12	1,00	-0,46	
Burdensome cost of housing	0,12	-0,65	0,02	0,86	-0,74	-0,46	1,00	
Homicide rate	0,45	-0,64	0,03	0,79	-0,47	-0,63	0,87	
Number of forfeited	0,57	0,10	-0,29	-0,06	-0,19	-0,18	0,15	
Number of offenses	0,27	-0,35	-0,12	0,60	-0,68	-0,34	0,86	
Number of fires	0,07	0,69	0,04	0,60	0,08	0,24	0,23	

Source: own calculation

After one-dimensional analysis of variables we performed the correlation analysis. For the strong correlation between the indicators we considered while the correlation coefficient applied $|r| > 0{,}9$. These values have been diagnosed by the inverse correlation matrix and subsequent VIF-factor. The Variance Inflation Factor (VIF) measures the impact of collinearity among the variables in a regression model. If $|VIF| > 10$, multicollinearity is high. For further analysis we considered as a key indicator one who had the greatest variability (coefficient of variation) and seemed to be more appropriate for the description of interregional disparities.

The correlation analysis shows that from the structure of composite indicator should be removed five indicators: Water supply from public water supply, Burdensome cost of housing, Number of offenses, Secondary enrolment rate and Tertiary education attainment.

To further analysis it went fifteen indicators.

Step 3: Principal Components Analysis

Fifteen indicators were analysed by PCA. Its aim was to identify the key indicators and transform the original data to new latent variables. The suitability of selected indicators was statistically assessed by Kaiser-Meyer-Olkin´s criterion. Kaiser-Meyer-Olkin (KMO) test is a measure of how suited your data is for PCA. The test measures sampling adequacy for each variable in the model and for the complete model. The result of the PCA is shown in next several different outputs (tables and graphs).

Table 3 Eigenvalues

Order of Eigenv.	Eigenvalues of correlation matrix and related statistics (only active variables)			
	Eigenv.	% of total variance	Cumulative of eigenvalue	Cumulative % %
1	4,98	49,81	4,98	49,81
2	1,91	19,15	6,90	68,95
3	1,44	14,43	8,34	83,38
4	1,10	10,96	9,43	94,34
5	0,39	3,94	9,83	98,28
6	0,17	1,69	10,00	99,97
7	0,00	0,03	10,00	100,00

Source: own calculation

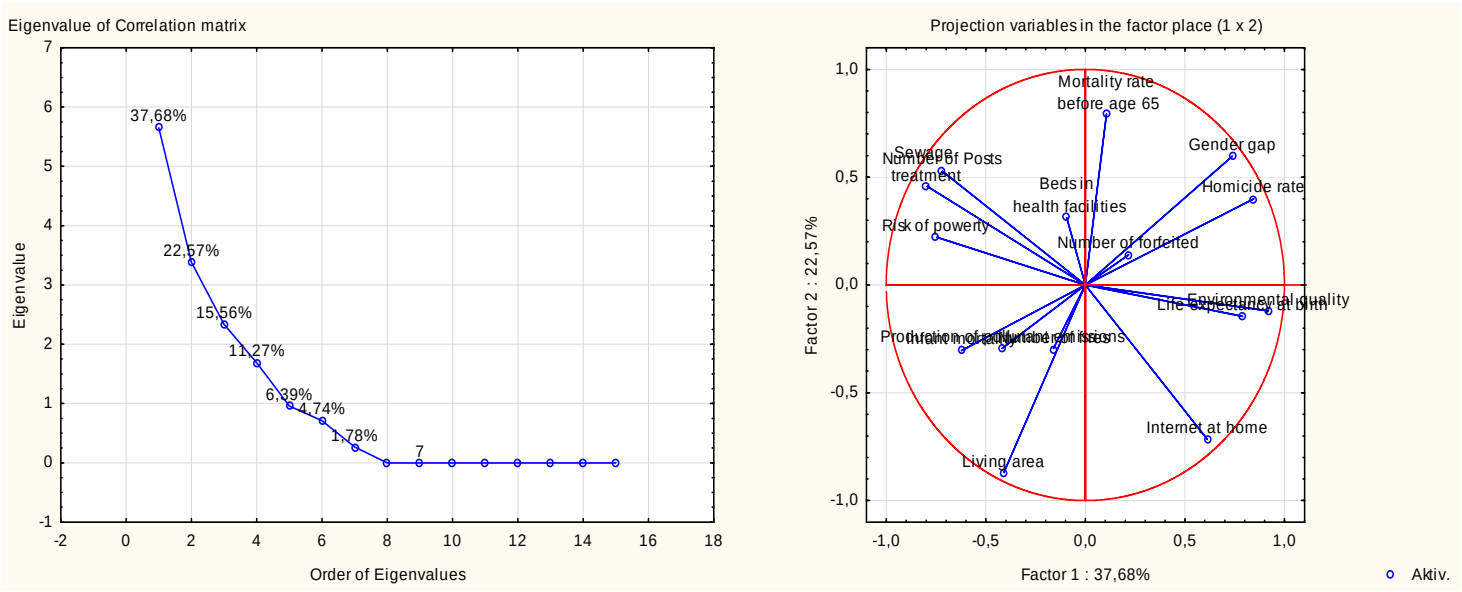
Since the covariance matrix is square, we can calculate the eigenvectors and eigenvalues for this matrix. These are rather important, as they tell us useful information about our data.

