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**Faculty of Economics**



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**10<sup>th</sup> – 11<sup>th</sup> September 2019**  
**Ostrava, Czech Republic**

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## Prologue

From 10<sup>th</sup> to 11<sup>th</sup> September 2019, the Department of Public Economics at the Faculty of Economics of the VŠB - Technical University of Ostrava held the 13<sup>th</sup> Annual International Scientific Conference “Public Economics and Administration 2019”. The individual years of the conference have taken place every two years since 1995.

The conference creates a space for the presentation of new findings in the field of public economics and management from the research by scientists, academics, and practitioners.

These proceedings summarize the contributions, which are aimed at presenting the results of research on issues of public economics and administration. The international character of the proceedings is due to the representation of the contributions of experts from Albania, Poland, Ukraine, Slovakia, and the Czech Republic.

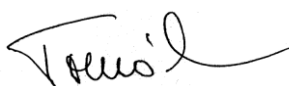
The papers registered at the conference were subjected to peer review and the proceedings of the conference include 43 peer-reviewed contributions. Peer review of the contributions focused on the scientific benefits, application of appropriate research methods, evaluation of the conclusions, etc. The reviews were carried out by the members of the Scientific Committee of the conference and other experts.

The issue of the public economics and administration is going through a series of changes within the changing economic conditions of the current period, changes in connection with computerization, etc., which place demands on relevant research. Proceedings bring new knowledge of this issue that has meaning not only for applications, but also for the development of theoretical knowledge.

The importance of the proceedings is due to the fact that they represent a broad spectrum of new knowledge concerning the functioning of public economics and administration, which is intended for the further development of public economics and administration, and it is already applicable in practice, but it may also serve for further development of scientific knowledge, for teaching, or focusing of students' theses as well as exchange of scientific knowledge at international level.



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## CONTENTS

<b>THE ASSESSMENT OF CHANGES IN THE ECONOMIC DEVELOPMENT OF TRENCIN REGION COUNTRYSIDE</b>	<b>11</b>
BEÁTA ADAMKOVIČOVÁ, DUŠAN GUŤAN	11
<b>EPARTICIPATION SERVICES PROVIDED BY MUNICIPALITIES WITH EXTENDED POWERS IN THE MORAVIAN-SILESIA REGION</b>	<b>18</b>
EVA ARDIELLI	18
<b>POSITION OF EU COUNTRIES ACCORDING TO THE STATE OF GOOD GOVERNANCE DEVELOPMENT</b>	<b>27</b>
EVA ARDIELLI	27
<b>DIFFERENCES BETWEEN CZECH AND FRENCH FINANCIAL LAW AND FINANCIAL SCIENCE</b>	<b>38</b>
RICHARD BARTES	38
<b>ECONOMICAL EFFICIENCY EVALUATION OF CHOSEN TRANSPORT COMPANIES IN THE CZECH REPUBLIC</b>	<b>45</b>
JIŘÍ BEČICA, ROMAN VAVREK	45
<b>DIRECT ELECTIONS OF MAYORS (LORD MAYORS) AND GOVERNORS AND THEIR POSSIBLE IMPACT ON THE PERFORMANCE OF PUBLIC ADMINISTRATION</b>	<b>56</b>
VLADIMÍR ČECHÁK	56
<b>DYNAMICS OF LOCAL GOVERNMENTS EXPENDITURES IN SLOVAKIA. THE SIZE STRUCTURE PERSPECTIVE</b>	<b>70</b>
TOMÁŠ ČERNĚNKO	70
<b>DETERMINANTS OF HEALTHCARE PUBLIC PROCUREMENT IN THE SLOVAK REPUBLIC</b>	<b>79</b>
BEÁTA GAVUROVÁ, MIRIAMA TARHANIČOVÁ, JAKUB DANKO	79
<b>CHANGING AS A CONTINUOUS NEED: CASE OF ALBANIAN LOCAL GOVERNMENT</b>	<b>91</b>
ALDA GJERGJI, MANJOLA CORREJ	91
<b>SUPPORT AND FINANCING OF SPORT IN THE MORAVIAN-SILESIA REGION AND COMPARISON WITH THE REGIONS OF THE CZECH REPUBLIC</b>	<b>104</b>
MARTINA HALÁSKOVÁ	104
<b>ANALYSIS OF SOURCES OF FINANCING OF SOCIAL SERVICES IN THE CZECH REPUBLIC</b>	<b>116</b>
RENATA HALÁSKOVÁ	116
<b>APPROACHES TO EVALUATE GOVERNMENT EXPENDITURES ON SERVICES IN EU COUNTRIES</b>	<b>127</b>
RENATA HALÁSKOVÁ	127

<b>INTERNAL COMMUNICATION IN THE INSTITUTIONS OF TERRITORIAL SELF-GOVERNING</b>	<b>138</b>
KRISTÍNA HOGHOVÁ, IVANA BUTORACOVÁ ŠINDLERYOVÁ	138
<b>USE OF MULTI-CRITERIA DECISION MAKING METHOD FOR CALCULATING OF SECONDARY SCHOOL EFFICIENCY: THE CASE OF VOCATIONAL SECONDARY SCHOOLS IN THE PARDUBICE REGION</b>	<b>149</b>
DENISA CHLEBOUNOVÁ, ROMANA PROVAZNÍKOVÁ	149
<b>COMPARISON OF WASTE MANAGEMENT PROGRAMMES IN SELECTED SELF-GOVERNING REGIONS</b>	<b>160</b>
MARTINA CHRENOVÁ	160
<b>ACTIVE LABOUR MARKET POLICY IN THE CONTEXT OF THE IMPLEMENTATION OF OPERATIONAL PROGRAM EMPLOYMENT AND SOCIAL INCLUSION</b>	<b>172</b>
MICHAL IMROVIČ, VLADIMÍR KOVÁČIK	172
<b>MILLENNIALS AND THEIR WORKING EXPECTATIONS</b>	<b>188</b>
ZUZANA JURGOVÁ	188
<b>NETWORKING OF SOCIAL ECONOMY ENTITIES IN THE OPOLE REGION ON THE EXAMPLE OF THE KOLOT CLUSTER</b>	<b>195</b>
ELŽBIETA KARÁŠ	195
<b>EFFICIENT PRICE OF COMPENSATION OF SUBURBAN BUS TRANSPORT IN MORAVIAN-SILESIA REGION</b>	<b>204</b>
NATÁLIE KONEČNÁ, DAVID LENERT	204
<b>EXPENDITURES ON SOCIAL SERVICES FROM REGIONS' BUDGETS IN THE CZECH REPUBLIC WITHIN THE PERIOD 2015-2018</b>	<b>212</b>
EVA KOVÁŘOVÁ	212
<b>PROCESS AND OUTPUT ANALYSIS OF THE CONSOLIDATED FINANCIAL STATEMENTS FOR THE CZECH REPUBLIC</b>	<b>222</b>
ŠÁRKA KRYŠKOVÁ, JANA HAKALOVÁ, MARCELA PALOCHOVÁ	222
<b>THE INFLUENCE OF POLITICAL PARTIES' COALITIONS ON THE ELECTORAL PROGRAM FULFILLMENT</b>	<b>234</b>
ONDŘEJ KUBA, JAN STEJSKAL, VIKTOR PROKOP	234
<b>BASIC REGISTERS AND PERSONAL DATA PROTECTION: CRITICAL VIEW</b>	<b>243</b>
TOMÁŠ LECHNER, LENKA VAŇKOVÁ	243
<b>LEGAL STATUS AND SALARY OF THE MAYOR OF THE MUNICIPALITY IN THE CONTEXT OF PUBLIC POLICY</b>	<b>254</b>
JÁN MACHYNIÁK, PETER HORVÁTH	254
<b>SUBSTITUTE FAMILY CARE WITHIN THE CONTEXT OF LEGISLATION IN THE SLOVAK REPUBLIC</b>	<b>261</b>
LENKA MACHYNIÁKOVÁ, DUŠAN GUŽAN	261



<b>THE CATEGORY OF HARMONY IN COMMUNICATION IN THE OPINION OF YOUNG GENERATION OF BELARUSIANS IN THE CONTEXT OF SOCIAL ECONOMY</b>	<b>269</b>
KATARZYNA MAZUR-KAJTA	269
<b>FACTORS AFFECTING INDIVIDUALS' WILLINGNESS TO CONTRIBUTE VOLUNTARILY</b>	<b>282</b>
BEÁTA MIKUŠOVÁ MERIČKOVÁ, NIKOLETA MUTHOVÁ, JANA ŠTRANGFELDOVÁ	282
<b>THE OVERVIEW OF PUBLIC WEBSITES OWNED BY STATE AND LOCAL ADMINISTRATION LOCATED IN BORDER DISTRICTS. A CASE STUDY OF THE OPAVA AND GLUBCZYCE DISTRICTS</b>	<b>296</b>
WANDA MUSIALIK, ROMAN ŚMIETAŃSKI	296
<b>SELECTED PRACTICAL ASPECTS OF THE FISCAL DECENTRALIZATION IN THE SLOVAK REPUBLIC</b>	<b>305</b>
ERIKA NEUBAUEROVÁ, MICHAELA TOMČIKOVÁ	305
<b>MIGRATION IN SEARCH OF WORK AND ITS ATTENDANT RISKS</b>	<b>316</b>
MONIKA NOVÁ	316
<b>REAL ESTATE TAX AS PART OF MUNICIPAL TAX INCOMES (CASE STUDY)</b>	<b>321</b>
VIERA PAPCUNOVÁ, BOŽENA NOVÁKOVÁ	321
<b>TAX ASSIGNATION MECHANISM IN SLOVAK REPUBLIC – LEGISLATIVE CHANGES AND FUNCTIONING OVER THE YEARS</b>	<b>331</b>
LEÓN RICHVALSKÝ	331
<b>THEORETICAL AND METHODOLOGICAL PRINCIPLES OF FINANCIAL STATE MANAGEMENT SYSTEM DEVELOPMENT IN UKRAINE</b>	<b>343</b>
OLGA RUDACHENKO, NATALYA BIBIK, VALERIYA YESINA	343
<b>THE CHANGES OF HOUSING AFFORDABILITY IN THE CZECH REPUBLIC</b>	<b>351</b>
DAVID SLAVATA	351
<b>EVALUATION OF IMPACTS OF SUBSIDIES</b>	<b>358</b>
LUCIE SOBOTKOVÁ, ONDŘEJ KOČÍ	358
<b>SOCIAL SECURITY SYSTEM OF THE CZECH POPULATION IN THE CONTEXT OF DEMOGRAPHIC DEVELOPMENT</b>	<b>369</b>
IVAN ŠOTKOVSKÝ	369
<b>DEGREE OF AUTONOMY OF CITY DISTRICTS MANAGEMENT OF STATUTORY CITIES</b>	<b>378</b>
PETR TOMÁNEK	378
<b>TECHNICAL EFFICIENCY OF RETIREMENT HOMES AGGREGATED IN PARTICULAR DISTRICTS OF THE CZECH REPUBLIC</b>	<b>384</b>
IVANA VAŇKOVÁ	384
<b>THE CZECH TAX MIX AT A CROSSROADS</b>	<b>394</b>
JAROSLAV VOSTATEK	394

<b>GREENING OF THE PUBLIC TRANSPORT AS AN ESSENTIAL PART OF THE PUBLIC ECONOMY</b>	<b>407</b>
IVETA VOZŇÁKOVÁ, KAMILA JANOVSKÁ	407
<b>THE LEVEL OF INFORMATION ACCESSIBILITY OF THE WEB PORTALS OF PRIVATE RETIREMENT HOMES IN THE CZECH REPUBLIC</b>	<b>416</b>
IVETA VRABKOVÁ, IZABELA ERTINGEROVÁ	416
<b>LEGAL AND REGIONAL ASPECTS OF STRUCTURING OF THE CZECH REPUBLIC</b>	<b>423</b>
RENÉ WOKOUN, PAVEL MATES, PETR ČECHÁK	423
<b>ELIGIBILITY OF SOCIAL FACTORS IN TAXATION</b>	<b>435</b>
ALENA ZUBALOVÁ	435

# The Assessment of Changes in the Economic Development of Trenčín Region Countryside

Beáta Adamkovičová, Dušan Guťan

## Abstract

*The most significant effect on the economic development has the economic structure of a region, which is assessed by several indicators, such as the concentration of commercial subjects in the region, their size, number, branch and economic stability. The main objective of this paper is to assess performed changes in the economic development of Trenčín region and its rural regions during observed period. Particular types of regions in Trenčín region were delimited according to the degree of rurality. By processing the information database and assessment of changes in the economic development of rural regions, we have used the method of localization analysis. The analysis points out the differences in spatial order of individual economic branches to certain time point. Partial methods of localization analysis, which we have used in our paper, were the localization index and localization coefficient. Main indicator for their application was branch employment rate in selected branches. The results of the analysis point mainly on the economic, and partially also on social function of observed branches in given regions.*

**Keywords:** Countryside, rural regions, economic development

**JEL Classification:** P25, R58

## 1 Introduction

For centuries, Slovakia has been a typical agricultural country. Differentiated development of its area has its historical basis. Despite the fact that during the period of socialism the living standard increased, and we could see an effort to equalize the differences between a city and a village, differentiated regional development persists until today. Slovak countryside began to change at the end of 1990s. Affected by transformation and globalization processes, problems related with the economic and social development of rural regions have deepened even more. Until this period, the agricultural production belonged to dominant branches in the countryside. Its main objective was to ensure the self-sufficiency in the food production. Until 1991, the economic and social development of the countryside was based on three pillars: the possibility to be employed in industrial facilities and services outside the village, in the town, and to commute daily to work; the possibility to be employed in industrial facilities within the agricultural enterprises (affiliated production); and the employment in the basic industry of agricultural enterprises. All three pillars of countryside economic system have collapsed in the period of the transformation. The privatization process and searching for the fulfillment of final products on the market of goods and services lowered the supply of work positions in the towns as well. In the beginning of the transformation, as well as later, rural population haven't had such an opportunity to be employed in the city (Adamkovičová, Králiková, 2016). Later, in the rural settlements, mainly in the background of the towns, small and middle-sized enterprises started to localize. Building of industrial parks also in the rural regions actively solved the process of employment. Nowadays, the agricultural production does not fulfill the main function in the rural development. Gradually, it has diversified and was significantly limited. New commercial subjects were gradually localized into the rural area together with new commercial and business zones, production and warehouse facilities, as well as new residential satellites. Also, the public administration had to come through a significant process of the transformation. The content of the reform of public administration in Slovakia dealt with many interrelating areas. (Brix, 2018; Machyniak, 2018; Švikruha, 2018).

According to Woods (2011), four parallelly interconnected basic processes influenced the modernization of today's countryside: *modernization of the agriculture* – the transfer from classic existential economy to commercial economy with the implementation of modern mechanization processes of economy, application of agricultural chemicals, biotechnologies, and specialization of agriculture and food industry; *economic modernization* – diversification of rural economies, which used to be dependent on traditional branches, toward modern ones; *infrastructural modernization* – it represents the electrification, telecommunication networks, building and repair of road and railroad networks, etc.; *social modernization* – the support of traditional culture, education, implementation of practices of a good citizenship and civil society.

During last twenty years, the countryside becomes the active rural type for living, business making and tourism. As the society had to come through the significant structural changes since 1990, so the changes occurred also in individual spatial and settlement types. The most visible changes could be seen on local and regional level, which improved the living conditions of the rural population (Gajdoš, 2015). Today's countryside represents a complex space, which is formed by various and dynamic processes.

### **1.1 Delimitation of the countryside and the typology of rural regions**

The issue of the countryside and rural regions development belongs to important priorities of the European Union. It is connected also with equalizing the differences in its current member states, which could create own definitions of the countryside, based on the definition of the OECD and its modifications, or on the basis of own criteria (Klufová, 2015).

Current typology of the rural area is based on the definition of the OECD, which was adopted by the Association of Rural Development in the program period 2007-2013. It is based on two basic hierarchical levels of territorial units - on local and regional level. On the local level LAU2 (formerly known as NUTS V), the rural settlement is considered as a municipality, of which settlement density is lower than 150 inhabitants / km<sup>2</sup>. Currently, in Slovakia, there is 2933 municipalities, and 140 of them have the status of a city/town. An average settlement density in Slovakia is 110 inhabitants / km<sup>2</sup>.

On the regional level NUTS II, there are four basic areal units according to the degree of the rurality, such as Bratislava region, Western Slovakia, Central Slovakia and Eastern Slovakia. Except the Bratislava region, all three regions are typical by the rural character. Introduced typology is based on the percentual ratio of the population living in the rural areas, calculated from the total share of the population.

The same indicator (the share of the population living in the countryside based on the total share of the population) is applied also by the typology of regions on the level NUTS III (8 regions):

- Predominantly rural regions – more than 50% of the population lives in the rural areas,
- Other rural regions – 15-50% of the population of the region lives in the rural areas,
- Mainly urban regions – less than 15% of the population lives in the rural areas.

On the level NUTS III, Slovakia has two Mainly rural regions, which is the region of Banská Bystrica and Nitra region. The group of Other rural regions is represented by Trnava region, Prešov region, Žilina region, Košice region and Trenčín region. The only region in Slovakia – Bratislava region – is considered as Mainly urban region, as in this region less than 15% of the population lives in the rural areas based on the total number of the population of the region.

On the local level LAU 1 (NUTS IV), in Slovakia, there are 79 districts. This typology is also based on the indicator: the ratio of the population living in the rural areas, based on the total share of the population. The classification is following:

- Predominantly rural regions – more than 50% of the population lives in the countryside.

- Other rural regions – 15-50% of the population of the region lives in the countryside.
- Predominantly urban regions – less than 15% of the population lives in the countryside.

From the total number of 79 districts in Slovakia, 31 of them belong to Predominantly rural regions, 39 districts belong to Other rural regions. In Slovakia, urban regions (districts) occur in Bratislava region (the districts of Bratislava I to IV), and in Košice region (the districts of Košice I to IV). (Buchta, 2007; ŠÚ SR)

## 2 Material and Methods

For the assessment of the economic development of regions it is possible to use many indicators. Regarding the limited extent of this paper, we have assessed the changes in the economic development of the rural regions of Trenčín region on the basis of the indicators of branch employment rate, mainly in the branches of the economy, industry, agriculture, building industry, commerce and other branches. In other branches, there were accumulated the employed in the public administration, financial services and facilities connected with the tourism. By processing of the information database and the assessment of the changes in the economic development of the rural regions, we have used the method of the localization analysis (Isard, 1960). From the *method of the localization analysis*, we have used the localization index and the localization coefficient.

- Localization index expresses the relation:

$$IL_{ij} = [X_{ij} / Y_i] / [S_j / S]$$

$X_{ij}$  – number of employed in the i-branch in the j-region

$Y_i$  – number of employed in the i-branch in the country

$S_j$  – number of inhabitants in the j-region

$S$  – number of inhabitants in the country

Localization index – measures the proportionality of the representation of “i” branch in the “j” region against the number of inhabitants. The index measures the condition of the proportionality in the representation of the branch based on the number of inhabitants, and partially shows the influence of the branch on social development in the region.

## 3 Results and Discussion

For the needs of the analysis of the economic development of Trenčín region, we have delimited particular types of the regions according to the degree of rurality. This regionalization was performed on the basis of the indicator – the share of the population living in the rural settlements, based on the total population of the region.

**Table 1 – The typology of regions of Trenčín region**

The types of regions according to the share of the population living in the rural settlements in %	
<b>Significantly rural</b>	
Bánovce nad Bebravou	50,25
Nové Mesto nad Váhom	53,65
Partizánske	50,89
Púchov	59,92
<b>Other rural</b>	
Ilava	32,37
Myjava	38,21
Považská Bystrica	36,58
Prievidza	46,38
Trenčín	42,09

Source: ŠÚ SR, author's work

According to the introduced methodology, Trenčín region was divided into two types of rural regions: to significantly rural regions and other rural regions. To significantly rural regions belong four regions: Bánovce nad Bebravou, Nové Mesto nad Váhom, Partizánske and Púchov. The highest share of the population living in the rural areas was recorded in Púchov region with the rate 59,92%. The lowest share from the total share of the population living in rural areas is in the region of Bánovce nad Bebravou (50,25%). In Trenčín region, dominant are Other rural regions, consisting of five districts: Ilava, Myjava, Považská Bystrica, Prievidza and Trenčín. Trenčín region does not have any regions of an urban type with the 15% or lower share of the population living in rural settlements.

In the branch classification of branch activities, we assess the development of an average number of employees in the branches of the agriculture, industry, building industry, commerce and accumulated branches stated as other services (number of employed in the public administration, financial and insurance services, and tourism facilities). In the Table 2, we have introduced an average evidence number of employees in stated branches in the subregions of Trenčín region in the period 2013 – 2017.

**Table 2 – The development of branch employment in Trenčín region and its subregions**

Region	Branch	Year						Change 2017- 2013
		2013		2015		2017		
		Number of employees	%	Number of employees	%	Number of employees	%	
Significantly rural	Agriculture	2 318	5	2 282	4	1 771	3	-547
	Industry	28 959	58	30 289	57	31 611	54	2 652
	Building industry	629	1	933	2	913	2	284
	Commerce	5 121	10	5 983	11	7 162	12	2 041
	Other branches	13 041	26	13 655	26	16 646	29	3 605
	<b>Total</b>	<b>50 068</b>	<b>100</b>	<b>53 142</b>	<b>100</b>	<b>58 103</b>	<b>100</b>	<b>8 035</b>
Other rural	Agriculture	1 428	2	1 432	1	1 484	1	56
	Industry	38 482	42	40 537	41	45 324	43	6 842
	Building industry	3 858	4	3 546	4	3 278	3	-580
	Commerce	13 406	15	13 532	14	12 896	12	-510
	Other branches	34 125	37	38 958	40	43 265	41	9 140
	<b>Total</b>	<b>91 299</b>	<b>100</b>	<b>98 005</b>	<b>100</b>	<b>106 247</b>	<b>100</b>	<b>14 948</b>
Trenčín region	Agriculture	3 746	3	3 714	2	3 255	2	-491
	Industry	67 441	48	70 826	47	76 935	47	9 494
	Building industry	4 487	3	4 479	3	4 191	3	-296
	Commerce	18 527	13	19 515	13	20 058	12	1 531
	Other branches	47 166	33	52 613	35	59 911	36	12 745
	<b>Total</b>	<b>141 367</b>	<b>100</b>	<b>151 147</b>	<b>100</b>	<b>164 550</b>	<b>100</b>	<b>23 183</b>

Source: ŠÚ SR, author's calculations

From the point of view of the employment rate in particular branches we can state that in the significant rural regions the decrease in the number of employees (-547) in the branch of the agriculture is clearly visible. This decrease was caused by already existing trend of the decrease of workforce of older employees, and workforce with lower level of education working in the branch of the agriculture. In other rural regions, despite the decrease (except Prievidza region) we can see the increase (56) of employed in this branch. The branch of the industry in significantly rural regions saw the increase (2 652) of the workforce in all regions, except Púchov region with a slight decrease (-59). From the point of view of the creation of new work positions in the branch of the industry, dominant are other rural regions over significantly rural regions, in which there were created 4 190 more work positions. The branch of the building industry did not ensure the increase in the number of work positions in the region. Total decrease of employed in Trenčín region represented the decrease of 296 work positions during the monitored period of years 2013–2017. Such trend is similar in all other rural regions with significant decrease (-580) of employed in this branch. In significantly rural

regions, we have recorded the increase (284) in the supply of work positions in this branch during the monitored period. The branch of commerce ensured 1 531 work positions in Trenčín region. In significantly rural regions, we can see the increase in created work positions by 2 041, while only in the region of Bánovce nad Bebravou we have recorded the decrease (-12) in the number of work positions. Different situation was recorded in other rural regions with the total decrease of 510 employees in this branch during the researched period. For the branch Other services, we can state that this branch is the most dynamically developing branch in Trenčín region during the period 2013 – 2017. In total, the number of work positions in Trenčín region has increased by 12 745, from which it has increased in other rural regions by 9 140 and in significantly rural regions by 3 605.

The localization analysis is classified to the basic methods, by which we can spatially assess the allocation of economic activities. The space is understood as a region in the relation to the reference area, which can be the region, Slovakia or an EU country.

**Table 3 - Localization index and localization coefficient of branches in the subregions of Trenčín region**

Region/Year	SR		Trenčín region		Significantly rural		Other rural	
	2013	2017	2013	2017	2013	2017	2013	2017
<b>Number of inhabitants</b>	5 410 836	5 435 343	593 159	588 816	191 129	190 001	402 030	398 815
<b>Number of employed</b>	1 305 169	1 503 894	141 367	164 550	50 068	58 103	91 299	106 247
<b>Agriculture</b>								
<b>Number of employed</b>	37 469	33 624	3 746	3 255	2 318	1 771	1 428	1 484
<b>Localization index</b>	-	-	0,91	0,89	1,75	1,51	0,51	0,60
<b>Localization coefficient</b>	-	-	0,92	0,88	1,61	1,36	0,54	0,62
<b>Industry</b>								
<b>Number of employed</b>	370 886	435 386	67 441	76 935	28 959	31 611	38 482	45 324
<b>Localization index</b>	-	-	1,66	1,63	2,21	2,08	1,40	1,42
<b>Localization coefficient</b>	-	-	1,68	1,61	2,34	1,88	1,48	1,47
<b>Building industry</b>								
<b>Number of employed</b>	56 445	58 446	4 487	4 191	629	913	3 858	3 278
<b>Localization index</b>	-	-	0,73	0,66	0,32	0,45	0,92	0,76
<b>Localization coefficient</b>	-	-	0,73	0,66	0,29	0,40	0,98	0,79
<b>Commerce</b>								
<b>Number of employed</b>	183 941	199 205	18 527	20 258	5 121	7 162	13 406	12 896
<b>Localization index</b>	-	-	0,92	0,93	0,79	1,03	0,98	0,88
<b>Localization coefficient</b>	-	-	0,93	0,93	0,73	0,81	1,04	0,92
<b>Other branches</b>								
<b>Number of employed</b>	656 428	777 233	47 166	59 911	13 041	16 646	34 125	43265
<b>Localization index</b>	-	-	0,66	0,71	0,56	0,61	0,70	0,76

<b>Localization coefficient</b>	-	-	0,66	0,70	0,52	0,55	0,74	0,79
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Source: ŠÚ SR, author's calculations

This analysis points out the differences in the spatial order of particular economic branches to certain time point. Partial methods of localization analysis, which we have used in this paper, are the localization index (IL) and localization coefficient (KL). Localization index expresses the proportionality of the branch employment rate related to the number of inhabitants, and the localization coefficient expresses the proportionality of the representation of the branch employment rate related to the total employment rate. The localization coefficient expresses the economic function of the branch in the region, and the localization index assesses also the social function of the branch in the region. The results of the localization analysis in Trenčín region in relation to the national economy are stated in the Table 3.

In significantly rural regions of Trenčín region, greater effect on the economic and social development than in the country had the branches of the agriculture (IL 1,51; KL 1,36) and the industry (IL 2,08; KL 1,88). During the monitored period of 2013 to 2017, the effect of these two branches on the development has decreased. The branch of the commerce (IL 1,03; KL 0,81) was on the comparable level. The branch of the building industry (IL 0,45; KL 0,40) and other services (IL 0,61; KL 0,55) recorded lower values than in the country, since their share was not able to approach the share of these branches in the country.

In other rural regions of Trenčín region, the most significant effect on the social and economic development was recorded by the branch of the industry (IL 1,42; KL 1,47), which was higher than in the country. The branch of the commerce (IL 0,88; KL 0,92) was on the comparable level to the national structure. Lower rates than in the country were recorded in the economic structure, hand-in-hand with the effect on the economic and social development in these regions of the branch of the agriculture (IL 0,60; KL 0,62), building industry (IL 0,76; KL 0,79) and other services (IL 0,76; KL 0,79).

#### 4 Conclusion

From the results of the localization analysis arises that in the significantly rural regions of Trenčín region, higher effect on the economic and social development than in the country was recorded in the branches of the agriculture and industry. During the period of researched years 2013-2017, the effect of these two branches on their development gradually decreased. The branch of the commerce has comparably similar values. The branch of the building industry and other services had lower rates than in the country, since their share was not able to approach to the share of these branches in the country. In other rural subregions of Trenčín region, the most significant effect on the economic development, as well as social development, was recorded in the branch of the industry, which was higher than in the country. The branch of the commerce was on the comparable level within the economic structure of the country. Lower values than in the country were in the economic structure, together with the effect on the economic and social development in these regions of the branch of the agriculture, building industry and other services.

Thanks to the changes in the process of the transformation, Slovak economy now comes through a new phase of its development with many new opportunities, challenges and new problems. Achieving a long-term competitiveness of the economy is realizable only by creating the conditions for the development of the knowledge economy. Thus, the national program of reforms is focused on the development of areas, which support the growth of a creative potential of Slovak economy. Therefore, a significant role plays the area of education, employment, information society, as well as the field of science, research, innovations and business environment. Not less significant role plays also the support of establishing and developing the small enterprises with the aim to create new work positions



for the purpose of the diversification of economic activities in the countryside, development of the countryside tourism and agritourism.

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# **eParticipation Services Provided by Municipalities with Extended Powers in the Moravian-Silesian Region**

**Eva Ardielli**

## **Abstract**

*eParticipation is considered as a means for strengthening of civic engagement and suitable instrument for ensuring open and participatory governance through information and communications technologies. eParticipation enables the public to participate more broadly and deeply in the policy making process across all levels of government. The services of eParticipation refer to the means of ICT-supported participation in processes concerning administration, policy-making, decision-making, service delivery, information provision, consultation, deliberation, etc. Nowadays eParticipation is becoming a preferred decision-making participation for many people, as well the electronic services are becoming very important for the citizens. The paper is focused on the evaluation of eParticipation services on local level of government in the selected municipalities with extended powers in the Czech Republic. The research draws attention to the insufficient possibilities of online participation of citizens at the local level of the public administration in the Czech Republic and insufficient offering of eParticipation services on municipal websites in the Moravian-Silesian Region.*

**Keywords:** *eParticipation services, Moravian-Silesian Region, municipalities with extended power*

**JEL Classification:** *H11, H83*

## **1 Introduction**

Rapid expansion of eParticipation as a tool for engagement and strengthened collaboration between governments and citizens is contemporary trend worldwide (Khosrow-Pour, 2005; Schmidhuber et al., 2019 or Kube et al. 2015 or Suebvises, 2018). Its objective is to improve access to information and public services as well as to promote participation in policy-making, both for the empowerment of individual citizens and the benefit of society as a whole (United Nations, 2017). As stated by Mergel and Desouza (2013) or Wiewiora, Keast and Brown (2016) the idea of participating citizens into administrative tasks has considerable potential to strengthen citizens' trust in government and to improve the efficacy and effectiveness of public service delivery. eParticipation is also considered as a necessary component or a prerequisite of eDemocracy (Lee, 2017). eParticipation helps people engage in politics and policy-making and makes the decision-making processes easier to understand, thanks to Information and Communication Technologies (ICTs) (eParticipation, 2017).

The paper is focused on the issue of eParticipation and its application on local level of government in the Czech Republic. The aim of the research is to evaluate the offer of eParticipation services provided on the municipal websites by the municipalities with extended powers in Moravian-Silesian Region.

## **2 eParticipation in Public Administration**

Citizens act in two roles towards public administration - as an object of its activity (they must respect measures and regulations) and as a source of legitimacy of public administration activities (in terms of the Constitution, citizens are the source of all state power). The basic way in which citizens fulfill the role of a source of power is the participation in elections. They can also exert their influence on public affairs in other ways, but in general it is about political participation, i.e. involving citizens in governance processes (King, Feltey and Susel, 1998 and Europa, 2015).

Čermák and Vobecká (2011) say that participation is a balancing of power inequality between citizens and civil organizations on the one hand and a public administration apparatus on the other.

eParticipation covers all democratic processes supported by ICTs. eParticipation is one of the two basic components of eDemocracy, the latter being eElections. eParticipation is about involving citizens in public decision-making processes by using ICTs, so that citizens are involved in governance as such (Pekárek, 2008).

However there is no all-inclusive definition of eParticipation, the general consensus is that it includes three interactions between governments and citizens (Lironi, 2016; OECD, 2001; United Nations 2014):

- eInformation - enabling participation by providing citizens with public information.
- eConsultation - engaging citizens in decision-making on public policies and services by appropriate tools.
- eDecision-making - empowering citizens through possibility to co-design the policy and service components and delivery modalities.

### **3 eParticipation Services**

Nowadays, it is not enough for the local government to disclose information to citizens only on a bulletin board in the office or on its website. Citizens expect more from the office when they use the Internet, smart phones and social media as a means of communication. In today's communication skills, eParticipation is becoming a preferred decision-making participation for many people. Also electronic services are very important to website users (citizens), as they save time and money (Bruno, 2016). They are the tool to support urban development and innovations as well (Komminos and Schaffers, 2012). New platforms using data processing tools are emerging nowadays. They are supporting the development of Smart Cities where citizen involvement is crucial (Dias and Cacho, 2018) and also the citizen-government interaction in open government arenas and collaboration platforms as investigated by Schmidhuber et.al (2017) and Kube et al. (2015).

At present, researches are being developed the quantifiable evaluation criterion of eParticipation tools and eParticipation services using the information available on municipal web portals (Agudo et al., 2017). eParticipation services can be determined according to the Digital Governance in Municipalities Worldwide (2015-16) methodology, see Holzer and Manoharan (2016). The methodology currently includes 20 items, many of which are included in the evaluation criteria in this research. The following 11 items are the selected eParticipation services that are crucial for this research:

- Payment for utilities, fees or penalties online: This is a service where the local government website allows users to pay for public services online, such as tap and waste water, gas, electricity, dog fees, parking fines, and so on. The user only logs in with his / her login data on the web page, clicks on the "pay" button and the system automatically redirects the user to the payment gateway, when the system itself generates data such as bank details, variable symbol and amount. The user is not concerned about finding out this data and paying for the transfer or going to the office. From the comfort of your home it also has an overview of paid or unpaid services.
- Filing a tax return or paying tax online: The local government website will allow users to submit a tax return, for example, from real estate, acquisition of immovable property, income, etc. The user only logs in with his / her login information, clicks the tax button and has a complete overview of filed returns, payment, etc. The user is automatically redirected to the appropriate online tax office page. After clicking on the "Submit Return" button, he will fill in the necessary data and send the data. Subsequently, the local government website allows users to pay the tax directly and online by clicking on "pay".
- Apply for permission, license and track their online status: The user is allowed to apply for permission through the local government website, such as building permission or license and tracking their online status, possibly under a generated submission number.

- Online procurement: The user is allowed to submit a public contract online through the local government website, have an overview of their assigned orders and responses, and there is also the opportunity to respond to answers.
- Filing a complaint online: The user is allowed to file a complaint through the local government website, whether on the behavior of the official or on the running of the office and monitoring the status of the complaint online, possibly under a generated submission number.
- Making inquiries about civil affairs online: Local government websites allow the user to submit to the Authority any questions about civil matters, such as when a new pavement will be built or the local road will be repaired. The user also has the option to see answers to other users' questions in the section.
- Search the FAQ section (Frequently Asked Questions) to accompany citizens by online city administration: Local government websites allow users in the FAQ to search for information that the user needs to know, concerning his rights, responsibilities, forms of document submissions, paying, office functions, etc.
- Apply for information online: The user is allowed to request the Office for information via the website, when he / she enters his / her email and the authorized officer sends the requested information to the user immediately.
- Crime announcements, administrative law violations, or online corruption: The User has the opportunity to notify the Office of a crime, violation of administrative laws and regulations or corruption, including anonymously, by means of an appropriate form on the local government website, which will be sent to the responsible official in the matter.
- Book or buy tickets for events in the city or municipal hall, arenas or other city facilities online: The user is allowed to buy an ticket online at the local government website. He selects a specific action in the event calendar, bookes a ticket and pays it online. The ticket is then sent to him electronically with a bar code.
- Searching databases online: Local government websites allow the user to search the databases, such as in the clerk's database, when the user enters a specific letter or enters the full name and searches the database for the appropriate data.

#### **4 eParticipation at the Local Level of Public Administration in the Czech Republic**

At the national level, there is quite a good level of eInformation services and eParticipation tools. At the local level, the situation is different. In local government, officials are not obliged to use eParticipation tools and provide eParticipation services. There is also no legal framework for their implementation. The main reason for the lack of implementation of participatory instruments is the lack of political will to do so. After their election, politicians rely more on expert advisers and on their own decisions than on consulting citizens, which they consider costly and lengthy. Local government eParticipation tools in the Czech Republic include mainly:

- Electronic surveys: They include electronic polls and questionnaires. They are commonly used as a tool to detect public response.
- Public consultations: They are relatively rare, the most frequent organizers of consultations are mainly non-governmental organizations, usually on the subject of the environment.

#### **5 Material and Methods**

The aim of the research was to evaluate eParticipation services and tools offered on web portals of local government in the Czech Republic. In this research the municipalities with extended powers falling under the Moravian-Silesian Region (22 municipalities in total) were selected for the analysis, see Table 1.

**Table 1 – Research sample of municipalities**

Municipality	Number of inhabitants	Municipality	Number of inhabitants
Bílovec	7558	Frýdlant nad Ostravicí	9773
Bohumín	21663	Jablunkov	5727
Frýdek-Místek	57135	Kopřivnice	22597
Havířov	76109	Krnov	24315
Hlučín	14042	Odry	7361
Karviná	56848	Rýmařov	8492
Kravaře	6737	Orlová	30345
Nový Jičín	23676	Vítkov	5912
Opava	57931	Bruntál	16913
Ostrava	295563	Český Těšín	25000
Třinec	36077	Frenštát pod Radhoštěm	10878

Source: Own processing according to RIS (2014)

The subject of the analysis are the websites of individual Czech municipalities with extended powers in the Moravian-Silesian Region. Several methodologies can be used to evaluate web portals. Web Content Accessibility Guidelines (WCAG), the first ever Web Accessibility Guidelines, were created by the Web Accessibility Initiative (WAI), which is officially part of the W3C Consortium (W3C, 2017). In 2004, at the Czech Ministry of Informatics, the Best Practice methodology was developed to evaluate the accessibility of public administration portals, which was redesigned two years later as part of the research project (Rules of Accessibility, 2017).

The structure of the criteria for assessing the level of eParticipation services in the presented research was designed on the basis of the Digital Governance in Municipalities Worldwide methodology, viz Holzer and Manoharan (2016), where the Rutgers-SKKU eGovernance Performance Index is calculated. This index is the base for the evaluation of the web portals of the major cities of the world's largest states. This evaluation is performed in two-year cycles and is organized by The eGovernance Institute, part of Rutgers University, Newark. It is a prestigious and at the same time the most comprehensive methodology for evaluating web portals, so it was chosen as the basis for this research.

The criteria of the Digital Governance in Municipalities Worldwide methodology are covering 5 major areas:

- Privacy and Security,
- Usability,
- Content,
- Services,
- Citizen and Social Engagement.

Scoring scales vary according to the type of question - 0 or 1 point can be obtained when answering "yes" or "no". There are also questions where different rates can be obtained (from 0 to 3 points respectively). In the overall score, each area is equally represented, regardless of the number of questions it contains.

For the needs of analysis of provided eParticipation services, 10 evaluation criteria are used. The criteria according to which the eParticipation services are evaluated have been selected taking into account our local conditions and based on preliminary surveys in this area. Criteria that are not implemented in the Czech Republic in most cases on websites of regional level have been omitted, such as the possibility of online permission and licensing applications, following the status of their processing or online access to private information or health records. The selected criteria are based primarily on Digital Governance in Municipalities Worldwide methodology. Some evaluation parameters have been taken over, others have been modified and several have been newly included. The maximum number of points that can be earned is 11.

**Table 2 – Selected criteria for evaluation of eParticipation services**

No.	Criteria	Number of points
1.	Does the web site include FAQs?	0 - 1
2.	Does the web site allow database searches?	0 - 1
3.	Does the web site provide information for users to solve life situations?	0 - 1
4.	Does the web site allow citizens to comment on or respond to the work of individual municipal departments through online forms?	0 - 1
5.	Does the web site allow citizens to create online complaints and notifications to be requested?	0 - 2
6.	Does the web site allow citizens to pay online for utilities, fees or fines?	0 - 1
7.	Is there a live chat on the web site to receive suggestions?	0 - 1
8.	Does the web site offer newsletters or community news to subscribe?	0 - 1
9.	Does the web site offer calendar of events?	0 - 1
10.	Does the web site offer online records from the council meeting?	0 - 1

Source: Author's processing according to Holzer and Manoharan (2016)

## 6 Results and Discussion

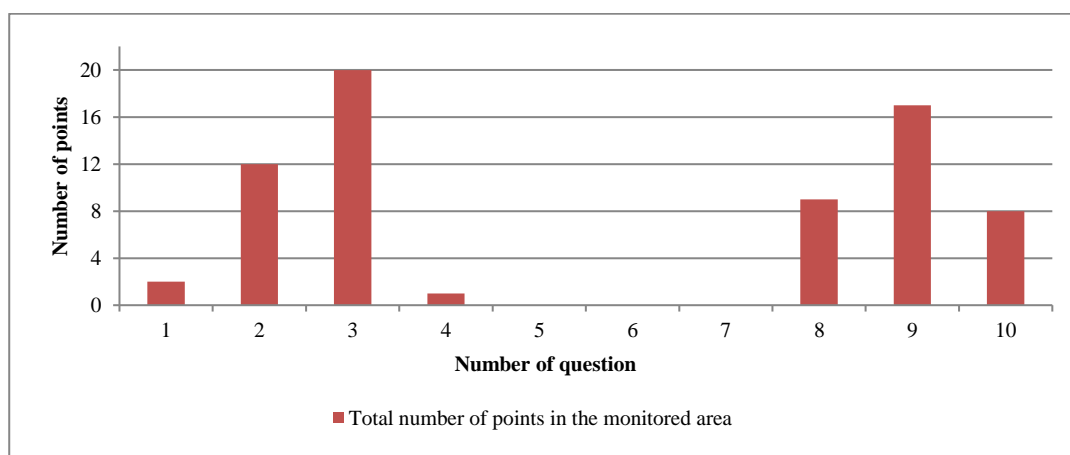
Results of eParticipation services implementation research on websites of municipalities with extended powers in the Moravian-Silesian Region are evaluated for:

- Individual areas of eServices (according to the number of points achieved in individual areas by question number)
- Individual municipalities (according to the total number of points in all monitored areas)

The research showed that eParticipation services are provided to a very low degree in municipalities with extended powers in the Moravian-Silesian Region. The average number of points earned per municipality is 3.14, it means less than 29 % of the possible maximum of 11 points. Figure 1 shows the results by area (question) for all municipalities. The maximum number of points per area is 22 points (the eService was found on all municipal websites), minimum is 0 (the eService was found on no municipal website).

**Figure 1 – Evaluation of monitored eParticipation services in municipalities by question number**

Source: Official websites of municipalities



Most often, from the monitored eServices, citizens are offered information about dealing with life situations (91 % of municipalities) and about calendar of events (77 % of municipalities). Unfortunately, in no case was the possibility of buying tickets online for these events. Quite often it

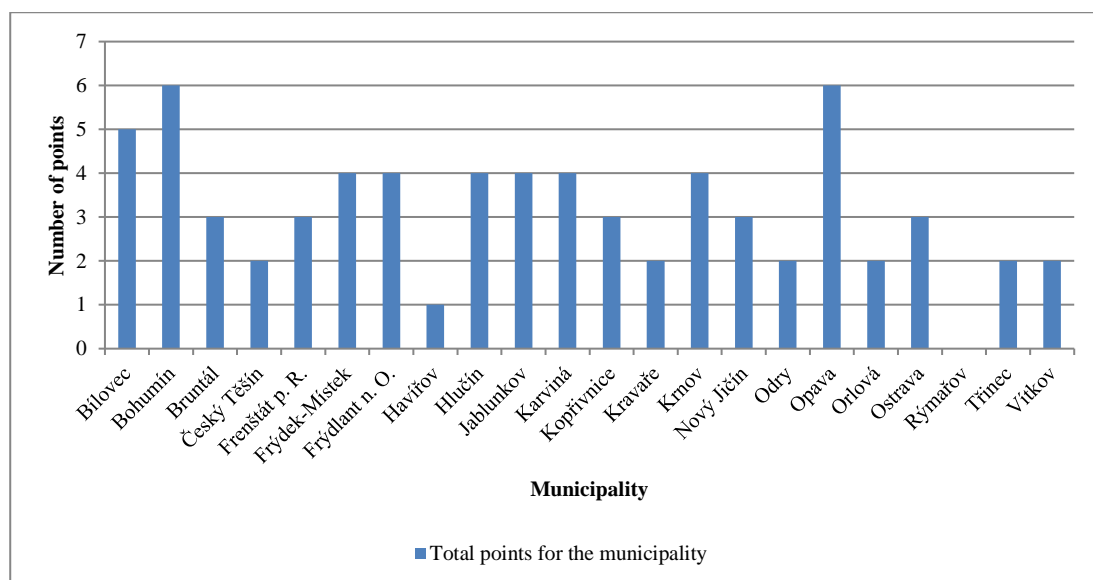
is possible to search in databases (55 % of municipalities), offer newsletters or general news with the possibility to subscribe (in 41 % of municipalities) and online records of meetings of councils (in 36 % of municipalities). Quite surprisingly, at least on the web portals, there is a FAQ section with answers to frequently asked questions and the possibility to comment or respond to the work of individual departments via online forms. Nowhere is it possible for citizens to file online complaints and notifications, ask for online information, pay for public services online, charges or fines, and use live chat to receive different incentives.

Figure 2 shows the results by individual municipalities. The maximum number of points per area is 11 points (all monitored eService was found on the municipal website), minimum is 0 (no eService was found on municipal website).

The worst of the evaluated municipalities was Rýmařov, which does not provide any of the monitored eParticipation services. Havířov offers its citizens a single eService from monitored 10 eServices; Český Těšín, Odry, Orlová, Trinec and Vítkov offer two eServices; Bruntál, Frenštát pod Radhoštěm, Kopřivnice, Nový Jičín and Ostrava offer three eServices; Frýdek-Místek, Frýdlant nad Ostravicí, Hlučín, Jablunkov, Karviná and Krnov offer four eServices. Five eServices are offered by Bílovec. The highest number of eParticipation services is offered by Bohumín and Opava.

**Figure 2 – Evaluation of municipalities according to the use of eParticipation services**

Source: Official websites of municipalities



Overall, the level of eParticipation services offered by municipalities in the Moravian-Silesian Region can be assessed as unsatisfactory. Municipalities should focus on introducing neglected but very effective forms of citizen involvement in decision-making processes through information and communication technologies. In particular, these are live chats designed to receive a variety of suggestions, embed various information in the form of a blog, MMS, text and graphic files, and tools for online decision making as ePetition and eReferendum. In the future, it is desirable to mediate the active participation of citizens in online transmissions of discussions of public affairs, with the possibility of interfering, and the introduction of online discussion forums with immediate feedback from officials. With the development of information and communication technologies, new tools will also certainly emerge, suitable for increasing the level of eParticipation of citizens and these will be more than appropriate to start using.

## 7 Conclusion

It is clear from the evaluation of eParticipation services that their scope and level are insufficient for the needs of eGovernment to function properly. Unfortunately, the observed state of practical implementation of eParticipation services in municipalities with extended powers of the Moravian-Silesian Region corresponds to the current state of the whole Czech eDemocracy, which is significantly behind the general state of information and communication technology development.

An important factor that can significantly influence the future of this part of eGovernment are also citizens themselves, that should put pressure on representatives and officials of their municipalities to make more use of the various eParticipation tools and services that will make them easier and better life. In particular, it should be possible to submit online complaints and notifications, pay online for public utilities, fees and penalties, apply for various licenses online and follow-up their status, and access various personal information about individual person online.

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**Appendix -** Point evaluation of eParticipation services of individual municipalities with extended power in the Moravian-Silesian Region. Source: Official websites of municipalities

Number of question	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	Total number of points
Municipality	Points per municipality										
Bílovec	0	1	1	0	0	0	0	1	1	1	5
Bohumín	0	1	1	1	0	0	0	1	1	1	6
Bruntál	0	1	1	0	0	0	0	0	1	0	3
Český Těšín	0	0	1	0	0	0	0	0	1	0	2
Frenštát p. R.	0	1	0	0	0	0	0	1	0	1	3
Frýdek-Místek	0	0	1	0	0	0	0	1	1	1	4
Frýdlant n. O.	0	1	1	0	0	0	0	1	1	0	4
Havířov	0	0	1	0	0	0	0	0	0	0	1
Hlučín	0	0	1	0	0	0	0	1	1	1	4
Jablunkov	1	1	1	0	0	0	0	0	1	0	4
Karviná	0	1	1	0	0	0	0	1	1	0	4
Kopřivnice	0	0	1	0	0	0	0	0	1	1	3
Kravaře	0	0	1	0	0	0	0	0	1	0	2
Krnov	0	1	1	0	0	0	0	0	1	1	4
Nový Jičín	0	1	1	0	0	0	0	0	1	0	3
Odry	0	0	1	0	0	0	0	0	1	0	2
Opava	1	1	1	0	0	0	0	1	1	1	6
Orlová	0	0	1	0	0	0	0	0	1	0	2
Ostrava	0	1	1	0	0	0	0	1	0	0	3
Rýmařov	0	0	0	0	0	0	0	0	0	0	0
Třinec	0	1	1	0	0	0	0	0	0	0	2
Vítkov	0	0	1	0	0	0	0	0	1	0	2

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# Position of EU Countries according to the State of Good Governance Development

Eva Ardielli

## Abstract

*Requirement for provision of better and more accountable public services to the citizens and the promotion of sustainable socio-economic development is the basic issue of contemporary public administration in all European Union countries. The basic concept of modern and properly functioning public administration leading to these targets is driven by Good Governance principles. Good Governance concept presents an actual trend of managing public affairs worldwide. It promotes the basic elements of subsidiarity, participation and democracy in modern public administration. Presented paper is focused on the evaluation of Good Governance development in the European Union countries in long-term, in the years 1996, 2007 and 2017. The evaluation is based on the application of multiple criteria decision making methods (concrete TOPSIS method). The original data used in the research are the values of Worldwide Governance Indicators monitored and processed by World Bank. As the result, there are presented the complete rankings of European Union countries according to the performance of public administration in the area of Good Governance in the selected years. It is assessed which countries are performing well and which are performing poor within the European Union in the long-term.*

**Keywords:** EU countries, Good Governance development, TOPSIS

**JEL Classification:** H11, H83

## 1 Introduction

Good Governance means the attainment of ideals of democracy and participation of people in all activities of state. It is currently a great subject in all countries of the world. Ewadlt (2001) says that Good Governance is directly related to both public administration processes as well as the essential ingredients of accountability, democracy, ethics, rule of law and transparency. As specified by Klenk and Nullmeier (2004) or Zanger (2000) Good Governance is the designation for high-quality and properly functioning public administration with an integrated element of subsidiarity, allowing for the participation of the citizens and respecting democratic values and the rule of contemporary modern state. The successfully implementation of Good Governance concept in the individual countries indices the quality of governance and overall maturity of public administration in the state. However as stated by Agere (2000) Good Governance is an ideal state of government, which is as a whole difficult to achieve.

The evolution of the concept of Good Governance began in the 20th century, mainly related with the debt crises in developing-countries in the 1980s. The role of the government started to grow in importance as a significant factor of socio-economic development, see Pillay (2016). Good Governance was considered as key factor of sustained growth in developed countries, see Agere (2000) and one of the most important elements in the fight for poverty reduction and equitable economic growth in developing countries, see Grindle (2004).

The concept of Good Governance became a guide for developing countries, and the attention shifted to governance reforms. The governmental reforms in recipient developing countries became a condition for the allocation of aid by international donor institutions (Acemoglu and Robinson 2010). However this enforcement of governmental reforms in by some authors considered as ineffective and in reality not supporting policy changes, see Abdelatif (2003).

Good Governance is primarily presented by World Bank as a requirement of national states to facilitate successfully economic and administrative reforming processes (Haldenwang, 2004). It is theoretically and practically often conceived with the application of so-called Good Governance indicators. The country efforts are examined and evaluated based on the implementation of governance reforms and the results are dependent on the improvement of the governance indicators. There are many approaches to assessing Good Governance, using different indicators evolving during the time.

In various scientific papers are commonly used the Worldwide Governance Indicators (WGI) of the World Bank, see World bank (2018) to compare countries in the area of Good Governance and to follow the development in individual years. Their use in country evaluation is generally defended, however, some authors have questioned their explanatory power, see Andrews (2008) or Sundaram (2018).

The approach of this data processing varies by different authors also. In frequent case, the averaging is used, as applied by Žák (2005) or Ardielli and Halásková (2015a). Another approach is to make the sum of aggregate indicators, see Madzova, Sajnoski and Davcev (2013). In the presented article, Multiple-criteria decision-making (MCDM) methods were applied for comparison of countries according to the Good Governance level.

The aim of the presented article is to perform the evaluation of Good Governance development in the European Union (EU) countries by usage of TOPSIS method (The Technique for Order Preference by Similarity to Ideal Solution) in selected years 1996, 2007 and 2017. The analyse is based on the processing the Worldwide Governance Indicators collected by the World Bank, see World Bank (2018).

The original approach of this assessment is the usage of TOPSIS method, which determines the ranking of EU countries according the level of Good Governance in selected years. It appears to be an appropriate solution for processing of above mentioned six aggregate indicators of World Bank, as result of TOPSIS is not a mere average nor a mere sum of processed values and TOPSIS takes in the account the variability moreover.

## **2 Good Governance Evaluation Approach**

Due to the fact that Good Governance concept has a relatively short history there is a large number of projects dedicated to the modern measuring of governance. The outputs of these projects cover wide portfolio of governance indicators. The beginnings of the application of the governance indicators are in the 80s of the 20th century, when the qualitative case studies were published emphasizing the importance of governance for socio-economic development, see North (1991). The main sponsor of these research projects were organizations such as USAID, International Monetary Fund, World Bank, United Nations or EU.

Approaches to evaluating of individual aspects of the governance are focusing mainly on expert assessment panels that enable comparisons among countries using a variety of indicators. The pioneers of this type of projects became private consulting firms already in the late 70s and 80s of the 20th century. In academic research, the data for assessment of governance began to be used in recent years, e.g. Clague et al. (1999). Parallel to these commercial activities gradually began to be promoted non-profit and academic projects of expert measurement of governance, see Potůček et al. (2007). The most famous is the “Corruption Perception Index of Transparency International”. Other projects dealing with the evaluation of governance are e.g. Studies of the World Bank “World Business Environment Survey”, an investigation of the University of the United Nations “World Governance Survey” or the “Transformation Index” by Bertelsmann Foundation and “Global Governance Initiative” of the World Economic Forum, see Court and Hyden (2003). Charron et al. (2015) developed the European Quality of Government Index (EQI). It is based on survey data on corruption and governance in the EU regions in 2010 and 2013. Very important contribution to the development

of Good Governance indicators is a project of the World Bank “Institute Aggregate Governance Indicators”, see UNPACS (2018). Benefit of indicators of Good Governance lies primarily in the fact that they highlighted the key role of Good Governance for successful socio-economic development.

The World Bank is attempting to measure governance performance with six aggregated indicators of Good Governance. Some authors criticize this approach, for example Andrews (2008) questions the validity of definitions of Good Governance indicators and their relationship to the reality of their effectiveness. Although the indicators are frequently used to compare countries because of their consistency, long time series and large area coverage.

### 3 Measuring of Good Governance by the World Bank

Democracy, ethics, rule of law and transparency are key ingredients of effective government and public administration (Andrews, 2008) or (Ewaldt, 2001:9-11). The concept of Good Governance is very much inter-linked with these institutionalised values, see Agere (2000).

The World Bank has been collecting data about Good Governance for the broad international comparison since 1996 and currently they have been monitored annually. It processes indicators of governance for 215 economies of the world, closer UNPACS (2018). Good Governance is monitored based on six aggregate indicators WGI: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. These aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries. They are based on over 30 individual data sources produced by a variety of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. The WGI were initiated by Daniel Kaufmann (Natural Resource Governance Institute and Brookings Institution) and Aart Kraay (World Bank Development Research Group) in 1999, see (World Bank, 2018). There are used over 100 indicators as source data. These data sources are rescaled and combined to create aggregate indicators using a statistical methodology known as an unobserved components model. A key feature of the methodology is that it generates margins of error for each governance estimate. These margins of error need to be taken into account when making comparisons across countries and over time, see (Kaufmann et al., 2010). Each of the aggregate indicators has normalized values in the interval from -2.5 (worst result) to 2.5 (best result). The World Bank is claiming a strong correlation between governance indicators and economic performance. WGI measures are considered to be useful as a tool for broad cross-country comparisons and for evaluating broad trends over time.

### 4 Methods

In scientific work and comparisons, the evaluation of Good Governance in the countries is frequently based on the averaging, similarly to Žák (2005). The basis for the comparison is the composite index of Good Governance which is constructed on the basis of six aggregate indicators of WGI as the arithmetical average, see (1).

$$\bar{x} = \frac{1}{n}(x_1 + x_2 + \dots + x_n) = \frac{1}{n} \sum_{i=1}^n x_i \quad (1)$$

Where  $\bar{x}$  is the Composite Index of Good Governance,  $n$  is the number of aggregate indicators and  $x_i$  are the results of individual aggregate indicators.

Another possibility of processing these data is to use the sum of Governance indicators by adding up the scores of all of these six items, to get the integrated indicators in a scale of +15 to -15, as applied by Madzova, Sajnoski and Davcev (2013).

No one of these approaches was used in the present article. In presented article the evaluation of the Good Governance development in selected countries was performed based on the application of MCDM methods – TOPSIS.

The TOPSIS as a MCDM method is a practical tool for selection and creation of rank of more variants. According to Shih et al. (2007) or Bhutia and Phipon (2012) the aim of the method is to determine the ranking of individual variants in terms of selected criteria, wherein the variant with the best ranking represents the best compromise variant. TOPSIS method is based on minimizing distance from the ideal variant. The requirement is that a compromise variant was closest to the ideal variant. TOPSIS method assesses this way the variants in terms of their distance from ideal and basal variant. The method requires cardinal evaluation of variants according to the criteria and the weight of these criteria. It is assumed the maximizing character of criteria. Application of TOPSIS method is described in Yoon and Hwang (1995) and it consists of 7 steps:

- Creation of the criteria data matrix  $D$ .
- Calculation of the normalized data matrix  $R = (r_{ij})$  according to formula 1.

$$r_{ij} = \frac{y_{ij}}{\sqrt{\sum_{i=1}^p y_{ij}^2}} \quad (1)$$

Columns of matrix  $R$  are after the normalization the vectors of unit length.

- Calculation of the weight normalized data matrix  $W = (w_{ij})$  according to formula 2.

$$w_{ij} = v_j r_{ij} \quad (2)$$

- Determination of the ideal and basal variant relative to the matrix values.

We will determine the ideal variant  $H$  with the  $(h_1, \dots, h_m)$  and basal variant  $D$  with  $(d_1, \dots, d_m)$  relative to the values of the matrix  $W$ .

- Distance calculation of variants from the ideal variant, respectively basal variant according to formula 3 and 4.

$$d_i^+ = \sqrt{\sum_{j=1}^k (w_{ij} - h_j)^2} \quad (3)$$

$$d_i^- = \sqrt{\sum_{j=1}^k (w_{ij} - d_j)^2} \quad (4)$$

- Calculation of the relative distance indicator of variants from basal variant according to formula 5.

$$c_i = \frac{d_i^-}{d_i^+ + d_i^-} \quad (5)$$

The values of these indicators are between 0 and 1, wherein value of 0 becomes basal variant and the value 1 becomes the ideal variant.

- Creation of the ranking of EU countries according to the  $c_i$  values.

TOPSIS is considered to be a very useful and informative MCDM method and is often and widely used in economics in various decision-making situations in many areas. For example Dincer (2011) used the TOPSIS method when analysing the EU countries and candidate countries in terms of economic activity for the year 2008. Kuncová (2012) compared by TOPSIS method the EU countries from the e-commerce point of view. Ardielli and Halásková (2015b) used TOPSIS method for assessing of eGovernment in EU countries.

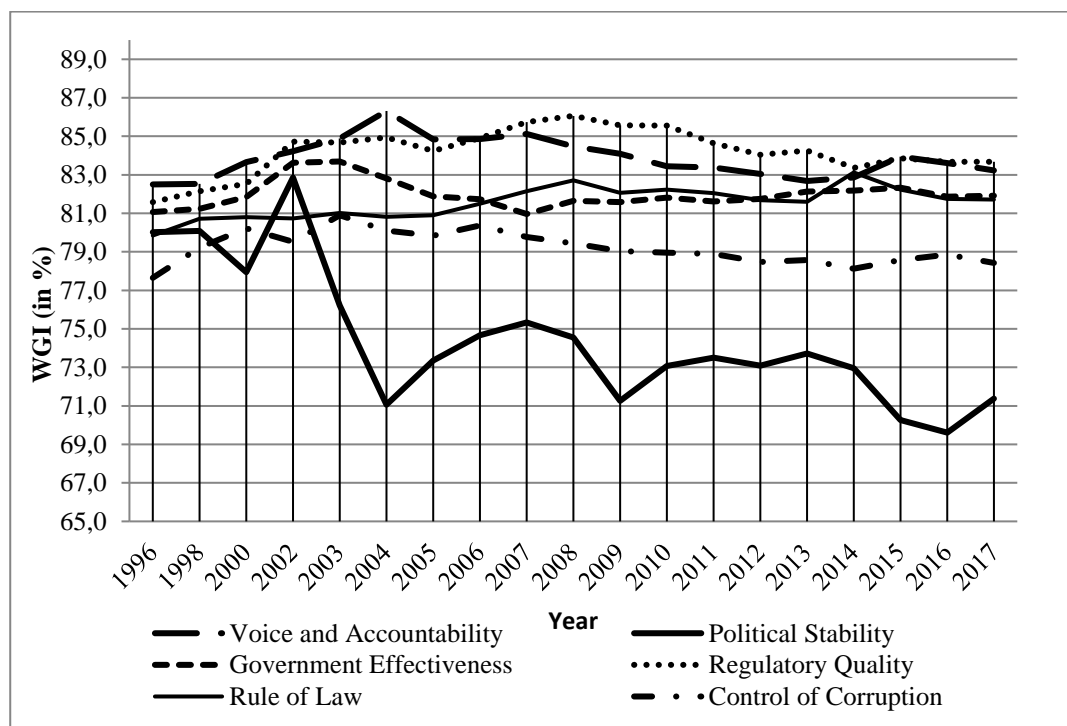
## 5 Results

Primarily the evaluation of development of WGI in EU countries was made. In order to be able to assess the long-term development of governance performance in the EU as a whole, it was necessary

to compare the individual indicators over time. Aggregate indicators of individual 28 EU countries were averaged and their development was captured from 1996 to 2017, see figure 1. Indicator values were converted from a range of -2.5 to +2.5 to percent values.

**Figure 1 – Development of WGI in EU countries (1996 – 2017)**

Source: Author's processing according to (World Bank, 2018)



It is clear from the graph that in the long run, EU countries are best conducting in the area of “regulatory quality” and “voice and accountability”. A slightly worse level was recorded in EU countries for indicators “rule of law” and “government effectiveness”. The worst level is reached by EU countries in indicators „control of corruption“ and „political stability“.

Secondary was made the evaluation of Good Governance in EU countries the years 1996, 2007 and 2017 by usage of TOPSIS method. The weights of the criteria - aggregate governance indicators - were chosen the same and have maximization character. The results are ordered according to the relative distance indicator with values from 0 to 1. The EU countries are ranked from the best to the worst.

In the year 1996 the best positions occupied Netherlands, Denmark, Luxembourg, Finland and Sweden. On the worst positions placed Slovakia, Latvia, Romania, Bulgaria and Croatia. Czech Republic was placed on the 16. position, see table 1.

**Table 1 Evaluation of EU countries according to the Good Governance by usage of TOPSIS (1996)**

Position	Country	Relative Distance Indicator	Position	Country	Relative Distance Indicator
1	Netherlands	0.96	15	Spain	0.66
2	Denmark	0.96	16	Czech Republic	0.65
3	Luxembourg	0.95	17	Italy	0.65

4	Finland	0.94	18	Cyprus	0.65
5	Sweden	0.93	19	Hungary	0.63
6	Austria	0.92	20	Poland	0.58
7	Ireland	0.88	21	Estonia	0.55
8	Germany	0.88	22	Greece	0.54
9	United Kingdom	0.84	23	Lithuania	0.50
10	Belgium	0.83	24	Slovakia	0.44
11	Portugal	0.82	25	Latvia	0.40
12	Slovenia	0.75	26	Romania	0.23
13	France	0.75	27	Bulgaria	0.17
14	Malta	0.70	28	Croatia	0.09

Source: Author's processing according to (World Bank, 2018)

In the year 2007 the best positions occupied Finland, Sweden, Austria, Denmark and Luxembourg. On the worst positions placed Poland, Italy, Croatia, Bulgaria and Romania. Czech Republic occupied 17. position, see figure 2.

**Table 2 Evaluation of EU countries according to the Good Governance by usage of TOPSIS (2007)**

Position	Country	Relative Distance Indicator	Position	Country	Relative Distance Indicator
1	Finland	0.94	15	Estonia	0.60
2	Sweden	0.94	16	Cyprus	0.60
3	Austria	0.93	17	Czech Republic	0.56
4	Denmark	0.92	18	Hungary	0.54
5	Luxembourg	0.91	19	Slovakia	0.51
6	Ireland	0.88	20	Lithuania	0.47
7	Germany	0.80	21	Spain	0.46
8	Netherlands	0.77	22	Greece	0.42
9	Malta	0.76	23	Latvia	0.41
10	Belgium	0.72	24	Poland	0.38
11	United Kingdom	0.70	25	Italy	0.36
12	France	0.66	26	Croatia	0.32
13	Slovenia	0.65	27	Bulgaria	0.20
14	Portugal	0.63	28	Romania	0.12

Source: Author's processing according to (World Bank, 2018)

In the year 2017 were on the top positions Luxembourg, Finland, Sweden, Netherlands and Austria and on the worst positions Croatia, Italy, Bulgaria, Greece and Romania. Czech Republic moved on the 14. position, see table 3.

**Table 3 Evaluation of EU countries according to the Good Governance by usage of TOPSIS (2017)**

Position	Country	Relative Distance Indicator	Position	Country	Relative Distance Indicator
1	Luxembourg	0.93	15	Slovenia	0.60
2	Finland	0.92	16	France	0.59
3	Sweden	0.87	17	Cyprus	0.56
4	Netherlands	0.85	18	Lithuania	0.55
5	Austria	0.85	19	Latvia	0.49
6	Denmark	0.81	20	Spain	0.48



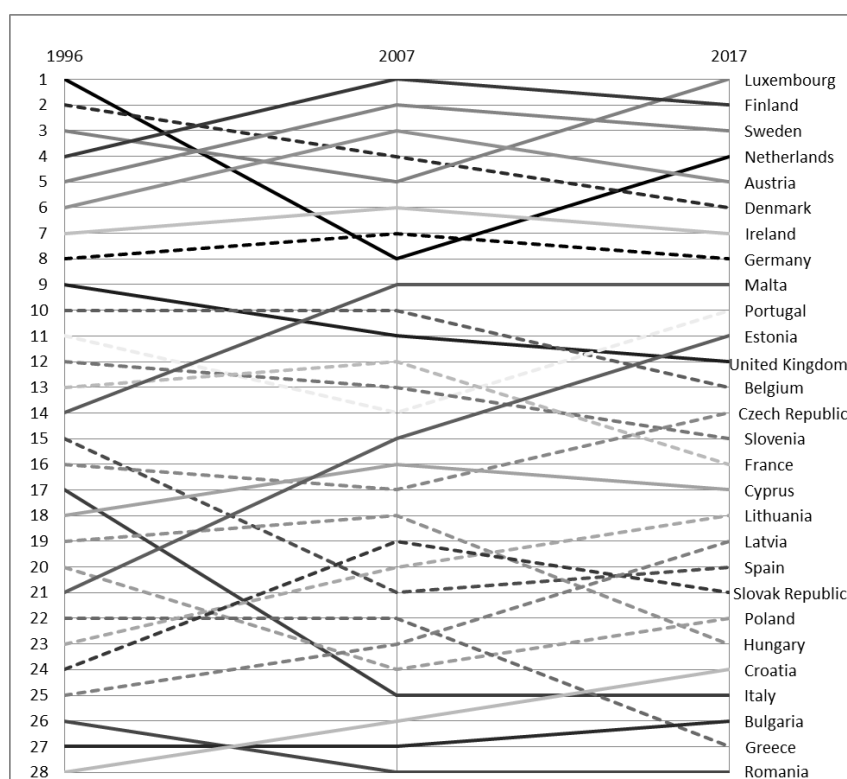
7	Ireland	0.80	21	Slovakia	0.47
8	Germany	0.73	22	Poland	0.45
9	Malta	0.71	23	Hungary	0.39
10	Portugal	0.71	24	Croatia	0.37
11	Estonia	0.68	25	Italy	0.34
12	United Kingdom	0.66	26	Bulgaria	0.23
13	Belgium	0.65	27	Greece	0.19
14	Czech Republic	0.62	28	Romania	0.15

Source: Author's processing according to (World Bank, 2018)

Although the ranking of EU countries vary in individual years, it is possible to notice that the best and worst positions are constantly rotated by the same countries. Therefore, a comparison of the development of the EU countries' rankings in individual years was made, see figure 2. There is a clear view of the evolution of the EU countries' rankings over the reporting period. It is obvious that the top positions are occupied by mainly by Finland, Sweden, Luxembourg, Austria and Denmark. Steadily worst rated countries include Croatia, Romania and Bulgaria.

**Figure 2 Position of EU countries according to the Good Governance development.**

Source: (World Bank, 2018)



## 4 Discussion

In the reports dealing the performance of economic sectors of countries is nowadays frequently used the displaying of the rankings of countries according to the achieved performance in individual branches. For example, on the World Bank pages we can see the rankings of countries according the performance in Good Governance (WGI), on United Nations pages is presented the ranking of countries according to the eGovernment Development Index (EDGI), see UNPACS (2018). Scientific work is also dealing with this issue, see Dincer (2011), Kuncová (2012), Charron (2015) or Ardielli

and Halásková (2015b). Madzova, Sajnoski and Davcev (2013) evaluated the level of Good Governance in West Balkans countries based on WGI. Government performance in EU countries based partly on selected WGI was also evaluated in the study of EUPACK, see European Commission (2018). There are used and compared in EU countries the values of the Voice and accountability index, Control of corruption index, Regulatory quality index and Rule of law index in selected year 2013. The ranking of EU countries was performed for every index separately and the evaluation was limited to two reference years 2013 and 2016.

The main contribution of this paper is the mapping of the development of Good Governance in individual EU countries in long-term and the identification of the main causes of this development. In the presented article there was offered the option of processing the data using MCDM methods, namely the method TOPSIS. Multi-criteria analysis of variants allows the evaluation of final number of variants according to the final number of different criteria. The benefit of this research is the performing of a ranking of EU countries with regard to Good Governance level in long term (years 1996, 2007 and 2017) and the more accurate WGI processing than simply averaging or adding of indicators to the overall indicator.

As a result, countries are ranked according to the Good Governance level in the selected years. The research showed, that there are EU countries that reach in long-term the high levels of monitored indicators as Finland, Sweden, Luxembourg, Austria and Denmark. The public administration is functioning in these countries well in terms of Good Governance. The Scandinavian countries – Denmark, Finland, Sweden - and also Luxembourg, and Austria belong to countries with advanced, well-functioning and effective public administration. These are politically stable countries, with an excellent regulatory environment, transparent public administration, and quality legislation. They achieved very good results in all aggregated indicators of World Bank long-term. Interesting is the position of the Netherlands, which in 1996 occupied the first position within the EU countries, but in 2007 it moved to the 8th position. In 2017 it occupied the 4th position. However in long-term Netherlands have been among the top 10 countries in the world with the best Good Governance. Quite stable and still very good results in Good Governance achieved Ireland, United Kingdom, Germany, Belgium and Portugal. In recent years, their results have been exacerbated by a reduction in political stability indicators due to terrorist threats. Malta and Estonia are countries that have made tremendous progress in Good Governance in the last two decades. This positive development may be due to the development of eGovernment and eServices in these countries and an emphasis on open public administration. France, Slovenia, Czech Republic, Cyprus, Lithuania, Latvia and Spain are countries with average Good Governance across EU countries. Worst achievement in these countries is mainly due to decreased security – terrorist attacks (France, Cyprus, Spain) or due to decreased transparency (Czech Republic, Lithuania, Latvia). On contrary there are EU countries that are lagging behind in Good Governance as Greece, Romania and Bulgaria and improving the situation in these countries will require more extensive public administration reforms. Corruption and poor quality regulations is a major problem in these countries. Not very good results were also achieved by Slovakia, Poland, Hungary, Croatia and Italy because of the poor transparency and legislation. These results are consistent with the outputs of EUPACK report, see European Commission (2018). According this report the Scandinavian countries Denmark, Finland and Sweden are the best performing countries in the EU in overall assessment of public administration performance. Netherlands, the United Kingdom (UK), Estonia, Austria, Ireland, Luxembourg, Germany and France are then closely following behind. In contrast, the highest need for administrative improvement appears in Romania, Greece, Croatia and Bulgaria but also in Italy, Cyprus, Hungary and Slovakia.

According to the results achieved, TOPSIS method was confirmed as suitable tool for evaluation. The topic for further research should be the verification of outputs using another MCDM method and documenting the development in individual years from 1996 to 2017.

## 6 Conclusion

The paper was aimed on the long-term evaluation of the Good Governance development in EU countries. The evaluation of Good Governance is very topical nowadays and it is also closely monitored in European economies. An important role in the evaluation of Good Governance plays World Bank that is processing the Worldwide Governance Indicators for every individual country (for over 200 countries and territories) over the period 1996 – 2017. The outcome of this research is the evaluation of the development of EU countries according to Good Governance level using the WGI in long-term and the assessing of the development of individual countries' placement in the years 1996, 2007 and 2017.

The evaluation was processed by usage of TOPSIS method, which is very suitable in case of ordering of individual variants according to selected criteria. The result of this research is the finding, how the individual EU countries are placed according to the Good Governance level within the ranking in the selected years. Which are the most successful in the long run and which have been placed on the tail long term (lagging behind) and what are the main causes of the changes.

TOPSIS method appeared to be an appropriate solution for determining the ranking of EU countries by government performance, using 6 aggregate indicators of World Bank database as it is not a mere average nor a mere sum of these values. When crating the final order of variants the TOPSIS method takes into account the distance from the ideal and basal variant and the variability of the values.

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# Differences between Czech and French Financial Law and Financial Science

Richard Bartes

## Abstract

*The paper focuses on the comparison between Czech financial law and French financial law with regard to the discipline of public finance. The principal objective of the paper is to analyze main characteristics of the discipline of the financial law in the Czech Republic and in France and to present their differences. For this reason, the analytical, comparative and descriptive methods were used to write this paper and to fulfil its objective. A descriptive method is used for a presentation of French and Czech conception of the financial law, or rather the conception of public finance. Afterwards, the comparative method is applied for a comparison and an emphasis on differences in French and Czech financial law. Owing to the analytical method is possible to gain required results concerned to global distinctions between French and Czech system of the financial law. As for results, it is necessary to mention the accomplished analysis of comparison of financial law in the Czech Republic and in France. In the paper, there are presented crucial differences between Czech and French financial law.*

**Keywords:** Financial law, France, public finance

**JEL Classification:** K19, H39, H70

## 1 Introduction

Economy, (financial) law or public finance – several individual disciplines that have the intersection. It is not a coincidence that there are conferences like “Interaction of Law and Economic” or else similar ones. Within every opportunity, it could be found a lot of interesting and inspiring connections, combinations, benefits or enrichments both for a practice and a theory. The society has to discuss questions of revenue (e.g. issue of taxes) and expenditure (e.g. issue of mandatory expenditure). These questions are usually political questions but also they should be considered with respect to economic, juridical and social aspects. For this reason, Paul-Marie Gaudemet noticed that the discipline of public finances that is the discipline of crossroads (Gaudemet, Molinier, 1996: 22)

It is possible (and necessary too) to distinguish among more conceptions of public finance. In general, there are the Anglo-Saxon, German and French conceptions of public finance. It cannot be ruled out more conceptions or rather philosophies, but in the first place, it is about their social and scientific acceptance. Unfortunately, nowadays terms as “financial law” or “public finance” are used *promiscue*, just as terms like “money” or “finance”. In fact, it does not matter which conception of public finance (or rather financial law) we are interested in, because these conceptions have these mentioned terms in common.

The reason why the author has chosen the French conception of public finance as a base for his scientific research (and for the paper as well) is the fact that the French conception of public finance is not only very interesting (and not researched yet) but also it is a source of an inspiration for another countries.

The example of such a country is Poland, which has adopted a modified performance budget model according to the French model. Another Polish example is an establishment of RIO (i.e. in Polish “regionalna izba obrachunkowa”) which is the control, or rather supervisory authority in the sector of public finance again according to the French model. One more Polish example of the inspiration of the French model of (financial) law is the structure of territorial self-government and its financing. These few examples show that the French conception of public finance or rather some of its elements may be an interesting source of inspiration for Central and Eastern European countries.

The objective of the paper is to analyze main characteristics of the discipline of the financial law in the Czech Republic and in France and to present their differences.

Here we may formulate hypothesis as follows: The discipline of the financial law has different contain in the Czech Republic and in France. To confirm or to disprove this hypothesis, the author uses appropriate methodology and methods working on verification or falsification.

## **2 Material and Methods**

Regarding to the scientific public finance literature, it is necessary to base on the French scientific literature. Nowadays, the most important French authors are considered Michel Bouvier, Joël Molinier, Marie-Christine Esclassan or Alain Lambert. In the past, authors as Paul-Marie Gaudemet, Jean-Pierre Lassalle or Gaston Jèze could be mentioned. It cannot be missed out the Polish scientific literature, which is close to the Czech scientific literature and in many cases derives inspiration from the French conception of public finance.

In this respect, more foreign authors could be mentioned. Just name a few, Eugeniusz Ruśkowski or Mariola Lemonnier can be presented as fundamental Polish authors occupying with the French conception of public finance. In Romania (which is also influenced by the French financial science), Dan Drosu Saguna represents scientific followers of the French conception of public finance.

To fulfil the aim of the paper, which is determined in the introduction, analytical, comparative and descriptive methods were used. First, it is necessary to use a descriptive method for a presentation of the French and the Czech conception of the financial law, or rather the conception of public finance. Afterwards, the comparative method is important for a comparison and an emphasis on differences in the French and the Czech financial law. Owing to the analytical method is possible to gain required results concerned to global distinctions between French and Czech system of the financial law.

## **3 Results and Discussion**

Within the chapter “Results and Discussion” is necessary to clarify selected crucial terms and to explain their historical and factual context. Generally, the financial law provides legal regulation of various activities in the public finance discipline. That is why these terms cannot be confused. Ultimately, the financial law is strictly a juridical discipline, but the public finance is both a juridical discipline and discipline of economic. Therefore, the discipline of public finance is a wider (than the financial law) and interdisciplinary discipline.

First, it will be presented the financial law and its systemic structure in the Czech Republic and in France. The paper does not forget to present an evolution of the financial law in these countries.

Within the second subsection, there are presented conceptions of public finance, which are used in the world and countries, which were influenced by these conceptions.

In the third subsection, the French conception of public finances is presented with regard to its structure and the essence of functioning.

### **3.1 Financial law in the Czech Republic and in France**

The financial law is the youngest branch of law in the Czech Republic. Originally, the financial law was part of the administrative law and it was separated in the 1920s. The financial law belongs to the public law, which is characterized, beside other things, by unequal status of its subjects. The (prevailing) public character of the financial law is influenced by the character of object of the financial law and by methods of legal regulation of the financial law. The main task of the financial law is to regulate public finance and social relations related with the discipline of public finance.

According to the school of financial law in Brno, the financial law is divided into the fiscal and non-fiscal part. (Mrkývka, Pařízková, 2009, 51-53) Whereas the fiscal part is engaged in the regulation of public finance, the non-fiscal part is occupied with the regulation of financial activity and funds. For this reason primarily the budgetary law, the tax law and the law of public expenditure belong to the fiscal part of the financial law in the Czech Republic. For example, the monetary law, the bank law, the hallmark law, the insurance law or the law of financial (capital) market constitute the non-fiscal part of the financial law in the Czech Republic..

In France, there are several differences compared to the Czech financial law. First, it is a terminological distinction - it should not speak about “financial law” but about “public financial law”. This terminological issue affects countries and their financial science that are influenced by the French conception of public finance. For example, the Romanian financial lawyer Dan Drosu Saguna has called his works concerning the financial law as “Drept financiar public”, i.e. according to the French model. (Saguna, 2017)

Paul-Marie Gaudemet has defined the public financial law as “*the branch of public law whose purpose is the study or rules and operations relating to public means*”. (Gaudemet, Molinier, 1996: 22) According to Paul-Marie Gaudemet, just public means are the main feature of public finance.

The French public financial law does not contain the fiscal and non-fiscal part as the Czech financial law contains. Compared to that, the French public financial law means only a legal regulation of public finance. (Bouvier, Esclassan, Lassale, 2017: 169) Therefore, it could be concluded, that the French public financial law resembles more the Czech fiscal part of the financial law than the Czech financial law as a whole.

Another difference between the Czech conception (or more precisely legal construction of legal norms) of financial law and the French public financial law consist in the codification of this branch of law. The Czech financial law is not codifiable, it means that legal norms of the Czech financial law (and its subsystems) are fragmented (e.g. each tax has an individual act). If we focus on France, we could see the situation exactly opposite. France is the exemplary country typical of its codification across the legal regulation of the country (Bartes, 2018: 146). In France, as regards the public financial law (the tax law), there we can find the *Code général des impôts* (in English the Tax Code), which contains both the substantive and the procedural legal norms of the French tax law.

On the contrary, the way in which the financial law was born in both countries is the same. In the beginning, there was the administration law, which contained legal regulation of financial activities. During the second half of 19<sup>th</sup> century in France, the public financial law was separated from the administration law and Gaston Jèze introduce the new scientific discipline – the financial science. In Czechoslovakia, an identical process took place in the first half of the 20<sup>th</sup> century and personalities such as Karel Engliš, Alois Rašín, Vilém Funk or Cyril Horáček can be mentioned.

The importance of the French public financial law in the world is given, for example, by the discovery of VAT. The French financial community is rightly proud on it, it is frequently presented as another French contribution to the world’s general progress similar to that of TGV or Airbus (Bartes, 2018: 10). Moreover, this global tax is an inspiration for many articles around the world, both for lawyers (e.g. see Grmelová, 2018) and for economists (e.g. see Krajňák, Krzikallová, Bařinová, 2018).

Generally, different understanding of the term “financial law” in different countries in Europe is due to the fact that this term, in Western Europe (for example England, France, etc.), corresponds rather with the area of the financial markets, capital markets, commercial banking or insurance and derivatives. Nevertheless, this area, in countries of Central and East Europe, belongs to the financial law, or more precisely, belongs to the non-fiscal part of the financial law.

To sum up this subsection, differences between French public financial law and Czech financial law consist in terminological dissimilarity, different scope of legal regulation object, possibility of



codification and different internal system. And vice versa, the process of historical forming of the financial law, or rather the financial science is identical in these countries.

### **3.2 Different conceptions of public finance in different countries**

The term “public finance” has in essence the same substance in France and in the Czech Republic. Differences could be found in the approach to the discipline of public finance, or rather in the right grasp of this discipline. Whereas the French approach is an independent conception of public finance employed around the world, the Czech approach to the discipline of public finance is a combination of the Anglo-Saxon and German conception of public finance.

The French conception of public finance, sometimes also called as “the French School of Public Finance” was influencing the Czechoslovak financial science during the First (Czechoslovak) Republic. This influence is substantiated by mentions of Karel Engliš on the French professor of administrative and financial law Gaston Jèze who was one of the leading innovator the French financial science in the second half of 19<sup>th</sup> century and therefore he is considered as the “father” of the French public finance. Likewise, Karel Engliš, in his *Financial Science*, refers to the French interpretations and approach involved in the formation of the French tax theory, or he demonstrates and then compares selected aspects of the French budgetary law. (Engliš, 1929. 207, 217, 404)

The same situation was in Poland, which “scientifically” followed four countries – Germany, Austria, Russia and France. The French inspiration and its impact on the current Polish legal and financial science has been already mentioned in the introduction of the paper. Hypothetical, it cannot be excluded an impact of the French conception of public finance on the Soviet financial law because of a historical mutual influencing.

The German conception of public finance, sometimes also called as “the German School of Public Finance”, had an irreplaceable influence in the Czech Republic, especially in the 1990s, for example definitions of the object of multiples taxes could be found as identical. A typical characteristic of these definitions was a rigid and terse manner of the legal construction of tax and its object, which the Czech lawmaker relinquished afterwards. Many tax changes have taken place with an ensuing development and the associated policy measures. Nowadays, the French conception of public finance takes a leading position in countries of Maghreb (i.e. Morocco, Algeria, Tunisia and Libya) because of an epoch of a colonialism, (fully or partially) francophone countries as Canada, Switzerland, Belgium or Senegal.

The current Czech conception of public finance can be seen as a conglomerate of German and Anglo-Saxon concepts of public finance. However, in the case of the contemporary Czech Republic, a certain tendency towards the German model can still be seen, while in the case of Poland, it is rather the French model.

### **3.3 The French conception of public finance**

In most of countries, the financial law is one of many branches of law, which regulates public activities related to finance. The French legal theory considers the public financial law only as a regulation of very strict defined public finance. Other issues are left, for example, to a banking law or to other branches of law such as public economic law. The important question is a position of the tax law in France. The unity of the financial regulation is fulfilled and the legal theory does not accept an independence of the tax law as the independent branch of law. The area of tax law is considered as an inseparable part of the (French) public finance, which belongs to the public law.

The discipline of public finance is one of disciplines, which is subordinated to authorities of public entities and is considered as a part of public affairs. The discipline of public finance is also considered as an instrument of an execution of public duties. The legal regulation of mentioned issues guarantees,

that the state has sufficient possibilities for the exercise of a “good administration” of public finance and therefore state can forestall abusing of public finance.

On the grounds of this conception, Paul-Marie Gaudemet has classified following triad, or rather an approach to the public financial law in France:

- 1) Regulation of public means and treating with these public means;
- 2) Regulation of financial planning;
- 3) Regulation of public financial transactions.

Ad 1) Regulation of public means and treating with these public means includes both the material and formal regulation of production and using financial means regardless of their form or their public/private law origin, but with regard to a character of these means deposited in funds and with regard to their final use (i.e. intended objectives). This area is based on the public nature of the monetary criterion associated with its creation and conditions of using laid down by public law. Paul-Marie Gaudemet defines public means as follows: “Public means are means available to public or private entities to carry out public authority tasks.” (Gaudemet, 2000, 43).

Regulations of public means transactions represent limits of their mobility, which includes their organization and administration. Both their transactions and their regulation can be divided into money transactions (i.g. incoming payments on the one hand, and their use on the other hand – public expenditure). In other words, regulation of public means and treating with these public means includes the regulation of public revenues, including taxes, fees, but also the issuance of state or municipal bonds, the regulation of public expenditure includes mandatory expenditures. It also includes administrative and control mechanisms and process.

Ad 2) Regulation of financial planning corresponds to the budgetary law, i.e. budgetary transactions. It includes short, medium and long-term financial planning for the acquisition and use of public means, the legislative process of budgetary acts and similar process concerned to other public budgets, ensuring financial equilibrium, form, scope and process of public spending approval, public accounting and administrative and accounting budget control.

This area also includes the new category of acts, which are the multi-annual finance planning acts that were set out in the French Constitution amendment of June 2008. The main task of these acts is to reach an equilibrium of public administration accounts.

Ad 3) Regulation of public financial transactions includes the regulation of transactions of public (primarily state) budget and administration of state debt. The French theory of public finance and tax law have a common principle of a unified approach to the legal regulation and reject a fragmentation of the area concerned to both production and using of public means. (Gaudemet, 2000: 71)

With regard to point 1 to 3 and with regard to the comparison with the Czech public finance system, it may be noted that, in particular, the point 2 (the French method of financial planning) is entirely new to the functioning of the Czech discipline of public finance. The financial planning have more methods. The method used in France is based on the performance budgeting which is nowadays extended almost in 60 countries in the world. This method is also used in Poland or in Slovakia on the local government level. The term “financial planning” is frequently replaced by the term “multi-annual programming” which enables to avoid connotations with multi-annual planning of the socialist system and with memories of central planning. The use of the term “programming” also enables to emphasize the use of a modern management method borrowed from the private sector, which has not yet been used in the public sector.

As it was written in the introduction of the paper, the discipline of public finance is the discipline of crossroads. It is a crucial discipline that includes theoretical and intellectual issues about taxation on the one hand, and issues that cannot be occupied without thinking about accounting principles on the other hand. Because of the fact, that the discipline of public finance also includes everything related

to public budgets and the various controls on the use of public funds, this discipline opens up more and more to new themes, such as the evaluation of public policies or the administration.

The discipline of public finance is the crossroads discipline, because it crosses (thanks to the conditions of its intellectual origin) fields of law and economics, political science and philosophy. Nowadays, management techniques and the world of managements take a growing place, without erasing the essential importance of its legal aspects. Discipline of public finance is governed by public law and by specific rules governing financial and accounting actions of public entities (drawing up budgets and accounts, tax collection, controls).

Public finances are at the heart of the political decision, constitute one of the main instruments of public action and express social choices. Public entities influence the economic growth, distribution of resources and the development of the public sector through taxes and expenditures (e.g. subventions). The scope of public finances increases with the scope of public intervention. Initially, public finances were limited only to sovereign functions (e.g. justice, police etc.), but today public finances concern all areas of public actions.

#### **4 Conclusion**

The presented paper was dealing with differences between Czech and French financial law. This fact means that theoretical questions relating to the discipline of public finance (e.g. such as various conceptions of public finance) were also solved. The principal objective of the paper was to analyze main characteristics of discipline of the financial law (in the Czech Republic and in France) and to present mutual identities and differences.

Having analysed first the Czech form and construction of the financial law and then the French form and construction of the financial law, it can be noted that there are differences consisting in terminological distinctions (i.e. for example the name of the discipline; the financial law and the public financial law, or rather the law of public finance) and primarily in the diverse construction of the content of this discipline in the Czech Republic and in France. Whereas the Czech financial law contains two parts (fiscal part and non-fiscal part), the French public financial law contains just a part corresponding with the fiscal part of the Czech financial law. For that reason, the discipline of the Czech financial law incorporates more legal regulation than the French public financial law.

In the paper, there were also analysed general conceptions of public finance (i.e. Anglo-Saxon, German and French conceptions), which are the most commonly used in the world. Differences of various conceptions are caused by the diverse approach of Anglo-Saxon, German and French juridical systems, which are expressed by different budgetary and tax systems, or a different allocation of expenditure.

Therefore, I focused on (in my point of view) the most interesting issue – the French conception of public finance – and I explained the essence, the structure of this conception. As a source for this presentation, I used the text of Paul-Marie Gaudemet who was one of the most famous public law professor in France.

In the conclusion, I can say that the objective of the paper (to analyse main characteristics of disciplines of financial law in the Czech Republic and in France and to present their differences) was fulfilled and the hypothesis given at the beginning was proved.

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# Economical Efficiency Evaluation of Chosen Transport Companies in the Czech Republic

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## Abstract

*Obligation to ensure traffic serviceability is based on law of the Czech Republic no. 194/2010 Coll. public services in transportation of passengers in the Czech Republic. The aim of this paper is to economically evaluate operation of 18 transport companies providing services of public transportation in areas of chosen cities in the Czech Republic. Transport companies were evaluated using technique CV-TOPSIS, based on 7 chosen economical indicators (total incomes, total assets, equity, current liabilities, outside capital and cash flow). These indicators were recalculated, to homogenize chosen sample, per employee in each transport company. Reason for economical research of transport companies is legal form of establishment and fact services provided in area of transport serviceability belong to collectively provided public goods, which are not ensured enough by market on the profit principle. Economic indicators were evaluated in 2001 – 2016, by ensuring public transport, especially in areas of Statutory City of the Czech Republic. These Statutory Cities are 100% founders of companies providing public transport in their territory and active members of Association of Transport Companies of the Czech Republic.*

*Based on the results of processed analysis is lower efficiency by those transport companies that ensured their services in the territory of larger cities (measured by the number of permanent residents) and those that ensured public transport by combination of more means of public transport – buses, trolleybuses, trams and metro in the case of capital city Prague. The paper information for the readers cannot be only found results but also reflection on importance of incomes. Is the aim of public established company to satisfy inhabitants using public transport primary or to achieve diction of the legal subjectivity of the organization in a marked oriented national economy with the aim of achieving of positive economic result? The authors of the paper believe neither of the views is, by itself, correct.*

**Keywords:** Czech Republic, transport companies, city, multi-criteria analysis, TOPSIS technique

**JEL Classification:** D24, E22, H32, H44, H59, L91, P35, R41

## 1 Introduction and review of literature

Transport routes to ensure services for inhabitants in defined territory. But transport is, primarily, service as old as humanity itself. It has developed from primitive transport of cargo to nowadays relatively fast and comfortable transport of passengers and cargo. Transport itself does not produce any goods but humanity is dependent on its perfect function already many centuries and it is condition for development of society, level and quality of living standard of population.

Eisler, Kunst and Orava (2011) put transport between technical and social – economical services that can be public service. Ochрана at al. (2007) considers there is not only one definition of public service. Public service is economic, respectively public goods economically. Ochрана (2007b) states public services is often connected to externalities and inefficiency in spending public funds often leads to lack of resources to ensure public services in full range and required quality. Simons (2009) deals with problems arising from measurement of productivity in public services and states differences in providing services by organizations in private and public section. Services are often more expansive in public sector by reason of their collective consumption. As general rule, efficiency should be key and universal doctrine of ambitious activity in market economy.

The authors of the paper perceive concept of public service as the kind of service that is consumed by public, is produced by public authorities and founding of the service is fully or partly from public budget. There is existence of legal forms ensuring public services in the Czech Republic to reflection. There are public organizations giving services on non – profit principles on one hand (e.g. education or culture) and typically profit organizations providing public services on the other (Transport or health). Therefore, one of the aim of this paper is to show economical results of organizations in transport area with typical profit subjectivity by providing public services and founder is public subject (Municipality).

The authors of the paper realise very well any expression of efficiency is limited in public services by many specific factors. For example, absence of competition, setting of full price of service, or higher performance motivation and responsibility for outcomes not only by management of organization but by founder as well. Given factors of evaluation of efficiency generally distort and make it more difficult, as many authors states, e.g. Leibstein (1996); Niskanen (1971); Lane (2000) or Dooren et al. (2010). Nevertheless, theory offers many approaches allow to measure and evaluate efficiency of outcomes and results of production process. These are usually ex post evaluation approaches in most cases. Pursuant to the approaches it is possible, subsequently, professionally predict development and effects of specific process and programs.

Litman (2014) draws attention to different possibilities of public transport funding and points out to ensuring of long-term stability of funds in favour of development and improvement of public transport and also to wide distribution of costs between inhabitants. It is logical to use different scientific methods which evaluate and asses level of public services with future impact (e.g. investment in purchase of new means of transport or development of infrastructure investment). These methods will lead to use such indicators that will not evaluate only performance but effect in economic or social field with paying attention to environmental sustainability too. Bruun and Vanderschuren (2017) drawn to fact it is necessary better management of public funds, when they respond to statement of Musgrave and Musgrave (1994) public goods are ensured publicly, if they are paid by public budget and are for free or partly paid by individual consumer.

Mittwalllyova (2014) states to production of public services that one of the main sign of public service is non-profit character and it must be subsidised by founder. If we accept this perspective, we can divide public services to net public services or mixed public services which are partly paid from public budget and partly by their users. This is the most common way of funding public transport in the Czech Republic. Stiglitz (1997) stated that imbalance in public services market is usually result of failure of private companies focusing their own interests (mostly to maximise profits) but not interests of society (public good). The legal form of organizations, in public transport area explored by us, are heading to it as well. All the explored transport companies are established by public subject but in such legal form that should be primarily established to gain a profit and not to satisfy users. To justify such legal form can be, for instance understanding of Řežuchová (2010), she states provision of services covers wider importance within the meaning ensuring, organization, regulation, check an funding of specific public service.

Public transport in the Czech Republic is such transport, that is operated in pre-specified transport (tariff) conditions and it is accessed to every taker from population without difference. It is organized so called urban transport within larger cities (usually from 40K inhabitants) or agglomeration (regional centres). A feature of public transport is its organization within pre-specified lines with firm scheduling that creates net character in geographically bounded territory (most often municipalities or regions). Transport services in the Czech Republic is addressed through the Public service act in transport of passengers, national and regional plans and transport policy of the Czech Republic (2013, p. 79)

**Aim of this paper** is economical evaluation of effectiveness of management of 18 chosen transport companies established in profit legal form, they are established by local government (municipality)

to ensure traffic services in their territory. Each transport company and their operation are evaluated in 2001 – 2016. The paper focus neither on other indexes nor specificities of economy in transport services (regulatory state acting, rules of traffic, protection of competition, environmental protection, regulatory matters in the field of safety and approval of building chosen infrastructure). Organizations offering public transport are evaluated only from the economical point of view, it is efficiency counted by seven laid down indexes through multicriterial analysis, in particular CV-TOPSIS technique.

## 2 Material and Methods

A wide range of transport companies ensure public transport in the Czech Republic, these companies are usually members of Association of Transport companies of the Czech Republic. There are evaluated 18 transport companies in this paper that are established by public subject (municipality) and have typical profit legal form.

Necessary data of individual indexes were drawn from annual accounts 2001 – 2016, from balance, the profit and loss account and cash flow. These data were available from company registration office on official server of Czech Justice and Ministry of finance portal IISSP-MONITOR. Mariánské Lázně Transport Company was established in 2006, thus it was added to analysis in that year.

Economical evaluation of finance efficiency of chosen transport companies comes out from Czech literature. In total, 7 indexes were evaluated by multicriterial analysis, except of result of management in different forms (e.g. EBIT, EAT, ROA and other). Evaluated were: Total sales (I1), current assets (I2), total assets (I3), equity (I4), current Liabilities (I5), outside capital (I6) and cash flow (I7), recounted to one employee of evaluated transport companies in 2001-2016 in Czech crowns. The indexes were chosen according to recommendation of Czech literature focusing on evaluation of private subject state in publication of Grünwald and Holečková (2009), Dluhošová et al. (2010) or Sedláček (2011).

The sense of given indexes is to comprehensively capture efficiency of investigated transport companies and evaluate their financial health. Chosen indexes are common indexes usually monitored by profit legal form organizations. This criterion is met in chosen transport companies. Kislíngierová (2010) or Kraftová and Prášilová (2013) also recommend using these indexes to economical evaluation of financial health of public established organizations.

**Table 1 - Application of selected parameters in multi-discrimination analysis**

Models	Current assets	Short-term liabilities	Total assets	Own capital	Foreign capital	Sales	Cash flow
Altman	X	X	X	X	X	X	-
Taffler	X	-	X	-	X	X	-
Beerman	-	-	X	-	-	-	X
IN 95	X	X	-	-	X	X	-
IN 99	X	X	X	-	X	X	-
IN 01	X	X	-	-	X	X	-
IN 05	X	X	-	-	X	X	-
Bonity index	-	-	-	-	X	-	X
Springate	X	X	X	-	-	X	-
Poznaňsky	X	X	X	-	-	-	-
Virág and Hajda	X	X	X	-	X	-	X

Source: Own processing

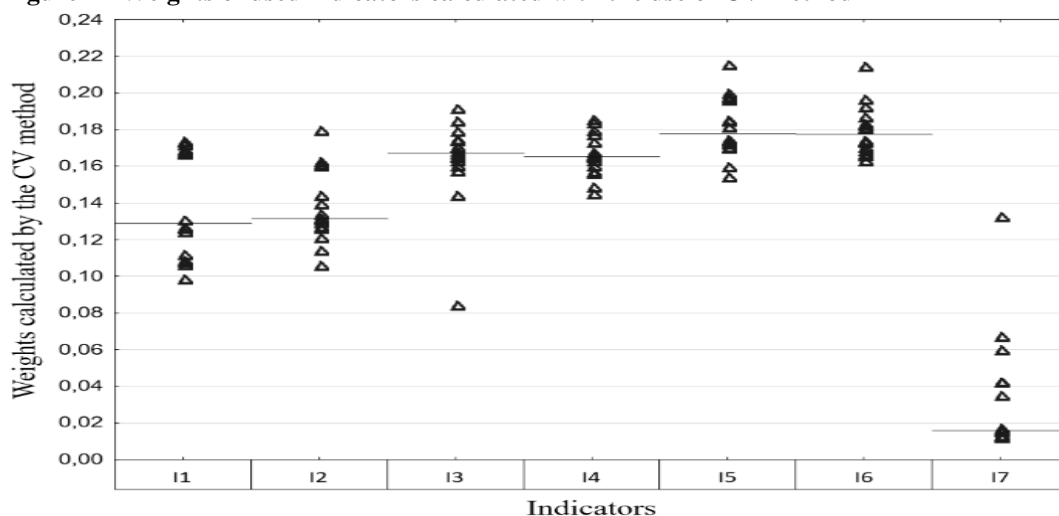
The above mentioned indexes were processed by CV-TOPSIS method. Gained result have been submitted to statistical analysis including more test, for example Shapiro-Wilk test (normal allocating of variables). Kruskal-Wallis test (mean). Levene test (homoskedasticity) or correlation and

regression analysis for increasing of objectivity of processed analysis. Analysis was processed in MS Excel, Statistic 13.4 and Statgraphics XXVII.

## 2.1 Determination of importance of chosen indexes

It was necessary to determine an importance of given indexes to enable simultaneous evaluation of chosen transport companies, respectively, to determine weight significantly influence application of chosen multicriterial method (Yalcin, Unlu, 2018). It was used more methods to set weight of each indexes in combination with TOPSIS technique that Tzeng et al. (1998) divided into two basic groups, i.e. subjective and objective methods. Subjective methods come out from individual preferences of authors, whereas, objective methods set weight of indexes based on mathematical models without any authors interference. As, it is not possible to set weight of each indexes according to own view, respectively view of specialised literature (it is not uniform from the point of view of finance index importance) objectives methods were used, for instance CRITIC, MW, SD, IDOCRIW, CV, IDP or SVP methods. Use of these methods is supported by the group of authors who described further these methods (e.g. Čereška et al. 2018, Yalcin, Unlu 2018, Singla et al. 2018). It is used procedure of last mentioned author for this paper, with results given in figure one.

**Figure 1 - Weights of used indicators calculated with the use of CV method**



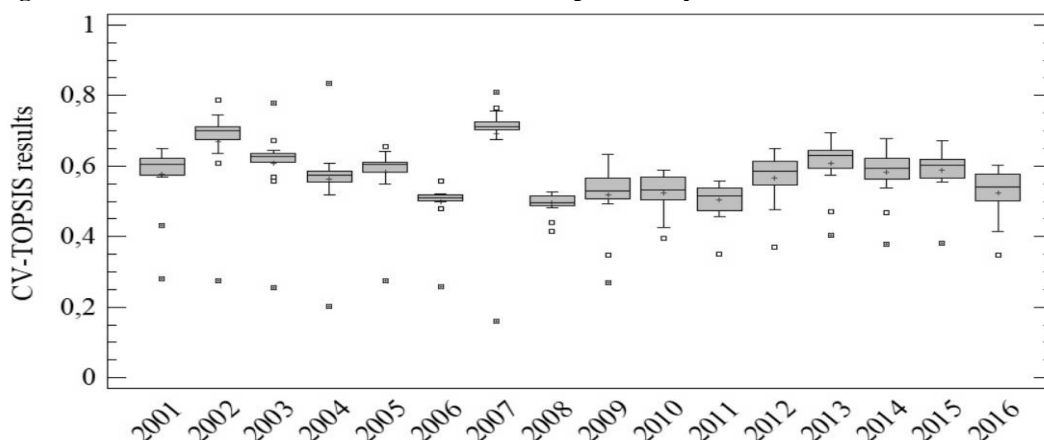
Except of 2004, index I7 (cash flow per one employee) is the less important index among all, while its weight did not reach 1 % ( in particular 0,5995 %) in the last observed year 2016. We evaluate this fact positively because it shows balance of volume of current finance resources in evaluated transport companies. We observe balance of all indexes across observed term (figure 1), this balance is distorted by result of year 2005 in total asset index (I3) per employee. Give weights are enter data for needs of the paper for TOPSIS method that is calculated according to Vavrek, Kotulič, Adamisin (2015) and Vavrek (2017). According to Liang et al. (2017), this method can provide reasonable alternatives for practical applying of real time. Bhutia, Phipon (2012), Milani, Shanian, El-Lahham (2008), Pavic, Novoselac (2013), focus more close to TOPSIS method, while its use can be found in more areas, e.g. evaluation of tourism (Yin et al., 2017), theatres (Ardielli, Bečica, 2018), transport (MARKovic et al., 2017), agriculture (Seyedmohammadi et al., 2018), evaluation of providers of cloud services (Radulescu, Radulescu, 2017) or subject evaluation of local government (Vavrek, Adamišin, Kotulič, 2017; Vavrek, 2017).



### 3 Results

Figure no. 2 shows results of above mentioned indexes (I1-I7) by 18 transport companies established by public subject in typical profit legal form in 2001 – 2016.

**Figure 2 - Total results of CV-TOPSIS method for period of years 2001 – 2016**



Great differences are demonstrated year on year in the results of analysed years (2001 – 2016). High variability is caused, in particular, by existence of outliers, or extreme values, on both sides of result spectrum, where only the presence of these outliers meant rejection of hypothesis of normal result distribution. The best found value, in absolute expression, can be seen, e.i. total evaluation of efficiency in 2007 and 2001. In this period, the worst results were reached too, of which result was the biggest heterogeneity of result of examined sample. There is fluctuation of result values year on year, after 2008, there is gradually growth and there is slight decline of found values since 2013.

**Figure 3 - Confirmed linear relation between results of CV-TOPSIS method for period of years 2001 – 2016**

	-1,0 ————— 1,0															
2001		X	X	X	0,35	X	X	X	X	X	X	X	X	X	X	X
2002	X		0,59	X	0,40	X	X	0,37	X	X	X	X	0,40	X	0,44	0,41
2003	X	0,59		X	0,40	X	0,46	X	0,44	0,41	0,41	0,44	0,46	X	X	X
2004	X	X	X		X	X	0,38	X	X	X	X	0,51	0,47	X	0,46	X
2005	0,35	0,40	0,40	X		X	X	0,38	X	X	X	X	X	X	X	X
2006	X	X	X	X	X		X	0,36	X	X	X	X	X	X	0,35	0,39
2007	X	X	0,46	0,38	X	X		X	0,42	0,46	0,42	0,44	0,48	0,35	0,44	X
2008	X	0,37	X	X	0,38	0,36	X		0,49	0,53	0,46	0,45	0,44	X	0,48	0,50
2009	X	X	0,44	X	X	X	0,42	0,49		0,70	0,50	0,54	0,42	X	X	X
2010	X	X	0,41	X	X	X	0,46	0,53	0,70		0,73	0,69	0,65	0,46	0,50	0,56
2011	X	X	0,41	X	X	X	0,42	0,46	0,50	0,73		0,75	0,74	0,53	0,54	0,49
2012	X	X	0,44	0,51	X	X	0,44	0,45	0,54	0,69	0,75		0,80	0,39	0,63	0,61
2013	X	0,40	0,46	0,47	X	X	0,48	0,44	0,42	0,65	0,74	0,80		0,45	0,67	0,59
2014	X	X	X	X	X	0,35	0,35	X	X	0,46	0,53	0,39	0,45		0,52	0,49
2015	X	0,44	X	0,46	X	X	0,44	0,48	X	0,50	0,54	0,63	0,67	0,52		0,74
2016	X	0,41	X	X	X	0,39	X	0,50	X	0,56	0,49	0,61	0,59	0,49	0,74	

The value of mean did not prove, e.i. median ( $W = 166,895$ ,  $p \leq 0,01$ ), which was already indicated in results of chart no. 2. Significant linear relation ( $\alpha = 0,05$ ) between result of every year shows chart no. 3, according to this chart it is possible to divide researched period into two parts. First part, 2001 – 2006, the results are different and their linear dependence is rare maximal medium. In the second part, 2007 – 2016, the numbers of correlations increase as well as their intensity.

Table no. 2 shows us specific placement of evaluated transport companies, it is necessary to take into account a structure of absolute results of CV-TOPSIS method, given above. Even small differences in indexes (I1-I7) caused significant changes in total placement of transport companies.

**Table 2 - Ranking of transport companies within entire monitored period**

Transport company of the city/cities	Average	Median	The best	The worst
Prague	17,31	17	16	18
Karlovy Vary	7,75	7,5	3	13
Chomutov and Jirkov	11,31	11,5	4	15
Liberec and Jablonec nad Nisou	14,63	15	3	18
Most and Litvínov	12,13	12	6	17
Brno	5,38	4,5	1	13
České Budějovice	9,56	10	1	16
Děčín	3,25	2,5	1	11
Hradce Králové	6,00	4,5	1	16
Jihlava	12,44	15	1	17
Olomouc	9,25	9	5	15
Pardubice	8,63	8,5	4	15
Ústí nad Labem	9,69	9	1	17
Ostrava	10,06	10,5	1	17
Zlín-Otrokovice	5,06	3,5	1	12
Mariánské Lázně	9,82	9	6	16
Opava	4,31	4	1	15
Plzeň	11,88	12,5	2	17

Source: Own processing

Total position of each transport company is in table no. 2. In the table, we can see 18 evaluated companies in period 2001 – 2016. 9 companies out of total 18 placed, at least in one year, in first place, e.i. 50 %. Majority part companies but also noted placing at the end of scale. Transport company of Děčín can be marked as economically most efficient company in given period. It was, except of 2001, always placed among first 6 best evaluated companies, while it had the best evaluation in the last six years (2011 – 2016).

We can also state, based on analysis, among each year we can watch significant differences in result structure, respectively in absolute evaluation of efficiency and whilst at the same time, except of 2 subjects (Transport company of Děčín, Transport company of capital city Prague) it is not possible to identify subject with stable placement.

#### 4 Discussion

Transport was, is and always will be momentum of development in life of all nations. Nowadays, people cannot imagine life without transport, means of transport and sufficient transport infrastructure. Transport belongs among fastest developing sectors of national economies in developed countries. Growth of this branch is driven by personal motoring (Buehler, 2018) or by technological and social changes within ensuring of user's mobility (Shaheen and Cohen 2018). The result of fast development is negative environmental impacts (Bruun and Vanderschuren, 2017). Many government representatives (states, regions, municipalities) try to solve this negative impact by implementing new rules, aiming to reduce this precipitous development of personal motoring (parking zones, ban on some categories of vehicles damaging environment into historical city centre) in favour to boost function of public transport.

The evaluation of economy efficiency functioning of organizations ensuring public services is very actual question and it is not important, who is founder, in context of 21<sup>st</sup> century, as regards to lack

of funds and presses to increase quality of public services. Lower efficiency was found by transport companies of larger cities and municipalities ensuring public transport through combination of different more ecological means of transport (metro, trams, trolleybus) in contrary to municipalities with only bus public transport. It follows that, the appeal to impact of public transport on the environment and diversity of means of transport increase not only operating costs of public transport (number of employees, technical equipments, energy consumption, wages) but necessary investments into development of infrastructure (metro, trams) from public funds too.

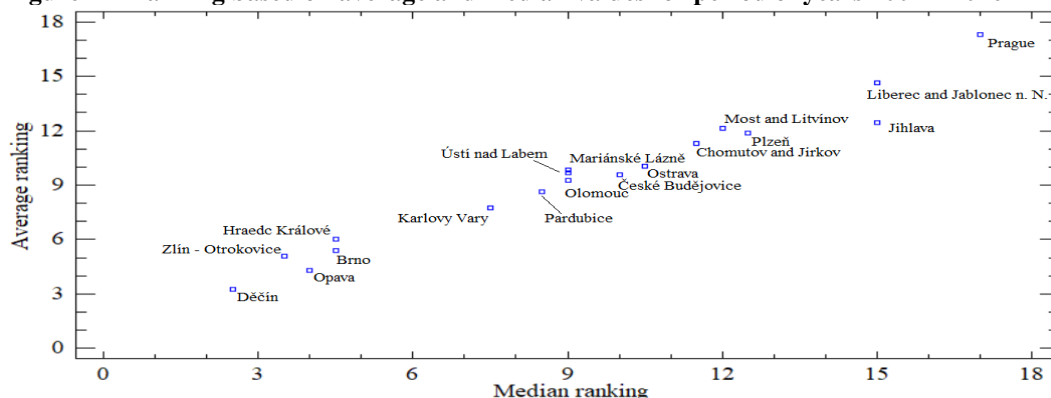
Sheurer (2016) concluded similar results. He evaluated public transport in 19 metropolitan regions in developed countries. In his analysis we can see the difference of costs of cities with trams and buses and cities with buses only. We can agree on results of Galvan, Cantillo and Arellana's (2016) work, that environmental protection and connected ecological operation of means of transport is considered by common population as important decision until they compare purchasing and operating costs of such means of transport.

It comes out, from made economical evaluation of 18 transport companies in the Czech Republic, established by public subject (Municipality), in general, worst results are documented by transport companies with bigger number of lines and denser network of stops to comparable unit. Inhabitants of larger cities of the Czech Republic (Prague, Brno, Ostrava) take as matter of course and standard service denser network of stops, but increasing number of lines nad stops decrease economical results of companies(see made analysis). Foell et al. (2016) had similar results, they measured regularity of using of individual lines of public transport in Lisbon, Portugal. We can agree with the argument of Wright's (2015) work, there is public transport from the point of view of public service realized better in larger city areas of Europe, which is in the public interest of representatives of municipalities, but usually directly contradicts to achieved economical results. It is a question, whether we evaluate, during evaluation of transport companies, public service itself or economical results or both and in what proportion. The authors of this paper do not know right answer to this question, but they consider it is the minimum necessary to be compared, show differences (even if they are minimal), and try to find new and new possibilities how to improve services. As regards of scope of this paper, content of this paper was only economical evaluation of efficiency of mentioned transport companies.

## 5 Conclusion

It can be state, that there are different tradition and legal condition od funds and regulation of public transport in different countries. In some countries, the transport is operated on a commercial basis, somewhere are some forms of transport local and regional, ordered by public law subject and funded by public money, as in the Czech Republic.

**Figure 4 – Ranking based on average and median values for period of years 2001 – 2016**



Multicriterial analysis was matter of this paper that evaluated economical efficiency of sample of 18 transport companies established as profit legal form by founder (municipality) in 2001 – 2016. The companies were evaluated according to 7 above mentioned economical indexes. These indexes were used as enter data for CV-TOPSIS method. Following the results of the paper it can be state, there are significant differences among observed years in the structure of result, respectively in absolute evaluation of economical efficiency. Dečín Transport company was evaluated the best, from analysed companies, and Transport company of Capital city Prague the worst.

We can use comment of Li et al. (2017), to typical profit legal form of evaluated transport companies (even if founder is public subject), mentioned in introduction of this paper, that state: transport users usually requires often service in wide network, but funding and other sources are restricted, it creates complicated relationships between set political aims, efficiency of service and aims of business efficiency. That is it what this paper tried to partly show.

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# Direct Elections of Mayors (Lord Mayors) and Governors and Their Possible Impact on the Performance of Public Administration

Vladimír Čechák

## Abstract

*This paper is dedicated to the issue of one of the means and forms for direct democracy, i.e. “direct elections” of mayors and governors, and the possibilities and limits to its implementation in the existing system of elections in the municipalities and regions of the Czech Republic. From the point of view of the direct election of mayors (lord mayors) and governors, attention usually focusses on the change in the status of directly elected mayors (governors) in relation to the municipal (regional) council, the matter of “strengthening” their mandate and the necessity of explicitly defining their (exclusive) jurisdiction. The problem also arises in association with the method of “dismissing” directly elected mayors (governors) from office. Their dismissal by the municipal (regional) council would be at odds with the principle of the direct election. A further section of this paper is dedicated to the option of using the experience from those states which already have direct mayoral elections, especially the legislative regulation of the direct mayoral elections in Slovakia.*

**Keywords:** Constitution, constitutional law, direct democracy, direct election of mayors/governors, municipal/regional council, local/regional/ referendum

**JEL Classification:** K390

## 1 Introduction

Questions associated with the forms of direct democracy are nothing in new or exceptional in reflections on the development and quality of democracy, especially when it comes to reflections on the democratisation of public administration. It is possible to come across them throughout the development of the reflections on the extension and “improvement” of democracy not only in the Czech Republic, but also in a number of other, not only European, countries. Their fundamental common feature is usually an implicit precondition which can be expressed with some simplification by means of the thesis that “the more elements and forms of “direct democracy” there are, the better the quality of the democracy is as a whole.” The same is also emphasised in association with the question of the democratisation of public administration.

It is possible to come across explicit statements as to the fact that the strengthening of the elements of “direct democracy” constitutes a substantial strengthening and extension of democracy in the “clarifications” of the submitters of the draft constitutional laws aimed at the introduction of direct elections of mayors (lord mayors) and governors which were submitted to parliament prior to the municipal council elections in 2018 and it can be expected that we will also come across their analogy in association with the elections to the regional councils (the direct election of governors) next year, as well as in association with the elections to municipal councils in 2022. It is also not possible to ignore the fact that the direct election of mayors (lord mayors) and governors is the mainstay of the Direct Democracy Party’s (Strana Přímé Demokracie) program, whose preference according to the latest poll by the Kantor agency has risen significantly and had even reached 10.5% in the last week of May of this year. Other political parties have also devoted themselves to this issue.

It would therefore be suitable and probably also expedient to devote more attention to the definition of the term democracy, as well as to the question of the relationship between “direct” and “indirect” (representative) democracy from the point of view of the expansion and increased quality of democracy and the ways of using the means of direct democracy in increasing the democratisation of



public administration.<sup>1</sup> However, we will only limit ourselves in this regard to stating that despite all the ongoing discussions about democracy, there is still no unequivocal definition of this exceptionally important term, not only from the point of view of legal or, especially, political-science reflections on the topic, but also for sociological reflections.<sup>2</sup> It is possible to state that consensus generally exists as far as the basic principles and basic characteristics of democracy are concerned. Even in this case, however, this sometimes involves more of a substantially developed verbal description than a relatively exact definition. One very often finds lists (usually incomplete) of the fundamental characteristics of democracy (or a democratic state), the breach of which (or the non-compliance with which, if they take the form of standards) is considered to constitute a breach of or a threat to democracy itself and to the essence of the democratic state. Significantly inspirational reflections on this topic, but also on issues pertaining to the area of the “strengthening” of democracy, can be found in the admittedly older, but for all that still interesting work of Karl J. Newman published in 1965.<sup>3</sup>

## 2 The goal and means of its implementation

The goal of the paper is an elementary analysis of the current key considerations of mainly political entities (usually reflected in parliamentary proposals) regarding the possibility of introducing direct election of mayors and governors (see mentioned parliamentary press). The procedure (method) for realization of mentioned intention implementation of is based on an analysis of proposed methods of direct election of mayors and governors and the relation of these proposals to current legislation. The starting point for this analysis is a thorough analysis of the proposed legislative regulation by the respective parliamentary clubs. The goal of analysis is also to identify basic changes in the position of mayors and governors, their competencies and powers, and especially their relationship to other local authorities, especially municipal (regional) councils and municipal (regional) boards.

All proposals submitted so far for the introduction of direct election of mayors and governors require either the establishment of direct election either directly in the Constitution (proposals for relevant formulations of constitutional amendments are given in the next part of this paper) or require the direct election to be regulated by a separate constitutional act. As the analysis of these proposals shows, especially analysis of “justification” of mentioned proposals, almost all introduce as fundamental reasons of direct election of these officials strengthening of democratization and substantial increase in transparency of public administration. It is shown below that the arguments put forward in support of these “reasons” are, in many respects, more or less hypothetical.

In the following text is used a comparison of the individual argumentation-procedures, which can be found in the above mentioned legislative proposals, and also a comparison of the arguments currently used (i.e. in 2018) with the ways of justifying the direct choice of mayors and governors used in the previous period. Paper also include consideration of the possibility of using foreign experience regarding the above mentioned direct election of officials of the self-government.

The issue of direct election of mayors and governors, in particular its impact on the real performance of territorial self-government and state administration performed by territorial self-government bodies, is in Czech literature given a rather marginal attention. These are essays of Z. Dostál [1] and R. Perlín [6], [7]. However, these essays are already not “brand new” (2004). Newer arguments

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1 The term “local” and “regional” referendum, which is regulated in the existing legislation, is very often used in the context of the strengthening of the democratisation of public administration in addition to the direct election of mayors (lord mayors) and governors (Act no. 22/2004 Coll. and Act no. 118/2010 Coll.). In association with the possible realisation of the direct election of mayors (lord mayors) and governors, however, it would be necessary to amend (at least partially) both the aforementioned Acts.

<sup>2</sup> FILIP, J., SVATONĚ, J., ZIMEK, J. *Základy státovědy* (Brno, MU, 2000, pg. 111) The authors state in the publication that there are more than three hundred definitions and interpretations of the term democracy. It is possible to expect that this number has increased further during the last 18 years.

<sup>3</sup> NEWMAN K. J. *Zerstörung und Selbstzerstörung der Demokratie* (Europa 1918 – 1938), Kiepenheuer & Witsch, Köln, Berlin 1965.

justifying the rationality of direct election can be found in the "justification" of parliamentary proposals of bill that direct this election regulates (see [14], [15]). The analysis presented below shows that in many cases this argumentation is more or less vague.

### **3 Direct election of mayors – the democratisation and transparency of public administration**

The "operational" definition of the term democracy, i.e. the kind of definition which would enable one to judge or to unequivocally state whether this or that measure (standard, law, political decision) constitutes an expansion, an improvement or the development of democracy, is not yet available. This is precisely one of the reasons why discussions as to whether the implementation of this or that element of "direct democracy" is of benefit to the expansion of democracy may be interesting and beneficial, but they are unlikely to lead to an unequivocal conclusion. Approximately the same can be said about the issue of the development of the process of strengthening the democratisation of public administration with certain specific characteristics. Apart from the "democratic" elections of local and regional councils, the principle of "increasing the participation of citizens in the performance of administrative activities" is usually stated in association with the democratisation of public administration. The concretisation of these more or less declarative principles usually focuses on the participation of citizens in the activities of various commissions or advisory and "ancillary" bodies established by the local (regional) self-government and active participation in the events which these councils organise.

The basic principles of democracy, especially as far as the exercising of state power is concerned, are especially contained in Chapter I, articles (1)-(6) and article (8) (very often quoted in recent times) of our constitution. The most critical is especially considered to be article (2), paragraph (1) which states that "The people are the source of all state power; they exercise said power via the bodies of legislative, executive and judicial power." Paragraph (2) of the same article states that "A constitutional law may designate when the people execute state power directly".<sup>4</sup>

It can therefore be stated in principle that the current wording of the Constitution does not rule out the implementation of the elements of direct democracy in our system of executive power.<sup>5</sup> It falls within the power of the legislator to regulate the scope and method of the performance of these forms of direct democracy.

During the course of the last fifteen years, there have been a number of proposals for the expansion of these means of direct democracy, for example in 2007<sup>6</sup>, when a group of parliamentarians submitted a draft Constitutional National Referendum Act<sup>7</sup>. The option of introducing the direct election of mayors in "small municipalities" was also considered in association with preparation of the municipal council elections in 2014.

As far as "general" (national) referendums are concerned, this is without doubt one of or perhaps the most discussed, but the least used means of direct democracy. In the case of the direct election of mayors (lord mayors) and governors, the question is whether this can be unequivocally and fully included under the term of direct democracy, despite the fact that this usually occurs. The (direct) election of mayors or governors, as also applies to any other direct elections, enables the voter (the

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<sup>4</sup> All of the Constitutions of the Czechoslovak Republic listed the people as the "source" or the "bearer" of state power. The Constitution of the Czechoslovak Republic dating from 1920 states that "The people are the sole source of all state power in the Czechoslovak Republic." (Chapter 1, section 1, paragraph 1) (see Grönský, J., Hřebejk, J. Dokumenty k ústavnímu vývoji Československa. Prague. Karolinum, 1999, pg. 39) The Constitution of 9<sup>th</sup> May 1948 states that "The people are the only source of all power in the state." (Article 1, paragraph 1) (see Grönský, J., Hřebejk, J. Dokumenty k ústavnímu vývoji Československa. Prague. Karolinum, 1999, pg. 243) The Constitution of the Czechoslovak Socialist Republic of 1960 states that "All power in the Czechoslovak Socialist Republic belongs to the working people." (Chapter 1, article 2, paragraph 1) (see Grönský, J., Hřebejk, J. Dokumenty k ústavnímu vývoji Československa. Prague. Karolinum, 1999, pg. 404)

<sup>5</sup> This has also been confirmed in Local Referendum Act no. 22/2000 Coll. and Regional Referendum Act no. 118/2010 Coll.

<sup>6</sup> Documents for Discussion at a Sitting 134, V. the electoral period.

<sup>7</sup> Documents for Discussion at a Sitting 134, V. the electoral period (2007)

people as the source of state power) to delegate the performance of power to a “representative” (who is selected by election). In this regard, we often find (on the part of entities which prefer direct democracy) the opinion which can be simply characterised by the statement: “the more (direct) elections, the more democracy”. It is not possible to cast doubt on the significance of elections, but the very “number” of elections and direct elections is not the thing which essentially influences the quality of democracy and strengthens the democratisation of public administration. However, the issue of elections does raise an independent topic which is extremely important from the point of view of the quality of democracy, to which significant (although it remains to be seen whether this is sufficient) attention has especially been paid in political-science literature.

According to its submitters, the latest drafts of the constitutional law on the direct election of mayors (lord mayors) and governors would require a change to and the supplementation of the Constitution.<sup>8</sup> If, however, this “merely” involved the direct election of mayors (lord mayors) and governors, the Constitution itself does not explicitly mention how they should be elected. Article 102, paragraph (1) merely designates direct elections for the members of local authorities.<sup>9</sup> It is therefore possible to accept the interpretation, according to which this formulation would allow that the question of the election of mayors (lord mayors) and governors can be regulated by means of other laws without there being any conflict with the Constitution. Despite this, however, the authors of the majority of the proposals for the implementation of the direct election of mayors consider it advisable for the direct election of mayors (lord mayors, governors) to be enshrined in the Constitution, even while accepting this interpretation. If the direct election of mayors was associated with the regulation of their authority and jurisdiction (and there could be no direct election of mayors (lord mayors) and governors without this), the proponents of the law have stated that it would probably be necessary to supplement and change at least article number 101, paragraphs (1) and (2) as follows in order to meet the expectations of the law’s submitters:

“To insert the words “by the mayor, the municipal council or” after the word “administered” in article 101, paragraph 1 and furthermore to add the words “the municipality on the basis of the municipal order which it is subject to” after the phrase “by the municipal council”.<sup>10</sup>

“In article 101, paragraph 2, the words “by the governor, the regional board and the regional council on the basis of the regional order which it is subject to” should be added after the word “administered”.<sup>11</sup> According to the submitter of the law, Article 102, paragraph (1) would then have to be modified as follows:

“In article 102, paragraph 1, the words “The mayor, governor and” are added to the beginning and are followed by the words “the members of the municipal councils are elected in a secret ballot on the basis of general, equal and direct electoral law.”<sup>12</sup>

The direct election of mayors and governors has been the subject of an analysis drawn up by the Ministry of the Interior and other institutions. It has also been the subject of a number of discussions which have taken place relatively intensively, especially since 2007, and in which the arguments supporting or rejecting the direct election of mayors and governors have more or less repeated themselves.

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<sup>8</sup> The discussions which took place on this topic last year more or less analogously assessed the direct election of mayors (lord mayors) and governors. We are of the opinion that the direct election of governors is significantly different to the direct election of mayors (lord mayors) in a number of aspects.

<sup>9</sup> The Constitution of the Czech Republic, Article 102, paragraph (1) “The members of municipal councils are elected in a secret ballot on the basis of general, equal and direct electoral law.”

<sup>10</sup> Paragraph (1) of Article 101 would read as follows: “A municipality is administered independently by its mayor, its municipal board or its municipal council on the basis of the municipal order which it is subject to.”

<sup>11</sup> Paragraph (2) of Article 101 would read as follows: “A higher territorially self-administrating unit is independently administered independently by the governor on the basis of the regional order which it is subject to.”

<sup>12</sup> Documents for Discussion at a Sitting 40/0 VIII. the electoral period.

At present, it is necessary to approach these discussions, while taking into account the reflections on the “improvement” of the current system or (current systems – such reflections can also be found in the majority of other, not only European, countries) “representative democracy”, but also while taking into account the question of increasing the effectiveness, rationality and transparency of the system, but especially the realistic performance of public administration, especially self-government. However, some participants in these discussions have changed their points of view (sometimes also fundamentally) during the course of the discussions.<sup>13</sup> The principal reasons which the supporters of the direct election of mayors and governors felt had a permanent significance and which unequivocally confirmed the expediency of strengthening the elements of direct democracy can be summarised, albeit in a somewhat simplified form, as follows according to the aforementioned authors (they have already been stated in the paper by R. Perlin published in 2004<sup>14</sup>). They are mainly:

- the lack of knowledge and lack of interest of the public, i.e. citizens, to participate in the decision-making of community bodies
- the identification of the decision-making activities of the municipal council with the figure of the mayor on the part of the citizens
- in smaller municipalities, the municipal council only realises the formal exercising of power, while the actual power and basic decision-making is exercised and undertaken by the mayor
- the mayor is often elected on the basis of a coalition agreement between political parties without this involving the person who acquired the greatest number of votes in the election
- municipal councillors are often politicians without the expertise required to undertake decision-making activities which are therefore de facto concentrated in the hands of executive officials<sup>15</sup>
- the situation in small municipalities, especially in those cases where they do not elect a municipal board, is such that the elections currently already are very close to direct elections, because the candidate lists (often only one) are drawn up in such a way so that they correspond to public opinion<sup>16</sup>

In addition to the aforementioned deficiencies, “constructive critics” of the existing model of representative democracy have also proposed possible changes which should contribute to the elimination of, in some cases identified, in other cases more or less assumed, inadequacies in the existing representative democracy. These proposals often have a common base which can once again be characterised, albeit with a certain degree of simplification, using the following points:

- enshrine the direct election of mayors (lord mayors, governors) directly in the Constitution or establish it by means of an independent constitutional law so that they have a strong political mandate and will be under the clear control of the public,
- make the mayor personally responsible for the performance of public power in the municipality and for the functioning of the office (the same applies in the case of governors)
- change the standing of municipal (regional) board which should be appointed from the ranks of significant (non-political) experts; the board would be appointed by the mayor, who in doing so would select a team of co-workers
- change the division of jurisdiction between the bodies of territorial self-government, i.e. clearly separate the conceptual and strategic decision-making, which would pertain to the municipal council, and the operative decision-making, which would pertain to the mayor<sup>17</sup>

It is apparent that the proposed change in the standing of the municipal (regional) board stated here would require a very substantial change to Act no. 128/2000 Coll. (especially to sections 99-108), to

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<sup>13</sup> The last of these discussions to date took place in the Chamber of Deputies on 3<sup>rd</sup> and 10<sup>th</sup> May last year with the participation of representatives of the Union of Towns and Municipalities and the Union of Local Self-Governing Entities.

<sup>14</sup> They have been more or less repeated in the following discussions and have been supplemented with other arguments.

<sup>15</sup> R. Perlin: Přímá volba starostů: Problémy současného stavu a navrhované změny, Obec a finance no. 3/2004

<sup>16</sup> Z. Dostál: Několik poznámek k přímé volbě starosty, published at [www.nezavislistarostove.cz](http://www.nezavislistarostove.cz)

<sup>17</sup> R. Perlin: Přímá volba starostů: Problémy současného stavu a navrhované změny, Obec a finance no. 3/2004 and also J. Kasl: Přímá volba nestačí, published in the same

Act no. 129/2000 Coll. (especially sections 57-64) and also to Act no. 131/2000 Coll. (especially sections 68-76). This proposed change to the formation of the “municipal (regional) board” is clearly at odds with the aforementioned proposal to change the wording of Article 101, paragraphs (1) and (2) according to which the “municipality” and the “region” are administered by the “mayor, the board and the council” (the text is stated in the aforementioned Documents for Discussion at a Sitting)<sup>18</sup>

The aforementioned change in the manner of forming the municipal (regional) board differs substantially from our administrative tradition. The municipal (regional) board would not be chosen from the members of the (elected) municipal council, but would be appointed from the ranks of “experts”. The decisive factor would not be the “voice”, i.e. the “trust”, of the citizens, but the “required (professional, expert) qualifications”. This would lead to the question of the method of appointing this board and the method of designating the required qualifications of its members. It is possible to come across the analogous status not of “board”, but of the “board members” in the some of the Bundesländer in Germany. There, however, the “board members” do not constitute a “board” as an “administrative body” with its own (or possibly shared) jurisdiction, but they constitute a “committee of board members” as advisors to the mayor.

The stated change in the establishment and therefore also the status of the “board” would therefore mean not only the fundamental re-conception of the aforementioned laws, but also very substantial changes to the board’s actual activities. However, the aforementioned change in the standing of the board is not necessarily associated with the direct election of mayors. It is also possible to concede a certain “compromise” solution, according to which the municipal (regional) board would be appointed by the (directly elected) mayor (lord mayor, governor), but only from council members with regard to their (civic professional) qualifications and not while “taking into account” their political affiliations. However, the question remains open as to whether a thus-established (appointed) board would require approval (confirmation) by the municipal council or whether the council’s general agreement with this method of establishment would be achievable.

It is clear that, when slightly simplified, there are two types of arguments which are used by the entities which favour the direct election of mayors. On the one hand, this involves legal arguments which pertain to the legal regulation of the standing and performance of territorial self-government (criticism of the legal regulation and proposals for changes to it), while on the other hand this involves arguments of a political-scientific or socio-political-scientific nature (the influence of the method of election on the relationship between the mayor and the inhabitants of the municipality and the associated degree of participation of the citizens in public matters). We can also come across arguments of a legal and socio-political-scientific nature presented by those who approach the question of the direct election of mayors (lord mayors) and governors somewhat tentatively or even directly reject it.

As far as the predominantly political-scientific arguments in favour of direct elections are concerned, the fundamental postulate involves the claim that the implementation of the direct election of mayors, lord mayors and governors is a distinctive means of “strengthening” the democratisation of public administration. If the direct election of the aforementioned functionaries is associated with a substantial increase in their authority (which is a certain implicit prerequisite for the majority of the proposals and considerations leading towards direct elections) in relation to the municipal council, the question is whether the strengthening of the authority of an individual person in relation to the municipal council (a collegial body) can be fully considered to constitute a strengthening of the democratisation of public administration – self-government (in comparison with the current state of affairs).

Arguments of a socio-political-scientific nature usually state that the introduction of the direct election of the stated local-government functionaries, especially in municipalities and towns, would give rise

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<sup>18</sup> Documents for Discussion at a Sitting 40/0 VIII. the electoral period.

to increased interest in local matters amongst citizens and would lead to the increased engagement of citizens in the resolution of municipal and local matters. It would certainly be interesting and undoubtedly expedient to investigate, for example, the experience from Slovakia to see whether the aforementioned expectation is realistic.<sup>19</sup> The proposed changes in the legislation are also largely based on these types of arguments.

However, the aforementioned viewpoints are also subject to a number of other questions, which must be analysed in order to reach any constructive conclusions. One of the documents which the submitters of the aforementioned Direct Election Act referred to in its explanatory note was the analysis undertaken by the Ministry of the Interior in 2010, which admittedly more or less positively mentions the option of direct mayoral elections in “small municipalities”.<sup>20</sup> This would lead to a certain degree of differentiation between (small) municipalities with directly elected mayors, whose authority and jurisdiction would be significantly greater than that of the mayors of other municipalities.

The government assignment, which formed the basis for the realisation of the aforementioned analysis, did not, however, contain any definition of the term “small municipality”. There is therefore a problem as to whether it is possible to reduce the question of the size of a municipality to the number of its inhabitants, albeit that the absolute majority of approaches to assessing the size of a municipality consider the number of inhabitants to be the decisive, and often the only, criterion. It would also be possible to take other characteristics into account in relation to the issue of the direct election of mayors in “small” municipalities, especially characteristics of a sociological character. If we were to use the number of citizens as the criterion in accordance with the predominant approach to assessing the size of a municipality, it would be necessary to designate the precise numbers of inhabitants for the division of municipalities into the individual (size) categories. The authors of the aforementioned analysis chose numbers of up to 100, 300, 1500 and 10,000 inhabitants for the categories of the number of inhabitants in municipalities.<sup>21</sup>

Out of a total of 6,253 municipalities in 2010<sup>22</sup>, almost 550 municipalities had up to 100 inhabitants, ca 2,500 municipalities had up to 300 inhabitants and almost 5,350 municipalities had up to 1500 inhabitants; almost 6,000 municipalities then had up to 10,000. The question then arises as to which criteria should be used to designate the “limit” (the number of inhabitants) for those municipalities, where the direct election of mayors would then be imposed by law.

Within the context of the valid regulation, the opinions presented in the aforementioned analysis of the Ministry of Internal Affairs<sup>23</sup> found the most suitable solution to be the direct election of mayors in those municipalities where no municipal board is elected. The mayor already exercises most of the authority in these municipalities and as such the proposed solution did not mean any radical intervention into the existing concept and it would have more or less constituted confirmation of the status quo. At the same time, this solution would be capable of fulfilling the expectations of those supporters of direct elections who point precisely to the current situation in small municipalities and have urged that the jurisdiction and responsibility of mayors be increased.

The given purpose would require a change to the legal conditions for the election of the board – at present, the circumstance as to whether a board is elected in a municipality depends on the number of members in the municipal council (no board is elected in municipalities which have a council with

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<sup>19</sup> In Slovakia, the direct election of mayors and the chairmen or chairwomen of higher territorial units was implemented in 2012 and it would therefore be possible to evaluate the impact of this “change” on the social (administrative) activities of the citizens and any increase in their interest in municipal (regional) matters.

<sup>20</sup> The Analysis of the Direct Election of Mayors, the Ministry of Internal Affairs. 2010.

<sup>21</sup> Ibid

<sup>22</sup> The numbers of municipalities in the Czech Republic and in the individual size categories have not changed much, for example, there were 6251 in the Czech Republic as of 1.1.2018.

<sup>23</sup> For more, see: The Analysis of the Direct Election of Mayors, the Ministry of Internal Affairs, 2010.

less than 15 members), while the designation of the number of members elected to the municipal council depends on a decision reached by the municipality's own council. As such, there can in theory be, but does not have to be, a 15-member municipal council in every municipality with less than 10,000 inhabitants.

The question therefore arises as to whether it would be suitable and expedient to set out a fixed criterion for the election of the board (and indirectly also of mayors) either in the variant of a possible solution according to the number of inhabitants in the municipality (the first variant) or the variant where no fixed criterion is set (the second variant). The aforementioned analysis of the Ministry of Internal Affairs proposes a cut-off of 1500 inhabitants (for the first variant)<sup>24</sup> (according to the data from the records of municipalities which hold elections as of 1<sup>st</sup> January of the given year). A similar approach was also applied in the given period by several government officials, as well as some functionaries from territorial self-government. If we were to accept this "cut-off", it would mean that direct mayoral elections would take place in approximately 5350 municipalities out of 6253 (i.e. in approximately 85.5% of municipalities), while the current electoral method would be preserved in approximately 900 municipalities. Direct mayoral elections would apply analogously to the election of mayors in the boroughs of territorially divided cities which meet the criterion of a maximum of 1,500 citizens. (At present, only a very small number of city areas and boroughs meet this condition, unlike the aforementioned municipalities.) This would, however, give rise to another problem concerning the differing "strength" between the mandate of a lord mayor elected using the existing method and the mayors of "some" of the (relatively small) city boroughs elected in direct elections.

A further possible solution which is mentioned by the aforementioned "Analysis of the Ministry of Internal Affairs" recommends not setting any fixed cut-off for the number of inhabitants for the purposes of direct elections, but to leave it to the municipal council so that by designating the number of members in the municipal council in accordance with the current legal regulation which provides small municipalities (essentially municipalities up to 10,000 inhabitants) with the option of deciding whether or not they will establish a municipal board, the municipal council would be able to decide whether or not any board should exist and therefore whether the mayor would be directly elected. This means that the only criterion for the introduction of direct elections would be whether or not a board is elected in the municipality.

If direct elections were only adopted by certain (in this case, "small") municipalities, this would lead to differing statuses, i.e. a difference between the powers of the mayors of these (small) municipalities and the other mayors, and it would clearly be necessary to regulate this differing status by means of an act of parliament.

Certain powers of elected mayors (lord mayors) and governors should be conceived as being "exclusive". These powers would be designated explicitly (enumeratively) and would not be the subject of any responsibility on the part of the mayor towards the municipal council. The existing formulation of Article 104, paragraph (2), i.e. "Municipal councils decide on all matters of self-government, unless the matters in question have been assigned to the council of a higher territorial self-governing unit by law"<sup>25</sup>, would have to be supplemented due to the mayor's changed status. As has been stated, it would be necessary to explicitly define the powers which would exclusively apply to the mayor, i.e. the municipal council could not assume these powers for itself or "limit" the mayor when exercising them.

The relationship of the directly elected mayor and the municipal council would have to be defined in such a way so as to minimise (or rule out) the possibility of a "stalemate situation", i.e. the option of

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<sup>24</sup> According to the legislation, these municipalities currently elect 5–15 members in the municipal council (in the case of municipalities of up to 500 inhabitants) or 7–15 members of the municipal council (in municipalities over 500 inhabitants). See section paragraph 68, subsection 1 of Act no. 128/2000 Coll.

<sup>25</sup> The Constitution of the Czech Republic, Article 104, paragraph (2).

blocking the performance of the decisions (powers) of the mayor, if the mayor failed to gain the municipal council's consent for them.

Two different types of limiting situations may arise, if a directly elected mayor (lord mayor, governor) is elected on the basis of his or her own "election program", while at the same time the municipal council is elected on the basis of the election programs of entities, for which the individuals have stood as candidates.

In the first case, the program which the mayor campaigned on would be fundamentally different to the election programs of the individuals standing for the municipal council. In the second case, the election program which mayor campaigned on would be substantially consistent with a (some) program(s) of the entity (entities) standing for the municipal council.

In the first case, the probability of "discord" between the mayor and the municipal council would be high, i.e. the occurrence of "stalemates" or situations involving open conflicts would be highly likely. In this case, the mayor would stand as an "independent" candidate at most with the support of a social movement or some "ad hoc" established citizens' initiative which is not standing for the municipal council in the given elections. Meanwhile, the question arises in the second case as to why the mayor (in the case of program conformity) does not simultaneously stand as a candidate for the municipal council on behalf of the given entity (entities). If the directly elected mayor stands with an independent program which is different to that of the entities standing as candidates for the municipal council, the question is whether the mayor will also be a member of the municipal council. If the mayor is not a member of the municipal council, the question is what the mayor's relationship with the municipal council will be like? It is also necessary to appropriately regulate this matter using the law. In theory, a mayor could simultaneously stand for the municipal council with his or her own program, albeit substantially identical to that of a political entity (a political party, a citizens' association), on whose "candidate list" the mayor could be included. In this case, the "directly elected" mayor would simultaneously become a member of the municipal council. The mayor's standing and relationship with the municipal council would be different to that of a directly elected mayor who was not a member of the municipal council. As a member of the municipal council, would the mayor be "bound" by the resolutions of this body even when exercising some of the powers which fall directly under his or her exclusive purview as the directly elected mayor?

One of the significant arguments which those in favour of direct mayoral elections use is an emphasis on the transparency of the supervision of the work and the fulfilment of the election program of the mayor, in this case, by the citizens. The explanatory note to the draft of the aforementioned law states, amongst other things: "the directly elected mayor would enter the direct election with a clearly given program, the fulfilment of which would be able to be very simply inspected."<sup>26</sup> At the same time, the question arises as to how it is possible to conceive and realistically secure this "inspection". A further problem also concerns the fact as to whether it is also possible to consider any other consequences of the discovery of any deficiencies on the part of the mayor by this "inspection by the citizens" than simply "not returning the mayor in the next direct elections", including the existence of "sanctions" other than the mayor's eventual dismissal.

This brings us to the question of the possible dismissal of a directly elected mayor. The existing option for the dismissal of a mayor by the municipal council would clearly be illogical, but also legally disputable, in the case of a directly elected mayor (lord mayor, governor). The current legal regulation of local and regional referenda rules out the option of voting on personnel matters. The dismissal of a directly elected mayor (lord mayor) or governor would require a change to section 7 of Act no. 22/2004 Coll. and section 7 of Act no. 118/2010 Coll. and it would clearly be necessary to supplement both of these laws. According to those in favour of direct elections, a directly elected mayor (and governor) should be independent of the municipal council, i.e. not be able to be dismissed by the

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<sup>26</sup> Documents for Discussion at a Sitting 40/0 VIII election period.



municipal council. Therefore, the mentioned modification of the laws should include the option of a directly elected mayor being dismissed by the director of the regional authority or the governor on the basis of the results of a local referendum, for example. The director (governor) would then be obliged to send a letter of dismissal to the mayor, who would have the option of seeking judicial protection. The dismissal of the mayor would then occur as of the expiry of the deadline for the submission of a petition for protection to the court or as of the court ruling which has not been annulled by means of a decision of the director of the regional authority coming into legal force (analogue to section 55 of the Municipal Council Election Act, but without the prior option of the dismissal of the mayor by the municipal council). The result of a local referendum would therefore be one of the legal grounds for a mayor to be dismissed, for example, by the director of the regional authority. (The dismissal of the governor should also be regulated analogously)

It would be necessary to omit the ban on expressing an opinion on personnel matters, i.e. on the dismissal of a mayor in local referendums and of a governor in regional referendums, from the Local (Regional) Referendum Act – see section 7. The result of the vote of the inhabitants of a municipality to dismiss the mayor would be valid, if the vote was attended by at least half the authorised voters (i.e. a requirement for a qualified majority). This requirement already exists in the current form of the Local Referendum Act, if this involves a local referendum pertaining to part of a municipality splitting away or to the merger of municipalities).

It would also be necessary to deal with other questions with regard to the issue of the direct election of mayors and governors. These include:

- the definition of the conditions for the prohibition on combining the functions of a mayor (a possible solution involves the similar regulation of the prohibition on combining functions in the case of the members of the municipal council according to the Elections Act)
- the option of setting the rules for cases where a mayor is dismissed by the inhabitants in a local referendum, i.e. the determination of the individual who will exercise the mayor's powers in the interim until such time as a new mayor is elected: the introduction of direct elections would require new elections to be held and a "new" mayor to be elected. The deputy mayor would perform the mayor's tasks in the interim as the mayor's fully-fledged representative (this would, of course, also naturally lead to reflections on the direct election of deputy mayors. The direct election of deputy mayors would probably make sense, because in some cases it could be impossible for a new mayor to be elected within an acceptable timeframe)

The question also arises as to how to proceed in the case where the posts of mayor and deputy mayor are simultaneously unfilled in a municipality (in these cases, the transfer of the mayor's powers to the municipal council becomes a possibility and the municipal council should then have the right to choose an individual from its midst who would then temporarily represent the municipality externally).

If the ending of the mandates of all the members of the municipal council does not influence the ongoing function of the mayor, which may be a consequence of the regulations associated with the direct election, i.e. when the mayor is not also a member of the municipal council, it will be necessary to resolve the mayor's relationship to the administration of the municipality given other existing legislation which states that the mayor is appointed by the Ministry of the Interior, if the mandate of all the members of the municipal council ends and nobody takes up the available mandates (section 98, subsection 1, letter b) of the Municipalities Act). If this institution is preserved in the model for the direct election of mayors, it is possible to consider the option whereby the directly elected mayor would temporarily take over the task of the administration of the municipality until the new municipal council is designated. As we have stated, it will also be necessary to pay attention to the standing and the position of the "deputy mayor". One of the options is to stipulate by law the position of one (possibly the first) deputy mayor, who would be named the mayor from the ranks of the members of the municipal council; this deputy mayor would be responsible to the mayor for the performance of

his or her function. If the deputy mayor is supposed to be a “fully-fledged” representative of the mayor, it is also possible to consider the variant (which we have already mentioned), whereby the deputy mayor would also be directly elected.

#### **4 The options for using international experience**

The reflections on the direct election of mayors (lord mayors) and governors usually also include the question of the applicability of foreign experience. In this regard, it is necessary to note that the use of this experience (not only from the point of view of “direct elections” or “municipal referenda”, but also from the point of view of anything to do with public administration in general) has been limited to a certain extent not only by the substantial differences in the administrative systems in the countries, but also by the different nature of the “administrative culture” (the aforementioned analysis undertaken by the Ministry of the Interior of 2,010 also deals with this question)<sup>27</sup>. European countries use both the model of direct elections for mayors or functionaries of similar standing and the model of indirect elections which more or less correspond to existing Czech legislation. The legislation of some countries also enables both models. Direct elections are held in Italy, Portugal, Greece, Cyprus, Slovenia, Slovakia, Poland, Rumania, Bulgaria, Ukraine, Macedonia and Albania. Indirect elections are held in Belgium, Finland, the Netherlands, France, Denmark, Ireland, Luxembourg, Sweden, Spain, Malta, Croatia, Estonia, Lithuania and Latvia. Direct and indirect elections are held in parallel in Great Britain (citizens decide on the electoral method in a referendum), Germany, Austria (according to the federal states), Norway, Hungary (direct elections in municipalities up to 10,000 people) and Russia. Given our conditions, it is clearly possible to take certain inspiration from the existing legislation and the actual situation in the Slovak Republic, which is why we will dedicate more attention to it.

The standing and direct election of the mayors of municipalities and the chairmen or chairwomen of the higher territorial units (the analogy of our governors) is regulated in Article 69, paragraphs (1), (3), (4) and (6) of the Constitution of the Slovak Republic. These paragraphs state that:<sup>28</sup>

“(1) The bodies of a municipality are

- a) the municipal council,
- b) the mayor of the municipality.<sup>29</sup>

(3) The mayor of the municipality is elected for a four-year term of office by the citizens of the municipality, who have their permanent residence within its territory, on the basis of general, equal and direct electoral law in a secret ballot. The mayor of the municipality is the municipality’s executive body; he or she undertakes the administration of the municipality and represents it externally. The grounds and methods for dismissing a mayor before the expiry of the term of office are set out by law.

(4) The bodies of a higher territorial unit are

- a) the council of the higher territorial unit,
- b) the chairman or chairwoman of the higher territorial unit.<sup>30</sup>

(6) The chairman or chairwoman of the higher territorial unit is elected for a four-year term by the citizens, who have their permanent residence within the bounds of the higher territorial unit, on the

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<sup>27</sup> At present, no factually based analysis of the structure of the administrative systems in the European states exist. This is also true with regard to the method of performing state administration and its legal regulation. This fact fundamentally influences the use of any international experience (including knowledge from abroad) not only with regard to direct elections, but also in the entire area of the organisation and performance of public administration.

<sup>28</sup> Act no. 460/1992 Coll. the Constitution of the Republic of Slovakia, in: Ústavy států EÚ, díl II., Linde, Prague 2005, pg. 260, 261.

<sup>29</sup> The municipal board is not mentioned at all.

<sup>30</sup> The board of the higher territorial unit is not mentioned at all.

basis of general, equal and direct electoral law in a secret ballot. The grounds and methods for dismissing a chairman or chairwoman of the higher territorial unit before the expiry of the term of office are set out by law. The chairman or chairwoman of the higher territorial unit of the municipality is the territorial unit's executive body; he or she undertakes the administration of the higher territorial unit and represents it externally.”<sup>31</sup>

In accordance with this constitutional definition, Municipal Order Act no. 369/1990 Coll.<sup>32</sup> states that the bodies of a municipality are the municipal council and the mayor (section 10 of the Act). The municipal council may establish and dissolve other permanent or temporary executive, inspection and advisory bodies, especially a municipal board and commission, and designate their work activities as needed; it may also establish and dissolve other bodies and departments, provided the special act so states (for example, the municipal police force). Section 14 of the Act sets out certain rules for the number of members in the board, provided the municipal council decides to establish one, and the rules pertaining to its quorum. In any case, unlike the legal status of the board here as an executive body of the municipality, the Slovak regulation sees the board as a facultative, active and executive body of the municipal council which also performs the role of an advisory body for the mayor. Unlike some of the proposals for the modification of the status of the “board” which could be found in the Czech Republic from 2012 to 2019, the board is not conceived here as an institution which is appointed by the mayor, but it is established (appointed) by the municipal council. It admittedly performs an advisory role for the mayor, but it is responsible to and controlled by the municipal council.

The mutual status of the municipal council and the mayor is not based on the principle of superiority and inferiority in the Slovak model; they are “correlative” bodies. The municipal council can therefore not give the mayor tasks to perform. The municipal authority is given the power to make decisions by the law; it decides on the fundamental matters of the life of the municipality which are specified in the law. The municipal council may also reserve the right to decide on other matters in the statute. It may not, however, reserve the right to decide on those matters which the law has designated as the purview of the mayor. The mayor of the municipality therefore makes decisions on all matters pertaining to the administration of the municipality, provided they have not been specified as part of the jurisdiction of the municipal council by law (section 13, subsection 4, letter e) of the aforementioned Act).<sup>33</sup>

## 5 Conclusion

- It is admittedly advisable and expedient to take into account Slovak and other international experience (although the question remains as to their evaluation from the point of view of the option of their realistic use in our “administrative” environment) when considering the direct election of mayors (lord mayors) and governors, but the core considerations should involve a thorough and qualified analysis of the simultaneous performance of administration (not only at the level of the municipalities and the self-governing regions) as the realisation of executive power within the current framework of the system of representative democracy while taking into account our constitutional and “administrative” tradition.
- Both direct elections of mayors (lord mayors) and governors and other potentially applicable means of direct democracy not only require certain modifications to the constitution and the constitutional laws, but also the adoption of other legal regulations which would substantially clarify any of the aforementioned intervention in or supplementation of the constitutional law or

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<sup>31</sup> Act no. 460/1992 Coll. the Constitution of the Republic of Slovakia, in. Ústavy států EÚ, díl II., Linde, Praha 2005, str. 260, 261.

<sup>32</sup> Municipal Order Act no. 369/196 Coll. of the Slovak National Council.

<sup>33</sup> See the aforementioned analysis undertaken by the Ministry of the Interior.

at least those parts of it pertaining to the performance of public administration and executive power.

- The integration of the direct election of mayors (lord mayors) and governors into the Constitution and its regulation by means of constitutional laws must understandably precede any interventions in the legislation regulating the structure of public administration bodies and the performance of administrative activities. At the same time, however, it will also be necessary to devote all necessary care and attention to the preparation of this associated legislation.
- Any considerations of enshrining the direct election of mayors (lord mayors) and governors in both constitutional and other law must be preceded by a thorough analysis of the possible impact of any such changes, especially from the point of view of the rationality, effectiveness and especially the simplification of the performance of local and regional self-government. Only then will it be expedient to proceed to the formulation (or to changes in the formulation) of the appropriate legal standards, laws and constitutional laws. The essential thing is, however, to ensure the essential compliance of these regulations with the constitution and the constitutional and other legislation and at the same time to also respect the balance of executive power, as well as the material and formal consistency of the democratic system of the constitution and the exercising of power as such.

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# Dynamics of Local Governments Expenditures in Slovakia. The Size Structure Perspective

Tomáš Černěňko

## Abstract

*With the rise of antisystem political parties, the problem of regional disparities becomes a new perspective. A long-lasting economic decline or economic underperforming is seen as one of the main reasons for the rise of populism and antisystem. These do concentrate in “places that do not matter” – towns and cities with poor economy. Low(er) economic performance leads to lower supply of public services. These are in Slovakia provided mostly by local governments. Slovakia belongs to countries with most fragmented administrative structure. The smallest local units with population less than 1000 represent 65,11% of almost 2.900 local units and 5,4 mil. inhabitants. Does the size of local government matter? The aim of our paper is to analyse, based on data on local governments expenditures, how are the different size categories of local governments performing compared to the average of Slovakia. We use the annual percentage growth differences from the Slovak national growth rate, cumulated through time to determine the change. We have found that the expenditures of smaller units are growing faster than the Slovak average. Unfortunately, the expenditures on COFOG division 01 are, in most cases, growing faster than expenditures on other public services.*

**Keywords:** Development, local government, public expenditure, territorial inequality

**JEL Classification:** H72, R11, R58

## 1 Introduction

Economic growth and development are not reflected equally in space. Governments therefore choose different strategies to deal with these differences and ensure economic development across the entire administered territory. But what are the consequences if these differences cannot be eliminated?

Rodrik (2018) focuses on economic roots of populism, particularly on the impact of globalisation. It is not the globalisation in itself, that causes the increase of populism but „changes in technology, rise of winner-take-all markets, erosion of labour-market protections, and decline of norms restricting pay differentials all play their part“ (Rodrik, 2018:13). Thus, all these changes, combined with an inappropriate spatial distribution of economic activities (too much concentration on one industry, technological lagging or uncompetitive conditions) often lead to economic deprivation of the affected region. Martin et al. (2018a:9) defines the above described economic change as an inversion (Iammarino, Rodríguez-Pose, Storper, 2019:2) which is characterised “by a combination of job loss, declining labour-force participation or declining per-capita income relative to national averages“.

Rodríguez-Pose (2018; Dijkstra, Poleman, Rodríguez-Pose 2018) states, that reducing the level of development, respectively life in underperforming regions is along other socio-economic characteristics (education, age, income, social status) one of the key factors that leads to an increase of support for anti-system parties and movements. These are mostly populist (see Rodrik 2018), what leads to irresponsible policies across all branches (economy, social, democracy and human rights, foreign- and EU policy). And this is already happening all around the world (see Dijkstra, Poleman, Rodríguez-Pose 2018).

One way to minimize these impacts is to engage the public sector and focus on activities that can offset the negative impact of economic change on the quality of life in cities. Rodríguez-Pose (2018) calls them a place sensitive policy approach.

The identification of such regions and the monitoring of the impact of the development policies implemented is therefore important for early intervention and / or development policy change.

Martin, Sunley, Tyler and Gardiner (2016), based on Blanchard and Katz (1992), investigate the development of cities in Britain through annual percentage growth differences from the UK's national growth rate, cumulated through time. They use output (added value) and employment as variables. Their research shows how the position of cities in the UK has changed. Core cities (main regional centres), which are located mainly in the north, lost to smaller cities in the south, which grew faster. Blanchard and Katz (1992) examine developments in individual US states and add an impact analysis of the change on other areas such as wages or property prices. The overlapping of lagging areas with election results confirms the increase in votes for anti-system or anti-establishment parties (Posé 2018).

We have decided to use a similar approach as Martin, Sunley, Tyler and Gardiner (2016) and Martin et al (2018b), but we will explore the development of local units in different size categories through their expenditures. In addition to large infrastructure projects, where in most cases the investor is the state, smaller development projects are implemented through local governments. At the same time, local governments produce most of the public services that are important for everyday life. Their availability and consequently their quality therefore largely determine the resulting quality of life. We therefore consider it important to observe how their structure changes as the overall expenditure, due to economic growth, increases.

To obtain a basic picture and assess the relevance of the approach chosen, we will focus only on a general analysis of local government spending. We will examine total expenditure, general public services expenditure (COFOG 01<sup>34</sup>) and other expenditure (COFOG 02-10).

We start with the assumption that most development activities and public services that are important for everyday life are in the case of Slovakia provided by local governments. Therefore, increasing spending in these divisions should lead to higher quality of them or a larger amount of provided public services.

The aim of our paper is to analyse, based on data on local governments expenditures, how are the different size categories of local governments performing compared to the average of Slovakia. The period under investigation is from 2005 to 2015.

There are several reasons why we have decided to examine municipal spending through size groups. Slovakia is one of the most administratively fragmented countries in Europe, all communes have the same rights and obligations by law and the effectiveness of communes is strongly dependent on their size (Černěnko, Harvan, Kubala 2017:7). At the same time, most small communes are concentrated in the so-called disadvantaged regions (Act No. 365/2015 Coll.), which raises the question of whether the administrative structure is able to handle the provision of public services in sufficient quantity and quality.

## **2 Material and Methods**

As mentioned above, in order to obtain a basic picture and assess the relevance of the approach chosen, we will focus only on a general analysis of local government spending. We will examine the total expenditure, general public service expenditure (COFOG 01) and other expenditure (COFOG 02-10) of municipalities by size category.

The division of municipalities into size categories follows the structure in which the data is published by the DataCentrum of the Ministry of Finance. Individual size categories as well as the number of municipalities and their inhabitants are in Appendix.

Method:

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<sup>34</sup> Classification of the functions of government, the current version has been developed by OECD in 1999

- aggregation of data on municipal expenditures in COFOG structure and data on population according to size category and for the whole Slovakia for each reference year
- calculation of input values for monitored areas: total expenditures per capita, expenditures on general public services per capita (COFOG division 01) and other expenditures per capita (COFOG Division 02-10)
- calculation of year-on-year changes in logarithms (ln) of expenditures (total expenditures per capita, expenditures COFOG 01 per capita and expenditures COFOG 02-10 per capita)
- calculation of differentials of changes in logarithms of expenditures of individual size categories and Slovakia
- the sum of the differentials and the determination of the resulting change (rise / fall) in the reference period
- calculation of changes in absolute and relative values (ratio of expenditures of size category to average expenditures for Slovakia) of expenditures at the beginning and end of the reference period

## 2.1 Model and Data

### 2.1.1 Model

The general form of formula we use for calculating growth is:

$$growth_{2005-2015} = \sum_{t=2005}^{2015} (\Delta \ln expenditure_t - \Delta \ln expenditure_t^*) \quad (1)$$

where:

$expenditure_t$  = average per capita expenditure of local governments in a size group

$expenditure_t^*$  = Slovak average per capita expenditure

The formula is used to calculate growth and differentials in all groups of expenditures - total expenditures, expenditures on general public services (COFOG division 01) and expenditures on other services (COFOG divisions 02-10)

### 2.1.2 Data

Data on local units' expenditures in COFOG are from the Data Centre of the Ministry of Finance of the Slovak Republic. Data on population are from the Statistical office of the Slovak republic.

Data on individual local governments expenditures are aggregated to size groups (based on population) for every year of observed period. In the case of Bratislava and Košice, which are cities with two tier self-government, are the expenditures of city boroughs and citywide authority summed and presented as a one tier local government with a population of the whole city.

## 3 Results and Discussion

Table 1 presents the cumulated growth of all expenditures (per capita) across size categories. An increase can be seen by ¾ of size categories. The smallest local units (less than 250 inhabitants) have the largest increase of 6,15%. Almost all cities with population up to 20.000 inhabitants have grown faster than the Slovak average. Exception is the size category from 501-1.000 inhabitants, which reached the cumulated growth score of -0,08%. Large cities (50.001-100.000) have, surprisingly reached the lowest rate -6,82%. This means, that the expenditures of this cities have grown 6,82% slower than the average of Slovakia.



**Table 1 – Cumulated differences growth rate total expenditures (COFOG divisions 01-10).**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<i>up to 250</i>	0,00%	-0,61%	0,71%	0,48%	-0,29%	4,03%	2,05%	-0,03%	0,07%	2,24%	6,15%
<i>251-500</i>	0,00%	-0,33%	0,94%	0,73%	-0,13%	5,81%	4,23%	3,05%	1,76%	1,08%	3,06%
<i>501-1000</i>	0,00%	-1,17%	0,25%	-0,78%	-0,77%	2,98%	1,56%	0,72%	-0,58%	-0,98%	-0,08%
<i>1001-2000</i>	0,00%	-0,21%	0,94%	1,30%	1,47%	2,05%	2,30%	2,03%	2,00%	1,45%	1,85%
<i>2001-3000</i>	0,00%	-0,23%	0,61%	0,24%	2,12%	1,71%	3,69%	2,40%	2,01%	1,83%	2,10%
<i>3001-4000</i>	0,00%	0,50%	1,10%	0,53%	2,35%	2,31%	3,09%	3,22%	3,36%	3,51%	2,05%
<i>4001-5000</i>	0,00%	1,54%	2,45%	2,77%	2,53%	2,97%	4,66%	3,50%	2,43%	1,93%	1,45%
<i>5001-10000</i>	0,00%	-0,03%	1,95%	1,31%	2,15%	1,54%	2,86%	2,72%	2,45%	1,95%	1,48%
<i>10001-20000</i>	0,00%	7,75%	3,54%	1,91%	2,93%	2,38%	1,70%	2,34%	2,99%	1,97%	2,22%
<i>20001-50000</i>	0,00%	-0,58%	0,10%	0,95%	0,59%	-0,30%	-0,77%	0,38%	-0,21%	0,00%	-0,84%
<i>50001-100000</i>	0,00%	-3,36%	-3,11%	-5,08%	-6,29%	-7,39%	-7,71%	-5,82%	-6,08%	-5,53%	-6,82%
<i>more than 100001</i>	0,00%	-0,47%	-1,57%	0,83%	-0,04%	-1,73%	-1,82%	-2,46%	-0,61%	0,47%	0,91%

Source: author, based on data on local government expenditures from DataCentrum

Table 2 presents the results of cumulated growth of expenditures on COFOG division 01. In the logic of our paper are these the expenditures spend on the local government (municipal building, mayor, etc.) and not on public services which can be consumed by the inhabitants of the local governments. We can see, that the biggest increase is in the local units within the size category 10.001-20.001 inhabitants (10,23%). These local units are followed by the smallest. With an increase of 9,9%, is the size category of local units with up to 250 inhabitants on the second place. Local units with population from 251 to 5.000 have reached an increase 4,04% to 5,93%. The cities with population from 50.001 to 100.000 inhabitants have reached the biggest decline -18,82%. This means, that these cities were able to decrease the fix costs for running the administration significantly.

**Table 2 – Cumulated differences growth rate of general public services expenditures (COFOG division 01).**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<i>up to 250</i>	0,00%	-2,27%	2,60%	1,25%	3,23%	6,51%	2,85%	2,83%	5,23%	6,11%	9,90%
<i>251-500</i>	0,00%	-2,63%	1,01%	0,53%	2,15%	7,69%	5,75%	4,13%	4,28%	2,29%	5,93%
<i>501-1000</i>	0,00%	-0,53%	2,13%	1,21%	3,51%	7,37%	6,11%	5,66%	4,72%	2,48%	4,04%
<i>1001-2000</i>	0,00%	-1,49%	2,29%	2,70%	5,13%	5,38%	4,01%	5,20%	5,14%	3,74%	4,26%
<i>2001-3000</i>	0,00%	-1,65%	1,96%	1,75%	7,10%	5,71%	4,38%	6,80%	5,58%	4,11%	5,09%
<i>3001-4000</i>	0,00%	-2,06%	2,34%	1,00%	7,57%	3,67%	3,81%	6,82%	4,97%	4,48%	4,42%
<i>4001-5000</i>	0,00%	1,46%	3,75%	6,66%	5,87%	5,85%	3,47%	7,45%	6,91%	4,00%	5,13%
<i>5001-10000</i>	0,00%	-2,98%	4,71%	4,46%	5,44%	4,18%	2,55%	5,07%	4,45%	1,64%	1,93%
<i>10001-20000</i>	0,00%	28,28%	11,73%	10,95%	11,18%	10,93%	8,47%	9,71%	12,11%	9,54%	10,23%
<i>20001-50000</i>	0,00%	-3,66%	-0,68%	-0,19%	1,90%	-0,03%	-2,35%	0,55%	-0,18%	0,18%	-1,76%
<i>50001-100000</i>	0,00%	-13,91%	-6,44%	-17,47%	-18,95%	-20,92%	-19,05%	-16,56%	-16,83%	-20,81%	-18,82%
<i>more than 100001</i>	0,00%	2,74%	0,52%	8,77%	1,47%	-0,68%	6,45%	0,01%	1,65%	9,44%	6,02%

Source: author, based on data on local government expenditures from DataCentrum

Table 3 presents the growth of expenditures on other services. The decline from the Slovak average can be seen on same size categories as the in Table 1 – biggest loss (-3,50%) is in the cities with population of 50.001 – 100.000, followed by villages with population in the range from 501 – 1.000 (-1,33%) inhabitants and cities with more than 20.001 and less than 50.000 inhabitants (-1,05). The biggest increase is again in the smallest villages with 4,96%.

**Table 3 – Cumulated differences growth rate of other expenditures (COFOG divisions 02-10).**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
up to 250	0,00%	0,70%	0,24%	-0,06%	-2,66%	3,66%	-0,05%	-3,37%	-5,69%	-2,84%	4,96%
251-500	0,00%	0,99%	1,84%	1,26%	-0,59%	6,60%	3,46%	3,57%	1,57%	0,97%	2,78%
501-1000	0,00%	-1,62%	-0,21%	-1,60%	-2,19%	1,98%	-0,37%	-1,03%	-2,42%	-2,35%	-1,33%
1001-2000	0,00%	0,13%	0,70%	1,07%	0,68%	1,39%	2,06%	1,36%	1,41%	0,97%	1,43%
2001-3000	0,00%	0,08%	0,27%	-0,11%	1,13%	0,91%	3,98%	1,57%	1,33%	1,45%	1,54%
3001-4000	0,00%	1,11%	0,84%	0,45%	1,35%	2,15%	3,34%	2,70%	3,23%	3,60%	1,65%
4001-5000	0,00%	1,78%	2,33%	2,15%	1,98%	2,59%	5,46%	2,94%	1,62%	1,64%	0,72%
5001-10000	0,00%	0,58%	1,48%	0,72%	1,55%	1,02%	3,27%	2,41%	2,12%	2,08%	1,33%
10001-20000	0,00%	1,88%	2,69%	0,80%	1,96%	1,35%	1,15%	1,56%	1,86%	1,12%	1,21%
20001-50000	0,00%	-0,05%	0,05%	1,15%	0,16%	-0,59%	-0,50%	0,22%	-0,51%	-0,18%	-1,05%
50001-100000	0,00%	0,13%	-1,56%	-1,38%	-2,84%	-3,85%	-4,38%	-2,56%	-2,91%	-1,45%	-3,50%
more than 100001	0,00%	-1,38%	-2,28%	-1,39%	-0,35%	-2,09%	-4,40%	-2,96%	-0,91%	-1,46%	0,26%

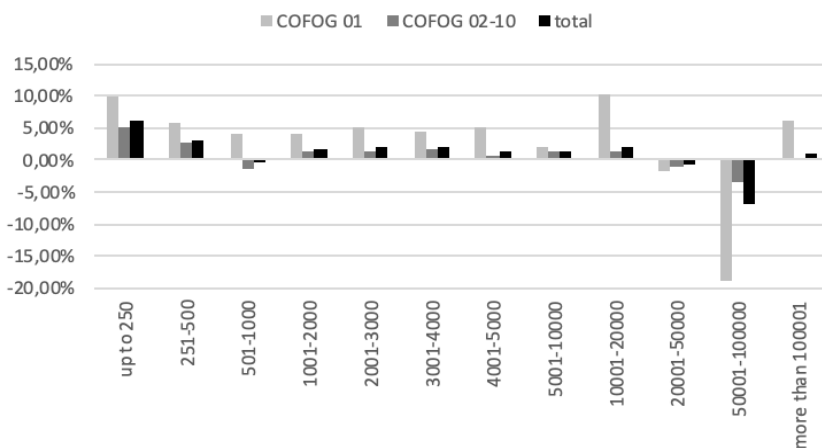
Source: author, based on data on local government expenditures from DataCentrum

Putting the results from above together, in Figure 1 we can see, that in all size categories excepting the cities from 20.001 to 100.000 have the expenditures on general public services (COFOG 01) grown faster than the Slovak average and also faster than expenditures on other public services (COFOG 02-10). This can be interpreted as that the representatives preferred the expenditures on the office instead of expenditures on provision of public services to the inhabitants.

A different situation can be seen in the cities with population from 20.001 to 100.000. Both size categories have grown slower than the Slovak average and both have decreased the expenditures on general public services (COFOG 01) faster than the expenditures on other public services (COFOG 02-10).

**Figure 1 – Cumulated differences growth of COFOG 01, COFOG 02-10 and total expenditures in different size groups (in the period 2005-2015)**

Source: author



But how is the situation, when we look at real expenditures? Table 4 shows the expenditures of local governments and their ratio to the average expenditures at the beginning of our observed period in 2005 and at the end in 2015. We can see that the smallest villages (up to 250 inhabitants) had in 2005 the total expenditures per capita 291,13€ what represented 59,55% of the Slovak average. In 2015 the expenditures were already 658,63€ and 82,21% of the Slovak average. In the cities of the size category from 50.001 to 100.000 inhabitants were the total expenditures per capita in 2005 674,92€ what was 138,05% of the Slovak average. In 2015, the total expenditures were 716,60€ but only 89,45% of the

Slovak average. The changes of ratios and amount to Slovak average of all observed expenditures can be found in appendix.

**Table 4 - Ratios of observed expenditures to Slovak average in 2005 and 2015**

	2005 pc (€)	2005 pc share on SVK (%)	2005 COFOG 01 pc (€)	2005 COFOG 01 pc share on SVK (%)	2005 COFOG 02-10 pc (€)	2005 COFOG 02-10 pc share on SVK (%)	2015 pc (€)	2015 pc share on SVK (%)	2015 COFOG 01 pc (€)	2015 COFOG 01 pc share on SVK (%)	2015 COFOG 02-10 pc (€)	2015 COFOG 02-10 pc share on SVK (%)
<i>up to 250</i>	<b>291,13</b>	59,55%	<b>162,40</b>	127,07%	<b>128,73</b>	35,65%	<b>658,63</b>	82,21%	<b>408,96</b>	226,40%	<b>249,67</b>	40,24%
<i>251-500</i>	<b>328,52</b>	67,19%	<b>143,78</b>	112,50%	<b>184,74</b>	51,16%	<b>620,13</b>	77,41%	<b>279,62</b>	154,80%	<b>340,51</b>	54,88%
<i>501-1000</i>	<b>419,53</b>	85,81%	<b>124,84</b>	97,68%	<b>294,69</b>	81,61%	<b>669,48</b>	83,57%	<b>217,05</b>	120,16%	<b>452,43</b>	72,91%
<i>1001-2000</i>	<b>422,32</b>	86,38%	<b>108,15</b>	84,63%	<b>314,16</b>	87,00%	<b>771,64</b>	96,32%	<b>189,22</b>	104,76%	<b>582,42</b>	93,86%
<i>2001-3000</i>	<b>431,88</b>	88,34%	<b>93,05</b>	72,81%	<b>338,83</b>	93,83%	<b>801,94</b>	100,10%	<b>166,49</b>	92,17%	<b>635,44</b>	102,41%
<i>3001-4000</i>	<b>413,97</b>	84,67%	<b>89,36</b>	69,92%	<b>324,62</b>	89,90%	<b>764,74</b>	95,46%	<b>153,12</b>	84,77%	<b>611,62</b>	98,57%
<i>4001-5000</i>	<b>420,96</b>	86,10%	<b>93,33</b>	73,03%	<b>327,63</b>	90,73%	<b>745,86</b>	93,10%	<b>165,94</b>	91,87%	<b>579,92</b>	93,46%
<i>5001-10000</i>	<b>466,10</b>	95,34%	<b>99,29</b>	77,69%	<b>366,81</b>	101,58%	<b>839,78</b>	104,82%	<b>152,67</b>	84,52%	<b>687,11</b>	110,74%
<i>10001-20000</i>	<b>461,64</b>	94,42%	<b>91,63</b>	71,69%	<b>370,02</b>	102,47%	<b>840,22</b>	104,88%	<b>154,46</b>	85,51%	<b>685,76</b>	110,52%
<i>20001-50000</i>	<b>468,59</b>	95,84%	<b>93,22</b>	72,94%	<b>375,37</b>	103,95%	<b>724,94</b>	90,49%	<b>119,38</b>	66,09%	<b>605,55</b>	97,59%
<i>50001-100000</i>	<b>674,92</b>	138,05%	<b>252,55</b>	197,61%	<b>422,37</b>	116,97%	<b>716,60</b>	89,45%	<b>130,03</b>	71,99%	<b>586,57</b>	94,53%
<i>more than 100001</i>	<b>657,81</b>	134,55%	<b>148,83</b>	116,46%	<b>508,98</b>	140,95%	<b>1168,13</b>	145,81%	<b>258,25</b>	142,97%	<b>909,88</b>	146,64%
<i>SVK</i>	<b>488,91</b>	100,00%	<b>127,80</b>	100,00%	<b>361,10</b>	100,00%	<b>801,13</b>	100,00%	<b>180,63</b>	100,00%	<b>620,50</b>	100,00%

Source: author, based on data on local government expenditures from DataCentrum

Smaller local governments are growing faster, than larger ones. One reason could be a lower starting level (see Table 4 and Appendix). Second reason could be an increase of economic activity in smaller local governments, but the ones with the highest growth rate (up to 250 inhabitants) are too small to be able to deliver that much resources (human capital, land).

Another reason could be the location of the local governments. As mentioned above on the example of UK (Martin, Sunley, Tyler and Gardiner 2016), where smaller cities in South have grown faster than larger cities in North. This is caused by the transformation of the economy. But in Slovakia are small local governments located in Eastern and South Slovakia what are regions with highest unemployment.

Also, an argument about unregistered residents could not be the reason for such results. If we assume, that most people are moving to larger cities, due to more work opportunities and a different quality of life from smaller towns or villages, the results should be opposite. Smaller towns and villages would due to real consumption (which is due to “emigration” lower than expected) spend less money what would with a higher number of registered residents cause a decline in per capita expenditure. Using this same logic for larger cities, the expenditure per capita should be growing because of a higher consumption of public services and a lower number of registered residents than the one of real consumers.

We unfortunately cannot draw conclusion regarding the real impact of the expenditure growth (or decline) on the quality of living in a specific town or city. But due to assumption made above, with even the biggest growth on expenditures in the smallest local governments only a part of it was spent on services for the inhabitants. The major part of the growth was consumed by the local government itself. Even with the highest decline are the cities in the category from 50.001-100.000 inhabitants able to spend more “extra” money (absolute change of expenditure on other services) than the local governments with the highest growth rate. This could be linked to a quality of government issue.

## 4 Conclusion

We have found out, that there are differences in the growth of expenditures across local units based on their size. The results are kind of surprising. We suggested, that the smaller units will be those who do (due to low(er) efficiency) perform under the Slovak average. The results show, that the underperformers are in contrary larger cities (in Slovak conditions), which are by the Slovak regional policy (still) seen as growth poles.

Positive is, that there is in general a growth of expenditures on other public services. The problem is, that in most cases are the expenditures on other public services growing slower than the expenditures on general public services. This can be caused by the ineffective administrative structure of Slovakia and low public control in small administrative units.

This surprising result should be taken under scrutiny in further research. The research should focus on the reasons of the slower growth of larger cities. There are at least these few reasons, which would support the assumption, that the expenditures of larger local governments (towns and cities) will grow faster: a) larger local governments should have larger economy and more valuable real estates, what should cause a higher tax revenue; b) larger local governments have enough money to co-finance EU projects what also brings additional resources; c) larger local units are attracting more people to live in, urbanisation is a visible trend across whole Europe. So, the question where does the growth (and money) come from, has to be risen. Also, a closer look on the dynamics of income and expenditure relation (which policies are the first that gain from an increased income and which are the last that suffer) would be welcome.

With this additional information could be the reasons of such a development of expenditure growth revealed. Then it would be possible to adjust the way of financing municipalities to take into account both the time factor (how long the municipality is below average) and the importance of the settlement within the spatial structure (should it be the centre of development?). As a matter of course, the relevant policies should be tailored to the cities concerned so that they respect their specific characteristics and make the most of them.

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## Appendix

### Structure of Slovak local units based on size categories

	<i>up to 250</i>	<i>251 - 500</i>	<i>501 - 1000</i>	<i>1001 - 2000</i>	<i>2001 - 3000</i>	<i>3001 - 4000</i>	<i>4001 - 5000</i>	<i>5001 - 10 000</i>	<i>10 001 - 20 000</i>	<i>20 001 - 50 000</i>	<i>50 001 - 100 000</i>	<i>100 001 +</i>	<i>total</i>
local units count	511	618	754	573	175	71	35	65	35	43	9	3	2892
share	17,67%	21,37%	26,07%	19,81%	6,05%	2,46%	1,21%	2,25%	1,21%	1,49%	0,31%	0,10%	100,00%
population	78024	231359	534361	798098	409866	240523	147194	412351	453023	876769	575256	666687	5423511
population share	1,44%	4,27%	9,85%	14,72%	7,56%	4,43%	2,71%	7,60%	8,35%	16,17%	10,61%	12,29%	100,00%
population*	78024	231770	535597	807102	419438	247312	151277	435958	508836	1248803	647616	778465	6090198
popultaion share*	1,28%	3,81%	8,79%	13,25%	6,89%	4,06%	2,48%	7,16%	8,35%	20,51%	10,63%	12,78%	100,00%

\*Population and population share with city boroughs of Bratislava and Košice included (double count) Source: authors based on data on population form DataCube in 2010

### 2005 and 2015 change of the expenditure ratio to Slovak average

	Ratio of total expenditure pc to SVK average (%) change)	Ratio of COFOG 01 pc to SVK average (%) change)	Ratio of COFOG 02-10 pc to SVK average (%) change)	Total expenditure pc (change in €)	COFOG 01 pc (change in €)	COFOG 02-10 pc (change in €)
up to 250	22,67%	99,33%	4,59%	367,50	246,55	120,95
251-500	10,21%	42,30%	3,72%	291,61	135,84	155,77
501-1000	-2,24%	22,48%	-8,69%	249,95	92,21	157,74
1001-2000	9,94%	20,13%	6,86%	349,33	81,07	268,26
2001-3000	11,77%	19,37%	8,58%	370,06	73,44	296,61
3001-4000	10,78%	14,85%	8,67%	350,77	63,76	287,01
4001-5000	7,00%	18,84%	2,73%	324,90	72,61	252,29
5001-10000	9,49%	6,83%	9,16%	373,67	53,37	320,30
10001-20000	10,46%	13,82%	8,05%	378,58	62,84	315,75
20001-50000	-5,35%	-6,85%	-6,36%	256,35	26,16	230,18
50001-100000	-48,60%	-125,62%	-22,43%	41,68	-122,52	164,20
more than 100001	11,26%	26,51%	5,69%	510,32	109,42	400,90
Slovakia	0	0	0	312,22	52,83	259,39

Source: author, based on data on local government expenditures from DataCentrum

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# Determinants of Healthcare Public Procurement in the Slovak Republic

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## Abstract

*The last decade is characterized by the greatest increase in the research activities and studies in the field of public procurement. Although the studies and research activities in public procurement are highly heterogeneous, their results reveal several unclear issues. OECD member countries spend on average 13% of their GDP on public procurement, that represents 29% of the total public spending. The innovation of public procurement is considered to be the most appropriate way on how to improve the efficiency and effectiveness of public spending. Despite the fact that there exist a variety of selection criteria (price, no-price), generally, the most used criterion for bid selection is price. Several factors influence the price. The aim of this paper is to examine the relationship (whether it is positive or negative) between savings/overcharge and the number of offers in Slovak healthcare public procurement, using the generalized linear model and quantile regression analysis. The results show the evidence of the negative relation between explanatory variable (number of offers) and explained variable (final price as a % of the estimated price). As the percentage of overcharge increases, the effect of the number of offers on savings decreases.*

**Keywords:** Healthcare, public procurement, generalized linear model, quantile regression analysis

**JEL Classification:** E60, H57, I19

## 1 Introduction

In general, public procurement represents one of the many government functions, regulated by procurement laws and budget decisions by legislators. The primary purpose of public procurement is to meet the needs and requirements of public administration and to support the policy initiatives, the SMEs, and innovative business development. Globally, public procurement that includes purchased goods and service and some social benefits, accounts for approximately one third of government spend. The emerging markets have the greatest potential for improving public procurement because governments have yet to carry out many of the necessary reforms or conduct comprehensive expenditure reviews (Wyman, 2018). According to European Commission (2017) in Europe, public authorities spend around 14% of GDP on public procurement (represents around EUR 1.9 trillion). As the focus is on ICT today, ICT innovations do not circumvent public procurement too. E-procurement solutions make purchasing activities more effective in terms of both time and cost and are changing the way businesses purchase goods (Kakwezi and Nyeko, 2019; Georghiou et al., 2014; Bleda and Chicot, 2019). The use of national e-procurement systems is a prerequisite for data quality improvement and so for the adequate analysis, especially at the regional and local level. Many authors (Obwegeser and Müller, 2018; Gavurova et al. 2017) draw attention to the need for theoretical studies development to appropriately involve innovation in the procurement process. Better theoretical background should eliminate the differences between theoretical knowledge and practical experience. Even though innovation is desired, there exist several barriers to its implementation. Suppliers mention the barriers such as the lack of interaction with procuring organizations, the use of over-specified tenders as opposed to outcome-based specifications, low competences of procurers and poor management of risk during the procurement process (Uyarra et al., 2014).