Table 4 Factor coordinate variables by correlations

Variable	Factor coordinate variables by correlations			
	Factor 1	Factor 2	Factor 3	Factor 4
Mortality rate before age 65	0,11	0,79	-0,39	-0,39
Infant mortality	-0,62	-0,30	-0,41	0,54
Beds in health facilities	-0,09	0,32	0,31	0,72
Sewage treatment	-0,80	0,46	0,01	0,33
Living area	-0,41	-0,87	-0,02	-0,19
Homicide rate	0,84	0,40	-0,02	-0,05
Number of forfeited	0,22	0,14	-0,94	-0,12
Number of fires	-0,16	-0,30	-0,81	0,41
Number of Posts	-0,72	0,53	0,12	-0,30
Internet at home	0,61	-0,71	-0,07	-0,17
Risk of powerty	-0,75	0,22	-0,22	-0,02
Life expectancy at birth	0,79	-0,15	0,39	0,40
Environmental quality	0,92	-0,12	-0,35	0,07
Production of pollutant em.	-0,42	-0,29	0,21	-0,20
Gender gap	0,74	0,60	-0,05	0,24

Source: own calculation

Graph 2 Outputs of the PCA



Source: own calculation

For further analysis we recommend to retain only those components that have their eigenvalue is greater than 1. Subsequently we selected the first fourth components that are explaining $94{,}34\ \%$ of the total variance. This stems from the Kaiser criteria. In another analyse they are preserved only those components that have modified a custom number greater than 1 (Meloun at al., 2012). Proper selection of components can be assessed according to the Cattell index chart (Scree Plot). It is a histogram of eigenvalues. From it can be to identify the main components. On the right is a chart, Plot components weights, of the first and second components. Each point on the graph is analyzed indicator. The chart compared the distance between the indicators. Indicators of the variability between regions that have a high correlation values are in the graph near the unit circle.

In terms of further reduction indicators and finding key indicators are further analyzed only those indicators that have a value of the correlation coefficient above 0.7 (Hrach, Mihola, 2006). The values of the correlation coefficients with the main components of the indicator (factor 1-4) are shown in Table 4. Omitted indicators are: Infant mortality and Production of pollutant emissions. Thirteen other indicators will be used later in the step on "Weighting and aggregation" to construct weights for the *SPI* composite indicator table.

Step 4: Weighting and aggregation

The results of PCA analysis allows to determine of q-th indicator in any time as:

$$w_i = |r_{i,j}|.var_j$$

where $r_{i,j}$ is value of correlation coefficient of the i-th indicator $(i = 1, \dots, 13)$ of the j-the component $(j = 1, \dots, 4)$. var_j is proportion of variability explained by j-th component. The values of weights that are assigned to each indicator are shown in Table 5

Table 5 The values of weights

indicator	MR	BHF	ST	LA	HR	NFF	NF	NP	IH	RP	LEB	EQ	GG
weight	0,30	0,08	0,30	0,20	0,32	0,15	0,13	0,27	0,16	0,28	0,30	0,35	0,28

Source: own calculation

For PCA analysis it shows that the highest weight is assigned to the indicator Environmental quality and lowest weight indicator Beds in health care.