### 1.1 Literature review

Nowadays, one of the vital emphasized element of public procurement is transparency. To maintain a transparent procedure, fair evaluation, and compliance with government regulations and requirements, Falagario et al. (2012) present a decision-making tool. It helps evaluation committees to select the most appropriate offer in public procurement. This decision-making tool used data

envelopment analysis (DEA method) that allows avoiding subjective judgments. The issues of transparency in public administration were dealt within the study (Kameník et al. 2011). The main aim of this study was to identify barriers to low transparency in public procurement in the Czech Republic. According to authors, in 2010, up to 44% of the total financial resources were awarded to public contracts, where suppliers were not obliged to publish the information officially. The authors emphasize that transparency is unconditionally seen as a vital tool for effectively preventing corrupt behavior. This is particularly important in implementing a transparency policy for public procurement. Study (Brammer and Walkerová, 2011) brings the findings of the Sustainable Procurement Survey on a sample of 280 subjects from 20 countries. The results of the study reveal that public authorities are encouraged to procure sustainably, eliminating their social and environmental footprint, and promoting sustainability in the private sector. However, there is no information on how public sector organizations respond to these challenges at the international level in order to contribute to sustainable procurement. The authors emphasize the scope and nature of sustainable procurement practices vary considerably across regions, with some areas of sustainability being relatively neglected. The biggest obstacles are financial concerns.

Despite the fact, public procurement represents many disputed areas, research activities in this field of studies are considered to be insufficient in many countries (Gavurova et al. 2017, 2018; Tkacova et al. 2017). According to Ochrana & Pavel (2013) and Ochrana & Maaytová (2012), within the average number of contracts, Slovakia is the last among the evaluated EU countries Slovak republic. The limitation of research trajectories and the investigation of potential causalities is the lack of adequate data and databases. Even though the research studies from the health sector are almost absent, it is possible to gain valuable insights from different sectoral analyses where the process analogy and the potential of many research inspirations are clear. The study (OECD, 2019) examines the role of public procurement in managing public administration productivity. The study highlights the role of public procurement as a driver of economic growth. One of the possible indicators of administrative efficiency is the number of tendering days needed to carry out the procurement procedure. Ochrana & Pavel (2013) state that the public procurement environment, which is more open to competition, provides fewer opportunities for corruption in public tenders. As reported by McKinsey and Company (2017), a global \$ 3.3 billion fiscal gap could be covered by 2021 if public spending were done more efficiently. In the area of healthcare, it has been found that further use of existing resources would increase life expectancy by 1.4 years. By building a clear link between the public procurement and government priorities, policymakers can gain a clearer understanding of the role of the public procurement. Halaskova and Halaskova (2015) solve the provision of public services using the example of social and health services.

When talking about the effectiveness of public procurement, it is essential to examine the individual factors that influence the price of purchased goods. Plaček et al. (2019), deal with the issue of the length of proceedings in the public procurement. The authors examined the factors related to the duration of the procedure in the public procurement from the moment of the call for tenders to the conclusion of the contract. According to their results, the length of the public contract does not affect the standard contract (final) price and the type of contracting authority, the expected price, the transparency of procurement, and the method of assessment have a statistically significant impact on the length of the contract. The duration of the bidding procedure is also influenced by the lowest price bid evaluation, as this method accelerates the procedure. Authors Pavel & Sičáková-Beblavá (2008) and Sičáková et al. (1975) found out the more complex the administrative procurement is, the less transparent it becomes and the more likely it is to create corruption opportunities. Halaskova (2015) show that fiscal decentralization plays a significant role in procuring local public services because the expenditures are more adjusted to local priorities and preferences. Hill (2016) explored factors that may be beneficial for centralized procurement. As stated in the study (Hill, 2016), centralization can increase efficiency and reduce purchase costs, mainly because of economies of scale, reduced duplication of work, increased specialization, and better knowledge and resource sharing. The focus of public procurement studies is influenced by sector diversity. Mandl et al. (2008) assess the



effectiveness of public services and public spending, in particular on education, research and development, and highlights significant differences between countries.

According to the authors Davila, Gupta, and Palmer, (2013), it is clear that there is significant potential to increase the efficiency of public spending. Such efficiency gains can be realized either by increasing outputs for a given amount of public expenditure or by reducing the inputs needed to obtain a given amount of production. Lorentziadis (2010) specified the methods used to select open tenders in the public procurement process, highlighting non-price criteria. The lowest price criterion for the selection of contract is based on the idea that the price is the only factor when the tender meets the minimum requirements of pre-established tender specifications. The disadvantage of the only price criterion is that quality plays no role. Procured product or service, which would be just a little more expensive but a few times better, in this case, has no chance. Important assessment factors such as technical strengths, quality, experience, scope, and duration of guarantees, maintenance costs, after-sales service, and life-cycle costs are not taken into account. Incorporating non-price factors into evaluation processes provides a more comprehensive comparison of proposals while increasing the bidder's profits without lowering the bidder's value. The authors Guccio, Pignataro, Rizzo (2014) state that the DEA methods provide the basis for objective evaluation of offers after the public procurement is closed. Carpineti et al. (2006), who argue that efficient practices in PP play a key role in modern economies by ensuring that wasteful activities are reduced.

In this study, the focus is on the modeling of the relationship between the number of offers and the final price at which the product/service is purchased, while using the quantile regression method and generalized regression model. Many empirical studies (Ochrana & Maaytová, 2012; Pavel & Sičáková-Beblavá, 2008) have shown the existence of an inversely proportional relationship between the number of bids submitted and the bid price. It is therefore in the interest of the public sector to win as many competitive contracts as possible, despite some increase in administrative costs, as the impact on administrative costs is relatively small compared to price reductions (Ochrana & Pavel, 2013).

## 2 Material and Methods

### 2.1 Data

Data on public procurement in healthcare comes from the Central Register of Public Contracts in Slovakia. For the analysis, we randomly chose 1 384 contracts for the period from 2012 to 2015. **Table 1** contains descriptive statistics calculated individually for each year: the absolute number of contracts, the average number of offers, the projected average price of goods, the final average price of goods, and the average price ratio. The average number of offers was calculated as the average number of all offers in the process of public procurement. Projected average price represents the average price of procured goods that was expected to be paid before the contract was made. The final average price is the price at which the goods were purchased.

**Table 1 Descriptive statistics of public contracts in corresponding years**

Year	Count of contracts	Average number of offers	Projected average price	Final average price
2012	426	2.194836	263 716.6	262 417.7
2013	367	2.509537	312 630.8	368 640.2
2014	192	1.890625	944 772.3	925 322.5
2015	399	1.892231	1 001 904	973 642.8

Source: Central Register of Public Contracts in Slovakia, own processing

The count of contracts is different across the years, as we may see in **Table 1**. The highest average number of offers was 2.509537 in 2013, following by 2.194836 offers on average in 2012 and 1.892231 in 2015. The least average number of offers was submitted in 2014.

The indicator that represents the ratio of the final price to the projected price is called “price ratio” (1). It determines whether the public procurement was economically efficiently (with the percentage of savings) or not (with the percentage of overcharge).

$$\text{price ratio} = \frac{\text{final price}}{\text{projected price}} \quad (1)$$

If the price ratio is greater than 1, the final price is higher than the projected prize and therefore, the procurement was overpriced. For example, if the value of this indicator is at 1.3, it means that the overcharge is 30%. The ratio that is less than 1 shows that the final price is lower than the projected price and the public procurement has resulted in resource savings. The price ratio of 0.8 signifies that the savings are 20%. When the final and projected price is equal, the procurement does not affect the price. The average price ratio was calculated as the average of all ratios derived for each year. As shown in

**Table 2**, for the years 2012, 2014, and 2015, public procurement was made effectively. In 2013 as in a single year, the average price ratio is above 1, that signifies that procured goods were procured with overcharge. The average overcharge in 2013 is 0.75%. The average savings in 2012 are at 1.89%, in 2014 at 7.40% and in 2015 at 4.34%.

**Table 2 The average savings /overcharge of public contracts**

Year	Average savings / overcharges
2012	1.89%
2013	0.75%
2014	7.40%
2015	4.34%

Source: own calculation

Considering all 1 384 contracts as one dataset, we calculated the mean and median of all projected and final prices of goods to compare the difference between the median and mean of projected and final price. The comparison of both indicators helps to identify whether the assumption of normality is violated or not. For the normal distribution, the median equals the mean. As we may see, the difference between the median and mean is nearly 4 000 units. As shown in **Table 3**, the violation of the normality assumption is confirmed.

**Table 3 Descriptive statics for the projected price, final price and price ratio**

	Median	Mean
Projected price	50 000	583 984.5
Final price	46 931.3	587 591.2
Price ratio	0.9921253	0.9734077

Source: own calculation

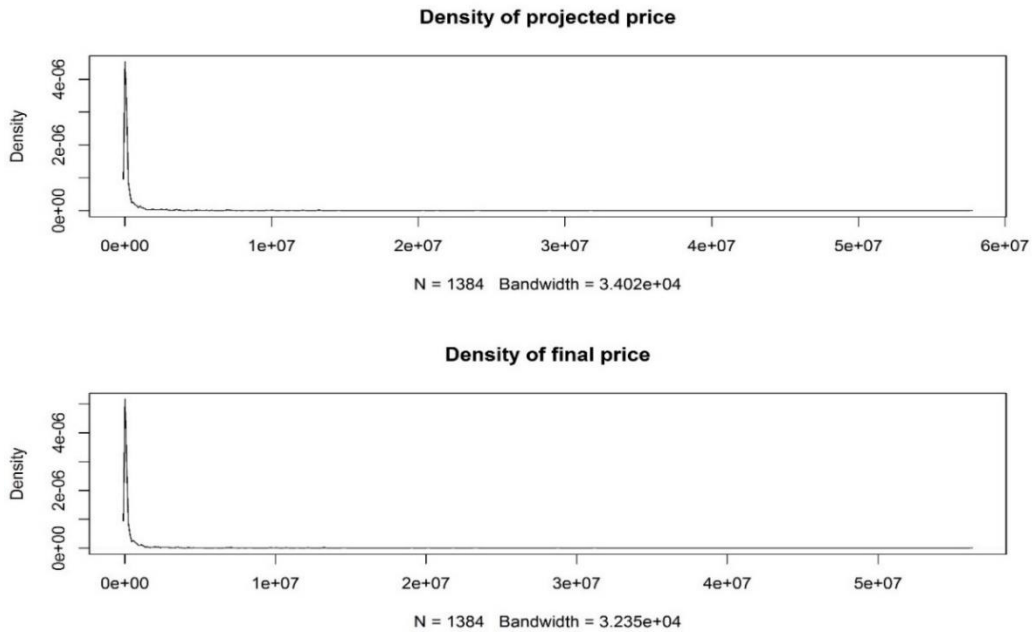
## 2.2 Methods

When considering all 1 384 contracts, the assumption of the normality of the distribution of the projected and final price due to very extreme values is clearly violated, according to **Figure 1**. The distribution of both the estimated and the final price is positively skewed. As far as we would like to use the price ratio as a basis for linear modeling of the relationship between the amount of savings achieved in public procurement and the number of price offers, the normality of price ratio should be

proven. Extreme observations may also cause the violation of other linear regression assumption, that means the random error of the model doesn't have a constant variance. Extreme values also affect the estimated regression coefficients of the model, even a small number of extreme observations can significantly influence the estimated regression coefficients (Maddala and Lahiri, 2009).

To verify the normality of the distribution of price ratio, we used the Shapiro-Wilk test. It compares the empirical distribution function to the theoretical distribution function of normal distribution. We tested the null hypothesis  $H_0$  of the normal distribution of price ratio to alternative hypothesis  $H_1$  that the distribution of price ratio is not normally distributed. Considering the p-value asymptotically equal to zero, the distribution of price ratio is not normal, and so we can't use it as input in the linear regression model.

**Figure 1 Density of projected and final price. Source: own processing in R**



As well as we know, that normality could be violated by extreme values, the question is whether the exclusion of extreme values could influence the results of our study. Unfortunately, the elimination of extreme values would result in the violation of sample randomness. To avoid this problem, to model the relationship between savings/overcharge and number of offers, we decided to use a generalized linear model and quantile regression.

### 2.2.1 Modelling the relationship between the amount of savings/overcharge and the number of offers

In general, the most common tool for estimating the relationship between explanatory and explained variable is classical linear regression (Hebák and Svobodová, 2001). This study deals with the number of offers as the explained variable and the amount of savings/overcharges as an explanatory variable. Considering the classical linear regression model, the assumption of homoscedasticity or no autocorrelation in the residuals could be defined as follows (2):

$$\Sigma = E(ee^T) = \sigma^2 I_n \quad (2)$$

where  $\Sigma$  represents the variance-covariance matrix of the residuals,  $\mathbf{e}$  represents the vector of the non-systematic component of the model (residuals),  $\mathbf{e}^T$  is the transposed vector of residuals,  $\sigma^2$  is constant variance (a scalar element) on the diagonal of the variance-covariance matrix and  $\mathbf{I}_n$  the unit matrix (sometimes called identity matrix: symmetric matrix of dimension  $n \times n$ , which has ones on the main diagonal and zeros elsewhere). Ideally, if the assumption of homoscedasticity and non-correlation of a non-systematic component is fulfilled, the variance-covariance matrix (3) for  $n = 3$  would be:

$$\Sigma = \begin{bmatrix} \sigma^2 & 0 & 0 \\ 0 & \sigma^2 & 0 \\ 0 & 0 & \sigma^2 \end{bmatrix} \quad (3)$$

If the assumptions of the classical linear model are met, the best unbiased and robust estimator of the regression coefficients of the model is the least squared estimator. In this case, we can calculate the model regression coefficients as follows (4):

$$\mathbf{b} = (\mathbf{X}^T \mathbf{X})^{-1} \mathbf{X}^T \mathbf{y} \quad (4)$$

where  $\mathbf{b}$  is a vector of the estimated regression coefficients ( $b_i = \hat{\beta}_i$ ),  $\mathbf{X}$  is the matrix of explanatory variables, and  $\mathbf{y}$  is a vector of the responsible variable (Draper and Smith, 1998).

### 2.2.2 Generalized linear model

This part of the study describes the generalized linear model as a tool for examination of the relationship between explanatory and explained variables. As far as the normality of distribution and the assumptions of homoscedasticity and no-correlation of residuals are violated, the classical linear regression model is not appropriate. In our case, the variance-covariance matrix of residuals is not a scalar multiple of the constant variance and the unit matrix ( $\sigma^2 \mathbf{I}_n$ ) but will be equal to the product  $\sigma^2$  and the matrix of weights  $\mathbf{W}$ , denoted by  $\Omega$  written as (5):

$$\Omega = \sigma^2 \mathbf{W} \quad (5)$$

It follows that the variances  $D(e_i)$  doesn't have to be constant and are equal to positive constants on main diagonal of matrix  $\Omega$  ( $\sigma_1^2, \sigma_2^2, \dots, \sigma_n^2$ ) and the pair of random variables  $e_i$  and  $e_j$  for  $i, j = 1, 2, \dots, n$  could be correlated and their covariance is equal to the same constants  $\sigma_{ij}^2$ . Based on the variances and covariance properties, matrix  $\Omega$  is the symmetric, positively definite matrix of dimension  $n \times n$  with positive elements on the main diagonal.

### 2.2.3 Quantile regression model

In this case, quantile regression in which we model the effect of the explanatory variables on the individual quantiles of the explained variable is more suitable. The quantile regression analysis aims to determine the impact of the number of bids at individual savings/overcharge levels.

In the case of a linear regression model, while the mean squared error is minimized, the mean value of the dependent variable is estimated. While modeling only the conditional mean value (in linear regression), we lose a great deal of information about the explained quantity. Conversely, using the quantile functions, the information obtained is significantly more complex (Procházka, 2015).

Considering the continuous random variable  $X$  with values range from 0 to 1, the distribution function of  $X$  is defined as follows in (6):

$$F(X = x) = F(x) = P(X \leq x) \quad (6)$$

Quantile function will be the inverse function to the distribution function defined by (5). To estimate the regression coefficients, the optimization method of linear programming is involved. The estimation of regression coefficients in the case where there is exactly one explanatory variable and

one response variable expresses how much the  $\tau$ -th quantile of the conditional probability distribution changes if the explanatory variable changes by one unit (Koenker, 2005).

The function is  $\ln()$  and the formula (7):

$$\ln E[y] = \beta_0 + \beta_1 x \quad (7)$$

where  $y$  represents the response variable price ratio, and the number of offers represents the explanatory variable  $x$ .

Considering the exponential function properties, the exponential function has the formula (8):

$$E[y] = e^{\beta_0 + \beta_1 x} \quad (8)$$

The equation (2) can be adjusted as formula (9):

$$E[y] = e^{\beta_0} e^{\beta_1 x} \quad (9)$$

The analysis was made within the R – framework, using the integrated library stats. We used Generalized linear model with Gamma family and log link (Multiplicative arithmetic mean model), with the assumption, that the outcome is skewed and always positive. To analyze our data, the library *quantreg* was used.

### 3 Results and Discussion

In the previous part of this paper, we showed that the price ratio doesn't have a normal distribution. As the price ratio doesn't have a normal distribution, the estimation of classical linear regression coefficients was not performed (the assumption of normality of violated). Instead, we firstly created a generalized linear model. Next, we did quantile regression analysis that helps us to overcome the violated assumptions of classical linear regression and to interpret the results better.

As we can see in **Table 4**, the explanatory variable in the generalized linear model was constant, and the number of offers. The dependent variable was the final price as a % of the projected price. We can see that the relationship between constant and final price as a % of the estimated price is statistically significant. Between the explanatory variable (number of offers) and explained variable (final price as a % of the estimated price), there is evidence of a statistically significant relationship. While the relationship between constant and % of the estimated price was positive, the relationship between the number of offers and explained variable was negative. We can conclude that there exists evidence of the negative relation between the explanatory variable and explained variable, meaning that if the number of offers increases, the final price as % of the estimated price decreases.

**Table 4 Generalized linear model results**

Explained variable	Final price as a % of the estimated price	
Explanatory variables	Estimated regression coefficient	Statistical significance
Constant	0.075034	0.00098 ***
Number of offers	-0.048321	1.5e-07 ***

Source: own processing in R using data from the Central Register of Public Contracts in Slovakia for the period from 2012 to 2015.

Since the relationship in classical linear regression is slightly different, we do not interpret the regression coefficients of the generalized linear model,  $b_0$  a  $b_1$ , we calculate them with an exponential function as follows (9,10):

$$e^{\beta_0} = e^{0.075034} = 1.0779209 \quad (9)$$

$$e^{\beta_1} = e^{-0.048321} = 0.9528278 \quad (10)$$

Since we do not interpret the regression coefficients, we interpret only the influence of offers on average savings/overcharges. If the number of price offers increases by one unit the average ratio of the final price to projected price decreases 0.95 times, meaning that it will decrease by 4.72 %. The price ratio is the ratio of the final price to projected price so that we can interpret this as a 4.72% increase in savings. The increase in the number of offers by one unit affects the average procurement savings, they will increase by 4.72%.

In practice, however, contract price even of highly overpriced contracts or of the other contracts with savings can respond differently to the different levels of offers that could rise in more extreme values. For the 20, 30, ..., 80 quantile percentiles of the response variable (the amount of savings or overprice as the ratio of the final price to expected price) the results of quantile regression are summarized in *Table 5*.

As we can see, as the  $\tau$  (quantile order) increases, the effect of the number of offers on savings tends to decrease. For 40% and 30% of the most overpriced public procurement ( $\tau = 0.6$  a  $0.7$ ), the number of bids does not seem to have any statistically significant effect on savings. For 20 % of the most overpriced procurement ( $\tau = 0.8$ ), the increase in the number of bids raised into a statistically significant decrease in savings of 1.28%. In contrary, when considering the 20% of the most economically efficient procurement, the increase in the number of bids by one unit raised in the savings of 7.74 %. For 30% of the most economically efficient procurement, the increase in the number of offers by one unit raised in the savings of 4.46 %.

**Table 5 Quantile regression results**

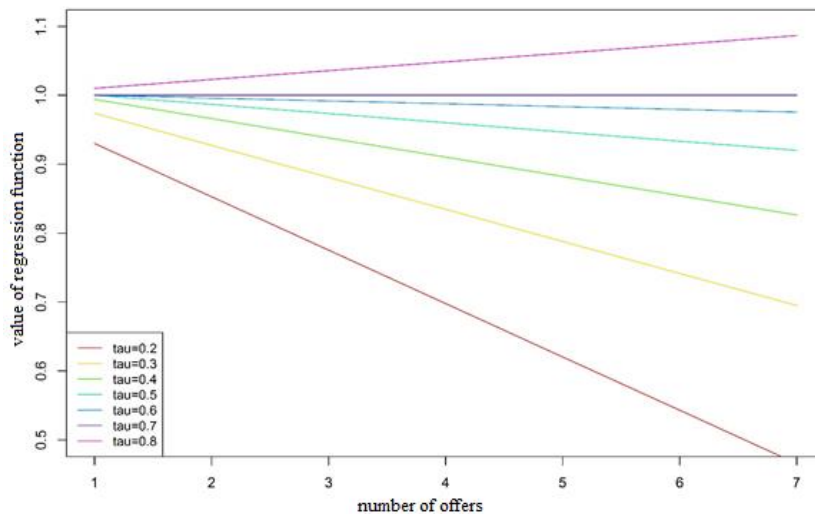
$\tau$	Constant		Final price as a % of the estimated price	
	Estimated regression	Statistical significance	Estimated regression	Statistical significance
0.2	1.00765	0.000 ***	-0.07744	0.000 ***
0.3	1.02038	0.000 ***	-0.04649	0.000 ***
0.4	1.02206	0.000 ***	-0.02796	0.000 ***
0.5	1.01329	0.000 ***	-0.01331	0.000 ***
0.6	1.00411	0.000 ***	-0.00411	0.403
0.7	1.00000	0.000 ***	0.00000	1.000
0.8	0.99722	0.000 ***	0.01278	0.016 *

Source: own processing in R using data from the Central Register of Public Contracts in Slovakia for the period from 2012 to 2015

The result of quantile regression is also shown in Figure 2.

**Figure 2 The relationship between the number of offers and the value of the regression function.**

Source: own processing in R using data from the Central Register of Public Contracts in Slovakia for the period from 2012 to 2015.



The gradual decrease in slope is apparent given the decreasing absolute value of a straight line. As can be seen, the steeper the drop for a given quantile, the greater the effect of an increase in the number of the offer is. We can say that in the case of horizontal (or almost horizontal lines), this effect is statistically insignificant. The slightly increasing line for  $\tau = 0.8$  (20% of the most overpriced orders) indicates an increase in the price ratio (decrease in savings - increase in overpricing).

#### 4 Conclusion

This paper aims to investigate the relationship between the explanatory variable (number of offers) and the variable explained (final price as a % of the estimated price). Before analysis, we created the variable price ratio that represents the ratio of final price to projected price in public procurement in healthcare. The desired condition occurs when the ratio between the final price and the estimated price is less than 1 (supposing that goods were purchased with the savings).

The main conclusion that can be drawn is that, there exists evidence of the relation between the number of offers and the final price. Our results on the relationship between price offer and the price ratio are broadly consistent with theory of concurrence, that says if the number of offers (suppliers) raises, the suppliers have to adjust their price in relation to their concurrence, and so the suppliers' prices tend to be lower. If the price will be lower, the potential savings could become greater or at least the overcharges could be lower. In practice, this means that public procurement becomes more effective (with greater savings) as the number of offers is higher.

There are many approach that allows to model the relationship between a response (or dependent variable) and one or more explanatory variables (or independent variables). As the results of study show, with the raising quantile (the lower percentage of overpriced offers), the effect of number of offers tends to be lower. That means if the quantile is higher, the increase in the number of offers will have significantly lower effect on savings. Comparing the average unit change in the number of offers, estimated by the generalized linear model, increase in the number of offers by one unit affects the average increase in public procurement savings of 4.72%. However, the results obtained by quantile regression allowed us to model this dependence on the different quantiles of the variable explained, that helps us better understand the relation between the number of offers and final price.

Recent research on public procurement provide highly heterogeneous results and reveals many unclear outcomes that vary across the studies. Demographic trends and globalization are forcing countries to deal with increased pressures on the improvement of the efficiency and effectiveness of public spending. As the process of public procurement becomes more important, and selection of the

most appropriate offer become more under the supervision of citizens, there is a need for better theoretical research. The level of public sector transparency has a significant impact on the level of corruption in society. The comparative analysis across different countries is essential for creating national and international benchmarks.

Many factors influence the final price in public procurement, such as the quality of the product, the length of the procurement process, the number of offers, etc. Because of the lack of data we decided to investigate only the number of offers. Another limitation of this study is that we used only random sample of total contracts that were made in public procurement during the years 2012 to 2015.

The work represents the basis for future studies in the field of public procurement. As it contains two different methods (quantile regression analysis and generalized linear model) to examine the relationship between explanatory and explained variables, it could be helpful in similar studies.

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# Changing as a Continuous Need: Case of Albanian Local Government

Alda Gjergji, Manjola Correj

## Abstract

*Since the creation of the Albanian State (28.11.1912), local government has seen numerous transformations influenced by various external and internal factors. Successive changes came as a need to suit country's requirements for development and to meet the requirements of the European Union. This paper gives an overview of the definition of local government and analyzes the Administrative - Territorial Reform in the context of financial effects on local government units. Evaluating the findings, we concluded that the Administrative - Territorial Reform did not meet completely the objectives as the new legislation is not fully implemented, the process of absorbing new functions, employees, assets and increasing the quality of services has not been successfully achieved. Furthermore, there has been developed a regression model in order to understand if the reform has achieved its main objective, fiscal autonomy of local government. As the model suggests, municipalities have high dependence on central government transfers. To improve the situation is needed to expand the public sector altogether with delegating functions to local government and also raise the amount of unconditional transfers as a percentage of GDP.*

**Keywords:** Administrative-territorial reform, capital expenditures, decentralization, fiscal autonomy, local governance

**JEL Classification:** H71, H72, H74

## 1 Introduction

Local governance<sup>35</sup> is defined as the formulation and execution of collective action at the local level. Thus, it encompasses the direct and indirect roles of formal institutions of local government and government hierarchies, as well as the roles of informal norms, networks, community organizations, and neighbourhood associations in pursuing collective action by defining the framework for citizen-citizen and citizen-state interactions, collective decision making, and delivery of local public services. According to Lockard, local government is a public organization, authorized to establish and administer public policies within a given territory, the latter is a subdivision of the central government. As Andrews and Shah<sup>36</sup> suggest, local governments are required to do more than provide primary education, however, they are bound by a national mandate to provide the same standard education for all citizens. While Tinder argues that the local institutions are there not only to provide various public services to citizens, but also to represent in the best way possible the will of them. Regarding the role of citizens Moore says that, it seems that they have multiple roles as governors (owner-authorizers, voters, taxpayers, community members); activist-producers (providers of services, co-producers, self-helpers obliging others to act); and consumers (clients and beneficiaries). According to Wilson<sup>37</sup>, governance refers to the interaction between civil society and government in determining governmental action.

### 1.1 Need for decentralization

The<sup>38</sup> classic concept of decentralization comes from the prominent philosopher and economist John Stuart Mill, "The purpose of having a local representation means that those with common interests

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<sup>35</sup> <http://siteresources.worldbank.org>

<sup>36</sup> Matthew Andrews, Anwar Shah (2003), Assessing local government performance in developing countries

<sup>37</sup> Robert H. Wilson (2000), Understanding local governance: an international perspective

<sup>38</sup> [http://www.klsh.org.al/web/raporti\\_reforma\\_territoriale\\_4443.pdf](http://www.klsh.org.al/web/raporti_reforma_territoriale_4443.pdf)

who do not share with other fellow citizens in general can manage their own interests. Each city has specific interests, whether small or large, but which are common to the community and consequently each city, regardless of geography or population, should have its own council". Since 2000, different international and national actors have put their idea of territorial administrative reform in Albania. With the entry into force of the Lisbon Treaty, the European Union has recognized local authorities with new attributes and responsibilities as a demand for democracy and efficiency in governance. In 2003, the World Bank proposed a series of reforms related to fiscal and administrative decentralization as well as territorial reform, among which the recommendation for distribution asymmetric functions of LGUs functions and responsibilities referring to human and fiscal capacities. This was followed by the recommendation of the Organization for Security and Cooperation in Europe, the United Nations Development Program and the Swedish Public Administration Institute (2005-2006) for reforms in administrative territory and creation of economic regions and the United States Agency for International Development funded by the United States Agency for International Development (2012) underlined need for administrative reform by closely linking it with improving decentralization in governance and improving local service delivery. The Regional Development Program funded by the Austrian and Swiss Development Agencies enriches the discussion about the need for territorial and administrative reform, focusing on the role of the second tier of local government, and deeply analyzing sub- national level from the point of view of multi-level governance and regionalization.

## 1.2 Administrative – Territorial Reform

Considering the requirements for integration into the European Union and the increased need to strengthen local government, the Albanian Government on 31 July 2014 adopted Law no. 115/2014 on "the Administrative - Territorial Division of Local Government Units in the Republic of Albania". One of the major changes introduced by this Law was the downsizing of the number of Local Government Units from 373 "urban municipalities" and "communes" to 61 new Municipalities, "communes" having been abolished<sup>39</sup>. This reform was followed by a Crosscutting Strategy on Decentralization and Local Governance<sup>40</sup> and the adoption of Law no. 139/2015, "On Local Self-Government", Law no. 68/2017 "On the finances of local self - government" and a number of other acts with regulatory character.

The Strategic Policy Framework of the National Crosscutting Strategy on Decentralization and Local Governance 2015-2020<sup>41</sup> is to:

- Enhance the overall efficiency of local government structures;
- Strengthen local finances and increase fiscal autonomy;
- Strengthen good governance at the local level;
- Delegation of services to local government to exert greater opportunities to promote local democracy.

Main opportunities and risks associated with the Administrative - Territorial Reform, are listed in the figure below:

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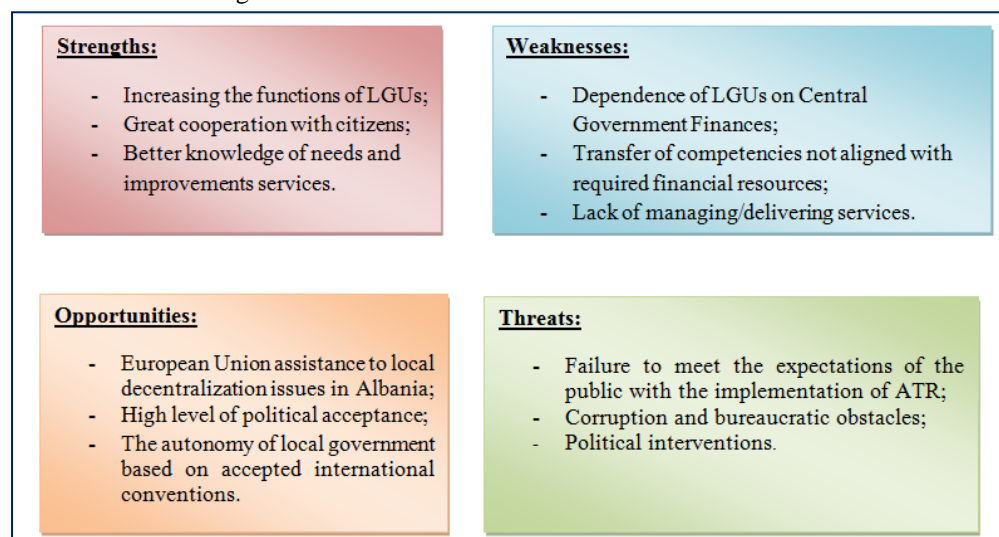
<sup>39</sup> <https://qbz.gov.al/>

<sup>40</sup> <https://info.undp.org/docs/pdc/Documents/ALB/Decentralisation%20Strategy%20Final%20-%20Feb%202015%20-%20English.pdf>

<sup>41</sup> <https://info.undp.org/docs/pdc/Documents/ALB/Decentralisation%20Strategy%20Final%20-%20Feb%202015%20-%20English.pdf>

**Figure 1– SWOT analysis of Administrative - Territorial Reform**

Source: [www.klsh.org.al](http://www.klsh.org.al)



### 1.2.1 Financial performance, before and after Administrative – Territorial Reform

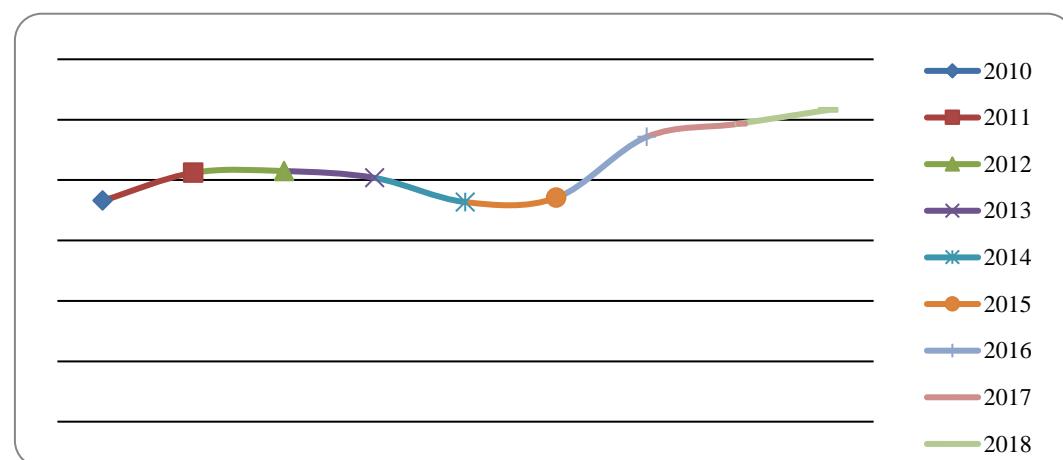
According to the performance audit report of Supreme Audit Institution, "Functioning of Municipalities, within the Administrative-Territorial Reform, 07.10.2018" two indicators of efficiency measurement are:

- Administrative expenses/Total expenses, and
- Own revenues/Total revenues;

From the data obtained from the portal for local finances, the trend of Administrative expenses/Total expenses ratio is as follows:

**Chart 1 - Administrative expenses/Total expenses ratio, 2010-2018**

Source: Local Finances Portal [www.financatvendore.al](http://www.financatvendore.al), Author's calculations

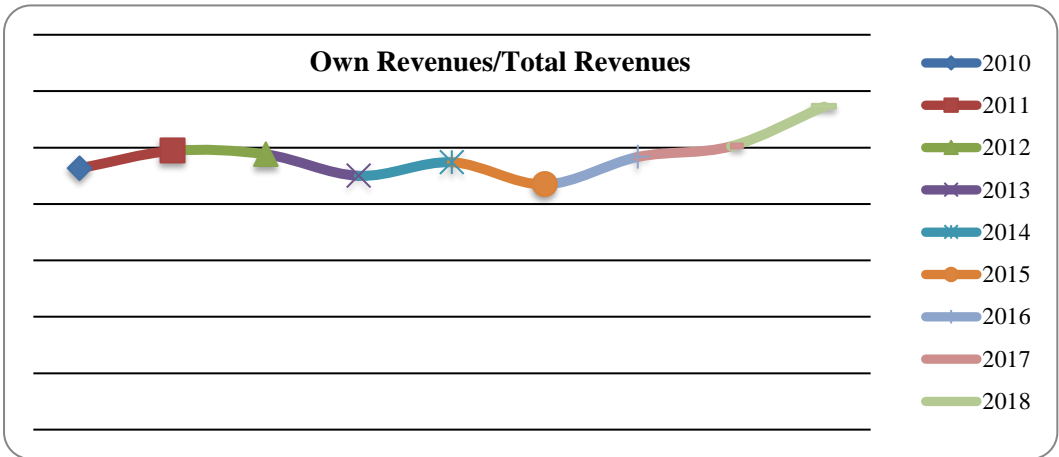


Until 2014 this ratio has a downward trend, while this trend changes after 2014, increasing and marking the maximum value in 2018, 25.809 %. This comes from delegating some new functions from central government to local government, thus increasing administrative expenses.

From the data obtained from the government financial information system and the portal for local finances, the trend of Own revenues/Total revenues ratio is as follows:

**Chart 2 - Own revenues/Total revenues ratio, 2010-2018**

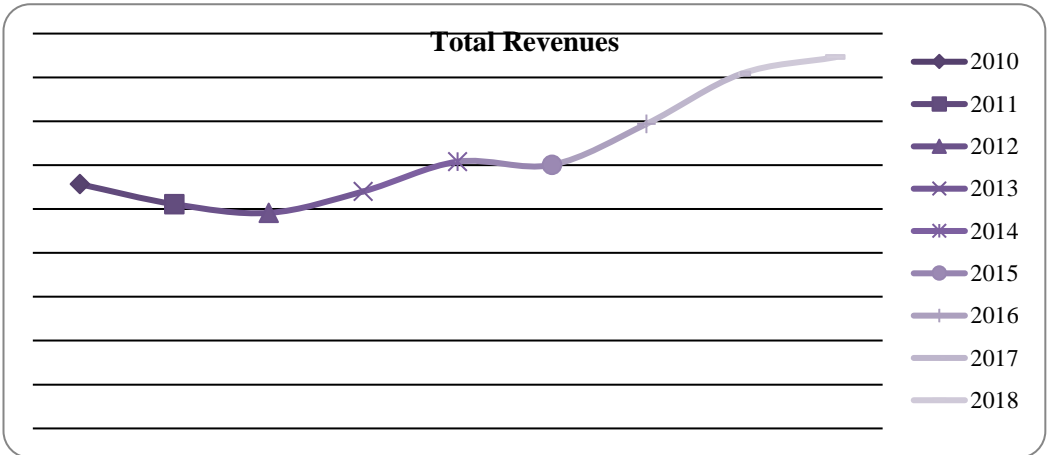
Source: Local Finances Portal [www.financatvendore.al](http://www.financatvendore.al), Author's calculations



From the above graph we conclude that after the period of implementation of the territorial administrative reform (2015), the indicator has a growing tendency which shows the strengthening of the self-financing of local government structures. The implementation of administrative-territorial reform has enabled capacity building and potential management of local self-government units thus increasing their own revenues.

**Chart 3 - Total revenues, 2010-2018**

Source: Local Finances Portal [www.financatvendore.al](http://www.financatvendore.al)



If we analyze the performance of total revenues of local government, it results that over the period 2010-2018 there has been a significant growth of the total revenue of local self-government units following the implementation of the territorial reform (2015) and especially after full execution (2016).

Components of total revenues are:

- a. Own revenues;
- b. Unconditional and specific transfers;
- c. Conditional transfers.

-Two main groups of own revenues are tax and tariff revenues. The growing of local fees and use of water utilities as tax agents resulted in an upward trend from year to year. However the role of tax revenues differs from one municipality to another. For about 45.9% of municipalities (28 out of 61 municipalities) tax revenues represent over 50% of their own source revenues. The municipalities of Vlorë, Ura Vajgurore, Tiranë, Shijak, Roskovec, Lezhë, Kavajë and Durrës collect local tax revenues above the national average of about 59.7%. Whereas, for about 50.8% of the municipalities (31 out of 61 municipalities) tariff revenues account for over 50% of these from local municipalities own resources. In the municipalities of Bulqizë, Kamëz, Kukës, Kuçovë, Patos, Pukë and Skrapar, local tariffs contribute more than 70% to revenues from local municipal resources.

One of the taxes that faced change after the Administrative – Territorial Reform is Small business tax.

#### Chart 4 - Small business tax as a percentage of Total revenues, 2010-2018

Source: Local Finances Portal [www.financatvendore.al](http://www.financatvendore.al)



■ Small business tax ■ Total Revenues

From the above graph of small business tax, we notice the decreasing trend of it. This decline comes as a result of the adoption of the new fiscal package in 2015. Law 139/2015, On Local Self-Government, does not guarantee the decision of the local government, with negative consequences for decentralization and fiscal autonomy of the municipalities. Specifically, the central government has not implemented the legal provisions and has not rewarded the municipalities for the budget losses that it has devoted to the change in the small business tax collected by the municipality. The main change of this law is for subjects that realize less or equal than 8 000 000 ALL during the fiscal year. They have the obligation to pay the simplified tax on profit for the small business. Total income from small business activity, means any kind of income realized during the tax period, but is not limited to income derived from the supply of goods and services, income from participation, interest income, income from the utilization of assets movable and immovable property. The tax rate applicable to taxable profit for taxpayers subject to simplified tax on small business income, with annual turnover of five to eight million ALL, is five percent. The simplified profit tax for taxpayers with an annual turnover of zero to five million ALL is zero ALL per year. During this period the lowest value is registered in the amount of 311 236 mln ALL in 2017.

The unconditional transfer was introduced in 2001<sup>42</sup> and provides local governments with funds to execute their exclusive functions. It is the single most important source of revenue for Albanian local

<sup>42</sup> [http://www.nalas.eu/News/FD\\_2018](http://www.nalas.eu/News/FD_2018)

governments, constituting more than 50% of revenues for about 43 of the new 61 larger municipalities at end 2016. The Local Self-Government Finance, for the first time since 2001, addressed the issue of the annual determination of the total size of the grant by anchoring it at no less than 1% of the projected Gross Domestic Product and no less than the amount allocated the previous year, ensuring both predictability stability and security of financial resources over time. Analysing the share of revenues from unconditional and specific transfers appears that 83.6% of the municipalities (or 51 of them) have dependence above the national average for 2018 (47.9%). Two extreme values are marked in the Municipality of Pustec where 97% of local revenues are represented by unconditional and specific transfers and in the Municipality of Tiranë, at about 18.8%. The Local Self-Government Finance incorporated also the new formula for the allocation of the unconditional grant:

- a) 80% according population (based on the concept of Effective Resident Citizens that is the 2011 Census data adjusted by adding 30% of the difference between the Civil Register and the Census23);
- b) 15% according to population density, with four different density thresholds where less dense municipalities benefiting from extra-resources;
- c) 5% based on the effective number of primary and secondary education pupils.

-The conditional transfer is granted to the local government units with predetermined purpose (delegated functions or for functions the responsibilities over which are in practice shared by the two levels of government). In recent years, the size of conditional transfers from the Regional Development Fund has increased substantially, thus reducing local fiscal autonomy. The proceeds from conditional transfers represent about 40.7% of the total financial resources of the municipalities in 2018. However, when there are insufficient financial resources, municipalities in Albania can legally borrow short-term loans to cover short-term or long-term liquidity needs, in order to finance capital expenditures or refinancing an existing loan<sup>43</sup>.

**Table 1 - Local Governance debt stock**

Municipality	Lender	Loan size	Signed on	Maturity	Stock at the end of 2018
Korçë	Pro Credit	100	2010	2020	27.58
Korçë	ISBA	200	2014	2024	143.26
Pogradec	Pro Credit	113	2010	2020	9.83
Vlorë	BKT	420	2010	2020	50.21
Petrelë	BKT	15	2010	2019	0.28
Elbasan	BKT	800	2010	2020	436.32
Lezhë	ISBA	107	2014	2023	48.19

Source: Ministry of Finance and Economy

Considering the data published in the loan register at the end of 2018, results that seven municipalities have borrowed loans. All aforementioned loans were contracted between 2010 and 2014, in order to finance infrastructure projects. The same data show that after 2014 no municipality has borrowed loans. This is because Albania public debt has crossed the Maastricht Treaty borders and the Ministry of Finance has restricted access to local government borrowing to maintain the central government's borrowing space. In this context, it becomes necessary to leave a space of local government in the borrowing market.

### 1.2.2 Comparison with region

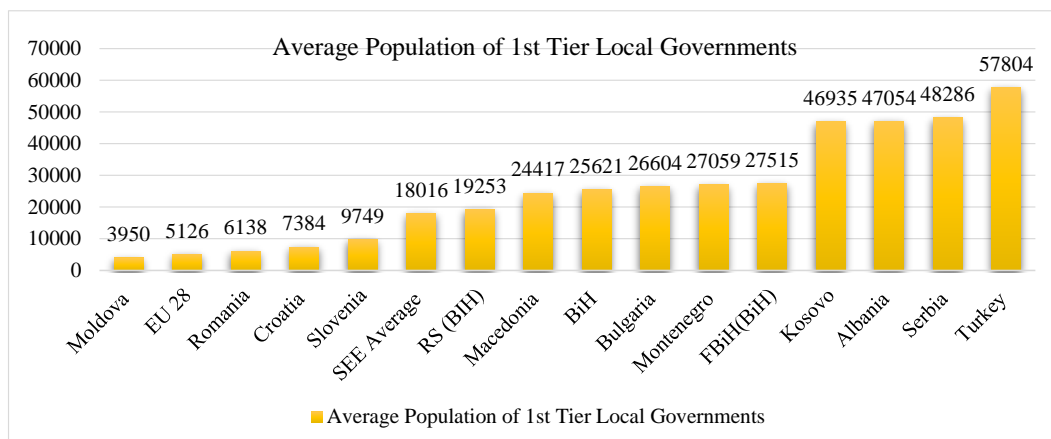
According to the NALAS Report on Fiscal Decentralization Indicators for South East Europe, 2018, the average population of first tier local governments results as follows:

<sup>43</sup> <https://qbz.gov.al/>



**Chart 5 – Average population of first tier local governments**

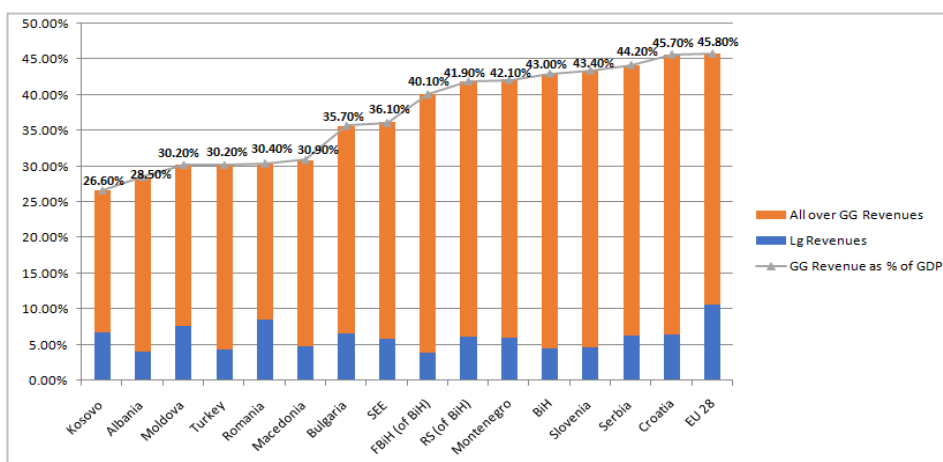
Source: NALAS EU (2018), Fiscal decentralisation report



The average of the population for the local unit in EU is 5580. Before the reform (373 local units), Albania had an average of 8,566 inhabitants per unit, while today (61 municipalities) the average number of population reaches 47,000 inhabitants per municipality. This shows for large municipalities with a considerable number of residents and voters, who can produce fairly competitive choices, with a challenge, the delivery of services across the territorial jurisdiction extensively expanded<sup>44</sup>. According to the NALAS Report on Fiscal Decentralization Indicators for South East Europe, 2018, the general and local government revenues as a percentage of GDP in 2017 result as follows:

**Chart 6 –General and local government revenues as a percentage of GDP in 2017 in South-East Europe countries and EU countries**

Source: NALAS EU (2018) - Fiscal Decentralisation Report



As seen in the graph above, Albania is one of the countries with the smallest public sector, below 30% which devolved additional service responsibilities to the local governments without expanding the public sector. The gap with EU remains still significant.

<sup>44</sup> [http://www.nalas.eu/News/FD\\_2018](http://www.nalas.eu/News/FD_2018)

### 1.2.3 Initiatives related to public administration

Obtaining the candidate status in June 24, 2014 marks an important step forward in the European integration process, which requires a professional administration and human and material resources to enable the implementation of national policies and objectives. As a part of the movement to good and equitable governance in Albania, there has been a growing awareness of the importance of decentralization as a means to enable people to participate more directly in the decisions that shape their lives. Increasingly, it is recognized that participation in governance processes helps empower people and that decentralization and strengthened local governance are key elements in the achievement of this goal. Active citizens don't want the government to provide standard solutions for everything on the contrary, they prefer personalized solutions. On October 2017, the Prime Minister of Albania presented a new platform called "shqiperiaqedum.al". Through this on-line platform, all citizens have the opportunity to express complaints, opinions or suggestions to the government and ministries or subordinate institutions through sections: *My Appeal, My Initiative, My Name, My Interpellation, My Name Note, My School, My Business, Our Assemblies, I Want To Contribute, My History*. Any denunciation is verified by the staff recruited and within 10 days each citizen receives an answer. Until 20.01.2019 on the platform of co-governance, the total number of completed complaints has reached 26 721 out of 27 872 of the total number of complaints. Whereas, cases at the local level of the total number of completed complaints have reached 4 218 out of 4 684 total number of complaints. The total number of log in, on the site page is 79 065 and the total number of new registrations 13 681. The electronic web portal is considered as a great way to fulfil the needs of citizens and as a huge source of information in the fields that must be improved.

De-politicization of civil service remains a constant challenge in Albania. According to the European Commission, Albania is moderately prepared in the reform of its public administration. Efforts continued, resulting in some progress in the efficiency and transparency of public services delivery, training of civil servants, more transparent recruitment procedures, and the overall strengthening of merit-based civil service procedures. After intensive students protests for their rights, the Council of Ministers of Albania assigned two decisions (Decision nr. 766/26.12.2018, "For the employment of the students of excellence in the public administration institutions, part of the civil service, for the year 2019" and Decision nr. 812/26.12.2018, "For the employment of the students of excellence in the public administration institutions, non part of the civil service, for the year 2019") through which all vacant positions of the executive category (specialist and equivalent) in 2019, in state administration institutions, part/non part of the civil service, will be filled with priority by the students of graduate excellence starting from 2017 onwards through their contractual employment temporary 1-year (one-year). After this, the electronic web portal "punetembare.al" was announced and excellent students had their possibility to get employed on 803 vacant positions in public administration with one single criterion – their average grade of studies. By the end of March 2019, 373 excellent students were employed in the civil service and 86 out of civil service. Thereafter each receiving institution is supporting their "excellent specialists" with training. This special initiative, never applied before, aims to encourage young people in their high qualifications as well as to vitalize and depoliticize public administration.

## 2 Material and Methods

"Empowerment of the local government and the decentralization process thereof, in order to ensure a heightened efficiency of local government itself" - was the government vision presented on the National Crosscutting Strategy for Decentralization and Local Governance 2015-2020. But today, after four years of implementation of the Administrative – Territorial Reform can we say that the strategy has fulfilled its main objective? In order to answer the submitted question, we will build an econometric model that aims to discover the link and importance of local government own revenues. The information used in the model is taken from local finances web portal ([www.financatvendore.al](http://www.financatvendore.al)) and data processing is accomplished using Gretl program.

## 2.1 Model and Data

### *The research question*

Has the Administrative – Territorial Reform strengthened local governments role in terms of own revenue growth and long-term growth, or it is still dependent on government-provided financial resources?

Has the Administrative – Territorial Reform achieved its main goal to strengthen local finances?

### *Hypotheses*

Null hypothesis (H<sub>0</sub>): None of the variables affects the level of capital expenditures of local government.

Alternative hypothesis (H<sub>a</sub>): At least one of the variables affects the level of capital expenditures of local government.

The sub-hypotheses of this study rely on the link between capital expenditures of local governance and independent variables as follows:

**H<sub>0,1</sub>** Unconditional transfers do not affect capital expenditures of local governance.

**H<sub>a,1</sub>**: Unconditional transfers affect capital expenditures of local governance.

**H<sub>0,2</sub>**: Own revenues do not affect capital expenditures of local governance.

**H<sub>a,2</sub>**: Own revenues affect expenditures of local governance.

### *The theoretical relation of variables*

According to World Bank, fiscal decentralization involves shifting some responsibilities for expenditures and/or revenues to lower levels of government. One important factor in determining the type of fiscal decentralization is the extent to which sub-national entities are given autonomy to determine the allocation of their expenditures. While the other important factor, is local governments ability to raise revenue.

Capital expenditures are the most important category of expenditures that have impact on the welfare of the society in long terms. Theoretically larger financial resources create higher capital spending opportunities.

Two groups of revenues with non predetermined destination are unconditional transfers and own revenues. With the following econometric model, we will try to find out whether local government has strengthened its revenues towards long-term growth or is still dependent on government-provided financial resources.

Data obtained from local finances portal are presented in the following table:

**Table 2** – Capital expenditure, Unconditional transfers, Own revenues, 2010-2018

Year	Capital Expenditure (in 000 000 All)	Unconditional Transfers (in 000 000 All)	Own revenues (in 000 000 All)
2010	11436.1	24623.3	12891.7
2011	13581.2	24145.3	12631.7
2012	10825.4	22624.8	11988.3
2013	13035.2	24618	12153.5
2014	15473.3	27603	14409.4
2015	16530.8	25441.1	13056.1
2016	19941	35976	16782.2
2017	26505.8	43439.6	20294.7

2018	23336.5	49250.1	24226.1
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Source: Local Finances Portal [www.financatvendore.al](http://www.financatvendore.al)

**Table 3 - Model 1 - OLS, using observations 2010-2018 (T = 9)**

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	4790.61	3348.81	1.4305	0.20251	
Unconditional_T	1.47182	0.570703	2.5790	0.04183	**
Own_revenues__i	-2.17581	1.29472	-1.6805	0.14385	

Mean dependent var	16740.59	S.D. dependent var	5449.734
Sum squared resid	22920003	S.E. of regression	1954.482
R-squared	0.903534	Adjusted R-squared	0.871379
F(2, 6)	28.09905	P-value(F)	0.000898
Log-likelihood	-79.14678	Akaike criterion	164.2936
Schwarz criterion	164.8852	Hannan-Quinn	163.0167
rho	-0.322342	Durbin-Watson	2.431900

\* decisive indicators with 10% level of importance

\*\* decisive indicators with 5% level of importance

\*\*\* decisive indicators with 1% level of importance.

Source: Author's calculations

As we can see from the OLS analysis, for the model with 9 observations in total, we have a  $R^2 = 90.3534\%$  or else 90.3534 % of the capital expenditures variation, is explained by the variables of unconditional transfers and own revenues. For p values (observed level of importance) greater than 0.05, the influence of the independent variable on the dependent variance is insignificant in the conditions when the other variables remain unchanged in the equation and for the most p values smaller than 0.05 zero hypothesis on link absence will be rejected, so the link between the variables is important.

*Let's analyze all the hypotheses of the study by the value of p:*

**H<sub>0,1</sub>** Unconditional transfers do not affect capital expenditures of local governance.

**H<sub>a,1</sub>:** Unconditional transfers affect capital expenditures of local governance.

From the above model we note a positive relationship between the unconditional transfers and the capital expenditures. The value of the 'p' of the variable 'Unconditional Transfers' is 0.04183, which is lower than 0.05 and as a result the second hypothesis is verified, which means according to this model the unconditional transfers have an impact on Capital Expenditures. The positive relationship between unconditional transfers and the capital expenditures is in line with our expectations.

**H<sub>0,2</sub>:** Own revenues do not affect capital expenditures of local governance.

**H<sub>a,2</sub>:** Own revenues affect capital expenditures of local governance.

From the above model we note the value of the 'p' of the variable 'Own revenues' is 0.14385, which is higher than 0.05 and therefore the zero hypothesis is verified, which means that the change in the value of own revenues does not affect the capital expenditures. From this conclusion this variable should be removed from the model.

Let's repeat the analysis of the improved model by removing the 'Own revenues' variable and concretely obtaining the following model:

**Table 3 - Model 2 - OLS, using observations 2010-2018 (T = 9)**

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	3347.95	1820.17	1.8394	0.10845	
Unconditional_T	0.941923	0.120315	7.8288	0.00010	***

Mean dependent var	16740.59	S.D. dependent var	5449.734
Sum squared resid	24354477	S.E. of regression	1865.264
R-squared	0.897497	Adjusted R-squared	0.882853
F(1, 7)	61.29042	P-value(F)	0.000105
Log-likelihood	-79.41995	Akaike criterion	162.8399
Schwarz criterion	163.2344	Hannan-Quinn	161.9887
rho	-0.404957	Durbin-Watson	2.304053

\* decisive indicators with 10% level of importance

\*\* decisive indicators with 5% level of importance

\*\*\* decisive indicators with 1% level of importance.

Source: Author's calculations

As we can see from the OLS analysis, for the improved model with 9 total observations, we have a  $R^2 = 89.7497\%$ , or else 89.7497% of the Capital expenditures is explained by the Unconditional transfers. The 'Unconditional transfers' variable with the improved model has been significant at 1%. The resulting model takes the following form:

Capital Expenditures = 3347.95 + 0.941923 Unconditional Transfers

The interpretation of regression coefficients:

- The constant 3347.95 is considered as the intercept, that shows in average the 'Capital Expenditures' when the 'Unconditional Transfers' takes the value of 0.
- The coefficient 0.941923 near the variable 'Unconditional Transfers' shows a positive relationship between the 'Unconditional Transfers' and 'Capital Expenditures'. Thus, an increase of 1 unit of 'Unconditional Transfers' causes an increase of 0.941923 unit of 'Capital Expenditures'.

### 3 Results and Discussion

The Administrative - Territorial Reform did not meet completely the objectives as the new legislation is not fully implemented, the process of absorbing new functions, employees, assets and increasing the quality of services has not been successfully achieved. Municipalities created by administrative-territorial reform still do not enjoy high decentralization due to their lack of fiscal autonomy and as the model suggests, municipalities have high dependence on central government financial means. To improve the situation is needed to expand the public sector altogether with delegating functions to local government and also raise the amount of unconditional transfers as a percentage of GDP.

### 4 Conclusion

- The Administrative – Territorial Reform came as a need to suit country's requirements for development and to meet the requirements of the European Union.
- The reform was widely perceived as a territorial reform or changing borders and unification of local units and very little in the process of decentralization and administrative reform.

- Due to the delegation of new functions, administrative expenses have been growing as a percentage of total expenses.
- The reform has enabled capacity building and potential management of local self-government units thus increasing local government own revenues.
- Unconditional transfers count for approximately 1% of the Gross Domestic Product.
- Conditional transfers represent about 40.7% of the total financial resources of the municipalities in 2018 with most impact from transfers from the Regional Development Fund, thus reducing local fiscal autonomy.
- Albania is one of the countries (South Eastern Europe) with the smallest public sector, below 30% which devolved additional service responsibilities to the local governments without expanding the public sector.
- There have been some initiatives for co-governance with citizens (shqiperiaqeduam.al) and de-politicization vitalization of public administration human resources (punetembare.al).

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# Support and Financing of Sport in the Moravian-Silesian Region and Comparison with the Regions of the Czech Republic

Martina Halásková

## Abstract

*The paper aims to evaluate the possibilities of supporting sport, expenditures on sport and leisure activities in the Moravian-Silesian region, and to compare allocated expenditures on sport and leisure activities in regions of the Czech Republic. Mutual relations between expenditures on sport and leisure activities and recreation per capita with respect to total expenditures of regions and as share of the region's expenditures in regions of the Czech Republic in years 2010 and 2018 are investigated applying correlation and regression analysis. The majority of regions demonstrates a trending of an increasing share on sport from regional budgets in 2018 compared to 2010. The results have shown that the Moravian-Silesian region allocated 54% of expenditures intended for sport and leisure activities on sports. Comparison of other regions in 2010 and 2018 showed that the Olomouc region, following Prague, allocated the highest expenditures on sport per capita and as share of the region's expenditure. In contrast, the lowest expenditure on sport per capita and as share of the region's expenditures were found in the Moravian-Silesian and Hradec Kralove regions (in 2010), and in Central Bohemian and Usti nad Labem regions (in 2018).*

**Keywords:** Expenditures, leisure activities, Moravian-Silesian region, regions, sport

**JEL Classification:** Z20, R50, H72

## 1 Introduction

Sport and physical activities are a natural part of leisure time as a means towards upbringing, education, moulding one's personality and social bonds. On the national level, the Ministry of Education, Youth and Sport is responsible for coordination and organisation of sport, which drafts national sport policy and coordinates implementation of a plan approved by the government and ensures financial support of sport from the state budget. On the regional and local level, regions and municipalities play the main role in sport, ensuring the development of sport for all, preparation of the gifted with sport, including the disabled. In accordance with state policy, local self-governments draw up plans regarding development of sport in their respective area, they have to define priorities in the individual areas of supporting sports as well as measures to ensure availability of sport facilities for the public. Regions can make autonomous decisions as to the extent to which they will support sport and they often have to make decisions on which area of the public sector will be given financial preference (whether sport or culture). Meričková and Stejskal (2014) deal with inefficiency of public decision making on public provision and financing of selected public goods and services. Other authors e.g. Tkacova et al. (2017) then evaluate economic determinants in public procurement processes which is designed to efficiently spend financial resources of the public sector.

Contributions from sport are seen in not only domestic studies and analyses (MŠMT, 2009; KPMG, 2012; Halásková, 2019), but also foreign research (Benito et al. 2012; Davies, 2002; Vandermeerschen and Scheerder, 2017; Islam, 2019). Economic benefits of sport consist in short- and medium-term effects (services in sport, employment rate, attendance and tourism), but also long-term benefits, i.e. decrease in costs on crime rate and health care, better health condition of population, higher quality of living and higher prestige and potential of regions. Czech sport environment and related areas generate more than 180 thousand jobs. Benefits of sport for individuals and society as well as its popularity go hand in hand with a higher volume of financial means that go to sport. Unlike western countries, there are no accurate data about the exact amount of money that go to sport from public resources in the Czech Republic. According to a study carried out by Transparency



International (2016), the majority of public resources is redistributed at the level of regions and municipalities, but the forms of redistribution are often unclear and intransparent. Analyses into support and financing of sport in the Czech Republic then show that every Czech crown invested in the support of sport from public budget brings back 3.55 CZK to this budget (MŠMT, 2009; KPMG, 2012).

The paper aims to evaluate the possibilities of supporting sport, expenditures on sport and leisure activities in the Moravian-Silesian region, and to compare allocated expenditures on sport and leisure activities in regions of the Czech Republic. Support of sport and financial capabilities in the Moravian-Silesian region in the period 2010-2018 and expenditures on sport and leisure activities in regions of the Czech Republic in years 2010 and 2018 are emphasised. Using correlation analysis, the correlation between expenditures on sport and expenditures on leisure activities as share of the region's expenditures in regions of the Czech Republic is tested. A regression model is generated to define the correlation between sport and leisure activities per capital in regions of the Czech Republic and total expenditures of regions per capita in years 2010 and 2018.

### **1.1 Financing and support of sport – literature review**

Support of sport in the Czech Republic is heading towards improved conditions for sport and national sport representation. The aim is that the created conditions corresponded with the significance of sport for society and individuals and respected tradition and sport policy of the EU. Support of sport, development of sport infrastructure and financing of sport is dealt with in several pieces of research and studies in terms of local and regional dimension. Numerato (2009) has been dealing with the emerging processes of creation and implementation of regional public policies on sport in the Czech Republic since 2001. The author captures the major tenets of the regional public policy for sport and explores the barriers undermining its effective functioning. Hobza et al. (2014) state that the development of all local sports infrastructure which is legislatively assigned to regions and municipalities is carried out spontaneously as a result of the fact that there are not yet any prescriptive or regulatory mechanisms for its conceptual and systematic implementation. For the analysis of financial flows in support of the development of sport a constructivist methodology by authors has been created that makes it possible to monitor the development of the "institutional" and "non-institutional" support for sport. Nemec et al. (2014) analyze the system of allocation of the public finance grants to sport organizations in the Czech Republic and Slovakia. Pavlik (2014) shows that support for sport at the municipal level has a long tradition, especially in Europe. Several questions arise in connection with this topic how to allocate public resources more efficiently and how to increase youth participation in sport. The aim of the author is to discuss vouchers as an alternative or additional method of sport support at the municipality level and to identify strengths and weaknesses of this method. Nova and Strachova (2017) examine operational programmes at the regional level in the Czech Republic in the programme period 2007-2013 and the financial support of various projects aimed at the development and reconstruction of sports facilities in Czech regions.

Apart from financing of sport, several pieces of research also deal with topical issues related to sport development, such as its assets, trends in sport policies, sport infrastructure and sport services (Henry et al., 2005; Houlihan, 2005; Danc and Gollner, 2007; Byers et al., 2012). Davies (2002) states that while literature related to specific economic impact of sport-led development, including professional sport facilities, teams and sport event has been growing, limited research has been undertaken on the contribution of the whole sport sector to output and employment. Bosscher et al. (2006) provide an overview of important determinants that can lead to nations enjoying international sporting success and that more than 50% of the determinants of success are macro-level variables. Wicker et al. (2009) analyze the impact of sport infrastructure on sport participation using data from a population survey in the city of Stuttgart. The results show that the availability of sport infrastructure, regardless of individual socio-economic conditions, influences patterns of sport activities significantly. García-Unanue et al. (2016) solve the development of the financial condition of local decentralized public

sports services over a period of 10 years (from 2002 to 2011) obtained from municipal sports service organizations in Spain. Gal and Kresta (2014) examine the influence of growing indebtedness on municipalities' decision to finance sport and how indebtedness influences the decision of selected municipalities of the Slovak to finance and provide sport activities and services. A survey carried out by Transparency International (2016) under the project "Public Money in Sport" showed the main areas that have to be attended in sport support in all regions of the Czech Republic (except the Capital of Prague) and 13 statutory cities. These include mainly support of sport, amendment of the sport support law and evaluation of requests for sport subsidies.

## 2 Material and Methods

The paper draws information from literature on sport, regional and local analyses on support of sport in regions of the Czech Republic, draft on supporting sport in the Czech Republic and information portal of the Ministry of Finances of the Czech Republic – Monitor of the Exchequer. Monitor is a specialised information portal of the Ministry of Finances, which provides public access to budgetary and accounting information from all levels of administration and self-administration. Data on expenditures on sport and leisure activities in regions of the Czech Republic were extracted from the monitor of the Ministry of Finances. The areas concentrated on are total expenditures from regional budget and expenditures on public services with focus on expenditures on sport and leisure activities. Data from the Monitor database were available from the period 2010-2018 (Monitor, 2019). The selected set comprises 14 regions of the Czech Republic: the Capital of Prague (PRG), Central Bohemian (CRB), South Bohemian (SUB), Plzen (PLZ), Karlovy Vary (KAV), Usti nad Labem (UNL), Liberec (LIB), Hradec Kralove (HRK), Pardubice (PCE), Vysocina (VYS), South Moravia (SUM), Olomouc (OLM), Zlin (ZLN), Moravian-Silesian (MSR).

The paper provides an analysis of support of sport and expenditures on sport and leisure activities in the Moravian-Silesian region over the period 2010-2018. Also, it renders a comparison of expenditures allocated to sport and leisure activities and recreation in regions of the Czech Republic in years 2010 and 2018. For the purposes of expenditure analysis in regions of the Czech Republic, the expenditures on sport and leisure activities and recreation was recalculated per capita and as percentual share from the budgets of the respective regions. Correlation between expenditures on sport and expenditures on leisure activities and recreation in regions of the Czech Republic as % share from total regional expenditures in years 2010 and 2018 is obtained through correlation analysis. Due to the limited amount of data from regions of the Czech Republic, only basic categories of expenditures in sport and leisure activities were used. For the purposes of correlation analysis, Prague was excluded in years 2010 and 2018 due to extreme values, i.e. markedly higher expenditures on sport and leisure activities, compared to the other regions of the Czech Republic (the paper is dealing with 26 units, i.e. regions, in years 2010 and 2018). Table 1 shows descriptive statistics of used expenditures of regions of the Czech Republic in years 2010 and 2018 for the used regression model.

**Table 1 – Descriptive statistics of expenditures for Czech regions in years 2010 and 2018**

	Number of units	Minimum	Maximum	Mean	Std. Deviation
Total regional expenditures per capita (CZK)	26*	33574	52558	42554.20	5547.424
Expenditures on sport per capita (CZK)	25**	9	150	66.12	43.466
Expenditures on leisure activities and recreation per capita (CZK)	26*	0	193	83.65	57.541

Note: \* Prague in 2010 and 2018 removed; \*\*Apart from Prague in 2010 and 2018, also Olomouc in 2018 removed

Source: Author calculation

Correlation between expenditures on sport and expenditures on leisure activities and recreation per capita to total regional expenditures per capita by Czech regions in years 2010 and 2018 show Table 2.

**Table 2 – Correlation of expenditures for Czech regions in years 2010 and 2018**

		Expenditures on sport per capita (CZK)	Expenditures on leisure activities and recreation per capita (CZK)
Total regional expenditures per capita (CZK)	Pearson Correlation	0.735**	-0.184
	Sig. (2-tailed)	0.000	0.369
	Number of units	25 <sup>x</sup>	26

Note: <sup>x</sup> Prague in 2010 and 2018 and the Olomouc region in 2018 removed; \*\*  $p < 0.01$

Source: Author calculation

The correlation analysis aims to determine the intensity of linear correlation between X and Y. These are observed in n statistical units, and the results are demonstrated in a point diagram, where each observed pair  $(x_i, y_i)$  is shown as a point in rectangular coordinates, with X located on the horizontal axis and Y on the vertical axis. The points then comprise a set which demonstrates characteristic features of correlations of both areas (Cohen et al., 2003). Also, correlation between total regional expenditures per capita and expenditures on sport and leisure activities and recreation per capita is observed using the regression model. Due to extreme values (high expenditures), Prague in years 2010 and 2018 and Olomouc in year 2018 were excluded from the regression model (therefore we are working with 25 units, i.e. regions). Regression analysis is a statistical method used for modelling a relation of one (ideally measurable, connected) explained random variable (dependent variable) Y on one or two explained variables (independent variables)  $X_1, X_2, \dots, X_k$ . Regression analysis aims to describe correlation through an appropriate (mathematical) model and using a mathematical function explain variables Y with explanatory variables X.

In a linear model with an absolute element, a summative influence of all factors is presumed in regression function

$$Y = b_1 X_1 + b_2 X_2 + \dots + b_k X_k + e \quad (1)$$

where  $b_1 \dots b_k$  are partial regression coefficients. Parameters  $b_i$  are interpreted as an expected change of the value Y in an increase of  $X_i$  per unit, presuming a constant influence of the other explaining variables (Freund et al., 2006). Based on the data available, other methods, cluster analysis and multi-dimensional scaling in particular, can be used to evaluate expenditures on sport and leisure activities in regions of the Czech Republic. These methods facilitate specifying similarities and differences in the individual regions, including the evaluation of changes in the respective years.

### 3 Results and Discussion

This section deals with 1) possibilities to support sport in the Moravian-Silesian region and analysis of expenditures on sport and leisure activities in years 2010-2018, 2) analysis of expenditures on sport and leisure activities in regions of the Czech Republic in years 2010 and 2018, and 3) using correlation and regression analysis, finding correlations between expenditures on sport and expenditures on leisure activities as share of the region's expenditures, and correlation of expenditures on sport and expenditures on leisure activities per capita with respect to total expenditures of regions per capita.

#### 3.1 Support of sport in the Moravian-Silesian region and its financial presumptions

Support of sport in the Moravian-Silesian region touches mainly the citizens, sport institutions and clubs as well as its members, among others. Sport in the Moravian-Silesian region is under the patronage of the organisation Všesportovní kolegium, sport unions and clubs, which being supported by the Moravian-Silesian region organise and are accountable for further development of sport activity. The sport development plan of the Moravian-Silesian region over the period 2019-2015

shows the positive impression of sport and forms a significant part of implementation of systemic activities in the fulfilment of strategic goals of regional development. The sport development plan specifies areas of support, priorities, goals and available financial resources which enable a higher exploitation of sport potential and related activities to the benefit of the region and the quality of life of its citizens (MSK, 2019).

As some already performed analyses attest (KPMG, 2018; MSK, 2019; Halásková, 2019), the Moravian-Silesian region has positive conditions for sport and physical activities in natural environment and a relatively well-maintained network of bikelanes and paths for hiking. The Moravian-Silesian region also has a sufficient potential and basis for performance sport. Part of sport facilities is owned by the region, part is city and municipal property, and part is owned by private persons and business companies. A significant role in supporting sport is played by financial support of sport from the regional budget. The structure of financing sport in the Moravian-Silesian region is based on annually defined goals of the sport support programme, which the region fulfils gradually. Based on the quantification of financial resources according to the Sport Development Plan in the Moravian-Silesian region 2019-2025, the region intends to finance strategic areas of sport support from the regional budget (MSK, 2019). This mainly includes subsidy programmes for supporting regional sport, important sport events, support of talented sportspeople and sport representations of the region at the international level. Based on analyses dealing with sport (e.g. Halásková, 2019; KPMG 2012; Transparency International, 2016 or Slavata, 2017), it can be said that due to some specific conditions of the Moravian-Silesian region (worse quality of the environment, higher unemployment rate, social differences between groups of citizens) there is a realistic presumption for return on investment of resources invested in the support of suitable project in the area of sport and physical activities.

Expenditures on the support of sport and leisure activities in the Moravian-Silesian region in years 2010-2018 are seen in Table 3. Total expenditures on support of sport and leisure activities in the Moravian-Silesian region include expenditures on sport and expenditures on other physical activities (support of sport clubs, expenditures on holding sport events, races in municipalities). The second part are expenditures on leisure activities which involves a) expenditure on the use of leisure time of children and the youth, and b) expenditures on other leisure activities and recreation (Monitor, 2019). Table 3 shows that in years 2013 and 2014, the Moravian-Silesian region allocated the highest total expenditures on sport and leisure activities. The structure of total expenditures was in the region of 25% regarding resources allocated to expenditures on sport in both years, and in the region of 75% allocated to leisure activities. Higher allocated resources in 2014 can be partially explained by total financial capabilities of the region and growing revenues in relation to subsidy programme of the city of Ostrava as the European city of sport. The lowest total expenditures on sport and leisure activities over the whole observed period were expended by the region in 2015 (52.034 th. CZK). In 2015, the ratio between the structure of total expenditures allocated to sport and leisure activities in the region changed dramatically, when 92% of expenditures were allocated to sport, compared to the previous period, and only 8% to leisure activities and recreation. By contrast, in 2016 and 2017 total expenditures on sport and leisure activities in the region grew again more than two-fold, and their structure had a dominant rerepresentationn expenditures on sport (97%) compared to expenditures on leisure activities and recreation (3%). The growing tendency of expenditures is evident also in 2018, when expenditures on sport accounted for 96% and expenditures on leisure activities and recreation accounted for approximately 4%. As the Ministry of Education, Youth and Sport states (2019), changes to financing of sport and the whole concept of support of sport goes hand in hand with these results.

**Table 3 - Expenditures on sport and leisure activities and recreation in the Moravian-Silesian region (MSR) in years 2010-2018**

MSR	Total reg. expenditures	ESLAR total	Expenditures on sport (ES)			Expenditures on leisure activities and recreation (ELAR)		
	in ths. CZK	in ths. CZK	in ths. CZK	% from ESLAR	ESSRE in %	in ths. CZK	% from ESLAR	ELARSRE in %
2010	47 607 472	136 602	11 641	8	0.02	124 961	92	0.26
2011	45 714 317	142 244	19 691	14	0.04	122 553	86	0.26
2012	41 571 220	145 553	27 416	19	0.06	118 137	81	0.28
2013	43 096 701	158 537	39 230	25	0.09	119 307	75	0.27
2014	44 588 240	159 649	40 374	25	0.09	119 275	75	0.26
2015	46 944 580	52 034	47 636	92	0.10	4 398	8	0.09
2016	41 233 441	136 940	132 447	97	0.32	4 493	3	0.01
2017	46 676 389	126 025	121 859	97	0.26	4 166	3	0.009
2018	55 653 501	160 412	154 280	96	0.28	6 133	4	0.01

*Note: ESLAR- Expenditures on sport and leisure activities and recreation, ESSRE- Expenditures on sport as share of the region's expenditures, ELARSRE-Expenditures on leisure activities and recreation as share of the region's expenditures*

Source: Author calculation according to Monitor (2019)

However, if we evaluate average total expenditures allocated to sport and leisure activities in the Moravian-Silesian region over the whole period 2010-2018, the expenditures were around 1.075.752 th. CZK. Approximately 54% of the sum was allocated to sport and 46% to leisure activities and recreation. Still, from total expenditures on sport and leisure activities, the Moravian-Silesian region allocated only 8% to sport in 2010, while as much as 96% in 2018. Out of total expenditures on sport and leisure activities, expenditures on leisure activities had a dominant position in the Moravian-Silesian region in years 2010-2014 (90-75%), whereas in years 2015-2018, expenditures on sport had a dominant position (92-96%), (Monitor, 2019).

### 3.2 Comparison of expenditures on sport and leisure activities in regions of the Czech Republic

Sport is mostly financed from public sources from regional and municipal and city budgets. These financial sources to support sport account for three quarters from the total budget allocated to sport (KPMG, 2012). The majority of regions finance sport through repetitive subsidy programmes focused mainly on support of the youth, such as the Zlin, Karlovy Vary or Liberec regions (Transparency International, 2016). The Usti nad Labem region has a specific regular subsidy programme, despite the absence of any concept to support sport. The Vysocina region has an untypical system of financing of sport. It has a “more complex structure”, which means support through grants from the Vysocina Fund, systemic support of events from the regional budget, and complementary and individual subsidies on selected activities directly from the regional budget. As Transparency International states (2016), this system of support can be deemed as incoherent and unstructured, which leads to inefficient split of financing in order to support sport activity without any primary definition of goals and priorities.

To evaluate financial support of sport in regions of the Czech Republic in 2010 and 2018, four indicators are used in the analysis (expenditures on sport per capita, expenditures on sport as share of the region's expenditures, expenditures on leisure activities and recreation per capita, expenditures on leisure activities and recreation as share of the region's expenditures). The results are viewed in Table 4. In 2010 and 2018, Prague allocated the highest expenditures on sport per capita, followed by the Olomouc region, which, however, shows expenditures lower by two thirds compared to Prague. In 2010, the Zlín region had the third highest expenditures on sport per capita. However, these expenditures were almost a half of the amount of the Olomouc region. In 2018, the third highest expenditures, following Prague and the Olomouc region, were seen in the Liberec region, followed

by the South Bohemia and the Moravian-Silesian regions. In 2018, a rather marked increase in expenditures was seen across all regions, when an apparent trend to increase financial support of sport could be spotted. As also other analyses show, such as Transparency International (2016), costs on sport increase in parallel with the importance of sport in everyday life, which also reflects on in the field of health, economy and social life.

The analysis also showed that the lowest expenditures on sport per capita were found in the Hradec Kralove and the Moravian-Silesian regions in 2010, as opposed to 2018, when these were found in the Central Bohemian and the Usti nad Labem regions. When comparing expenditures on sport as share of the region's expenditures in years 2010 and 2018 in regions of the Czech Republic, the highest share of expenditures on sport, compared to the remaining regions, was allocated in Prague and the Olomouc regions. Just as in the case of expenditures on sport per capita, the lowest expenditures on sport as share of the region's expenditures in 2010 in the Hradec Kralove and the Moravian-Silesian regions, and in 2018 in the Central Bohemian and the Usti nad Labem regions (Table 4).

The next point evaluated are expenditures on leisure activities and recreation in years 2010 and 2018. Table 4 shows that the highest expenditures on leisure activities and recreation per capita and as share of the region's expenditures in 2010 were allocated in Prague, followed by the Liberec and the South Moravia regions. In 2018, the highest expenditures on leisure activities and recreation per capita and as share of the region's expenditures were also seen in Prague, followed by the Karlovy Vary region. The third highest expenditures on leisure activities and recreation per capita in 2018 were allocated in the South Bohemian region, and the third highest expenditures on leisure activities and recreation as share of the region's expenditures were seen in the Usti nad Labem region. The lowest expenditures on leisure activities and recreation per capita and as share of the region's expenditures in 2010 were found in the Central Bohemian region, followed by the Zlin and the Hradec Kralove regions. By contrast, in 2018, the lowest expenditures on leisure activities and recreation per capita and as share of the region's expenditures were seen in the Moravian-Silesian and the Liberec regions. Zero expenditures on leisure activities and recreation per capita and as share of the region's expenditures was observed in the Zlin region in 2018.

**Table 4 – Expenditures on sport and leisure activities and recreation in Czech regions (2010 and 2018)**

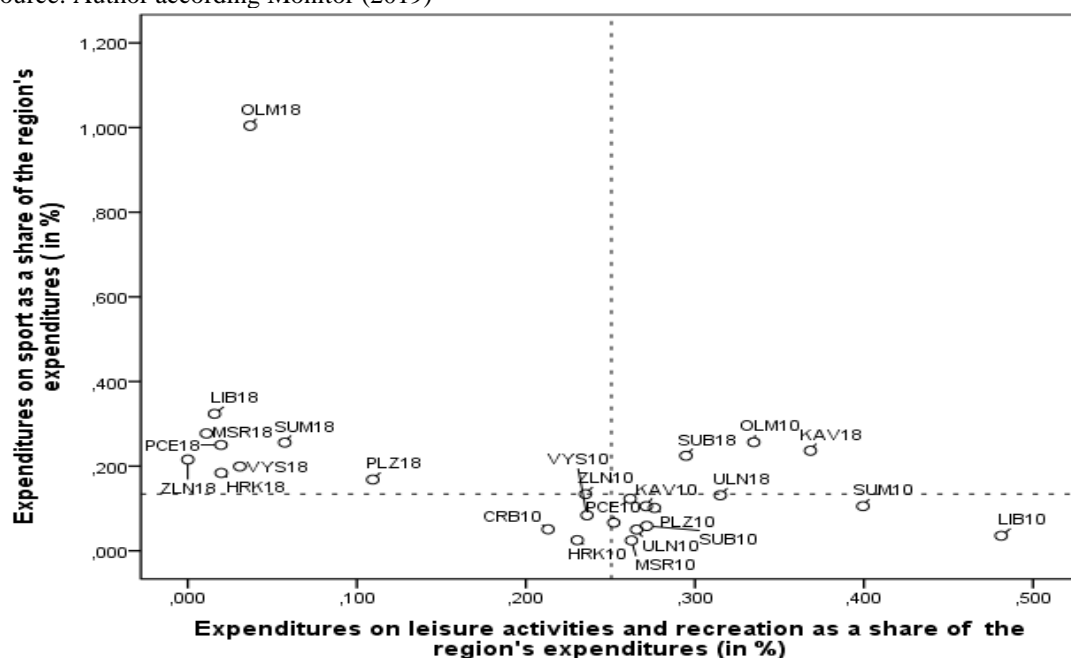
Czech Regions	Expenditures on sport				Expenditures on leisure activities and recreation			
	per capita (CZK)		as share of the region's expenditures (in %)		per capita (CZK)		as share of the region's expenditures (in %)	
	2010	2018	2010	2018	2010	2018	2010	2018
PRG	321.8	903.6	0.571	1.427	445.5	503.2	0.790	0.795
CRB	17.1	59.9	0.051	0.123	71.6	127.4	0.213	0.262
SUB	23.1	117.1	0.059	0.224	106.9	153.7	0.271	0.295
PLZ	40.7	88.5	0.101	0.168	110.7	57.5	0.276	0.109
KAV	44.3	112.1	0.105	0.237	114.1	174.5	0.271	0.368
ULN	19.0	57.7	0.050	0.131	100.8	138.5	0.265	0.315
LIB	14.3	149.6	0.036	0.324	192.8	7.3	0.481	0.016
HRK	9.5	89.4	0.025	0.184	87.6	9.6	0.230	0.020
PCE	24.4	116.3	0.066	0.250	92.3	9.1	0.252	0.020
VYS	34.5	100.3	0.084	0.199	96.9	15.5	0.236	0.031
SUM	39.4	124.7	0.105	0.256	149.3	27.9	0.399	0.057
OLM	96.3	349.0	0.257	1.004	125.7	12.8	0.335	0.037
ZLN	49.5	92.0	0.134	0.216	86.9	0.0	0.235	0.000
MSR	9.4	124.1	0.024	0.277	100.5	4.9	0.262	0.011

Source: Author calculation according Monitor (2019)

We get another view if we compare the relation between expenditures on sport and leisure activities as % share from total regional expenditures in 2010 and 2018 using correlation analysis. The results of correlations between expenditures in regions of the Czech Republic (after the exclusion of Prague) is seen in Figure 1. Marked changes in the structure of expenditure on sport and leisure activities are seen mainly in the Olomouc region in 2018, compared to 2010, when the share of expenditures on sport increased and the share of expenditures on leisure activities from the regional budget decreased. Similarly, the structure of expenditures changed in 2018 in the Liberec, the Moravian-Silesian, the Pardubice, the South Moravian, the Hradec Kralove or the Vysocina regions, when the share of expenditures on leisure activities declined, and the share of expenditures on sport increased, compared to 2010. The results show that the share of expenditures on leisure activities had decreased in other regions of the Czech Republic as well (compared to 2010) and the share of expenditures from regional budgets on sport had increased.

**Figure 1 – Correlation between expenditures on sport and expenditure on leisure activities and recreation in Czech regions**

Source: Author according Monitor (2019)



When comparing the similarities between expenditures on sport and leisure activities and recreation as share of the region's expenditure (Figure 1), the largest similarity were found in 2010 in the Moravian-Silesian, the Usti nad Labem and the South Bohemian regions, and other similarities of expenditures on sport and leisure activities in 2010 are seen in the Zlin, the Karlovy Vary and the Plzen regions. In 2018, the highest similarity of the share of expenditures from regional budgets on sport and leisure activities was found in the Pardubice, the Hradec Kralove and the Vysocina regions.

Using the regression model, correlations between expenditures on sport and expenditures on leisure activities per capita with respect to total regional expenditures per capita in years 2010 and 2018 are observed (see Figure 2a, 2b). The values found above the line of the linear regression demonstrate positive regression residuals, i.e. the value found in the Monitor database is higher than the expected value in the given regression model. These measured values show better results of expenditures on sport in regions (Figure 2a) or expenditures on leisure activities and recreation in regions (Figure 2b) with the given amount of total regional expenditures per person, than would be expected from the

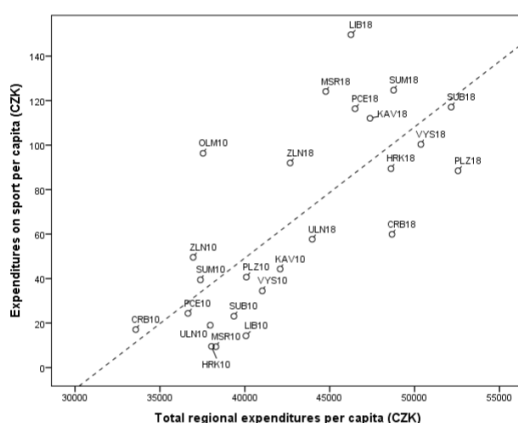
model. The values found under the line of the linear regression show negative regression residuals, i.e. the value found in the Monitor database is lower than the expected value in the given regression model. These measured values then show worse results of expenditures on sport in regions (Figure 2a) or expenditures on leisure activities and recreation in regions (Figure 2b) at the given size of total regional expenditures per capita, than it would be expected in the model.

Figures 2a and 2b show that the more the measured value lies out (in any direction) from the line of the linear regression, the higher the aberration is. In the given year (2010 or 2018), the region expended on sport or leisure activity and recreation either an extensive amount of resources with respect to total expenditures per capita, or a markedly inadequate amount of resources with respect to the expected values in the given model. After excluding Prague in years 2010 and 2018, the largest aberrations from the regression model are seen in the Liberec and the Moravian-Silesian regions in 2018, and the Olomouc region in 2010, which manifest better results of expenditures on sport per capita with the given amount of total expenditures per capita than it would be expected in the model (Fig. 2a). Regarding the observed regions of the Czech Republic, 4 regions out of 13 in 2010, and 6 regions out of 12 in 2018 showed better results of expenditures on sport per capita with respect to total regional expenditures per capita compared to the regression model. Other aberrations from the regression model were found in allocated expenditures on sport per capita in the Hradec Kralove and the Moravian-Silesian regions in 2010, and in the Plzen and the Central Bohemian regions in 2018. However, these regions show a markedly small amount of allocated resources on sport per capita with respect to total expenditures per capita in relation to expected values in the given model.

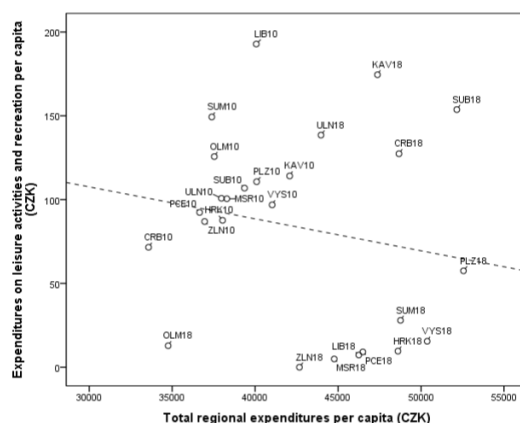
**Figure 2 – Residuals of expenditures on sport and on leisure activities to total regional expenditures per capita by Czech regions\***

Source: Author according to Monitor (2019)

a) Expenditures on sport



b) Expenditures on leisure activities and recreation



Note: \*Fit line based on linear regression

Regarding financial resources on leisure activities and recreation per capita against total regional expenditures per capita, the highest aberrations were found in the Liberec region in 2010, and Karlovy Vary and South Bohemia regions in 2018. These regions allocated a higher amount of expenditures on leisure activities compared to the regression model. Other aberrations connected to a higher volume of expenditures on leisure activities and recreation per capita against total regional expenditures per capita were found in the South Moravian region in 2010, and the Usti nad Labem and Central Bohemian regions in 2018. By contrast, inadequately low expenditures on leisure activities and recreation per capita against total regional expenditures per capita in comparison to the regression model in 2018 were observed in the Moravian-Silesian, the Zlin, the Olomouc, the Liberec and the Pardubice regions (see Figure 2b). Based on the results, it can be said that differences in the allocated



resources to sport and leisure activities in regions of the Czech Republic are mainly related to overall economic situation in regions, different preferences in financing of the individual areas of the public sector, while demographic and political factors also have an impact.

#### 4 Conclusion

Regions of the Czech Republic are autonomous in the manner and extent to which they support sport. Most regions provide financing for sport through repetitive subsidies focused mainly on supporting the youth. However, regional subsidies on sport account for a third of the EU average. The aim of the paper was to evaluate the possibilities of supporting sport and allocated expenditures on sport and leisure activities in the Moravian-Silesian region in the period 2010-2018, and compare expenditures on sport and leisure activities in regions of the Czech Republic. The results have shown that from the total volume of expenditures allocated to sport and leisure activities in the Moravian-Silesian region in years 2010-2018, 54% was allocated to sport and 46% to leisure activities and recreation. Out of total expenditures on sport and leisure activities, the Moravian-Silesian region allocated only 8% to sport in 2010, as opposed to 2018, when it allocated 96%. The comparison of expenditures on sport and leisure activities in regions of the Czech Republic demonstrates an apparent trend of increasing financial support to sport. The structure of total expenditures on sport, leisure activities and recreation changed in most regions, as the share of expenditures on sport was increased and the share of expenditures on leisure activities and recreation from the regional budget was decreased in 2018, compared to 2010. The comparison of regions showed that in 2010 and 2018 the second highest expenditures on sport and leisure activities per capita and as share of the region's expenditures were expended by Olomouc, following Prague. By contrast, the lowest expenditures on sport and leisure activities per capita and as share of the region's expenditures were found in the Hradec Kralove and Moravian-Silesian regions in 2010, and the Central Bohemian and Usti nad Labem regions in 2018. These results are also confirmed by the regression model, which shows that a markedly low volume of resources was expended on sport per capita related to the total expenditures of regions per capita. It was mainly the Liberec and the Moravian-Silesian regions in 2018 and the Olomouc region in 2010 that attained the best results in allocated expenditures on sport per capita with the given amount of total expenditures per capita. The following research will focus on detailed analysis of financial support of sport in regions, on evaluation of subsidy programmes in sport and on changes in allocated expenditures on sport and leisure activities from regional budgets.

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# Analysis of Sources of Financing of Social Services in the Czech Republic

Renata Halásková

## Abstract

*The paper aims to provide a view on financing of social services with emphasis on selected financial resources in the Czech Republic, and evaluate selected services of social care from the perspective of revenues and expenditures based on analyses of regions of the Czech Republic. On the national level, crucial financial sources of social services are analysed in the period 2007-2017. On the regional level, revenues and expenditures of four services of social care are analysed in the period 2013-2017. By use of correlation analysis, the relation between expenditures on selected social-care services and the number of social-service users in regions was statistically tested. The analysis of financial resources in the Czech Republic and regions showed that both revenues and expenditures on social services have an increasing tendency. In regions of the Czech Republic, the results showed a strong positive correlation between the expenditures on selected social-care services and the number of social service users. The results therefore confirmed that the current system of financial resources allocated on social services is inadequate. Specific measures are suggested in order to gain sustainability of the current system of social service financing.*

**Keywords:** Analysis, Czech Republic, social service, sources of financing, regions

**JEL Classification:** H27, H41, H75

## 1 Introduction

The social service provision system ensures assistance to people for the purpose of social inclusion or prevention of social exclusion. Social services represent the aggregate of specialised activities helping a person to overcome his or her adverse social situation. Because such situations have various causes, there is a whole spectrum of social services on offer (Social Services and Care Allowance in the Czech Republic, 2009).

Social services are defined as a significant part of actions performed by government, self-government and non-governmental subjects. They are usually organised on the local level and are strongly dependent on financing from public sources. From a variety of research perspectives, social services are dealt with in relation to their development and in connection to population ageing (Baldock, 1997; Johansson, Long, Parker, 2011; Lewis, West, 2014; Mihic, Todorovic, Obradovic, 2014; Kubalčíková, Havlíková, 2015; Kubalčíková, Havlíková, 2016; Moberg, 2017; Langhamrová, Šimková, Sixta, 2018). A current, frequently discussed topic are approaches towards financing and specific financial resources of social services (Čtvrtník, Lejsal, 2013; Vostatek, 2013; Krebs, Průša, 2014; Bočáková, Vavruš, 2018; Průša, 2018; Halásková, 2019).

The paper aims to provide a view on financing of social services with emphasis on selected financial resources in the Czech Republic, and evaluate selected services of social care from the perspective of revenues and expenditures based on analyses of regions in the Czech Republic. Financial resources of social services on the national level (subsidies from the state budget, care allowance, payments of social-service users) are analysed in the period 2007-2017. On the regional level, revenues and expenditures of four social care services (community care service, relief services, personal assistance, day care centres) and expenditures allocated to these services in relation to the number of social service users in the period 2013-2017 are analysed.

## 1.1 System of financing social services in the Czech Republic and suggested changes

Financing social services in the Czech Republic is multi-source. Clients (users), the state, regions, municipalities, health insurance companies and other individuals and legal entities participate in this financing to varying degrees (e.g. in the form of subsidies) (NKÚ, 2018). Financing of social services from public sources is provided through 1) subsidies granted to registered providers of social services based on an application, contribution of the establisher in the case of providers which have been established by entities of state administration (e.g. the ministry of labour and social matters) or self-administration (regions, municipalities), 2) subsidies from the region or municipality, alternatively 3) other public expenditures granted to social-service providers (Čtvrtník, Lejsal, 2013; MPSV, 2014; MPSV, 2015). Another source for financing social services is care allowance, granted to persons based on their assessed dependence. Clients' payments represent the major source of financing of social care services. The objective is to finance mainly social care services from clients' funds (including state benefits) in an amount covering the normal operating costs of providers (Social Services and Care Allowance in the Czech Republic, 2009). Health insurance is used to cover health-related activities provided in facilities of social services. An additional source of financing social services are gifts of natural and legal persons or clergies and sources from structural EU funds (Čtvrtník, Lejsal, 2013; MPSV, 2015).

Changes to the current financing of social services are devised in relation to the sustainability of the system of financing social services and increased efficiency of the use of financial sources. The reason is an increasing share of elderly people, who have a rather high probability of requiring various forms of social services. The Ministry of Labour and Social Matters (2015) carried out an evaluation of sustainability of the present system of financing social services with respect to balancing revenues and expenditures with the aim to maintain the current share of public expenditures on GDP in the middle term (until 2019) and the long term (until 2064). The evaluation of sustainability was performed based on the prediction of public expenditures on social services with the use of the prediction of demographic development. The prediction of public expenditures on social services was drawn up in three forms. These varied in the level of coefficients of growth used to predict development of the number of care-allowance receivers, development of public expenditures on social care services, and development of public expenditures on financing services of social prevention and professional social advisory.

Changes to the system of financing social services in the Czech Republic are devised according to Čtvrtník, Lejsal (2013); Pospíšil (2016) or MPSV (2019). In particular, the Ministry of Labour and Social Matters (2019), has prepared guidelines for a systemic change, which should eliminate the majority of problems related to financing of social services. These proposals for changes to financing social services include 1) provision of subsidies for three years, which will be a mandatory expenditure, 2) setup of mandatory participation of the state of 85%, regions of 10% and municipalities of 5%, and 3) the possibility to provide extraordinary subsidy to cover increased costs (in case the government were to increase salaries). Also Pospíšil (2016) states that it is necessary to change the system of financing (subsidies from the state budget) from unclaimable to mandatory expenditures. Protective measures legislatively guaranteed by the state in the area of availability of selected services (provision of care services to selected groups of users free of charge, guaranteed minimum remainder in the definition of payments by users of residential social services in low-income groups of citizens) are performed in terms of budgets of the individual social-service providers without any certainty of replacing such costs from public sources.

Čtvrtník, Lejsal (2013); Krebs, Průša (2014); MPSV (2015); MPSV (2019) speak about the necessity to exploit the potential of private sources through mandatory levies, such as insurance of social care of establishment of a new efficient tools for financing social services, which will be sustainable in the long term. According to Čtvrtník, Lejsal (2013); Pospíšil (2016), a possible change is to implement a property/income testing of clients, and their financial situation would lead to the increase in the care

contribution, which would reflect on the real necessity for care. At this juncture, there is no direct link between the quality of the services provided and the volume of the provided financial sources. The system of financial social services is to a large extent focused on the needs of providers of social services. Consideration of the quality of services in relation to the financial sources utilised would lead to not only higher efficiency of allocated means (deductions in case of lower service standards) but also higher quality of services. Redirection of the system to a higher consideration of clients' needs would lead to further financial savings, such as limitation of some services of providers that the clients can ensure through their own families. As experience also from abroad shows (Johansson, Long, Parker, 2011; Puthenparambil, Kröger, 2016; Gomes, Ramos, 2019), it is also related to a more extensive support of informal care and the movement of some means from formal institutions to informal carers.

## 2 Material and Methods

The data was taken from Ministry of Labour and Social Affairs of the Czech Republic (MPSV, 2008, 2011, 2014, 2018) - The Annual statistical reports on labour and social matters 2007, 2010, 2013, 2017, from MPSV (2016, 2018) - Basic indicators of labour and social protection in the Czech Republic 2015, 2017 and from of the Czech Statistical Office (ČSU) - Annual report of the Czech Republic and the individual regions in years 2007-2017.

The analysis in the Czech Republic focuses on selected sources of financing social services in 2007-2017 (subsidies from the state budget chapter 313 – Ministry of Labour and Social Affairs, care allowance, payments of social service users). The quantitative analysis in the regions of the Czech Republic focuses on revenues and allocated expenditures on the selected social-care services for the elderly and people with disabilities. Analysed are revenues (total revenues, revenues from payments of social service users) and the expenditures (expenditures per one user, relation the expenditures and the number of the service users) for selected field and ambulatory social care services (CCS – Community care service, RS – Relief services, PA – Personal assistance, DCC – Day care centres) in the period 2013-2017. The sample of the analysis is a set of 14 regions of the Czech Republic: PRG (the Capital City of Prague), CRB (Central-Bohemian region), SUB (South-Bohemian region), PLZ (Plzeň region), KAV (Karlovy-Vary region), ULN (Ústí-nad-Labem region), LIB (Liberec region), HRK (Hradec-Králové region), PCE (Pardubice region), VYS (Vysočina region), SUM (South-Moravian region), OLM (Olomouc region), ZLN (Zlín region) and MSR (Moravian-Silesian region).

Based on literature, we use content analysis in creating a theoretical framework of the issue in question, analytical methods and comparative method in the empirical part, and synthesis and partial induction in drawing conclusions. In the Regions of the Czech Republic in the period 2013-2017, as the average, is, by means of correlation analysis (the Pearson's correlation coefficient) statistically tested the relation between the expenditures on selected social care services on one side and the number of social service users on the other. Correlation analysis is used to measure the strength of linear correlation between two random variables. Values range within the interval  $<-1, 1>$ , when the positive or negative value indicates the direction of correlation (positive in the case of correlation, negative in the case of anticorrelation) and its absolute value the strength of correlation. The more the absolute value approaches 1 (or  $-1$  for that matter), the stronger the correlation is. One of the most frequently used calculations of correlation analysis appropriate for a given type of data is the Pearson's correlation coefficient. To express the strength of correlation, the coefficient of determination ( $r^2$ ) was used, which is the squared value of the coefficient of correlation ( $r$ ), expressed in per cent. The coefficient of determination also states the extent of suitability of a model. It shows the part of Y variability which can be explained by the model (Lynch, 2013, pp. 127-134).

The calculations in the following part were generated in the IBM SPSS Statistics 25.0 software.

### 3 Results and Discussion

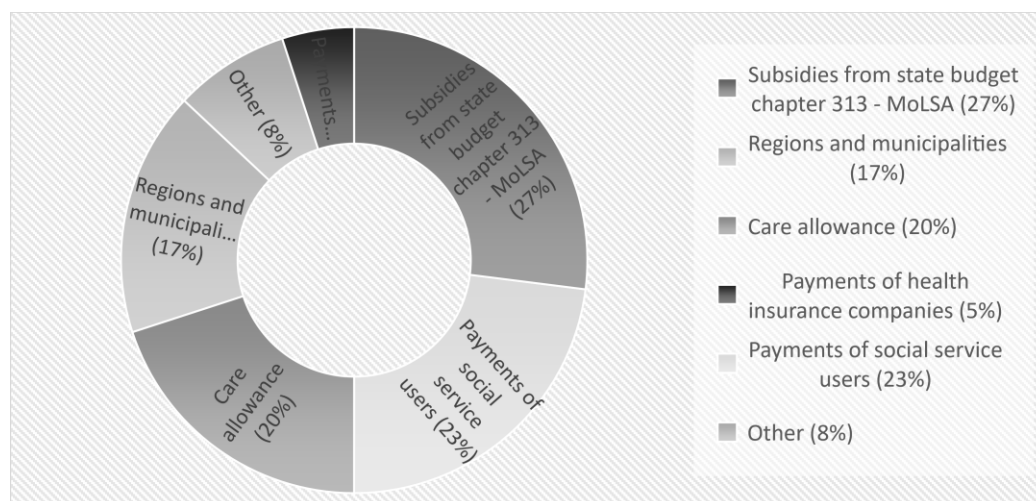
The performed analysis focuses on 1) the structure of sources of financing social services in the Czech Republic, 2) selected sources of financing social services in 2007-2017, 3) the revenues and the expenditures of selected social care services in the regions of the Czech Republic in 2013-2017.

#### 3.1 Structure of sources of financing social services in the Czech Republic

Social services are funded from multiple resources and the volume of money spent on social services was almost CZK 105 billion in 2015-2017. Structure of sources of financing social services is seen in Figure 1.

**Figure 1 — Sources of financing social services in the Czech Republic in 2015-2017.**

Source: NKÚ (2018)



Note: Other sources – Office of the Government of the Czech Republic, other ministries, EU funds, revenues from taxes and fees, sales of products and services, rents, received donations and contributions, other operating and financial revenues.

Given the demographic development and the ageing population, there will be an increase in demands for the state budget funding and staffing in the area of social services. In 2015-2017, the MoLSA participated in the financing of social services in the form of subsidies for social services (27 %) and care allowance (20 %).

#### 3.2 Selected sources of financing social services in the Czech Republic in years 2007- 2017

From the sources for financing social services, a closer attention is paid to subsidies from the state budget chapter 313 – Ministry of Labour and Social Affairs (MoLSA), payments of social service users and care allowance. Table 1 shows revenues for social services in facilities by legal form (total revenues, revenues for residence, meals and services provided – using care allowance, subsidies from the state budget) and allocated expenditures (investment, non-investment) on social services by legal form of the facility in years 2007, 2010, 2013 and 2017.

**Table 1 – The revenues and the expenditures of social services in 2007-2017**

	Social services provided in facilities	Revenues (in mil. CZK)			Expenditures (in mil. CZK)		
		total	of which		total	of which	
			for residence, meals, provided services	subsidies		non-investment	investment
2007	State and regional	10 827	4 136	6 447	11 220	10 157	1 063
	Municipal	4 959	2 062	2 831	4 897	4 726	171
	Other (non-state)	2 350	629	1 681	2 379	2 218	161
2010	State and regional	11 379	5 133	6 226	11 958	11 256	702
	Municipal	5 915	2 630	3 270	5 956	5 800	156
	Other (non-state)	4 843	1 119	3 443	4 623	4 474	149
2013	State and regional	11 809	5 269	4 468	11 992	11 527	465
	Municipal	6 043	2 857	2 017	6 003	5 727	276
	Other (non-state)	5 690	1 719	1 836	5 668	5 501	167
2017	State and regional	15 372	6 838	7 204	15 152	14 733	419
	Municipal	7 721	3 889	3 082	7 665	7 487	178
	Other (non-state)	10 269	3 491	3 426	9 250	9 049	201

Source: MPSV (2008, 2011, 2014, 2018). The Annual statistical reports on labour and social matters 2007, 2010, 2013, 2017.

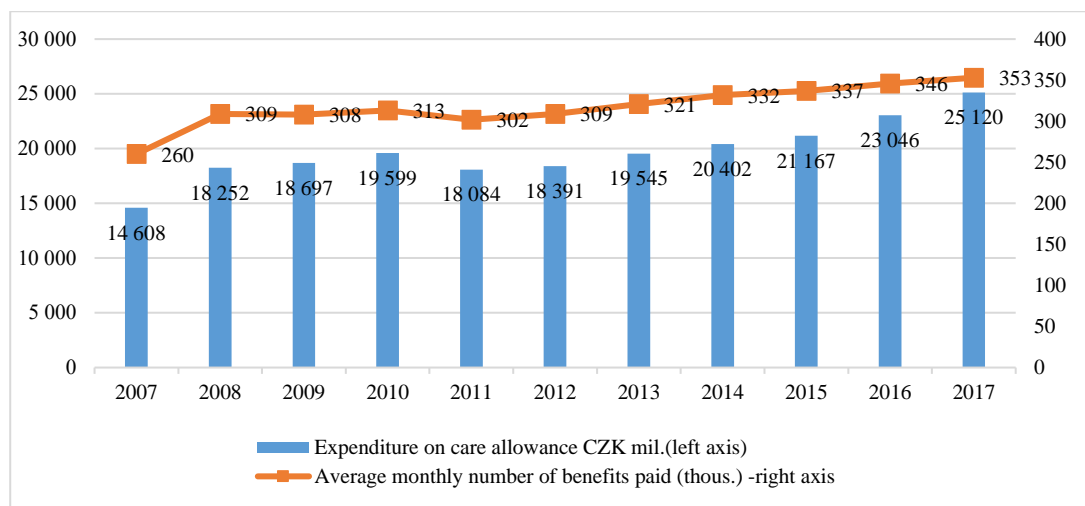
In the course of 2007-2017, the volume of revenues and expenditures allocated to social services kept increasing, which is associated with population ageing and an increasing number of social-service users. The highest volume of revenues (as subsidies and revenues from payments by service users) is indicative of state-owned and regional facilities of social care. Compared to total revenues and expenditures of state-owned, regional and municipal social-care facilities, non-state-owned facilities manifest an apparent trend of rapidly increasing total revenues (from 2,350 million CZK in 2007 to 10,269 million CZK in 2017) as well as the trend of rapidly increasing total expenditures (from 2,379 million CZK in 2007 to 9,250 million CZK in 2017).

Despite the increasing tendency of revenues allocated to social services, according to the Czech Press Office (ČTK 2019), providers of social services complain about shortage of financial sources. They ask for financing every year and warn that without further resources, they will have to limit their care for the ones in need. This year (2019), the association of regions demands two billion CZK for subsidies. However, operators and representatives of regions, cities and municipalities also ask for the increase of payments from service users. Their goal is that the Ministry of Labour and Social Affairs (MoLSA) adjusted the order with highest prices, by increasing them slightly. Some experts have already suggested a partial payment of care allowance in vouchers, which could be spent on professional care. As a result, social services would receive more financing. The council of the disabled disagreed with this suggestion, nevertheless.

Development of the expenditures on care allowance and the average monthly amount of benefits paid in years 2007-2017 is shown in Figure 2. Expenditures on care allowance increase every year. The only decrease was spotted in 2011. Compared to 2010, expenditures on care allowance dropped by 1.5 billion CZK, to 18.1 billion. It was caused by the decrease of care allowance with the 1<sup>st</sup> level of dependence for people aged 18+, from the former 2,000 CZK to 800 CZK, as well as changes to assessing the entitlement. A significant growth of expenditures on care allowance has manifested since 2016, related to the increase in contributions in all four levels of dependence by 10%.



**Figure 2 – Expenditures on care allowance and average number of benefits paid in 2007-2017.**  
Source: Author by MPSV (2016, 2018). Basic indicators of labour and social protection in the Czech Republic 2015, 2017.



### 3.3 Revenues and expenditures of social care services in regions of the Czech Republic

At first, the selected social care services in regions of the Czech Republic are analysed by revenues and the number of service users. If we focus on the volume of total revenues for particular social care services, significant differences are apparent in the regions of the Czech Republic. Total revenues in community-care service ranged from approximately 93 mil. CZK in KAV to 346.5 mil. CZK in PRG, in relief services from approximately 13.7 mil. CZK in PLZ to approximately 152 mil. CZK in PRG) and personal assistance from 13.6 mil. CZK in KAV to approximately 160 mil. CZK in PRG. Also revenues from payments of service users vary markedly, mainly in relief services (Table 2).

**Table 2 – The Revenues of selected social care services in the Regions of the Czech Republic in year 2017**

Social service Region	Community care service			Relief services			Personal assistance		
	number of service users	Revenues (CZK thous.)		number of service users	Revenues (CZK thous.)		number of service users	Revenues (CZK thous.)	
		total	Users' payments		total	Users' payments		total	Users' payments
PRG	10 898	346 500	88 013	1 940	151 924	63 863	1 883	160 371	38 481
CRB	13 812	317 673	75 984	1 524	64 383	35 744	1 079	73 494	20 430
SUB	7 499	181 973	66 989	923	20 088	15 106	478	33 735	10 780
PLZ	7 090	164 762	47 460	143	13 661	3 885	216	18 236	7 372
KAV	3 197	92 921	25 577	38	-	333	95	13 589	1 952
ULN	5 676	160 724	50 738	619	56 466	26 206	577	34 829	8 414
LIB	3 775	134 691	33 227	450	16 832	12 532	435	48 040	13 515
HRK	5 903	179 197	56 511	937	63 136	16 557	598	39 147	11 899
PCE	4 181	126 461	40 601	534	33 080	12 384	465	31 105	14 505
VYS	6 136	154 059	37 180	587	32 103	11 580	332	31 858	6 605
SUM	13 163	329 933	90 650	1 751	83 755	37 086	824	77 066	20 230
OLM	5 060	149 957	54 982	512	28 922	8 105	434	34 843	8 877
ZLN	4 870	144 764	44 102	763	37 402	16 470	477	36 838	17 411
MSR	9 419	234 365	80 712	1 566	45 419	20 710	900	61 311	31 750

Source: MPSV (2018). The Annual statistical reports on labour and social matters 2017.

The regional comparison between years 2013 and 2017 shows significant differences of expenditures allocated on social-care services (Table 3). Among the most expensive are day care centres, where expenditures per single user ranged from 73,000 CZK in ZLN to 186,000 CZK in ULN in 2013, and from 95,000 CZK in SUB to 211,000 CZK in CRB in 2017. By contrast, the least expensive is care service with expenditures per single user ranging from 15,700 CZK in CRB to 26,200 CZK in LIB in 2013, and from 18,700 CZK in SUB to 35,000 CZK in LIB in 2017.

**Table 3 –The expenditures on selected social care services in the regions of the Czech Republic in 2013 and 2017**

Region	2013				2017			
	Expenditures per user (CZK)				Expenditures per user (CZK)			
	CCS	RS	PA	DCC	CCS	RS	PA	DCC
PRG	19 208	80 095	53 446	182 165	29 685	88 076	88 260	189 924
CRB	15 727	32 334	53 616	91 803	22 510	44 155	73 934	211 006
SUB	20 170	72 976	48 660	78 693	18 698	22 696	68 157	95 049
PLZ	15 891	71 625	42 720	124 396	23 829	110 587	85 458	139 597
KAV	20 911	9 391	80 843	109 794	28 435	91 666	126 042	150 301
ULN	20 267	62 716	38 368	186 321	29 508	93 877	54 400	125 962
LIB	26 209	33 674	78 951	127 686	35 493	37 811	110 497	127 508
HRK	22 294	45 797	36 987	121 439	31 317	69 932	63 547	135 267
PCE	23 019	48 104	68 695	119 761	30 304	60 064	71 542	148 127
VYS	23 623	38 592	48 292	124 128	23 999	53 853	93 837	107 727
SUM	17 661	44 330	65 632	139 311	24 750	48 471	95 012	131 244
OLM	25 683	26 436	68 915	121 021	30 065	58 172	83 693	155 162
ZLN	19 988	54 809	68 890	73 093	29 826	50 081	71 922	105 156
MSR	19 415	41 528	60 183	117 326	24 009	29 377	71 168	119 776

Note: CCS – Community care service, RS – Relief services, PA – Personal assistance, DCC – Day care centres  
Source: Author calculation by ČSÚ (2019)

Since 2015, according to MPSV (2014), regional governments have been authorised to make decisions about subsidies for providers of social services, with the rate of funding of each region being defined with respect to the total volume of financial sources allocated from the national budget. Regional governments are also obliged to define a network of social services in accordance with the needs of the population and available financial resources.

In the Regions of the Czech Republic in the period 2013-2017, as the average, is, by means of correlation analysis (the Pearson's correlation coefficient) statistically tested the relation between the expenditures on selected social care service and the number of social service users (Table 4, Figure 3).

**Table 4 – Relation the expenditures and the number of social care service users in the period 2013-2017**

Pearson's correlation coefficient	Expenditures and users CCS	Expenditures and users RS	Expenditures and users PA	Expenditures and users DCC
	0.959**	0.841**	0.969**	0.925**

Note: CCS – Community care service, RS – Relief services, PA – Personal assistance, DCC – Day care centres  
\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Author

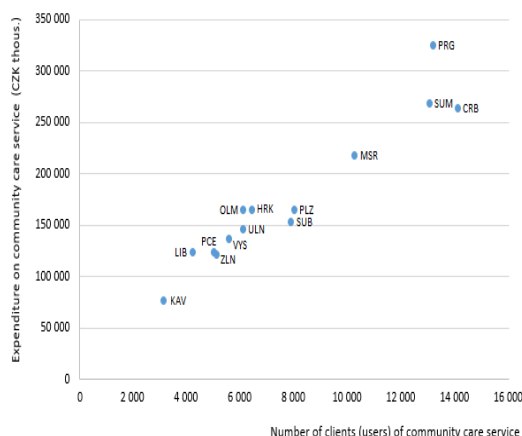
The results of the correlation analysis showed for all evaluated social-care services (community care service, relief services, personal assistance, day care centres) statistically significant strong positive relation ( $p < 0.01$ ) between the expenditures on social care service and the numbers of social service

users. Similar results are confirmed by previously conducted pieces of research into the regions of the Czech Republic (Halásková, 2016).

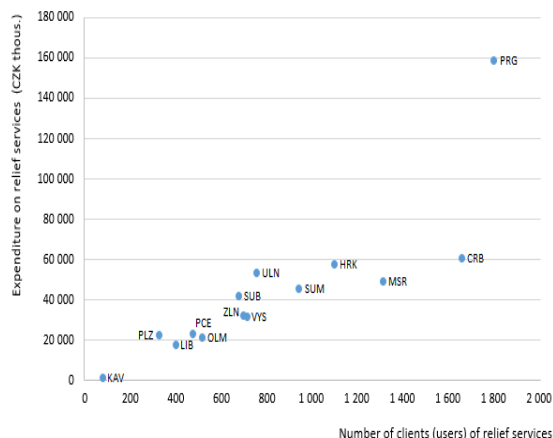
**Figure 3 – Relation between the expenditures on social care service and the number of service users in the regions in the period 2013-2017.**

Source: Author

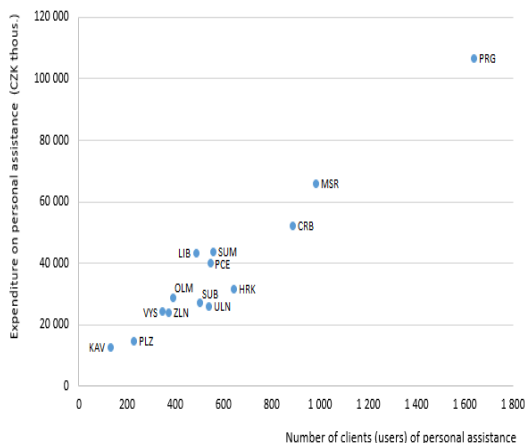
#### Community care service



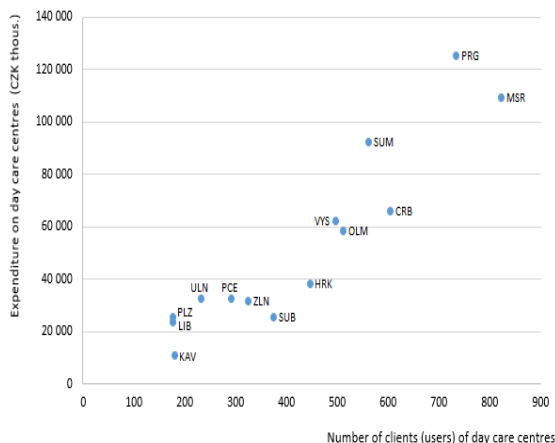
#### Relief services



#### Personal assistance



#### Day care centres



In the coming years, attention should be paid to the regions in the Czech Republic with the highest share of senior citizens, which has a direct impact on the increase in the users of social services and in public expenditures on social services. The system of provision and financing of social services needs to be made more efficient, mainly long-term social care service, namely provided in both residential facilities and citizens' natural environment (MPSV, 2015). Specific measures are devised to sustain the system of financing social services (Čtvrtník, Lejsal, 2013; Pospíšil, 2016; MPSV, 2019), including the use of private sources for financing social services (Krebs, Průša, 2014; MPSV, 2015; Pospíšil, 2016).

With respect to the necessity for development of social services, other measures should be taken also outside the area of social services (Meričková, Stejskal, 2014). These are services of long-term health

care (Barták, Gavurová, 2014) or the quality of housing of senior citizens (Špalková, Špalek, 2017), which is also confirmed by experience from abroad (Costa-Font, Courbage, 2015; Puthenparambil, Kröger, 2016; Puthenparambil, 2018; Gomes, Ramos, 2019).

#### 4 Conclusion

Financing social services is a topical issue in the Czech Republic. The aim of the paper was to provide a view on financial social services with emphasis on selected financial sources in the Czech Republic and, on the basis of an analysis into regions of the Czech Republic, evaluate selected social care services from the viewpoint of revenues and expenditures. Financing social services in the Czech Republic is multi source. Among the fundamental financial sources are subsidies from the state budget, regions and municipalities, care allowance and payments of social service users. The analysis of financial sources in the Czech Republic and regions showed that revenues and expenditures on social services have an increasing tendency. In regions of the Czech Republic in the period 2013-2017 using correlation analysis, the relation between the expenditures on selected social care services and the number of social service users was statistically tested. The results showed a strong positive relation between the expenditures on social care services and the numbers of social service users.

Results of the analysis confirmed that the current system of financial sources allocated to social services is inadequate. Specific measures are devised to sustain the current system of financing social services. The topic for further research could be (based on the prediction of public expenditures on social services and when considering demographic development) the assessment of the most appropriate forms of financing social services in the conditions of the Czech Republic. In terms of further research on the regional level, an in-depth analysis of financial sources of social services in the context of demographic development can be performed. Applying cluster analysis and multidimensional scaling, it is possible to evaluate similarities and differences of the structure of financial sources of social services in regions of the Czech Republic.

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# Approaches to Evaluate Government Expenditures on Services in EU Countries

Renata Halásková

## Abstract

*Public expenditures constitute comprehensive financial means expended by government of a respective state for the purpose of selected areas of the public sector. The paper aims to evaluate government expenditures on services in EU countries with emphasis on similarities and differences and in relation to selected socio-economic indicators. Government expenditures on selected services are evaluated by means of cluster and correlation analysis. The research was carried out in the period 2008-2017 for 28 EU countries. The results of the cluster analysis showed a similar volume and structure of government expenditure between the countries, in particular on recreation and culture (countries in the first and third cluster), but also marked differences between government expenditures on social protection and health between the countries in the first cluster, with a high economic level, and the countries in the second cluster, with a lower economic level. Using correlation analysis, the relation between government expenditure on services and selected socioeconomic indicators was statistically tested. The results showed a negative relation between government expenditures (on social protection, health, education, recreation and culture) and social exclusion and income inequality, but a positive relation between government expenditure on (social protection, health, education) and socioeconomic development evaluated by the Human development index.*

**Keywords:** EU Countries, evaluate, government expenditure, services

**JEL Classification:** H50, H75, H76, I38, O15

## 1 Introduction

The public sector represents a special subgroup of the service sector and includes all services financed from public financing, namely, public services. Ochrana (2007) defined public services as “such services whose user (consumer) is the public as a social entity. In economic terms, public service ... is a public good (goods of collective consumption).” From the viewpoint of theoretical approaches, the theory of state and public financing raises the question of the provision of public services by the state. Smith (1976) emphasised the significance of ensuring services, which the market is uninterested in due to their unprofitability, for public benefit. Public expenditures play a significant role in the financing of public services, and it forms a precondition for their development. Public expenditures are comprehensive financial means allocated by the government of a particular countries for the purposes of selected areas of the public sector (defence, security, health education, etc.). Two categories represent public expenditures – government purchases of ordinary and capital assets and services, and transferred expenditures (Stiglitz, Rosengard, 2015). Authors deal with public expenditures from different perspectives Ferreiro et al. (2013); Szarowska (2013); Stejskal, Hájek (2015); Hallaert, Queyranne (2016); Leitner, Stehrer (2016); Meričková et al. (2017); Sopko et al. (2017); Anderson et al. (2018); Hidalgo- Hidalgo, Iturbe-Ormaetxe,(2018) .

The paper aims to evaluate government expenditures on services in EU countries with emphasis on similarities and differences and in relation to selected socioeconomic indicators. From our viewpoint, the research subject are general expenditures in selected areas of the public sector. Government expenditures are analysed in 28 EU countries in the period 2008-2017 with the use of cluster and correlation analysis. We focus more closely on five government expenditures on services (COFOG), which are evaluated by similarities and differences by use of cluster analysis and correlation analysis, where the relation between government expenditures on selected services is statistically tested on the

one side and socioeconomic development, represented by the selected indicators (poverty and social exclusion, income inequality, human development index) on the other.

## 1.1 Literature review

Authors research public expenditures from different perspectives. When evaluating dynamics of public expenditures, it is necessary to consider indicators of the evaluation and what properties are being observed. The dynamics of public expenditures and the analysis of changes in their structure are measured by indicators which reflect the essential proportions within total public expenditures. Structure, trends and quality of public expenditures, including the development of the public sector in EU countries, are dealt with in papers by Czech as well as foreign authors and studies e.g. European Commission (2012); Ferreiro et al. (2013); Hallaert, Queyranne (2016). Authors Ferreiro et al. (2013) address whether a convergence to a new pattern of public finances with a higher share of productive expenditures in these countries is arising in the European Union. Hallaert, Queyranne (2016) identify areas with space for increasing expenditure efficiency, with a view to achieving higher quality and more sustainable fiscal consolidation. Study of the European Commission (2012) reviews trends in public expenditures in the EU with special attention to the impact of the economic and financial crisis and the subsequent fiscal adjustment, discusses different notions and indicators of expenditure efficiency, with special focus on health care and on public administration reform.

Public expenditures by function are in the European context a topic of interest of many authors e.g. Szarowska (2013); Mura (2014); Halásková, Halásek, (2015); Sawulski (2016) or Halásková, Halásková (2017). In particular, Halásková, Halásková (2017) deal with selected general government expenditures in EU countries associated with the development of the services of welfare state and the area of human potential, applying the method of multidimensional scaling. Sawulski (2016) compared public expenditures by function in Poland, with an average of EU and CEE countries in 2014. He focused on expenditures on social protection, education and general public services. Szarowska (2013) examines the trends of government expenditures in the core member states of the European Union (EU15) in the period 1995-2010. The results show significant differences in the size and importance of public sector in the selected countries. Mura (2014, p. 5) analysed public expenditures in selected areas of the public sector (education, R&D, infrastructure) and their economic growth, using the example of six Eastern European countries in the period 1990-2013.

Several pieces of research deal with the relationship between expenditures and economic growth. Pascual Sáez, Alvarez-García, Castaneda (2017) provide evidence of the impact of government spending on economic growth in the European Union countries. The results obtained suggest that government expenditures are not clearly related to economic growth in the European Union countries in the period 1994-2012. Donath, Milos (2011) analysed the questions of state performance, the quality of public finance and their effects on growth. The authors attempt to reveal the effects of capital spending (functional classification of public expenses “COFOG”) on economic growth in EU member states in the period 2000-2006.

Attention is also paid to the relation of government expenditures and selected socioeconomic indicators (poverty or social exclusion, income inequality, human development index). A frequent topic is the relation between government expenditures or government social expenditures and poverty or social exclusion (Mehmood, Sadiq, 2010; Caminada et al., 2012; Visser et al., 2014; Anderson et al., 2018; Halásková, 2018; Hidalgo-Hidalgo, Iturbe-Ormaetxe, 2018). Reduction of poverty and social exclusion are analysed in relation to social expenditure, which include expenditures on social protection, health and education. According to the OECD (2019) public social expenditures *“comprise cash benefits, direct in-kind provision of goods and services, and tax breaks with social purposes provided by general government (that is central, state, and local governments, including social security funds). Social benefits are classified as public when general government controls the relevant financial flows. All social benefits not provided by general government are considered private. Private transfers between households are not considered as “social” and not included here”*.



Study by Caminada et al. (2012) was dedicated to the impact of social expenditure on poverty rate for the period 1985–2005, where demographic and macroeconomic differences across countries were considered. Results of this study verified a negative, but quite a strong correlation between the level of social expenditure and poverty rate. Anderson et al. (2018) investigated the relationship between government spending and income poverty, with a focus on low- and middle-income countries. There are other authors who analysed the relation between social expenditures in relation to poverty and social exclusion in the 28 European countries in the period 2007–2015, such as Halásková (2018). The results showed moderate negative relation between social protection benefits (all functions)) and income poverty and social exclusion.

A number of scientific studies have examined the relationship between government spending and income inequality (e.g. Afonso et al., 2008; Anderson et al., 2016; Sánchez, Pérez-Corral, 2018; Ulu, 2018.). Government social spending is one of the most important means of directly regulating income inequality. Ulu (2018) investigated the effect of government social spending on income inequality for 21 OECD countries. The results have shown that government social spending has a positive effect on affects income inequality. It has been proved that government social spending was more effective than education expenditures in regulating income inequality. Research by Anderson et al. (2016) presents results of a meta-regression analysis exploring the effects of government spending on income inequality, with a particular focus on low-and middle-income countries. Another authors, Sánchez, Pérez-Corral (2018) analysed the relationship between public social expenditures and income inequality distribution in the 28 Member States of the European Union, throughout the period 2005–2014.

Another topic for research is the relationship of the size of government or public expenditures and socioeconomic development. The aim of research carried out by Sagarik (2017) was to find whether the size of government together with government effectiveness have a positive relationship with selected socioeconomic development in Asian countries from 2000 to 2015. Meričková et al. (2017) evaluated the relation between the volume and structure of public expenditures and socioeconomic development as represented by the human development index, using the example of 31 European countries.

## **2 Material and Methods**

### **2.1 Data**

For the purposes of the empirical analysis were used data from the Eurostat database and the Human development reports for the ten years period 2008–2017. Year 2008 as the default year and 2017 as the last year when data on all EU countries were available for the analysed variables (Government expenditure by selected function, People at risk of poverty or social exclusion, Gini coefficient of equivalised disposable income, Human development index).

**Government expenditures** refer to the purchase of goods and services, which include public consumption and public investment, and transfer payments consisting of income transfers (pensions, social benefits) and capital transfer. COFOG (Classification of the Functions of Government) is an internationally used classification standard for a structure of states expenditures (state budgets) with regard to their purpose (function). The classification COFOG has three levels of detail: divisions, groups, classes. Divisions include: General public services, Defence, Public order and safety, Economic affairs, Environmental protection, Housing and community amenities, Health, Recreation, culture and religion, Education, Social protection (Eurostat, 2019).

For the purposes of the analysis of government expenditure by function (COFOG) Government expenditures on services (social protection, health, education, recreation, culture and religion, housing and community amenities)

have been chosen, where we presume their positive or negative relation to indicators of socioeconomic development (Table 1).

**Table 1 – Government expenditures by selected function COFOG**

	Government expenditure on services (by COFOG)	Service	Units
*GF06	Housing and community amenities	Collective	Percentage of GDP
GF07	Health	Collective 07.5, 07.6	Percentage of GDP
GF08	Recreation, culture and religion	Collective 08.3 - 0.8.6	Percentage of GDP
GF09	Education	Collective 09.7, 09.8	Percentage of GDP
GF10	Social protection	Collective 10.8, 10.9	Percentage of GDP

Note: \*marks collective services; remaining parts are expenditures on individual final consumption

Source: Author according to Leitner, Stehrer (2016); Eurostat (2019)

In our example, socioeconomic development is represented by three selected indicators, defined in Table 2.

**Table 2 – Selected socioeconomic indicators**

Indicator	Abbr.	Description of the indicator
People at risk of poverty or social exclusion	APOPE	This indicator corresponds to the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators. At risk-of-poverty are persons with an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers). Material deprivation covers indicators relating to economic strain and durables. Severely materially deprived persons have living conditions severely constrained by a lack of resources. People living in households with very low work intensity are those aged 0-59 living in households where the adults (aged 18-59) work 20% or less of their total work potential during the past year. (APOPE in percentage)
Gini coefficient of equivalised disposable income	GINI	The Gini coefficient is defined as the relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them. (Gini coefficient scale from 0 to100).
Human Development Index	HDI	HDI is a statistic composite index of life expectancy, education, and per capita income indicators, which are used to rank countries into four tiers of human development. It is an indicator of living standards. (HDI between 0 and 1).

Source: Eurostat (2019); Human Development Report (2018)

The object of the quantitative analysis is a set of 28 EU Member States, comprising: Belgium (BE), Bulgaria (BG), Czechia (CZ), Denmark (DK), Germany (DE), Estonia (EE), Ireland (IE), Greece (EL), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxembourg (LU), Hungary (HU), Malta (MT), the Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Romania (RO), Slovenia (SI), Slovakia (SK), Finland (FI), Sweden (SE), the United Kingdom (UK).

## 2.2 Methods

Key methods of the scientific paper are analysis, comparison and abstraction, in creation of the theoretical framework and the review of literature, content analysis and synthesis and partial induction in drawing conclusions are used. Government expenditures on services are evaluated by means of two methods - correlation and cluster analysis.

The correlation analysis (the Pearson's correlation coefficient) was applied to test correlations of the observed variables – general government expenditure by COFOG on selected services 1) social protection, 2) health, 3) education, 4) recreation, culture and religion, 5) housing and community amenities in the period 2008-2017 for the following cluster analysis. The correlation analysis was applied also in statistical testing of the relation between the government expenditure on selected services one side, and social exclusion (evaluated by the people at risk of poverty or social exclusion - APOPE), income inequality (evaluated by Gini coefficient of equivalised disposable income – GINI) and socioeconomic development (evaluated by Human development index – HDI) on the other. This method is used to measure the strength of linear correlation between two random variables. Values range within the interval  $<-1, 1>$ ; where the positive or negative value indicates the direction of correlation (positive in the case of correlation, negative in the case of anti-correlation) and its absolute value indicates the strength of correlation (Lynch, 2013).

The analysis of similarities and differences between EU countries by government expenditure on selected services was performed through cluster analysis. Cluster analysis is a multi-dimensional statistical method used for classification of objects. It sorts units (EU member states the present example) into groups (clusters) so that units belonging in the same group are more similar than objects from other groups. Hierarchic clustering was applied, which brings about a multitude of alternative solutions how to cluster objects on the basis of their distance or similarity, its outcome can be expressed by means of a dendrogram (Garson, 2014). In this paper, the furthest neighbour method (the determining factor is the maximum distance between objects) was applied. The distances of objects are measured by squared Euclidean distance (Řezanková et al., 2009). A dendrogram indicates that the larger the size on the horizontal axis (x), the less similar, in the present case, the EU countries are. Conversely the smaller the distance on the x axis, the larger the similarity between countries. Box plot is one way of visualizing numerical data by means of their quartiles. The middle "box" part of the diagram is delineated by the third quartile from the top, and the first quartile from the bottom, whilst the mean is expressed by a line in-between. Box plots can also contain lines beginning in the middle part of the diagram vertically up and down, the so-called whiskers, which express variability of data below the first and above the third quartile (Pavlík, 2005). Cluster analysis was applied in papers, for instance by Fenger (2007), who evaluated selected government expenditures and other selected social and political variables in 49 countries (of Europe and East Asia). Petrova (2014) researched the significance of public expenditures for the formation of separate models of socioeconomic development in the European Union.

The calculations in the following part are the output of the SPSS Statistics 24.0 software.

### **3 Results and Discussion**

In EU countries in the period 2008-2017 is performed the analysis of government expenditures by functions according to similarities and differences and tested the relation between government expenditures on services and selected socioeconomic indicators.

#### **3.1 Analysis of Government expenditures on services in EU Countries using cluster analysis**

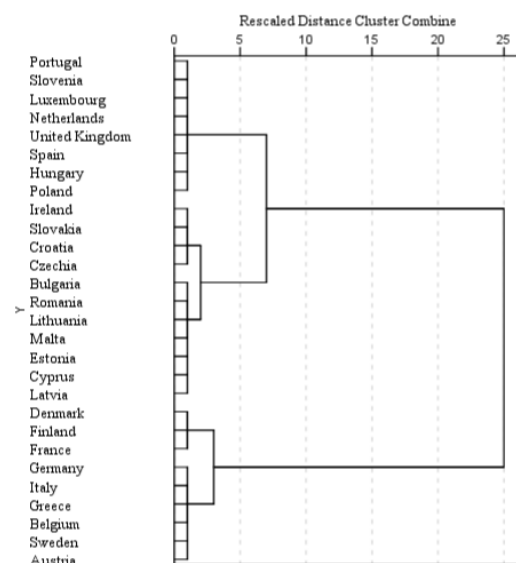
Applying the method of cluster analysis and box-plot, 28 EU countries are analysed in terms of general government expenditure on selected services (1) health, 2) social protection, 3) education, 4) recreation, culture and religion, 5) housing and community amenities) in the period 2008-2017 as average. The 28 EU countries by the evaluated government expenditures on services are seen in Figure 1. The dendrogram (Figure 1a) shows the results of the cluster analysis, and the box-plot (Figure 1b) presents the division of countries into three clusters by similarity (dissimilarity) of the evaluated government expenditures on services. Government expenditures on social protection dominate the structure of government expenditures in EU countries in 2008-2017, which account for 16.8% of GDP, government expenditures on health account for 6.3% of GDP, government

expenditures on education 5.2% of GDP, government expenditures on recreation and culture 1.2% of GDP, and government expenditures on housing and community amenities 0.8% of GDP on average.

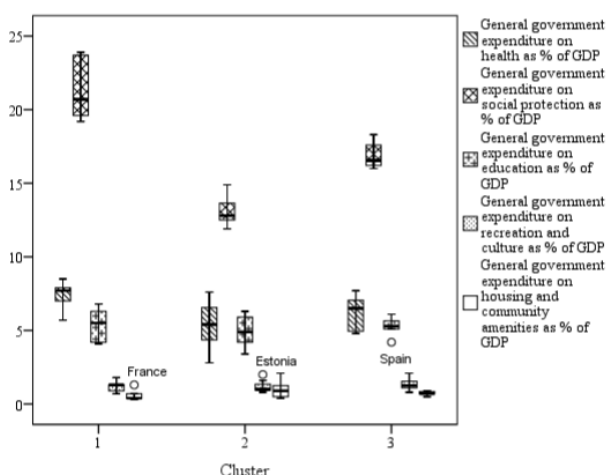
**Figure 1 – Dendrogram and box-plot of EU countries by government expenditures on services in 2008-2017**

Source: Author

a) Dendrogram



b) Box-plot



*First cluster* – is composed of nine countries: BE, DK, DE, EL, FR, IT, AT, FI, SE. Large internal similarity of government expenditures on services is seen in DK and FR, as well as in GE and IT and BE, SE, AT. Small internal similarity of government expenditures on services is in FI and EL. Countries in the first cluster have the highest volume of government expenditures on social protection (with the median of 20.70% of GDP). The volume of government expenditures on health (median 7.7% of GDP) and expenditures on education (median value 5.5% of GDP) is higher compared to other EU countries. A wider dispersion of values of expenditures (% of GDP) is observed mainly in expenditures on social protection, from 19.2 in DE to 23.9 in FR), expenditures on health, from 5.7 in EL to 8.5 in DK, and expenditures on education, from 4.1 in IT to 6.8 in DK. The volume of government expenditures on recreation and culture ranges from 0.7 to 1.8% of GDP. Government expenditures on housing and community amenities have only a small representation (median value 0.40% of GDP). In the case of expenditures on housing and community amenities – FR is the outlier (the volume of expenditures of 1.3% of GDP).

*Second cluster* – the largest, consisting of eleven countries BG, CZ, EE, IE, HR, CY, LV, LT, MT, RO, SK. A high internal similarity of government expenditures on services is seen in IE, SK, CZ, as well as BG and RO, and MT, EE, CY, LV. A small similarity of government expenditures on services is seen in HR and LT. Compared to the other EU countries, the countries in the second cluster have a smaller volume of government expenditures on social protection, from 11.9% to 14.9% of GDP, and the median of 12.8% of GDP), expenditures on health (median of 5.4% of GDP) and expenditures on education (median of 4.9% of GDP). Government expenditures on health (% of GDP) demonstrate a wide dispersion of values, from 2.8 in CY to 7.6 in CZ. The volume of government expenditures on housing and community amenities (median of 0.90% of GDP) is higher, compared to the other EU countries. In case of government expenditures on recreation and culture (median of 1% of GDP), EE represents the outlier (the volume of expenditures of 2.0% of GDP).

*Third cluster* – comprises eight countries (ES, HU, LU, NL, PL, PT, SI, UK) with internal similarity of evaluated government expenditures on services. These countries are characterised by a high volume of government expenditures on social protection, from 16.0 to 18.3% of GDP (median of 16.6). The volume of government expenditures on health ranges from 4.8% to 7.7% of GDP (median 6.5%) and the volume of government expenditures on education from 4.2% to 6.1% of GDP. In case of government expenditures on education (median of 5.3% of GDP), ES represents the outlier (the volume of expenditures of 4.2% of GDP). The volume of government expenditures on recreation and culture ranges from 0.8% to 2.1% of GDP (median of 1.25) and government expenditures on housing and community amenities reach from 0.5%-1.0% of GDP (median of 0.7% of GDP).

**Table 3 – Government expenditures on services by clusters in the period 2008-2017**

Clusters of EU country	Median of government expenditures on services (% of GDP)				
	GF06	GF07	GF08	GF09	GF10
1st cluster	0.40	7.70	1.30	5.50	20.70
2nd cluster	0.90	5.40	1.00	4.90	12.80
3rd cluster	0.70	6.50	1.25	5.30	16.55

Source: author

If we compare the EU countries by similarities (differences) of the volume and structure of government expenditures on services, we can say that on the basis of median values (Table 3), countries in the first and the third clusters are the most similar in government expenditures on recreation and culture (GF08), certain similarity is observed in these clusters also in government expenditures on education (GF09) and expenditures on housing and community amenities (GF06). Similarity of government expenditures on housing and community amenities (GF06) is apparent also in countries in the second and third cluster. Conversely, the largest differences in the volume of government expenditures on services are seen in government expenditures on social protection (GF10) and on health (GF07) between the countries in the first and second cluster. These differences are associated with not only different economic levels of the countries but also goals and priorities of the respective public policies.

### **3.2 Relation between government expenditures on services and socioeconomic indicators in EU Countries in the period 2008-2017**

In EU countries in the period 2008-2017, as the average, is, by means of correlation analysis (the Pearson's correlation coefficient), statistically tested the relation between government expenditures on services on one side and social exclusion (evaluated by people at risk of poverty or social exclusion - APOPE), income inequality (evaluated by Gini coefficient of equivalised disposable income – GINI) and socioeconomic development (evaluated by Human development index – HDI) on the other.

**Table 4 – Relation between government expenditures on services and socioeconomic indicators in EU countries in the period 2008-2017**

Socioeconomic indicators	Government expenditures on services				
	GF06	GF07	GF08	GF09	GF10
APOPE	0.442*	-0.647**	-0.218	-0.486**	-0.509**
GINI	0.330	-0.527**	-0.301	-0.301	-0.394*
HDI	-0.425*	0.662**	0.011	0.348	0.634**

\*\* Correlation is significant at the 0.01 level (2-tailed) \* Correlation is significant at the 0.05 level (2-tailed)

Source: author

The results of the correlation analysis (Table 4) showed a statistically significant moderate correlation between government expenditures on selected areas of services and poverty and social exclusion (APOPE). In the case of government expenditures on housing and community amenities and social

exclusion was observed a moderate positive correlation ( $p < 0.05$ ) and between government expenditures on services (health, social protection, education) and social exclusion a moderate negative correlation ( $p < 0.01$ ). A statistically significant moderate negative correlation was also found between government expenditures on health and income inequality ( $p < 0.01$ ) and government expenditures on social protection and income inequality ( $p < 0.05$ ). On the contrary, a statistically insignificant weak negative correlation was found between government expenditures on services (education, recreation and culture) and income inequality. A statistically significant correlation was found also between government expenditures on selected areas of services and HDI. A moderate positive correlation was found between government expenditures on health and social protection and HDI ( $p < 0.01$ ) and a moderate negative correlation between government expenditure on housing and community amenities and HDI ( $p < 0.05$ ).

It can be said that already realized research, which dealt with the relation between government expenditures and selected economic or socioeconomic indicators, e.g. Caminada, Goudswaard (2012); Anderson et al. (2016); Meričková et al. (2017); Sánchez, Pérez-Corral (2018), has reached similar conclusions. Caminada, Goudswaard (2012), who investigated the relationship between total social expenditures and poverty rates across 28 countries (15 EU countries and 13 non-EU countries), in 2003-2007 with the use of regression analysis, found a strong negative relationship between the level of gross public social expenditures and poverty. Countries with higher gross public social expenditure ratios tend to have lower poverty rates than countries with lower expenditure ratios. Research carried out by Anderson et al. (2016) showed a moderate negative relationship between government spending and income inequality, which is strongest for social welfare and other social spending, with using the Gini coefficient. The results from paper by Sánchez, Pérez-Corral (2018), who analyse the relationship between public social expenditures and income inequality distribution in the 28 Member States of the European Union, show a negative correlation between public social expenditures as a whole and income inequality. Meričková et al. (2017) evaluated the relation between the volume and structure of public expenditures and socioeconomic development, represented by the human development index. The research showed that the total amount of public expenditures does not have a significant impact on socioeconomic development; however, public expenditures in “productive” sectors of public services (especially education, health, and social services) have the potential to have a positive impact on socioeconomic development.

#### **4 Conclusion**

Public expenditures plays a significant role in the financing of public services, and it forms a precondition for their development. The paper has aimed to evaluate government expenditures on services in EU countries with emphasis on similarities and differences and in relation to selected socioeconomic indicators. The research was carried out for the period 2008-2017, with using cluster and correlation analyses on a set of 28 EU countries.

The results of cluster analysis showed a similar volume and structure of government expenditures on services between EU countries, but also marked differences between government expenditures. The highest similarity of government expenditures on recreation and culture was found between countries in the first cluster (BE, AT, FI, SE) and the third cluster (LU, NL, ES, PL). By contrast, the largest differences manifested in the volume of government expenditures on social protection and health between the countries in the first cluster, with a high economic level (FR, FI, DK) and the second cluster, with a lower economic level (LV, RO, BG, CY). These differences are associated with not only different economic levels of the countries but also goals and priorities of the respective public policies. Using correlation analysis, the relation between government expenditures on services and selected socioeconomic indicators was statistically tested. The results showed a negative relation between government expenditures (on social protection, health, education, recreation and culture) and social exclusion and income inequality, but a positive relation between government expenditures on (social protection, health, education) and socioeconomic development evaluated by the Human

development index. In connection to the results found, the topic for further research can be the evaluation of government expenditures by other functions and their impact on economic and socioeconomic indicators with the application of regression analysis and data envelopment analysis.

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# Internal Communication in the Institutions of Territorial Self-Governing

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## Abstract

*In the paper, we use mostly the method of comparison, through which we compare the theoretical definition of the issue in question to its practical implementation. In the empirical part, we have used the instrument of a questionnaire as a form of quantitative research. The questions in the questionnaire were in a form of open, closed, and scale questions. We have subsequently evaluated the scaling questions through calculating an average. We have used the statistical, mathematical calculation of the average of individual instruments and forms of internal communication for each municipal office. To calculate the averages related to the used forms of internal communication, we have used scale questions, where we have measured intensity of their usage among the respondents on a scale from one to five. The aim of the article is to analyse internal communication of the selected public institutions – municipal authorities of Bratislava, Trnava, Trenčín and Nitra with regard to the use of communication tools of internal communication. Through the questionnaire survey, we have found out that the heads of the selected municipal offices use mainly meetings, discussions with employees, formal meetings and consultations in the internal communication. All the municipal offices use intranet as a tool of impersonal communication. As regards the informal instruments of internal communication, the municipal offices organize joint consultations of several departments, informal meetings between the office management and employees, team activities, and seminars. As the heads of the municipal offices have stated, the surveyed authorities can be characterized on the basis of the set strategy and objectives, informal meetings, and public relations.*

**Keywords:** Internal communication, municipal offices, local self-government, Slovak Republic

**JEL Classification:** H79, M19, Z18

## 1 Introduction

Communication is the base of managing workings and a tool that mediates information and knowledge within each organization. Internal communication is one of the fundamental pillars enabling primary cooperation and especially coordination for the successful functioning of private but also public sector organizations. Through quality and appropriately set internal communication, employees in the organization can work as a unified and effective unit. It is thus the primary link in management processes where it largely depends on how and which communication tools organization uses. In public administration is communication an essential working tool for employees and the manager itself. Regular and up-to-date public awareness of the activities of the authorities is a natural starting point for the positive perception of individual public administration entities. The frequency of using the word communication has never been as high as it is in present. The spectrum of its usage is really wide, from describing the essence of managing a large, complex unit (organization, company, community of people) up to a euphemism for a common human conversation. Quality communication is one of the basic elements that allow functionality and viability of every organization. It is something that cannot be missing in any system (if it is to exist successfully) created by people (Mikulaščík, 2010). Our main reason to write the paper on this topic was that communication within a municipal office has become increasingly important as a result of a constantly growing competitive environment. Offices, which, until recently, did not need to manage the organization of internal information flows, have increasingly started to deal with them and try to improve them. This is also connected to a growing attention that companies pay to their employees, building their image as high-quality and perspective employers, and a need for more efficient internal processes. In the world today, a better functioning within a company leads to a competitive advantage and satisfied customers (Fiedler-Horáková, 2005). The main objective of the paper is to analyse internal communication of selected

public institutions – municipal offices of Bratislava, Trnava, Trenčín, and Nitra with regard to the usage of communication instruments of internal communication. In the theoretical part, we will focus on importance and essence of internal communication in practice and, subsequently, we will proceed to the comparison of the municipal offices in the analytical part.

### **1.1 The essence and importance of internal communication for municipal offices**

In-house – internal communication plays an important role in the communication process. Internal communication is one of the youngest types in the category of communication. From the practical application point of view it is a very frequently used form of communication and, from the theoretical point of view, it is well defined. Company employees communicate all the time, whether they realize this fact or not. Communication is one of the key factors of how the public assesses the quality of functioning of a company (Ďurková – Málíková, 2011). Communication inside a company can only be successful if both sides involved in communication – management and the rest of the employees – put an effort towards its success. Within this process, they have to be able to notice personal interests that influence the quality of communication process and reverse the level of their impact on reactions and opinions of the communication participants. Internal communication takes place between people and therefore it is necessary to take into account that personal dimensions will always be an intrinsic part of it (Mikulaščík, 2010).

In the internal environment of an office, communication is the main instrument of transmitting internal information, experience, knowledge, principles, and norms, and for this reason it constitutes the basic pillar of internal culture and also the main pillar of management of the office. Nowadays, no municipal office or its employee could work without communication and, thus, we can state that a constant exchange of information is an integral part of municipal office performance. Information is the foundation of managing a public institution (Holá, 2006). Communication in management is understood as the transmission and reception of messages, creating a relationship between two or more subjects. Message is everything that could be a subject of communication – verbal and non-verbal matters (Ďurková, 2011). Communication is the basic form of social interaction between people. It could be characterized as a specific kind of social communication realized inside a company and influencing relationships between people within the company as well as between the company and its external environment (Harausová, 2013). If we say that internal communication is a specific kind of social communication, then we classify its main types as: - intrapersonal communication that represents a dialogue of an individual, or internal monologue (it reflects perception and feelings of an individual towards a certain social reality), - interpersonal communication, meaning communication between two or more people (it could involve different forms as, for example, expressions and dialogue), - public, mass communication, whose communicator passes a message to a wider audience (means of mass communication being newspapers, magazines, books, television, internet, radio), the communication in subject is characterised by a formal character and a lower possibility of feedback. (DeVito, 2008).

As Karanges et al. (2015) state, internal communication represents an important function within public relations and fulfills two main roles: provision of information and creation of community within organization, between superiors and employees and among employees. Research conducted by the authors points out the fact that internal communication represents the main factor of influencing the commitment of employees in a selected organization. It has a positive impact, provides fulfillment in work, involves employees in decision-making, increases their productivity, and improves organization image and financial revenues. The authors Jimenez-Castillo and Sánchez-Pérez (2013), who describe two approaches within the characterization of internal communication, bring another view of the researched issue. The first approach is the perception of internal communication as a strategic perspective oriented at internal market and as an operative perspective as a part of marketing mix of the organization/territory. The second approach is the orientation on the market, where information about the market based on the internal communication is spread both horizontally and

vertically within a single organization. Yeomans (2007) sees internal communication as a way of addressing office employees without using indirect communication channels (media). He stresses that in this case, the employees should be viewed as the public (customers/citizens), while preferring bottom-up communication

Communication and information constitute the basis for conducting all managerial functions and processes. Hereby, it is necessary to realize that a person spends majority of their life at work. In order to be able to perform well at work, people need to communicate properly with each other and need a well-functioning communication. (Vymětal, 2008). Communication at a public office represents a diverse system of in-house informal and formal communication flows and networks, through which run the information, experience, and knowledge that influence performance of work tasks and, consequently, also the strategic goals of the office. It is important that appropriate conditions for achieving company objectives on all levels of management be established through communication (Geciková, 2012). Mazzei (2014) in his study speaks of internal communication as of a sum of interactive processes aimed at generating intangible assets: knowledge of working procedures and active commitment of the employees of the office. Skills, behavior, and social status of the employees also generate communication networks and relationships in individual departments of an organization.

However, internal communication should, on the contrary, allow an efficient connection between all employees of an institution in a way that would create corresponding conditions for mutual understanding and cooperation, which eliminates formal performance of duties. Through communication, employees clarify and form their opinions on all activities of the office. It is important that it is not the amount of information, but its value, quality, and the chosen form of communicating that is the decisive factor (Sulíková, 2012). From the view of quality of internal communication, its content is a significant aspect. It is important for the content of internal communication to contain - vision, strategy, and objectives of the company, - company values, - successes and failures of the company, rules of remuneration and care for employees, - important features of company culture, - desirable, as well as undesirable, behaviour of employees. From the content of internal communication, it is possible to define crucial factors or actors of this type of communication. If we assume that internal communication should, with the lowest possible costs, provide connection between all employees, then all employees of an office must be the actors of communication. Their role and significance in this process grows proportionally to their status in the company hierarchy and also to the level of their ability to influence others (Lukáč – Fibová, 2015).

It is also necessary to see a difference between a subject and an object of communication. The subject comprises the elected bodies of a city and the head of the office, as well as the managers on all levels of company management, and the internal communication specialists, if the municipal office employs any. The object of internal communication is represented by the target groups, which are affected by the communication, such as the employees and the surrounding environment, e.g. their family or place where they live. Although some authors only include present employees in the internal environment, we are of an opinion that former employees, as well as potential employees and organizations representing employees should also be included in the target group because of the persisting socio-economic ties (Ondrušek – Mika, 2012).

## **2 Methodology and Methods**

Within our paper, we have conducted a quantitative research aimed at analysing internal communication instruments used in the selected municipal offices. For the analytical part itself, it is necessary to process theoretical definition of internal communication, its essence and role, as well as its instruments and forms. The theoretical area, based on a domestic and foreign specialized literature, is concurrently compared to its practical implementation. As respondents, we have chosen the heads of municipal offices, who answered our predefined questions in an on-line questionnaire survey. Research sample consists of the heads of selected municipal offices in the local self-governments of Bratislava, Trnava, Nitra, and Trenčín. We have selected the respondents of our survey deliberately,

as we have addressed four municipal offices in the area of Western Slovakia. According to the Act No. 369/1990 Coll. on Municipal Establishment, the heads of the municipal offices are responsible for the organization of the office, manage work activities and tasks of the employees, decide the number of employees, establish organization rules of the municipal office. They also directly manage the assigned organizational units of the office (sections, departments, divisions, offices, etc.) and coordinate their professional and methodological activities. Based on the stated facts, we have chosen the heads of the surveyed municipal offices as our research sample, as their competences and knowledge correspond to the level needed to respond our questionnaire.

In the paper, we thus use mostly the method of comparison, through which we compare the theoretical definition of the issue in question to its practical implementation. In the empirical part, we have used the tool of a questionnaire as a form of quantitative research. The questions in the questionnaire were in a form of open, closed, and scale questions. We have subsequently evaluated the scale questions through calculating an average. We have obtained information about the internal communication instruments and forms of informal communication that are used most frequently by the employees of the municipal offices.

We have used the statistical, mathematical calculation of the average of individual instruments and forms of internal communication for each municipal office. To calculate the averages related to the used forms of internal communication, we have used scale questions, where we have measured intensity of their usage among the respondents on a scale from one to five. The value one represented the most used and the value five the least used form of internal communication. The respondents have assigned the value of their response to individual forms according to the scale. We have numerically formulated and calculated individual answers of the respondents using an allocated coefficient in a data matrix in the MS Excel. We have added up the resulting figures. We have obtained the average by dividing the resulting figures by the total number of the respondents, in our case by number 4. Because the value one represents the most used forms, the lowest average describes instruments that are used most frequently.

### **3 Results and Discussion**

To facilitate the information flow, companies create communication networks (models of communication channels). Forms of communication processes are planned, regulated and predetermined with a defined budget and personal responsibilities. They contain channels for communication in different directions – downwards, upwards, and horizontally. Each direction serves a certain purpose and is, in its own way, unique in its essence, content, but also limitations (Nagyová et al., 2012). Top-down formal communication is a type of communication, where information is passed from a higher level - the superiors, to the lower level – the subordinates. It could be oral (orders, interviews, meetings) or written (regulations, letters, manuals). It is a highly significant factor of allocation of tasks and specification of duties for individual members of a group in a company. Through the top-down communication, the following types of information flow: - work directives, - information serving as a tool to understand a task and its relation to other tasks in a company, - information about economic and social policy of a company, - information about the mission of a company, - feedback from the subordinates about fulfilling the tasks in a company (Ďurková, 2011).

The significance of internal communication and communication roles is growing also in the connection to the accession and integration of the Slovak Republic into the European Union. Slovak companies must accept many norms and rules that have a direct impact on businesses (Szarková, 2008). Instruments of internal communication are classified according to two aspects, which are the instruments of vertical communication bottom-up and instruments of vertical communication top-down. The most used are the instruments of vertical communication top-down, such as meetings, seminars, notice boards, company radio, letters, written instructions, directives, internet, e-mail, informal events (balls, parties, sports days). As we have mentioned above, we sent the online questionnaire to the heads of selected municipal offices of Bratislava, Trnava, Trenčín, and Nitra.

They are all regional capitals in the western Slovakia. In Table 1, we present socioeconomic characteristics of the researched cities.

**Table 1 – Socioeconomic indicators of the researched municipalities**

<i>Indicators</i>	<i>City of Bratislava</i>	<i>City of Trnava</i>	<i>City of Nitra</i>	<i>City of Trenčín</i>
<i>Area of the city (ha)</i>	36 763	7 154	10 048	8 200
<i>Population density/1 km<sup>2</sup></i>	1 168	914	767	677
<i>Population (31.12.2018)</i>	432 864	63 924	78 559	54 705
<i>Moved in</i>	14 675	1 061	1 113	875
<i>Unemployment rate (May 2019)</i>	0,70 %	2,16 %	2,07 %	1,76 %
<i>Economically active population</i>	246 947	66 262	82 895	57 948
<i>GDP of region in mil € (2017)</i>	23 727	9 519	9 273	7 602
<i>Life expectancy at birth for men (2017)</i>	75,56	74,13	72,90	74,50
<i>Life expectancy at birth for women (2017)</i>	81,59	80,23	79,77	81,27
<i>City mayor</i>	Matúš Vallo	Peter Bročka	Marek Hattas	Richard Rybníček
<i>Head of municipal office</i>	Ctibor Košťál	Katarína Koncošová	Ján Odzgan	Jaroslav Pagáč
<i>Number of employees of MO</i>	600	217	196	183

Source: Regional Statistical Yearbook of Slovakia, 2018

In the Table 1, we have shown socioeconomic data and basic information about the municipalities that took part in our questionnaire survey. As we have stated before, the respondents are the employees of the cities – heads of municipal offices, which are described as the executive authorities of local self-government. In the Table 2, we offer responses from the questionnaire survey. These are the basic information about the respondents related to the performance of their duties.

**Table 2 – Respondents' answers in the questionnaire survey**

<i>Surveyed areas – questions for respondents</i>	<i>Municipal Office Trnava</i>	<i>Municipal Office Bratislava</i>	<i>Municipal Office Trenčín</i>	<i>Municipal Office Nitra</i>
<i>How many years have you been working as a head of municipal office?</i>	one year	one year	five years	one year
<i>Approximately how many employees work at your municipal office?</i>	217	600	183	196
<i>Do you address the issue of internal communication in the municipal office?</i>	yes, regularly	yes, regularly	yes, regularly	yes, regularly
<i>Do you use intranet in internal communication of the municipal office?</i>	yes, regularly	yes, regularly	yes, regularly	yes, regularly
<i>How often do you carry out formal work meetings with employees?</i>	Every day	Several times a week	Several times a week	Every day

Source: own elaboration

In the following part of the paper, we will provide the results of the survey conducted in the four selected municipal offices. The heads of the offices gave their responses to the questions using a scale from 1 to 5, indicating the intensity of using particular instruments of internal communication, while 1 represented the most used instrument and 5 – the least used instrument. This means that the lower the average of the indicator, the more frequent its implementation. In the Table 3 we present the instruments of internal communication in order of their rate of use.

**Table 3 – Instruments of internal communication used in the surveyed municipal offices**

	<i>Communication instrument</i>	<i>Average</i>		<i>Communication instrument</i>	<i>Average</i>
1.	Meetings	1.50	8.	Informal meetings, roundtables	3.50
2.	Discussions	1.75		Instructions, letters	3.50
3.	Consultations	2.00		Notice board (classic)	3.50
	Formal meetings	2.00	9.	Written circular	3.75
4.	Directives, regulations	2.25		Municipal office radio	3.75
	Electronic notice board	2.25	10.	Videoconferences	4.00
5.	Telephone conversation	2.50	11.	Office bulletin	5.00
6.	Personal conversation	2.75		Municipal office newspaper	5.00
7.	Surveys of employees' opinions	3.00			

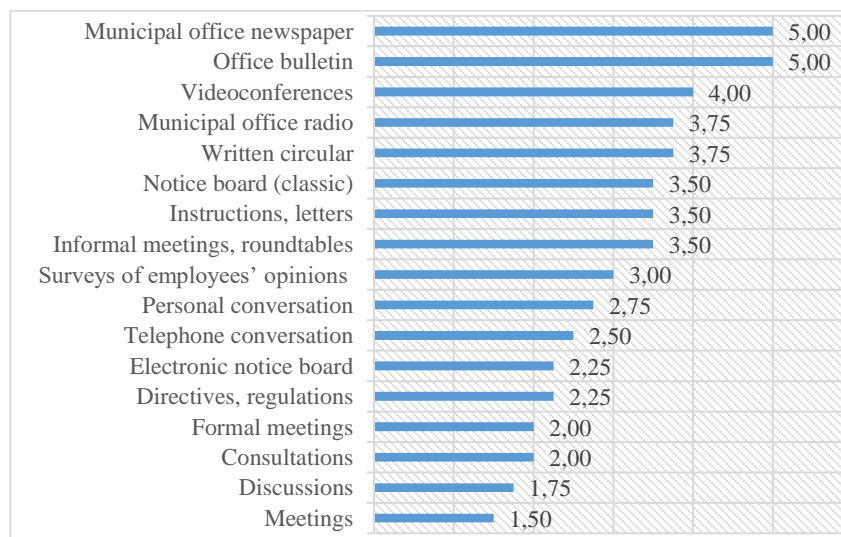
Source: own elaboration

The table shows that the most frequently used instruments of internal communication are the meetings, discussions, consultations, and formal meetings. Work meetings are an essential part of the coordination of work activities, organization of tasks, or solving specific problems, such as the quality or the issue of innovation process. Work meetings differ by the number of meeting participants, the rate of interaction between the participants, the quality and amount of information, and also the issue raised (Matúš, 2008).

On the contrary, the least used instruments of internal communication in municipal offices are videoconferences, office bulletins, and newspapers. Newspaper or a magazine published mainly for the office employees would be a very suitable instrument to continuously inform the employees about the objectives of the municipal office (including the strategic objectives), work of the management, as well as cultural and sports events organized within the institution. Through an appropriately chosen content, they can be not only an informational but also motivational medium. Further, we offer a graphic illustration of the internal communication instruments usage (Priečková, 2010).

**Figure 1 – Calculated average of the internal communication instruments used in municipal offices**

Source: own elaboration



Another very useful instrument is the survey of employees' opinions. Although it is quite a time-consuming and costly way of obtaining feedback, the results of such a survey are of a high informational value. It is also an opportunity for the employees to express their opinions that help in

gathering prerequisites for realizing a certain change in, e.g. the organizational structure of a company, means of motivation, remuneration, or innovation process, etc. A municipal office should conduct a survey of employees' opinions when it is planning to eliminate assumed shortcomings that a survey can confirm. The most frequently used method of the survey is the method of questioning, mainly in a written form of questionnaires and, in some cases, also oral, telephone questioning or using the internet.

Within every organizational structure, informal structures with their own communication arise. Informal groups emerge spontaneously, based on common or similar values, needs, place of activities, or frequent contact at the workplace. Communication within an informal group is also informal (Matúš, 2008). This communication has its own sources of information and channels through which information is shared. Communication network of this type respects the informal structure. This way, the spread of information is usually fast, flexible, and operative. In the Table 4 we present forms of informal communication in the selected municipal offices.

**Table 4 – Forms of informal communication used in the surveyed municipal offices**

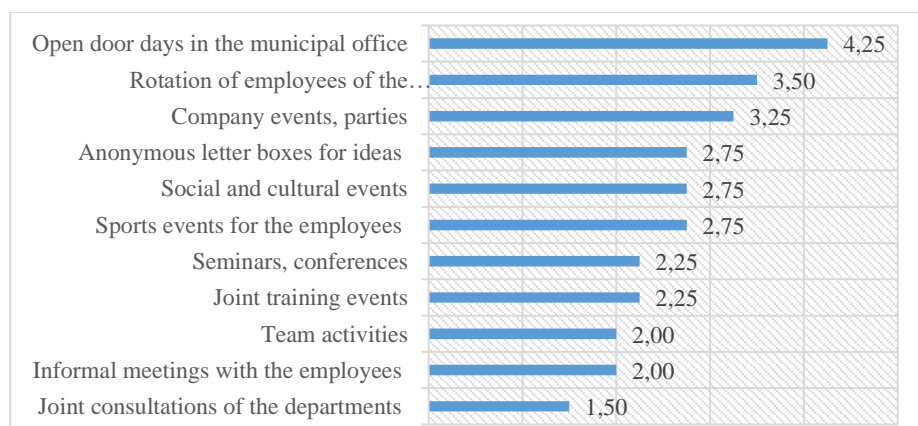
	<i>Forms of informal communication</i>	<i>Average</i>		<i>Forms of informal communication</i>	<i>Average</i>
1.	Joint consultations of the departments	1.50		Social and cultural events	2.75
2.	Informal meetings with the employees	2.00		Anonymous letter boxes for ideas	2.75
	Team activities	2.00	5.	Company events, parties	3.25
3.	Joint training events	2.25	6.	Rotation of employees of the municipal office	3.50
	Seminars, conferences	2.25	7.	Open door days in the municipal office	4.25
4.	Sports events for the employees	2.75			

Source: own elaboration

The results of the survey show that the most frequently used forms of informal communication in the municipal offices are joint consultations of the departments and informal meetings with the employees or team activities. On the other hand, the least used forms are the rotation of employees and open door days. However, in this type of communication, credibility and truthfulness of information is rarely verified, there is no guarantee of its completeness or objectivity (Kravčáková, 2013). This leads to a question – why do employees exchange information in an informal way, when they have formal channels that capture all directions of informational flow? It is mostly due to the fact that they place no demands on their partners. Figure 2 also illustrates the average of the forms of informal communication used in the municipal offices.

**Figure 2 – Forms of informal communication used in the surveyed municipal offices**

Source: own elaboration





Internal communication comprises the communication of the municipal management with their employees and the communication between the employees themselves. The flow of information is provided in several different ways. In the area of internal communication of the surveyed self-governing units, we distinguish between two basic groups, the first group being the employees of the municipal office and organizations established by the municipality and the second group the city council members. In the table 5, we show the specificities of the organizational structures of the surveyed municipal offices.

**Table 5 – Characteristics representing organizational structures of the surveyed municipal offices**

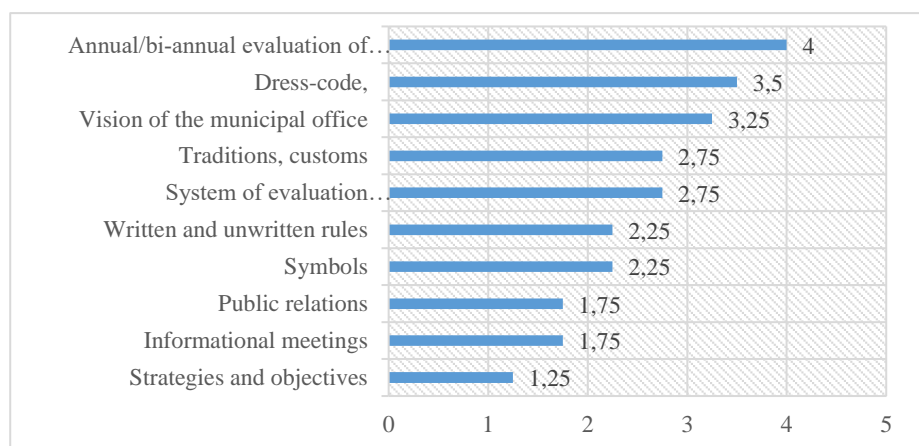
	<i>Characteristic elements</i>	<i>Average</i>		<i>Characteristic elements</i>	<i>Average</i>
1.	Strategies and objectives	1,25	4.	System of evaluation (Motivational discussions)	2,75
2.	Informational meetings	1,75		Traditions, customs	2,75
	Public relations	1,75	5.	Vision of the municipal office	3,25
3.	Symbols	2,25	6.	Dress-code,	3,50
	Written and unwritten rules	2,25	7.	Annual/bi-annual evaluation of the employees	4,00

Source: own elaboration

The table 4 clearly shows that typical elements of organizational structures of municipal offices are the strategies and objectives, informational meetings, and public relations. On the other hand, the least characteristic elements are the dress-code and annual evaluation of the employees. As regards the dressing of the employees, which is also a certain type of internal communication, the employees do not have a mandatory dress-code. Business-code is a rule during the city council assemblies, city board meetings, receiving official visits, mainly by the mayor, the head of municipal office, and the top managers. Building relationships and improving a team spirit in an organization is achieved through informal events, such as Christmas party or sports activities.

**Figure 3 – Characteristics representing organizational structures of the surveyed municipal offices**

Source: own elaboration



Building on the aforementioned results of the questionnaire survey, we find it important to emphasise that the decisive factor influencing the standard of internal communication is the top management; in the conditions of local self-government, we are talking about the head of the municipal office, who as an employee of the city manages all activities of the municipal office. For this reason, it is vital that this manager realizes the importance of communication and its patterns and, on the basis of a rigorous and comprehensive knowledge, creates space for its development. The top management is

the initiator of communication processes as well as the designer of formal communication channels. It defines the style and rate of openness and the overall character of internal communication, thus influencing the whole culture of the organization. It is, in a way, the central point of communication inside the office – it receives, processes, and transmits information and participates in building the communication network. Members of top management should realize the importance of an open and regular sharing of information with their employees and see the feedback as a vital instrument of gaining relevant information and controlling the comprehension and reception of communication intents (Matúš, 2008, p. 92).

#### **4 Conclusion**

To conclude, we could state that we regard the meetings at different levels of management of the municipal offices in the surveyed cities especially important. The objective of the paper was to analyse internal communication in the selected public institutions – municipal offices of Bratislava, Trnava, Trenčín, and Nitra in the light of their use of internal communication instruments. The local self-governments regularly - each week hold weekly meetings of the mayors with the managing staff. First Monday of a month, the mayor carries out a big monthly meeting with the managers and directors of subsidised organizations in the city. Smaller consultation meetings are held on an on-going basis when necessary. Meetings of the head of the office are also being called as needed and, depending on the discussed issue, in the presence of managing staff or employees of individual departments. Heads of municipal offices in Trnava and Nitra stated that they organize work meetings with their employees every day, while the heads of the municipal offices in Bratislava and Trenčín said they do it a few times a week.

A big disadvantage of a managerial position as a head of the municipal office is that it is replaced more often than in the private sector, where a manager is not so strongly influenced by the director of the company, as is the case of a municipal office after an election of a new mayor. Respondents further stated that they deal with internal communication within the municipal office regularly. The most frequently used instrument of internal communication in the surveyed municipal offices is a consultation meeting. In what spirit the meeting is held and whether it brings desired results is dependant on the character features of the person leading the meeting. It is also vital that everybody involved is informed on time about the rules of successful completion of the tasks and projects. Just like every other self-government, the surveyed self-governments work with a vast quantity of information. These data are available through intranet, where the employees can find information about what is currently happening, read reports from meetings, access strategic documents and generally binding regulations, etc. In self-governments, we can find not only the communication from the superiors towards their subordinates, such as consultations, instructions, directives, and orders of the mayor. This communication is also described as the vertical communication. In the selected self-governments, we have also noted horizontal communication, which is characterized by sharing of information at the same level, like, for example, meetings of heads of the departments.

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# Use of Multi-criteria Decision Making Method for Calculating of Secondary School Efficiency: the Case of Vocational Secondary Schools in the Pardubice Region

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## Abstract

*Multi-criteria decision making techniques are extensively used in selecting the best alternative among the available options, assessed according to selected criteria. It is a suitable tool for evaluating and comparing schools because school efficiency measurement can be seen as a decision-making problem. The aim of this paper is to evaluate vocational secondary schools established by the Pardubice Region using appropriate selected criteria describing efficiency and then rank the schools according to these criteria. We chose suitable criteria which are mainly based on pupils' demand and demand for skilled workers in the labour market. We used the Weighted Sum Method for our analysis. The resulting order of schools ranked according to their efficiency shows that supported fields should be medical, technical and on the other hand, fields that currently show low efficiency are agricultural or gastronomic fields. Our results might be an inspiration for designing an optimal network of vocational secondary schools in the Pardubice Region.*

**Keywords:** Efficiency, secondary schools, decision making, multi-criteria, weighted sum method

**JEL Classification:** I210, I250, I290, H410

## 1 Introduction

The concept of efficiency relates the outcome of a process to its input. A system is said to be efficient if a maximum output is obtained from given input, or if a given output is obtained with minimum input. The output may either be measured as a goal within the education, such as achievement scores or completion rates, or as a goal outside the education, such as employment probabilities or earnings returns on the labour market (Hanushek and Kimko, 2000).

Ryška (2009) states that, education, as well as other sectors of society, began to focus on the efficiency of processes and outputs in the second half of the twentieth century, when input tracking was replaced by the monitoring and evaluation of outputs. The education sector has traditionally focused primarily on the entry and process characteristics of school education. However, for example, information about spending per pupil could not say anything about the efficiency of using funds.

Evaluation of efficiency in education is most often associated with the idea of the link between spending on one hand and educational achievements on the other. There are various definitions of education efficiency in strategic documents of the OECD countries (ČSI, 2014). The relationship between education performance on one hand and financial allocation on the other (the value-for-money concept) is the most frequently mentioned definition (e.g. in England, Slovakia, Spain, the United States, etc.). Transition through the education system (e.g. in Denmark), consolidation of the school administration system (e.g. in Austria and Finland), and optimization of school size (e.g. in Norway) are less frequently cited education efficiency concepts. In the case of the Czech Republic, the evaluation of efficiency in education is most often cited in connection with the optimization of the network of primary and secondary schools. In the Czech Republic, the most striking problems for achieving higher efficiency in education, specifically in the area of upper secondary education, are as follows.

In recent times, the Czech Republic faces the problem of the lack of pupils of upper secondary schools in terms of school capacity. There is an excess supply (capacity of schools) over demand (number of pupils). This situation is mainly caused by a long-term decline in birth rates when the number of

secondary school pupils is decreasing, but the current inappropriate funding system also plays an important role. All these effects reduce the efficient use of public resources (EDUIN, 2018).

The most frequent problems of upper secondary education are discussed in vocational schools, especially in apprenticeships. In this type of schools, the quality is very low and this education is very uneconomical or inefficient: consumption of high finance without added value in the form of successful graduates. There is high degree of failure in this study, high number of upper secondary school pupils leaving this education system before passing the final exam (EDUIN, 2018). Apprenticeship graduates show the highest unemployment rate in the labour market (Infoabsolvent.cz, 2018). Research POSPOLU (2013) shows that one of the most frequent employers' demands is the practice of applicants. However, apprentices spend little time in the real work environment within their vocational training. Companies complain about the very low practical skills of graduates.

The aim of this paper is to evaluate vocational secondary schools established by the Pardubice Region on the basis of appropriately selected criteria describing efficiency and then rank the schools according to these criteria. We used multi-criteria decision making method (MCDM). The key element of this method is the determination of the weights of the individual criteria. We used the opinion of experts in the field of education for this purpose.

### **1.1 Criteria for evaluating schools**

We chose suitable criteria for achieving the goals based on the research of the approaches of OECD countries in the context of the quality and especially efficiency of education.

The Nordic countries emphasize increasing the proportion of young people achieving secondary or tertiary education in their education policy documents. These countries focus on equal opportunities, which is understood in terms of equal access to high quality education for all regardless of age, gender, origin, language, or other characteristics of the pupils. Attention is also paid to the links between education and the labour market with the declared support to those fields there is demand on the labour market. The basic ambition of Danish education documents is world excellence when contemporary Danish children will be the best educated generation in the country's history. Finland emphasizes the links between education funding and student achievements. Normative funding is partly depends on the achieved educational goals (ČŠI, 2014).

Ireland, Slovakia, Spain, Italy or Poland highlights the need for consistency between educational supply and demand in the labour market and increasing the number of high-quality schools while respecting the support needs of disadvantaged pupils and lagging schools (ČŠI, 2014). The general trend of the reform process of the Polish education system is to strengthen the results-oriented management system (Dabrowski and Wisniewski, 2011).

Germany, Austria, Switzerland and Denmark perceive also an important need for consistency between supply and demand in the labour market. There is a dual vocational training system in these countries. The quality of education is closely related to successful school completion and the transition between levels of education and the transition between education and the labour market (Deissinger and Hellwig, 2005). Germany also focuses on promoting integration into the education of people with a migrant background (ČŠI, 2014).

From the literature review it is obvious that most countries believe that the labour force entering the labour market should be sufficiently trained, should be able to adapt to changing conditions and continue to learn. However, a well-functioning link between the educational sphere and the world of work is essential to enable the school system to respond to the changing demands and needs of the labour market.

The following Table 1 briefly describes the selected criteria for our analysis.

**Table 1 – Selected criteria for the analysis and the reason for their choice**

<b>Criterion</b>	<b>Reason for selection</b>	<b>Minimization (Min) or maximization (Max) criterion</b>
Expenditure on teacher salaries per pupil (2017)	To measure the efficiency of upper secondary schools inputs characteristically include, inter alia, educational expenditure. Teachers' salaries represent the largest single cost in education.	Min
Pupils' interest in the school (development of the number of incoming pupils) (2013-2017)	This criterion represents pupils' interest in attending a particular school. Higher number of incoming pupils will ensure higher efficiency as the capacity of schools will be better utilized.	Max
Pupils' interest in the field (development of the number of applications for the fields of study) (2013-2017)	This criterion represents pupils' interest in attending a particular field. The growth of newly incoming pupils to individual fields can be deduced from the overall development of the character of upper secondary education in the region.	Max
The average success rate in the final exams (2013-2017)	School makes effective higher achievement of pupils level (Murat, Kazan and Coskun, 2015). Almost every study that measures school efficiency uses pupil performance as an output indicator.	Max
Conformity of the completed education (field) and the area of employment of graduates (2016)	We focused on full compliance, which means that graduates work after school in the field (in a group of fields) for which they were prepared directly in the school (NÚV, 2017). The higher value of full compliance indicates the effective use of acquired qualifications in real labour market conditions, conversely high values of gross dissension (low full compliance values) point to some discrepancy between graduate preparation and real labour market needs.	Max
Development of job vacancies by branches (2014-2018)	Pupil subsequent labour market performance is often used as an output in studies that measure efficiency. Larger number of vacancies expresses the greater demand of employers for employees and hence greater chances of job opportunities for graduates.	Max
The probability of automating fields in the future (by 2025)	Czech National Institute for Education calculated the probability of automation threats for individual qualifying groups (for fields of upper secondary schools and also for fields of higher schools) by 2025 in its study (NÚV, 2015). We used these values for individual upper secondary school fields and created the indicator the probability of automating fields in the future. The lower this indicator, the greater the probability of graduate needs in the field and better use of graduates in the labour market in the future.	Min

Source: own processing

## 2 Material and Methods

This study covers all vocational secondary schools established by the Pardubice Region. We have included 34 of these schools with the exception of the conservatory of Pardubice because it has a different status and characteristics. The evaluation period is 2013-2017. All schools in the sample were divided into schools with graduation exam fields (Table 3) and schools with apprenticeships fields (Table 4) for analysis due to different characteristics (different criteria values) between these types of schools. Data on schools and their criteria (described in Table 1) were obtained from the following sources: school annual reports, annual reports on the state and development of the education system in the Pardubice Region, internal materials of the Pardubice Region Department for Education, studies published by the Czech National Institute for Education and data from the Regional Labour Office.

A huge literature about the educational efficiency exists (Davutyan, Demir and Polat, 2010). For measuring efficiency in education some studies use traditional regression (Deutsch, Dumas and Silber, 2013), or a multilevel regression analysis (Fekjaer and Birkelund, 2007). MCDM is also widely used method (Ho, Dey and Higson, 2006; Murat, Kazan and Coskun, 2015). However, Data envelopment analysis (DEA) is the most commonly used (Alexander et al, 2010; Nauzeer, Jaunky and Ramesh, 2018). DEA is the quantitative approach to carry out the performance measurement. This method adopts the linear programming to measure the relative efficiency of homogenous operating units, for instance, banks, hospitals, schools, and so on. The goal is to find out the best practitioner as a model for the others to benchmark, identify inefficiency, and improve their performance.

Kolios et al (2016) state that in contrast to DEA, which aims at an ex-post evaluation of similar units for the purpose of monitoring and control, the objective of MCDM is the ex-ante assessment of a few individual options by explicitly considering the subjective preferences of a decision maker for the purpose of decision support, planning and choice. Unlike the DEA, which is just suitable for the performance measurement, the MCDM techniques are more practical and applicable. Besides, the techniques coincide with real-world situations because the decision problems normally consist of multiple criteria rather than a single objective. For these reasons, MCDM method for our analysis was preferred, specifically we used the Weighted Sum Method (WSM).

Multi-criteria decision making (MCDM) refers to making decision in the presence of multiple and often conflicting criteria. In the real world almost every important problem involves more than one objective, which may be related to economic, social and environmental considerations. When there is more than one objective, and the objectives are non-commensurate, a compromise solution must now be selected on the basis of the decision maker's attitude to achievement of the various objectives.

MCDM is a procedure that combines the performance of decision alternatives across several, contradicting, qualitative and/or quantitative criteria and results in a compromise solution. A MCDM problem may not have a single solution that could optimize all objectives simultaneously. The generally accepted solution of a MCDM problem is said to be a Pareto solution (or non-dominated solution). A Pareto solution is the one for which any improvement in one objective can only takes place if at least one other objective worsens (Kolios et al, 2016). Such solutions are referred to as the best compromise. The final solution of a MCDM problem should be one of the compromise options that can best satisfy the decision-makers' preferences. There are several approaches to obtaining such solutions. Based on the ways of extracting the decision maker's preference information and using it in decision analysis processes, the MCDM methods can be divided into three main categories (Marler and Arora, 2004):

First, methods with a priori articulation of preferences which allow the designer to specify preferences according to relative importance of different objectives include, for example, the weighted sum method we used. Second, there are methods for a posteriori articulation of preferences when decision maker express an explicit approximation from a range of solutions and thirdly, there are methods with no articulation of preferences.

Weights are used to establish preferential relationships between options in dependence on decision-making objectives. In general, the more important the criterion, the higher is weight of this criterion. As a rule, weights of criteria are standardized so that their sum is equal to one. The criteria weights determination methods could be classified into two main groups, namely objective approaches and subjective approaches. In the objective approaches, criteria weights are derived from information contained in each criterion through mathematical models (without decision makers intervention). In subjective approaches, criteria weights are derived form decision makers subjective judgment (Aldian and Taylor, 2005).

The problems with MCDM methods are generally a selection problem whereby one attempts to select the best or optimal alternative from a pre-specified but finite set of alternative. Selecting a particular



method depends on the characteristics of a problem, and is also partly based on the decision maker's preference. According to Kolios et al (2016) the weighted sum model/method (WSM) is probably the most commonly used approach, especially in single dimensional problems. This method is suitable for our analysis. Using the WSM to solve a problem entails selecting scalar weights  $w_i$  and optimizing the following composite objective function (Aldian and Taylor, 2005):

$$S_i = \sum_{j=1}^n c_{ij}w_j \quad (1)$$

or

$$\begin{bmatrix} S_1 \\ S_2 \\ \vdots \\ S_m \end{bmatrix} = \begin{bmatrix} c_{11} & c_{12} & \dots & c_{1n} \\ c_{21} & c_{22} & \dots & c_{2n} \\ \dots & \dots & \dots & \dots \\ c_{m1} & c_{m2} & \dots & c_{mn} \end{bmatrix} \times \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_n \end{bmatrix} \quad (2)$$

where  $S_i$  is appraisal score for alternative  $i$ ,  $c_{ij}$  is the score of alternative  $i$  with respect to criteria  $j$  and  $w_j$  is the weight of criteria  $j$ . It implies that the higher the value of  $S_i$  the higher is the rank.

Using this method, we work with the weights of the individual criteria, which are either given or estimated appropriately. In our case, the weights of the individual criteria were set by experts. We have set weights  $v = (v_1, v_2, \dots, v_7)$  for 7 maximization criteria. Minimization criteria we transferred to the maximization criteria. The weighted sum method then maximizes the weighted sum (Formula number 1 or 2).

We have gained an opinion on weighting from 3 experts (director of the vocational secondary school - Expert 1, the expert in education - Expert 2 and the representative of the Pardubice regional self-government in education department - Expert 3). To determine the weights of the criteria we used the rank-based method which is applied primarily in cases where more than one decision maker evaluates these weights (Sureeyatanapas, 2016).

Every expert has ranked the criteria from the most important to the least important. The most important criterion was assigned 7 points (7 is the number of criteria) and each less important criterion 7-1 points. The least important criterion got only 1 point. The weight of each criterion is determined by the sum of the points it has received from each of the experts, and by dividing those points by the total number of points that the experts have divided among all the criteria. The criterion weighting relationship looks like this (Šubrt, 2011):

$$w_j = \frac{b_j}{\sum_{j=1}^n b_j} \quad (3)$$

where  $w$  is the weight of the criterion,  $n$  represents the number of criteria,  $b$  expresses the number of the criterion evaluated and  $j = 1, 2, \dots, n$ .

Table 2 presents the criteria used, their ranking determined by the expert opinions, and the calculated weights by the rank-based method.