Normalisation of data is required prior to any data aggregation as the indicators in a data set often have different measurement units. The method Min-Max was used. This method normalises indicators to have

an identical range $\langle 0; 1 \rangle$ by subtracting the minimum (maximum) value and dividing by the range of the indicator values. If $x_{i,r}$ is positively oriented we followed the formula:

$$I_{i,r} = \frac{x_{i,r} - min_r(x_i)}{max_r(x_i) - min_r(x_i)}.$$

In the case of negative force of $x_{i,r}$ the normalization is realized through the formula:

$$I_{i,r} = \frac{max_r(x_i) - x_{i,r}}{max_r(x_i) - min_r(x_i)}.$$

Table 6 Regional Slovak SPI

Region (r)	SPI_r	Order
Trenčín	1,273115	1
Bratislava	1,104446	2
Prešov	1,079353	3
Trnava	1,056612	4
Žilina	1,035773	5
Nitra	0,894041	6
Banská Bystrica	0,796455	7
Košice	0,760206	8

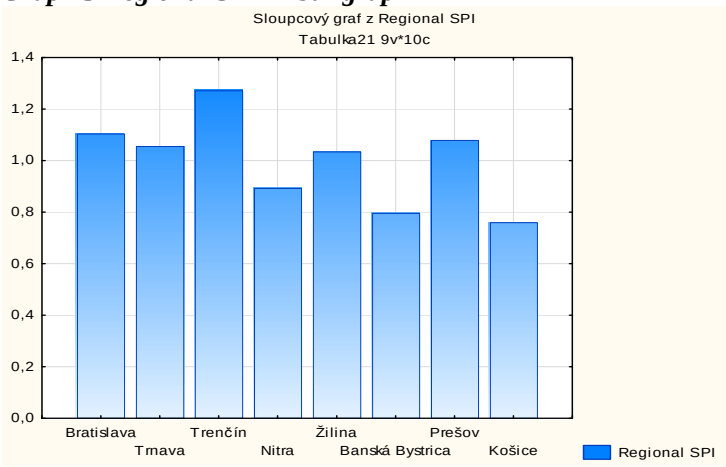
Source: own calculation

For calculation of SPI was used the Additive aggregation method. The Composite indicator SPI for each region SPI_r was calculated according formula:

$$SPI_r = \frac{\sum_{i=1}^{n} I_{i,r} \cdot w_i}{\frac{\sum_i^n \sum_r^m I_r}{m}},$$

where w_i is weight of q-th indicator. If SPI_r = 1, the region is assesed as an average. SPI_r> 1 means the above average appreciation of region, SPI_r< 1 means, that region is evaluated as a below average.

Graph 3 Regional SPI in bar graph



Source: own calculation

The resulting values of the regional SPI_r were as follows table 6.

Best Rated region was Trenčín. SPI_r reached around 0,17 better than Bratislava region. It's interesting because the assessments which take into account economic indicators Bratislava region dominates. These two regions as only amounted SPI_r greater than 1. They can therefore be considered as regions with above-average SPI_r. Indicators of quality of life in these regions are excellent. The second group may include regions of Prešov, Trnava and Žilina. SPI_r values are closer to one. These regions can be considered in terms of SPI_r for average. The last third group consists of regions of Nitra, Banská Bystrica and Košice. In these cases, the SPI_r less than 1 and therefore consider them in terms of SPI_r as below average.

SPI_r index values for individual comparisons are shown in bar graph third. The practice is often determined by regression relationship between SPI

and regional GDP. Official figures for 2015 are not yet published.

Conclusion

The paper applied approach comparing regions of the EU in 2015. The European Union Social Progress Index (EU-SPI) builds on feedback from public and experts in the field like. According to the methodological procedure it is designed composite indicator SPI_r. When its construction was the use of advanced multivariate statistical methods. From the database were selected twenty key indicators at NUTS 3. The source was the official website of the Slovak Government. Using correlation analysis has identified key indicators. Further reduction of dimensions has been using PCA analysis. Of the fifteen indicators using weighted aggregation method min-max was designed composite indicator SPI_r. Using SPI_r, the individual regions ranked.

Best Rated region in the field of social progress in 2015 was Trenčín region. Bratislava region ended up in second place. It is interesting. When compared regions in terms of economic progress (Regional Competitiveness Index - RCI) clearly dominates the Bratislava region. The other three regions, Prešov, Trnava and Žilina region were rated similarly. He was sixth in Nitra region. The worst were evaluated regions of Banská Bystrica and Košice.

There are many positive but also negative reviews to assess the social progress of the region using a single value. Benefits include a summary of multidimensional data simple and comparability. Described methodological approach could in the future serve for comparison evolution of social progress in the regions of Slovakia.