**Table 2 – The ranking of the criteria set by experts and the calculated weights by the rank-based method**

Criterion	Expert 1	Expert 2	Expert 3	Weights
Expenditure on teacher salaries per pupil (2017)	4	5	6	0.107
Pupils' interest in the school (development of the number of incoming pupils) (2013-2017)	5	3	3	0.155
Pupils' interest in the field (development of the number of applications for the fields of study) (2013-2017)	6	4	4	0.119
The average success rate in the final exams (2013-2017)	7	1	1	0.179
Conformity of the completed education (field) and the area of employment of graduates (2016)	2	2	5	0.179

Development of job vacancies by branches (2014-2018)	1	7	2	0.167
The probability of automating fields in the future (by 2025)	3	6	7	0.095

Source: own calculation based on expert opinions

Experts' opinions on the importance of criteria weights vary. They attribute the highest weight on average to the average success rate in the final exams and to conformity of the completed education (field) and the area of employment of graduates. The greatest difference in importance is attributed to the average success rate in the final exams where the Expert 2 and Expert 3 evaluate this criterion as the most important and, on the other hand, this criterion is the least important for Expert 1. Criterion of the probability of automating fields in the future has on average received the lowest weight, according to experts, because of the uncertainty of prediction.

### 3 Results and Discussion

After obtaining and calculating the weights for each criterion, we calculated the weighted sum value individually for all vocational secondary schools in our sample and then we determined their order. The results of our analysis are shown in Table 3 and Table 4.

**Table 3 – The final ranking of vocational secondary schools with graduation exam fields by WSM**

Ranking	Vocational secondary school (fields with graduation exams)	WSM value
1	Secondary medical school, Svitavy	0.669
2	Secondary medical school, Pardubice	0.630
3	Higher vocational school and Secondary medical and social school, Ústí nad Orlicí	0.629
4	Higher vocational school and Secondary technical school, Česká Třebová	0.620
5	Secondary school of electrical engineering and Higher vocational school, Pardubice	0.592
6	Secondary medical and social school, Chrudim	0.552
7	Higher vocational school and Secondary school of civil engineering, Vysoké Mýto	0.551
8	Business academy, Chrudim	0.550
9	Secondary automotive school, Holice	0.543
10	Secondary automotive school, Ústí nad Orlicí	0.542
11	Industrial secondary school, Letohrad	0.528
12	Business academy and language school with the right of state language exam, Pardubice	0.510
13	Higher vocational school of education and teacher's training school, Litomyšl	0.510
14	Secondary industrial school, Chrudim	0.498
15	High school of chemistry, Pardubice	0.471
16	Business academy and Secondary school of tourism, Choceň	0.471
17	Secondary school of agriculture and veterinary, Lanškroun	0.466
18	Integrated secondary technical school, Vysoké Mýto	0.429
19	Secondary school of civil engineering, Pardubice	0.427
20	Secondary vocational school of trade and services, Chrudim	0.409
21	Secondary vocational school, Svitavy	0.393
22	Secondary industrial school of food, Pardubice	0.393
23	High school of horticulture and technical, Litomyšl	0.392
24	Integrated secondary technical school, Moravská Třebová	0.373
25	Secondary technical school of mechanical engineering, Třemošnice	0.366
26	Secondary School of business, crafts and services, Žamberk	0.359
27	Secondary school of applied arts, Ústí nad Orlicí	0.356
28	Secondary technical school, Králíky	0.274
29	Secondary apprentice college for the gas industry and plumbing, Pardubice	0.261

30	Secondary technical school and Secondary vocational school, Lanškroun	0.234
31	Secondary school of agriculture and Higher vocational school, Chrudim	0.230
32	Secondary technical school and Secondary vocational school, Polička	0.220
33	Secondary agricultural school, Chvaletice	0.212

Source: own calculation according to Aldian and Taylor (2005) described weighted sum method

In the case of vocational secondary schools with graduation exams, medical schools are most effective according to the analysis. There was a growing interest in the study of this field by pupils during the monitored period. Conformity of the completed education (medical field) and the area of employment of graduates is high, and there has been a relatively large number of vacancies, especially for nurses. Currently, there are no satisfied nurses in the Czech Republic especially due to wage conditions. Medical fields are threatened by the low level of automation in the future. According to Frey and Osborne (2017), it is a profession that, within the framework of social, organizational, physical, creative or intellectual requirements, it will not be possible to simply digitize or automate.

Technical schools, which are high number in the Pardubice Region, are characterized by high variability in terms of efficiency. A common feature for these schools is the long-lasting high demand of employers for technical, especially engineering, electrical engineering, chemical graduates, or graduates in transport and construction industry.

According to the analysis, agricultural schools ranked low. Interest in the study of this field by pupils is declining during the monitored period and pupils achieve low results at school-leaving examinations. Graduates often do not work in the field of study, mainly due to low demand for agricultural workers from employers in Pardubice Region. This low demand also results in low number of vacancies in agriculture.

**Table 4 – The final ranking of vocational secondary schools with apprenticeships fields by WSM**

<b>Ranking</b>	<b>Vocational secondary school (apprenticeships fields)</b>	<b>WSM value</b>
1	Integrated secondary technical school, Vysoké Mýto	0.670
2	Secondary industrial school, Chrudim	0.638
3	Secondary vocational school, Svitavy	0.616
4	Secondary technical school of mechanical engineering, Třemošnice	0.600
5	Industrial secondary school, Letohrad	0.596
6	Secondary school of agriculture and Higher vocational school, Chrudim	0.521
7	Secondary technical school, Králíky	0.503
8	Secondary school of civil engineering, Pardubice	0.501
9	Secondary technical school and Secondary vocational school, Lanškroun	0.500
10	Secondary school of horse breeding and horse riding, Kladruhy nad Labem	0.481
11	Secondary automotive school, Ústí nad Orlicí	0.478
12	Secondary medical school, Pardubice	0.472
13	Higher vocational school and Secondary technical school, Česká Třebová	0.455
14	Secondary automotive school, Holice	0.452
15	Secondary agricultural school, Chvaletice	0.450
16	Secondary school of electrical engineering and Higher vocational school, Pardubice	0.437
17	Secondary School of business, crafts and services, Žamberk	0.420
18	Higher vocational school and Secondary school of civil engineering, Vysoké Mýto	0.412
19	Integrated secondary technical school, Moravská Třebová	0.399
20	Secondary industrial school of food, Pardubice	0.387
21	Secondary apprentice college for the gas industry and plumbing, Pardubice	0.384
22	Secondary vocational school of trade and services, Chrudim	0.372
23	Business academy and Secondary school of tourism, Chocẽň	0.356
24	Secondary technical school and Secondary vocational school, Polička	0.346

25	High school of horticulture and technical, Litomyšl	0.335
26	High school of chemistry, Pardubice	0.328
27	Secondary school of applied arts, Ústí nad Orlicí	0.301

Source: own calculation according to Aldian and Taylor (2005) described weighted sum method

In terms of apprenticeships, the vast majority of schools offer technical fields. This is related to the nature of the economy in the Pardubice Region, which is industrial.

Compared to schools with graduation exams, apprenticeships of agriculture fields achieve a higher degree of efficiency. There is an increase in the number of incoming pupils in these schools and pupils achieve good results in final examinations. However, agricultural industries face a high degree of automation in the future and the demand for agricultural graduates from employers is low (similarly to graduates with graduation exams).

Gastronomic and food fields (Secondary School of business, crafts and services, Žamberk; Secondary industrial school of food, Pardubice; Secondary vocational school of trade and services, Chrudim; or Secondary technical school and Secondary vocational school, Polička) - fields with graduation exams as well as apprenticeships fields - are characterized by low efficiency. The labour market is already saturated of these workers, it means that there are few vacancies and low conformity of the completed education (field) and the area of employment of graduates. According to Katrňák (2004), pupils of gastronomic and food fields have a low motivation to complete their studies (they do not enjoy their studies) and after school they often work in a different field. These fields have also higher risk of automation in the future.

In recent years, the number of upper secondary school pupils has been decreasing due to demographic trends and some fields show a significant decrease in the interest of pupils in the Pardubice Region. These issues have resulted in unused school capacities. The central government and regional authority strive to increase the efficiency of vocational secondary schools by optimization of their network (especially in the form of school mergers). The largest wave of merging came in 2011, when utilization of capacities of vocational secondary schools was less than 60 % in the Pardubice Region. This wave of merging covered almost all regions in the Czech Republic that face the same issues. (MŠMT ČR, 2013).

Despite the merger, the efficiency of vocational secondary schools is still low. Currently (in 2017) the average capacity utilization of all vocational secondary schools in the Pardubice Region is 64.88 %. Demographic development shows that in the next ten years we can expect a modest increase in the number of upper secondary school pupils and therefore an improvement in capacity utilization. However, at the beginning of the 2030s this age group should fall again (ČSÚ, 2014).

#### 4 Conclusion

In this paper we evaluated the vocational secondary schools established by the Pardubice Region with respect to criteria describing efficiency - expenditure on teacher salaries per pupil, pupils' interest in the school (development of the number of incoming pupils), pupils' interest in the field (development of the number of applications for the fields of study), the average success rate in the final exams, conformity of the completed education (field) and the area of employment of graduates, development of job vacancies by branches, and the probability of automating fields in the future. We used one of the multi-criteria decision making methods (MCDM), specifically the Weighted Sum Method (WSM). Based on the results of this method we have ranked vocational secondary schools from the most successful = most effective to the least effective. Our analysis suggests that supported fields should be medical, technical and vice versa, fields that currently show low efficiency are agricultural or gastronomic fields. Efficiency of schools providing technical fields, that are large number in the Pardubice Region, is diverse. Efficiency varies from school to school, therefore schools need to be assessed individually.

Our results might be useful as the starting point of more effective allocation of resources and subsidies and it can also be an inspiration for designing an optimal network of vocational secondary schools in the Pardubice Region. The basic principle of setting this network is to maintain desirable spectrum of upper secondary school fields, which will respond to the demand of candidates for upper secondary education and the demand for skilled workers in the labour market. This principle also corresponds to the principle of the Regional Authority of the Pardubice Region stated in the latest annual report. The Czech Education Act states that in providing education and school services, especially in setting up and abolishing schools, the municipality and the region particularly take care of the coherence of the development of education and school services with the interests of the citizens, with the needs of the labour market, with demographic development, and with the development of its territory.

However, merging upper secondary schools is often very difficult to implement. This is politically unpopular (see Berka, 2015) and it is also important to take geographic considerations into account. Merging schools is much more difficult in rural areas than in bigger towns or metropolitan areas. The merging/extinction of schools in rural areas would also worsen the provision of public education services, where there is often only one upper secondary school. It is also important to maintain schools that are unique in nature within the country.

In our paper we focused especially on pupils' interest in the school and in the field (when higher number of incoming pupils will ensure higher efficiency as the capacity of schools will be better utilized) and the needs of the labour market. Further research in the area of optimization of vocational secondary school network in the Pardubice Region should also include detailed analysis of demographic development (population development of age group 15-19), the territory in the Pardubice Region, as well as analysis of the possibilities for cooperation between vocational secondary schools and companies, and sectoral structure of companies and structure of secondary vocational education branches.

Cooperation between companies and vocational secondary schools appears to be an important factor in increasing efficiency and vocational education development. The involvement of the social partners is also important in this cooperation. Social partners are professional organizations, chambers of commerce, employers' representatives, etc. These partners and regional authorities as founders of upper secondary schools should support fields that are perspective and also modify the curriculum according to the needs of the labour market.

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# Comparison of Waste Management Programmes in Selected Self-governing Regions

Martina Chrenová

## Abstract

*This paper will deal with waste management in Slovakia. In the first part of the paper we define the basic terms, which are waste, waste management or disposal with waste. We will focus our attention on the current legislative documents concerning the mentioned issue. In the European Economic Community, which was the predecessor of the European Union, there has been no legislation for many years to deal with the prevention or use of waste without causing adverse environment impacts. The European Commission only started to address environmental issues when public interest in this issue began to grow. We can now say that the issues of waste management are addressed by the legislation of each European state. In some Slovak regions, the level of municipal waste landfilling exceeds 80%. The aim of this study was to compare data from programs of waste management of two selected self-governing regions in Slovakia. We choose two specific self-governing regions, which we will analyze and compare. We do the document analysis and comparison of two documents – programs of Nitra and Trnava self-governing regions. In the second part of this paper we compare the programs of waste management of two selected self-governing regions in Slovakia and in the end we evaluate the extent to which the programs are different and what specifically makes them different. We conducted our research by case study, specifically content analysis two programs of waste management.*

**Keywords:** Waste economy, environment, environmental policy, European union, self-governing region

**JEL Classification:** P48, R11, R12, R58, Z18

## 1 Introduction

Within the European Union, the boundaries of industrial production have grown steadily. Global growth has brought both positive and negative phenomena. Among those negative phenomena undoubtedly include the increasing dependence of industry on natural resources and the waste that industry and consumers produce. Consuming natural resources and producing large amounts of waste is a problem for the European Union because it has a negative impact on the environment. Around 2.5 billion tonnes of waste is generated each year and an average European Union citizen generates up to 500kg of waste per year. In 2005, the European Commission drew up a document entitled "A Thematic Strategy on Waste Prevention and Recycling", defining the main challenges and proposals for waste management solutions. The biggest problems can be the increase in waste, the non-use of waste recycling potential, the preference for landfilling, the lack of legislation in some waste areas, the low applicability of existing legislation and the different approaches of member states to address waste related problems. It was necessary to adopt a comprehensive solution and strategic objectives in the waste management system, which were reflected in the European Parliament and Council Framework Directive 2008/98 / EC of 19 November 2008 on waste and the repeal of certain Directives. In addition to defining new terms, this European Union directive on waste also brings about a change in the hierarchy of different types of waste. This hierarchy is a five-level hierarchy. The prevention of waste should be a priority for each member state and when waste is generated, it needs to be efficiently and environmentally safe and re-used. If this is not possible, it will proceed to the last option, which is waste disposal. The adoption of the Framework Directive has created a legal basis in the European Community for a completely new perception of waste streams and the promotion of recycling. Directive 2008/98 / EC of the European Parliament and of the Council on waste provided for the first time an obligation to develop waste prevention programs. Since 1993,



Waste Management Programs have been drawn up in accordance with the state environmental policy in the Slovak Republic. The program is a document that is drawn up for a designated territorial area in accordance with the hierarchy and objectives of waste management. Currently, the fifth program setting out the basic requirements, objectives and measures for waste management is already in force.

In the analytical part of this paper we compare programs of waste management of two selected self-governing regions in Slovakia, namely the Nitra and Trnava self-governing regions. By analyzing these two documents, we will try to find out to what extent the waste management programs of the two self-governing regions, which extend to the west of the Slovak Republic, coincide or differ.

## **2 Waste management in Slovakia**

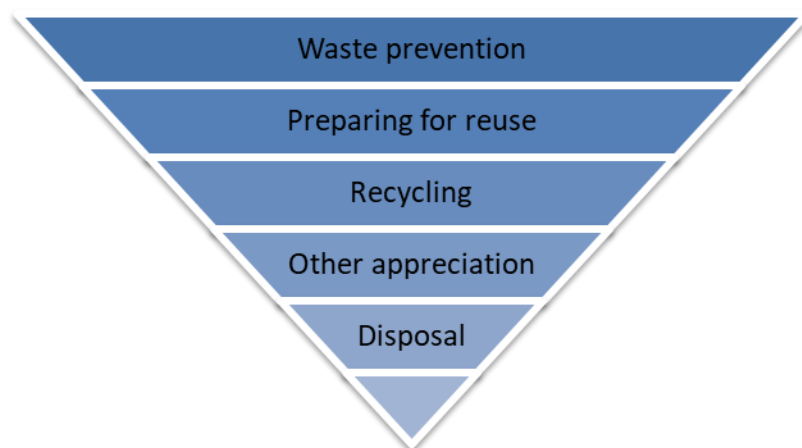
*"Waste management is an activity aimed at preventing and reducing waste generation and reducing their environmental hazards and disposal with waste in accordance with Act no. 223/2001 Coll. on Waste as amended"*(Ministry of Environment of the Slovak Republic, 2018). Waste is a movable thing that the holder discards in accordance with the Waste Act. Disposal with waste is the collection, transport, recovery and disposal of waste generated. Waste management aims at preventing or reducing the amount of waste and its environmental hazards, disposal with waste and efficiency by waste prevention, preparation for re-use, recycling, energy recovery or disposal, and the practical application of the waste management hierarchy (Act No 79/2015 On waste). It is a modern technology sector dealing with waste. Waste management affects all components of the national economy. Maybe we don't even realize it, but every day we come in contact with a lot of waste, which poses a significant danger to the environment of every country because it contains harmful substances. The process of integration and economic growth of the European Union has contributed to the expansion of industrial production, which has had both positive and negative consequences. Among the positive consequences we can include increasing the overall living standard of the member states. However, industry's dependence on natural resources and waste generated by industrial production and its consumers' production has increased.

### **2.1 Disposal with waste according to the European Union**

Proper disposal with waste is becoming an increasingly important issue as ensuring basic living needs. The use of waste as a source of secondary raw material currently represents a significant economic benefit for each country. In 2005, the European Commission (2015) drew up a document entitled "Thematic Strategy on Waste Prevention and Recycling", which outlines the challenges and proposals for waste management solutions in the European Union. The biggest problem was the increase in waste, the non-use of recycling, the landfill of waste, the lack of waste management legislation, the weak applicability of legislation and the different approaches of individual member states to tackle waste management. The first step was the adoption of legislation - Directive 2008/98 / EC of the European Parliament and of the Council on waste and repealing certain Directives. The basis of this regulation is the prevention of waste and, in the case of its occurrence, safe re-use. Figure 1 shows the waste management hierarchy referred to in Article 4 of this Directive. This waste management hierarchy shows the order of priorities for waste prevention and disposal with waste.

**Figure 1 - Waste management hierarchy**

Source: PPVO SR, 2018



In applying the hierarchy, member states implement, under Directive 2008/98 / EC on waste, such measures that provide the best overall environmental performance. Member states shall ensure that the development of waste legislation is transparent, in accordance with national rules on consultation and involvement of citizens and other parties. In doing so, member states must take into account the principles of environmental protection, technical feasibility and economic viability, resource conservation, overall environmental and human health impacts and economic and social impacts.

Reliable waste management data provides an all-inclusive resources for a comprehensive, critical and informative evaluation of waste management options in all waste management programmes (Chang – Davila, 2008). These required fundamental statistics are lacking in many developing countries (Buenrostro et. al., 2001) and where they are available, they are inconsistent because they come from many sources which cannot be validated and are sometimes based on assumption but not scientific measurements (Couth – Trois, 2011). Miezah et al (2015) the net effect of these misleading data are often a source of confusion and doubt in the minds of investors who may want to do business or services in the waste management sector. Data on municipal solid waste generation and composition are available in only few selected cities.

## **2.2 Legislative documents in waste management**

Kollár (2014) states that the first Waste Management Act in Slovakia was approved in 1991. After ten years it was replaced by the Waste Act no. 221/2001. In 2015, changes were again made to waste management legislation. The former Waste Act of 2001 replaced the Waste Act no. 59/2015. The waste management in Slovakia is highly regulated and administratively demanding. Slovak legislation currently offers two laws and eight waste management decrees. The first law is already mentioned Waste Act no. 59/2015 and the second is the Act on Fees for Waste Disposal at Waste Landfill no. 17/2004. Waste management decrees include the following: Waste Catalog no. 365/2015, Evidence Decree no. 366/2015, Decree on Fuels 367/2015, Communication on Uniform Methods of Analytical Inspection of Waste 368/2015, Rates for Calculation of Contributions to Recycling Fund 370/2015, Decree no. 371/2015 implementing certain provisions of the Waste Act, Decree on Landfilling of Waste No. 372/2015 and Decree on Extended Producer Liability.

Staroňová et al. (2010) state that the obligation imposed on member states by EU primary law is to implement European Union law in their national legal systems. The EC Treaty defines three types of binding legislative instruments, namely regulations, directives, decisions and two types of non-binding, which are recommendations and guidelines. Regulations and decisions are legally binding

and directly enforceable. The purpose of the directives is to translate their content into national law, leaving the method and methods to the individual states. The Act on Waste Management (2015) transposes into Slovak law the legal acts of the European Communities. These are the following directives: Council Directive no. 1975/442/EEC on waste, Council Directive no. 1991/689/EEC on hazardous waste, Council Directive no. 1975/439/EEC on the disposal of waste oils, Directive no. 2000/53/EC of the European Parliament and of the Council Directive on end of life vehicles, Council Directive no. 1999/31/EC on the landfill of waste, Directive of the European Parliament and of the Council Directive no. 1978/176/EEC on waste from the titanium dioxide industry, Council Directive no. 1996/59/EC on the disposal of polychlorinated biphenyls and polychlorinated terphenyls, Directive 2002/96/EC of the European Parliament and of the Council on waste electrical and electronic equipment (WEEE), as amended by Directive 2003/108/EC of the European Parliament and of the Council 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment, Council Directive 91/692/EEC standardizing and rationalizing reports on the implementation of certain Directives relating to the environment, Directive 2006/66/EC of the European Parliament and of the Council batteries and accumulators and used batteries and accumulators. Through directives, the European Union sets the Member States the objectives to be achieved. However, it is up to national governments to propose legislation to achieve these goals. The European Union also seeks to improve waste management in individual member states through recommendations for the use of economic instruments. The recommendations are not legally binding on member states but are generally respected. The European Union recommends member states to introduce, for example, landfill taxes, waste fees for citizens or directly to manufacturers to recycle and recycle goods at the end of their life cycle (European Commission, 2015).

The Waste Management Program of the Slovak Republic is a strategic document for the years 2016 to 2020 in the area of waste management. Its content corresponds to the requirements of sustainable growth and requirements set out in the legislation of the Slovak Republic and the European Union, in particular the Waste Act and the Waste Directive. This program is the fifth waste management program developed. It is based on the evaluation of the previous program for 2011 - 2015 and on the analysis of the current state and needs of the Slovak Republic in the area of waste management. The program focuses on all wastes under the Waste Act. It was drafted during the approval of the Partnership Agreement on the use of European funds. The partnership agreement includes a strategy and priorities for efficient and effective investment. The program accepts the approved Operational Program Environment Quality for the 2014-2020 programming period, which will focus on channeling investment into waste management infrastructure. The program structure meets the requirements of the Waste Directive and does not include waste prevention measures, as these were adopted in a separate document entitled "Waste Prevention Program SR 2014-2018", which was approved by the Government of the Slovak Republic as early as December 2013. Of the European Commission on the closed economy and the prospective plans of the waste management strategy for 2025 and 2030 in the framework of the forthcoming so called "Waste Package", which aims to change the way waste is handled for its recycling and the sustainable use of recyclable waste in order to ensure the rational use of natural resources. The European Union has set two goals by 2020 to increase the reuse and recycling of household waste by at least 50% by weight and to increase reuse, recycling and construction waste by at least 70% by weight (Ministry of Environment, 2015). It is stated in this program that in three Slovak regions, namely Trnava, Nitra and Žilina, the level of municipal waste landfilling exceeds 80%. In the analytical part of this paper we will compare the waste management programs of the Nitra and Trnava regions. Given the scope of the paper, we will not compare all three regions, but only two.

### **3 Waste management of selected self-governing regions**

In accordance with the state environmental policy, the Waste Management Program of the Slovak Republic has been drafted since 1993 in the Slovak Republic. This program is prepared by the Ministry of the Environment on the basis of documents from the district authorities and local

government. It is approved by the government and, after its approval, the Ministry of the Environment publishes it in the Journal. The program is developed for a period of four years. Its purpose is to define the tasks of strategic and conceptual development of waste management from the state level. It has been developed in accordance with the requirements of sustainable growth. The program is based on an evaluation of the previous program and includes an analysis of the current state of waste management in the area and the measures to be taken to improve the appropriate preparation for reuse, recycling, recovery, waste disposal and evaluation of how the program will support these objectives. The binding part of the program is a binding document for the decision-making activity of state administration bodies in waste management. District offices in the county seat are required to develop regional waste management programs based on the objectives and measures set out in this document. The waste management program of the self-governing region is a strategic and program document drawn up by each self-governing region, while maintaining compliance with the hierarchy and objectives of waste management. Its content corresponds to the requirements laid down in the legislation of the Slovak Republic and the European Union, especially in the Act on Waste and the new European Union Waste Framework Directive. According to the Waste Act, the municipality, in which the municipal waste production exceeds 350 tonnes in one calendar year, or in which the population exceeds 1,000 is obliged to draw up a municipal waste management program. This program must comply with the Waste Management Program of the self-governing region in which the municipality is located. The municipality must submit a draft waste management program to the relevant district office at the headquarters of the region within four months of the issue of the Regional Waste Management Program for its assessment. The period of validity of the program of the municipality is identical with the period of validity of the program of the region. The municipality may draw up a program in cooperation with another municipality or municipalities (Enviro Portal, 2019).

The main objective of the program is to shift from material appreciation to waste prevention in line with the waste management hierarchy. This trend is in line with the European Union Action Plan for Circular Economy. Top Goal Indicators:

- Adoption of a new law on waste disposal charges, which will increase the landfill charge.
- Number of information and education campaigns aimed at waste prevention.
- Number of entities registered in the environmental management system.
- Number and value of public budget contracts with environmental considerations for selected product priority groups.
- Number of contracts concluded under the National Eco-labeling Scheme and the European Union Eco-Labeling Scheme.
- Number of notifications of the Ministry of Environment of the Slovak Republic under the National Environmental Labeling Scheme (Ministry of Environment of the Slovak Republic, 2018).

### **3.1 Comparison of waste management programs of Nitra and Trnava self-governing regions**

We will use a qualitative method in our research, which is based on an objective systematic description of the content of documents - it is a content analysis. The case study is a method that can be applied in various disciplines. It can be understood as a kind of analysis or research strategy. There are many possibilities of applying this method in the field of not only theoretical research but also in practical work aimed at improving the quality of the results achieved. The case study is an analysis method that focuses on a particular object that it analyzes as a whole of all its uniqueness and complexity. The aim of the case study is to capture the complexity of the case or to describe the relationships within any objects. In conclusion, the investigated case is incorporated into a broader context, then the validity of the results is estimated or compared with other cases. The case study can have both qualitative and quantitative character. We chose the qualitative method. Qualitative research helps to understand the observed object or phenomenon. Qualitative methods are suitable for

the case study, for example document analysis, observation, interviewing and others. We chose the document analysis and comparison of two documents – programs of Nitra and Trnava self-governing regions.

The waste management program of the self-governing region for 2016 to 2020 is a strategic document that is divided into five main chapters. The first chapter contains basic data on the self-governing region, the second chapter describes the current state of waste management. The next, third chapter is devoted to the evaluation of the previous program, the fourth part is the binding part of the program and the last fifth is the guide part of the program. The main purpose of the measures in waste prevention programs is to achieve a break in the link between economic growth and the environmental impacts of waste generation.

### ***Basic data on self-governing regions***

The first part of the program states that the program of waste management of the self-governing region (2016) was issued by the district office of the respective city (in our case the district office of Nitra and the district office of Trnava), namely the department of environmental care - department of nature protection and selected environmental components of the region. The area of Nitra Region is larger than Trnava. The self-governing region of Nitra has an area of 6,344km<sup>2</sup> and Trnava 4,148km<sup>2</sup>. These two counties are adjacent to each other. The environmental quality of the Nitra region is assessed as average in the program because it is determined by the prevalence of agricultural use without large polluters, in addition to the Duslo a.s. Salaam. The environmental quality of the Trnava Region is assessed as diverse. The highest quality is the area of the Little Carpathians, because this area has no disturbed environment. Most of the region's territory is occupied by regions with a slightly disturbed environment - Záhorský, Bolerázsky, Hlohovecký and Podunajský. However, a significant part of the region is also occupied by regions with a severely disrupted environment. It is a region of Lower-Považie region (there is also the regional city of Trnava) and the Galant region. Agricultural land in the Trnava Region is one of the best and most fertile soils with high production potential.

### ***Characteristics of the current state of waste management***

The waste management program of the self-governing region (2016) in the second part of the program states that the characteristic of the current state of waste management is based on Act No. 223/2001 Coll. on Waste and its Implementing Regulations and from the New Waste Act no. 79/2015 Coll., Which has been in force since 1 January 2016. Since 1995, the analysis of the generation and management of waste has been based on a nationwide regional waste information system. This system, called RISO, records all reports of waste producers who annually announce established data from the register to the relevant district office on the basis of the “Waste Reporting and Handling” form. The Statistical Office of the SR provides statistics on municipal waste, where the database is provided by municipalities. The statistical processing of waste production is carried out according to the Decree of the Ministry of Environment of the Slovak Republic no. Establishing the Catalog of Waste and in accordance with the European Waste Catalog. Municipal wastes are wastes originating from households that originate in the municipality in the activity of natural persons. Wastes from real estate serving natural persons for their individual recreation, eg. from gardens, cottages, or parking. Municipal wastes are also all wastes generated in the municipality during the cleaning of public roads and areas, which are the property of the municipality or in the administration of the municipality and also in the maintenance of public greenery, including parks and cemeteries and other greenery on the land. Separate collection is the collection of separate components of municipal waste, whose main importance is to increase the environmental awareness of citizens who must understand the urgency of waste management issues. By separating the municipal waste collection, it is possible to replace the primary raw materials and thus save the environment. By adopting Act no. 79/2015 Coll. on waste, which has been in force since 1 January 2016, the concept of separate collection has been replaced by the concept of separate waste collection, which will be used below. In the Slovak Republic, from 1 January 2010, the obligation for municipalities to introduce compulsory sorted collection for the

following components of municipal waste: paper, plastics, glass and metals. As of 1 January 2013, this obligation was extended to biodegradable municipal wastes other than those caused by the kitchen operator. The Waste Act requires the collection of several components of municipal waste separately. This is a collection:

- household electrical waste,
- used batteries and accumulators,
- waste oils,
- bulky waste,
- separately sorted polluted household waste
- biodegradable green waste.

Separate collection of municipal waste is considered inadequate in waste management programs because many municipalities do not comply with this obligation in the legal obligation. Based on the requirements of the Waste Framework Directive, with a view to achieving a municipal waste recycling level of 50% by 2020, an efficient separate collection system for the following types of municipal waste needs to be created: paper, cardboard, glass, plastics, metals, biodegradable garden waste and kitchens, edible oils and fats, wood, electrical waste, batteries, accumulators and textiles. Individual types of waste are classified into 5 streams:

1. classical components of graded collection (paper, plastics, glass, metals),
2. biodegradable municipal waste (kitchen and garden waste, edible oils, fats and wood),
3. electro waste,
4. used batteries and accumulators,
5. clothing and textiles.

Since the area of Nitra self-governing region is larger than Trnava, the amount of municipal waste for 2014 in the Nitra self-governing region is higher than in Trnava. The most important producers of municipal waste in Slovakia are the Bratislava Region and the Trnava Region, which exceed 400 kg per capita. The highest production of municipal waste per inhabitant in the Trnava self-governing region is specifically in the Trnava District. The third strongest region in Slovakia is Nitra region, which reaches almost 400 kg per capita. In this case, we can evaluate that the inhabitants of the Nitra region produce less waste than the inhabitants of the Trnava self-governing region. In the Trnava district, up to 25% of all-municipal municipal waste is generated every year, in the Skalica district it is only 7.4%. Most municipal waste in the Nitra self-governing region is being established in the Nitra and Nové Zámky districts. For better clarity, we have compiled a short table 1, in which we can see the amount of municipal waste in tons and the amount of municipal waste in kg per capita in 2014 in selected two self-governing regions.

**Table 1 - Comparison of municipal waste in selected self-governing regions**

Self-governing region	Region area in km <sup>2</sup>	Amount of municipal waste in tons for year 2014	Amount of municipal waste in kg per residents for year 2014
Nitra	6 344	272 949,31	399
Trnava	4 148	243 865,49	436,51

Source: own processing using data from the Statistical Office of the SR, 2015

### **Evaluation of the previous waste management program**

Part of the Waste Management Program of the self-governing region is also the evaluation of the situation for the previous period, since it is based on the setting of targets for the following period. The fulfillment of the objectives of the Waste Management Program of the self-governing region for the years 2011 - 2015 is evaluated after 2014, when the latest data on the generation and management of waste from RISO were available at the time of the preparation of the new program, as well as data on the generation and management of municipal waste processed by the statistical authorities. In total,

19 targets were set in the Nitra Region. 27 measures have been taken to achieve the waste management objectives. There were 21 goals set in the Trnava self-governing region, so two more than in Nitra region. 27 measures have been taken to achieve the waste management objectives. Table 2 shows how many targets have been met by individual regions in full, in part, or how many have not been met. We can see that Trnava region was able to meet more goals than Nitra region.

**Table 2 - Comparison of the number of objectives of the waste management programs**

<b>Objectives of the waste management program</b>	<b>Nitra self-governing region</b>	<b>Trnava self-governing region</b>
Objectives for municipal waste and biodegradable municipal waste	3 - missed objectives	4 – 1 missed, 3 objectives achieved
Biological Waste Objectives	3 – partially achieved	3 - partially achieved
Objectives for electro waste	2 – partially achieved	2 - partially achieved
Objectives for packaging waste	1 – objective achieved	1 – objective achieved
Objectives for worn batteries and accumulators	3 – partially achieved	3 – 2 partially achieved and 1 objective achieved
Objectives for old vehicles	2 - partially achieved	2 - partially achieved
Objectives for worn tires	2 – partially achieved	2 –achieved and partially achieved
Objectives for construction waste and demolition waste	1 – partially achieved	1 – objective achieved
Objectives for PCB-containing wastes and PCB-contaminated equipment	1 - partially achieved	2 - partially achieved
Objectives for waste oils	1 - partially achieved	1 - partially achieved
<b>TOGETHER</b>	<b>19</b>	<b>21</b>

Source: own processing using data from waste management programs of self-governing regions

### **Binding part of the waste management program**

The binding part of the program of the region for the years 2016 - 2020 contains the target direction of waste management, a special chapter on the management of packaging and packaging waste, the anticipated creation of individual waste streams, the expected share of recovery and disposal of individual waste streams in the base year of the program and the share of their recovery and disposal in the target year of the program. The main goal of waste management until 2020, which is common to all self-governing regions in Slovakia, is to minimize the negative effects of waste generation and management on human health and the environment. More fundamental enforcement and compliance with the waste management hierarchy will be necessary in order to increase waste recycling, in particular for municipal waste and construction waste and demolition waste, in accordance with the requirements of the Waste Framework Directive. In waste management, the principles of proximity, self-sufficiency and, in the case of selected waste streams, extended producer responsibility, in addition to the general principle of "polluter pays", must be applied. It is necessary to apply the requirement of best available techniques or best environmental practices when building waste management infrastructure. The strategic goal of waste management in Slovakia is to divert waste from its disposal by landfilling, especially for municipal waste.

The objectives and targeting of waste streams, which are specified in the binding part of the program, are the same for both self-governing regions. Setting waste targets is based on the Waste Framework Directive: by 2020 increase preparation for reuse and recycling of household waste such as paper, metal, plastics and glass and, where possible, from other sources, as long as these sources contain similar waste as household waste , at least 50% by weight. However, in order to meet the objective of 50% recycling of municipal waste, it is essential to substantially increase the level of separate collection of recyclable municipal waste components, especially paper and board, glass, plastics, metals and biodegradable municipal waste. Table 3 shows the planned sorting rate. According to the

Waste Management Program, both regions plan to increase this rate by 10% each year in order to gradually reach their target.

**Table 3 - Targets for separate collection of municipal waste**

Years	2016	2017	2018	2019	2020
Sorted collection rate	20%	30%	40%	50%	60%

Source: Ministry of Environment of the Slovak Republic, 2015

Another goal is to focus on biodegradable municipal waste. Based on the requirements of Directive 1999/31 / EC on the landfill of waste, the target for 2020 is to reduce the amount of biodegradable municipal waste landfilled to 35% of the total amount (bi) of biodegradable municipal waste generated in 1995. compliance with the waste management hierarchy, waste prevention, reduction of waste and the reduction of hazardous properties of waste must take into account the general principles of environmental protection (the precautionary principle and the principle of sustainability), technical feasibility and economic viability, resource conservation, environment and human health. In waste management, the proximity principle must be taken into account in order to reduce possible negative impacts of the transport of hazardous waste to remote waste facilities. Another principle that should be taken into account is the principle of self-sufficiency, particularly in the field of waste disposal.

Measures to achieve the objectives for municipal waste and biodegradable waste:

- implement the principle of extended producer responsibility in a separate municipal waste collection system,
- support the financing of small-scale composting projects in municipalities,
- support the financing of projects to prevent biodegradable municipal waste from being composted,
- continue to introduce separate collection of kitchen, restaurant and biodegradable waste from public and private green areas and gardens,
- support the financing of projects for the modernization of existing composting and biogas plants with sanitation units allowing the processing of biodegradable kitchen and restaurant waste,
- to support the financing of biogas projects, which will produce biogas predominantly from kitchen and restaurant biodegradable waste,
- support the production of alternative fuels made from mixed municipal waste in support of the use of renewable energy sources,
- promote the financing of biogas projects that will produce biogas exclusively or predominantly from biodegradable waste.

### **Guidance part of the waste economy program**

The planned development of waste management infrastructure is based on the inventory of waste facilities. Based on the evaluation of the fulfillment of the objectives of the waste management program for 2011-2015, there was a need to improve the systems of separate collection of municipal waste. In the context of a network of waste recovery facilities, the capacity of waste recycling facilities needs to be reviewed for some waste streams. When planning the construction of new hazardous waste facilities, the principle of self-sufficiency and the proximity principle must also be taken into account. Waste Management Infrastructure Development Planning for 2016-2020 builds on the approved Partnership Agreement on the use of European Structural and Investment Funds in 2014-2020 and on the approved Operational Program Environment for the 2014-2020 programming period. emphasizes the need to build new waste treatment facilities in the region, increase the capacity of existing waste treatment facilities in the region, and close existing waste treatment facilities in the region. In the Nitra region some of the waste streams are processed outside the region, while the capacity for their treatment in the Slovak Republic is sufficient. These are the following streams of waste:



- wastes from ferrous and non-ferrous metals,
- paper and board wastes,
- used batteries and accumulators,
- waste glass,
- waste tires.

In Trnava region, all waste is processed within the region, so we can evaluate that Trnava region has its own facilities for processing and recycling of all waste streams, but Nitra region does not. There is sufficient capacity for the recovery of waste from ferrous and non-ferrous metals in the Trnava region, in the future it will be necessary to modernize them or introduce better available technologies. Waste glass management is a problem in the Trnava region, as disposal by waste disposal was the most important way of handling waste from glass. It has a very high share and therefore it is necessary to support the construction of new recycling facilities for waste glass processing. Sufficient processing capacities are available in the county for used batteries and accumulators and waste tires. Waste disposal sites are the dominant waste disposal facility in Trnava and Nitra regions. In the Nitra region, 20 waste landfills were operated, of which 4 were for inert waste, 2 were for hazardous waste and 14 were for non-hazardous waste. Only 15 waste landfills were operated in the Trnava Region, of which 1 for inert waste, 1 for hazardous waste and 13 for non-hazardous waste. As of 31 December 2015, the Nitra Region has more landfills in operation than the Trnava Region. Interestingly, despite the fact that the Nitra region is lacking facilities for processing some of the above-mentioned waste streams, it has more landfills than the Trnava region. The capacity of the landfills in Nitra and Trnava is sufficient, so it is not necessary to build new landfills. However, the deployment of landfills and their capacities is not even. The largest landfill capacities of the Nitra Region are concentrated in the Levice District, where both hazardous waste dumps and also two regional non-hazardous waste dumps are located. However, on the basis of the Waste Management Program of the Slovak Republic for 2016 - 2020, the construction of new landfills for hazardous waste and landfills for waste, which is not dangerous undesirable and contrary to the obligations and objectives of Slovakia. In justified cases, it will be possible to build new landfills for inert waste, or to expand the capacity of existing landfills, which will need to be assessed on the basis of the real needs of landfill capacities in the region.

Only the hazardous industrial waste incinerator is operated in the Nitra region - Duslo Šaľa and other municipal waste incineration plant are not located in the region. There are no municipal waste incinerators and industrial hazardous wastes in the Trnava Region. Waste incinerators from healthcare facilities in the Nitra region ceased their activities in 2007 because they did not meet the strict requirements of European air protection legislation. Waste incinerators from medical facilities in Trnava region have ceased their activities in 2010 in Galanta and in 2011 in Trnava. In the case of waste incineration plants, a high level of air protection must be ensured. However, incineration of hospital waste is contrary to the principle of proximity and self-sufficiency, so the waste co-incineration plant is not located in either Nitra or Trnava region.

In the Slovak Republic, collection systems are in place for waste collection facilities, separate collection and waste collection systems. These systems are the same for all self-governing regions.

1. Municipal waste - a system of quantity or bag collection of sorted municipal waste components is used. Citizens can pass the sorted municipal waste components to the collection yards. This system is inadequate as green waste continues to burn, despite the ban. There is also a shortage of kitchen and restaurant waste collection systems that will need to be improved. In addition to the development of domestic composting, its development will be supported by support from the Operational Program Quality of the Environment and, if possible, from the Environmental Fund. The new Waste Act sets out clear rules for securing municipal waste collection systems. Extended producer responsibility for dedicated products is introduced, whereby producers will be responsible for the separate collection of municipal waste, including its financing. Current graded collection systems have low efficiencies, especially due to the lack of accessibility of collection

containers for the population. The New Waste Act introduces so-called "Collected collection standards" to ensure that collection containers are available to all residents and to significantly increase the efficiency of sorted collection.

2. Waste - Separate collection in waste collection facilities and take-back of electrical waste in electrical equipment stores is in place. The problem is the collection of electrical wastes from natural persons in electrical waste collection facilities, where the waste electrical and electronic equipment is incomplete, damaged and leaks.
3. Batteries and accumulators used - the system of collecting used automotive, industrial and portable batteries and accumulators is effective.
4. Old vehicles - the holder of an old vehicle is obliged to hand over the vehicle to an authorized processor or to a collection facility for old vehicles. On the basis of the issued certificate, the old vehicle can be checked out of the vehicle register. This system is considered very effective.
5. Waste Tires - Wear capacity for worn out tires is sufficient, but it is necessary to increase the number of places where worn tires can be handed over for recovery. The new law introduces an extended producer responsibility for this commodity, which will provide free re-collection of waste tires through tire distributors. Waste tires will not be handed over to municipal waste yards because they are not part of municipal waste.

In order to streamline and streamline waste streams in waste collection, collection and recovery systems, a new waste management information system is needed to track the waste material flow from generation to final processing. The currently used data collection and processing system (RISO) enables to obtain outputs in the required forms with a certain time lag, without the possibility of effective control of the generation and management of waste in individual entities operating in waste management.

#### **4 Conclusion**

Based on the analysis of waste management programs of two selected self-governing regions, namely Nitra and Trnava, the author of the paper was able to find that the programs are very similar. It is precisely because the content of the Waste Management Program of the self-governing region must comply with the contents of the Waste Management Program of the Slovak Republic and other legal regulations applicable to the whole territory of the Slovak Republic, the programs of selected self-governing regions are largely similar. They are different only in the specifics of individual self-governing regions, such as basic data (area, number of inhabitants), deployment and number of landfills and different results of achieving the set goals. The goals that individual self-governing regions want to achieve and are defined in the programs are the same for both selected self-governing regions. The Waste Management Program of the Slovak Republic and the Waste Management Program of the Self-Governing Region are the basis for measures for waste prevention, waste management, decontamination and for the processing of land-use planning documentation.

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# Active Labour Market Policy in the Context of the Implementation of Operational Program Employment and Social Inclusion

Michal Imrovič, Vladimír Kováčik

## Abstract

*The Operational program Employment and social inclusion in the programming period 2007 - 2013 was implemented by the Ministry of Labour, Social Affairs and Family of the Slovak Republic. The long-term unemployment as one of the main issues in Slovakia is dealing with in this area. The aim of this paper is to provide an insight into the theoretical definition of active labour market policy tools and the use of these tools in Slovakia. The main objective is to analyze the development curve of Slovak spending on Active labour market policy as a % of gross domestic product in 2007 - 2015 in the context of drawing priority axis 1 of the Operational Program Employment and Social Inclusion in the programming period 2007 - 2013, including the achievement of set values of measurable indicators of this priority axis. Methods analysis, synthesis, induction and deduction are used to achieve the set goals. Active labour market measures were mostly financed by priority axis 1 of the Operational program Employment and social inclusion. In terms of the Slovak Republic we concluded, that implementation of the active labour market policy instruments and level of expenditure on active labour market policy was significantly influenced by the development curve of the implementation of the priority axis 1 of the Operational program Employment and social inclusion in the programming period 2007 - 2013.*

**Keywords:** EU funds, operational program Employment and social inclusion, long-term unemployment, active labour market policy, unemployment rate, youth

**JEL Classification:** J21, J58, R23

## 1 Introduction

Employment is one of the key pillars of human society and economy. Work is an essential part of human identity in contemporary society. The pursuit of economic growth, competitiveness, sustainable development and the expansion of productive employment are closely linked. At the same time, effective employment is an effective method of combating poverty and promoting the social integration of citizens.

In every society, the state has an irreplaceable role in the implementation of employment policy. The role of employment policy at the national level is, in coordination with other policies, to create the conditions for entering the labour market for all who can work (Kubík - Zůvala, 2018), want to work and seek work, and for sustainable employment. Increasing the participation of the population in the productive age on employment, or increasing employment rates and particularly for disadvantaged people, and their remaining in the labour market is also one of the main policy instruments against the spread of poverty and social exclusion.

In the demographic aging of the population, retirement age (Butoracová Šindleryová - Lukáč, 2017), job cuts and rising unemployment (Lewandowska - Gwarda, 2018), a higher degree of economic policy coordination, employment policy for both the EU and national policy is needed. Such an approach should contribute to the promotion of economic growth, job creation in the future and overall improvement in the quality of life. At the same time, it supports and encourages efforts by states to ensure the financial and social sustainability of applied social protection systems.

Social inclusion requires a comprehensive, multidimensional and especially unified approach in different policy areas. Their main objectives are to promote the social inclusion of disadvantaged or excluded people, to promote equal opportunities, to meet the social needs of people through active

and preventive social inclusion measures, and overall to boost employment growth, social cohesion and sustainable development. "Fast growth in some large emerging economies has led to a partial convergence in living standards, which exists side by side with abject poverty and a persistence of inequalities. Inequality undermines prospects for inclusive growth, equal access to social protection, and broader sustainable development" (United Nations, 2013).

The aim of this paper is to provide an insight into the theoretical definition of ALMP tools and the use of these tools in Slovakia. The main objective is to analyze the development curve of Slovak spending on ALMP as a % of GDP in 2007 - 2015 in the context of drawing priority axis 1 of the Operational Program Employment and Social Inclusion (OP EaSI) in the programming period 2007 - 2013, including the achievement of set values of measurable indicators of this priority axis.

## **1.1 Unemployment in Slovakia**

The negative effects of unemployment are visible across the whole society, not just the unemployed. "As a result of unemployment, incomplete exploitation of the working population is achieved and the economy cannot work at the level of its potential, it even loses its potential" (Páleník et al., 2014; Chocholatá, Furková 2018; Mészáros, 2018). One of the reasons for the persistence of high unemployment in Slovakia is the absence of an approach that would address in a comprehensive way the problems of employment and unemployment in their mutual relations and taking into account the factors influencing the solution of these problems. Prior to the 20th century, unemployment was viewed as a personal problem rather than a social problem (Cottle, 1980).

Unemployment is a situation in which part of the working-age population does not participate in the workforce, and this phenomenon contributes significantly to the unfavourable development of public finances (Kargol-wasiluk, Wildowicz - Giegiel, 2018; Androniceanu et al., 2019), but also reflects the potential underutilisation of production capacity in the economy (Workie Tiruneh – Štefánik et al., 2014). However, the high unemployment rate is not only associated with a lack of demand for labour, but is also the result of a mismatch between them (Workie Tiruneh et al., 2013).

"The labour market has long been one of the main challenges of the Slovak economy. Compared to other EU countries, Slovakia has relatively low employment rates, especially among young people, but also elderly and women, and high unemployment, which is dominated by long-term unemployment. Long-term unemployed are the largest group of unemployed in Slovakia. The long-term unemployment rate in Slovakia is among the highest in the EU 28" (National reform program, 2014). It is mainly due to the high unemployment rate of the young people and the long-term unemployed low-skilled labour force (Mura et. al., 2019). Unemployment in Slovakia has come to the forefront of the perception of the society, politicians and the professional public.

Today's society is dominated by a market economy that is characterized by a system of free entrepreneurship and free competition. Typically, for a market economy, the markets for goods and services, as well as production factor markets and hence the labour market where labour is bought and sold, work in parallel. However, the labour market is a market specific, its specifics result from the fact that work is a function of the workforce and is closely related to the personality of the person (Rievajová, 2003). However, even if labour is carried out through the labour market, labour is not to be regarded as a commodity, either in legal or ethical terms (Kováčová, 1995).

The labour market has long been one of the main challenges of the Slovak economy, in line with the goals set in the Europe 2020 strategy (2018). Compared to other EU countries, the Slovak republic (SR) has relatively low employment, especially of the young but also the elderly and women, and a high unemployment rate, which is dominated by long-term unemployment. The rate of long-term unemployment in Slovakia is one of the highest in the EU. It mainly results from high youth unemployment and long-term unemployment of low-skilled labour.

Slovakia is one of the countries that struggle in the area of employment with a high level of long-term unemployment (Eurostat, 2017). The long-term unemployed are the largest group of unemployed in Slovakia (Páleník et al., 2014). Unemployment is a condition in which a part of the working-age population does not participate in the work process. This phenomenon contributes significantly to the unfavorable development of public finances, but also reflects the potential underutilisation of production capacity in the economy (Workie Tiruneh – Štefánik et al., 2014). However, the high unemployment rate is not only associated with a lack of labour demand, but is also the result of a mismatch between them (Workie Tiruneh et al., 2013).

Especially youth unemployment in Slovakia is one of the highest in the EU, when the unemployment rate of this group in 2013 reached more than 33.6%, while the EU-28 average was 23.5% (Eurostat, 2013). Taking into account the number of young people in the educational process and inactivity, unemployment measured in the 15-29 age group is 12%, still above the EU-28 average (10.3%), albeit with a less pronounced difference (National reform program, 2016). In general, unemployment among young people is affected by the mismatch of skills and labour market needs, and currently by the lack of demand for labour.

## **1.2 Active labour market policy in Slovakia**

Active labour market measures (ALMM) are among the most effective instruments of the state to promote employment and combat the threat of poverty and social exclusion. Active labour market policy (ALMP) is a historically younger form of labour market policy; in Europe it began to develop after the Second World War, and only significantly in the 1970s, when passive policy measures ceased to be sufficient to support demotivating people's attitudes to work and the cost of paying them has grown rapidly, so the focus of policy has begun to shift to its active components (Hetteš, 2013). ALMPs are used to combat labour shortages and mobilize labour by reducing the overall level of unemployment (Greeve, 2018). "A traditional rationale for active labour market policy has been to facilitate the matching process in the labour market" (Calmfors, 1994). Governments have various reasons to invest in ALMPs. Aside from the individual negative aspects of unemployment – for instance, the loss of income and depreciation of human capital – unemployment benefits also weigh heavily on the national budget (Vooren - Haelermans - Groot - Maassen van den Brink, 2019).

The active employment policy aims to help citizens at risk of unemployment and help unemployed people work before long-term unemployment threatens them. An active policy helps increase employment by, for example, mediating appropriate employment, whether by offering work to employees or by finding suitable employees for the employer (Zachar, 2004). Other most widespread forms of active employment policy include employers' motivation to create new jobs for jobseekers, whether in the form of incentives, tax breaks or EU grant funds.

The Ministry of Labour, Social Affairs and Family of the SR (hereinafter referred to as the "MoLSAF SR") is responsible for the creation of labour market policy and by establishing the goals and priorities of the labour market policy nationwide. These objectives and priorities are determined on the basis of the economic and social policy objectives defined in the government's policy statement and other documents approved in the SR. Specific instruments of active labour market measures in the SR concerning disadvantaged jobseekers are defined by Act no. 5/2004 Coll. on Employment Services and on Amendments to certain acts (Ministry of Labour, Social Affairs and Family of the SR, 2004).

The main legislative framework for promoting employment and promoting employability is Act no. 5/2004 Coll. on Employment Services and on Amendments to Certain Acts, as amended (hereinafter referred to as the "Employment Services Act"). On 1 January 2013, an amendment to the Act of 2012 was applied.

**Table 1 - Types of active labour market policy**

Type	Aims	Instruments
Incentive reinforcement	<ul style="list-style-type: none"> <li>Strengthen positive and negative motivations of the workers who take unemployment benefits</li> </ul>	<ul style="list-style-type: none"> <li>Tax advantages, employment bonuses</li> <li>Time limit for the length of enemployment benefit</li> <li>Reduction of unemployment benefit</li> <li>Setting the conditions for unemployment benefits</li> <li>Sancions</li> </ul>
Support for job seeking	<ul style="list-style-type: none"> <li>Removing barriers in finding a job and reinclusion into a labour market</li> </ul>	<ul style="list-style-type: none"> <li>Services of placement of unemployed</li> <li>Subvences of work places</li> <li>Programs for help with job seeking</li> </ul>
Occupation	<ul style="list-style-type: none"> <li>Engagement of unemployed and limitation of human capital lost during unemployment</li> </ul>	<ul style="list-style-type: none"> <li>Programs for creation of new jobs in public sector</li> <li>Training programs which are not related with employment</li> </ul>
Investment into human capital	<ul style="list-style-type: none"> <li>Improve the possibilities to employ through increasing skills of the unemployed</li> </ul>	<ul style="list-style-type: none"> <li>Basic education</li> <li>Vocational education</li> </ul>

Source: Bonoli, 2010

ALMP in Slovakia has undergone a significant reform in 2013. The change in ALMP has addressed the need to ensure the reduction of unemployment among disadvantaged groups and to reduce their threats on the labour market, as well as to support the creation of real jobs at local and regional level with a view to more efficient use of public funds. The main reform changes were to simplify the system of active labour market measures and reduce the administrative burden of implementing ALMP.

Eurostat defines labour market policy measures (active labour market policy measures, categories 2-7) as public labour market interventions where the main activity of participants is not linked to job search and where participation is usually reflected in a change in labour market status. Labour market policy measures include primary interventions that provide temporary support for groups that are disadvantaged in the labour market (the unemployed, at-risk workers and inactive people). Labour market policy measures are broken down by type of action and cover the following categories: education and training, job rotation and employment, employment incentives, protected and supported employment and integration of people with disabilities, direct job creation and self-employment support.

Financing of employment policy instruments and individual instruments of active measures on the labour market in the SR is provided mainly from EU funds and the state budget. Under EU funds, these activities are funded by the European Social Fund (ESF). The ESF is the main European instrument for promoting jobs, helping people to get better jobs and ensuring fairer employment opportunities for all EU citizens. In its activities, it invests in European human capital, workers, young people and all people looking for work.

## 2 Materials and Methods

In this paper, we were working with secondary data. The objective of this paper is to analyse the secondary data regarding the implementation of the OP EaSI, including achieved drawdown and the indicators used for the analysis in this paper were obtained from Annual Reports of the Implementation of the OP EaSI during 2007 - 2015, websites of the MoLSAF SR, Implementation agency of Slovak Ministry of Employment, Social Affairs and Family and Ministry of finance of the SR during period 2007-2017. The secondary data regarding the spending on ALMP as a % of GDP, employment and unemployment rate, people at risk of poverty or social exclusion rate in Slovakia in

2007 - 2017 were obtained from Eurostat and OECD websites. The data we used in this paper were quantitative. Methods analysis, synthesis, induction and deduction are used to achieve the set goals. For the period under review, we chose the years 2007-2015, as the implementation of the OP EaSI under the  $n + 2^{45}$  rule took place in this period.

The main aim of the contribution is to analyse the development curve of Slovak spending on Active labour market policy as a % of gross domestic product in 2007 - 2015 in the context of drawing priority axis 1 of the Operational Program Employment and Social Inclusion in the programming period 2007 - 2013, including the achievement of set values of measurable indicators of this priority axis. To achieve the objective, the methods of analysis, synthesis, deduction and induction have been used. Another key method that has been used was the descriptive statistics, and for better visualization, we used a graphical representation of the identified values (Rimarčík, 2007; Chajdiak, 2010).

For research, we were analysing the impact of implementation of the priority axis 1 of the OP EaSI on the trend of the expenditures of the SR in 2007 - 2015 on the ALMP in relation to the % of GDP, as well as employment and social inclusion indicators in Slovakia in 2007 - 2015. We focused also on the relation of the long-term unemployment rate and employment development in individual years to the number of jobs created and the number of persons involved in the project. We were also interested in the rate of poverty and social inclusion in individual years in relation to the pre-invested funds of the priority axis 1 of the OP EaSI during the reference period.

### 3 Results and Discussion

The OP EaSI is a document under National strategic reference frame (Central coordination body, 2007) on the basis of which the ESF provided support in the 2007 - 2013 programming period for human resources development, increasing employment, increasing social inclusion and capacity building. ALMM primarily serves to increase employment rates and reduce unemployment rates (MoLSAF SR, 2007). The implementation of the OP EaSI took place from 2007 to the end of 2015 in accordance with European Commission legislation.

As the subject of our investigation is defined in 2007 - 2015, to examine the impact of the OP EaSI on the implementation of the ALMP instruments and the development curve of the SR's expenditure on ALMP in 2007 - 2015, it is first necessary to address the situation in terms of financial spending means for their implementation in Slovakia before this period. Thus, we will primarily focus on 2006. First, according to Eurostat, the EU spent an average of 1.9% of gross domestic product (GDP) on labour market policy (both active and passive) in 2006. Of this amount, on average, 57% of the money spent on passive support for the unemployed, 26% for ALMP and 11% for employment services were on the European average. The labour market policy in the EU is seemingly a rather different today than hereto-fore because of the belated recognition that healthy employment development is the precondition for achieving fair and decent social and working standards (Addison, 2002).

The ALMM instruments and the contributions provided are only a complementary means of mitigating labour market imbalances from a macroeconomic perspective. Slovakia's ALMM spending has long been one of the lowest in OECD countries (the OECD average is 0.76% of GDP). Their

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<sup>45</sup>  $n + 2$  relates to financing rules for the annual allocation of money from the European Structural and Investment Funds. If the funding in question has not been spent by that date, the Commission can 'decommit' future budget allocations. Automatic decommitments are made if funding is not spent, or requests for payments are not made, by the end of the second year ( $n+2$ ).



share in GDP has been declining since 2010, as the drawdown of transfers to ALMM has a decreasing trend and GDP has a growing trend.

In total, Slovakia spent 0.65% of GDP on labour market policy in 2006. The structure of labour market policy expenditure in Slovakia is very similar to the European average. The SR spent 21.9% of all expenditures on active measures and 26.4% on employment services, including employment offices. The SR spent about 51.8% on spending on passive policy, but when we look at individual items, we find out that it was a very atypical composition of expenditure. Unemployment benefits and other benefits were 17.8%, the lowest EU-wide share, and, on the contrary, early retirement benefits, which we see as passive labour market policy, were almost the same as EU - 33.3 % (38.8% in Poland). In most EU countries, more than 50% expenses on passive labour market policy are spent on the supporting of the unemployed.

By comparison, according to Eurostat data, most of the labour market policy is given by Germany, but 3% of GDP, but up to 2% of GDP is directed towards direct support of the unemployed in the form of benefits. Similarly, the Netherlands, Belgium and France are similar. The share of the labour market policy expenditure is almost 50% in almost all countries except Bulgaria, Lithuania and the Czech Republic.

Of the active measures, European countries most often use education and training for the unemployed, with up to 41% of ALMP spending heading to these areas. Estonia and Austria spend the most (up to 86% and 74% respectively), while Slovakia and the Czech Republic spend the least (less than 10% of ALMP expenditure). At the same time, Slovakia is spending at least 6.8% of the ALMP on this measure. The second most used ALMP tool in the EU is to support the employment of the unemployed, the most common incentives for employers to recruit jobseekers. Cyprus (62%), Luxembourg and Romania (51%), Spain (50%), and the European average of 42% are the most involved in this instrument.

In accordance with the approved National Reform Program of 2016, the SR set the objective of increasing the employment rate to 72% by 2020 (Table 2). Addressing the problem of unemployment and the ensuing growth in employment would, in addition to a positive social dimension, have an important impact on the economy's performance through increased labour force participation and productivity. Particular attention needs to be paid to the integration of relatively numerous people from marginalized communities and the mismatch of labour market needs with the educational structure.

**Table 2 - Employment and social inclusion indicators**

		2007	2008	2009	2010	2011	2012	2013	2014	2015	Goal 2020
<b>Long-term unemployment rate</b> (percentage of active population over 15 years)	<b>SK</b>	8.3	6.7	6.5	9.3	9.3	9.4	10.0	9.3	7.6	3.0
	<b>EÚ</b>	3.1	2.6	3.0	3.8	4.1	4.7	5.1	5.1	4.5	-
<b>Employment rate</b> (percentage in the age group from 20 to 64 years)	<b>SK</b>	67.2	68.8	66.4	64.6	65.0	65.1	65.0	65.9	67.7	72.0
	<b>EÚ</b>	69.8	70.3	69	68.6	68.6	68.4	68.4	69.2	70.1	75.0
<b>Population at risk of poverty and social exclusion</b> (percentage of population)	<b>SK</b>	21.4	20.6	19.6	20.6	20.6	20.5	19.8	18.4	-	17.2
	<b>EÚ</b>	24.4	23.7	23.3	23.8	24.3	24.7	24.6	24.5	-	19.4

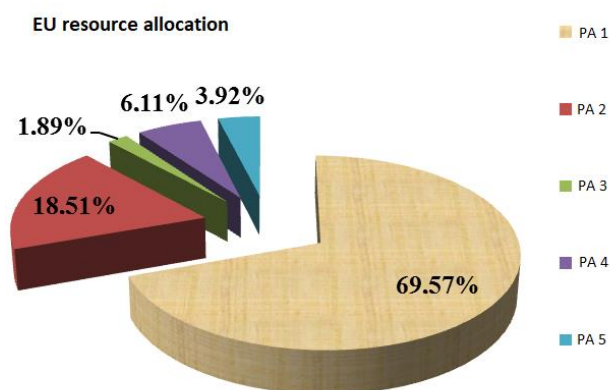
Source: National Reform Program, 2016

ALMM implemented through national projects (NPs) funded by the ESF has largely contributed to the fulfillment of the OP EaSI main objective - Increasing employment and adaptability and reducing unemployment. Active labour market policy measures and reform changes were adopted within the 2007 - 2013 programming period to increase employment, mitigate regional disparities and reduce long-term unemployment, youth unemployment and the associated support for job creation. Enhanced consideration has been given to the situation on regional labour markets, increasing the targeting of the target group, in particular disadvantaged jobseekers, primarily the long-term unemployed, young people, people over 50 and low or no education, more individualized employment services, increasing the focus on education and guidance, greater flexibility in the education system and better support for job creation in municipalities and regions.

The aim was also to improve the conditions in the SR, which will positively influence the situation on the labour market and contribute to achieving the balance between the supply and demand sides of the labour market with the use of resources from the ESF (Rýsová, 2015). In particular, the creation and sustainability of jobs for young people contributing to a high-quality job offer, as well as the promotion of young people's professional skills and their adaptation to the needs of the labour market, as well as the promotion of access to young people's employment are suitable instruments. In the framework of youth employment support programs, the creation of effective tools to boost employment, employability and reduce unemployment among young people under the age of 29, who make up the longest largest group among, is crucial (Dobřík - Rýsová, 2014).

**Figure 1 - Percentage distribution of OP EaSI allocation according to priority axes**

Source: Ministry of Labour, Social Affairs and Family of the SR, 2014



A total of EUR 941 301 578 was earmarked for the EU from the ESF funds for the implementation of OP EaSI activities for 2007 - 2013. OP EaSI was implemented through five priority axes, with the most significant part of the funds, almost 70% (EUR 654,887,200) being allocated precisely in priority axis 1 - Supporting Employment Growth, which among all priority axes, through its focus of activities and implemented projects, contributed the most to ALMP support (Figure 1).

Priority axis 1 was focused on prevention of loss of employment and creation of new jobs and placement of unemployed persons, respectively persons who are at risk of dismissal from employment. Under this priority axis, all human resources on the labour market were supported as well as enterprises that provide jobs for the workforce.

Under priority axis 1 of the OP EaSI, 691,146,422.28 EUR was spent cumulatively on the basis of data from the Annual Reports of the OP EaSI; The drawdown of more than 100% was made possible by increasing the funding of the priority axis by reallocations from other priority axes, as well as by financing the implemented projects from the state budget on the basis of increased demand for project

funding from the applicants for contributions. Thus, it can be said that it is considered successful in terms of financial implementation. The success of the implementation of priority axis 1 can also be assessed on the basis of evaluation of achievement of set values of measurable indicators.

The success of the implementation of priority axis 1 of the OP EaSI in relation to the ALMP support is based on data from the OP EaSI Annual Reports in particular the indicator Number of persons of the target group involved in the supported projects, which was fulfilled at 254.65%. In total, 1 509 852 target groups were involved in the projects (Table 3). This is largely a project dedicated to promoting active labour market measures, which was of great interest to the participants, so the indicator was filled in excess. Similarly, the indicator Number of persons placed successfully in relation to projects aimed at the placement of persons, respectively people who are at risk of dismissing their job vacancies have been above average. This indicator was filled to almost 290.30%, which is 425 243 persons.

The high fulfillment of the above two measurable indicators was undoubtedly due to the fact that, in the implementation of the NP, more ALMP instruments with a lower financial value than planned were created for more targeted support. Consequently, some of the ALMM instruments were not used in full and the contracted amount of funds was not used up, savings were made which were divided into other persons involved in the projects, resulting in an increase in the indicator's resulting value.

**Table 3 Priority axis 1 of the OP EaSI - Implementation of selected physical indicators of contracted projects**

Indicators	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Number of supported projects	0	0	0	38	58	226	329	364	513	513
Number of people of the target group involved in supported projects (number, output)	0	5119	210 476	254 302	881 045	1 210 605	1 303 997	1 355 584	1 509 852	1 509 852
Number of people of the target group involved in supported projects (number, output)	N/A	N/A	N/A	6 326	41 754	44 983	45 342	45 933	69 590	69 590
Number of created jobs (number, output)	0	1 857	31 413	22 899	42 429	54 191	69 781	77 905	82 552	82 552
Number of successfully placed people (number, output)	0	1 902	7 424	25 025	43 179	48 520	73 011	79 204	91 108	425 243
Number of people who kept their jobs (number, output)	0	0	0	250	161	4 862	13 036	16 782	55 918	55 918
Unemployment rate (% , impact)	11.2	9.6	12.1	14.5	13.6	14.0	14.2	13.2	11.5	11.5
Rate of success of the placement of people on the labour market (% , impact)	-	37.16	3.53	9.84	4.90	4.01	5.60	5.84	28.16	28.16
Rate of sustainability of supported jobs within 12 months after benefit termination (% , impact)	N/A	37.16	3.53	9.94	4.92	4.41	6.60	7.08	31.86	31.86

Source: OP EaSI Annual Reports for individual years of implementation, Implementation agency of Slovak Ministry of Employment, Social Affairs and Family (2018)

In particular, the implementation of NPs, implemented by the Central Office of Labour, Social Affairs and Family of the SR, contributed to the high fulfillment of measurable indicators. Their aim was to promote employment, adaptability and reduce unemployment, or to create short-term jobs for the unemployed. Through the activities of individual projects were provided e.g. contributions from Act no. 5/2004 Coll. on Employment Services and on Amendments to Certain Acts, as amended.

As part of the OP EaSI implementation, it was necessary to respond to the consequences of the economic crisis in 2009, so several new ALMP instruments were applied. The new ALMMs adopted in this context in March and April 2009 for a transitional period until the end of 2010 have created the conditions for maintaining employment as well as for creating new jobs. Further measures were

taken at the end of 2009 to facilitate entry into the labour market for school leavers as well as for those who were unemployed due to termination of employment for organizational reasons, due to occupational disease threats, in order to reach the maximum occupational exposure and for attaining a given age for performing initial employment.

If we look at the development curve of the employment and social inclusion indicators in Slovakia in 2007 - 2015, we see a significant impact of the economic crisis, when the long-term unemployment rate flew from 6.5% in 2009 to 9.3% in 2010, then remained above 9% until 2015, when it was 7.6%. But this trend has to some extent copied developments across the EU. Similarly, the employment rate fell significantly in 2010 compared to the pre-crisis years, at 64.6%. Before 2015, employment did not reach employment until 2015, when it was 67.7%. Regarding the unemployment rate, it was 12.1% in 2009; it jumped to 14.5% in 2010 and reached the 12% threshold for the first time since the crisis in 2015 when it was 11.5%.

Regarding the development of the level of expenditures of the SR in 2007 - 2015 on the ALMP in relation to the % of GDP, based on the analysis of the utilization of priority axis 1 of the OP EaSI, we concluded that this level of expenditure on ALMP was largely influenced by the development curve of the utilization of the given priority axis. If we look at the upward trend in the level of Slovak spending on ALMP in 2008, 2009, we see a parallel with the increase in drawing of priority axis 1 of the OP EaSI, whose drawing after zero drawdown in 2007 (when only the first calls were announced) started in 2008. The years 2009, 2010 and 2011 were the strongest in terms of the level of spending of the SR on ALMP in the period under review, as well as the level of implementation of priority axis 1 of the OP EaSI. Subsequently, the years 2012, 2013, 2014 and 2015 led to a gradual decrease in the SR's expenditure on ALMP, respectively drawing on the priority axis 1 of the OP EaSI.

During the implementation of the priority axis 1 of the OP EaSI, more than 82,000 new jobs have been created; most of them are sustainable, meaning that those who have been supported have retained their job for more than one year. With these contributions, more than 108,000 vacant or unoccupied jobs were filled. From the point of view of meeting the OP EaSI global target, the projected values of the indicators were set in the pre-crisis years, meaning that the measures were directed to areas with sufficient absorption capacity.

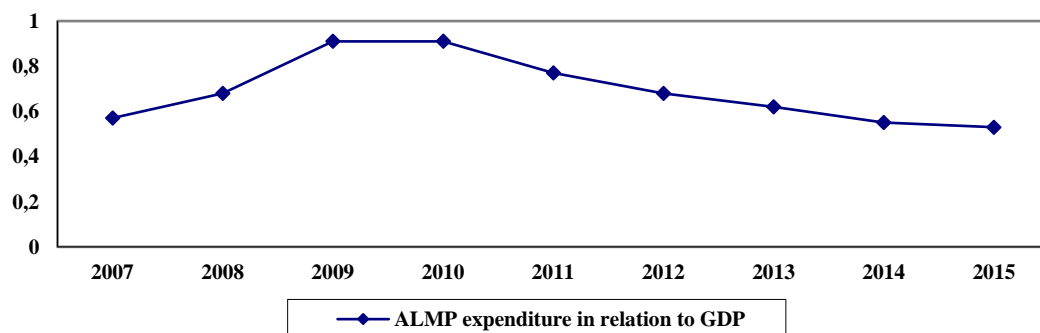
When we consider the course of development of the unemployment rate in Slovakia in the period under review from 2007 to 2015 in the context of above mentioned indicators, we came to a conclusion that there was a significant impact of the implementation of the priority axis 1 of the OP EaSI. The long-term unemployment rate in Slovakia in 2007 was 8.3%. With the contribution of OP EaSI, Slovakia was able to reduce unemployment in the long term as the long-term unemployment rate indicator was at 7.6% in 2015.

Regarding the employment rate, it was heavily influenced by the crisis in 2008 and 2009, but thanks to measures taken, especially ALMM supported mostly by priority axis 1 of the OP EaSI, the rate increased every year since 2010. The employment rate in Slovakia in 2007 was 67.2%. During the implementation of the OP EaSI, more than 82,000 new jobs were created; most of them are sustainable, meaning that those who had been supported had retained their job for more than one year. With these contributions, more than 108,000 vacant or unoccupied jobs were filled. The employment rate in Slovakia was 67.7% in 2015.

In the field of combating poverty and social exclusion, the OP EaSI had a strong contribution to the people at risk of poverty or social exclusion rate in the SR 2007-2015, which decreased every year during that period, except 2009 as a consequence of the crisis. In 2007, it was 21.4% and in 2015 it was reduced to 18.4%.

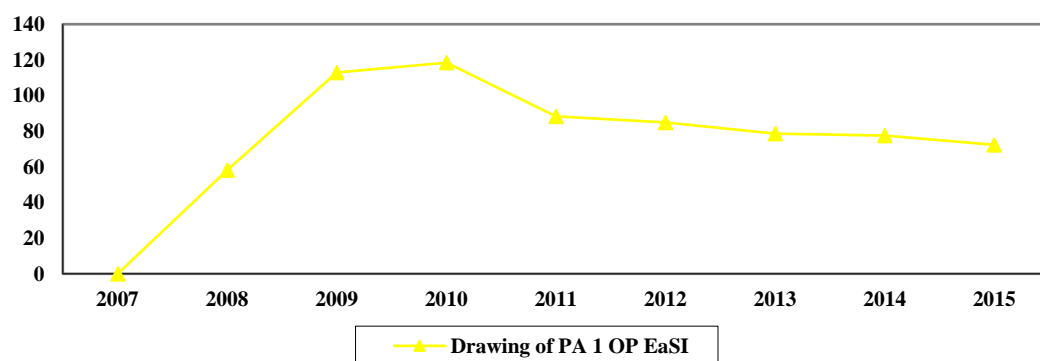
**Figure 2 Share of SR expenditures in 2007 - 2015 on labour market policy in relation to % of GDP**

Source: Own processing based on OECD data (2019)



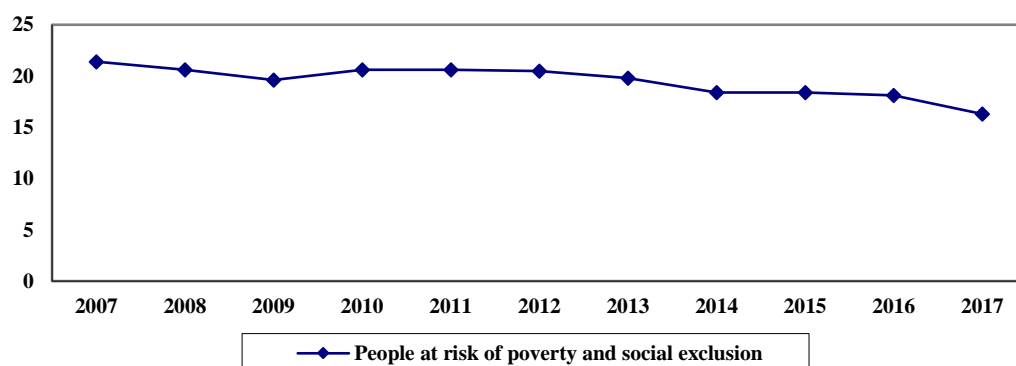
**Figure 3 Drawing of priority axis 1 of the OP EaI in the years 2007 - 2015 in mil. EUR**

Source: OP EaSI Annual Reports for individual years of implementation, Implementation agency of Slovak Ministry of Employment, Social Affairs and Family (2018)



**Figure 4 People at risk of poverty or social exclusion rate in SR 2007 - 2017 in %**

Source: Own processing based on OECD data (2019)



Implementation of the OP EaSI in the framework of active labour market policy was implemented mainly at the NP through the Central Office of Labour, Social Affairs and Family. The Central Office of Labour, Social Affairs and Family is a state administration body ensuring the performance of state administration in the areas of social affairs and employment services. The institution was set up in

January 2004 by Act No.453 / 2003 on state administration bodies in the area of social affairs and employment services, as amended.

The ALMP was reflected in the main objectives of national and other projects aimed at increasing employability of the jobseekers and promoting employment. It was influenced by existing EC regulations as well as state aid rules. In cooperation with the PSVR's offices as partners in the 2007-2013 programming period, the LFSR implemented a total of 18 NPs with a total approved NFC of 346.8 mil. €, of which 14 NP with NFP 307.92 mil. € was focused on the implementation of activities pursuant to Act No. 5/2004 Coll. on Employment Services, as amended.

As one of the countries with the lowest youth employment, the SR underwent a European Commission assessment in 2012 with the aim of reallocating EU funds to tackle youth employment. In addition to other ALMP tools, the system included two projects of the Office for the Protection of Labour and Social Affairs and Family under the OP EaSI (“Support for Job Creation” and “Support for Employment of the Unemployed in Self-Government”) funded by the ESF aimed specifically at supporting job creation for candidates under 29 and which we consider key in terms of the implementation of the ALMP from ESF. The support was financed by financing part of the employer's costs for employee contributions. The projects were launched in November 2012 and were implemented by August 2015.

An essential element for introducing further successful measures to promote active labour market policies is to build on progressive and functioning elements to promote the participation of young people in the labour market (eg promoting the employment of disadvantaged jobseekers, a project to support young people up to 29 years of age) and to take measures to promote young people's participation in the labour market linked to urgent support for job creation, especially in small and medium-sized enterprises, and to stimulate the recruitment of young people. At the same time, the offer of good practice must also follow up on the ALMM applied so far, which is a contribution to the practice of graduate practice. Taking 2012 - 2013 as an example, a total of 10,205 jobseekers completed their graduate practice in 2013, with 3,586 jobseekers on the labour market, which is 35.14% of the total number of jobseekers who graduated in 2013. Most of them were placed on the labour market within 3 months after their termination - 1,945 jobseekers, from 3 to 6 months after their termination - 958 jobseekers and after 6 months - 674 jobseekers. Percentage of job placement in the labour market was higher by 3.99% compared to 2012, indicating that graduate practice has become more effective due to ALMP implementation.

At the same time, the ALMP tools and OP EaSI projects to support youth employment created the basis for the establishment of a guarantee scheme for young people under the age of 25 in Slovakia. The aim of this measure is to ensure that all young people under the age of 25 receive a quality offer of employment, continuing education, apprenticeship or internship within four months of losing their jobs or ending formal education. To achieve this goal, funding will be provided through the Structural Funds in the new programming period 2014 - 2020, which will follow up on successful projects from the 2007 - 2013 programming period. Key activities of the implementation of the Guarantee Scheme are focused on the professional advisory services of the PSVR offices, creating better targeted and personalized activities, and identifying especially those young people at risk of not finding employment or further training. Primary will be to provide all information about available employment services and forms of support, such as promoting, providing information and advice on how to make preparations to start self-employment. The project focus will be to improve the quality of the graduate practice by introducing an up-to-date overview of the allocated funds for the implementation of the Youth Guarantee Scheme and a separate information component within the web site of the Central Office of Labour and Social Affairs and Family.

In Slovakia, the Youth Guarantee is implemented in accordance with the National Plan for the Implementation of the Guarantee for Young People in the SR (MoLSAF SR, 2014), which was discussed and noted by the Government of the SR at its meeting on 5 February 2014 (hereinafter

referred to as the "Guarantee"). The implementation of the guarantee was also adopted by the Council of Solidarity and Development of the SR, which adopted a Joint Declaration on its support on 29 January 2014. The introduction of the guarantee is also part of the National Reform Program of the SR 2014, which was approved by the Government of the SR by resolution no. 195 of 23.04.2014. This document updated the February 2014 guarantee and was sent to the EC in April 2014. The main change (update) was that in comparison with the original guarantee, the SR shifted the threshold from 25 to 29 years of age of young people, provided that in the 25-29 year period the guarantee will cover mainly the long-term unemployed (over 12 months) or at least 6 months in the jobseekers register.

Subsequently, a number of new or modified ESF-funded active labour market policy measures were launched in 2015 to support a wider group of disadvantaged jobseekers, as well as specific groups of young people under 29 and disabled unemployed.

Implementation of a training program to support jobseekers retraining continued. As part of the Youth Employment Initiative, a new active labour market measure has been introduced in the Employment Services Act since January 1, 2015, to support the creation of jobs in the first paid employment (Section 51a). National projects have been launched to support the acquisition of professional skills by employers and self-employment of young people funded by OP Human Resources (Practice to Employment, Graduate Practice Starts Employment and Success on the Labour Market). By subsidizing labour costs for public employers, job creation for disadvantaged jobseekers has been encouraged. The implementation of the national project "Promoting the employment of people with disabilities" has begun, which continues to support this target group in the new programming period. Since the beginning of 2016, a new contribution to the promotion of work mobility within the SR has been introduced by a modification of the move to work allowance under Section 53a of the Employment Services Act, which also takes into account the temporary stay.

#### **4 Conclusion**

Slovakia is one of the EU countries that struggle in the area of employment especially with high long-term unemployment. One of the key objectives of Slovakia's economic policy is therefore related to addressing labour market imbalances through alternative labour market policy instruments. In particular, the ALMMs are among the most effective instruments the state has to promote employment and combat the threat of poverty and social exclusion. This is true if the ALMM is funded to a sufficient extent and set up effectively. In the SR, in our opinion, the funding of ALMM is insufficient despite the EU resources, which is also reflected in the long-term unemployment rate. This statement is based on the fact that OECD countries that invested a larger % of GDP ratio to ALMM achieved a lower level of unemployment compared to Slovakia.

In terms of the SR, implementation of the ALMM instruments was significantly contributed to by the implementation of the OP EaSI in the programming period 2007 - 2013. Priority axis 1 was the most important contributor to the financing of ALMM within the OP EaSI. The form of assistance was mainly implemented through the national projects of the Central Office of Labour and Social Affairs and Family.

In this paper we were interested on the impact of the implementation of the priority axis 1 of the OP EaSI on the trend of the expenditures of the SR in 2007 - 2015 on the ALMP in relation to the % of GDP, as well as employment and social inclusion indicators in Slovakia in 2007 – 2015. Based on our research, we came to a conclusion that there was a significant impact of the implementation of the priority axis 1 of the OP EaSI on the long-term unemployment rate, employment rate and people at risk of poverty or social exclusion rate in the SR.

Based on the analysis of the implementation of priority axis 1 of the OP EaSI in relation to the development of the level of expenditure of the SR in 2007 - 2015 on ALMP in relation to the % of GDP, we concluded that we see the developmental parallels of these two indicators. In both cases, 2008 saw an upward trend, with 2009 and 2010 showing the highest levels in the period under review,

followed by a gradual downward trend in both cases until 2015. Based on our research, we can conclude that this level of expenditure on ALMP in relation to the % of GDP was largely influenced by the development curve of the implementation of the given priority axis. On this basis, it can be stated that EU funds have made a significant contribution to mitigating the negative effects of the global economic and financial crisis, both in relation to economic development and the labour market.

Regarding the course of labour market policy expenditure relative to % of GDP in Slovakia during the implementation of the OP EaSI, we can see a significant increase in these expenditures in 2009 and 2010 in response to the economic crisis. However, at the end of the implementation of the OP EaSI, labour market policy expenditure in relation to % of GDP has returned to about the same level as at the start of implementation in 2007. This is related both to GDP growth and to the end of EU policy-making of the labour market from the programming period 2007 - 2013, while projects from the new programming period 2014 - 2020 did not yet start at that time due to the later launch of its implementation. This fact only underlines the irreplaceability of EU resources in supporting labour market policy instruments in Slovakia. Despite intensive and concentrated European funds, several major employment challenges remain to be addressed in Slovakia, in particular the long-term unemployment of young people, as well as the matching of labour demand with labour market needs.

Every year, the ESF is helping approximately one million European citizens to get new jobs, education or qualifications. A successful implementation of OP EaSI was a good starting point for the preparation of the implementation of the current 2014-2020 programming period in which the SR, through the implementation of projects of the OP Human Resources according to EU recommendations, focuses mainly on long-term unemployment, youth unemployment, support for inclusive education and integration of marginalized groups.

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# Millennials and Their Working Expectations

Zuzana Jurgova

## Abstract

*After certain period of time, there is a change in the labor market generations. Every generation personality will unleash new era. Year 2020 is seen as a turning point bringing new generation as an active part of labor market. Millennium called them Millennials. These are people born from 1980 to 1995 and bring new approaches to work which become subject of our observation. Our goal is to analyze their perception of labour market, since by 2020 Millennials will already make up substantial part of it. Respondents who are seen as Millennials were approached through questionnaire at employment office and universities face to face in municipalities of Bratislava, Trenčín and Košice during period May and June 2019. They expressed opinions by marking from list of corresponding answers anonymously. Result of our research is showing their different life priorities and work sense and has proven their miscellaneous expectations and new demands in comparison with previous generation. They are used to faster world and are demanding a variety of career opportunities because they have grown up with technology and online world. Their priority in life is to set a balance between private life and work. For them, freedom is paramount and crucial.*

**Keywords:** Labor market, millennials, life priorities

**JEL Classification:** E24, Z13, O52

## 1 Introduction

Labor market is passing through generation turn. One will leave and a new one will come. From this point of view, it is not an unusual phenomenon, except that the change of generations can sometimes leads to an influx of new demands, a change in lifestyle and working perception. And it is precisely with the Millennials that the labor market changes. To what extent are Millennials different, we analyzed through questionnaires that tell us more about this generation. Goal is to analyze and point out what are their perception of labour market, because by 2020 Millennials will already make up a substantial part of it.

### 1.1 Millennials as the influx of our future in the world

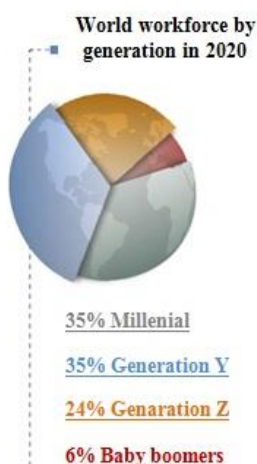
Millennials will soon become the most important group of our world. Years of birth differ, not unilaterally defined. According to Iconoclast, a consumer research firm, the first Millennials were born in 1978. Newsweek magazine reported that the Millennial generation was born between 1977 and 1994. In separate articles, the New York Times pegged the Millennials at 1976-1990 and 1978-1998. Time magazine article placed the Millennials at 1980-2000. (BROOKS, 2016). On this basis, we know that by 2020 they will be in the range of 20-40 years. Their maturity has been achieved in the new Millennium. The term comes from the English word Millennials and therefore the term bears born people between 1980 and 2000 (ANDERSON, SALKED, 2019).

Behind the founding ideas are American historians and publicists William Strauss and Neil Howe. We will also meet these names at the so-called Strauss-Howe's generation theory. It describes the theoretical cycle of repeated generation in American history. According to this theory, historical events are associated with recurring generational personalities. Each generation personality will unleash a new era in which new social, political and economic environments exist. These turns tend to take approximately 20 to 22 years (Why Millennial And Gen Z Employees Are Really Leaving You). In particular, they claim to be part of a larger cyclical "saeculum". This term refers to a long human life, which is usually within 80 to 90 years of age, but it may last longer. If we translate it precisely from Latin, saeculum is a term for a century. The theory further states that after every

"saeculum" in America's history, the crisis is repeated, followed by recovery. It is important to realize that Generation Z is also part of this generation of Millennials. But we have to realize that Generation Z is still only partially emerging on the labor market and its overall age category is different. That is why Generation Z are those who were born between 1996 and 2015. In 2020, this age group ranges from 5 to 24 years. Therefore, we must realize that these follow-up generations need to be differentiated (AUTOR, DUGGAN 2003). And not only in terms of age, activity in the labor market, but also in shopping, communication and financial understanding. Often, when it comes to understanding these terms, we are seeing that this is one age category. The priority for us in terms of labor market activity is and will continue to be the generation of this century called the Millennials.

Millennials are those who grew up using electronics, the Internet and online social communities. According to DMR (Digital marketing Ramblings) the millennial generation spends 18 hours per week on their smartphone, make up 25 percent of the US workforce and are the largest group to use a coupon for Internet shopping. Some facts offered by Pew Research Center suggest that millennials are likely to be college graduates and are the generation most likely to live at home between the ages of 25 and 35 (JENKINS R. 2017). Their appearance reminds me of the hippies of the 1960s, yet their conversation is void of any high-minded idealism. And unlike the previous generation, they seem light-years from angst. Peals of laughter erupt often the group and most of them seem to be smiling and having fun. These are happy kinds. It is a refreshing sight to watch. Meet the millennials generation. They are individuals born between the year Reagan took office and the beginning of the new millennium. They have no memory of a time before MTV. They are 72 million strong, the biggest generation in U.S. history, surpassing even the Baby Boomer generation in size. (VERHAAGEN D, 2005). Unlike Generation X, which was initially elusive and hard to define, the Millennials have already begun to form a generational identity. They are already beginning to have an impact on our culture. Some social commentators have already said that this generation will likely have a positive impact well into the twenty-first century. However, as with all generations, there is good news and bad news about the kind of change they are bringing.

**Chart 1-World workforce by generation in 2020 expressed as%**



The source was processed by the author according to paylab data research

According to the results of the research conducted by Manpower Group Slovakia, it is expected that in 2020, Millennials will make up 35% of the total world workforce. The Global Survey was conducted on a sample of 19,000 Millennials from 25 countries. They will form the largest part of the labor market, along with the X generation that has been on the market for some time. They are ready to run a career ultramarathon (Millennials and Career: Vision 2020). More than half of them expect to work after the age of 65. And 20% expect to work after 70 years. In Japan, even more than a third say they will work to death. The Millennials welcome the opportunity to use alternative ways of working (MORVAY, HUDCOVSKÝ, 2018). Although most of them have a permanent employment relationship, they are not aging and are open to new employment opportunities. As part of the research, 93% respondents are willing

to invest their time and finance in education development.

Next will be the Z generation, which is part of the elderly Millennials. And the last identifiable will be the Alpha generation, which is currently only 6%. Based on the graph 1, we can see that the

Millennials will be an important part of the active labor market. And this is not a big future, but 2020 (ANDREW, SANCHEZ, JOHANSSON, 2011). Therefore, the labor market is slowly starting to record the arrival of new workers, who will be the main starting point for the offer.

Many authors are dealing with Millennials generations from a different perspective. One of the most interesting points of view is the financial literacy of Millennials, where Erin Lowry is an expert on the subject on the market. Describes finance background how they invest and how they make saving. I think that they are not supervised sufficiently by their parents in financial management (Lowry, 2017). What led her to the founding of a blog that tries to understand, and help them. It is a topic that is discussed from every angle in the world. They are all trying to understand the new generation of Millennials. We have not yet seen similar attitudes on the Slovak market. It is rather a rare understanding and perception of this generation, even though they are already beginning with surveys to find out how they behave and they will behave in the labor market. Based on which we inspired and created our own questionnaire and found out more about Millennials generations in the practical part.

## 1.2 Millennials and their requirements

We conducted quantitative research with sample of 200 respondents. Young people between age of 20-40 were intentionally selected in questionnaire. Mathematical and statistical method were applied while processing data as well as analyzing method. Respondents who are seen as Millennials were approached at the employment office and universities face to face in municipalities of Bratislava, Trenčín and Košice during period May and June 2019. Research was disregarding gender of Millennials. They expressed opinions by marking from list of corresponding answers anonymously. The orientation was purely focused only on working priority areas preferred by young people. We were inspired by already conducted research from abroad. The questions were compiled and approximated to give the utmost volume in terms of preferences that they prefer or would prefer in the labor market.

**Table 1 - Preferred benefits of Millennials**

<b>Preferred benefits of Millennials</b>	
Flexible working hours	55%
Home office	49%
Extra holiday	46%
Education	28%
Business car	22%
Reduced working hours	21%
Sick days	21%
Housing allowances	16%
State-of-art technology for private use	12%
Pension contribution	10%

The picture is expressed as a percentage and as a first question it was directed to their first-rate benefits. The first place generation of Millennials assigned to flexible working time up to 55%, second place is home office up to 49% and the third is extra holiday with 46%. On the basis of what we see, it is a preference for freedom, uncontrollability, and orientation of time for your life. From a flexible time perspective, they see it as a manifestation of trust. They should feel that the employer trusts them in fulfilling their duties (BUNČÁK, HRABOVSKÁ, SOPÓCI, 2018). They appreciate and accept very positively if they have the opportunity to co-decide on how to plan work so that they can also take private activities. This is followed by the latest top 3, which is related to homework. It is more attractive and convenient for them.

According to the results of the research conducted by Manpower Group Slovakia, the offers of companies that are offered to future employees do not match. The demands were directed to the Y-

generation, which blends in with the generation of Millennials. They prefer to have corporate events, coffee and various other free drinks. They also present flexible working hours or a mobile phone, or a laptop for private use. From this point of view, it is important for us that these are different requirements that dominate the labor market, in addition to flexible working hours. Interestingly in Table 1 is the last position where pension contribution is mentioned. It is quite interesting phenomenon, which is 12% (SOJKA, KONEČNÝ, 1998). For Millennials pension contribution is not a priority, nor is it of great interest to them. What can greatly affect the government budget and have a negative impact on our economy. The second question concerns the activities that the employer should contribute to the Millennials. A large part of the Table 2 introduced language learning with 48%. Specifically, this is a financial aid for language learning. In addition, they said they were in the field with 35% and the last part in the top 3 was leisure activities. The generation wants to learn, but they are more oriented towards languages and vocational education they will need to do their job. They are aware that without language they are lost and their opportunities are very restrictive. Because they want to enjoy life, leisure time describes this generation.