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IMPLICATIONS OF GLOBALIZATION IN LANGUAGE EDUCATION

Miroslav FAŠANOK

Abstract

Globalisation has become a convincing force dragging nations into the global system. It has led to a mixing of cultures, economies, markets, political systems and technologies among nations. English has become the official language spoken for business, yet to be seen how globalisation can help the effective oral and written communication of students. There are doubts and complaints about the inability students and graduates to effectively engage in oral and written communication. It is therefore useful to look at the gains of globalisation and harness them in favour of improving the oral and written communication of students. In this study, questionnaire forms were administered to randomly chosen students belonging to FSEV out of which 80 were retrieved to examine whether or not globalisation has helped to improve their oral and written communication, identify the challenges they face in their quest to involve in effective oral and written communication and propose solutions that can address these challenges and enhance their communication ***ability.***

Keywords:

impact of globalisation, oral communication, written communication, language competence

JEL Classification:

Introduction

Globalization is, without doubt, one of the major defining characteristics of modern society. It creates both a threat and a challenge, depending on the point of view and the predisposition of the observer. This paper looks at the effects of globalization in the area of English language concentrating on the teaching of English to the speakers of other languages.

We now communicate and share each other's cultures through travel and trade, transporting products around the world in hours or days. We are in a huge global economy where something that happens in one area can have knock on effects worldwide. This process is called globalisation. The ELT Journal 2004 states that we are living in an age of greater upheaval and change, with unprecedented levels of interconnectedness among nation states and local economies and cultures, which are thanks in part—though not exclusively—to technological developments.

1 Globalization and its implications

Globalisation is the process by which the world is becoming increasingly interconnected as a result of massively increased trade and cultural exchange. Globalisation has been taking place for hundreds of years, but has speeded up enormously over the last half-century.

Globalisation has resulted in:

- greater international trade
- companies working in more than one country
- greater dependence on the global economy
- unrestricted movement of capital, goods, and services

Business today doesn't have national borders – it reaches around the world. The growth of multinational corporations places new requirements on human resource managers. The HR department needs to make certain that the suitable blend of employees in terms of knowledge, skills and cultural adaptability is available to handle global assignments. In order to meet this objective, the organizations must train stuff to meet the challenges of globalisation. The employees must have working knowledge of the language and culture of the host country.

Human Resource Management should also develop mechanisms that will support multicultural individuals work together. As background, language, custom or age differences become more dominant, there are suggestions that employee conflict will increase. HRM would be required to train management to be more flexible in its practices. Because tomorrow's workers will come in different colours, `nationalities and so on, managers will be required to change their ways. This will demand managers being trained to recognize differences in workers and to appreciate and even celebrate these differences.

1. 2 Work-force Diversity

In the past HRM was significantly simpler because our work force was extremely indistinguishable. Today's work force includes of people of different gender, age, social class sexual orientation, values, personality characteristics, ethnicity, religion, education, language, physical appearance, marital status, lifestyle, beliefs, ideologies and background characteristics such as geographic origin, tenure with the organization, and economic status and the list could go on. Diversity is critically related to the organization's strategic course. Where diversity thrives, the possible profits from better creativity and decision making and greater innovation can be developed to help increase organization's competitiveness. HRM must train people of different age groups to successfully accomplish and to cope with each other and to regard the diversity of views that each offers. In situations like these a participative attitude seems to work better.

2. Globalisation and language teaching

It is known that the English language is becoming increasingly widespread across the globe. Furthermore, it has been estimated that "only one fourth of all English users worldwide are native speakers, and most non-native speakers using English do so in the absence of native speakers" (Seidlhofer, 2011). According to Crystal (2013) 85% of the world's international organizations use English as their official language in transnational communication. About 85% of the world's important film productions and markets use English as well, and 90% of the published academic articles in several academic fields, such as linguistics, are written in English. In many cases, the increased growth in the use of the English language can be attributed to educational, economic, or cultural globalization. Evidently, there is a large population of non-native English speakers throughout the entire world; however, this study focuses on comparing English language learners in Slovak Republic.

Language is a vital commodity in the globalized world. The services- and information based economy makes increasing demands on workers' language skills; new technologies and media change the cultural landscape; migration produces more linguistically diverse populations worldwide. Blockand, Cameron 2002). For language teachers around the world, the question is how discussions about globalization taking place in sociological circles relate to their overall approach to language teaching, and to their day-to-day practice.