**Table 2 - Activities that employer should contribute to Millennials**

<b>Activities that employer should contribute to Millennials</b>	
Foreign language courses	48%
Professional trainings	35%
Leisure activities	30%
Pension contribution	28%
Holiday allowances	28%
Cultural activities	27%
Benefits for commuter	26%
Personal development education	19%
Housing allowances	18%
Life event allowances	15%

The last part they found out about Millennials was the question: "What do employers lack by Millennials?" Under this meaning, we understand that they miss remuneration that must be fair. As well as the opportunities of personal and professional growth (this update is recently updated to keep things fresh). Companies that want to be active for today's generation should review their reward system (KAŤKOVÁ, 2019). They should make it more transparent and clearly communicate. They also prefer to work without stress. They will not work under stress because they appreciate healthy lifestyle.

**Table 3 - What do employers lack by Millennials?**

<b>What do employers lack by Millennials</b>	
Fair remuneration of employees	39%
Opportunities for personal and professional growth	36%
Work without stress	30%
Flexible working hours	25%
Educational opportunities	24%
Healthy meal	24%
Promoting innovation and ideas	16%
Pleasant working environment	16%
Influencing company strategy	12%
Respected superiors	11%

Conducted survey is an asset that puts forward important elements that touch and relate to the new generation. It is up to the employers how they can adapt and whether they can change the demands they offer. The influx of Millennials will mean some change, and whether we want it or not, we will not be able to prevent it (Millennials have specific conditions on the labor market). Therefore, we must start and give priority to this generation because they will form our future.

## **2 Method**

We conducted quantitative research with sample of 200 respondents. Young people between age of 20-40 were intentionally selected in questionnaire. Mathematical and statistical method were applied while processing data as well as analyzing method. Respondents who are seen as Millennials were approached at the employment office and universities face to face in municipalities of Bratislava, Trenčín and Košice during period May and June 2019. Research was disregarding gender of Millennials. They expressed opinions by marking from list of corresponding answers anonymously. The orientation was purely focused only on working priority areas preferred by young people. We were inspired by already conducted research from abroad. The questions were compiled and approximated to give the utmost volume in terms of preferences that they prefer or would prefer in the labor market.

## **3 Results**

In 2020 the world workforce will be made up of the most important generations Millennials and X generation. It is clear that they see flexible working hours as priority benefits. They want to continue language courses and extend professional trainings. Work mobiles, laptops or free meals in the dining rooms are not sufficient. It is a generation that has different requirements than they were here and are valid today. Based on this we see market is not sufficiently prepared for it. According to conducted questionnaire it is clearly seen that their priority and style is different. When choosing where and how they want to work, the three main areas are preferred. It is money, security and leisure time that we can classify as their priority areas. They demand fair remuneration for carrying out their work, flexible working hours, job security and many other requirements. They want to work but at the same time do not want to be restrained and enjoy freedom. They are not afraid of new opportunities if companies are more attractive to them. Their priority in life is to strike a balance between private life and work. They do not desire and do not want to become a slaves of work. In the questionnaire we found out that the first place was flexible time. They take this as a manifestation of confidence but also a sense of security that they have more time to implement it. We can already say that their primary values are associated with freedom. That is why it is necessary to begin to slowly adapt and prepare conditions for the labor market that will be suitable (BAUERLIEN M, 2011). Therefore, companies must first determine what requirements are relevant. The requirements of the employees who expect from their future employers do not coincide with the offer of employers that is preferred in the labor market and is currently very active.

## **4 Discussion**

There are currently about 82,000 unemployed young people (Statics.sk) on the labor market in Slovakia who, once the conditions are met, can become active labor market participants if they meet the conditions they demand. If the labor market does not start preparing for the next generation, unemployment can grow or it will cause moving of young people abroad to fulfill their market. This is the basis from which the labor market should bounce and start changing conditions. These are not the classical conditions that have been here and applied to the last century until the present century. Millennials bring new approaches to work, but also new demands, in comparison with previous generations. Millennials is the first generation that grew up with the world of online technology, including generation Y and the older generation Z. They are preparing and realizing that a career will be an ultra-marathon run and assume that the current market is not sufficiently prepared for them. Most employers and various statistics claim that we can't find enough people with the right job profile. But we do not realize that we have to start listening to today's generation. Companies need to be more creative and assertive. Millennials grew up with technologies that progress as quickly as possible. Therefore, the labor market needs to become aware and adapt if it wants a new generation to work for them.



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# Networking of Social Economy Entities in the Opole Region on the Example of the Kolot Cluster

Elżbieta Karaś

## **Abstract**

*In the area of business activity, evolutionary changes are taking place related to the growing role of various social economy entities occurring in the environment. These entities can be described as groups of stakeholders that understand the need for social development, but also take into account the need to economize their business. Especially these changes occur in social enterprises and organizations, where social goals prevail economic ones. Therefore, these entities are looking for new ways and business models to effectively strengthen their market position. Networking these entities may play an important role in this activity, e.g. by creating a cluster. The essence of networking is based on the possibility of achieving assumed goals through mutual interactions of various entities in the region. The purpose of the article is to present the possibilities of cooperation between social economy entities, to indicate the principles of building a cluster as one of the key ways of networking, and to present an example of the bottom-up KOLOT cluster initiative operating in the field of tourism in the Opole region.*

**Keywords:** Social economy entities, networking, cluster

**JEL Classification:** M2, O35, P13

## **1 Introduction**

Social economy entities can be described as so-called stakeholders (stakeholders) focused on achieving specific economic goals while engaging in social and local development of a given region. Building a collective network of cooperation between stakeholders is a way to achieve tasks synergistically. As a result, this can result in particular benefits not only for individual entities, but for all network members. The essence of networking as a form of activity is based on the possibility of achieving assumed goals from the simultaneous interaction of many entities. According to it, cooperation for synergistic solutions results not only in the particular benefits of individual entities but also in strengthening the position of local enterprises and public entities. Entities located in the region, creating networks or hosts or social networks, can realize completely new goals, not only economic, but also of social utility character. This is the result of the observation that none of the entities participating in the process of producing goods and services, seen alone, has neither knowledge nor the resources to solve problems in the area of economic and social life on their own. A good solution for networking various entities, not only economic, but also social economy sector entities is to promote cluster initiatives as a way to build new operating models in the region. The proper functioning of this model is possible when there is an appropriate level of cooperation that will take place between the stakeholders. In this context, it should be emphasized that more and more often social economy entities belong to their group, which should be perceived as co-participants of networks working for the implementation of socially oriented tasks in the region.

## **2 Material and Methods**

The aim of the article is to present the possibilities of cooperation between social economy entities, to indicate the principles of cluster building as one of the key methods of networking, and to present the example of the bottom up initiative - KOLOT cluster, operating in the area of tourism in the Opole region.

The theoretical materials have been developed based on the rich literature on the subject in the field of social economy, networking and cluster economy. The empirical part concerns the presentation of

the KOLOT cluster as an example of networking of entities in the region. The subject of the study were the KOLOT cluster documents - the statute, the organization's offer, scope of activity and cooperation in the region. The desk research method and individual in-depth interview conducted personally by the author of the article with the representative and main coordinator of the cluster Mrs. M. Żurek were used. Based on the collected information, an analysis was made and conclusions were drawn regarding the legitimacy of establishing a cluster in the tourism industry and the benefits of its functioning in relation to the social economy were indicated.

### **3 The Economic Clusters**

A cluster is a dual-nature form of cooperation of organizations combining competition with cooperation. This concept comes from the English word cluster, which is understood as a bunch, bundle, or local production system. Cluster foundations are sought in the concept of A. Marshall's industrial districts, in which the main source of enterprise productivity is the easy and fast flow of knowledge between organizations, the creation of specialized production factors and services, as well as the creation of a specialized market for a highly qualified workforce [7].

The concept of clusters was created by M. Porter, which he presented in the book: "Competitive Advantage of Nations". The author, conducting research on enterprises operating on the international market, noticed that some specialized clusters of competing and cooperating companies achieve high market efficiency. He described the phenomenon of networking of these enterprises as economic clusters. The source of their competitive advantage is the use of the synergy effect resulting from the cooperation of enterprises and various other research institutions and units located in a given area. All these entities in the region form a specialized structure in which there is a kind of transfer of knowledge, exchange of experience based on direct contacts. The quality and nature of the relationship between enterprises cooperating within the cluster translates into increasing both their competitiveness and the entire cluster network. Due to the nature of the relationship, geographical proximity is very important here. The cluster refers to a group of related enterprises in a given region. Empirical research on some economic clusters indicates that they are the best means to stimulate innovation and competitiveness of enterprise networks, as well as a good tool for local and regional development. Cluster-type structure is currently considered the most mature form of organization in both the economic sphere and the social economy sector.

According to the definition of M. Porter, the cluster is: "a geographical cluster of interrelated companies, specialized suppliers, service providers, companies operating in related sectors and related institutions (for example universities, standardization units and industry associations) in specific fields competing between themselves, but also collaborators" [5].

In the world, clusters are created in two ways: through top-down or bottom-up initiatives. Top-down initiatives are the result of actions taken by public or local authorities [1]. It consists in the fact that governments or local governments determine themselves which industries in a given area have the greatest development opportunities and therefore should be supported in the first place. Top-down initiative is implemented based on the local development strategy, which gives local governments the right tools to effectively encourage and support institutions and business-related organizations, and through them, companies associated around them to create local cluster initiatives.

A bottom-up initiative, on the other hand, is characterized by the fact that entrepreneurs themselves or other entities, pursuing their own ideas, seek to form cluster groups. In this case, stake-holders directly influence local administration and thus influence the shape of local development strategies. Bottom-up initiatives are also the result of historically conditioned factors, which can mainly include: traditions of the production of specific products or services in a given area, a high work culture, a high level of knowledge in a given field, favorable location, good communication links, a high level of technical infrastructure and science and research base and others [6].

In addition to geographical concentration and mutual trust, it is also very important for the success of the cluster initiative to develop active cooperation ties between the cluster members. All this should be constantly supervised by the cluster coordinator. It can be a non-governmental organization, e.g. a foundation, association or business-related organization. The coordinator's main task is to manage the cluster's office. For it to be managed effectively, an efficient managers with a great organizational sense and adequate marketing and financial knowledge are needed. The experience of successful cluster initiatives in Europe shows that an important feature of the persons managing the cluster's office is their independence from the entities that form them. It should be a person with extensive knowledge and experience in managing complex economic networks.

The birth of the cluster begins with the creation of leading enterprises and spin-offs whose operation is based on knowledge specific to a given region. As a consequence, a market for specialized suppliers, service organizations and a qualified workforce is created. In the next stage, new organizations are created to serve the cluster's operations or which were born as a result of the influx of specialized employees. Non-market bonds are created between the cluster participants, facilitating communication, knowledge and information transfer. The last stage is the collapse of the cluster, which may be caused by a loss of flexibility and ability to change. In a model approach, the cluster is therefore recognized as a "spatially concentrated cluster of simultaneously competing and cooperating enterprises from related or related sectors (within the so-called production chain) and institutions and organizations connected by a system of mutual formal and informal relationships based on the so-called development trajectory (e.g. technology, outlets, etc.)" [7].

The cluster area is outlined by two elements: location and object. The location determines the geographical concentration, not related to the administrative division, but with the closeness of connections in a given territory. The cluster's competitiveness is determined by the accumulation of specialized knowledge, institutions, competitors, related organizations and a specific type of customer. The subject determines the field of cluster activity. It is extremely important to deepen knowledge in this field, by attracting highly qualified employees who are professionals in a given field. This allows to develop a high level of synergy effect, which strengthens the cluster's competitive position on the market [4]. Not in all areas attempts to establish a cluster are successful. M. Porter has identified several factors that must be met for the creation of a cluster structure. They are:

- conditions related to local demand - this means that the needs of customers in a given area are higher and more forward-looking than customers from other regions, and the quality of this demand requires continuous improvement from enterprises, indicating the direction of the development of customer needs,
- conditions regarding local production factors - wealth of the given territory in natural, capital or human resources, and above all in specialized resources determines the development of innovation, and thus the increase in the cluster level,
- factors related to the competition of enterprises in a given area - this competition should be characterized by a large variety of products, a high level of innovation and investment in development and technology. The market should create conditions for raising qualifications of human resources, as well as be open to trade and foreign investments,
- conditions of related and supporting sectors - the region in which the cluster is planned to be established should be rich in terms of quality, quantity and price and in time, in suppliers, as well as in competitive related sectors at international level. The network of institutions supporting the development of entrepreneurship and innovativeness of regional organizations plays an extremely important role [4].

The function of clusters and the setting of goals by them is always supported by the local community, which best knows the market conditions of a given region, which is referred to as "social partnership". The importance of social economy sector entities is therefore increasingly important for the development of new organizational forms. As part of networking, they can elicit activities in the region and initiate new business models based on partnership and cooperation [9]. Only joint cross-

sectoral activities involving many entities and people from various sectors can guarantee the creation and implementation of innovations that will contribute to a better use of capital and resources in the region, as well as develop the skills of beneficiaries of this cooperation in the region [3].

#### **4 Social Economy Clusters**

Social economy clusters at the organizational level function basically the same as all other economic clusters, with one difference. They are created primarily by social economy entities, in particular those that operate on the open market of goods and services, for example: social cooperatives and non-governmental organizations - other than public and market ones. The initiative to build clusters is usually bottom-up and this process usually takes place with the support of local administration units. Therefore, these are initiatives whose creation is largely dependent on the condition of local entities and their ability to cooperate with regional or local authorities. When analyzing the issue of clusters, it should be noted that the challenges faced by ordinary enterprises in the process of building clusters gain a surplus that can be focused on social utility, and thus these enterprises often become socially involved entities. On the one hand, traditional clustered networked companies have the same attributes as social economy clusters. On the other hand, the specificity of the social economy sector affects the essence of the clusters operating within it. Five key points can be identified here.

First, cooperation within social economy clusters also aims to build sectoral awareness among social economy stakeholders. Social entrepreneurship in Poland, although it has a long past and important traditions, in an institutionalized form it still has a fairly short history. As a result, the social economy sector is just developing. In this context, it is worth emphasizing the importance of Social Economy Support Centers, which usually have two functions in the process of creating a cluster: originator (initiator) of the undertaking and / or coordinator (animator) of activities later implemented within the cluster. At this stage, it is therefore extremely important to build the collective awareness of all social enterprises. First, create a positive image of the entire field of social economy and build trust in this type of entities as providers of high-quality services, and only then build the brand of individual enterprises. Cooperation within clusters contributes to such sectoral thinking. According to it, cooperation for synergistic solutions results not only in the particular benefits of individual units, but also strengthens their belief that the strong position of local entities will translate into a positive perception of specific enterprises that form it.

Secondly, the process of concentrating the resources of individual entities within the social economy cluster means that their activities from the broadly understood promotion of the social economy sector are also strengthening. Their marketing, advertising or public relations activities are therefore of a dual nature. They disseminate not only knowledge about specific products and services, but also the idea of the social economy itself. The synergy effect that occurs as a result of concentration of resources of entities forming the cluster translates into the potential of consciousness change that can occur in the local community as a result of active cluster activity.

Thirdly, reducing the level of market risk through activities within the cluster undoubtedly promotes the stabilization of the social economy sector. Particularly important are some protective mechanisms that the system provides to social enterprises (e.g. co-financing, social clauses), but also those that they provide themselves in cooperation. Joining forces within clusters is such an example of "mutual insurance". Acting jointly, the entities support each other not only at the level of market opportunities, but also at the economic level - they jointly seek sources of financing, settle infrastructure, marketing or promotional costs; support the implementation of selected actions; together they acquire partners from outside clusters, etc. [10].

Fourth, the network logic of social economy clusters means that they have relative ease of joining more partners from different areas - public administration or business. The specificity of clusters assumes that the entities within it operate autonomously - each of them works on its own, but at the same time they have the opportunity to cooperate with each other and take some actions together.

This situation creates an atmosphere of mutual cooperation and fair play competition. Its consequence is precisely building cross-sectoral cooperation in the framework of the social economy, and in a broader sense also local development [11].

Fifth, finally, the synergy effect that occurs as a result of the cluster's operation, in the case of the social economy sector, translates into the development of services provided by entities operating in it. Thanks to the cooperation, they can offer their clients higher quality services (e.g. based on a larger number of employees, more complementary, better logically organized). On the other hand, the fact of cooperation within a cluster of entities of various origins, experience and resources has an inspiring effect on creating a market offer. Mutual observation of good practices favors the expansion and modernization of their activities. In the case of the social economy sector, this is important because most of the services offered within it are rather of a medium-qualified nature (e.g. cleaning, catering, tourist services, greenery care). Therefore, innovation inscribed in the formula of clusters' operations leads to the development of market proposals of entities, and thus to the development of the entire economic sector in the region.

## **5 The Example of the KOLOT Cluster in the Opolskie Voivodeship**

In the Opolskie Voivodeship there is an example of effective networking of entities in the form of a cluster. It is an initiative in the tourism industry: "Land of Milk and Honey", coordinated by Kluczbork-Olesno Local Organization of Tourism (hence the name of the KOLOT cluster) [15]. It is a network of entities associated in an organization that places great emphasis on the promotion of traditional and tourist products. A number of folders have been prepared here that show the tourist attractions of the Kluczbork and Olesno Lands and promote agrotourism, which is the main area of interest for the cluster initiative [15]. The creation of the cluster initiative "Land of Milk and Honey" essentially crowned the nearly ten years of efforts of local authorities and social economy institutions and entities related to tourism activities to effectively promote the qualities of the Kluczbork and Olesno Lands.

Kluczbork-Olesno Local Organization of Tourism (KOLOT) was founded in 2002 [15] on the initiative of the local and commune authorities of the Kluczbork. Initially, one of the most important tasks facing the organizers of the organization was to conduct a 'tourist inventory', which would allow to answer the question about the actual tourism potential of this area. As a result of the analyzes carried out, it was quickly confirmed that both the number of tourist attractions as well as the appropriate tourist infrastructure and accessibility are a wealth that should be given due support. The conclusions also went a little further, recognizing that actions for the effective promotion of a local tourist product should start with raising the awareness of entities in the region about the need to consolidate forces [8]. Undeniably, the biggest asset of KOLOT in talks with potential members of the cluster initiative was probably the authority of this organization, which, acting extremely vigorously over the past ten years, has gained recognition of many valued institutions and entities in the region and the country, and as a consequence - also the trust of local companies.

The first activities aimed at creating the tourist cluster were taken in January 2008, organizing an information meeting in Kluczbork for local authorities and representatives of the local business community of the tourist industry, where attempts were made to convince participants to join the cluster structure and create Kluczbork and Olesno tourist cluster, operating on the basis of KOLOT.

These trials proved to be so effective that at the end of 2008 - November 18 - during the information meeting "Tourist entrepreneur in the cluster structure" (regarding, among others, potential sources of funding for the cluster's activity), the inauguration of the first tourist cluster in the Opole region was officially launched - Land of Milk and Honey [15]. Apart from entities from the tourist industry from the region, the newly created initiative was joined by other organizations: the Opole Science and Technology Park, the Opole University and the following districts: Kluczbork and Olesno. By the

decision of the members of the initiative, it was "anchored" at the Kluczbork-Olesno Local Organization of Tourism [15].

According to the available information, the initiative brings together 34 entities, most of them are social economy entities: local organizations, companies from the tourist industry of the Opolskie Voivodeship, owners of eco and agritourism farms, scientific and research units and local government units. It has an open formula, i.e. new members from the entire Opole region can join it all the time [16]. The accession of the Opole Science and Technology Park to the initiative "Land of Milk and Honey" was associated with specific intentions. The tourist industry has been included in the "Regional Cluster Promotion Office - Stage II" project as one of the three supported industries. In the first half of 2009, a series of trainings and workshops were conducted for cluster members, mainly on developing a joint concept of promoting the cluster "Land of Milk and Honey" and providing information on its current activities. The cycle covered three trainings over two months - March and April 2009. The effect of the projects undertaken as part of the project was to create their own cluster website ([www.kolot.pl](http://www.kolot.pl)), which was mentioned, among others in the regional press: "The cluster has already prepared a website (...). There are offers of agrotourism farms from the Kluczbork and Olesno Lands, gastronomic points and places that are to be a magnet for tourists. Those interested can contact farm owners via Skype or GG. There are also films presenting the most beautiful monuments and corners, which are to encourage to visit these areas. This is the first such innovative site in the region to promote tourism (...)" [17]. As it turned out, a serious achievement was not only the technical preparation of the portal, but also overcoming a certain fear of farm owners and companies promoting their offer on the website before the need to computerize their business - an indispensable in the event of intentions to internationalize the offered product [17].

At the beginning of 2010, the cluster initiative "Land of Milk and Honey" became the laureate of the Mayor's of Kluczbork award "Honeycomb 2009" in the category of tourism. The ceremonial gala of handing "Honeycomb 2009" awards took place on February 12, 2010 in the "Impresja" hall in Kluczbork, combined with a charity ball [15].

Also in 2010, the initiative was included in a prestigious research project in the area of benchmarking clustering, conducted by the Deloitte Business Consulting SA Public Sector Team at the request of the Polish Agency for Enterprise Development, being - in addition to several dozen clusters from all over Poland - the subject of comprehensive comparative analyzes [12]. In 2013, another distinction took place, the KOLOT cluster received the award "Best Tourist Product of the Opolskie Voivodeship" [17].

Maria Żurek - President of KOLOT and coordinator of the cluster initiative "Land of Milk and Honey" says in this way about the achievements of both organizations: "In the 10-year period, we managed to promote several characteristic tourist products that are associated with the Kluczbork and Olesno Lands including - honey, milk, agritourism farms, tourist trail of wooden churches, and certified product - "Mirror of the Past". It can be concluded that the area in which the brand building process was undertaken (...) is already associated by the recipients with the slogan: Kluczbork and Olesno - Land of Milk and Honey" [8]. The favorable situation for this cluster initiative is when the structure name refers to the name of the region and the product being manufactured. Thanks to this operation, you can easily place the initiative on the map and associate it with the main product or service. In the KOLOT cluster functioning, worked the rule indicated by J. Suchacek: "In case that a critical mass of people in the given territory thinks and acts in a positive and territorially-conscious way, they form the spaces of harmony existing at the intersection of natural territorial characteristics and preferences of the population inhabiting the territory in question. A critical mass of people always has 'a contagious effect' on the rest of the community in the given territory and pulls previously undecided individuals in their direction. In our case this involves positive and cultural thinking and acting consciously in relation to the inhabited territory" [13].



These activities are the result of networking of entities in the region. As part of the cluster, entities demonstrated creativity in action and development of new products and services (development of the food and tourism industry). Significant role can be played by those entities that create social innovations and they can build new models moving towards regional governance [14]. Such activities are in accordance with the guidelines of "Theoretical, empirical and policy foundations for building social innovation in Europe" (TEPSIE) [14]. According to this document, "the process of social transformation is manifested, inter alia, in entrepreneurial attitudes in building new business strategies involving changes in human, institutional and social capital that lead to improving the region's competitiveness" [14]. This is how the cluster described in the article works.

Analyzing the example of the KOLOT cluster, it can be stated that all activities are focused on the goals of social and local development. The created cluster has the following features:

- all entities and organizations participating in it are focused on cooperation and mutual assistance in a specific area,
- strong relations of entities with institutions that support the development of entrepreneurship have occurred, these are both horizontal and vertical, formal or informal ties, which are based on cooperation and solidarity,
- the main guiding factor for the cluster's operation is maximum utilization of the potential inherent in the region's resources, generation of a product defining the nature of the local economy, contributing to its development,
- cooperation between entities of the social economy cluster is characterized by partnership, dialogue, openness and responsibility with the decisions taken,
- simultaneous competition and cooperation of various entities allows for equal opportunities between them, contributing to the development of competitiveness, innovation as well as the local and national economy.

## 6 Conclusions

The subject literature often emphasizes the great importance of clusters for local and national development. Structures of this type are becoming an important feature of almost every economy, and their support can be used to strengthen local enterprises, which translates into increasing the attractiveness of the region [2]. The local cluster economy should be based on lasting connections, thanks to which the importance of cross-linked entities and their products and services will strengthen the value of connections within the cluster structure. According to J. Suchacek "From a wider perspective, we are entitled to talk about the mutual exchange of positive energy between the people and their environment. This synergy stems from the fact that a territorially bound population behaves consciously and positively towards the surrounding environment"[13]. In that way, truly creative spaces for the new models of business can be formed. This situation will allow the efficient use of resources, the development of products or services identified with a given local market, and promoting them in joint marketing strategies. The idea of networking is a much better solution for market-weaker entities, because none of them, seen alone, has neither the knowledge nor the resources to solve problems in the area of economic and social life.

In the context of the above considerations, it should be emphasized that understanding the essence of the social economy largely determines the activity of various entities, an example of which is the KOLOT initiative presented in the article. By networking in the form of a cluster, you can achieve better results and simultaneously achieve three types of goals: next to market (increasing innovation and competitiveness on the market of goods and services), also social (social activities through the activation of various entities in the region) and image and sectoral (disseminating knowledge raising awareness about the social economy).

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# Efficient Price of Compensation of Suburban Bus Transport in Moravian-Silesian Region

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## Abstract

*This paper deals with an efficient price compensation of suburban bus transport in 12 selected areas of Moravian-Silesian Region. In these areas, tenders have been opened within 2018 – 2019 and has been concluded with the chosen carrier. All used data are accessible in the National Electronic Tool (NET). To estimate technical efficiency, the output-oriented DEA model was chosen with constant and variable returns to scale working with one input variable (competitive price for 1 vehicle-kilometer) and two output variables (number of connections and number of vehicle-kilometers). Based on the performed analysis, it was found that more than 50% of contracted compensations was inefficient. The degree of inefficiency is very dispersed in output-oriented CRS and VRS models.*

**Keywords:** Bus transport, Data envelopment analysis, efficiency, compensation

**JEL Classification:** C21, C67, R48

## 1 Introduction

The paper stresses the topic of provision of transport service at region level based on the Act No. 194/2010 Coll. on public passenger transport service as amended in context with efficiency of public expenditure and public services. In this case, public expenditure means price compensation and public service means the provision of transport services.

Hanauerová (2019), who also uses the DEA method, is also assessing the technical efficiency of public procurement in bus transport. Adequate price compensation is dealt by Dementiev (2018). Migliore et al. (2013) discusses the accessibility of public transport, which would lead to increased efficiency and purposefulness of this public service.

The effective price of compensation is evaluated in terms of Moravian-Silesian Region (MSR) and takes 10-year contracts concluded between carriers and Moravian-Silesian Region into account, i.e. the period of 2018 - 2028. According to the MSR Transport Service Plan for the period of 2017 – 2021, longer period of contracts validity brings particular stability into the public transport as well as enables the carriers to invest into the vehicle fleet.

The MSR has the Transport Service Plan for the MSR territory for the period of 2017 - 2021. This plan is elaborated on the basis of the Act No. 194/2010 Coll., on public passenger transport services, as amended. The aim of such a plan is to formulate the MSR ideas as it comes to the public transport. Based on this plan data, the territory of the Moravian-Silesian Region is being currently served by 53 international, 19 long-distance and 345 suburban bus lines. In the current system of suburban bus transport, the MSR notices a problem with the status of some bus stops in particular, especially in small municipalities as well as the problem with interconnection of bus and rail transport. (Plan of transport services of the MSR territory for the period of 2017 - 2021)

In the Moravian-Silesian Region, the public bus transport is provided on the basis of public service contracts. These contracts are concluded in two regimes, according to the Act No. 111/1994 Coll., on road transport (without a tender) and the Act No. 134/2016 Coll., on public procurement, as amended.

In the frame of public service contracts concluded on the basis of a public procurement procedure pursuant to the Act No. 134/2016 Coll., on public procurement, as amended, the range of transport services within particular areas of the region is set to meet the condition of transport ensuring by the Act no. 194/2010 Coll., on public services. Due to the market environment, the price of transport

performance should be lowered and thus financial savings would be achieved throughout the entire region. The MSR transport service plan of 2017 - 2021 period shows 16 service areas, to which the region is divided. In the Třinec / Jablunkov and Český Těšín areas, the contracts are being fulfilled since 2015 or 2016 though. On the other hand, the carrier for Hlučín area is currently being selected on the basis of the Act No. 134/2016 Coll., on public procurement, as amended. As for the Havířov area, the contract is expected to be concluded in 2020. Thus, the paper is focused on 12 areas of the Moravian-Silesian Region, in which the tendering procedure has been initiated and the public service contract has been fulfilled in the period of 2018 - 2019. Namely, these areas are discussed – Karviná, Orlová, Frýdlant, Nový Jičín East and West, Krnov, Bruntál, Rýmařov, Opava, Vítkov, Frýdek-Místek, Bílovec. (MSR Plan of transport services for 2017 - 2021)

**The aim of the paper is to evaluate technical efficiency of 10-year compensation of suburban bus transport in 12 MSR areas by chosen inputs and outputs.**

Technical efficiency is estimated based on output-oriented Data Envelopment Analysis model (further DEA).

For evaluation purpose, there are 2 research questions to be verified (RQ):

- RQ1: Is more than 50% contracted compensation efficient?
- RQ2: What other factors can objectively influence the price of compensation besides chosen outputs – number of connections and vehicle-kilometers?

### **1.1 Compensation in bus transport**

The customer is entitled to select the carrier by the Act No. 194/2010 Coll., on public services in the carriage of passengers, as amended, either based on an invitation to tender or through direct request. Direct request may be used if the conditions of Regulation (EC) No. 1370/2007 of the European Parliament and of the Council are met. In the Czech Republic, this Regulation is followed by Decree No. 296/2010 Coll., on the procedures for establishing the financial model and determining the maximum amount of compensation. This decree adjusts the method of the financial model composition. (IODA, 2015)

The Regulation (EC) No. 1370/2007 of the European Parliament and of the Council on the rail and road public passenger transport services and cancellation of the Council Regulations No. 119/69 and No. 1107/70 implies that public service compensation means "*any benefit, in particular financial, granted directly or indirectly by the competent authority from public sources during or in connection with the period of implementation of the public service obligation*". In general, price compensation can be understood as a subsidy from public budget, i.e. from the ordering party. In other words, it is a compensation that the ordering party undertakes in the contract. In case of carrier selection based on the tender procedure, pursuant to the Act No. 134/2016 Coll., on public procurement, reasonable profit becomes the subject to competition. (Hanauerova, 2018)

The Act No. 194/2010 Coll., on public passenger transport services, as amended, determines that the amount of compensation must be reasonable, otherwise the ordering party is not allowed to conclude the contract. If the contract is still concluded, it becomes invalid. In case of direct request, prior to the conclusion of the contract, the selected carrier is required to submit a financial model of costs, revenues and net income. Similarly, the selected carrier shall submit the financial model in case of tender before signing the contract, unless otherwise specified in the tender. (IODA, 2015)

## **2 Methodology and data**

The estimation of technical efficiency of contracted compensations in bus suburban transport under the conditions of 12 MSR areas was provided by the following process:

- determination of 1 input and 2 outputs for estimation of technical efficiency, statistical description of selected variables (see Table 1),
- calculation of output-oriented efficiency model by DEA model, which takes constant returns to scale (CCR) into account, by the formula (1),
- calculation of output-oriented efficiency model by DEA model, which takes variable returns to scale (BCC) into account, by the formula (2).

The core of DEA method is in division of investigated objects to effective and ineffective ones by the size of consumed sources and number of performed production or other type of output. By DEA models, empiric production function is determined. The DEA model compares units with the best units. The DEA models are based on premises that for given problem, there exist a production possibility set created by all possible combinations of inputs and outputs. A production frontier determines optimum relation between inputs and outputs aiming at a maximization of outputs under given input value (or more inputs). The production possibility set is determined by efficient frontier. To estimate what this efficient frontier and thus production possibility set would be, it is necessary to adopt an assumption on character of returns to scale for given problem.

Output-oriented models calculate the technical efficiency coefficient, which is determined by the ratio of the weighted sum of inputs to the weighted sum of outputs, but weights are sought so that the value of coefficient  $g$  is greater than or equal to one. Thus, for the effective unit  $Uq$  the coefficient  $g = 1$  and for the inefficient unit  $g > 1$ .

Cooper et al. (2007) considers the CCR (Charnes, Cooper and Rhodes surname designation) a basic DEA model, which assumes constant returns to scale. Also the BCC model (designation according to the surnames of the authors of the model Banker, Charnes and Cooper), which assumes variable returns to scale. In case of constant returns to scale (CRS), the efficient frontier is possible to reach in the following ways:

- by increasing the value of output consumed while maintaining current input level – output-oriented models;
- by reducing the value of input used while maintaining the current output level – input-oriented models;
- by combination of both approaches - additive models, slack-based models. (Jablonský, Dlouhý, 2015; Vrábková, Vaňková, 2015)

Output-oriented model CCR can be formulated as follows:

$$\begin{aligned} \text{to minimize} \quad & g = \sum_j^m v_j x_{jq}, \\ \text{under conditions} \quad & \sum_i^r u_i y_{ik} \leq \sum_j^m v_j x_{jk}, \quad k = 1, 2, \dots, n, \\ & \sum_i^r u_i y_{iq} = 1, \\ & u_i \geq \varepsilon, \quad i = 1, 2, \dots, r, \\ & v_j \geq \varepsilon, \quad j = 1, 2, \dots, m. \end{aligned} \tag{1}$$

Output-oriented model BCC can be formulated as follows:

$$\begin{aligned} \text{to minimize} \quad & g = \sum_i^m v_j x_{jq} + v, \\ \text{under conditions} \quad & \sum_i^r u_i y_{ik} \leq \sum_j^m v_j x_{jk} + v, \quad k = 1, 2, \dots, n, \\ & \sum_i^r u_i x_{iq} = 1, \\ & u_i \geq \varepsilon, \quad i = 1, 2, \dots, r, \\ & v_j \geq \varepsilon, \quad j = 1, 2, \dots, m, \\ & v - \text{free}. \end{aligned} \tag{2}$$

Input set for efficiency evaluation is created by competed price (X1), output set is created by 2 variables – number of connections (Y1) and number of vehicle-kilometers (vkm) (Y2).

## Input

X1 – competed price (CZK/vkm). It means the price compensation for the carrier for 1 performed vkm. The data are accessible in the National Electronic Tools (NEN).

## Outputs

Y1 – number of connections being requested by MSR. Detailed specification of connections is determined in the Tender documentation, which is accessible in electronic form in the National Electronic Tool – Tender documentation (NEN).

Y2 – assumed number of driven vehicle-kilometers by the selected carrier in given locality within 10 years. This number is also mentioned in the Tender documentation related to concrete procedure, which is also accessible in the National Electronic Tool (NEN).

**Table 1 – Statistic characteristic of input and outputs**

	Min.	Max.	Mean	Median	SD
<b>X1 – competed price (CZK/vkm)</b>	33.57	38.14	36.61	37	1.29
<b>Y1 – number of connections</b>	9	43	20.5	17	10.14
<b>Y2 – vkm/10 years</b>	8 350 812	39 383 743	21 620 005	19 738 088	9 196 137.1

Source: own elaboration

Table 1 shows that the lowest competed price was 33,57 CZK/vkm. This price was competed for Krnov area. Contrary to that, the highest price, 38,14 CZK/vkm MSR competed for Frýdlant area. Average competed price (out of 12 chosen areas) was 36,61 CZK/vkm. Median of competed price is 37 CZK/vkm. Standard deviation is 1,29.

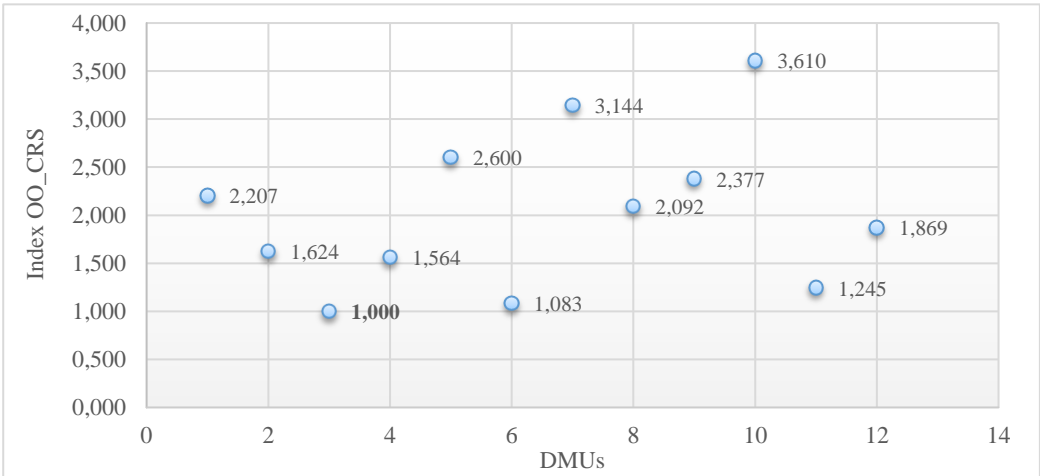
Considering the output side, the number of connections and the estimated number of driven kilometers within the time period of 10 years were chosen. The highest number of connections (43) was required for the Nový Jičín East area, while the least number of connections (9) is required to serve the Karviná area. The average number of connections is 20,5 per area. The mean value of the number of connections is 17 and the standard deviation of the output (Y1) is 10,14. As for the second output, the least vehicle-kilometers were requested by MSR for the Frýdlant area, while the highest number of vkm is needed to be driven in the Nový Jičín West area. The average number of driven vkm is 21 620 thousand/10 years. The mean value for the number of driven kilometers is 19 738 ths. vkm/10 years. The standard deviation for output (Y2) is 9 196 ths. vkm/10 years.

## 3 Results

The results of calculation of efficiency of output-oriented model with constant returns to scale show that out of 12 DMU the only one contract is efficient – for Nový Jičín East (DMU3), the rest of them is inefficient. Table 1 shows that the efficiency level is very dispersed and at the same time the Frýdlant area (DMU10) has the worst efficiency. Public contracts for the Vítkov (DMU5) and Krnov (DMU7) areas are also ineffective. The average unit efficiency is 2,035 for the CRS model. The standard deviation for this model is 0,775. The results of the output-oriented model with constant returns to scale (OO\_CRS) are shown in Picture 1.

**Picture 1 – Results of the output-oriented model with constant returns to scale (OO\_CRS)**

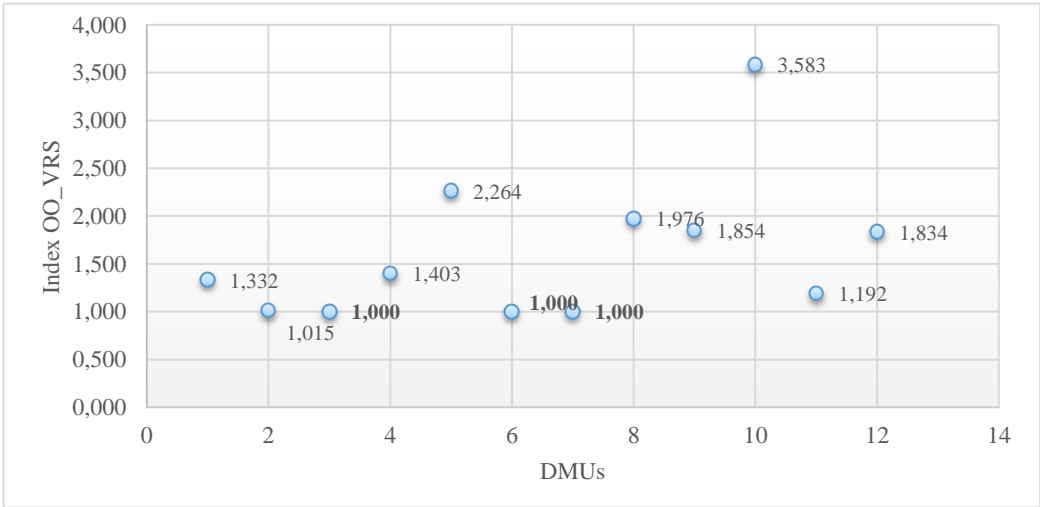
Source: own elaboration.



The results of the calculation of efficiency of the output-oriented model with variable returns to scale show that out of 12 DMUs three units are effective, namely Nový Jičín East (DMU3), Opava (DMU6) and Krnov (DMU7). Public contract for the Opava area (DMU2) is approaching efficiency (1,000). In the Picture 2, it can be seen that the rate of inefficiency is also very dispersed, as in the CRS model and the VRS model. A highly inefficient unit as it come to the model with variable returns to scale, the public contract for the Frýdlant area (DMU10) is. The average efficiency for this model is 1,621. The standard deviation is 0,726. The results of the output-oriented model with variable returns to scale (OO\_VRS) are shown in the graph in Picture 2.

**Picture 2 – Results of the output-oriented model with variable returns to scale (OO\_VRS)**

Source: own elaboration.



A comparative view to the output-oriented CRS and VRS models is presented in Table 2. According to the output-oriented model with constant returns to scale, only the public service contract for the Nový Jičín East area (DMU3) is effectively tendered. Contrary to that, as it comes to the output-oriented model with variable returns to scale, three public contracts are effectively tendered, namely



the public procurement for transport service for Opava (DMU6), Krnov (DMU7) and Nový Jičín East (DMU3) areas. In case of the output-oriented model with constant returns to scale, the public contract for the Opava area (DMU6) is approaching effectively tendered public contract considering the scale  $g$ . On the other side of the selected scale, inefficiently tendered procurements are. Based on the results of both output-oriented models, the public contract for Frýdlant area is tendered inefficiently. According to the output-oriented model with constant returns to scale, public contracts for the Krnov area (DMU7) and the Vítkov area (DMU5) are also ineffective. Table 2 clearly shows that the public contract for the Krnov area, according to the output-oriented model with variable returns to scale, is tendered effectively; on the contrary, according to the model with constant returns to scale, this public procurement is strongly inefficient.

**Table 2 – Summarized results of efficiency modeling of output-oriented model with CRS and VRS**

Scale $g$	CRS		VRS	
	number	DMU(s)	number	DMU(s)
[1]	1	D3	3	D3, D6, D7
[1,001 – 1,499]	2	D6, D11	4	D1, D2, D4, D11
[1,500 – 1,999]	3	D2, D4, D12	3	D8, D9, D12
[2,000 – 2,499]	3	D1, D8, D9	1	D5
[2,500 – 2,999]	1	D5	0	
[3,000 + ]	2	D7, D10	1	D10

Source: own elaboration

#### 4 Conclusion and discussion

The issue of public transport efficiency is topical in connection with the growing number of registered passenger cars. The growing number of passenger cars reduces an interest in public transport. Undoubtedly, individual car transport has its advantages such as accessibility, comfort and independence. Nevertheless, public transport has a well-founded place, especially in relation to economic and environmental interests. Since 2010, there has been a steady decline in the number of passengers transported by bus, while the number of passengers transported by rail has been increasing. The Moravian-Silesian Region ranks third behind the South Moravian and Central Bohemian Regions in the number of passengers transported by domestic bus transport within the region. In terms of subsidies granted to the regular public passenger transport, those are continually increasing as it comes to both the regular bus transport (without public transport) and the rail passenger transport. (Yearbook 2017, Ministry of Transport).

The aim of the paper was to evaluate the technical efficiency of 10-year period, during which the suburban bus transport in 12 service areas of the Moravian-Silesian Region would be compensating according to the selected inputs and outputs. Twelve public contracts were selected in MSR, where the contract with the selected carrier was concluded and is fulfilling in the period of 2018 - 2019. Specifically, the following areas were considered – Karviná, Orlová, Frýdlant, Nový Jičín East, Nový Jičín West, Krnov, Bruntál, Rýmařov, Opava, Vítkov, Frýdek-Místek and Bílovec.

The output-oriented Data Envelopment Analysis model was used to achieve the aim. In the frame of proving the research question RQ1 “Is more than 50% of contracted compensations efficient?” the efficiency calculation showed that in both cases, CRS and VRS, more than 50% of contracted compensations are ineffective. As the second research question RQ2 “What other factors can objectively influence the price of compensation besides chosen outputs – number of connections and vehicle-kilometers?” is considered, only outputs chosen in the model – number of connections and vehicle-kilometers can be assessed objectively. In order to make inefficient public procurement effective, the number of outputs would have to be increased. The required number of connections and the number of vehicle-kilometers is determined by the ordering party. This implies that the ordering

party should know how many connections and vehicle-kilometers are needed to ensure the serviceability of the given territory. Thus, increasing number of outputs could be inefficient in terms of this public service being used by citizens and it would be completely unnecessary for such an increase to occur. The price also reflects the mountainous terrain, number of population or potential passengers, distance of individual stops as well as the size of the managed area.

The results of efficiency achieved by DEA model are limited by both the selection of inputs and outputs and the number of units to be compared (DMU). The results achieved are influenced by efficient and inefficient units. On the one hand, there is very effective public contract for transport service maintaining the Nový Jičín East area, where a contract was concluded with ČSAD Vsetín, a.s. The carrier undertook to provide 43 connections for the price of CZK 37.86 CZK/vkm. A highly inefficient unit according to the achieved results, the public contract to serve the territory of Frýdlant is. For this area, the ordering party (MSR) had to call the tender again. The first published tender procurement had to be cancelled by MSR because the only participant in this procedure exceeded the maximum price per vehicle-kilometer stated in the Tender Documentation. The second tender was also attended by the only one participant, whom the contract was concluded with. The contract included 12 connections for the price of 38,14CZK/vkm, which is also the highest competed price of all 12 selected public contracts. On the other hand, the lowest price was agreed for the Krnov area (33,57CZK/vkm), which, according to the output-oriented VRS model, makes this contract very efficient, while by the output-oriented CRS model this contract becomes very inefficient.

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# Expenditures on Social Services from Regions' Budgets in the Czech Republic Within the Period 2015-2018

Eva Kovářová

## Abstract

*Understanding of the term social services differs among European countries. In the Czech Republic, it covers services providing with the aim to assist and support persons for the purpose of their social integration or prevention of social exclusion. Social services are provided in conditions similar to other European countries – with active participation of state, regional and municipal public authorities in services' organizing, financing and providing. Significant financial sources for financing of social services are provided from the state budget through the regions' budgets. This model of services' financing was introduced in 2015 to bring administration of social services closer to their users. However, the Ministry of Labour and Social Affairs has recently opened discussion on possible changes of this model. The aim of the paper is to identify any similarities or differences in main parameters describing development of the expenditures on social services from the budgets of Czech regions within the period of years 2015-2018. To meet the aim of the paper, methods of descriptive statistics are applied. The most important findings are: (a) public spending on social services per one inhabitant differentiated among Czech regions, (b) regions' spent less on social prevention services than on social care services, (c) public expenditures on social services rose within the observed period.*

**Keywords:** Public expenditures, public-private partnership, social services, welfare

**JEL Classification:** H53, H75, I38

## 1 Introduction

Social services are regarded a vital means that can help persons to improve their well-being. Since the second half of the 20th century, they have become integral part of practical social policy measures applied in European countries. However, organising, financing and providing this kind of services differentiate among them, although basic attributes such as the active participation of state, regional and municipal authorities, are the same. In the Czech Republic, social services are provided under the Social Services Act valid from the year 2007. Production of social services is based here on public-private partnership because they are provided by organizations representing public as well as private sector and they are co-financed significantly by public sources. However, currently applied model of social services' financing, operating since the year 2015, is criticized because of its insecurity and instability, ruthlessness to regions' specifics and dependence of social services' providers on public sources.

The aim of the paper is *to identify any similarities or differences in main parameters describing development of the expenditures on social services from the budgets of Czech regions' within the period of years 2015-2018*. To meet the aim of the paper, several steps are taken. First, in the theoretical part of the paper, the term 'social services' is defined because different interpretations exist in European countries. Two social services' models are introduced because they have very close link to the model applied in the Czech Republic. Then, Czech model is briefly described to show its legal and financial framework. Analytical part of the paper contains results and findings concerning regions' expenditures on social services where the methods of descriptive statistics are applied in order to evaluate basic parameters describing development of these expenditures.

## 2 Social services in the Czech Republic: comparative interpretation

Term 'social services' is quite vague and its application increasingly differentiate among European

countries. In general, social services represent publicly or privately provided services intended to help the disadvantaged, distressed and vulnerable persons or groups (Encyclopaedia Britannica, 2019). Muuri (2010) explains that several English-language equivalents for the concept of social services exist in Europe. If the term is applied in its widest scope, it covers besides social assistance services also health and education services (Bloom et al., 2000), or even housing and transport services (Le Grand, 2000). It means services of public interest co-financed from public sources. Sometimes term is extended in order: (a) to show that it covers only services of social assistance – ‘social welfare services’ (Grohs et al., 2015); (b) to underline the significance of care – ‘social care services’ (Sipilä, 2018); (c) to emphasize that social services are provided for individuals according to their specific needs and circumstances – ‘personal social services’ (Wollmann, 2016; Council of Europe, 2007). English-written sources also use the term ‘human services’ when they speak about social assistance services (Higgins, 2017). The European Union (EU) uses the term ‘social services’ when speaking about means that play critical role in improving of individuals’ quality of life and providing social protection. According EU explanation, social services include social security, employment and training services, social housing, child care, long-term care, social assistance services (European Commission, 2019a). At EU level, social services are considered services of general interest. At the same time, the EU obligates its member states because every EU citizen has the right to count on high-quality social services (European Commission, 2019b). In European countries, provision of social services is based on public-private partnership between state (or local authorities or municipalities) and private for-profit or non-profit organizations. It is the result of structural changes that led to the opening of social services’ market for all eligible providers. However, social services’ market cannot be regarded as fully operating because of specifics of social services.

As slight different models are used in European countries for social assistance services organizing, financing and providing. Sipilä (2018) explains that the Scandinavian model of the social care services production is based on close alliance between the state and local municipalities. In Sweden, Social Services Act No. 453/2001 (ILO, 2019a) sets that municipalities have the main responsibility for social services and their local authorities has ultimate responsibility for ensuring that individuals get the support and the help they need. Similar situation is in Norway, where Social Services Act No. 131/2009 (ILO, 2019b) also assigns the main responsibility in the field of social services to municipalities. Provision of social services is then based on public-private partnership because private sector acts as an important social services provider in many countries. However, the extent of private sector participation differentiates among European countries. For example in Denmark, the role of private sector is described as supplementary and specialized within a state-dominant environment (Henriksen et al., 2011). Grohs et al. (2015) explain that Germany is traditionally considered a classic example of conservative welfare state, corporatist mode of governance for social services where state plays dominant role. However, growing importance of new players (e.g. social entrepreneurs) in the field of social services is evident, because former system with limited space for free market competition has been transformed there. Today social services create fast growing segment of the service industry with significant share of private sector (Henriksen et al., 2011). Liberalisation of social services market has been a trend in most European countries since the 1990s, but social services are still significantly co-financed by public sources, especially though public subsidies or state-organized insurance systems. Especially those services that are not so attractive for private providers are dependent significantly on public financing.

In the Czech Republic, term ‘social services’ is defined in the Social Services Act No. 108/2006 Coll. that understands it as the designation for an activity or activities ensuring the assistance and the support to persons for the purposes of their social integration or prevention of their social inclusion. However, this definition does not show exactly if it covers other public services such as education or health care services because they can also be helpful in thematic fields. More precise understanding of the use of the term ‘social services’ is visible when the Social Services Act recognizes three types of social services: (a) social counselling, (b) social care services and (c) social prevention services. It means that the term ‘social services’ is applied in the Czech Republic in border context than social

assistance services or social care services (in Scandinavian countries) and its use is close to social welfare services or personal social services. Social services create significant part of social policy programmes applied by Czech authorities in order to sustain social cohesion and fully socially integrative society. Their provision is based on public-private partnership, similarly to other European countries, because social services market is opened for all registered providers representing public as well as private sector. Non-profit organizations (public as well as private) play dominant role in provision of social services because majority of social services are not attractive for for-profit organizations. No changes in market structure can be expected in future. Despite gradual market liberalization since the 1990s, social services market is not fully functioning in the Czech Republic because of dominant power of some providers (Molek, 2011), especially those from public non-profit sector operating as the allowance organizations receiving regular annual financial contributions provided by their public founders (ministries, regional and municipal authorities).

Financing of social services is based on the multi-source principle in the Czech Republic because costs connected with them are covered by subsidies from state, regional and municipal budgets, sources from EU programmes and funds, financial contributions provided by founders, payments made by services' users, payments from the health insurance system or by donations. However, public sources create significant source of finances, similarly to other services provided in public interest (Halaskova, Halaskova, 2016). The main responsibility for the administration of social services is given to regional authorities but they have to cooperate with municipalities, and also with users and providers of social services. Regional authorities are also responsible for the distribution of state subsidies because this money are provided to services' providers through the regions' budgets. Social Services Act recognizes also the right of the regional and municipal authorities to spend their own sources on social services. This financing model was introduced in the Czech Republic at the beginning of the year 2015.

### **3 Research motivation, aim and methods**

As it was explained above, regional authorities play dominant role in distribution of public sources on financing of social services. This responsibility was given them in the year 2015. Every year, regional authorities receive amount of state subsidies, according to the defined fix percentage shares in total amount assigned to social services in state budget, in order to arrange the social services network in their areas. Regional authorities are obligated to allocate state subsidies under the principle of self-governance among the registered providers of social services participating on social services network existing in a region. The total amount of state expenditures on social services is dependent on various factors, such as political, social, economic or demographic (Molek, 2011) and it is set in annually adopted state budget act.

Between the years 2015 and 2017, expenditures on social services from the state budgets accounted for 27-29 % of all expenditures on social services and state subsidies were the most significant sources of these services financing. State subsidies were followed by direct payments made by the social services' users, which share declined from 24 % (year 2015) to 21 % (year 2017). One fifth of all expenditures on social services was covered at the same time by care allowances that were provided by state to the users of social services with the aim to increase affordability of social care services. Own regions' contributions did not exceed 10 % between years 2015 and 2017 (Ministry of Labour and Social Affairs, 2019). Although expenditures on social services grew every year of this period, model of social services financing faces with criticism in the Czech Republic: (a) dependence on public subsidies creates a barrier for social services' market development (Víšek, Průša, 2012); (b) absence of a clear financing procedures makes the financial sources unstable (European Social Network, 2018); (c) insecurity is connected with the necessity of regions' annual applications for state subsidies on social services as well as annual applications for subsidies given by services' private providers.

In June 2019, the Ministry of Labour and Social Affairs introduced starting points for the systematic changes in financing of social services. State authorities recognize that: (a) fix percentage shares do not reflect actual situation in Czech regions; (b) ways and processes of creating regional social services networks are not the same in all regions; (c) time mismatch exists between applications of regional authorities for state subsidies and applications of social services providers for the state subsidies distributed through regions' budgets. Financing has to be also changed in order to catch-up with actual demographic trends. The Ministry of Labour and Social Affairs (2019) suggests these significant improvements: (a) three-year subsidies under the principle of mandatory expenditures; (b) obligatory co-financing provided by regional and municipal authorities; (c) possibility of extraordinary subsidies; (d) definition of objective and optimal capacity of social services networks.

With respect to introduced possible changes in social services' financing, the aim of the paper is *to identify any similarities or differences in main parameters describing development of the expenditures on social services from the budgets of Czech regions' within the period of years 2015-2018*. Expenditures on social services are evaluated with the use of methods of descriptive statistics. Traffic light method is also applied to make the results more visible (yellow colour is used for percentile 50).

Analysis is divided into three parts dealing with:

- (a) regions' expenditures on social services, their share in total regions' expenditures and their expenditures on social affairs and labour market policy;
- (b) regions' expenditures on social services per one inhabitant and their structure by the distinction of two main types of social services - services of social care and services of social prevention;
- (c) development dynamics of the regions' expenditures on social services in comparison with the development dynamics of total regions' expenditures (comparison of average growth rates defined as the geometric mean of annual growth rates).

Data used during the statistical analysis were extracted from the public database of the Czech Statistical Office and from the application of the Ministry of Finance of the Czech Republic called 'Local Monitor' within June 2019.

## 4 Results and Discussion

With respect to above stated parts of the analysis, attention was first paid to the development of the total amount of expenditures on social services provided from regions' budgets. Because of diversifying size of Czech regions (in terms of their geographical and population size), comparison of total expenditures on social services had no information value. Therefore, share of these expenditures in total expenditures from regions' budgets and in regions' expenditures on social affairs and labour market policy were calculated (see Table 1).

Table 1 shows that expenditures on social services create a significant part of overall expenditures on social affairs when they counted from 62 % (Region of Prague) to 94 % (Central Bohemian Region) with the median around 90 % for the year 2018. Their significant share in total expenditures' amount is visible within the whole period 2015-2018 in regions of Central Bohemia, Liberec, Moravia-Silesia and South Bohemia. Calculated ranges reveal that the difference between the region with the highest and lowest share was around 30 pp. for the whole period (with one exception - year 2016 when total expenditures and also expenditures on social services declined in many regions).

**Table 1 – Share of expenditures on social services in total regions' expenditures and in expenditures on social affairs (in percent)**

Region	Share in total expenditures				Share in expenditures on social affairs			
	2018	2017	2016	2015	2018	2017	2016	2015
Central Bohemian	7,69	6,31	5,76	6,37	93,94	92,49	91,14	87,50
Hradec Kralove	7,34	7,62	6,64	6,52	85,43	84,96	82,94	85,28
Karlovy Vary	9,66	9,53	7,55	5,87	90,60	89,12	88,48	86,85

Liberec	8,08	6,89	6,52	6,45	92,67	93,00	93,00	92,98
Moravian-Silesian	9,02	8,29	7,23	7,00	93,13	92,66	92,02	91,15
Pardubice	7,92	7,57	6,70	6,47	82,84	84,14	82,67	86,38
Prague	3,41	3,33	2,92	2,93	61,97	62,44	68,02	62,38
South Bohemian	6,89	6,72	5,89	4,84	86,48	84,85	86,51	78,29
South Moravian	8,19	7,23	6,45	6,72	92,68	90,98	91,07	92,33
Usti	9,93	8,80	7,94	8,00	90,54	89,37	90,89	89,81
Vysocina	8,58	7,28	7,08	7,25	89,37	88,15	88,82	86,55
Zlin	9,02	7,77	7,20	10,05	84,17	80,63	80,47	93,72
Olomouc	2,68	3,48	3,37	4,07	25,79	32,54	33,65	40,03
Plzen	12,77	6,95	6,15	9,12	92,72	56,66	49,91	77,20
Median	8,14	7,42	6,67	6,49	89,95	88,63	88,65	87,18
Max	9,93	9,53	7,94	10,05	93,94	93,00	93,00	93,72
Min	3,41	3,33	2,92	2,93	61,97	62,44	68,02	62,38
Range (percentage points – pp.)	6,52	6,20	5,02	7,13	31,98	30,55	24,98	31,34

Source: Ministry of Finance, Local Monitor (2019), own data processing

Regions of Olomouc and Plzen had to be excluded from the analysis because their reports on budget expenditures by branch (contained in Local Monitor) are not fully comparable with other regions. As it is evident in Table 1, Olomouc Region spent on social services the smallest percentage share when it was compared with other regions. However, detail analysis of statistical data showed that majority of this region's expenditures on social affairs and labour market policy are reported as 'others and non-specified', but other regions' reported expenditures on such kind of branch lower than 10 % of overall expenditures on social affairs and labour market policy. The same explanation is accepted for the Plzen Region, which expenditures on social services are not fully comparable with other regions for the years 2016 and 2017 because of the same reason. It can be expected that significant part of expenditures on social services is reported under this general branch of expenditures.

Table 1 also indicates that the share of expenditures on social services in total regions' expenditures accounted in median terms for 6-8 % of all regions' expenditures, year over year growth in this share was also evident. However, significant differences again exist among Czech regions. For example, Usti spent nearly 10 % of its total expenditures on social services, while Prague only 3 % for the year 2018. The range between the regions with the highest and lowest shares is stable, around 6 pp.

**Table 2 – Expenditures on social services per one inhabitant (in thousand CZK)**

Region	Social care				Social prevention			
	2018	2017	2016	2015	2018	2017	2016	2015
Central Bohemian	1,41	0,96	0,74	0,85	0,20	0,16	0,14	0,13
Hradec Kralove	1,70	1,51	1,17	1,15	0,10	0,08	0,06	0,07
Karlovy Vary	1,85	1,48	1,07	0,34	0,48	0,44	0,35	0,91
Liberec	1,46	1,07	0,91	0,98	0,30	0,22	0,18	0,18
Moravian-Silesian	1,43	1,00	0,79	0,89	0,38	0,29	0,23	0,24
Pardubice	1,62	1,25	0,99	1,04	0,13	0,14	0,14	0,13
Prague	2,08	1,78	1,39	1,33	0,06	0,04	0,03	0,02
South Bohemian	1,64	1,33	0,98	0,89	0,12	0,09	0,09	0,09
South Moravian	1,34	0,98	0,88	0,87	0,22	0,20	0,14	0,16
Usti	1,80	1,32	1,05	1,11	0,43	0,34	0,33	0,20
Vysocina	1,98	1,41	1,23	1,40	0,21	0,17	0,14	0,09
Zlin	1,67	1,19	0,96	1,45	0,20	0,17	0,18	0,21
Olomouc	0,50	0,54	0,50	0,68	0,16	0,15	0,10	0,06
Plzen	1,30	0,60	0,55	0,76	0,26	0,13	0,01	0,05



<i>Median</i>	<i>1,66</i>	<i>1,28</i>	<i>0,99</i>	<i>1,01</i>	<i>0,20</i>	<i>0,17</i>	<i>0,14</i>	<i>0,15</i>
<i>Min</i>	<i>1,34</i>	<i>0,96</i>	<i>0,74</i>	<i>0,34</i>	<i>0,06</i>	<i>0,04</i>	<i>0,03</i>	<i>0,02</i>
<i>Max</i>	<i>2,08</i>	<i>1,78</i>	<i>1,39</i>	<i>1,45</i>	<i>0,48</i>	<i>0,44</i>	<i>0,35</i>	<i>0,91</i>
<i>Range</i>	<i>0,74</i>	<i>0,82</i>	<i>0,65</i>	<i>1,11</i>	<i>0,42</i>	<i>0,40</i>	<i>0,33</i>	<i>0,89</i>

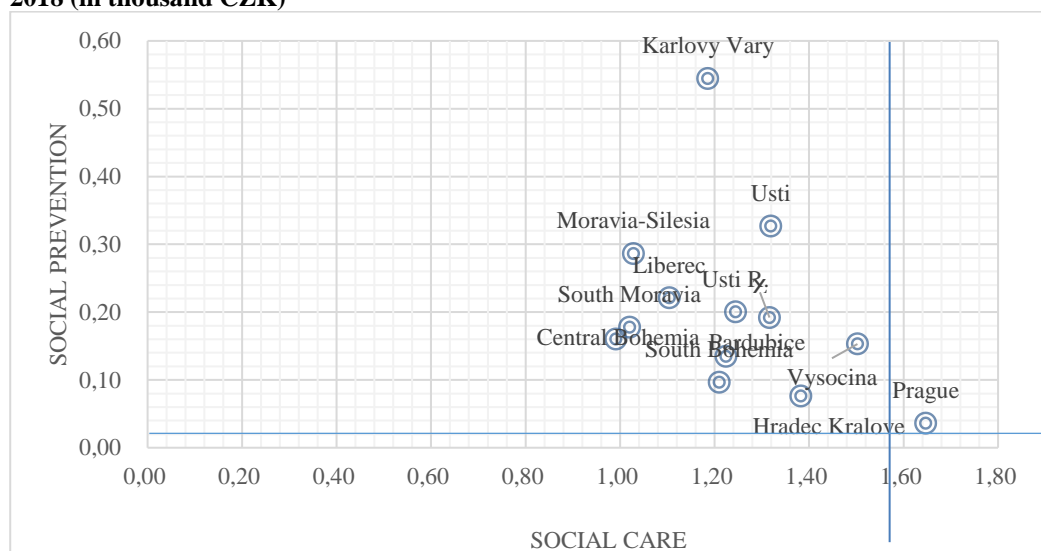
Source: Ministry of Finance, Local Monitor (2019), Czech Statistical Office (2019), own data processing

When the expenditures on social services per one inhabitant were analysed, differences were again found, with respect to existing model of social services' financing not significant. Table 2 shows that in median terms, expenditures on social care services have been growing since the year 2016 and accounted for 1 640 CZK per one inhabitant for the year 2018. The lowest ones were in South Moravian Region and the highest ones in Prague. The range between Prague and South Moravian Region was 740 CZK. Similar differences were observed for the services of social prevention, but in this case Prague spent the smallest amount on these services per one inhabitant. The highest spending was observed in regions of Karlovy Vary, Usti and Moravia-Silesia, it means regions affected by structural problems and social exclusion. Regions of Olomouc and Plzen were again excluded from the analysis (see the explanation above). The overall expenditures on social services consist of two parts – state subsidies distributed through regions' budgets and regions' subsidies from their own sources. It is planned that in future, each region should co-finance social services by 10 %. Therefore, more equity in spending on social services would be achieved.

Figure 1 compares expenditures on social care services with the expenditures on social prevention services calculated per one inhabitant (average amounts for the period 2015-2018). The whole chart field is divided into four parts with the auxiliary lines expressing the mean values for calculated average spending on both types of social services. These lines allow to identify regions that spent in comparison with other regions on average relatively higher or lower average amount on specified types of social services.

For instance, regions of Central Bohemia and South Bohemia spent on both types of social services on average lower amounts than other regions because their results are located in south-west part of the Figure 1. Results of Usti region are located in north-east part, therefore this region spent on both types of social services higher amounts than other regions. Prague region spent on average the highest amount on social care services but its spending on social prevention services was the lowest in comparison with other regions.

**Figure 1 – Average expenditures on social services per one inhabitant within the period 2015-2018 (in thousand CZK)**



Note: Results for regions of Olomouc and Plzen reflect only correctly reported statistical data.

Source: Ministry of Finance, Local Monitor (2019), own data processing

The last part of the analysis was devoted to the development dynamics concerning regions' expenditures on social services. Development dynamics was calculated for two observed categories of expenditures – total expenditures from regions' budgets (d.1) and expenditures on social services (d.2). It means, analysis should have revealed if the growth or decline in spending on social services had the same trend as the total spending had. To show this comparison, the average growth rate for d.1 and d.2 defined as the geometric means of annual growth rates were calculated (see Table 3). Regions of Olomouc and Plzen were again excluded from this part of the analysis.

**Table 3 - Development dynamics of total regions' expenditures and expenditures on social services for the period 2015-2018**

Region	Average growth rate d.1	Average growth rate d.2	Comparison d.1 and d.2
Central Bohemian	1,1602	1,1921	d.1 < d.2 by 0,0319
Hradec Kralove	1,1444	1,1367	d.1 > d.2 by 0,0077
Karlovy Vary	1,1325	1,2272	d.1 < d.2 by 0,0947
Liberec	1,0849	1,1532	d.1 < d.2 by 0,0683
Moravian-Silesian	1,0987	1,1440	d.1 < d.2 by 0,0453
Pardubice	1,1254	1,1456	d.1 < d.2 by 0,0202
Prague	1,1686	1,1782	d.1 < d.2 by 0,0096
South Bohemian	1,1441	1,2215	d.1 < d.2 by 0,0775
South Moravian	1,1040	1,1504	d.1 < d.2 by 0,0464
Usti	1,1655	1,1934	d.1 < d.2 by 0,0279
Vysocina	1,0817	1,1367	d.1 < d.2 by 0,0550
Zlin	1,1168	1,0385	d.1 > d.2 by 0,0783

Source: Source: Ministry of Finance, Local Monitor (2019), own data processing

Within the period of years 2015-2018 both categories of expenditures rose and their growth dynamics differentiate when the growth dynamics of expenditures on social services in most regions (with two exceptions - regions of Zlin and Hradec Kralove) was higher than that of total expenditures. In some

regions, difference between d.2 and d.1 was more significant – Karlovy Vary (9 pp.), South Bohemia (7 pp.), while in some regions this difference was marginal – Prague (1 pp.). However, any general trend typical for the whole Czech Republic was not evident, although analysis revealed that increasing regions' expenditures on social services were associated with increasing total expenditures, what more they grew faster than total regions' expenditures. Correlation coefficient expressing relations between d.1 and d.2 accounted for 0,44. It means positive but not strong correlation.

#### 4 Conclusion

Social services – in terms of social welfare services or social assistance services belong to traditional social policy programmes applied in European countries. Their importance is evident through active participation of state, regional and municipal authorities in their organizing, financing and providing. In the Czech Republic, provision of social services is based on public-private partnership because of the applied financing model and market structure. Significant part of financial sources spent on social services is covered by subsidies provided from state budget through regions' budgets, and by subsidies from regional and municipal budgets. Within the period of years 2015-2018, regions' expenditures on social services grew (and even faster than total regions' expenditures) but no general trend was evident in the Czech Republic because of identified differences among Czech regions. Regions differentiated in total expenditures on social services per one inhabitant, and also in expenditures per one inhabitant on social care or social prevention services. Although differences were significant in statistical terms, in real terms – as the analysis dealt with the annually defined data – they were not so significant to have impact on social services' provision. It is a question if the sufficient conclusions were found because if no significant differences in expenditures on social services existed among Czech regions within the analysed period of time, it is evident that financing model did not take in to account regions' specifics. And the criticism of the model is adequate.

These days, expert discussions are led to improve the model of social services financing in the Czech Republic. Newly, the Ministry of Labour and Social Affairs wants to strengthen the relation between the amounts of subsidies on social services divided among Czech regions to their regional specifics, and to ensure financial security of the private providers of social services. However, current model requires more systematic changes at least because of demographic trends and thus increased demand for social care services. Also systematic changes concerning information, spatial and financial availability of social services have to be introduced because of existing differences in social services networks among Czech regions.

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# Process and Output Analysis of the Consolidated Financial Statements for the Czech Republic

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## Abstract

*The paper deals with the analysis of the last phase of state accounting reform which is the process of preparing financial statements for the Czech Republic (case study). The goal of the accounting reform of public finances was to create conditions for the effective provision of correct, complete and timely information on the economic situation of the state and relevant accounting entities. The description method was used to define the legislative framework for the preparation of the consolidated financial statements for the whole of the Czech Republic, which consists of the Summary Statement of State Assets and Liabilities, the Summary Statement of Expenditures and Revenues of the State and the Notes. Furthermore, the paper presents an analysis of the structure of the consolidation unit of the Czech Republic in the years 2015–2017, indicating the value of the assets of the individual entities included in the consolidation. The main part of the paper focuses on the analysis of state assets and liabilities, state expenditures and revenues in 2016 and 2017 since the consolidated financial statements were prepared for the first time in these years. When preparing the financial statements for 2015, not all of the accounting entities were included in the consolidation unit of the Czech Republic because during the legislative process of the consolidation regulation of the state it was decided to gradually integrate individual types of entities into the accounting consolidation of the state. The prepared financial statements of the state are an extensive source of information on the state of assets and liabilities, revenues and expenditures of the Czech Republic for a wide range of users.*

**Keywords:** Consolidation unit, state accounting, accounting statements, financial statements, public finances

**JEL Classification:** M41, M42, M48

## 1 Introduction

The paper deals with the description, analysis and research of the process of preparing financial statements for the Czech Republic, which is prepared by the Ministry of Finance of the Czech Republic pursuant to section 23b of the Act No. 563/1991 Sb. The consolidated financial statements for the Czech Republic have so far been processed three times for the accounting period of 2015, 2016 and 2017. For the time being, the statement of cash flows has not yet been prepared; it is to be prepared for the first time for the accounting period of 2019. The financial statements are prepared on the basis of accounting records which the consolidation units of the state transfer to the central state accounting information system.

Due to the gradual integration of individual types of entities into the state accounting consolidation, the consolidation unit of the Czech Republic was not complete for the accounting period 2015. In 2015, the financial statements of the Czech Republic were prepared for 7,298 entities (MF ČR (2016) *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2015*). All entities have been included in the consolidation since the accounting period of 2016 in accordance with the consolidation regulation of the state, and the number of entities exceeded 18,000.

The consolidated financial statements are very important to the state. The state needs relevant information from all accounting entities which perform the function of the state, act on behalf of the state, provide services, collect taxes and fees and manage state property. (more information, for example, Hakalová, Kryšková (2014, 2017)

## **2 The process of Preparing Consolidated Financial Statements in the Czech Republic**

The obligation to prepare financial statements of the Czech Republic is set in the Act No. 563/1991 Sb., on Accounting. Pursuant to section 23b of the Act, the financial statements for the Czech Republic consist of a summary statement of state assets and liabilities, a summary statement of state expenditures and revenues, a statement of cash flow and the notes.

### **2.1 Legislative Framework of the Consolidation Process in the Czech Republic**

The basic legal regulations for the preparation of consolidated financial statements for the Czech Republic are:

- the Act. No. 563/1991 Sb., on Accounting,
- regulation No. 312/2014 Sb., on the Conditions of Preparation and Presentation of the Financial Statements of the Czech Republic (consolidation regulation of the state),
- regulation No. 383/2009 Sb., on Accounting Records in Technical Form for Selected Accounting Entities and Their Transfer to the Central State Accounting Information System, and on the Requirements for the Technical and Mixed Forms of Accounting Records (technical regulation on accounting records).

Conditions for the preparation of financial statements for the Czech Republic, namely the definition of the consolidation unit and materiality conditions for inclusion in the consolidation unit of the Czech Republic, consolidation rules, including rules for the transfer of accounting records in the technical form, the methods and scope of consolidation methods use are set in individual implementing regulations.

The regulation No. 312/2014 Sb., the consolidation regulation of the state, contains conditions for the preparation of annual financial statements, the definition of the consolidation unit, the determination of consolidation rules and the scope of consolidation methods use. When preparing the financial statements, the following three methods of consolidation set out in sections 17 to 19 of the consolidation regulation are used:

- simplified full consolidation – this method includes mainly selected accounting entities (such as state-funded organisations and territorial self-governing units),
- method of full consolidation – this method includes commercial corporation in which more than 50% of influence on management and control is applied,
- consolidation of equivalences – this method includes commercial corporations under substantial or joint influence.

Furthermore, the regulation also defines the process of including entities in the consolidation unit of the state, including the organization, designation and definition of items of property and other assets, payables and other liabilities, items of expenditures and revenues, cash flows in the financial statements, and explanatory and supplementary information in the notes. Pursuant to section 14 (1) and (2) of the consolidation regulation, a Consolidation Manual is issued, which mainly contains the recommended way to fill in the Auxiliary Consolidation Overview and specification of the scope of facts reported in this overview. The consolidation manual is available on the Czech website of the Ministry of Finance in the section of Účetní výkaznictví státu. The financial statements for the Czech Republic are prepared in monetary units of the Czech currency and reported in millions of Czech crowns with the accuracy of one decimal place. The Ministry of Finance always prepares the financial statements for the Czech Republic for the given year by 30 November of the following year. Templates of the annual financial statements for the Czech Republic which are prepared on the last day of the calendar year are set out in Annexes 2 to 5 of the consolidation regulation.

The regulation No. 383/2009 Sb., the technical regulation on accounting records sets out the rules for the format, structure, transfer and security of accounting records, the scope and frequency of transferring the accounting records to the central state accounting information system. It specifies the

selected accounting entities that transfer the accounting records necessary for the preparation of the financial statements of the Czech Republic and sub-consolidation units of the state to the central state accounting information system. It also sets out the methods, deadlines and scope of the information submitted for the evaluation of budgets of selected accounting entities and the requirements for technical and mixed form of accounting records. This regulation also contains binding templates of the financial statements such as the Auxiliary Analytical Overview, the Auxiliary Consolidation Overview and the list of accounting entities included in the sub-consolidation unit of the state. (Kryšková, Palochová 2018)

## **2.2 Analysis of the Structure of the Consolidation Unit of the Czech Republic**

When defining the consolidation unit of the Czech Republic, accounting entities which are to be included in the accounting consolidation of the state are first identified. The influence on the management and control and fulfilment of the materiality conditions according to the consolidation regulation of the state are assessed. The consolidation units of the state included in the consolidation unit of the Czech Republic are obliged to submit the following accounting records:

- financial statements,
- Auxiliary Analytical Overview,
- Auxiliary Consolidation Overview.

The next step is to assess the completeness and correctness of reported data in the above mentioned accounting records. Based on this assessment, accounting entities which did not transfer accounting records to the central state accounting information system, did not send them in the required structure or show inconsistent data are excluded from the accounting consolidation of the state. (MF ČR (2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2017*)

For the accounting period of 2017, the consolidation unit of the Czech Republic consisted of 18,138 consolidation unit of the state, which is by 35 more than in 2016. The largest change in the number of accounting entities included in the consolidation occurred in 2016 and was associated with the gradual integration of individual entities into the consolidation process. Since 2015, the state organisational components, state funds, regions, municipalities and city districts of the city of Prague, voluntary associations of municipalities and the Regional Council of Cohesion Regions have been included in the consolidation unit of the Czech Republic. From 2016, the following entities were newly included in the consolidation unit of the Czech Republic:

- state-funded organisations,
- health insurance companies,
- entities which have met the conditions of materiality pursuant to Section 9 of the consolidation regulation of the state (such as commercial corporations, state enterprises, state organizations, national enterprise or public research institutions).

Entities where a state or a territorial self-government unit has an influence on management and control are considered as significant economic entities; an entity that exceeds 100 million CZK in at least one of the following criteria is being considered as significant:

- net assets value,
- liabilities value,
- total costs value,
- total revenue value.

The Table 1 lists the number of consolidated units of the state in the consolidation unit of the Czech Republic in 015–2017.



**Table 1 – Number of consolidation units of the state in the consolidation unit of the Czech Republic (2015)**

	2015	2016	2017
<b>GOVERNMENTAL PART</b>	<b>282</b>	<b>635</b>	<b>663</b>
▪ state organisational components – chapter administrator	38	38	40
▪ state organisational component	238	238	238
▪ state fund	6	6	6
▪ state-funded organisations,	-	207	208
▪ national enterprise	-	1	1
▪ state organization	-	1	1
▪ state-owned enterprise	-	23	25
▪ public research institution	-	46	48
▪ commercial corporation	-	75	96
<b>MUNICIPAL PART</b>	<b>7,016</b>	<b>17,461</b>	<b>17,468</b>
▪ region	13	13	13
▪ municipality	6,243	6,247	6,254
▪ city districts of the capital city of Prague	57	57	57
▪ voluntary association of municipalities	696	702	710
▪ Regional council of the cohesion regions	7	7	7
▪ state-funded organisations	-	10,160	10,137
▪ commercial corporation	-	274	289
▪ other legal entity (foundation)	-	1	1
<b>HEALT INSURANCE COMPANIES</b>	<b>-</b>	<b>7</b>	<b>7</b>
<b>TOTAL</b>	<b>7,298</b>	<b>18,103</b>	<b>18,138</b>

Source: own processing in accordance with MF ČR (2016, 2017, 2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2015, 2016 a 2017.*

It is clear from Table 1 that in 2017, 663 entities were included in the consolidation unit of the Czech Republic and 17,468 entities and 7 health insurance companies in the municipal part. Within the governmental part, the largest group was formed by state organisational components, including administrators of state budget chapters and state-funded organisations of the state. As of 1 January 2017, two new state organisational components were established – administrators of the chapters of the state budget, namely the Transport Infrastructure Access Authority (Úřad pro přístup k dopravní infrastruktuře) and Political Party Supervisory Authority (Úřad pro dohled nad hospodařením politických stran). In the municipal part, the largest representation was provided by state-funded organisations established by territorial self-governing units and municipalities.

Table 2 below shows non-consolidated net assets per one accounting entity included in the consolidation unit of the Czech Republic in 2016 and 2017.

**Table 2 – Non-consolidated net assets in millions CZK**

	Assets		Assets per accounting entity	
	2016	2017	2016	2017
<b>GOVERNMENTAL PART</b>	<b>3,067,416.0</b>	<b>3,005,533.8</b>	<b>4,830.6</b>	<b>4,533.2</b>
▪ state organisational components – chapter administrator	912,257.4	846,491.6	24,006.8	22,276.1
▪ state organisational component	243,978.8	258,097.5	1,025.1	1,084.4
▪ state fund	42,443.6	43,127.0	7,074.0	7,187.8
▪ state-funded organisations,	605,386.8	627,551.9	2,924.6	3,017.1
▪ national enterprise	5,095.3	5,327.8	5,095.3	5,327.8
▪ state organization	72,746.5	67,492.5	72,746.5	67,492.5

▪ state-owned enterprise	156,490.0	156,442.2	6,803.9	6,257.7
▪ public research institution	42,200.3	45,282.2	917.4	943.4
▪ commercial corporation	986,817.2	955,721.1	13,157.6	9,955.4
<b>MUNICIPAL PART</b>	<b>2,558,439.0</b>	<b>2,620,314.0</b>	<b>146.5</b>	<b>150.0</b>
▪ region	128,952.1	142,416.3	9,919.4	10,955.1
▪ municipality	1,579,675.4	1,590,191.2	252.9	254.3
▪ city districts of the capital city of Prague	113,047.0	118,544.8	1,983.3	2,079.7
▪ voluntary association of municipalities	52,362.5	51,556.4	74.6	72.6
▪ regional council of the cohesion regions	2,351.9	1,188.1	336.0	169.7
▪ state-funded organisations	442,638.0	465,986.0	43.6	46.0
▪ commercial corporation	239,263.5	250,288.6	873.2	866.1
▪ other legal entity (foundation)	148.7	142.6	148.7	142.6
<b>HEALT INSURANCE COMPANIES</b>	<b>60,690.2</b>	<b>72,602.8</b>	<b>8,670.0</b>	<b>10,371.8</b>
<b>TOTAL</b>	<b>5,686,545.2</b>	<b>5,698,450.6</b>	<b>314.1</b>	<b>314.2</b>

Source: own processing in accordance with MF ČR (2017, 2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2016 a 2017.*

The largest volume of net assets in the governmental part for 2017 is reported by commercial corporations, i.e. 955,721.1 million CZK which is 31.8% of total assets for the governmental part. The consolidation units of the state in governmental part with the highest net assets are ČEZ Group and the Road and Motorway Directorate of the Czech Republic. When we eliminate a state organization, which is represented only by one entity, the highest proportion of net assets per accounting entity is reported by state organisational components – chapter administrators. Within the municipal part, the highest value of net assets is reported by municipalities, i.e. 1,590,191.2 million CZK (in 2017). However, the value is much less per one municipality than what is reported by regions, city districts of the capital city of Prague or commercial corporations.

### 3 Material and Methods

In order to achieve the defined goal, following methods were used: studying and researching legislative sources and desk research, description, analysis, deduction, comparison and syntheses. Since 2010, the state accounting reform had brought a whole series of new laws and regulations, which meant new procedures for entities included in the consolidation. Information on the process of state accounting reform and methodological instruction were gradually published on the web pages of the Ministry of Finance of the Czech Republic. The financial statements for the Czech Republic are prepared on the basis of accounting records submitted by the consolidation units of the state to the central state accounting information system.

All information that show the overall financial position of the state from the accounting point of view is presented in the Summary Statement of State Assets and Liabilities, Summary Statement of State Expenditures and Revenues, the notes and in the report on financial statements of the Czech Republic for the relevant accounting period, which is annually prepared and published by the Czech Ministry of Finance since the accounting period of 2015. All data used in this paper were based on the sources available at the end of 2018. The economic results of the state (profit/loss) for the accounting period of 2018 will not be available until December 2019.

### 4 Analysis of the Financial Situation and Economic Activity of the Czech Republic

Interesting information on the state of assets and liabilities of the Czech Republic, its expenditures and revenues, including the consolidated profit/loss follows from the disclosed consolidated financial statements of the state prepared as at 31 December 2016 and 31 December 2017 and the report

“Zprávy o účetních výkazech za Českou republiku za rok 2016” compiled by the Ministry of Finance of the Czech Republic.

The financial statements of the Czech Republic in the given years reflect the expansion of the consolidation unit by almost 11,000 entities compared to 2015 and correspond to the target state of the structure and scope of the consolidation unit of the Czech Republic. The method of full consolidation and the consolidation of equivalences were applied for the first time. For these reasons, the analysis of the financial situation of the Czech Republic is carried out only for two years as the comparison of the values for 2016 and 2017 with the year 2015 is difficult and less informative.

#### 4.1 Valuation of Assets and Liabilities

The basic structure of assets and liabilities of the Czech Republic in 2016 and 2017 is shown in the following Table 3.

**Table 3 – Overview of assets and liabilities of the state (in million CZK)**

Balance sheet item		2016	2017		
		Net	Gross	Adjustment	Net
	<b>Total ASSETS</b>	<b>5,132,630.1</b>	<b>7,581,125.3</b>	<b>2,381,229.1</b>	<b>5,199,896.2</b>
	Non-current assets	4,054,017.4	6,211,102.0	2,237,102.5	3,973,999.5
A.	A.I. Intangible fixed assets	- 141,168.9	- 24,846.1	102,446.3	- 127,292.3
	A.II. Tangible fixed assets	3,784,934.1	5,927,550.0	2,101,421.9	3,826,128.1
	A.III. Long-term financial assets	300,578.0	201,667.7	8,755.5	192,912.2
	A.IV. Long-term receivables	109,674.3	106,730.4	24,478.9	82,251.5
	Current assets	1,078,612.7	1,370,023.4	144,126.7	1,225,896.7
B.	B.I. Inventories	101,930.5	108,564.3	2,846.0	105,718.3
	B.II. Short-term receivables	408,801.5	608,153.9	141,181.4	466,972.5
	B.III. Short-term financial assets	567,880.7	653,305.2	99.3	653,206.0
	<b>Total LIABILITIES</b>	<b>5,132,630.1</b>			<b>5,199,896.2</b>
	Equity	2,085,721.3			2,129,787.7
	C.I. Registered capital and adjustments	1,984,312.5			1,479,525.1
	C.II. Funds	95,082.3			107,299.5
	C.III. Consolidated profit or loss	- 79,887.8			462,811.2
	C.IV. Revenue and expenditure account	- 7,925.9			- 8,916.2
	C.V. Minority equity capital	94,140.2			89,068.1
	Liabilities	3,046,908.8			3,070,108.5
D.	D.I. Provisions	113,635.8			201,956.5
	D.II. Long-term liabilities	2,142,994.5			1,989,956.5
	D.III. Short-term liabilities	790,278.5			878,195.5

Source: Summary Statement of State Assets and Liabilities as to 31 December 2016 and 31 December 2017

Total net assets as at 31 December 2017 are reported at 5,199,896.2 million CZK, while the non-current assets account for 76.4 % and current assets for 23.6 % of the total assets. Compared to 2016, there was a slight decrease in the share of non-current assets in favour of current assets by 2.6%. The tangible fixed assets account for most of the total net value of non-current assets as at 31 December 2017, namely 96.3%. Within tangible fixed assets, the most significant item is buildings with a share of 63.1%. Intangible fixed assets show a negative amount, causing a negative consolidation difference. This is a new item in the accounting consolidation of commercial corporations. The consolidation difference as part of intangible assets is determined as the difference between the acquisition cost of the consolidation unit of the state and their valuation based on administering

entities' share in equity expressed in book value at the acquisition date or at the date of further increase in the share. Within current assets, short-term financial assets (around 53%) and short-term receivables (38%) have the largest representation in both years under review.

Total liabilities are logically reported at the same amount as total net assets, and as at 31 December 2017, the share of equity capital was 41% and the share of liabilities was only 59%. Compared to 2016, the ratio of own and foreign resources (liabilities) has hardly changed. The largest share in equity is recorded in registered capital and adjustments, but the value year-on-year fell by 25.4%. This decline was mainly due to the negative value of the registered capital of the Ministry of Finance of the Czech Republic, which was a result of the accounting reform of public finances and the applied data transfer bridge. Long-term liabilities, whose share at the end of 2017 amounted to 64.8%, accounted for the largest share of liabilities. Compared to 2016, the largest change was recorded for reserves where the year-on-year increase was 77.7%. In the financial statements for the Czech Republic, the reserves are divided into reserves consisting of selected accounting entities and reserves made up of other consolidation units of the state. The greatest influence on the increase in the total value of reserves was the creation of reserves at the Ministry of Finance of the Czech Republic, which in 2017 revised its decision from 2010 (at that time the Ministry of Finance concluded that the conditions for creating reserves for remediation of environmental burdens were not met) and created reserves for environmental burdens of 82,681.4 million CZK (MF CR (2018)). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2017*).

## 4.2 Analysis of Expenditures and Revenues

The consolidation unit of the Czech Republic reported a profit of 180,728.1 million CZK for 2017 as shown in Table 4. The governmental part contributed to the economic result with a profit of 101,527.0 million CZK (i.e. 56.2%) and the municipal part with the amount of 79,201.1 million CZK (i.e. 43.8%). Compared to the previous accounting period, the profit increased by 42.2%, mainly due to an increase in revenue from activities and financial revenues.

**Table 4 – Overview of state costs and revenues (in million CZK)**

		2016	2017
<b>A.</b>	<b>Total COSTS</b>	<b>2,196,211.0</b>	<b>2,336,209.6</b>
	A.I. Cost arising from operation	1,341,928.5	1,396,880.6
	A.II. Financial costs	111,707.2	144,396.3
	A.III. Transfer costs	742,575.2	794,932.8
	A.IV. Costs from shared taxes and fees	0	0
	A.V. Income tax	0	0
<b>B</b>	<b>Total REVENUES</b>	<b>2,329,162.4</b>	<b>2,523,095.7</b>
	B.I. Revenue from activities	781,430.6	870,467.8
	B.II. Financial revenues	69,126.8	118,604.4
	B.III. Revenues from taxes and fees	1,032,838.7	1,083,973.9
	B.IV. Revenues from transfers	191,818.0	174,107.0
	B.V. Revenues from shared taxes and fees	253,948.4	275,942.7
	<b>C.I.2. Profit or loss for current accounting period</b>	<b>132,951.5</b>	<b>186,886.1</b>
	C.I.A. Minority profit or loss for current accounting period	6,040.0	6,653.5
	C.I.B. Profit or loss for current accounting period without equity	126,911.5	180,232.6
	C.I.C. Share in profit/loss by equity method	210.1	495.5
<b>C.</b>	<b>Consolidate profit or loss for current accounting period</b>	<b>127,121.5</b>	<b>180,728.1</b>

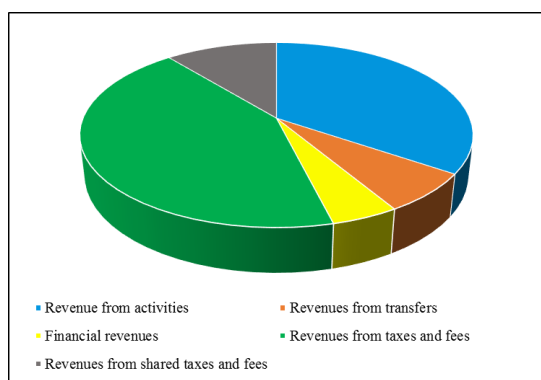
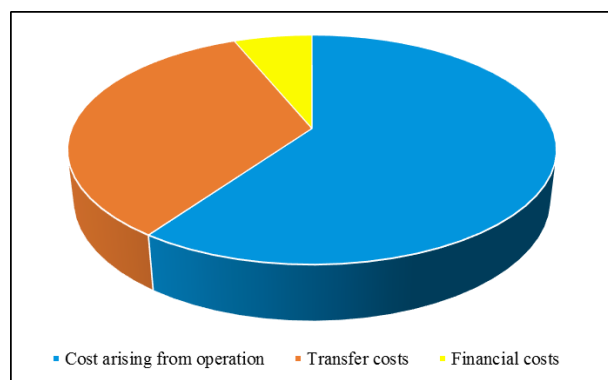
Source: Summary statement of state expenditures and revenues as to 31 December 2016 and 31 December 2017

Based on the data in Table 4, the Figure 1 shows the structure of costs and revenues of the state according to the basic items of the Summary Statement of State Expenditures and Revenues as at 31 December 2017.

**Figure 1 – Overview of state costs and revenues as at 31 December 2017**

a) Cost structure

b) Revenue structure



Source: own processing in accordance with MF ČR (2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2017.*

The **total costs** of the consolidation unit of the Czech Republic for accounting period of 2017 amounted to 2,336,209.6 million CZK which is a 6.4% increase compared to 2016. In both years under review, the cost arising from operation accounted for the highest share of total costs (around 60%). The most important items of cost arising from operation are listed in Table 5. The second most significant cost item is the cost of transfers which accounts for 34 % of the total cost.

**Table 5 – Overview of the most important items of costs arising from operation**

Item number	Item name	2016		2017	
		in million CZK	in %	in million CZK	in %
A.I.1.	Material consumption	111,319.4	8.3	115,425.9	8.2
A.I.4.	Goods sold	126,142.9	9.4	128,081.6	9.2
A.I.12.	Other services	97,920.5	7.3	130,041.8	9.3
A.I.13.	Wages and salaries	336,042.0	25.0	368,608.3	26.4
A.I.28.	Depreciation of fixed assets	139,240.2	10.4	139,390.2	10.0
A.I.34.	Cost of bad debt	146,927.4	10.9	78,873.2	5.6
A.I.A.	Costs of health insurance companies	176,348.3	13.2	198,114.4	14.2
	Other cost arising from operation	207,987.8	15.5	238,345.2	17.1
<b>A.I.</b>	<b>Total cost arising from operation</b>	<b>1,341,928.5</b>	<b>100.0</b>	<b>1,396,880.6</b>	<b>100.0</b>

Source: own processing in accordance with MF ČR (2017, 2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2016 a 2017.*

Table 5 shows that the most significant item of cost arising from operation is wages and salaries the share of which in 2017 increased slightly compared to 2016. The highest wages and salaries in the governmental part are reported by ČEZ Group, the Ministry of Defence of the Czech Republic, České dráhy (Czech Railways) and Česká pošta (Czech Post). In the municipal part, the highest wages and salaries are spent by Dopravní podnik hlavního města Prahy. (MF ČR (2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2017*)

The second most significant item within the cost arising from operation is the cost of health insurance companies. These are the costs related to health care paid from public health insurance premiums to health care providers who are not part of the consolidation unit of the Czech Republic (such as private health facilities). This item grew year-on-year by 12.3%.

Other cost items listed in Table 5 recorded a slight increase in the years under review, with the exception of other services (up by 32.8%) and the cost of bad debt (down by 46.3%). The cost of bad debt represents the valuation of the assigned claims and bad debt for reasons other than debt collection, the claim offset and a merger of debtor and creditor. The largest share in the government part on this item is held by the General Financial Directorate (67.1%), the Czech Export Bank and the Ministry of Finance of the Czech Republic. The highest costs of bad debt in the municipal part are attributed to the Krajská nemocnice T. Bati and Dopravní podnik hl. m. Prahy. It was the General Financial Directorate that contributed to the significant decrease in the costs of bad debt in the years under review as the bad debt were written off due to statute of limitations or preclusion (95.1%), and the remaining part of the receivables was eliminated due to their uncollectibility. (MF ČR (2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2017*)

From the Table 4 follows that the **total revenues** of the consolidation unit of the Czech Republic for the accounting period of 2017 amounted to 2,523,095.7 million CZK which is an increase by 8.3% compared to 2016. Revenues from taxes and fees, which accounted for 43% of total revenues in 2017 (44.3% in 2016) and revenues from activities, which accounted for 34.5% of the total revenues in 2017 (33.5% in 2016) accounted for the highest value. The highest growth was recorded for financial revenues (71.6%), which was mainly due to an increase in revenues from fair value remeasurement.

Consolidation units of the state in the governmental part, namely the General Financial Directorate, the General Directorate of Customs and the Czech Social Security Administration are charged with the collection of taxes and fees in the Czech Republic. At the same time, the consolidation units of the state are subjects to taxes and fees which are excluded during the preparation of financial statements for the Czech Republic. An overview of the most significant revenues from taxes and fees is presented in Table 6.

**Table 6 – Overview of the most significant revenues from taxes and fees**

Item number	Item name	2016		2017	
		in million CZK	in %	in million CZK	in %
B.III.1.	Revenue from personal income tax	110,944.8	10.7	127,255.9	11.7
B.III.2.	Revenue from corporate income tax	86,442.4	8.4	92,076.2	8.5
B.III.3.	Revenues from social security contributions	348,964.6	33.8	378,007.8	34.9
B.III.4.	Revenues from added value tax	302,895.6	29.3	286,322.5	26.4
B.III.5.	Revenues from excise taxes	149,148.8	14.5	153,345.7	14.2
	Other Revenues from taxes and fees	34,442.5	3.3	46,965.8	4.3
<b>B.III.</b>	<b>Total revenues from taxes and fees</b>	<b>1,032,838.7</b>	<b>100.0</b>	<b>1,083,973.9</b>	<b>100.0</b>

Source: own processing in accordance with MF ČR (2017, 2018). *Zpráva o účetních výkazech za Českou republiku za účetní období roku 2016 a 2017*.

It is clear from Table 6 above that the total revenues from taxes and fees mostly includes revenues from social security contributions and value added tax. Revenues from social security contributions increased by 29,043.2 million CZK, i.e. 8.3%, in the period under review. Revenues from personal and corporate income tax increased by 21,944.9 million CZK, i.e. by 11.1%. The only decrease was recorded in the revenue from value added tax of 16,573.1 million CZK, i.e. by 5.5%. This decline was caused by a reduction in gross revenue from value added tax (by 4,888.7 million CZK compared to 2016) and an increase in the percentage of municipalities in the national revenues from VAT from

20.83% to 21.4% under the Act No. 243/2000 Sb., on Budgetary Allocation of Some Taxes to Territorial Self-governing Units and Some State Funds (Act on Budgetary Allocation of Taxes).

The second most significant revenue item is revenues from activities of the state, which showed an increase of 11.4% in the period under review. These include revenues from public health insurance, revenues from the sale of own products and revenues from the sale of services. Revenues from public health insurance (30% in 2017), which grew by almost 6% in 2017 compared to 2016, accounted for the largest part of the revenue from activities. Revenues from public health insurance represent revenue from mandatory contributions paid by employers and self-payers who are not part of the consolidation unit of the Czech Republic. Contributions from employers who are included in the consolidation unit of the Czech Republic (such as ministries, municipalities or state enterprises) and payments of the state for the state insured persons (such as pensioners and minors) are excluded from this amount.

## 5 Conclusion

The Ministry of Finance of the Czech Republic has already prepared the financial statements for the Czech Republic three times for the accounting period of 2015, 2016 and 2017. The consolidated financial statements of the Czech Republic were for the first time prepared for the accounting period of 2015, while the cash flow statement was not compiled. This statement will be prepared for the first time for the accounting period of 2019. The state accounting reform introduced new accounting methods and changes in the financial reporting of selected accounting entities. These are consolidated financial statements prepared on an accrual basis.

The preparation of the consolidated financial statements for the Czech Republic have concluded the state accounting reform which started in 2010. In 2015, 7,298 accounting entities were included in the accounting consolidation of the state, and the consolidation unit has been expanded by another 11,000 entities since 2016. The financial statements for the complete consolidation unit of the Czech Republic were for the second time prepared in 2017. It was so for the first time possible to compare data for two years and to conduct a deeper analysis of the state's finances in 2016 and 2017 as well as to obtain important information for financial decision-making. For the accounting period of 2018, the number of entities in the consolidation unit is expected to be almost the same as in 2016 and 2017. Domestic and international financial institutions, credit rating agencies, investors in government bonds, EU institutions and bodies may also be users of information from individual financial statements of the state.

The current legislation shows that the financial statements for the Czech Republic are not subject to an audit. This is due to the fact that the structure of the consolidation unit of the Czech Republic is quite complex as it contains a large number of accounting entities, and a potential audit would not only be time-consuming but also financially demanding (Terziev, 2016).

State consolidation contributes to greater openness of the state administration, to raising public awareness of the overall financial situation and performance of the state administration and self-government. It also appropriately supplements information from the budget and statistical surveys. Information from the consolidated financial statements prepared for the Czech Republic should in the coming years serve as a supporting element in strengthening financial and budgetary planning as a part of rationalization of public funds use and as in the development of public administration management and control systems (Klaban, Terziev, 2019). From the data in Tables 3–6 it is clear that the Czech Republic achieved a better economic result in 2017 than in 2016 and also managed its assets effectively in the period under review.

By preparing and disclosing consolidated financial statements, the Czech Republic has become one of the countries such as Sweden, Switzerland and Great Britain, which have already been preparing these statements for many years. In years to come, the main objective will be to improve the quality of input data so that the financial statements provide the most credible information on economic

activity of the state and management of public funds. It can be assumed that this information will contribute to increasing the transparency of public sector reporting and credibility in the eyes of the general public.

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# **The Influence of Political Parties' Coalitions on the Electoral Program Fulfillment**

**Ondřej Kuba, Jan Stejskal, Viktor Prokop**

## **Abstract**

*The aim of this paper is to analyse the situation of political parties in Bohuslav Sobotka's government, which concerns political promises and declarations. The analysis focused specifically on the fulfilment of the coalition party promises of Prime Minister Bohuslav Sobotka's government. The input data of the research consisted of a prepared set of testable political promises from the pre-election programs of selected political parties. The promises were compared with the contents of the coalition agreement, the government's policy statement. It was found that coalition political parties selected by the government within the framework of coalition cooperation managed to enforce approximately 36 % of their election promises. At program level, 24 % of promises were enforced. In areas that increase the personal budget of voters, government political parties have pushed 76 % of promises. Regardless of their cooperation, they made approx. 52 % of the election promises during the parliamentary term. The dominant party of the government was the CSSD.*

**Keywords:** Coalitions, programs, governments, elections, promises, public choice

**JEL Classification:** H10, H11, H83

## **1 Introduction**

The distribution of political forces based on election results is the prerequisite for the emergence and stability of governments in democratic systems. In the context of multi-party representation, the emergence of the government, unlike the dual party, is conditional upon negotiation through which political parties agree to form a decisive majority. In this way, a so-called monochrome government, coalition government, or transitional government may be created, agreed by various political entities. Besides the rise of the government the result of the negotiations results in several side effects including not only concessions and compromises in the program, but also in the personnel, as well as political bargaining. The content of the program statement of the coalition government is usually different from the original promoted priorities of individual political entities in the pre-election period. Voters do not have to take this behaviour as being unequivocally positive, highlighting the inefficiency of public choice.

The process of political negotiation has been the subject of political and economic research. Based on exploring the behaviour of political entities in the negotiations, the so-called coalition theory emerged, which builds on game theory and assumes rational behaviour of all negotiating actors. The manifestation of rational behaviour is to push through the maximum level of the electoral program with as few concessions as possible. This success is due to several significant factors in the coalition cabinet. For example, Peleg (1981) and Deemen (1989) mentioned the important role of the dominant player in the government formation process, i.e. the most represented political party in Parliament. This political party is practically impossible to circumvent in the negotiation. If this party is also centrally oriented, according to Crombez (1996), the government's program will subsequently be the same as this party has. One cannot forget the significance and importance of some small parties, which, according to Laver (1998), may have a strong expressive position, because without them most would arise. Such parties may blackmail other parties. The ability to enforce the party's electoral program does not only depend on its involvement in the coalition agreement, but also on its compliance with the coalition partner. For example, according to Thies (2001), the parties use political deputies appointed to coalition partner ministries. Similarly, according to Pukelis (2016), the chairpersons of parliamentary committees also carry out the control work. An important element in

the program enforcement process is the occupation of ministerial seats. Political parties are demanding such seats that are their priority. Warwick (1996) states that government policy is determined by the political party that controls the Treasury, as it decides which spending programs the government will financially support. All these factors affect the success of political parties more or less in the enforcement of the program.

The aim of this paper is to analyse the situation of political parties in Bohuslav Sobotka's government, which concerns political promises and declarations. It will be evaluated how many promises from the party's electoral programs have become part of the government program statement and how many of them have been successfully completed. The partial goal is to check whether the CSSD - as the winning party and the party dominating in the government - implemented the comparative advantages according to the assumption of Baron (1991). Theoretical Background

In parliamentary democracies based on the multi-party system, which includes the Czech Republic, a government is usually formed by several political parties. The political parties in one coalition cooperate under certain conditions and in different forms. Strøm and Nyblade (2009) generally define coalitions as groups of individuals cooperating to promote common interests. Specifically, politicians are united to lead the government to transform a wide range of social requirements into public policies. This action can be considered significant in democratic systems with multiple political parties, where it is decided by the majority rule. In such an environment, individual parties do not reach an absolute majority, so they do not have the opportunity to push through any programs without the support of other political parties.

Luebbert (1983) considers the process of creating coalitions far more significant than the public elections. The argument for this claim is that the composition of the government often does not match the election results. This is evidenced, for example, by the results of elections to the Chamber of Deputies of the Czech Parliament in the elections in 2010 (Stegmaier, Vlachová, 2011). At that time, a coalition government was formed, but it did not include a winning political party.

The formation of coalition governments brings many questions that experts from different disciplines seek to answer. They focus on the analysis of the parties' suggestions for cooperation, its form, the process of division of offices or the realized policy. All these attributes affect the process of forming a coalition government, its subsequent stability and, in the event of a conflict, may even cause its collapse. In other words, the coalition is a grouping of two or more entities promoting a common purpose, which naturally involves a series of disputes. On the one hand, these disputes stem from satisfying the different needs of voters and the associated division of authorities (Strøm and Nyblade, 2009). On the other hand, the individual ambitions of politicians, for which the desire for power, prestige and effort to be the centre of attention cause instability (Budge and Laver, 1986). Thus, when negotiating a coalition, political parties need to know their potential partners and be able to recognize the benefits and costs of collaboration. Where there are real prospects for agreement and political parties decide to cooperate, rules and forms of cooperation are set out.

The establishment of a co-enforced policy is one of the contradictory areas. Strøm and Müller (1999) state in this context that the political parties in the joint government do "the business" (the logrolling) because they have different preferences across a wide range of issues and will seek to ensure maximum political, official and electoral benefits for themselves. The leading political party that manages the negotiations obtains the comparative advantage by Baron (1991). This party can select other partners strategically and offer collaboration only to those they choose. Whenever political parties are rational and strategic, they want to maximize benefits at every point in the negotiations. It will certainly be reflected in the composition of the cabinet or government program. For example, Bäck, Debus and Dumont (2011) believe that political parties choose the ones that are closest to them according to the electoral program. It should be remembered that even they will prioritize their own interests throughout the period of their cooperation and will want to fulfil as many points of their own election program as possible. The cooperating political (government) parties become partners in the

coalition, but at the same time they remain significant competitors as they often fight for the same electorate.

The aim of this paper is to analyse the situation of political parties in Bohuslav Sobotka's government, which concerns political promises and declarations. It will be evaluated how many promises from the party's electoral programs have become part of the government program statement and how many of them have been successfully completed. The partial goal is to check whether the CSSD - as the winning party and the party dominating in the government - implemented the comparative advantages according to the assumption of Baron (1991).

## 2 Data and Research Method

The analysis of election promises fulfilment will be based on the **commitment approach** defined by Royed (1996). This approach was used for analysis of electoral programs in studies by, for example, Schermann and Ennser-Jednastik (2012), Naurin (2014) or Thomson et al. (2017), and assumes the promise of the party as a unit of analysis obliging the party to take action or produce a result that can be objectively assessed to meet or fail. Royed's potential promise includes a commitment phrase (we will "push", "propose", "support", "secure", "provide", etc.), and a goal or policy to which the party commits.

With these methodological procedures we analysed the election programs of the CSSD (CSSD, 2013), KDU-CSL (KDU-CSL, 2013), ANO 2011 (ANO, 2013) and the government policy statement, which were coalition parties in Bohuslav Sobotka's government of (2014-2017). The primary data set (page promise set) has been modified as follows:

- Statements by political parties that are not clearly defined by Royed (1996), will be transformed into this format. Long promises will be made in shortened form, declarations of political parties containing more results will be divided into more partial promises and additional knowledge will be added to ambiguous promises.
- If the political party's declaration contains more than one result (in one sentence), the promises will be divided.
- Only promises that can be assessed for compliance or non-compliance will be analysed. If its performance exceeds the electoral period under review, it will not be included in the analysis. Similarly, those that are not binding, measurable, specific, unambiguous will be excluded.
- Any promise whose fulfilment is not dependent on the government's decision, but for example in the competence of territorial and professional self-governments or based on European Union legislation, will not be included in the data set. Promises in the preparation of various strategies and concepts that are produced by the public administration will also be excluded.

It follows from the above mentioned that a testable promise must be binding, measurable, specific, time-bound, unambiguous and must be the result of government action. Successful fulfilment of such a defined promise will manifest itself, on the one hand, in the size or structure of public budgets, or in the legislative obligation to fulfil something or to claim something. Any legislative change (introduction, amendment, revocation) will be considered as compliance with the legislative promises, although the party's agenda may include a vague notion of "fair", "complete", and so on.

Promises will also be considered fulfilled, for example, by a resolution of the Constitutional Court (a case of a taxpayer returning a tax to a working pensioner) or by a law created by a previous government. Such point promises are considered promises of the status quo, which does not change anything but confirms the party's preference.

The data sets of the political parties' promises will then be used for graphical presentation of the results and discussion.

### 3 Results and Discussion

Real electoral programs of political parties were modified according to the above-mentioned methodological principles. This resulted in a target group containing 237 testable promises (88 promises of the ČSSD, 62 promises of the KDU-CSL, 87 promises of ANO 2011). These promises oblige political parties to change legislation, or to implement another concrete and objectively verifiable commitment. The overall success of political parties in negotiating a **coalition agreement**, expressed as the proportion of all promises included in the coalition agreement to the total number of promises in the party program, is presented in Figure 1.

**Figure 1 – Share of promises included in the coalition agreement**

Source: authors' calculations based on the primary data

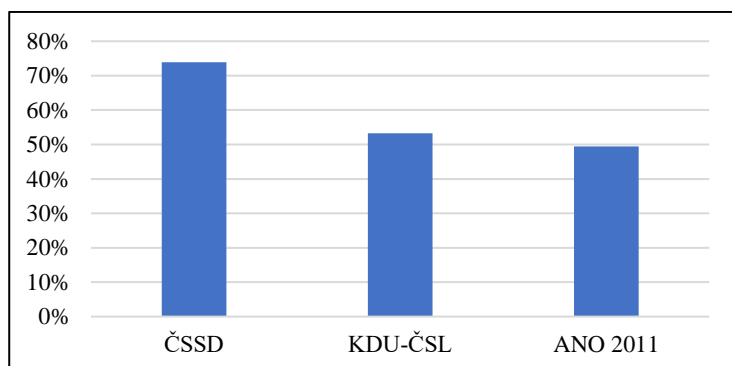
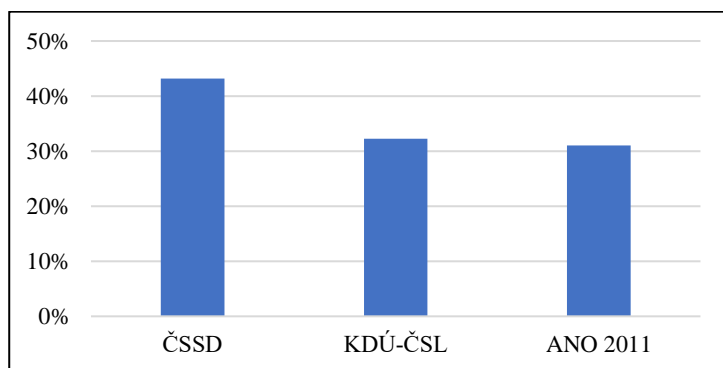


Figure 1 shows that the ČSSD managed to enforce almost 74 % of all tested promises in the coalition agreement. Although the KDU-CSL had less than a quarter of the tested promises - fewer than the other parties - it managed to push 53 % into the coalition agreement. The fewest promises in the coalition agreement were pushed through by ANO 2011, which only pushed 49% of all tested promises from its pre-election program into the coalition agreement. The overall ratio of promises included in the coalition agreement is as follows: ČSSD 46 %, ANO 2011 31 % and KDU-CSL 23 %. The coalition agreement was based primarily on the ČSSD program and confirmed the strong bargaining position of the party that sets up the coalition.

The negotiation process does not end with the formation of a coalition agreement. Furthermore, the coalition parties must be able to jointly enforce the promises made to the treaty. Figure 2 shows the proportion of coalitions of fulfilled promises, broken down by party from whose programs the promises came.

**Figure 2 – Share of fulfilled promises from coalition agreement**

Source: authors' calculations based on the primary data



The government coalition pushed through a total of 85 of the 141 tested promises (60 %). The individual political parties had a relatively low success in promoting election promises. The ČSSD has pushed 38 of the 88 promises (43 %) into coalition cooperation over the entire term. KDU-CSL pushed 20 out of 62 promises (32 %) and ANO 2011 only 27 out of 87 promises (31 %). The order of successfully implemented promises based on the programs of the parties is the same as the order of the parties in the number of promises entered into the coalition agreement. Most promises were based on the ČSSD program, followed by ANO 2011 and KDU-CSL.

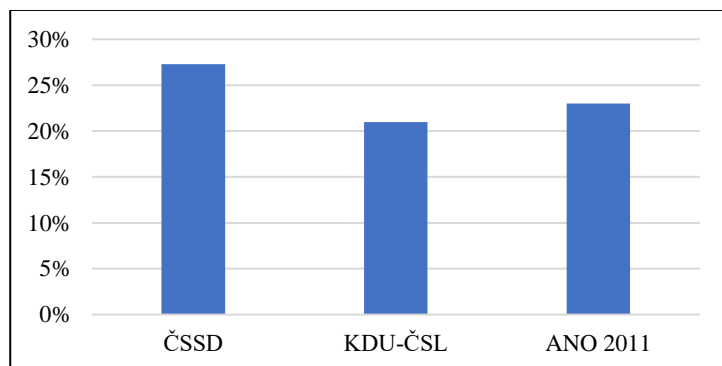
The results of the analysis show that the political parties forming the coalition have realized their election promises in the same proportion as they were enforced in the coalition agreement. This means that the coalition has been balanced in the enforcement of the program and there has been no significant promotion of goals from the one-party program to the detriment of the other party. This balance probably stems from the programmatic intersection of the parties.

A more significant document than a coalition agreement may be a **government program statement**. This is based on a coalition agreement, but is limited to the government's priorities, which should be met by individual ministries during the public choice. The analysis shows that political parties have made fewer promises to the government program statement than to the coalition agreement - in total, 91 from 237 promises (38 %). ČSSD added to the government statement 42 % of the promises. KDU-CSL pushed 39 % of promises into the program statement (24 out of 62) and ANO 2011 pushed 35% of promises (30 out of 87). The order of success of the parties in promising in the program declaration is identical with the order of the parties in the success of realizing promises in the coalition agreement.

However, the representation of the parties' promises in the government program statement is more even than in the case of the coalition agreement, as the ČSSD's promise ratio is not so significant compared to the other parties. The overall success of the parties in fulfilling the tested promises included in the government's policy statement is presented in Figure 3. The graph shows that the most realized promises from the government program statement came from the ČSSD program (27 %), 23 % of the ANO 2011 program and 21 % of the election promises were fulfilled for the KDU-CSL.

**Figure 3 – Share of realized promises from government program statement**

Source: authors' calculations based on the primary data

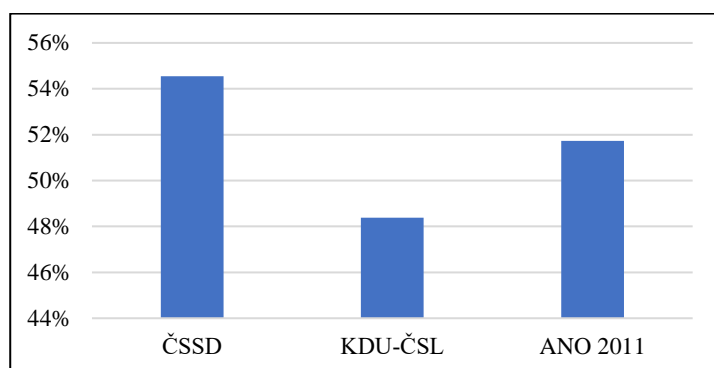


As in the case of the coalition agreement, there was no extreme realization of promises from only one political party. The parties' promises are almost the same as the promises made by the parties to the government program statement.

Coalition political parties may in some cases vote in Parliament with parties other than those they are in coalition with. This collaboration can work, for example, on an ad hoc basis. The purpose of such party behaviour is to push through the electoral program to the maximum extent. Figure 4 shows the ratios of the fulfilled promises against all promises of the parties (to this amount we count also the promises that were not included in coalition agreement and government program statement).

**Figure 4 – Share of fulfilled promises of coalition parties**

Source: authors' calculations based on the primary data

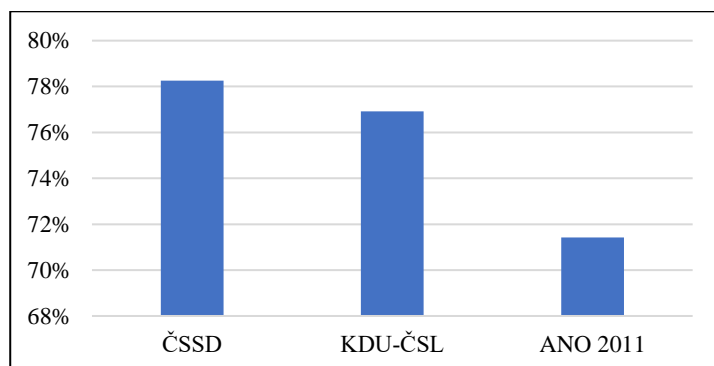


It is clear from Figure 4 that governmental political parties in Parliament have been able to push through about half of their electoral program promises, regardless of whether their promises are part of a coalition agreement or whether they pursue a coalition or opposition program. The majority of promises outside the coalition agreement were managed by ANO 2011 (approximately 20 %).

In the final part of the analysis, an evaluation of the promises' fulfilment is realized. Just these promises were analysed which clearly had a positive influence on the voter's budget. These promises include reducing the tax burden on voters in the form of various tax reliefs, reducing V.A.T, raising minimum wages, abolishing doctor's fees etc. The analysis is based on a fiscal choice (the voter does not only choose according to preferences but also according to the amount of the pension and the tax system). The prerequisite, therefore, is that the parties will endeavour to enforce measures that will increase their popularity by the next election. Fulfilment of these promises should be a clear priority for the parties, as it directly affects voters. Figure 5 shows the fulfilment of these selected promises.

**Figure 5 – Fulfilled promises with positive impact on personal income**

Source: authors' calculations based on the primary data



Together, the political parties made 50 promises in the areas of tax relief, tax cuts, salary growth, pension growth, minimum wage increases, and so on. Out of these, 23 promises were made by the ČSSD (fulfilled 18 promises; 78 %). The KDU-ČSL proposed 13 changes and completed 10 (77 %). ANO 2011's electoral program contained 14 promises, of which 10 (71 %) were pushed forward. Thus, this is the evidence that political parties are primarily seeking to promote political goals that will give them voter support. While in total, the parties managed to push about half of their program, they have pushed around three-quarters of their programs in this area.

## 4 Conclusion

This paper analysed the fulfilment of selected promises of coalition political parties in the government of Bohuslav Sobotka (2014-2017). The objective of the analysis was to demonstrate the extent to which political markets distort the formation of coalitions. The parties must make several concessions and compromises in the formation of coalitions, and this behaviour can be considered a voter scam. They elect parties based on electoral promises, which the political parties will eventually revise in the coalition negotiations and will not even include a substantial part of the government program.

The political parties forming Bohuslav Sobotka's government only enforced about 50 % of their program in the coalition agreement (73 % for the CSSD). In the government's program statement, 35-42 % of parties' election promises were included. Just 20-27 % of them were fulfilled with the government's cooperation. The strongest party in promoting pre-election promises was clearly the CSSD, which was able to push through the most promises from all parties (both to the coalition agreement and to the government program statement). The reason for its success is probably its negotiator status, as the party won the election, formed the government, and had the most ministerial posts through which it could pursue its own policy.

Political parties, regardless of coalition cooperation, have managed to meet approximately 50 % of all their promises over the entire parliamentary term. With promises that can be considered significant to voters, as they have a positive impact on personal budgets, the success in fulfilment of the promises was higher. The parties have fulfilled more than 70 % of the promises.

The lack of analysis is a significant reduction in the data set, as political parties could eventually make more promises from their program. However, verifying all the promises would not be realistic, because for some promises there are no benchmarks against which performance can be evaluated, or the verification would require additional evaluation criteria. However, the voters themselves are not able to evaluate all parties' promises in the process of choosing and therefore the commitment approach used can be described as enough and meaningful.

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# Basic Registers and Personal Data Protection: Critical View

Tomáš Lechner, Lenka Vaňková

## Abstract

*Basic Registers are one of the fundamental eGovernment tools. They have been running in the Czech Republic since the middle of the year 2012. Basic registers contain different categories of data including personal data of all Czech inhabitants. That is why the issue of personal data protection within the Basic Registers is a very important topic. Since 25 May 2018 the Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) brought some new obligations in this area, which was a reaction to the development of information society and new challenges for personal data protection. The paper deals with different analyses of implementation of technical and organization measures within the Basic Registers to integrate necessary safeguards into the personal data processing in order to meet the requirements of the General Data Protection Regulation and protect the rights of data subjects. We try to answer the question whether this protection has been applied sufficiently and conceptually.*

**Keywords:** Basic Registers, eGovernment, personal data protection

**JEL Classification:** H11, H76, K24, K38

## 1 Introduction

Personal data protection is one of the fundamental rights proclaimed in the Charter of Fundamental Rights of the European Union as well as in the Charter of Fundamental Rights and Freedoms of the Czech Republic. This right is not an absolute right that is why it must be considered in relation to its function in society and be balanced against other fundamental rights, in accordance with the principle of proportionality, which is very important fact in any discussion about this right. The importance of personal data protection is increasing with the development of information society and usage of information and communication technologies.

These information and communication technologies are currently used within the public administration as well, which is called eGovernment (See [3] or [13]). Thus, it is obvious that public bodies have to think about all consequences of personal data protection. With respect to the principle of proportionality, the importance of this protection should increase with the increasing scale of information systems with respect to the amount of personal data, which are processed in these systems. One of the fundamental eGovernment tools (for categorization of eGovernment tools see for example [11]) that processes typically large amount of personal data is basic registers of public administration. This tool has been implemented in many European countries including the Czech Republic [18]. The Basic Register of Inhabitants store information about all inhabitants of the state and other specific persons [17], which means that this tool must be designed with a high level of personal data protection.

This paper deals with an analysis of application of personal data protection within the basic registers of public administration in the Czech Republic. We also build on our previous research of general impacts of GDPR on public bodies [7] and of the quality of data stored in one of the Basic Registers [8]. These two topics are connected in our new research, which has the aim to critically evaluate approaches that are implemented within the Basic Registers in order to protect personal data stored in these Registers. Thus, we will try to answer the question whether this protection has been applied sufficiently with respect to the amount of processed personal data in this tool and whether the changes, which were done during last year, have been conceptually implemented.

## 1.1 General Data Protection Regulation

The protection of natural persons in relation to the processing of personal data is set not only in the mentioned Charters of Fundamental Rights but it is also regulated by another special legislation. Last year, especially on 25 May, the Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), came into force. This new enactment, commonly called GDPR, reflects the development of information and communication technologies. The GDPR has unified the rules on the personal data protection across the European Union, changed certain procedures in the area of personal data protection and brought some new obligations (for more analysis of GDPR see [7], [14], [15], [19] and [27])

As it is written in the preamble of the GDPR, it is based on the assumption that the principles of, and rules on the protection of natural persons with regard to the processing of their personal data should, whatever their nationality or residence, respect their fundamental rights and freedoms, in particular their right to the protection of personal data. This Regulation is intended to contribute to the accomplishment of an area of freedom, security and justice and of an economic union, to economic and social progress, to the strengthening and the convergence of the economies within the internal market, and to the well-being of natural persons. The GDPR has brought new approach to the personal data protection based on risk analysis, which is by a lot of authors mentioned as the main change that has been done [14], [15], [19].

The GDPR has six general data protection principles, specifically, fairness and lawfulness, purpose limitation; data minimisation, accuracy, storage limitation, and integrity and confidentiality (See also [14], [15], [27]). It should be mentioned, that data protection “by design” and “by default” is at the core of the GDPR as well as the very important principle of proportionality (For more details see [15], [19]). The main new obligation is that the controller should be obliged to implement appropriate and effective measures and be able to demonstrate the compliance of processing activities with the GDPR, including the effectiveness of the measures (For more details see [14], [15], [27]).

According to the article 32(1) of the GDPR, both the controller and the processor shall implement appropriate technical and organisational measures to ensure a level of security appropriate to the risk of varying likelihood and severity for the rights and freedoms of natural persons. As it is shown by many authors (for example [7], [14], [15], [19], and [27]), neither technical nor organisational measures separately can adequately provide the necessary protection. Both the technical and organisational measures must work together and synergistically.

## 1.2 Basic Registers of Public Administration

The first idea about creating basic registers of public administration appeared already at the end of the last century [10]. However, it was completed as late as in 2012. Since 1 July 2012, basic registers have been fundamental part of the Czech e-Government (For more details about this tool see [13], [17]). There are four basic registers of public administration: the Basic Register of Inhabitants (ROB), the Basic Register of Legal Entities, Self-employed Natural Persons and Public Authorities (ROS), the Basic Register of Territorial Identification, Addresses and Real Estate Property (RUIAN) and the Basic Registers of Public Authority Agendas and Some Rights and Obligations (RPP).

One of the reasons for postponing the launch of basic registers was a longer-lasting preparation of data fund in the relevant quality [18]. It's not just the problem of Basic Registers, but data quality affects the overall performance of public administration [4]. In the context of personal data protection, there should be mentioned one of the basic principles, that processed personal data shall be accurate and kept up to date, which also means that every reasonable step must be taken to ensure that personal data that are inaccurate, having regard to the purposes for which they are processed, are erased or rectified without delay [Article 5(1) letter d) of the GDPR]. That all is so important for basic registers

because public authorities in the Czech Republic should use this data without any confirmation of its validity, in case they are not marked as incorrect or questioned.

The basic registers of public administration are a set of information systems pursuant to the Act No. 111/2009 Coll., on Basic Registers. This act specifies content of each register with respect to categories of stored personal data. The role of the RPP is to drive the access rights to all other Registers and stored data. According to § 5 of the Act No. 111/2009 Coll., the public authorities use reference data stored in Basic Registers in the extent defined by this act or defined by another specific act. This is important rule, which means establishment of responsibility of public authorities for each use of reference data stored in Basic Registers. It is compliant with the GDPR, where the responsibility and liability of the controller for any processing of personal data carried out by the controller or on the controller's behalf is established.

Technical role of the RPP is complemented by the system of basic and agenda natural person identifier [18]. This system was set to protect linking of personal data processed for different purposes, which is again one of the main general data protection principles. The overall setting of all these measures creates the basis for the security of stored personal data. The implemented architecture of basic registers has, of course, also an impact on their performance, as it is described in [2].

### **1.3 Methodology**

To answer the question whether personal data protection implemented within the Basic Registers of public administration in the Czech Republic is appropriate to the state of the art, the costs of implementation and the nature, scope, context and purposes of processing as well as the risk of varying likelihood and severity for the rights and freedoms of natural persons, as it is required by the GDPR, we use several analyses. The first one is a statistical analysis, which shows the amount of stored personal data and transactions between the information system of Basic Registers and information systems of different public authorities. Within this analysis we also use basic statistical methods and comparison with other vast information systems such as data mailboxes information system [9]. The second one is an analysis of technical measures supported by law and technical documentation of communication between mentioned information systems. The third one is an analysis of organization measures based mainly on a law analysis. In the second two analyses, attention will be paid mainly to the development of the last two years, when the impact of the new legislation in the form of GDPR is evident.

After that we summarize the results to the overall picture of implemented data protection within the Basic Registers of public administration in the Czech Republic. We use synthetic methods to find the answer to the main question of the article.

## **2 Analyses**

As it was mentioned in the previous section, we have based our research on three analyses; an analysis of amount of communication and stored data, an analysis of technical measures and an analysis of organization measures.

### **2.1 Statistical Analysis**

The idea of this analysis is built on our previous researches published in [8]. We inquired the quality of agenda's registration in the RPP and we showed that this registration including activities and roles was not kept in a very good quality, because agendas were described in heterogeneous and sometimes also in an inaccurate way, and there occurred frequent changes, many of which are not supported by justifiable reasons resulting from change in relevant legal regulations [8]. Let's mention that the role of agenda is to describe activities lying in performance of limited area of mutually connected activities within the public authority competence (pursuant to the § 2 letter d) of the Act No. 111/2009 Coll.). Pursuant to the § 48 section 1 letter a) of the quoted Act, this activity is defined as a set of operations

that are performed by public authorities within their agenda to perform public authority. Each agenda consisted of a list of roles, which is pursuant to the § 48 section 1 letter b) of the Act No. 111/2009 Coll. a summary of authorizations of a public officer, who performs a certain activity, to access reference data in the basic registries or data in the agenda information systems. Separate roles can differ just in the authorization to access the reference data and at the same time they are specific for certain activity.

The Table 1 summarizes the number of current agendas and activity roles registered in the RPP. The data is valid on the date of 18 July 2019. One can see that there are still big differences between different agendas with respect to the number of activity roles. If we look at the current formal quality of registration of agendas in the RPP, we must see the improvement in comparison with previous observation. The central authorities of state administration ought to use specific forms of registration, which are organized into unified categories of data description [22]. But the amount of changes has not been significantly reduced.

**Table 1 – Current agendas and activity roles registered in the RPP.**

Number of agendas	432
Sum of all activity roles	8,202
Average number of activity roles per agenda	19
Minimum number of activity roles per agenda	1
Maximum number of activity roles per agenda	322

Source: Own analysis of RPP [23].

### 2.1.1 Analysis of Communication

Analysis of communication builds on previous researches published in [26] based on data [24] and current information presented by National Registers Authority [20]. As it is mentioned in [26], since the Basic Registers started operation the public authorities have been connecting their Agenda Information Systems (AIS) to the central Information System of Basic Registers (BRIS). After 8 months, i.e. on 28 February 2013, more than 1,796 AIS were connected. The connection process was not linear or jump, the waves could be seen in the progress as different kinds of public authorities have been starting to communicate with the BRIS.

National Registers Authority presented data about week communication since 1 July 2012 till the end of the year 2015. After that time there is no relevant data available. According to the study [26], the overall month number of transactions varied from 5 to 40 million in the period of the years 2012-2015. National Registers Authority reports that since the start of the basic registers till today, which means 21 June 2019, there have been done 2,225,478,577 transactions [20]. We based our statistical report on these facts, the results are shown in the Table 2.

**Table 2 – amount of communication.**

Number of total transactions	2,225,478,557
Average number of transactions per day	874,108
Average number of transactions per month	26,493,793
Minimum number of transactions per month till the year 2015	4,584,409
Maximum number of transactions per month till the year 2015	39,141,524

Source: Own analysis of data published by National Registers Authority, i.e. [24] and [20]. Unless otherwise stated, the data refer to the entire period of operation of the basic registers.

### 2.2 Technical Measures

Division line between technical and organization measures is usually blurred. Both kinds of measures must act synergistically, that is why it is sometimes difficult to mark one measure as the only technical

or organization kind. According to Article 32(1) of the GDPR the security of processing includes inter alia as appropriate measures such as:

- the pseudonymisation and encryption of personal data;
- the ability to ensure the ongoing confidentiality, integrity, availability and resilience of processing systems and services;
- the ability to restore availability and access to personal data in a timely manner in the event of a physical or technical incident;
- a process for regularly testing, assessing and evaluating the effectiveness of technical and organisational measures for ensuring the security of the processing.

Our point of view for Basic Registers is that pseudonymisation and level of communication security more tend to be technical measures but setting of access rights, legal guarantees, and control mechanisms provide by CzechPOINT (For more information about this tool of eGovernment see [13]) are more organization measures.

### **2.2.1 Pseudonymisation**

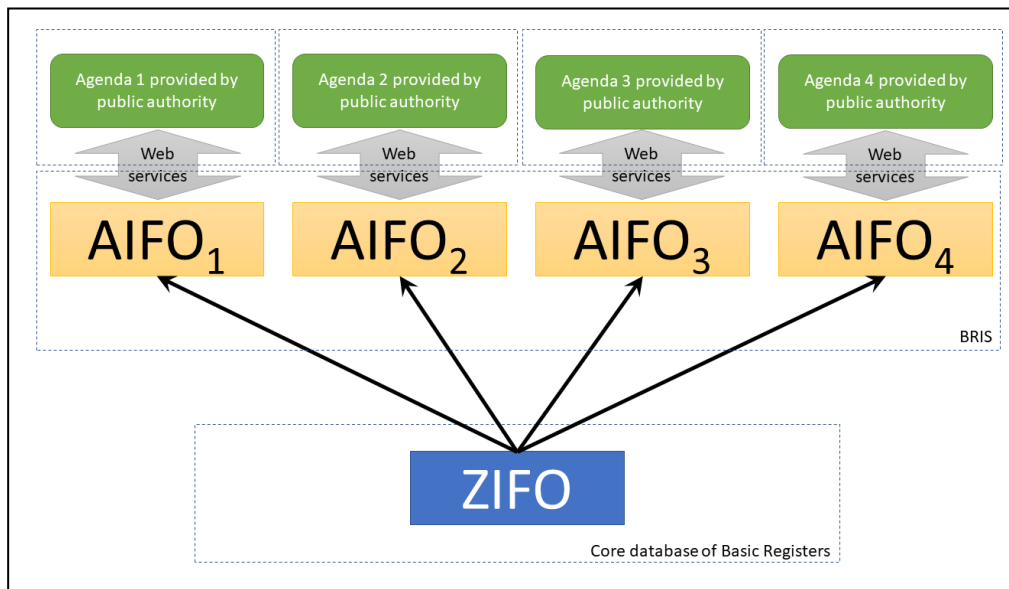
According to the Article 4(5) of the GDPR, pseudonymisation means the processing of personal data in such a manner that the personal data can no longer be attributed to a specific data subject without use of additional information, provided that such additional information is kept separately and is subject to technical and organisational measures to ensure that the personal data are not attributed to an identified or identifiable natural person. This measure is very useful if the information system runs as a distributed information system, and the high level of security measures is applied only on core database, in which personal data are stored, but the other databases include only pointer to these personal data, which means that it is not necessary to implement the same level of security measures. This construction could save the costs.

Basic registers implemented similar principle in their core system not only for mentioned reason but because of keeping one of the main data protection principles, which is processing for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with previous purposes. Principle of pseudonymisation is implemented within the Basic Register of Inhabitants. Each inhabitant has his or her own identification number (ZIFO), which is stored in the core database but never sent or provided to public authorities via communication with BRIS. If any public authority asks for data about one person, it gets different mutation of identification number specific for declared agenda (AIFO). The rule is that AIFO specific for some agenda cannot be derived from another AIFO specific for different agendas. Thus, public authorities cannot connect the same person in different agendas. This construction is shown in the scheme in Figure 1.

Because this principle is implemented in the core of Basic Registers and it is also substantiated by the Act No. 111/2009 Coll., it cannot be broken by wrong use of data provided by the Basic Registers. That is why keeping of purpose limitation principle of data protection is absolute within the Basic Registers in the Czech Republic.

**Figure 1 – Model of AIFO/ZIFO.**

Source: Own drawing.



### 2.2.2 Secure Communication

Communication between public authorities and Basic Registers is based on web services [21]. Communication with the BRIS is provided via a secure HTTPS protocol and the authentication is based on certificates that are proved by certification authority provided by the National Registers Authority. Thus, the level of authentication security is high, corresponding to today's security standards and compliant with valid regulations and directives, such as the Regulation No 910/2014 of the European Parliament and of the Council EU on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC, known as the eIDAS regulation [6], and the Directive No 2016/1148 2014 of the European Parliament and of the Council EU concerning measures for a high common level of security of network and information systems across the Union. But it is only one-factor authentication based on this certificate, which belongs to the specific public authority but not to the specific user in the terms of specific official. With respect to the current development of security approaches, it could be discussed topic and it could be probably changed in the future to a two-factor authentication.

In the year 2013 National Registers Authority has successfully passed a series of final certification audits to achieve ISO 20000-1 and ISO 27001 certificates [24]. The second one is a specification for an information security management system (ISMS). The ISMS is a framework of policies and procedures that includes all legal, physical and technical controls involved in an organisation's information risk management processes. The Norma ISO 27001 describes ISMS implementation procedures, objectives and measures to meet the requirements of the standard, using the so-called PDCA model. The principle of the model consists in cyclically executing four steps: Plan, Do, Check and Act, which is a repetitive process of continual planning, implementation, control and improvement (For more details about this model see for example [28]). The Czech Act No. 181/2014 Coll., on Cyber Security, and its implementing decree is also based on this ISO 27001:2013 standard [16].

These facts show that technical and organization measures are exactly closely connected.



## **2.3 Organization Measures**

The importance of organization measures was mentioned above, but we should stress that they are mainly derived from legal background of Basic Registers as the eGovernment tool. Thus, the quality of appropriate acts is crucial for successful application of personal data protection within this tool.

### **2.3.1 Access Rights**

The access rights could be discussed on two levels. The first one is a general right for one category of public authority to use data stored in the Basic Registers. The second one is a special right to use specific category of personal data stored in the ROB. Both levels are set by definition of agenda in the RPP, but we will discuss them separately.

Categorization of public authorities, which are used by the Basic Registers, is special and it comes from different definitions used in different acts. The result list has 158 items, which could be an unexpectedly large number. Each category has its specific power in each agenda. This makes some map of public administration and distribution of power between public authorities.

For each activity role the definition of agenda in the RPP specifies a list of categories of personal data, which could be used by public authorities, while they are doing this special activity. In other words, public authority cannot ask for more categories of personal data stored in the Basic Registers, than the definition of agenda allows them to use during each activity. Nevertheless, this approach was criticized by the Office for Personal Data Protection [25], especially because of inequality of definition of agenda in the RPP, as it was mentioned also in [8]. The answer to ascertainment of the Office for Personal Data Protection that was done by National Registers Authority includes moving of responsibility of definition of necessary personal data categories to each public authority and each request given via communication with BRIS. It means that definition of agenda sets only borders, which cannot be overstepped, but specification of used categories of personal data is included in each request by public authority. Because it could be technically controlled only with respect to the mentioned border by the definition of agenda in the RPP, the quality of personal data protection connected with using data stored within the Basic Registers depends on process setting done by each public authority.

### **2.3.2 Legal Guarantees**

Law guarantees are mainly based on provision § 5 of the Act No. 111/2009 Coll., which defines that the public authorities use reference data stored in the Basic Registers in the extent defined by this act or defined by another specific act. In the beginning the specific extent of possible used data was derived from general definitions retaliated to procedures of public administration. An example is the identification of natural person with Administrative Procedure Code, which defines the extent of categories of personal data for this purpose in the § 37 par. 2. This definition includes name, surname, date of birth, and place of residence (For more details see [12]).

Progressively, the special provisions have been amended into specific acts. These provisions define the ability of accessing registry bases literally, for example § 149a of Act No. 128/2000 Coll., on Municipalities, defines that the municipal authorities, the regional authority and the Ministry of Interior use specific listed reference data from the ROB for their exercise of their powers under this Act. Current list of acts, where the approach to the Basic registers is specifically defined, is in Table 3.

**Table 3 – List of acts, where the approach to the Basic registers is specifically defined.**

Act No. 119/2002 Coll.	Act No. 184/2006 Coll.	Act No. 257/2001 Coll.
Act No. 128/2000 Coll.	Act No. 186/2016 Coll.	Act No. 269/1994 Coll.
Act No. 129/2000 Coll.	Act No. 20/1987 Coll.	Act No. 48/1997 Coll.
Act No. 131/2000 Coll.	Act No. 234/2014 Coll.	Act No. 503/2012 Coll.
Act No. 183/2006 Coll.	Act No. 256/2001 Coll.	Act No. 59/2017 Coll.

Source: Own law analysis

### 2.3.3 Control Mechanisms

The question is who can control the usage of personal data that are stored within the Basic Registers. There are three levels of control mechanisms. The first level is done by National Registers Authority itself. It is integral part of Basic Registers and it can control access to BRIS done by each public authority. This is more technical measure than organization one.

The second level is done by the Office for Personal Data Protection, which has given power by the GDPR and by Act No. 110/2019 Coll., on Processing of Personal Data. This is both general control mechanisms (see [25], [14] and [15]) and specific control of a particular case of reported privacy violation (see [7], [14], and [15]).

The third level is given to every natural person. If the person has activated his or her data mailbox (for the information about rules connected with data mailboxes see [13]), he or she gets an electronic letter with an annual report of each requests concerning his or her personal data into his or her mailbox. If the person has not activated his or her data mailbox yet, he or she can ask for this report at any CzechPOINT (for the description of this eGovernment tool see [13]).

## 3 Results and Discussion

Personal data protection must be applied with respect to the principle of proportionality. The statistical analyses show that amount of personal data stored within the Basic Registers of Public Administration is really large as well as the number of transactions. We can compare it with the other important eGovernment tool – data mailboxes (the analysis of this tool we did in [9] and [5]). The amount of stored personal data within the Basic registers is 10times larger, and the Average number of transactions per month with BRIS is about 5times bigger than with the information system of data mailboxes.

The GDPR has brought some new obligations in the area of personal data protection, thus, Basic Registers must react to that. The importance of this discussion is also stressed by the fact that the Office for Personal Data Protection made a check of Basic Registers in the last year and it was not the first inspection, which had been done [25]. One of the main new obligations given by the GDPR is that taking into account the nature, scope, context and purposes of processing as well as the risks of varying likelihood and severity for the rights and freedoms of natural persons, both the controller and the processor shall implement appropriate technical and organisational measures to ensure and to be able to demonstrate that processing is performed in accordance with the GDPR. According to the article 24(1) of the GDPR, those measures shall be reviewed and updated where necessary.

The analysis of technical measures shows that they are appropriate, and they use all the recommended technical measures given not only by the GDPR but also by other legal regulations such as Act No. 181/2014 Coll., on Cyber Security, and the Directive No. 2016/1148 2014 of the European Parliament and of the Council EU concerning measures for a high common level of security of network and information systems across the Union. There is only one think, which should be mentioned that there is still used only one-factor authentication. Thus, if there is any other weakness, it should be in the area of organization measures. On the other hand, we have to mention that both technical and organization measures must act synergistically to assure the appropriate personal data protection.

We can observe from our previous researches that the quality of definition of agenda in the RPP was not so high, and the findings of the Office for Personal Data Protection in the last year confirmed these results. But it is not certain that the reaction to that ascertainment done by National Registers Authority was conceptual, it rather seems that not. The quality of agenda definitions in the RPP has been slowly improved as it was confirmed by our new research but the fact that the list of personal data categories was included into each request done by public authorities brings deterioration in controllability of personal data usage and their protection. Each individual use case of personal data by each public authority must now be considered, which is in a given quantity of transactions, categories of public authorities and amount of stored personal data almost uncontrollable. This new approach also reduces meaningfulness of definition of activity roles within each agenda in the RPP.

Some problem could be seen also in the list of acts, where the approach to the Basic registers is specifically defined. We have found only 15 provisions with this special definition, which are really very few compared to 432 agendas (see Table 3 and Table 1). Thus, there are still a lot of agendas based only on general procedures (how they are currently executed) without specific definition of category of personal data, which can be read from the Basic Registers. Of course, it is question, if these definitions are necessary, but the approach should be unified.

On the other hand, to say something positive in the area of organization measures, three levels of control mechanisms are set very well, and they may perform their function at a good level.

#### **4 Conclusion**

We showed that Basic Registers are obviously the biggest information system of public administration, which process personal data. This fact is valid not only for the Czech Republic but it is the general property of this kind of eGovernment tools. That is why they must pay attention to personal data protection and cyber security by implementation of appropriate technical and organisational measures, which must be also compliant with the GDPR and other legal regulations. We analysed the Basic Registers of Public Administration of the Czech Republic and showed that legal background is set satisfactory, technical measures are done very well, but the weakness is in the area of organization measures. It seems that this kind of weakness of eGovernment tools, which was discussed in the beginning of this century [3], [1], [29], persists till today, and that is why the improvement in this area is still unsatisfactory, at least in the case of the Czech Republic. Moreover, the changes, which were done by National Registers Authority during the last period, cannot be marked as conceptual changes, because they can decrease the level of transparency and controllability of personal data protection, although there were mostly done as a reaction to GDPR and audit of the Office for Personal Data Protection. The lack of conceptuality is another frequent weakness of eGovernment tools, which reduces the successfulness of eGovernment projects (see also [5], [1]). Our results show that implementation of Basic Registers in the Czech Republic suffers from general eGovernment tool imperfections, which are probably mainly caused by the problem of resortism in this case. Thus, the main recommendation for all implementations of Basic Registers should be to focus on overcoming resortism and improving definitions of use cases, in which stored data are used.

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# Legal Status and Salary of the Mayor of the Municipality in the Context of Public Policy

Ján Machyniak, Peter Horváth

## Abstract

*The Slovak Republic and some states of the old continent are characterized by a higher degree of fragmentation of the settlement structure. In our case, this is due to the nature of the country, as the Slovak Republic is still one of the less urbanized countries in Europe. That is why there are almost 2,900 self-governments performing statutory obligations. The quality of self-government performance varies from case to case. The performance of municipal self-government depends not only on legislative conditions and financial security but also, to a large extent, on the ability of people to manage a self-governing unit. Within the local self-government, two key actors involved in governance can be identified. It is the mayor of the municipality and the municipal council. Since the mayor of the municipality represents the executive body, our attention is focused on him. In this context, the present paper addresses the legal status and related salary assessment of the mayor of the municipality and mayor of the city as key public policy actors at local level. The aim of the paper is to identify the basic mechanism of salary assessment of mayors of municipalities and their application in practical life of self-government. At the same time, our ambition is to contribute to a philosophical debate on the correctness of the financial evaluation of selected constitutional representatives.*

**Keywords:** Local democracy, public administration, self – government, mayors

**JEL Classification:** H83, Z18, J18

## 1 Introduction

Municipal self-government is a key aspect of the development of a democratic society. It also creates conditions for individuals to participate in decision-making processes which directly affect their lives or their immediate surroundings (Bardovič, 2015; Imrovič, 2016). In this context, the municipality itself is responsible for all activities aimed at ensuring the public interest in the defined territory (Guťan, 2017).

Within this responsibility, in the performance of self-government, the municipality (1) performs acts related to the proper management of movable and immovable property, (2) draws up and approves the municipal budget, including the municipal final account, (3) decides on and administers the local taxes and local fees, (4) determines the direction and pace of economic activity in the municipality - in this context it issues consent, binding opinion, opinion or statement in business and other activities of legal and natural persons, issues binding opinions on investment activities in the municipality, (5) creates an effective system of control, appropriate organizational, financial, personnel and material conditions for independent performance of municipal self-government, (6) provides construction and maintenance and administration of local communications, public space, municipal cemetery, cultural, sports and other municipal facilities, cultural monuments, historic sites and landmarks, (7) the municipality also provides public services - municipal and small construction waste management, maintains cleanliness in the municipality, manages and maintains public greenery and public lighting, water supply, wastewater collection and management and local public transport.

(8) The municipality creates and protects healthy conditions, a healthy way of life and work of the inhabitants of the municipality, protects the environment and at the same time creates conditions for providing health care, further creates conditions for education, culture, educational activities, as well as interest art activity, physical culture and sport, (9) the municipality, as the main self-governing body performs tasks in the field of consumer protection, creates conditions for supplying the

municipality, by its regulation, determines the rules of the time of sale in the shop, the time of operation of services and administers the markets.

(10) The municipality is responsible for procurement and approval of territorial planning documentation of settlement units and zones, as well as the concept of development of individual areas of the life in the municipality, procures and approves housing development programs, the municipality also cooperates in creating suitable housing conditions in the municipality, (11) the municipality has the power to carry out its own investment and business activities, however, these must be implemented in the common public interest, (12) the municipality establishes, abolishes, sets up and ultimately controls various contributory organizations, other legal entities and facilities, (13) the municipality organizes and holds a local referendum on important issues of life and development of the municipality, (14) ensures public order in the municipality - in this context the municipality is entitled, through a generally binding regulation, to establish activities (Šramel, 2017), performing of which is prohibited or limited to a specific time and place, (15) ensures protection of cultural monuments and is obliged to preserve natural values, (16) according to a special regulation, the municipality performs tasks in the area of social assistance, (17) the municipality carries out the certification of documents and signatures on documents, (18) the municipality in the state language, or in the language of a national minority, keeps a municipal chronicle according to a special regulation (Act No. 369/1990 Coll., Horváth et al., 2014).

On the basis of the above-mentioned, it can be stated that the municipality performs relatively demanding tasks which require not only responsible attitude, but also responsible and competent people in executive positions. In this context, in the submitted paper we focus not only on the role of the mayor of the municipality in fulfilling the basic tasks of the municipal self-government but especially on the critical analysis of his/her salary.

### **1.1 Legal status of mayor of the municipality**

The mayor is the highest executive body of the municipality within the municipal self-government. In this context, it should be emphasized that the mayor of the municipality is a public service. The importance of the function of the mayor is strengthened by the fact that his/her mandate is based on universal, equal, direct and secret ballot of the inhabitants of the municipality. Active voting rights have individuals who have reached the age limit of 18 on the election day and are permanently resident in the municipality or in the city district of the Slovak capital of Bratislava or in the city district of Košice. The law allows voters who have reached the age limit of 25 on the election day to run for mayor of the municipality. Another necessary condition is that these persons do not have obstacles to exercise their right to vote under special regulations (Act No. 346/1990 Coll.). Members of other states who have a permanent residence permit in the territory of the Slovak Republic and a given municipality or city may also run for mayor. Similarly to the function of the deputy of the municipal council, the function of the mayor of the municipality also excludes the compatibility with the functions: deputy, employee of the municipality in which he/she was elected, statutory body of the budgetary organization or contributory organization established by the municipality in which the mayor was elected, chairman of the self-governing region, manager of a state administration body under a special law (Act No. 369/1990 Coll.) In this context, it is necessary to emphasize that the law on the protection of the public interest in the performance of the functions of public officials stipulates that a public official may under no circumstances conduct business; this shall not apply to the conduct of a profession which may only be performed by a natural person under conditions stipulated by law. However, the law excludes from this heading the function of the mayor of the municipality (Act No. 357/2004 Coll.).

In the legal status of the mayor within the organizational structure of municipal self-government are of significant importance the conditions for the termination of his/her mandate. In this context, it should be emphasized that the mandate of the mayor of the municipality or mayor of the city may end in several possible ways. These include, in particular: the refusal to take the oath or taking the oath

with the reservation, the expiry of a term of office, the resignation, conviction for an intentional criminal offense or a conviction for a criminal offense, unless the imprisonment has been conditionally suspended, deprivation of legal capacity or limited legal capacity, announcement of the results of a local referendum on the recall of the mayor, which actually recalled him/her, change of permanent residence outside the municipality, the same applies in cities with self-government of city districts even in the case of a change of permanent residence outside the city district in which he/she was legitimately elected, not removing the obstacles to the performance of the function linked to the incompatibility of the mayor of the municipality with the statutory public functions, the death of the mayor and finally the abolition of the municipality. Resignation of the mayor must be submitted in written form, with the effects of such a decision occurring at the earliest on the day of delivery to the municipal office. Important is, however, that the resignation cannot be withdrawn (Palúš, Somorová, 2010). The function of the mayor of the municipality requires the performance of tasks which generally have the nature of governance. The elementary tasks of the mayor in the performance of self-government include: calling and usually holding meetings of the municipal council and municipal board, signing their resolutions, responsibility for the implementation of municipal self-government, representing the municipality in relation to state authorities, various legal and natural persons, issuing work and organizational order of the municipal office and the order of remuneration of municipal employees, decision-making in all matters of municipal administration which are not reserved by the law or statute of the municipality to the municipal council (Act No. 369/1990 Coll.).

The mayor of the municipality is a statutory body, which generally means that he/she acts on behalf of the municipality. In this context, the mayor is entitled to authorize a municipal employee in writing in the area of public administration to decide on rights, the interests or obligations of natural or legal persons protected by law (Act No. 102/2010 Coll.). A very important competence of the mayor of the municipality, which he/she uses internally and externally - in the system of decision-making in the area of public administration within this form of self-government, is the so-called suspension authority. In this context, the mayor of the municipality may suspend the execution of a resolution of the municipal council if he/she considers that it is contrary to the law or its existence is disadvantageous for the municipality. At the same time, if a municipal board is established in the municipality, the mayor shall discuss the resolution of the municipal council before the suspension of its performance by the mayor with the municipal board. Of course, the resolution of the municipal board is only of a consultative nature, so the mayor of the municipality is not bound by this resolution under any circumstances. However, it should be pointed out that the mayor's suspension authority is not absolute. In fact, resolutions of the municipal council on the election and recall election of the municipal auditor and the resolution on the referendum on the mayor's recall are excluded from its scope. If the execution of the resolution of the municipal council was suspended by the mayor of the municipality, the municipal council is competent to confirm the suspended resolution by a three-fifths majority of the votes of all deputies. If the municipal council fails to confirm this resolution by the required majority within two months of the suspension of its resolution, the original resolution loses its validity. The execution of the confirmed resolution of the municipal council cannot be suspended by the mayor of the municipality (Svák, Kuliš, 2007). At the time of absence, in justified cases, the mayor is represented by the deputy mayor. The deputy mayor shall be appointed by the mayor within 60 days of taking the oath of office. If the mayor does not do so for some reason, the deputy mayor shall be appointed by the municipal council through the election. However, the deputy mayor of the municipality can be only the rightful member of the municipal council - i.e. a deputy. If the municipality has more than 20,000 inhabitants, the mayor can appoint two deputies to represent the mayor, determining their order. Their term of office is set for the whole period of the mandate of the mayor of the municipality and the mayor is entitled to withdraw his/her representative(s) at any time (Act No. 102/2010 Coll.).



## 2 Material and Methods

The mayor of the municipality or mayor of the city represents an important element of the development of each self-governing territory. In this context, the issue of their salary is relevant. We often ask ourselves whether the amount of their salary is actually proportionate to the activity they are responsible for, especially in the context of the published salaries of some constitutional representatives. In processing the text of the paper, we use a set of research methods. It is mainly a method of content analysis, which is based on the study of primary and secondary sources. As primary sources we consider the currently valid legislation on the legal status and salary of mayors of municipalities and mayors of cities. As secondary sources we consider those based on the knowledge of selected members of the professional public dealing with issues of public administration and municipal self-government. The informations obtained from primary and secondary sources are compared with measurable quantities/values obtained within the activities of the Statistical Office of the Slovak Republic.

## 3 Results and Discussion

Labour relations in municipal self-government have a special character. The key indicator is the character of labour relations as well as the legal status of local self-government representatives (Žofčinová, 2017). The legal status and salaries of key representatives of local self-governments in Slovakia are governed by Act No. 253/1994 Coll. (Act of the National Council of the Slovak Republic on Legal Status and Salaries of Mayors of Municipalities and Mayors of Cities, as amended). The very essence of the legislation consists primarily in determining the minimum monthly salary of mayors, which is derived from the number of inhabitants of the municipality or city, who have permanent residence in its territory and also sets terms related to the performance of office. In general, the mayor's function is a public function which is not carried out in an employment relationship. The mayor is entitled to a salary, which is the product of the average monthly wage per employee in the national economy, calculated on the basis of the data of the Statistical Office of the Slovak Republic, and the specific multiplier specified in the above-mentioned Act. In general, the mayor's salary may not be lower than the law stipulates. The municipal council may increase the mayor's salary by a decision by up to 60%. The law also foresees cases where the mayor does not perform the function in its entirety. In this case, the mayor is paid in proportion to the extent of the function being performed. In this context, it should be pointed out that the Act on Legal Status and Salaries of Mayors of Municipalities and Mayors of Cities has recently been amended with effect from December 1, 2018. In the following tables we offer a brief comparison of the situation of these ratios until November 30, 2018 and after December 1, 2018<sup>46</sup>.

**Table 1 - Calculation of the salary of mayors of municipalities and mayors of cities until November 30, 2018.**

	Population	Multiplier	Average monthly salary (EUR 954) x multiplier	Legal increase of mayor's salary by up to 70%	Number of municipalities in the size category
1.	up to 500	1,49	1421, 46	995, 02	1145
2.	from 501 to 1000	1,65	1574, 10	1101, 87	774
3.	from 1001 to 3000	1,98	1888, 92	1322, 24	708
4.	from 3001 to 5000	2,17	2070, 18	1449, 13	106
5.	from 5001 to 10 000	2,34	2232, 36	1562, 652	65
6.	from 10 001	2,53	2413, 62	1689, 53	36

<sup>46</sup> These values are based on the average monthly wage of an employee in national economy, calculated on the basis of data from the Statistical Office of the Slovak Republic for the previous year. It was Euro 954 at the time of adoption of the Act in question.

	to 20 000				
7.	from 20 001 to 50 000	2,89	2757, 06	1929, 94	42
8.	from 50 001 to 100 000	3,19	3043, 26	2130, 28	9
9.	over 100 001	3,58	3415, 32	2390, 72	2

Source: Own processing based on Act No. 253/1994 Coll. on Legal Status and Salaries of Mayors of Municipalities and Mayors of Cities.

**Table 2 - Calculation of the salary of mayors of municipalities and mayors of cities from December 1, 2018.**

	Population	Multiplier	Average monthly salary (EUR 954) x multiplier	Legal increase of mayor's salary by up to 60%	Number of municipalities in the size category
1.	up to 500	1,65	1574, 10	944, 46	1145
2.	from 501 to 1000	1,83	1745, 82	1047, 49	774
3.	from 1001 to 3000	2,20	2098, 80	1259, 28	708
4.	from 3001 to 5000	2,41	2299, 14	1379, 48	106
5.	from 5001 to 10 000	2,60	2480, 40	1488, 24	65
6.	from 10 001 to 20 000	2,81	2680, 74	1608, 44	36
7.	from 20 001 to 50 000	3,21	3062, 34	1837, 40	42
8.	from 50 001 to 100 000	3,54	3377, 16	2026, 30	9
9.	over 100 001	3,98	3796, 92	2278, 15	2

Source: Own processing based on Act No. 320/2018 Coll. amending and supplementing Act of the National Council of the Slovak Republic No. 253/1994 Coll. on Legal Status and Salaries of Mayors of Municipalities and Mayors of Cities, as amended.

Using the method for calculating<sup>47</sup> the mayor's salary, it can be concluded that at present the basic salary of the mayor of the municipality and the mayor of the city varies from EUR 1671,45 (in the smallest municipalities it can even be part-time) to EUR 4031,74 (in the capital city). The municipal council can increase the amount of this salary by a decision by up to 60%, which in practice means that the increase in the basic salary of mayors of municipalities and mayors of cities may in minimum and maximum terms range from EUR 1002,87 (in the smallest municipalities) to EUR 2419,04 (in the capital city). At first sight, the mayor's salary might seem excellent, but table 2 and setting the minimum amount of the mayor's salary does not correspond to the realities and state of territorial self-government in Slovakia. If we focus on the size category of municipalities up to 500 inhabitants, we find that there are more than 1100 municipalities in this category. In general, it is known that municipalities within this size category are the most vulnerable in relation to the provision of basic tasks of municipal self-government. The mayor's salary is no exception. A significant part of these municipalities have considerable financial problems, which are also reflected in the mayor's salary. It is common practice that if a municipality belonging to this size category is properly occupied by directly elected municipal authorities, the mayor's salary is derived from the economic condition of the territorial unit. In this context, there are mayors working part-time. However, it should be noted here that the fulfillment of the statutory tasks for these municipalities remains the same, and the responsibility of the mayor of the municipality is the same. Not to mention the fact that these municipalities often lack administrative and personnel capacity to fulfill the tasks of municipal self-

<sup>47</sup> The average monthly wage of an employee in national economy for the past calendar year is EUR 1013.

government (Brix, 2014). Certain shortcomings related to the salary assessment of mayors of the municipalities and mayors of cities can also be identified in higher size categories of municipalities. Namely, there is no direct proportion between the population of the municipality and the city and the minimum salary of the mayor of the municipality or mayor of the city.<sup>48</sup> In general, the increase in the basic salary of the mayor of the municipality or mayor of the city is used by almost all territorial units, which have sufficient financial resources to increase it. It is obvious, that in many cases, the mayor's salary reduces the municipal budget considerably. Even after the amendment of the Act on Salaries of Mayors of Municipalities and Mayors of Cities and the relatively recent thawing of salaries of constitutional representatives or members of the government of the Slovak Republic, salaries are comparable. In some cases, the mayor of a city of over 50,000 inhabitants may earn more than some of the above-mentioned constitutional representatives.<sup>49</sup>

**Table 3 - Comparison of salaries of some constitutional representatives**

Constitutional representative	2018	2019
<b>Member of the National Council of the Slovak Republic (basic salary + flat-rate compensation)</b>	3346/3576	4700/5000
<b>Prime Minister (including flat-rate compensation)</b>	cca. 4800	cca. 6000
<b>Minister (including flat-rate compensation)</b>	cca. 3800	cca. 5100
<b>President (including flat-rate compensation)</b>	cca. 9000	cca. 13000

Source: Own processing based on Act No. 120/1993 Coll. on Salaries of Some Constitutional Representatives of the Slovak Republic as amended.

#### 4 Conclusion

The salaries of mayors of municipalities and mayors of cities in the Slovak Republic can be considered above-standard in comparison to the average monthly wage of an employee in the national economy. One of the reasons is the fact that the legislation allows the municipal council to increase the basic salary of the mayor of the municipality or mayor of the city by up to 60%. In this context, controversy raises the very meaning of this right. We see the risk of political abuse in it. If the mayor of the municipality and the municipal council are in a very friendly relationship, it is usual that members of the municipal council automatically increase the mayor's basic salary at the very beginning of his/her term of office. They do so at a time when they do not have the opportunity to realistically evaluate the successes or failures of the mayor. It should be pointed out here that the risk lies also in the opposite situation, when in the functioning of local self-government bodies there is a phenomenon of cohabitation - a political tension between the mayor and the majority of deputies. In this case, even an extraordinary skilled mayor may not reach an increase in the basic salary over the entire term. The determination of the minimum salary of the mayor of the municipality and the mayor of the city on the basis of the size of the municipality, together with the possibility of increasing mayor's salary by up to 60 percent, thus becomes primarily a political issue.

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<sup>48</sup> Only recently was a citizens' initiative to publish the salary of mayors. More information about this project is available at: <[www.platstarostu.sk](http://www.platstarostu.sk)>.

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# Substitute Family Care Within the Context of Legislation in the Slovak Republic

Lenka Machyniaková, Dušan Gut'an

## Abstract

*Family policy, which is represented by state care directed at family and its members, is included in the context of a part of social policy. All efforts of society for the benefit of an individual are connected to taking such measures that create a support system for a family. Under the term support system, we understand mainly legal, financial, and direct social assistance that is linked to optimal upbringing and healthy bio-psycho-social development of children in foster families. In this regard, the objective of the paper is to describe the system of substitute family care and its funding for years 2017 and 2019. Resolving the issue in question is based on the resources of secondary literature and relevant laws: the Act No. 305/2005 Coll. on the Social and Legal Protection of Children and Social Curatorship, the Act No. 36/2005 Coll. on Family, and the Act No. 627/2005 Coll. on Allowances to Support Substitute Child Care, while using mainly the methods of descriptive analysis and comparison.*

**Keywords:** Family policy, legislation, substitute family care, personal family care, foster care

**JEL Classification:** 035, R28, R58

## 1 Introduction

Family policy on the territory of the Slovak Republic can be perceived as a complex of certain measures, through which the state directly intervenes in the relationship between family and society and in interpersonal relationships between individual members of a family. As the basic framework of family policy we can thus regard the principle of protection and actual support within a particular community, which guarantees mutual care for children in either a biological or a substitute family care. The system of support in the conditions of the Slovak Republic is connected, on both the theoretical and practical level, mainly to the provision of financial support.

The objective of the paper is to clarify the system of substitute family care and its funding for years 2017 and 2019. In the introductory chapters, the article defines theoretical knowledge from the area of family policy and the system of substitute family care in the Slovak Republic. The paper further follows up on the theoretical portfolio and clarifies the issue within the context of providing financial contributions in the years 2017 and 2019 under the existing legislation - the Act No. 627/2005 Coll. on Allowances to Support Substitute Child Care.

Resolving the issue in question is based on the resources of secondary literature and relevant laws: the Act No. 305/2005 Coll. on the Social and Legal Protection of Children and Social Curatorship, the Act No. 36/2005 Coll. on Family, and the Act No. 627/2005 Coll. on Allowances to Support Substitute Child Care. In composing the submitted paper, we have used the methods of descriptive analysis, synthesis, and comparison in the area of providing financial contributions for the years 2017 and 2019.

### 1.1 Theoretical framework of family policy

Family policy represents a system of universal rules, measures, and instruments, through which a society directly or indirectly confirms the value and importance of family in the society. Generally, family policy can be seen as a set of particular coordinated, connected policies with clearly defined objectives that aim to provide a general support directed at individual families through various measures (Analýza pre vytvorenie koncepcie rodinnej politiky, 2018). Family policy is directly

determined by the social policy of the society. Horváth (2017) in this context draws attention particularly to the importance of the social dimension of the state, which he considers to be one of the primary and key pillars of a functioning society. Developed countries recognize the importance of social policy through which they seek to respond effectively to the desired changes within society.

According to O. Bočáková (2017), family policy can be understood as a mutual relationship of two institutions. In practice, it means that it is a relationship between the state and a family that is inter-conditional. Family policy must unarguably be realized on democratic grounds as: an independent, basic and spontaneous social institution with its own dynamics of internal relationships. M. Rusnáková (2007) adds that it is especially important to adjust family policy to imminent changes that are happening in our society, not the other way around – by trying to find such family policy that would forcefully want to change current trends. According to Lenczová (In Bočáková, 2017), the primary role of family policy lies mainly in the formation of economic, social, tax, financial, as well as cultural-educational conditions. This way, families are able to perform their basic family functions without a significant impact on their standard of living and personal fulfilment of individual family members. Family policy in the Slovak Republic pursues several objectives that are on one hand connected to a family as a whole and, on the other hand, to individual groups of families requiring certain needs, or to a family characterized by a specific disadvantage. In principle, the primary goal of family policy is to mitigate growing expenses of families on care for children and youth in particular life situations. We could also regard strengthening social value of families and marital relationship, protecting free and all-round development of an individual in their family, as well as maintaining and improving the quality of the conditions for optimal development of children, as especially significant goals of family policy. Other objectives of social policy can be directed at compatibility of family functions and work, which creates space for employers' activities, such as flexible working time, support of parents' work environment, which are aimed at creating compatibility between parental responsibilities and work activities (Krebs, 2010).

As we have already insinuated, family policy pursues several goals simultaneously. Overall, we can say that family policy tries to eliminate or mitigate poverty of families; it is aimed at supporting their income, direct compensations of expenses connected to their children. Concurrently, it tries to support active labour market integration, assist healthy development of children of an early age, and focus on increasing gender equality as well as birth rate. At a general level, it is a direct support of families, so they could have a desired number of children, or a support of family effect within the substitute family care.

## **2 Theoretical framework of the area of substitute care system in the Slovak Republic**

The Slovak Republic became a contracting party of the UN's Convention on the Rights of the Child as a result of the dissolution of the Czech and Slovak Republic on 28 May 1993 with effect from 1 January 1993. Besides the Convention on the Rights of the Child, Slovak Republic is also bound by other international conventions on the rights of children. The care for minor children and adolescents is governed by the National Council of the Slovak Republic Act No. 36/2005 Coll. on Family, as amended, and the Act No. 305/2005 Coll. on the Social and Legal Protection of Children and Social Curatorship. Within both acts, the interest of a minor child is a primary aspect in making decisions in all matters that directly concern the child. The Act No. 305/2005 Coll. states that in the selection and application of measures aimed at the protection of rights and interests of child's interests protected by law, priority should be given to measures that ensure child's upbringing and all-round development by its parents or, if not possible, relatives of the child. If it is not possible to entrust the child in the substitute personal care of relatives or other persons close to the child, social-legal protection body regarding children and social guardianship will provide the child with foster care or adoption. The other aforementioned Act No. 36/2005 Coll. states that foster care and substitute personal care is preferred to the institutional care. Institutional care is the last alternative of the substitute care.

Substitute family care has three basic forms that are: substitute personal care, foster care, and institutional care. It should be noted that only the court may decide to entrust a child in one of the above mentioned forms of substitute family care (Národná rodinná starostlivosť, 2015). The institute of family has a strong tradition in the Slovak Republic, which is manifested mainly by the fact that children who cannot grow up in their families are entrusted in personal care of someone from their extended family, usually the care of grandparents. Only if it is impossible to realistically ensure care for a child in their extended family, the body of social-legal protection of children and social guardianship will provide the child with a new family (Ministerstvo práce, sociálnych vecí a rodiny, 2019).

Substitute care for a child is:

- entrusting a child in personal care of a natural person other than the biological parent,
- foster care,
- custody, if the custodian personally takes care of a child; this does not apply if the custodian personally takes care of a child, whose parents have not reached age of majority,
- temporarily entrusting a child in care of a natural person interested in becoming a fosterer,
- entrusting a child in care of other natural person by a court decision on an application for an interim measure, if the court is dealing with entrusting the child in substitute care of this natural person,
- entrusting a child in a pre-adoptive care, or
- entrusting a child in the care of other natural person by a court decision on an application for an interim measure, if the court is dealing with entrusting the child in pre-adoptive care (Ministerstvo práce, sociálnych vecí a rodiny, 2019).

If the parents are unable to take care of their child for various reasons, it is necessary to find a suitable place for the child. For this reason, the Slovak law recognizes the institute of the so-called substitute family care. In the following tables, we provide the proportion of children being brought up outside their own families in selected years, types of care, and the number of applications for substitute family care.

The average percentage of children being brought up outside their own family in recent years stands at 1.32% of the overall number of children (Table 1), while reaching its minimum rate (1.30%) in 2018.

**Table 1 – Percentage of children being brought up outside their own family**

Year	2013	2014	2015	2016	2017	2018
<b>Number of all children</b>	1 066 063	1 061 180	1 058 282	1 059 438	1 062 870	1 066 919
<b>Children outside their own family</b>	14 029	14 099	14 059	14 065	13 89	13 863
<b>% of children</b>	1,32	1,33	1,33	1,33	1,31	1,30

Source: Súhrnná implementačná správa za rok 2018

The proportion of children in substitute family care of the overall number of children being brought up outside their family (Table 2) has stagnated over the recent years. The preferred form of child care within the substitute family care is the substitute personal care, as it protects the right of the child to maintain its identity and natural family ties the most.

The percentage of children in institutional care has not changed significantly during the period considered. Measures of SLPC&SC can only partially influence this factor. These are children that have, for example, been placed into an institution as a temporary solution of their situation, their age is close to reaching age of majority, or their health status requires specialized care provided exclusively in a residential form.

**Table 2 – Types of care – children being brought up outside their family**

Number of children /year	2013	2014	2015	2016	2017	2018
<b>Total</b>	<b>14 029</b>	<b>14 099</b>	<b>14 059</b>	<b>14 065</b>	<b>13 890</b>	<b>13 863</b>
FC	2 060	1 927	1 847	1 719	1 548	1 411
C	563	539	571	562	557	582
SPC	5960	6 277	6 484	6 518	6 634	6 647
<b>FC/C/SPC</b>	<b>8 583</b>	<b>8 743</b>	<b>8 902</b>	<b>8 799</b>	<b>8 739</b>	<b>8 640</b>
IC	4 404	5 317	5 134	5 242	5 127	5 206
PC	42	39	23	24	24	17
<b>UM/EM/IC/PC</b>	<b>5 446</b>	<b>5356</b>	<b>5157</b>	<b>5 226</b>	<b>5 151</b>	<b>5 223</b>

Source: Súhrnná implementačná správa za rok 2018

Explanatory notes\*: C - custody, FC - foster care, SPC - substitute personal care, UM – urgent measure, EM - educational measure, IC - institutional care, PC - protective care.

The number of children in need of substitute family care is higher than the number of applicants (Table 3). In the last 3 years, it is 1 500 children on average, while the number of applicants for substitute personal care shows an increasing trend. The rate of success of the process of providing the substitute family care is, besides the quality of measures taken by the bodies of SLPC&SC, influenced by the ability of applicants to become a fosterer or an adopter.

**Table 3 – Provision of substitute family care**

Year	2015	2016	2017	2018
<b>Number of children in need of SFC</b>	<b>1 640</b>	<b>1 501</b>	<b>1 479</b>	<b>1 516</b>
<b>Number of applicants:</b>	<b>1 217</b>	<b>1 147</b>	<b>1 281</b>	<b>1 371</b>
Applications for FC	199	136	124	128
Applicants for adoption	961	955	1 071	1 135
Applicants for both forms (FC, adoption)	57	56	86	108

Source: Súhrnná implementačná správa za rok 2018

In connection to the latest amendment of the Act No. 305/2005 Coll. on Social and Legal Protection of Children and Social Custody, as amended, centres for children and family have been established from 1 January 2019. Through the development of an ambulatory and field measures, as well as measures executed by a residential form on the basis of agreement, these centres will contribute to the reduction of the number of children in institutional care (by increasing the number of children, whose situation is dealt with by assistance and support in their natural family environment or a substitute family environment).

### **3 Allowances to support substitute child care (Act No. 627/2005) in the years 2017 and 2019**

Slovak Republic governs the financial allowances to support substitute family care in accordance with the Act No. 627/2005 Coll. on Allowances to Support Substitute Child Care. The cited act governs the following allowances.

#### *1. One-pay child benefit payable at the child's entrustment in the substitute care*

Through this allowance, the state in accordance with the Act No. 627/2005 Coll. on Allowances to Support Substitute Child Care and as amended by the Act No. 561/2008 Coll. provides for the support of the child in the form of securing essential personal necessities of a child. The allowance is intended to provide clothing, footwear, hygiene equipment, furniture, and other things necessary for meeting basic needs of the entrusted child. The entitled person in this case is the child that has been entrusted in substitute care by a court decision.



## *2. One-pay child benefit payable at cessation of the child's entrustment in the substitute care*

Through a one-pay allowance, the state supports a natural person - child in the process of becoming independent. The child that has been entrusted in substitute care is the entitled person. According to the relevant Act No. 627/2006, natural person (child), who has reached the age of majority and whose substitute care lasted at least one year before reaching the age of majority, is entitled to this one-pay benefit.

## *3. Multiple child benefit payable at the child's entrustment in the substitute care.*

The allowance is aimed at the support of meeting the needs of a child to cover expenses related to child's nutrition, upbringing, education, or accommodation. The entitled person, according to the relevant legislature, is the child entrusted in the substitute care.

## *4. Multiple benefit for the substitute parent.*

Through the multiple benefit for the substitute parent, the state contributes to the support of providing the care for a child that has been entrusted in the care of a substitute parent. The substitute parent is the person entitled to receive this benefit, while the law states that only one of the substitute parents can claim the benefit (if a child has been entrusted to a couple, not to an individual).

## *5. Special multiple benefit for the substitute parent.*

It is a social allowance that is intended for a substitute parent to support the performance of personal care of a child with a severe disability, who is entrusted in substitute care, an alternative to the care of biological parents. The relevant Act 627/2005 Coll. on Allowances to Support Substitute Child Care defines the entitled person as the parent or substitute parent.

In the following tables, we present the overview of allowances for years 2016, 2017, and 2019 because of visibly positive steps taken by the Ministry of Labour, Social Affairs, and Family.

**Table 4 - Sums of allowances to support substitute care in years 2016 and 2017**

<b>Allowances to support substitute child care</b>	<b>Until 31.8. 2017</b>	<b>From 1.9. 2017</b>
One-pay child benefit payable at the child's entrustment in the substitute care	500.00€	503.50€
One-pay child benefit payable at cessation of the child's entrustment in the substitute care	922.29€	928.74€
Multiple child benefit payable at the child's entrustment in the substitute care	138.13€	139.09€
Multiple benefit for the substitute parent	175.62€	176.84 €
Increase of multiple benefit for the substitute parent	124.91€	125.78 €
Special multiple benefit for the substitute parent	72.36€	72.86€

Source: Správa o sociálnej situácii obyvateľstva Slovenskej republiky za rok 2017

**Table 5 - Sums of allowances to support substitute care comparing years 2017 and 2019**

<b>Allowances to support substitute child care</b>	<b>From 1.9.2017</b>	<b>From 1.9. 2019</b>
One-pay child benefit payable at the child's entrustment in the substitute care	503.50€	517.70€
One-pay child benefit payable at cessation of the child's entrustment in the substitute care	928.74€	954.90€
Multiple child benefit payable at the child's entrustment in the substitute care	139.09 €	Child up to 10 years of age – 187.30 € Child from 10 to 15 years - 215.40 € Child above 15 years – 234.10 €
Multiple benefit for the substitute parent	176.84€	182.60 €

Increase of multiple benefit for the substitute parent	125.78€	Allowance of 182.60 € a month increases if: SP personally cares for 3 or more children – by 130.20€
Special multiple benefit for the substitute parent	72.86 €	74.90€

Source: Prehľad sociálnych dávok, 2019

#### 4 Final commentary

We can state that from 1 January 2019, financial support of substitute care for children and their close family members has been significantly increased. We see this substantial financial “injection” that improves the care for children as another positive step of the sector of labour in the field of family support and assistance. From January, the adopted amendments of laws connected to the amendment of the Act on Social and Legal Protection of Children and Social Custody (1.4.2018) have adjusted the amounts of multiple child benefit, distinguishing age of the child, to the level of reimbursement of expenses on child care in a professional family. The amount of multiple child benefit for a child of up to 10 years of age is twice the sum of the subsistence minimum, which represents 187.30 €. For a child from 10 to 15 years of age, the benefit has increased to 2.3 times the subsistence minimum, i.e. 215.40 € and a child above 15 years of age receives 2.5 times the subsistence minimum of a child. Compared to the previous year, it is a significant increase, because until then, the unit amount of the benefit was 142.98 € for every child in a substitute family care. For children above 15 years of age, the amount of the benefit has increased by approximately 90 €.

As another positive step of the Ministry of Labour we regard the extension of the circle of persons entitled to the benefit for a substitute parent to substitute parents, who have a child entrusted in substitute personal care and are not directly related to the child. These parents are provided with a multiple benefit in the amount of 1.95 times the sum, which in absolute terms represents 182.60 €. Until the previous year, they were not entitled to the benefit. The positive examples do not end here. From 1 January 2019, the substitute family with one child at the age of 8 receives more than 416 €, which, compared to the previous year, represents an increase of 46 €. In a foster family with 3 children (4, 11, and 16 years old), the income has grown to more than 1 089 €, compared to the previous 875.75 €. And families with 4 children in a sibling relationship (4, 6, 11, and 16 years old) will get almost 259 € more, i.e. 1322.94 € in total. If, in addition, the child is severely disabled, it is entitled to compensations according to their disability based on an assessment under the law (Ministerstvo práce, sociálnych vecí a rodiny, 2019).

#### 5 Conclusion

The submitted paper has clarified the issue of the system of substitute family care and its funding for years 2017 and 2019. The paper has described the area of family policy, which is becoming the basis in forming the substitute family care. We have continually followed up and illustrated the substitute family care in connection to the current legislation in the Slovak Republic. We also consider steps taken by the sector of the Ministry of Labour, Social Affairs, and Family in increasing individual benefits in the selected years 2016, 2017, and 2019 an important part of the paper.

Based on the aforementioned, we accentuate that the primary objective of our society in the area of family policy/substitute family care lies in providing institutional and legal (amendments) frameworks and conditions in the society that would secure individual needs of the families towards creating optimal conditions for families with minor children or children in substitute family care. We think that the current state requires a systematic support of substitute families related to using methods and programmes of adequate financial benefits that directly influence the quality of substitute care in a “new” family environment.

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# The Category of Harmony in Communication in the Opinion of Young Generation of Belarusians in the Context of Social Economy

Katarzyna Mazur-Kajta

## Abstract

*The purpose of the research described in this article is to show that the category of harmony in relationships and interpersonal communication are extremely important for the functioning of a social economy entity operating on the market. The social economy entities, despite the social mission, function in the same economic reality as the entities of the first and second sector. Social economy understood as the sphere of civic and social activity is inseparably linked to harmonious relationships, whose effectiveness is of extraordinary importance due to the need for dialogue and development of partner relationships, building cooperation and the need to adapt the offer to market requirements, customer expectations, supplier conditions, etc. Due to all the above, the category of harmony also appears within the third sector concerning interpersonal communication. Therefore, paying attention to the specifics of harmonious communication can not only improve the performance of the third sector but also of the generally understood business contacts.*

*Two methods were used in the study – analysis of the literature on the subject and articles available in the media, devoted to social economy entities in Belarus, and a survey questionnaire. Survey results were carried out in November 2018 between representatives of the young generation of Belarusians students of Economics and Business Management Faculty of Vitebsk State Technological University. The main conclusions show that: there is a clear lack of literature on the third sector in Belarus considered from the point of view of interpersonal communication; the category of harmony among the young generation of Belarusians is treated as a basic value in interpersonal communication, including communication in business space; formulation of a group of features that promote harmonious behavior in the space of business contacts, and resulting from the dimensions of a culture characterized by high indicators of: power distance, collectivism, uncertainty avoidance, long term orientation and indulgence.*

**Keywords:** Harmony, harmonious communication, interpersonal communication, social economy, Belarus

**JEL Classification:** D83, H00, M12

## 1 Introduction - the Presence of Category of Harmony in the Social Economy

The subject of the third sector in Belarus is an extremely current issue. Not only because it can be one of the important elements of the European Social Model (...) it can find an important place in the new policy of social integration, i.e. a process in which individuals, communities and communities at risk of poverty and exclusion receive the opportunities and resources necessary to fully participate in economic, social and cultural life and achieve a fair level and quality of life.”<sup>50</sup>; the growing importance of human resource management in the NGO<sup>51</sup>, but also because the contemporary situation in Belarus, and specifically the specific conditions for the functioning of the social economy sector in this country, is a topic which very often raised by active foreign NGOs. It can also be observed that there is a lack of information in the literature on the subject linking the topic of the third

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<sup>50</sup> Monitor Polski. Dziennik urzędowy Rzeczypospolitej Polskiej, Warszawa, 24.09.2014, item 830, resolution no. 164 Rady Ministrów 12.08.2014, p. 9, [online]. [cit.2019-08-19]. Available: [http://www.ekonomiaspoleczna.gov.pl/download/files/KPRES\\_RM.pdf](http://www.ekonomiaspoleczna.gov.pl/download/files/KPRES_RM.pdf)

<sup>51</sup> BARTRAM, T., CAVANAGH, J., HOYE, R. (2017). *The growing importance of human resource management in the NGO, volunteer and not-for-profit sectors*, The International Journal of human resource management, Vol. 28, no. 14, 1901–1911 <https://doi.org/10.1080/09585192.2017.1315043>.

sector with issues of interpersonal communication, including the importance of the category of harmony in business relations. However, because for the social economy entities both the purpose of generating and capitalizing of the profit as well as a social mission are important, it could be said that social economy seems to be more harmonious thanks to mutual complementation of the private and public sectors. Moreover, as a part of social economy activities, steps are taken to level chances of different social groups on the labor market and to reconcile professional and private life. It concerns groups, such as women and men; the able-bodied and the disabled; the youth; the middle-aged and seniors; people responsible exclusively for themselves and those who have taken care of dependants, etc.

Research areas of social economy correspond with priorities established by the European Union, which include: social cohesion, full employment and the fight against poverty, participatory democracy, better management and stable development<sup>52</sup>. Looking closer at the last of these categories - *stable development*, it is worth noting that the definition of the word *stable* relates to harmony, and more specifically to the ease of returning to the state of balance after its earlier disturbance<sup>53</sup>. Social integration centers and clubs, non-governmental organizations, social enterprises, the disabled cooperatives, social collectives, labor cooperatives, non-profit limited liability companies, occupational therapy workshops, and professional activity facilities<sup>54</sup> stimulate harmonious development by eliminating social disproportions and therefore contribute to the economic growth<sup>55</sup>. Therefore, purposes which aim at counteracting various symptoms of discrimination, marginalization, and social exclusion, as well as harmony, equal treatment of preferred and excluded groups in business, business support and non-business spaces, are pursued. It can be concluded that the two examples above are consistent with the definition of the word *harmony*, which shows it as *consistency, mutual complementation or right proportions*<sup>56</sup>. The category of *balance* within the social economy appears also in connection with corporate social responsibility (CSR), which emphasizes the impact and significance of an enterprise on the state of the natural and social environment, or with consumer issues, specifically sustainable consumption<sup>57</sup> - with a view to maintaining harmony between social, economic and natural systems that protect biodiversity<sup>58</sup> and for future generations.

Since the social economy entities operate in the same economic reality as other entities, the category of *harmony* appears also in connection with interpersonal relations. Entities of the third sector are not charity institutions, they are also focused on achieving material benefits, they operate in the space of interpersonal relations within their internal and external environment. Social economy understood as a sphere of civic and social activity is intrinsically linked with pursuing harmonious relations and interpersonal communication, whose effectiveness is of exceptional significance, not only because of the need for current dialogue and partner relations development and cooperation building, but also

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<sup>52</sup> *Podstawowe pojęcia. Ekonomia społeczna*. Podkarpacka Ekonomia Społeczna, Regionalny Ośrodek Polityki Społecznej w Rzeszowie [online]. [cit.2019-06-19]. Available: <http://es.rops.rzeszow.pl/kontakt-2/>.

<sup>53</sup> *Stabilny. Słownik Języka Polskiego PWN* [online]. [cit.2019-06-19]. Available: <https://sjp.pwn.pl/slowniki/stabilny.html>.

<sup>54</sup> Social economy entities appearing in Poland.