Communication' is among the keywords of the global age, just as it was a keyword, though with a different set of meanings, in the age of the industrial revolution (Williams 2003). In contemporary usage we hear and read frequent references to '[information and] communication technologies (ICTs)' and '[mass] communications media', both of which, of course, are implicated in the processes of globalization. Many countries throughout the world are beginning to see English as a basic educational requirement for all rather than simply as a desirable accomplishment for some (Maurais, Morris, 2003).

We might note that in surveys undertaken to assess which skills are needed to maximize employability, employers almost invariably distinguish 'communication skills' from 'literacy' and 'ICT skills'. Furthermore, they consistently rate the 'communication skills' displayed by recruits to the workforce as more important than their literacy skills or their facility with ICTs – and also, in many cases, as less satisfactory (Cameron 2002).

It is true, of course, that linguistic abilities were an important factor in labour market stratification long before the current phase. Individuals have long been, and still are, denied access to certain kinds of work because of their inability to read and write, or to use a standard language.

In economically advanced societies where manufacturing industries are in decline while the service and creative industries are expanding rapidly, is that individuals will need a relatively high level of linguistic skill if they are to participate in waged labour at all. The practice of instructing people in speaking and listening is also gaining ground in educational institutions because education should prepare students to meet the needs of the new economy.

Contemporary approaches to teaching communication it cannot be fully understood without reference to the culture of self-improvement what comprises a range of practices and text-types focusing on the individual and her or his relationships with others, and particularly on the problems of modern personal life. New ideas about the nature of work and the demands it places on workers, recent trends towards skill-based or competence-led curricula in education all contribute to the increasing sense that speaking and listening, long taken for granted as things everyone could do 'naturally' without special help, are in need of more explicit and systematic attention.

3 Objectives of the study

Generally, the main objective of this research is to find out the effect of globalization in Slovakia to examine whether or not globalisation has helped to improve the oral and written communication among students at Alexander Dubček university in Trenčín. In detail, other objectives include evaluating the place of English language in the global arena, to recognise the challenges faced by these students in their quest to engage in effective oral and written communication and to provide recommendation that can address these challenges and enhance the communication of students.

3.1 Research Design

In this research, the authors have employed survey method to examine whether or not globalisation has helped to improve the oral and written communication among students at TNUNI, the challenges and way forward. In addition, secondary data were instrumental in assessing the place of the English language in the present global economy and places a need on Slovak to be competent and skilled at the rules of English grammar so they can favourably compete and be relevant in the present global configuration.

3.2 Population, Sample Size and Sampling Technique

The TNUNI is a science-based university which has a rough estimation of about 2500 student population. Since there was no way we could have studied the large population of students because of cost and limited time, first year students of selected colleges and departments were involved in the study. Meanwhile eighty questionnaire forms were randomly distributed among the final year students in the eight selected departments, ten questionnaire forms for each department. Out of these, fifty-three

questionnaire forms were retrieved and found to have been properly filled by the respondents (students) for analysis.

4 Instrument of Data Collection

One major research instrument was used to collect quantitative data for the study which was questionnaire.

5 Method of Data Processing and Analysis

Quantitative data were analysed using the simple percentages.

Table 1 Students' Opinion on Globalisation, Oral And Written Communication Of Students

Statement	Responses	Frequency	Percentage
Because of globalisation learning English is no longer viewed as something optional, but essential.	Strongly agree	8	19,5
	Agree	25	61
	Strongly disagree		
	Disagree	8	19,5
	Total	41	100
Statement	Responses	Frequency	Percentage
Globalisation has impacted different areas in the society such as health, banking, commerce, agriculture, education, language and communication.	Strongly agree	18	44
	Agree	14	34
	Strongly disagree		
	Disagree	9	22
	Total	41	100
Statement	Responses	Frequency	Percentage
English language is necessary for the promotion of various goods.	Strongly agree	16	39
	Agree	14	34
	Strongly disagree	5	12

	Disagree	6	15
	Total	41	100
Statement	Responses	Frequency	Percentage
Globalisation has helped the language learning of students such that they can engage in effective oral and written communication.	Strongly agree	12	29
	Agree	16	39
	Strongly disagree	3	8
	Disagree	10	24
	Total	41	100
Statement	Responses	Frequency	Percentage
Students now engage in effective oral and written communication.	Strongly agree	9	22
	Agree	21	51
	Strongly disagree	4	10
	Disagree	7	17
	Total	41	100
Statement	Responses	Frequency	Percentage
Your assessment of students' spoken and written English is encouraging.	Strongly agree	13	32
	Agree	21	51
	Strongly disagree	2	5
	Disagree	5	12
	Total	41	100
Statement	Responses	Frequency	Percentage
Students obey the rules of English grammar in their oral and written communication.	Strongly agree	12	29
	Agree	19	46
	Strongly disagree	4	10
	Disagree	6	15
	Total	41	100
Statement	Responses	Frequency	Percentage
The present level of Students' spoken and written English can make them competitive in the global arena.	Strongly agree	9	22
	Agree	22	54
	Strongly disagree	3	7
	Disagree	7	17
	Total	41	100

Source: Field Study

From Table 1, majority of the respondents (80, 5%) were of the opinion that globalisation had impacted society in different palpable ways. However, a great number of the respondents (34%) disagreed or strongly disagreed with the notion that globalisation had helped the language learning of students in the area of effective oral and written communication. This agrees with the findings made by Her (2007) in her doctoral thesis where she argued that globalisation alone could not impact the oral and written communication of students because such factors as attitude, motivation and willingness to commit to self-development were important considerations in determining the improvement of students' oral and written communication. However, on the issue that students now engage in effective oral and written

communication, the majority of the respondents strongly agreed (22%) or agreed (51%). For the time being, a large proportion of the respondents were of the opinion in their assessment that students' spoken and written English was encouraging (32% and 52%). The combined percentages of those who strongly agreed and those who simply agreed with the view that their students did not obey the rules of English grammar were 76%. This supports the belief that obeying the rules of grammar students will, among other factors, help them improve their oral and written communication skills. In accordance with this finding the respondents (46%) still felt that their students could compete in the global market (combined percentages 76%). On the other hand, the combined percentages of those who strongly disagreed and those who simply disagreed (i.e. 24%) confirmed that some students still could not compete in the global arena with the present level of spoken and written communication. The combined percentages of those who strongly agreed and agreed (73%) with the statement English language is necessary for the promotion of various goods confirms the idea that good command of English is needed in the world of business.

Table 2 Students' Opinion on Their Oral And Written Communication Challenges And Solutions

Statement	Responses	Frequency	Percentage
The challenges students face regarding effective communication include the following:	Lack of interest	5	12
	Poor reading culture	7	17
	Laziness	9	22
	Lack of priority	9	22
	Preference for the language	5	12
	Differences in perception and viewpoint	6	15
		41	100
Statement	Responses	Frequency	Percentage
The solutions to solving students' oral and written communication challenges include the following:	Reading journals	10	24
	Create problem-focused writing and speaking assignments	8	20
	Development of interest	5	12
	Being mindful of the rules of English grammar	3	7
	Commitment to speaking the language often	6	15
	Thinking about the words	9	22
		41	100

Source: Field Study

From Table 2, majority of the respondents (44%) believed that the number one challenge of their colleagues regarding their spoken and written English was attributable to laziness and to lack of priority, followed by poor reading culture (17%), lack of making a commitment to effective oral and written communication a priority is also regarded as a problem (15%). According to the respondents, to solve students' oral and written communication challenges, there is the need for development of reading habit (24%), followed by modelling of good speakers and writers of the English language (22%), commitment to speaking of the language often (15%), development of interest (12%) and being mindful of the rules of English grammar (7%).

Conclusion

This research has examined the impact of globalisation on the oral and written communication competence among undergraduate students at FSEV TNUNI. The study also investigated the place of the English language in the present global configuration as the dominant language of communication used for international relations and diplomacy, business, music, technology, education, sports, scientific discoveries. The research has identified the challenges students at FSEV are faced with regarding their oral and written communication. These challenges include, lack of interest in studying the language, laziness, poor reading culture lack of priority and preference for the local language. Lastly, the study has identified solutions that could address the problems encountered by students in their effort to gain competence in oral and written communication.

These solutions are that students must develop interest in mastering the English language, develop a culture of reading, are to be mindful of the rules of grammar, are to commit to self-development programmes in this regard, and are to model good speakers and writers of the language.

This study recommends the following:

· There is necessity for forming a friendly and encouraging study surroundings for students to read, learn, study and engage in active research;

· It is essential for English language teachers to propose more learning opportunities to their students and involve many more students with diverse learning styles.

· Students should be stimulated to participate in more writing and speaking projects and be adequately remunerated for their performances.

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