<sup>55</sup> PŁONKA, M. (2008). Wybrane problemy rachunku kosztów i korzyści społecznych podmiotów ekonomii społecznej, *Ekonomia społeczna*, no. 2/ 2008 (3). Kraków: Uniwersytet Ekonomiczny w Krakowie Małopolska Szkoła Administracji Publicznej, p. 33.

<sup>56</sup> *Harmonia. Słownik Języka Polskiego PWN* [online]. [cit.2019-06-19]. Available: <https://sjp.pwn.pl/szukaj/harmonia.html>.

<sup>57</sup> *Budowanie powiązań pomiędzy biznesem a ekonomią społeczną. Podręcznik dla ROPS* (2019). Warszawa: Ministerstwo Rodziny, Pracy i Polityki Społecznej Departament Ekonomii Społecznej i Solidarnej, p. 51, 89.

<sup>58</sup> BURCHARD-DZIUBIŃSKA, M. (1994). Wdrażanie koncepcji ekorozwoju przez polskie przedsiębiorstwa przemysłowe. *Wdrażanie polityki ekorozwoju*. Kraków: ESSES i ZN Oddział Polski.

because of the necessity of adapting its offer to the requirements of market, customers' expectations, suppliers' conditions, etc.

The aim of this article is to present the results of research on harmonious communication, which were carried out among the representatives of the young generation of Belarusians, as well as drawing attention to the fact that the category of *harmony* in interpersonal relations and communication and adjustment of one's activity, needs and expectations of others are extremely important for the functioning of any entity. It is assumed that the described studies will contribute to filling the information gap, even in a small part. Obtained results are merely an introduction to the discussed issue and they require broader investigation in the future.

## 2 Material and Methods

This study is a part of a cycle which is conducted in an international environment. In 2017-2018 it was carried out in the People's Republic of China, the Republic of Poland, the Czech Republic, and Portugal. At each of the mentioned stages, the same research method was used, as well as the same research sample. The planned scope of the study will cover all countries located on the One Belt One Road Initiative route, which was initiated in 2013, and whose finalization will most likely be on the 100th anniversary of the proclamation of the People's Republic of China in 2049.

In the part described in this article regarding the Republic of Belarus, two methods were used in the research - an analysis of literature on the subject and articles available in the media, which are about social economy entities and characteristics of interpersonal communication in the third sector in this country, and a questionnaire survey. The survey was carried out in November 2018 among the representatives of the young generation of Belarusians, potential future executives. 150 people took part in the survey - 106 women (71%) and 44 men (29%) - students of Economics and Business Management Faculty of Vitebsk State Technological University. The disproportion between genders of the respondents was a result of the higher number of female students on the economics major at the university. All respondents were in the age range between 18 and 34 years of age. 41% of the respondents were professionally active during getting an education.

The basic research questions were focused on determining the actual importance of identifying pro-harmonious behaviors in the business-oriented interpersonal communication space. The questionnaire consisted of 14 questions about the harmony term, its definition, and factors conducive to harmonious communication, and 6 questions which determined respondent's particulars.

## 3 Research and Discussion

### 3.1 Analysis of Literature and Articles Available in the Media

Analyzing the subject literature and articles provided by the media, several typologies of social-economy entities in Belarus could be found. In the 1990s, five types of these entities were distinguished by Kazanecki P.: governmental (social associations which were not non-governmental), post-soviet organizations, organizations which were established for the needs of foreign institutions, family organizations, and unregistered organizations<sup>59</sup>. The second of the typologies divides them into support centers and federations which receive an endowment from abroad, nationwide organizations associations, individual non-cooperating organizations, and foundations financing them<sup>60</sup>. The third of the divisions used by Chernov V. distinguishes government organizations (GoNGOs); post-soviet organizations (postGoNGOs); donors NGO (DoNGOs); party NGO (party-

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<sup>59</sup> CZWOŁEK, A. Trzeci sektor na Białorusi. Szanse i zagrożenia. *Nowa Polityka Wschodnia*, No. 1(2), p. 236.

<sup>60</sup> ORZECZOWSKA, A. (2005). Białoruski sektor pozarządowy – jaki jest? *Gazeta.ngo.pl*, 03 (16)/ 2005, p. 7.

NGOs) and non-governmental organizations (NGOs).<sup>61</sup> In view of the character of the political and economic situation of Belarus - a post-socialist country, which develops in conditions of totalitarian regime control and low national identification<sup>62</sup>, which „is often regarded as ‘Europe’s last dictatorship’, a fossilized leftover from the Soviet Union”<sup>63</sup>, it is extremely difficult to access information regarding the social economy of this country, especially when it comes to the actual list of the third sector<sup>64</sup> entities or their registered number. Belarus was characterized by the presence of highly skilled and qualitative labor<sup>65</sup>. This position is threatened by demographic processes (including an aging society<sup>66</sup>), changes in the Belarusian and regional labor market and the passivity of Belarusian enterprises in the micro perspective<sup>67</sup>. In 2003 the authorities of Belarus undertook the elimination of independent non-governmental organizations and three years later an article on the imprisonment for participation in unregistered associations was implemented<sup>68</sup>. In the years 2003-2005 nearly 350 NGOs were liquidated through judicial decisions or self-dissolution<sup>69</sup>. Since then, information published by the media has focused mainly on pathological phenomena, among others, regarding dissolutions or subordination of non-governmental organizations. Examples are given, president Lukashenko’s aspiration to liquidate the Helsinki Committee that stands for Human Rights or persecution of the members of the Union of Poles in Belarus<sup>70</sup>, but also information that independent NGOs have difficulties with obtaining consent for registration, without which, as previously mentioned, there is a risk of imprisonment<sup>71</sup>. After 1999 also entities that receive foreign endowments and grants might end up on the “governmental blacklist of NGOs”. As a result, non-governmental organizations of the third sector are often created outside the country’s borders (e.g. in Lithuania<sup>72</sup>), or the method of bypassing the official way of donating the grant, together with an

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<sup>61</sup> MATONYTE, I., CHULITSKAYA, T. (2012). The Third Sector and Political Communication in Belarus: Highlights on the Topic of Social Policies from the Presidential Campaign 2010, *Lithuanian Annual Strategic Review*, p. 239, [after:] CHERNOV, V. (2007). *Tretii Sektor v Belarusi: evaluciya, sovremennoe sostoyanie i perspektivy razvitiya*, e-journal Wider Europe Review, Vol. 4, No. 14, 2007 [online]. [cit. 2019-06-23]. Available: access on: <http://review.w-europe.org/14/2.html>.

<sup>62</sup> CZAWUSAU, J., *Spółeczeństwo obywatelskie – długie tradycje, brak strategii?* Heinrich Böhl Stiftung [online]. [cit.2019-06-13]. Available: [https://pl.boell.org/sites/default/files/downloads/Spol\\_obywatel\\_dlugie\\_tradycje\\_brak\\_strategii\\_pl.pdf](https://pl.boell.org/sites/default/files/downloads/Spol_obywatel_dlugie_tradycje_brak_strategii_pl.pdf).

<sup>63</sup> LEVIS, S., (2018). *Belarus – Alternative Visions. Nation, Memory and Cosmopolitanism*, Routledge, New York, p. 3, [online]. [cit.2019-08-18]. Available: <https://www.researchgate.net/publication/328712046>

<sup>64</sup> For this article, the terms: *social economy entities, third sector entities, non-governmental organizations, non-government organizations* and *NGOs* are treated interchangeably.

<sup>65</sup> VANKEVICH, A. (2005). *Personnel strategy and their realization at the Belarusian enterprises*, Journal of Business Economics and Management, 6:2, 101-112, p.101.

<sup>66</sup> See: LISENKOVA, K., BORNUKOVA, K. (2017). *Effects of population ageing on the pension system in Belarus*, Baltic Journal of Economics, 17:2, 103-118, DOI: 10.1080/1406099X.2017.1318000.

<sup>67</sup> VANKEVICH, A. (2005), p.101.

<sup>68</sup> CZAWUSAU, J., *Spółeczeństwo obywatelskie...* [cit.2019-06-13].

<sup>69</sup> CZWOLEK, A. Trzeci sektor ..., p. 239.

<sup>70</sup> BIALORUS *Organizacje pozarządowe są rozwiązywane lub podporządkowywane administracji państwowej*. DES Departament Ekonomii Społecznej i Solidarnej [online]. [cit.2019-06-122]. Available: <http://www.ekonomiaspoleczna.gov.pl/BIALORUS,Organizacje,pozarzadowe,sa,rozwiazywane,lub,podporzadkowane,administracji,panstwowej,2457.html>.

<sup>71</sup> *Białoruskie błędne koło: więzienie za brak rejestracji, a ta jest niemożliwa* [online]. [cit. 2019-06-22]. Available: <https://polskieradio24.pl/75/921/Artykul/1088226,Bialoruskie-bledne-kolo-wiezienie-za-brak-rejestracji-a-ta-jest-niemozliwa>.

<sup>72</sup> From the Polish side, the internet resources also offer information on the activities of Polish non-governmental organizations that aim at building an open Belarusian society and increasing citizens’ involvement in public life in this country. Among others, the program of The Stefan Batory Foundation relates to the situation, it focuses, for example, on supporting the development of the third sector, forming civic attitudes among the youth and making the Belarusians involved in social life, counteracting discrimination and access to independent information. Additionally, the activity of the Foundation in Support of Local Democracy which in its portfolio



external settlement and reporting, is used<sup>73</sup>. In view of the above, another typology of non-governmental organizations in Belarus could be distinguished: non-governmental organizations which only need the status of a registered organization, non-governmental organizations that want to bypass restrictive Belarusian regulations concerning foreign support, non-governmental organizations which were initially created abroad in order to implement actions that are impossible to carry out in Belarus and various representative offices and civil offices founded by the latest wave of Belarusian emigration<sup>74</sup>. Due to the marginalization of non-governmental organizations in Belarus, NGOs do not play the part of a mediator between the market and the state<sup>75</sup>.

Due to the above<sup>76</sup>, it is extremely difficult to access not only information regarding the actual non-governmental entities of the social economy sector registered in Belarus<sup>77</sup> but also data on interpersonal communication conducted within them, as well as on the subject of harmonious communication. This is mainly due to the priority action towards the "release" of the third sector, which is taken by both international organizations and national activists. Within the subject of

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has projects that were carried out in the years 1998-2009, and which concern forming the structure of civil society, contribute to that end. In Poland, in 1956 the Belarusian Social-Cultural Society with its headquarters in Białystok was established and it focuses on the promotion of a culture of tradition and history of that country and The Free Belarus Initiative which has been operating since 2006.

See: *Dla Białorusi/ Для Беларусі*. Fundacja im. Stefana Batorego [online]. [cit.2016-06-23]. Available: [http://www.batory.org.pl/programy\\_dotacyjne/dla\\_bialorusi](http://www.batory.org.pl/programy_dotacyjne/dla_bialorusi); *Projekty*. Fundacja Rozwoju Demokracji Lokalnej [online]. [cit.2019-06-22]. Available: <https://frdl.org.pl/projekty-miedzynarodowe/>.

<sup>73</sup> BOROWSKA, M. (2005). Wyruszamy za Bug, Jak działać na Białorusi? *Gazeta.ngo.pl*, 03 (16)/ 2005, p. 87, [after:] CHLITSKAYA, T., CHAVUSAU, Y. (2013). *Belarusian NGOs: Between Belarus and abroad*, Bell; BelarusInfo Letter, 4 (34)/2013, pp. 1-6; CHAVUSAU, Y. (2013). *Registration of Belarusian NGOs abroad: functions and types of non-profit outsourcing*, Bell Belarus Info Letter, Issue 4 (34)/ 2013, p. 4.

<sup>74</sup> CHAVUSAU, Y. (2013). *Registration of Belarusian NGOs abroad: functions and types of non-profit outsourcing*, Bell Belarus Info Letter, Issue 4 (34)/ 2013, p. 5.

<sup>75</sup> MATONYTE, I., CHULITSKAYA, T. (2012). The Third Sector and Political Communication in Belarus: Highlights on the Topic of Social Policies from the Presidential Campaign 2010, *Lithuanian Annual Strategic Review*, p. 259-260.

<sup>76</sup> See also: BURCHARD-DZIUBIŃSKA, M. (1994). *Wdrażanie koncepcji ekorozwoju przez polskie przedsiębiorstwa przemysłowe. Wdrażanie polityki ekorozwoju*. Kraków: ESES i ZN Oddział Polski; GROMADZKI, G., LUBOS, V. (2006). *Active and Cohesive Tomorrow's EU Policy towards Belarus*. Prague: Stefan Batory Foundation, Warsaw Association for International Affairs; KAZAKEVICH, A., HAROSHKA, K. (2019). Reforming the Research & Development Sector in Belarus: Challenges and Possible Solutions. *Analytical Paper* 15, 30 April 2019. Minsk: Ostrogorski Centre; KRYVOI, Y. (2016). *Belarus: Nations in Transition 2016* [online]. [cit. 2019-06-23]. Available: <https://freedomhouse.org/report/nations-transit/2016/belarus>; LAPUTSKA, V. (2017). *The condition of NGOs and civil society in Belarus*. Policy Brief 07.2017, Institute of Public Affairs, Bertelsman Stiftung [online]. [cit.2019-06-23]. Available: <https://www.bertelsmann-stiftung.de/en/publications/publication/did/ngos-and-civil-society-in-belarus/>; OLEINIKOWA, O. (2017). Foreign Funded NGOs in Russia, Belarus and Ukraine: Recent Restrictions and Implications, *Cosmopolitan Civil Societies: an Interdisciplinary Journal*, Vol. 9, No. 3/2017; SAŁUSTOWICZ, P. (2007). *Pojęcie, koncepcje i funkcje ekonomii społecznej*. Staręga-Piasek J. (eds.). *Ekonomia społeczna, perspektywa rynku pracy i pomocy społecznej*. Warszawa: Instytut Rozwoju Służb Społecznych; SHUMATE, M., ATOUBA, Y., COOPER, K.R., PILNY, A. Interorganizational Communication. *The International Encyclopedia of Organizational Communication* [online]. [cit. 2019-06-23]. Available: access on: [https://www.researchgate.net/publication/319596238\\_Interorganizational\\_Communication\\_Belarus\\_the\\_Third\\_Sector\\_People\\_Culture\\_Language](https://www.researchgate.net/publication/319596238_Interorganizational_Communication_Belarus_the_Third_Sector_People_Culture_Language) (2002). Kazanecki P., Pejda M. (eds.). Warsaw — Minsk: East European Democratic Centre — IDEE; *D35.1 - Best Practice In Communication for Civil Society Resilience* (2017). Driving Innovation in Crisis Management for European Resilience [online]. [cit.2019-06-23]. Available: <https://driver-project.eu/wp-content/uploads/2017/11/Best-Practice-In-Communication-for-Civil-Society-Resilience.pdf>.

<sup>77</sup> According to data published on the NGO.by website, there are 1507 non-governmental organizations registered. Source: *Belarusian civic organizations database* [online]. [cit.2019-06-22]. Available: <https://www.ngo.by/en/ngo>.

communication-related to the social economy, only texts regarding political communication were found. For example, the research carried out by Matonytė I. and Chulitskaya T. shows that the state headed by a president dominates in political communication. It is a designer and implementer of social politics and the leader of public discourse on social issues. However, governmental and pro-government organizations mainly deal with alleviating social dissatisfaction<sup>78</sup>. Information is also available on communication at the organizational level which takes the form of peaceful demonstrations or written appeals between, for example, European ECO Forum and Belarusian authorities and EU institutions and EU Member States which give insight into events from the country and agitate to release the detainees, end persecution of social activists, human rights defenders, journalists, to investigate the use of violence, sharing information and implementing norms and changes in human rights<sup>79</sup>.

However, studies of the international environment are available which refer to the importance of generally understood interpersonal communication and human behaviors that favor it. Interpersonal skills conducive to communication include, among others ability to express oneself and correctly understand the other party's messages related to obtaining satisfaction from communication and even achieving its effectiveness – the planned aim and success<sup>80</sup>. Similarly, having knowledge and skills related to the process of communication and self-development as well as showing one's feelings, thoughts, expectations, and needs<sup>81</sup>. Communication also depends on the positive correlations of the people involved in the communication process. People are more eager to communicate with people belonging to the same group, expressing and understanding a certain system of values, although the aforementioned division into groups as well as belonging to them is done in an external way, imposed from above<sup>82</sup>. As well as the fact that business success largely depends on customer satisfaction, which is influenced not only by the high quality of services provided<sup>83</sup> but also on staffs communication skills.

### 3.2 Survey Results

To obtain information on the perception of harmonious communication and its importance in the business environment, including both the private and non-governmental sectors in Belarus, it was decided to carry out a questionnaire survey.

The first part of the survey focused on defining the category of *harmony*. This category was mostly defined by the respondents as *balance* (58% of the sum of all three choices), *mutual complementation* (41%), *peacefulness* (38%), *cooperation* (35%) and *justice* (34%). In the first choice, in the opinion of the respondents, this category was related mainly with *balance* (38%) and *justice* (21%). In the second choice, according to the students, the leading option was the category of *mutual*

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<sup>78</sup> MATONYTE, I., CHULITSKAYA, T. (2012). *The Third Sector...*

<sup>79</sup> NGO statement concerning the situation in Belarus. 21st meeting of the Working Group of the Parties to the Aarhus Convention Geneva, 4-6 April 2017 [online]. [cit.2019-06-22]. Available: <http://www.wecf.eu/english/publications/2017/Statement-Belarus.php> .

<sup>80</sup> UNALAN, D., TENGILIMOGLU, D. (2009). *An empirical study to measure the communication skills of the manager assistants medical secretaries and office workers in the public sector*. The Journal of American Academy of Business Cambridge: Vol 14 Num 2, pp 245-250, p. 245.

<sup>81</sup> ROBINSON, M. (2006). *How to improve your interpersonal communication skills* [online]. [cit.2019-08-16]. Available: <http://www.AssociatedContent.com>, p. 1.

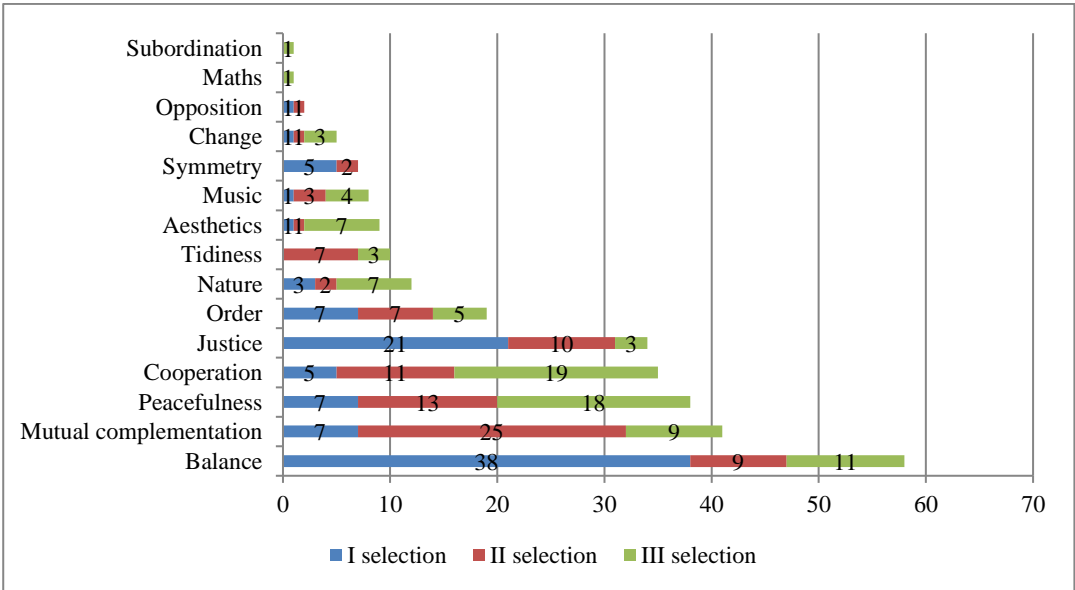
<sup>82</sup> SACCO, J.M., SCHMITT, N. (2005). *A dynamic multilevel model of demographic diversity and misfit effects*. Journal of Applied Psychology, 90(2), pp. 203-231; SHERIF, M., HARVEY, O.J., WHITE, B.J., HOOD, W.R., SHERIF, C.W. (1961). *Intergroup Conflict and cooperation*. The Robbers Cave Experiment, Institute of Group Relations.

<sup>83</sup> CLEMENS, M., GAN, C., KAO, T., Choong, M. (2008). *An empirical analysis of customers' satisfaction in international air travel*. Innovative Marketing 4(4), pp. 49-62.

complementation (25%), whereas the third most common choices were both: *cooperation* (19%) and *peacefulness* (18%). The detailed answers are broken down by the selection order in diagram 1.

**Diagram 1 - Defining the category of *harmony* [%]**

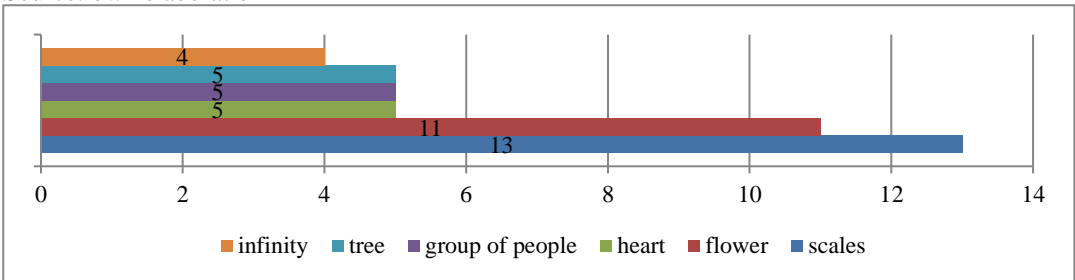
Source: own elaboration



The abovementioned brief definitions have their confirmation in the symbol of harmony determined by the respondents. Most respondents associated this category with *scales* (the international symbol of balance and justice), a flower or a tree (nature), with a *heart* or a *group of people* (interpersonal relations) - diagram 2. Among the individual responses there were: the Chinese character 和 (the equivalent of the word *harmony*), *sea with the setting Sun, the Sun, a leaf, a butterfly* (elements of nature), *an eye* (absolute), *day and night, plus and minus* (contrary and complementary elements), *treble clef* (music), *horizontal eight* and *snake eating its own tail* (infinity, the unification of opposites). Surprisingly, it turned out that nearly half of the students (47%) could not associate the category of *harmony* with any symbol other than *yin-yang* [9], nor would they suggest it.

**Diagram 2 - Symbol of *harmony* [%]**

Source: own elaboration



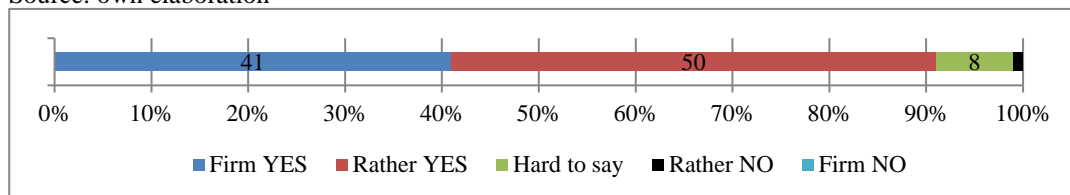
The second part of the research was related to determining the importance of harmony in interpersonal communication and its favorable and unfavorable factors.

Harmony was defined by the students as the basic value in interpersonal communication, including communication in business space, which was indicated by 91% of the answers (41% of the answers *firm yes* and 50% *rather yes*) - diagram 3. The students did not point out any significant differences

within the entities of the second and the third sector, and concerning the characteristics of interpersonal communication.

**Diagram 3 - Harmony as the basic value of interpersonal communication [%]**

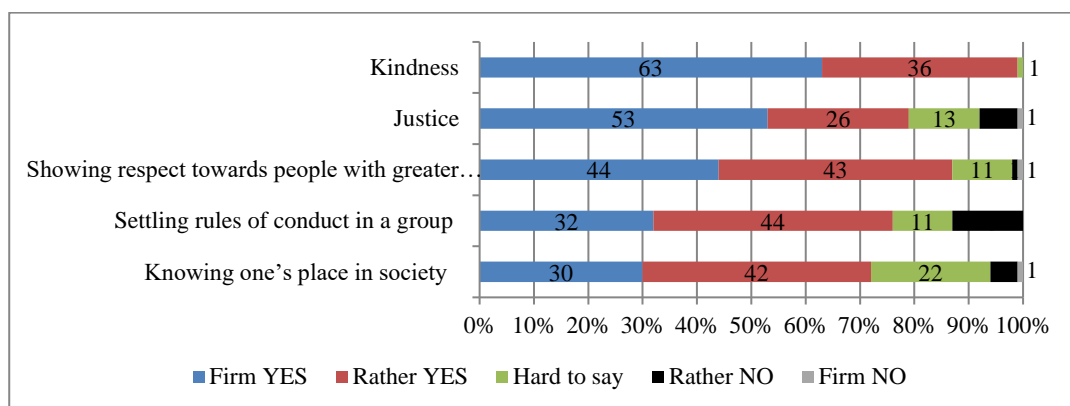
Source: own elaboration



To the elements conducive to harmony in interpersonal communication the respondents counted: *courtesy* (99% of positive answers), *showing respect towards people with greater knowledge and experience* (87%), *justice* (79%), *settling rules of conduct in a group* (76%) and *knowing one's place in a society* (72%) - diagram 4.

**Diagram 4 - Elements favorable to harmony [%]**

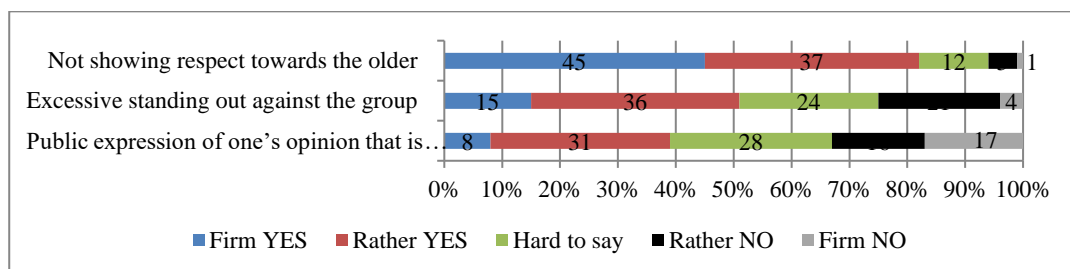
Source: own elaboration



Among the elements which are not conducive to harmony in interpersonal communication, the respondents listed: *not showing respect towards the older* (82% of positive answers), *excessive standing out against the group* - both in the positive and the negative sense (51%) and *public expression of one's opinion that is different than the opinion of the group* (39%) - diagram 5.

**Diagram 5 - Elements unfavorable to harmony [%]**

Source: own elaboration



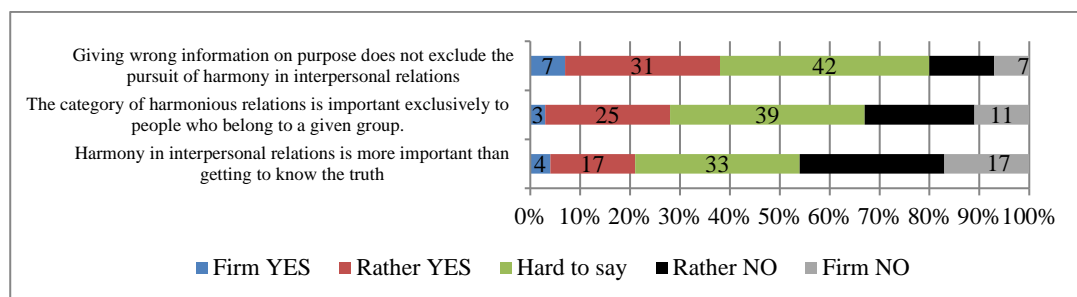
According to the respondents, achieving harmony in interpersonal relations is not more important than getting to know the truth (46% *rather no*). Similarly, the fact that deliberate providing wrong

answers/information does not exclude pro-harmonious action (38% of answers *firm yes* and *rather yes*) during communication.

However, the surveyed students were not able to expressly determine their opinion on whether the category of harmonious relations is important only for the members of a given group (for inside-group members), or if it is as well extremely valued outside of it (by the so-called outsider-group members that come into relation with people from outside the group). This is indicated by the small difference in the number of positive answers (28%), *hard to tell* answers (39%) and also the negative answers (33%). The detailed results are presented in diagram 6.

**Diagram 6 - Characteristics related to harmonious interpersonal communication [%]**

Source: own elaboration



## 4 Conclusion

The conducted research allows to draw the following conclusions:

- Because the third sector concerns the “concept of division of socio-economic activity of modern democratic countries”<sup>84</sup> there is a difficulty with its unambiguous classification in Belarus. It is closely related to the political system in the country – the authoritarian republic.
- The specific socio-political situation in Belarus undermines the naming of the totality of the non-governmental entities - “non-governmental”. It is worth considering whether non-governmental organizations with Belarusian specificity (GoNGOs) should not be called quasi-non-governmental or social organizations operating under the auspices or on behalf of those in power and thus excluded from the third sector.
- In the view of the above and the aspirations of NGOs and foreign socio-economic organizations, which are really independent from the government, for clear separation of the third sector/its separation from the influence of the authorities - gaining independence, the question of interpersonal communication in this space, both in the literature of the subject and the Internet articles, gains broader meaning. The third sector in Belarus, in the context of communication, is analyzed only from the perspective of political or organizational communication. This is also confirmed by the results of the questionnaire survey, in which the respondents treat the specificity of interpersonal communication as identical in the second and the third sector.
- The results of the survey conducted among the students of Economics and Business Management Faculty of Vitebsk State Technological University also allowed to formulate the following observations:
  - The category of *harmony*, in the opinion of the students, is linked with *balance*, *justice*, *complementarity*, *peacefulness*, and *cooperation*. This has a close connection to associating harmony with the symbol/emblem of scales.

<sup>84</sup> *Fakty o NGO* [online]. [cit.2019-06-26]. Available: <https://fakty.ngo.pl/faq/co-to-jest-trzeci-sektor>.

- The yin-yang symbol might be considered the international system of harmony, which in Belarus is associated with the Chinese culture and it is rooted in the consciousness of young people to the extent that it is difficult for them to come up with their symbol for this category. Linking *harmony* with the Chinese culture is also visible in the process of learning Chinese, which results in the more and more frequent differentiation of the Chinese word *harmony* (和).
- The category of *harmony*, in the opinion of the respondents, is also related to nature, which is interpreted through symbols of *flower, tree, leaf, sea with the setting Sun, the Sun and butterfly*, the complementary and opposing elements: *yin-yang symbol, day and night, plus and minus and snake eating its own tail*, as well as interpersonal relations: *heart and a group of people*. The last one has also confirmed in the declaration of the respondents that ***harmony is a basic value in interpersonal communication, including communication in the business space.***
- *Courtesy, showing respect towards people with greater knowledge and experience, justice, settling rules of conduct in a group and knowing one's place in a society* are treated by the respondents as characteristics that favor harmony. However, *not showing respect towards the older, excessive standing out against the group and public expression of one's opinion that differs from the opinion of the group* were included to the characteristics that are not conducive to harmony. This is justified in the culture that is characterized by high rates of: power distance (not treating all members of the society equally), collectivism (treating a group as an elementary social unit), uncertainty avoidance (feeling threat of ambiguous situations), long-term orientation (ease at adapting tradition to new conditions) and indulgence (the sense of limiting one's actions by social norms)<sup>85</sup>.

As the name implies, the main link in the social economy is a community, within which interpersonal relations are extremely important. The effectiveness of interpersonal communication is the resultant of many factors: communication skills, information access, attitude, but also the common field of experience that involve the communicating sides. The last of these is closely related to the space of culture, both personal as well as its dimensions/elements that characterize a given social group. The interpersonal relationship has a direct effect on the organization culture. The category of *harmony* turns out to be a significant component of interpersonal communication, also in the workspace, and pursuit of pro-harmonious interactions might have a significant impact on the effectiveness of the actors of the modern market. The fact that the category of harmony was defined by the young generation of Belarusians as a basic value in interpersonal communication may indicate that ethical behavior manifested, among others, in by applying fair-play rules, i.e. acting in a fair, conflict-free and cooperation-oriented manner may prove to be the most effective way of operating on the market, also within the third sector. Similarly, behaviors characterized by kindness, showing respect to the elderly and those who have knowledge and experience, as well as orientation in interpersonal relationships - knowing their place in the group, contribute to the formation of interpersonal harmony. However, the ability to characterize what the category of harmony can manifest in a group of people you work with on a professional basis help create own sense of belonging to a given group and thus facilitate the communication process. Thus, it translates into effective communication between people employed in social economy entities in Belarus as well as direct communication with their customers.

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<sup>85</sup> Compare countries, Hofstede Insights. [online]. [cit.2019-06-26]. Available: <https://www.hofstede-insights.com/country-comparison/>. Belarus was not included in the research by Hofstede Insights. Despite the sovereignty obtained in 1991, for the purposes of this article, Belarus was classified into the group of culturally similar countries to the Russian Federation.

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# Factors Affecting Individuals' Willingness to Contribute Voluntarily

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## Abstract

*Many factors influence the individual's behaviour and the resulting decision, which can influence their final decision not only stochastically but also systematically. With public goods, however, there may be a situation where individuals are not interested in expressing preferences in the consumption of public goods. In this case, they prefer the possibility of becoming a free rider and thus avoid paying for consumed public goods. The free rider problem leads to a number of practical problems in ensuring the production of public goods. The aim of the paper is to examine the factors of willingness to contribute voluntarily to services of public benefit. The willingness of individuals to contribute voluntarily is dependent on the individual's relationship with the organisation, the organisation's employees, or sympathise with those for whom the collection is, for whom the project is designed. If the organisation alerts in its message (call) to a certain demographic or character similarity to the respondent "we are in your neighbourhood, in your city / community," "the service is for you," "our clients are like you," "your neighbour helps us," it is likely that the willingness of individuals to contribute voluntarily will increase.*

**Keywords:** Factors, human behavior, preferences, public goods, public services

**JEL Classification:** C93, D12, D64, H41

## 1 Introduction

What do our decisions depend on? Who influences our decision? Is it family, friends, acquaintances, teachers, politicians or anyone else? It turns out that an individual's decision is largely dependent on what the individual feels in decision-making (fear, joy, feeling good, belief in justice, etc.), what is the contextual effect (which can be reversed by an individual's decision, what do their decisions benefits, the nature of the situation, etc.) how the individual perceives themselves (ego of the individual), what are the social rules, but also the influence of family, friends, loved ones and neighbours (Ariely, Kreisler, 2018; Dolan et al., 2009; Thaler, Sunstein, 2010). Due to the various distortions affecting the decision-making of individuals that an individual can make, but in most cases is unaware of, they cannot rely solely on their own genius. Excessive confidence in one's own ability often leads to ineffective decisions that are greatly distorted by the first impression.

For politicians, professionals and communities, exploring the factors (motives) that influence individuals' willingness to collaborate is a potentially new way to change the behaviour of individuals. The idea should not be to promote "hard" state paternalism, but liberal paternalism, which pushes the individual to a "desirable, or right" direction (Thaler, Sunstein, 2010). According to Dolan et al. (2009) countries should seek to use these factors, respectively, incentives affecting the actions of individuals in their favour, e.g. by finding out how individuals respond to stimuli and which of these stimuli (factors) are significant to the individual. Accordingly, Dolan et al. (2009) defined the nine most important factors affecting individuals' behaviour, referred to as the MINDSPACE Concept (messenger, incentives, norms, defaults, salience, priming, affect, commitments, ego). The assumption is that individuals, when deciding, analyse information in the form of countless stimuli (DellaVigna, 2009), available from politicians, the state, municipalities and the market, resulting in decisions that reflect their best interests in view of these incentives (Dolan et al., 2009).

The first of the factors or stimuli defined by Dolan et al. (2009) is M (messenger) - message, i.e. the individual is influenced by who provided the information to them. Rather, individuals decide to respond to a message if they have been provided with the information by an expert, or by an authority (e.g. nutritional counsellor, research assistant, or someone who can convince others to agree on the

basis of their generally respected expertise - Cialdini, 2016) as a "layman" in a given area (such as a journal article) (Webb, Sheeran, 2006). When there is some demographic and character similarity between the expert and the respondent, the effectiveness of the intervention is increased, resulting in the desired behaviour of the respondents (Durantini et al., 2006).

The second of the factors affecting individuals is, according to Dolan et al., 2009, I (incentives) - the incentive for an individual to avoid any loss resulting from the processing and evaluation of the information. It is necessary to find out how individuals present the problem, what complex image they create and what mental models they use when making decisions. In relation to risk perception, it is important that individuals know what their money is used for, or when it will be used (Hardisty, Weber, 2009; Kahneman, Tversky, 1979; Hardisty et al., 2013; Lussier et al., 2006).

The third factor affecting the individual is N (norms) - norms, respectively, an individual's actions are influenced by what other individuals are doing. Social norms such as ethnicity (Andreoni et al., 2016; Luttmner, 2001), group size (Andreoni, Brownback, 2017; Nosenzo et al., 2015), affiliation (Fehr, Hoff, 2011; Shayo, 2009) various types of social groups (Chakravarty, Fonseca, 2014) and cultural norms, e.g. religion (Andreoni et al., 2016), handshakes and others have a significant impact on the behaviour of the individual, whether in a positive or negative sense.

The fourth factor affecting individuals' behaviour is D (defaults) - the default option, the individual "moves" in predetermined options. Thus, in a situation they repeatedly take, individuals can benefit from experience, but at the same time they can decide "by guessing" (Kahneman, Tversky, 1979). Individuals have a strong tendency to adhere to the status quo, or the pre-set option (Thaler, Sunstein, 2010).

Another factor affecting the individual is S (salience) - respectively, the attention of the individual is attracted by what is new and seems relevant to them. According to Cialdini (2016), it is not the essence of changing the views, attitudes, or experiences of an individual. What matters is what the individual pays attention to when deciding. It is important to realise that not every attention is aware and often, when making a decision, an individual can be attracted by stimuli such as money, comfort, advertising banner and so on. (Mandel, Johnson, 2002).

The sixth of the factors affecting an individual is P (priming) - an individual's behaviour is influenced by subconscious suggestions, that is, if an individual is affected by a particular message (e.g., advertising) before a final decision, the resulting decision may be different. For example, the non-removal of graffiti or illegal landfill may cause other individuals to behave in the same way (Keizer et al., 2008).

The seventh of the factors is A (affect) feelings, respectively, emotional associations can influence an individual's actions. Emotional reactions (non-verbal reactions - facial expressions, gestures, etc.) to words, images and events that an individual perceives are much faster than an individual actually realises.

Another factor affecting an individual's behaviour is C (commitments) - a commitment, an individual is trying to act in accordance with their commitments (promises) and in return demands the same action. Fulfilment of commitments appears to be more effective if an individual incurs costs by violating it, and not necessarily just financial costs (e.g., damage to reputation) (Dolan et al., 2009).

The last factor, according to Dolan et al. (2009) acting on the individual is E (Ego) - ego, the individual acts so they have the best possible feeling. If the individual or group in which the individual is present thrives, they attribute that success to their own skill, however, if the individual or group in which the individual is fails, then they attribute the faults or shortcomings to others, or errors due to other factors determining a particular situation (Hewston et al., 2002; Ross, 1977).

For politicians, professionals and communities, exploring the factors (motives) that influence individuals' willingness to collaborate is a potentially new way to change the behaviour of individuals.

The idea should not be to promote "hard" state paternalism, but liberal paternalism, which pushes the individual to a "desirable, or right" direction (Thaler, Sunstein, 2010).

## 2 Material and Methods

The aim of the paper is to examine the factors of willingness to contribute voluntarily to services of public benefit. In order to achieve this goal, we have set up research questions, which we will answer using mathematical-statistical methods:

VO1: What motivates individuals to volunteer?

VO2: How do the individual factors affect the amount of voluntary contribution granted?

The factors of consumer willingness to voluntarily contribute to public consumption of goods, public services are examined. Factors that may influence the willingness of individuals to voluntarily contribute, respectively, to do voluntary work according to the concept of MINDSPACE (Dolan et al., 2009) in nine groups (messenger, incentives, norms, defaults, salience, priming, affect, commitment, ego) (Table 1).

The MINDSPACE concept highlights the ways in which an individual can be "pushed" in terms of "desired" behaviour, e.g. if an individual is conveyed a message by someone who is pleasant or similar in something to the individual, the individual is, until we "strum the correct string" willing to respond to the message in a "desirable" way. Thus, when organising a campaign (e.g. crowdfunding), it is possible to achieve a higher success rate by selecting an appropriate leader who has nothing to do with the target group (e.g. a leader from a given community, a leader with a common life experience).

The subject of our experimental survey applied to the selected public goods is heterogeneous in terms of gender, age, and educational attainment

At the beginning of our survey, we informed the respondents about the focus of the survey, which monitors factors affecting individuals' willingness to contribute voluntarily to public goods. In order to avoid any distortion as to what public goods are, we defined them at the outset.

In the first part of the survey we presented the respondents with projects that they could support on the website [www.dobrakrajina.sk](http://www.dobrakrajina.sk). Then we asked them why they decided to support the project, respectively, decided not to. We also asked respondents whether they voluntarily supported a collection in 2018 (e.g. Daffodil Day (Deň narcisov), Good Angel (Dobry anjel)) or a project published on websites such as [www.dobrakrajina.sk](http://www.dobrakrajina.sk), [www.kickstarter.com](http://www.kickstarter.com), [www.startlab.com](http://www.startlab.com). If they supported a collection or project, we asked them about the amount and regularity of the voluntary contribution. As with the first question, we asked what had led them to financially support, respectively, not support such an initiative.

The second part of the survey contained 48 statements to which respondents were to comment. Based on the answers to these statements, we examined the impact of individual factors on the willingness of individuals to contribute voluntarily to public goods. Respondents were to express their degree of identification with the given statement on a scale of 1 - I totally agree with the statement to 5 - I totally disagree with the statement. Respondents were asked to mark their answer with a cross. The questions were formulated neutrally and respondents were not influenced to take "right" decisions. The statements from 1 to 46 were drawn up positively, while statements 47 to 48 were drawn up negatively.

Subsequently, we processed the research outputs using relevant mathematical-statistical methods and evaluated the results. At this stage, we will evaluate the survey and compare the results we find with the secondary sources, respectively, surveys conducted so far. The obtained data are processed by selected mathematical-statistical methods. We use the IBM SPSS Statistics 19 statistical software for evaluation, when evaluating we consider the significance level of 0.05. For statistical methods we use

chi-square test, descriptive statistics, Spearman's correlation coefficient, ANOVA method, Cramer's V.

Research questions have been determined by using inductive-deductive methods that have allowed us to find assumed factors affecting individuals' willingness to contribute voluntarily to public goods. We use the synthesis, induction and deduction as well as generalisation in the logical verification of the results, their summary and presentation of the work outputs.

## 2.1 Model and Data

The subject of our experimental survey applied to the selected collective goods is heterogeneous in terms of gender, age, and educational attainment. The basic sample consists of inhabitants of the Slovak Republic above the age of 18. The basic sample is a statistical set that is made up of all statistical units that meet the required characteristics. Due to the extensive basic sample (population of Slovakia over 18 years of age), we have to determine the research sample that we obtained by quota selection. The quota selection is characterised by the determination of the characteristics that each unit of the research object possesses, and is given certain statistical features to describe it (in our case, e.g. gender, age category, highest level of education). Subsequently, quotas for each designated character are determined. Quotas are designed so that the target population structure, i.e. the basic sample, coincided with the structure of the research sample (Markechová, Stehlíková, Tirpáková, 2011). Our research sample (368) of respondents is structured in such a way that by its structure according to the basic features of sex, age category and highest achieved education it corresponds to the basic sample of all inhabitants of the Slovak Republic.

Our research sample of 368 respondents is structured in such a way that by its structure according to gender (Table 1), age category (Table 1) and highest achieved education (Table 1) it corresponds to the basic sample (IB) of all Slovak citizens. To verify the representativeness of the research sample in relation to the basic sample, we used the chi-square test. We found that the research sample is representative of all sorting characters, i.e. gender, age category, highest educational attainment (p-value 0.959; 0.973; 0.559). The results found in the experimental survey can be generalised to all inhabitants of the Slovak Republic.

**Table 1 - The selected sample for measuring willingness to pay for public goods**

Classification symbol		Selected sample %	Basic sample (%)
Gender	Male	48.91	48.78
	Female	51.09	51.22
Age group	18-24	10.60	10.34
	25-34	19.29	18.85
	35-44	20.38	19.92
	45-54	16.85	16.26
	55+	32.88	34.63
Education	Elementary	15.49	18.39
	Secondary without final exams	29.35	28.29
	Secondary with final exams	37.50	36.31
	Tertiary	17.66	17.10

Source: Authors

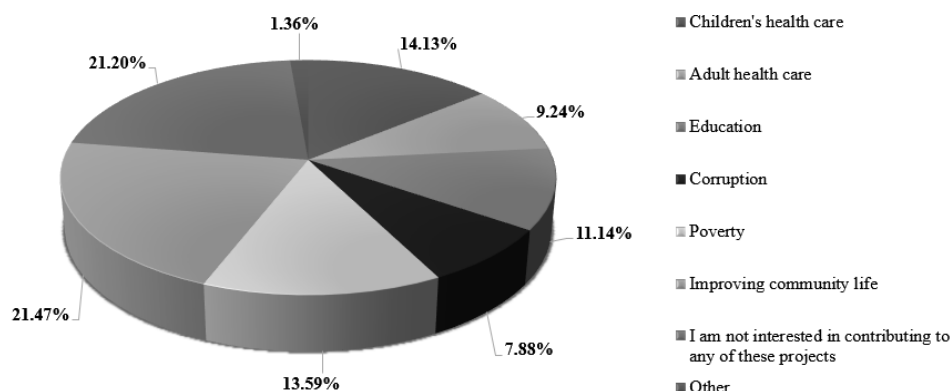
## 3 Results and Discussion

In the introduction of the first part of the experimental survey, the respondents were presented possible areas of voluntary contribution to public goods. Respondents should decide which of these projects they would support (child healthcare, adult healthcare, education, addressing corruption, poverty, improving community life, or any other project they themselves contribute to), or which they did not

contribute to and why. The following graph (Figure 1) shows the percentage of respondents' answers to the question which of the projects, published on the website [www.dobrakrajina.sk](http://www.dobrakrajina.sk) which are solving the situation in Slovakia, would they support **in the case of their interest**.

**Figure 3 - The interest of respondents to support the project from the selected area published on the website [www.dobrakrajina.sk](http://www.dobrakrajina.sk)**

Source: Authors

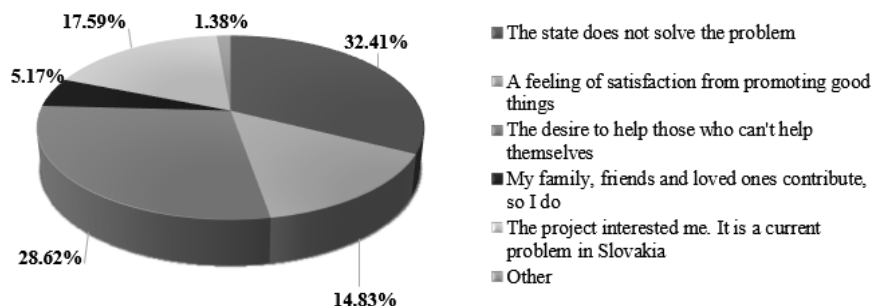


In the alternative, other respondents listed projects they would support, the "Forest is not a dump" project, furthermore, they would also support projects in the areas of nature and environment protection, animal protection, castle repair, sport promotion and health care as a whole.

At the same time, we asked the respondents why they had decided to contribute, respectively, to not contribute to any of the selected projects. Given that this was a follow-up question to the previous one, they did not reply to the question as to why all respondents had decided to contribute or not. In the event that respondents chose a project they would support (options 1 - 6 and 7), they were asked why they decided to contribute to the project (290 respondents answered). If the respondents answered in the negative, i.e. I am not interested in contributing to any of these projects, we asked them why they decided not to contribute to any of these projects. The motives for voluntary contribution or not contributing are shown in the following graphs (Figure 2, Figure 3).

**Figure 4 - Motives for voluntary contribution to projects published on the website [www.dobrakrajina.sk](http://www.dobrakrajina.sk)**

Source: Authors

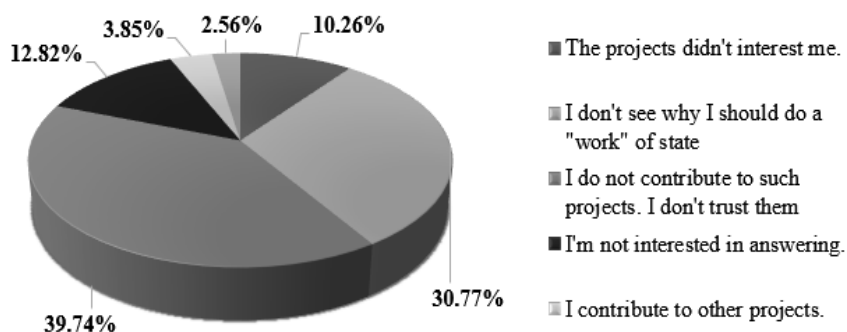


Other reasons for which respondents decided to contribute to the project were e.g. in the project of education, that it is important for the future, nature protection, indirectly, but certainly affects people,

it is important to prevent the dilapidation of monuments, or to cite their own experience as a reason for deciding to contribute to solving corruption.

**Figure 5 - Motives for not contributing to projects published on the website [www.dobrakrajina.sk](http://www.dobrakrajina.sk)**

Source: Authors



For the motives of non-contribution, only two respondents chose other, while the reasons why they decided not to contribute to any of the projects were that they did not have extra money, or because nobody helps them, they do not see why they should do so.

The factors that influence individuals 'willingness to contribute have been analysed on the basis of the respondents' opinion on 48 statements (Table 2). In doing so, respondents could either fully agree with the statement, i.e. choose option 1 - totally agree, or I do not agree with the claim at all and choose option 5 - I totally disagree. The lower the average value for a given claim, the greater the recognition of the respondent's opinion.

The results are interesting from the point of view of a suitable arrangement of fundraising activities, which would be closer to the Pareto effective state, respectively, they answer the question "how is it necessary to change the way of raising funds from contributors, so that their (voluntary) contribution increases?". Also, in the case of factors where dependence was proven, appropriate stimulation should be provided or to set the parameters of the collection or project to increase the willingness of individuals (voluntarily) to contribute to the selected project.

The following table (Table 2) shows the percentage rate of identification with those who voluntarily contributed to a collection or project in 2018 and those who did not contribute to any collection or project in 2018.

**Table 2 - Percentage of identification with a given claim for those who voluntarily contributed and for those who did not contribute in 2018 according to concept MINDSPACE**

Concept MINDSPACE	Factors	Contributed voluntarily in 2018 (%)					Did not contribute in 2018 (%)					Average label value on scale		
		Totally agree	Rather agree	Neither agree nor disagree	Rather disagree	Totally disagree	Totally agree	Rather agree	Neither agree nor disagree	Rather disagree	Totally disagree	Contributed	Did not contribute	Total
Affect	Empathy	48,52	35,44	10,97	3,80	1,27	19,08	27,48	29,01	12,21	12,21	1,74	2,71	2,08
Affect	Belief in justice	25,74	36,92	24,26	8,02	5,06	12,60	22,90	35,11	14,12	15,27	2,30	3,57	2,54
Affect	Good feeling	46,84	38,19	11,81	2,11	1,05	19,08	24,43	25,19	14,89	16,41	1,72	2,85	2,13
Affect	The feeling of irreplaceability	8,44	17,72	20,25	28,27	25,32	5,34	13,74	31,30	23,66	25,95	3,44	3,51	3,47
Affect	Political influence	9,28	17,30	29,54	24,47	19,41	9,16	16,03	38,17	17,56	19,08	3,27	3,21	3,25
Affect	Personal contacts	8,86	16,88	27,43	25,74	21,10	6,87	11,45	37,40	19,85	24,43	3,33	3,44	3,37
Affect	Knowledge	13,08	29,54	20,25	24,89	12,24	7,63	21,37	24,43	21,37	25,19	2,94	3,35	3,08
Commitments	Commitment to the society	11,60	26,37	28,06	21,52	12,45	9,16	13,36	28,63	20,99	27,86	2,97	3,45	3,14
Commitments	Reciprocity	3,80	14,35	21,94	29,96	29,96	3,82	12,98	36,64	22,90	23,66	3,68	3,50	3,61
Defaults	Invitation to participate	18,57	46,84	14,35	15,19	5,06	12,21	28,24	22,14	20,61	16,79	2,41	3,02	2,63
Defaults	Fundraising methods	18,71	38,96	21,66	14,21	6,47	15,01	21,88	34,35	12,98	15,78	2,51	2,93	2,66
Defaults	Nature of the situation	8,44	29,54	27,00	27,00	8,02	16,03	18,32	35,11	14,50	16,03	2,97	2,96	2,96
Ego	Conviction	30,94	40,51	20,68	6,61	1,27	9,92	20,61	44,53	12,72	12,21	2,07	2,97	2,39
Ego	Valuation	4,85	15,40	22,57	26,79	30,38	5,73	11,07	32,06	22,52	28,63	3,62	2,85	3,46
Ego	The desire for force	6,75	10,13	12,66	27,85	42,62	4,58	9,92	24,43	21,37	39,69	3,89	3,82	3,87
Ego	Reputation	7,59	18,57	25,74	24,47	23,63	4,58	16,03	28,24	21,37	29,77	3,38	3,56	3,44
Ego	Selfishness	16,46	26,58	24,89	21,52	10,55	19,08	22,14	31,30	16,03	11,45	2,83	2,79	2,82
Ego	The effect of the viewer	11,60	33,12	23,21	20,68	11,39	6,49	12,60	37,02	20,61	23,28	2,87	3,42	3,07
Incentives	Fear	21,94	30,38	32,07	11,39	4,22	7,63	18,32	45,80	19,08	9,16	2,46	3,04	2,66
Incentives	The size of the public sector	32,91	32,49	25,32	7,81	1,48	13,74	23,66	36,64	10,69	15,27	2,12	2,90	2,40
Incentives	Tax policy	5,91	15,19	27,85	21,52	29,54	4,58	11,45	34,35	17,56	32,06	3,54	3,61	3,56
Incentives	Information	12,03	20,25	17,09	30,17	20,46	18,70	25,57	31,30	11,83	12,60	3,27	2,74	2,69
Messenger	Affection, sympathy	40,93	30,38	17,72	9,28	1,69	10,69	25,19	25,95	18,32	19,85	2,00	3,11	2,40
Messenger	Relationship to organization and employees	15,61	31,65	23,21	23,21	6,33	6,87	19,85	32,06	21,37	19,85	2,73	3,27	2,92
Norms	Social rules	9,28	29,11	25,74	20,04	15,82	9,16	14,89	31,30	21,76	22,90	3,04	2,97	3,15
Norms	Moral duty	23,63	37,55	22,36	12,24	4,22	9,16	21,37	28,24	20,61	20,61	2,36	3,22	2,67
Norms	Religious duty	15,19	24,47	21,10	19,41	19,83	8,40	13,74	29,01	19,08	29,77	3,04	3,48	3,20
Norms	Conscience	12,66	24,89	21,10	27,43	13,92	3,82	12,21	29,01	24,43	30,53	3,05	3,66	3,27
Norms	Relationship to the final beneficiary	29,11	29,11	18,57	16,46	6,75	20,61	21,37	23,66	11,45	22,90	2,43	2,95	2,61
Priming	Compassion, regret	30,38	48,52	10,97	6,33	3,80	11,45	39,69	22,14	11,45	15,27	2,05	2,79	2,31
Priming	Esteem	37,13	40,93	15,19	6,33	0,42	17,56	30,53	27,48	9,92	14,50	1,92	2,73	2,21
Priming	Need to belong somewhere	37,13	30,38	15,61	13,08	3,80	24,43	22,90	13,74	16,79	22,14	2,16	2,89	2,42
Salience	Gratitude	13,50	20,25	29,96	20,68	15,61	8,40	14,50	31,30	16,79	29,01	3,05	3,44	3,18
Salience	Volunteering and civic participation	32,49	35,44	19,83	9,70	2,53	11,45	21,37	35,88	16,03	15,27	2,14	3,02	2,46

Source: Authors

What is interesting, for example, is the difference in the claims concerning belief in justice. Respondents who voluntarily contributed in 2018 identified with the claim, “we need to help each other because life was unfair to some”, and with the claim “I contribute to ensure equality in society”.

While respondents who contribute voluntarily feel the need to express their affection and sympathy for others, non-contributors do not consider this to be the main reason why they should voluntarily contribute to public goods, respectively, to a collection or project. In their case, the reason why they would decide to contribute to public goods depends more on increasing their social status, making themselves visible in society, or more precisely having their contribution appreciated by society.



Whether they are contributors or those who do not, they have the same attitude in the case of the factor of the situation. Respondents cannot clearly assess whether they need a longer time to think it over if they are asked to make a contribution.

To answer research question no. 2, it was necessary to adjust the range of the research sample. In this case, we selected those respondents who answered positively the question "Did you contribute voluntarily in 2018 to a collection or project?" There were 237 respondents. The average voluntary contribution for this group of respondents was €58.38. The maximum amount of the voluntary contribution was €600. The reason for which the respondents gave a voluntary contribution of €600 was that they were acting properly (an altruistic factor).

**In order not to limit respondents' responses to the amount of financial contributions contributed in 2018, we kept this question open. However, based on the respondents' answers, the following contribution rates have been set for its subsequent evaluation and determination of the dependence between factors and the amount of financial contribution provided (Table 3):**

**Table 3 - The intervals for the amounts of voluntary financial contribution in 2018 for the selected collection or project**

Intervals	Počet	Vybieraná suma (v €)
€ 1 - 4.99	38	83
€ 5 - 9.99	39	217
€ 10 - 19.99	44	508
€ 20 - 29.99	42	880
€ 30 - 39.99	10	300
€ 40 - 40.99	5	200
€ 50 - 59.99	19	950
€ 60 - 99.99	4	300
€ 100 - 199.99	13	1,470
€ 200 - 399.99	11	2,850
€ 400 - 599.99	9	4,280
More than € 600	3	1,800
<b>Total</b>	<b>237</b>	<b>13,838</b>

Source: Authors

Using the Spearman correlation coefficient, we found that there is a moderate indirect dependence between the conscience, that there is a medium indirect dependency between the commitment of society and the amount of the voluntary financial contribution, i.e. the more an individual agrees with the statement "because I'm doing alright", the higher the voluntary contribution in 2018 (p-value = 0;  $r_s = -0.337$ ). The table of other dependencies is included in the table (Table 4).

**Table 4 - Interdependence between individual factors and voluntary contribution granted in 2018 (n = 237).**

Concept MINDSPACE	Claim: I Contribute .....	p-value	$r_s$
Defaults	if I'm directly addressed	0.006	0.179
Priming	because I'm sorry about others.	0.011	0.164
Incentives	such a kind of facility should be supported by a city (country) and therefore should have employees who carry out these activities as a skilled workforce and should not receive contributions from individuals.	0.014	0.160
Defaults	unless I am asked to do so by myself	0.024	0.147
Norms	because if I don't help, I feel guilty.	0.043	-0.131

Concept MINDSPACE	Claim: I Contribute .....	p-value	r <sub>s</sub>
Ego	I feel obliged to do voluntary activity or to contribute if, for example, my neighbour, colleague, friend watches if I help	0.019	-0.152
Incentives	but I would never take advantage of the economic benefits (e.g. saving on tax, donating 3% from my tax to a non-profit organization, saving on municipal waste fees, job offers or business offers).	0.007	-0.173
Messenger	there are some activities that I have a particular interest in, and so I participate as a contributor.	0.000	-0.255

Source: Authors

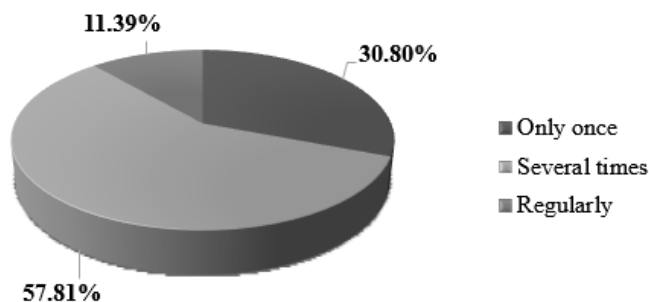
In this case, we can say that the amount of the voluntary contribution depends in particular on the situation in which the individual decides whether or not to offer the voluntary contribution or to not do so. At the same time, no altruistic factor (e. g. social rule, empathy) or social factor (volunteering and civil participation) is involved in the decision-making of an individual when deciding on the amount of a voluntary contribution. The amount of the voluntary contribution may also relate, inter alia, to how the individual earned the money (for example, from work, winning the lottery, find it on the pavement, come from inheritance, embezzlement or gambling). Interestingly, the way the money itself was obtained can greatly affect how an individual uses it. If an individual has obtained money that makes them feel guilty, they are likely to devote some of their money to a collection or project, or to a charitable purpose (Levav, McGraw, 2009). We try to “launder” the money earned in bad circumstances, while we try to enjoy the money we receive as a gift and consider the money we earn from the hard work as that which we deserve. Money earned through work we spend on “responsible” things, while money from winnings is usually spent on entertainment (mental accounting - Ariely, Kreisler, 2018). In doing so, an individual justifies their negative feelings about the way in which money is obtained, and ultimately justifies their spending.

The reasons why respondents contributed in 2018 were: I can contribute because I have enough money; it has led me to think that the people for whom the collection is, can use the money for more useful things which can help them; I would probably not invest in something useful; compassion, belonging, feeling good, relatives, friends and acquaintances contributing, etc.

In the following graph (Figure 4), the answers of 237 respondents are broken down by their contributions in 2018.

**Figure 6 - Distribution of respondents by regularity of contribution in 2018**

Source: Authors



The average amount of voluntarily collected contributions from respondents who only contributed once in 2018 was € 10.37, while respondents who contributed more times it was € 78.35 and € 86.93 from respondents who contributed on a regular basis.

If the respondent chose the answer “more times”, we asked them how many times they had voluntarily contributed to a collection or project in 2018. Based on the respondents' responses, we then set contribution intervals. 68 respondents contributed 1 to 3 times in 2018, 47 respondents contributed 4 to 5 times, 14 respondents contributed 6 to 9 times and 7 respondents contributed 10 to 20 times and 1 respondent contributed more than 20 times.

If the respondent chose to give the answer “regularly”, we asked them how often they contributed voluntarily to a collection or project within a year. Based on the respondents' answers, we then set intervals for the contribution rate. 6 respondents regularly contribute 1 to 3 times a year, 7 respondents contribute 4 to 9 times a year, 12 respondents contribute 10 to 19 times a year and 1 respondent contributes more than 20 times a year.

In addition to the amount of voluntary financial contributions and contribution intervals, we have determined whether there is a relationship between the voluntary contribution interval and the factors affecting individuals (Table 5).

**Table 5 Interdependence between factors and contribution rate in 2018 (n = 237)**

Concept MINDSPACE	Claim: I Contribute .....	Interval					
		How many times have you contributed in 2018		Several times a year		Regularly	
		p-value	r <sub>s</sub>	p-value	r <sub>s</sub>	p-value	r <sub>s</sub>
Ego	Action of this kind is needed and therefore it is right to support it at least with a contribution.	0.003	-0.195	-	-	-	-
Ego	Because I can improve the existing situation / thing / state.	0.001	-0.210	-	-	-	-
Affect	We need to help each other because life was unfair to some.	0.031	-0.140	-	-	-	-
Ego	Because community centres are a good tool to help those who need it.	0.008	-0.172	-	-	-	-
Incentives	Because, perhaps, I will need help at some time.	-	-	-	-	0.010	0.496
Commitments	Because I do well for myself.	0.005	-0.183	0.002	-0.267	-	-
Ego	Because I have power over those I helped	0.001	0.206	0.046	-0.173	-	-
Ego	It is done only by those who can afford to do it.	-	-	-	-	0.028	0.430
Affect	Because I like it, I feel good about it.	0.043	-0.132	-	-	-	-
Affect	Because it brings me some satisfaction.	0.001	-0.207	-	-	-	-
Incentives	I think that while community centres perform important functions, they should be funded from public sources.	-	-	-	-	0.011	0.493

Concept MINDSPACE	Claim: I Contribute .....	Interval					
		How many times have you contributed in 2018		Several times a year		Regularly	
Incentives	Such a kind of facility should be supported by a city (country) and therefore should have employees who carry out these activities as a skilled workforce and should not receive contributions from individuals.	-	-	-	-	0.004	0.551
Incentives	But I would never take advantage of the economic benefits (e.g. saving on tax, donating 3% from my tax to a non-profit organization, saving on municipal waste fees, job offers or business offers).	-	-	0.001	-0.282	-	-
Defaults	If I am not asked, I will not do it by myself.	0.017	0.155	-	-	0.006	0.520
Messenger	There are some activities that I have a particular interest in, and so I participate as a contributor.	0.000	-0.255	-	-	-	-
Ego	I feel obliged to contribute if, for example, my neighbour, colleague or friend is watching to see if I help.	-	-	0.030	-0.188	-	-
Incentives	I do not contribute because I have not found any activities in which I could volunteer or contribute to.	0.000	0.279	-	-	-	-
Incentives	I have no information about the activities to contribute to.	0.007	0.176	-	-	-	-
Salience	If I want to help, I don't care how much I contribute.	0.002	-0.198	-	-	-	-

Source: Authors

Using the Spearman correlation coefficient, we conclude that the regularity of the contribution to individuals is mainly dependent on the factor relationship to organization or employees, i.e. if there are certain activities that an individual is interested in, they will contribute regularly to their functioning. On the other hand, however, it can be said that the individual's willingness and regularity of contribution is not limited to whether the activity is provided as a collective asset, i.e. financed by the city or municipal budget. If an individual is interested in a given activity and is willing to provide it, they are willing, or even to contribute to it regularly.

## 4 Conclusion

The aim of the paper was to investigate the factors of willingness to contribute voluntarily to services of public benefit. We assumed that individuals are willing to contribute to public goods, services of public benefit, and their willingness is determined by factors influencing their decision-making. To answer the research questions, we used the data obtained from the survey. The results of the research confirmed that there are factors that influence the willingness of individuals to contribute voluntarily. Factors such as affection and sympathy, empathy, conviction, compassion, pity, respect, good feelings, commitment to society, appreciation, and situational factors such as invitations to participate, fundraising methods, and tax policy influence the individual's willingness to voluntarily contribute. These factors have influenced the willingness of individuals to contribute voluntarily to almost all the decisions made regarding the willingness to contribute voluntarily and the amount of voluntary contribution granted.

There are different factors that affect individuals from all sides (television, internet, acquaintances, family, friends, etc.) that consciously or unconsciously interfere with their decision-making. We already know that an individual often overestimates their decisions, behaviour, limits and abilities, either because they want to be appreciated and accepted by society, crave for power or reputation, or believe in justice, and that only they can ensure it or that they do it because of the good feeling, or some "recompense" from society. If we are aware of all these factors that enter and influence the decision-making of an individual, it is possible to "control and influence" their decision making. Of course, we do not mean manipulative, directive methods and techniques, but methods based on "liberal paternalism" that are not strictly defined and limiting. These methods are based on the recommendation and gentle push of an individual in the "right" direction that will ultimately increase their own well-being.

How is it possible to use this knowledge about individual behavior in the management of NGO fundraising activities? First, we found out which factors affect individuals' decisions to cooperate voluntarily. The willingness to contribute voluntarily includes the need to belong, good feeling, belief, moral duty, the size of the public sector, belief in justice, political influence, voluntary and civic participation, information and education for the individual. If a non-governmental organization knows what factors affect the willingness of individuals to cooperate voluntarily and is aware of the limits of voluntary cooperation (we forget that everything is relative, boxing, avoiding pain, trusting ourselves, overestimating our assets, believing in the magic of language and rituals, we overestimate expectations, awards, etc.), it can use them to help in choosing and constructing an appropriate fundraising campaign. There are a number of mechanisms available to help NGOs (auctions, lotteries, thresholds, crowdfunding campaigns, direct contributions, etc.). If an individual does not know how he can help, his willingness to cooperate voluntarily decreases. Just take the situation that someone stopped you on the street. How many times have you contributed to the "treasury" when you just told the NGO name? We assume that the answer is near zero. But another situation occurs when one is confronted directly with what he or she can help. So a gift for you in the form of a good feeling plays an important role in voluntary cooperation itself. Ultimately, the aim of any fundraising campaign should be present and transparent campaign (not "creative accounting") with the aim of using voluntary contributions received, to gain trust of potential contributors.

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# **The Overview of Public Websites Owned by State and Local Administration Located in Border Districts. A Case Study of the Opava and Glubczyce Districts**

**Wanda Musialik, Roman Śmietański**

## ***Abstract***

*Since the 1990s, the Internet has become a platform, which facilitates access to information. It is widely believed the Internet plays an important role in the connecting bidders with their potential customers. Therefore, it seems interesting to know how often the state and local administration units use the Internet to reach potential investors. The aim of the article is to answer the questions of how and to what extent local government units attempt to attract investors using public websites and if they use this form of announcing investment offers when preparing public presentations, or this method is used only marginally. The data have been analyzed based on information available on websites of municipalities included in Opava and Glubczyce districts located on the Polish and Czech border. The research results will also help to determine to what extent individual municipalities can display investment needs in the public presentations. Thesis: The number of investment projects does not depend on promotional activity undertaken through public websites.*

**Keywords:** Websites, investments, Opava district, Glubczyce district

**JEL Classification:** L86, R11, R5, R23, Y80

## **1 Introduction**

Nowadays, the Internet has become the most popular form of communication. In business it has contributed to the development of e-commerce, facilitated the development of relationship between businesses [business-to-business – B2B], business and consumer [business-to-consumer – B2C], but also enterprises with the government and local government administration [business-government – B2G ] (Wielki, 2012, p.46). Every day, tens of millions of people, hundreds of thousands of business entities, local government and government institutions use this communication tool. Scientists have been increasingly interested in measuring the use of the Internet by local government units. The spread of the so-called digital democracy with regard to government websites, statistical models defining the functioning of these platforms created by city councils (Pereira, Amaral, Costa, 2018, pp. 155-174) and maturity of municipal e-administration have been analysed (Chatzopoulos, Economides, 2009, pp.192-212). The recent research studies have investigated websites to assess their level of sophistication and indicate the direction of their further development (Katare, Banerjee, 2017, pp. 49-68). Analysis of the presence of the language of the border country on the official websites of rural and urban communes located at the border is rare (Musialik, Śmietański, 2018, pp. 184-190)

This rises the questions about the scope of content posted on websites by local government administration units as well as the extent to what the Internet has become a space for municipalities to acquire potential investors, who can access information about investment areas or planned development projects in the municipality via the public websites of local governments. In addition, authors analysed whether investment information was addressed to investors from outside the language group of the state in which the given unit of state administration is located. The ability to translate websites would increase the number of potential investors. The positive effect of foreign direct investment is not only reflected in the transfer of financial resources, but also in technical and organizational knowledge, modern technologies, innovations and management methods, that is, elements which create and sustain economic growth and competitiveness (Kania, 2006, p.70). Therefore, it would be justified to examine the availability of offers intended for potential investors from outside the state in which the municipality is located. The presentation of invest



opportunities available in English, which is currently the most-used language in business environment seems to be crucial. It may also be important to determine to what extent the municipalities located on the border areas provide a translation of their website in the language of the neighboring country. This would allow to determine the openness of local authorities towards cross-border cooperation and their readiness to attract investors from the neighboring country.

The purpose of the article is to examine to what extent local government units use the Internet to attract potential investors. Do they use this tool to present their area, or is this form of reaching potential investors marginal? Also, in what language the information is provided? This article analyzed public websites of municipalities located in the Głubczyce and Opava districts, which are adjacent to each other on the Polish-Czech border. The results of the research showed how individual municipalities present their investment needs on public websites.

## 2 Material and Methods

The primary data was collected from 1 to 17 July 2019 by reviewing the official websites of municipalities and identifying sub-pages and bookmarks related to the term “investment”. Next, the authors analysed the form and content of these websites. If the website did not provide a separate section devoted to municipal investments, the authors would analyse other sections. In such cases, a formal and substantive analysis was also carried out. Additionally, the authors investigated other websites, which characterised the discussed municipalities and reviewed scientific studies relevant to the subject of this study.

## 3 Characteristics of districts and their demographic resources

### 3.1 Głubczyce district

Głubczyce district is located in the southern part of Poland on the Silesian Lowland and on the Głubczyce Plateau. Is located in the southern part of the Opole province and covers the area of 673 square kilometers.

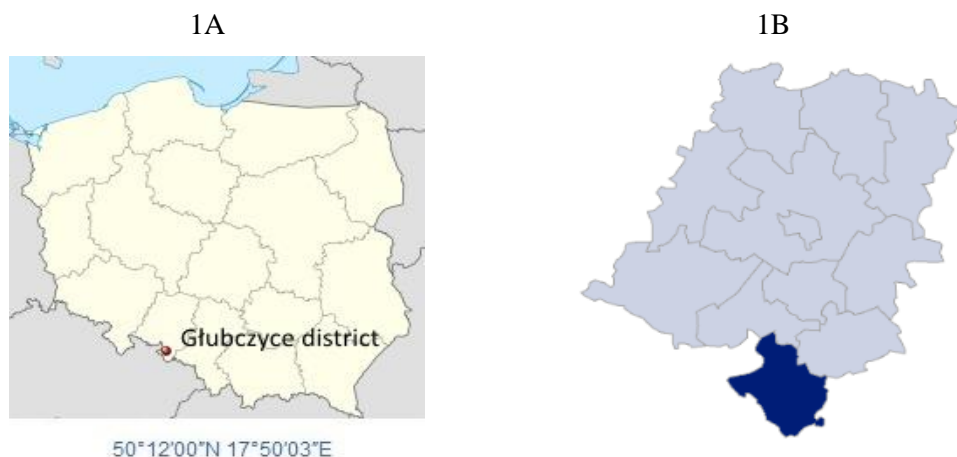
**Figure 1A – Location of the Głubczyce district on the map of Poland.**

**Figure 1B – Location of the Głubczyce district on the map of Opole province.**

**Source 1A** – [https://pl.wikipedia.org/wiki/Powiat\\_g%C5%82ubczycki](https://pl.wikipedia.org/wiki/Powiat_g%C5%82ubczycki) (access date: 14.08.2019)

**Source 2B-**

[https://opole.stat.gov.pl/vademecum/vademecum\\_opolskie/portrety\\_powiatow/powiat\\_glubczycki.pdf](https://opole.stat.gov.pl/vademecum/vademecum_opolskie/portrety_powiatow/powiat_glubczycki.pdf) (access date: 14.08.2019)

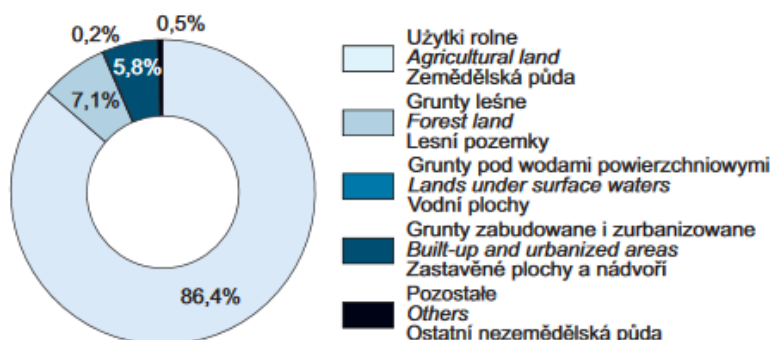


In 2015, 86.4% of the area represented agricultural land, 7.1% forest land and 5.8% built-up and urbanized land. The district includes three cities, three rural-urban municipalities and one rural municipality.

### Figure 2 – Types of land in Głubczyce district in 2015

Source: Statistical Office in Opole, 2016, Sytuacja społeczno-gospodarcza na pograniczu polsko-czeskim w województwie opolskim, morawsko-śląskim i ołomunieckim [Social and Economic Situation in the Polish and Czech Borderland in Opole Province, the Moravskoslezský and the Olomouckým];

[http://opole.stat.gov.pl/files/gfx/opole/pl/defaultaktualnosci/758/28/1/1/pogranicze\\_2016.pdf](http://opole.stat.gov.pl/files/gfx/opole/pl/defaultaktualnosci/758/28/1/1/pogranicze_2016.pdf), p.64 (access date: 1.07.2018)



According to the data provided by the Central Statistical Office of December 31, 2017, the Głubczyce district was inhabited by 46 209 inhabitants. In the years 2002-2017, the number of inhabitants decreased by 10.6%. The average age of residents (42.9 years) has been comparable to the average age of inhabitants of the Opole province and has been slightly higher than the average age of the entire population of Poland. The negative natural increase and the result of internal migration were recorded. Among the district population, 62.0% of residents were of working age, 15.8% were in the pre-working age, and 22.2% of residents were in post-working age. Among persons professionally active, 33.8% worked in the agricultural sector, 23.6% in industry and construction, 8.1% in the service sector and 1.8% in the financial sector. In 2015, 58 persons per 1,000 inhabitants conducted business activity (GUS, 2016, p. 62). Based on the data of the Central Statistical Office, in July 2017, the magazine entitled Community published by local authorities considered the Głubczyce district as the most affluent district in the Opole province (Głubczyce 1, 2017).

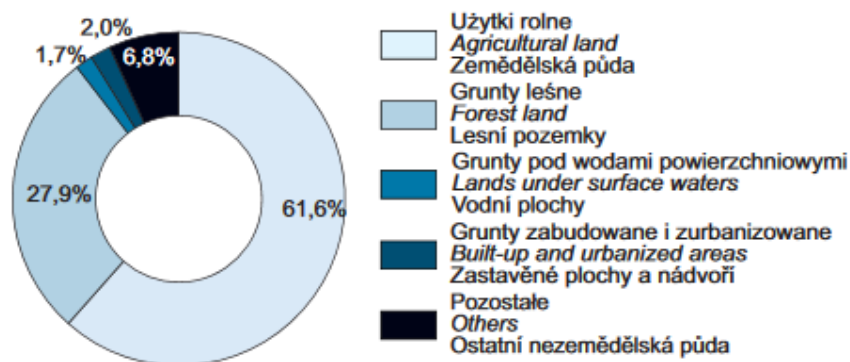
### 3.2 Opava district

The Opava district is located in the northern part of the Moravian and Silesian region. It borders to the north with the Republic of Poland. The total area of the district is 111,292 ha (the third largest district in the Moravian and Silesian region) with the population of 177, 000 people. The district consists of 77 municipalities, which include 149 towns. Seven towns have the status of a city. The largest city is the capital of the district, with the population of 57,700 inhabitants. (UIR) District is located both in mountainous and lowland terrain, namely Jeseník Upland in the south-western part of the district with an average height of 400 to 500 meters above sea level and lowland Upper Silesia in the north-eastern part of the region with an average elevation of 300 meters and the lowest point of 198 meters above sea level. Most area in the district is agricultural. 80% of this land is arable. A large part of the municipal area is also occupied by forest land. As of December 31, 2018, they represented a total of 31,000 ha, that is, 28% of the total area. Mainly small companies operate agricultural production (CSZO, 2)

**Figure 3 – Types of land in Opava district in 2015.**

Source: Statistical Office in Opole, 2016, Sytuacja społeczno-gospodarcza na pograniczu polsko-czeskim w województwie opolskim, morawsko-śląskim i ołomunieckim [Social and Economic Situation in the Polish and Czech Borderland in Opole Province, the Moravskoslezský and the Olomouckým];

[http://opole.stat.gov.pl/files/gfx/opole/pl/defaultaktualnosci/758/28/1/1/pogranicze\\_2016.pdf](http://opole.stat.gov.pl/files/gfx/opole/pl/defaultaktualnosci/758/28/1/1/pogranicze_2016.pdf), s.64 (access date: 1.07.2018).



In 2018, 2000 companies operated in agriculture, forestry and fishing. The district is rich in mineral resources: lignite, peat, gypsum, refractory sands, roofing slates, foundry sands, small sandstone, granite, gravel and mineral springs. Unfortunately, extraction is rather low. Trade has the largest share in the structure of business entities, followed by industry, business services and construction. (CSZO, 2) The largest number of business entities operates in the Opava municipality. Almost 3300 companies constitute over 48% of all companies operating in the district. (Kurzy) The number of unemployed people aged 15-64 in the Opava district is around 3% and is at the average level in the Czech Republic. (CSZO, 2) According to data of The Czech Statistical Office, as of 31 December 2018, 176,254 people lived in the Opava district. In comparison to 2002, the number of inhabitants decreased by 0.6%. The average age of residents is 42.4 years and is similar to the average age of the inhabitants of the Moravian and Silesian region and the inhabitants of the Czech Republic. Among the district population 65.1% of inhabitants were in working-age, 15.7% in the pre-working age, and 19.2% of the population in working age. (CSZO, 1)

#### **4 Investment offer of municipalities on the public websites of the Głubczyce and Opava districts**

##### **4.1 Głubczyce district**

In administrative terms, the Głubczyce district is divided into three urban and four rural municipalities. However, websites have been launched only in 4 municipalities. In three cases websites did not indicate the administrative character of the municipality. In most cases separate sub-pages, which would include investment offers, were not available. Such information was provided only by one municipality, whose main city was the capital of the district. This website provided automatic translation into English, Czech and German. Information about investment areas owned by this municipality was also available (Głubczyce 2, 2019).

Lack of similar sub-pages on the public websites of other municipalities did not prevent the municipality of Kietrz from taking second place in the programme entitled “A Municipality Attractive for Investors” in 2007. The programme was introduced by the Department of Regional and Spatial Policy of the Marshal’s Office of the Opole Province under the honorary patronage of the Polish Information and Foreign Investment Agency and in cooperation with JARPOL ENTERPRISE (Kietrz 1, 2015). The public website of Kietrz municipality is available only in Polish. The “News” sub-page

provides information about tenders for undeveloped investment plots (Kietrz 2, 2019) as well as information about acquiring foreign investors and the progress in building warehouse halls by the Belgian company Beaulieu International Group (Kietrz 3, 2019).

## 4.2 Opava district

The analysis of the 77 official websites owned by municipalities of Opava district revealed that 75 municipalities do not provide any information addressed to potential investors. Such information is provided only by the municipalities (and cities) of Opava and Vitkov. The main city of the district – Opava – offers such information on its website under the tab entitled “Podnikatel”, where two sub-pages have been addressed to potential investors. The first sub-page explains why it is worth investing in this municipality and the second sub-page provides a brief information about investment opportunities, areas for investments (unfortunately, the sub-pages are available in Czech only). The second sub-page encourages potential investors to visit the websites launched by the two institutions responsible for the communication with investors and providing them with information: Invest MORE (Invest) and the Regional Development Agency [The Moravian and Silesian Investment and Development – MSID] (MSID, 1). Both websites have been translated into English.

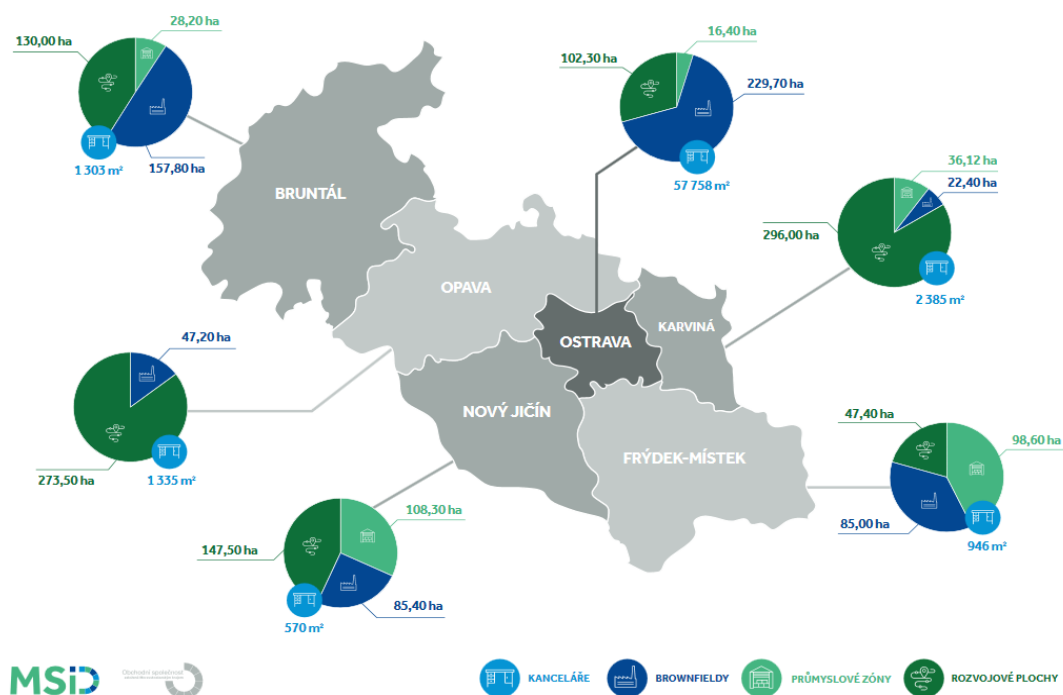
Also Vitkov on its main website has developed a tab entitled “Podnikání” (Business), which has been addressed to potential investors. The tab contains sub-pages with information related to running a business [including the preparation of appropriate forms, entry in the business register, concessions, subsidies, price lists at the commune office] for entrepreneurs. Remarkably, under the sub-page’s first tab entitled “Podnikatelská zóna” investors can find two maps of areas for investments. Unfortunately, the public website of Vitkov is available only in Czech (Vitkov).

As mentioned above, 75 out of 77 municipalities do not provide any information on the rural and urban investment areas on their websites. There is also no information encouraging potential investors to invest in the municipality. Therefore, investors who would be interested in investing in Opava district can either go through spatial development plan or the plan of the municipality’s development strategy. These plans are available on all websites of analyzed municipalities. Investors may also contact the regional development agency also known as the Moravian and Silesian Investment and Development and/or visit the agency’s website. The MSID agency was established to attract potential investors, help them to find areas for investment and provide all information related to the investment.

On the MSID agency’s website under the “Investments” tab visitors can find information on: industrial zones, development sites, urban investments, development projects and office premises. According to the data provided by the Invest MORE (the tab: Zones and Development Areas) in the case of industrial zones, two zones (Bolatice and Vitkov) are located in the Opava district. There are eight locations available for urban investments in six municipalities [three in Březová]. They include: farming facilities, civic amenities and military housing. There are no industrial facilities. More information is available on the agency’s website <http://invest-msr.com/en/>. According to the data provided by this institution, 47.2 ha in the Opava district were allocated for urban investments; for office activity 1,335 square meters, and for developer activity – 273.5 ha. There are no industrial zones (MSID, 2).

**Figure 4 – Investment areas in the Moravian and Silesian region.**

Source: [https://www.msic.cz/upload/files/mapa\\_A4\\_eletronicka%281%29.pdf](https://www.msic.cz/upload/files/mapa_A4_eletronicka%281%29.pdf) (access date: 19.07.2019)



## 5 Results and Discussion

The local authorities of the Glubczyce district have not recognized the need for developing sub-pages specifically intended for investors. Nevertheless, lack of such sub-pages did not imply lack of invest opportunities, as other forms of promotion were also widely used. In 1 out of 7 municipalities foreign investor started operating in cooperation with the province's administration.

Analysis of the official municipal websites of the Opava district showed that only 2 out of 77 municipalities provide information addressed to potential investors on their websites. Does this mean municipalities do not care for potential investors? Why? It is impossible to answer this question based solely on the information provided on official websites of municipalities. More data could be collected based on the analysis of statistical data provided by the Czech statistical office, the Moravian-Silesian Investment and Development Agency and several other sources. The lack of promotional activities undertaken to stimulate investment may be caused by several reasons. Most of the municipalities are small with small number of inhabitants. According to statistical data in 2017, from 115 to 1000 inhabitants lived in almost half of the municipalities (35); from 1,000 to 2,000 inhabitants lived in 26 municipalities. Two municipalities were inhabited by over 10,000 residents. The most populated municipalities were Opava with over 57,000 inhabitants and Hlučín (almost 14,000 inhabitants). 5,753 people lived in the Vitkov (CSZO, 3).

Undoubtedly, under such demographic circumstances, municipalities can barely satisfy their demand for workforce. Therefore, the MSID agency may be more sufficient in acquiring potential investors. It should also be noted that the majority of Opava district is covered with agricultural and forest areas, hence there is no land for investments, in particular rural investments. According to the analysed data

[see Figure 4], municipalities of Opava district did not establish industrial zones. The location of nearby Ostrava is also significant. In comparison to Opava district, Ostrava shows enormous demographic and intellectual potential, adequate infrastructure and areas for urban and rural type investments.

The authors, who analyse municipal websites assume that the websites are also a source of information for investors (Chatzopoulos, Economide, p. 215). However, the authors focus on the websites' function, rather than on the content, which would serve as a source of information for potential investors. Therefore, it is expected the websites will be personalised. The authors also point to the need to educate municipal leaders on using websites as a communication tool between government authorities and citizens. It is suggested to extend the functions of these websites (Chatzopoulos, Economide, 2009, pp.209-212). No analysis was found to determine the reasons for the poor use of official websites as a source of information on investing in local space.

## 6 Conclusion

The research shows that in areas with a lower population, where depopulation occurs, as well as in rural communes and near large cities in both districts, official websites of municipalities are not used to attract investors. The official local authorities of the local government administration did not consider the official websites as a means of providing information to potential investors. These tasks are taken over by the pages of larger administrative units. This solution was adopted on the official website of the Opava poviat.. In the Głubczyce poviat there are no such references. The lack of necessary data made it impossible to analyze the degree of use of the language of the neighboring country when looking for foreign investors. It remains to be examined whether this lack of information about investments on the official websites of communes is the result of the lack of positive results of other communes from placing this information there, or the result of the skill level of people caring for websites.

The solution adopted by the Czechs from Opava seems to be an experiment. It allows you to check to what extent the e-service proposed by official administration websites will gain popularity among the inhabitants of the region. In the case of Poland, similar activities were not observed in the analyzed area.

A comparative analysis of research conducted in other regions based on their publication was not possible because the researchers were interested in various aspects of the functioning of websites. It seems necessary to develop a common framework (model) for examining the functioning of public websites. This would allow to compare the results generated worldwide. Otherwise, the results will remain local and incomparable.

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# Selected Practical Aspects of the Fiscal Decentralization in the Slovak Republic

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## Abstract

*In the context of the fiscal decentralization process, there have been in recent years significant changes in the Slovak Republic years concerning the budgetary determination of taxes and related tax jurisdiction. On the one hand, these changes can be attributed to the overall economic development and crisis effects, on the other hand, local governments resist such changes, calling for the application of the principles of fiscal decentralization. The aim of the paper is to provide a brief overview of the most important changes, that have been made in the process of fiscal decentralization in Slovakia and accordingly to assess the extent to which these changes have affected the relationship between government revenue and the amount of expenditure, that these government levels incur to accomplish defined tasks. The analysis is based on the database of available data for 2012 - 2017. In terms of assessing the spending, the contribution was based on the volume and structure of expenditures at individual government levels according to the COFOG classification. The analysis of the revenue side was based on the calculation of tax and financial strength at the level of municipalities, higher territorial units and the state. The results of the investigation confirmed, that the financial system of local governments, as set up at present, is the result of both economic impacts and political consensus. Despite the changes made to the budgetary allocation of taxes, the proportion (in percentage) of expenditure by government levels and their revenue was respected, with the most significant self-government tax revenue being a personal income tax, which in addition to the redistribution criteria it takes into account the most financially demanding sectors where local government expenditure is directed, and also contributes to the financial settlement of regional or local disparities.*

**Keywords:** Fiscal decentralization, levels of government, public expenditures, local taxes, shared taxes

**JEL Classification:** E62, H71, H72, H77s

## 1 Introduction

The Latin origin of the term "administration" is derived from the word "ministrare", which means serving, managing. The terms public administration, state government or local self-government are then terms that denote either the system of authorities entrusted with the administration of the particular territory or the activity connected with the management of public affairs in the defined territory. Regardless of whether it is a federation, a state, a region, a municipality, a town, a village, or another territorial unit, the local authority is expected to have clearly defined competencies as well as the resources through which it can accomplish assigned tasks.

From theoretical point of view, mentioned relations are examined in the framework of the theory of fiscal federalism, which is one of the key theories in the public finance. The modified form is the theory of fiscal decentralization, the principles of which are adapted to the needs of unitary states, thus ensuring that the application of theoretical approaches to practice can take into account each country's specificities in fiscal policy creation. From practical point of view, the application of the postulates of the theory of fiscal federalism or the theory of fiscal decentralization in a given state depends mainly on the form of the state arrangement (federation or unitary), but also on many other assumptions, such as a country size, a number of government levels, historical, legislative, social or economic background.

In connection with the main aim of this paper, we will focus on selected practical aspects of fiscal decentralization in the Slovak Republic, while we will try to assess whether the extent of spending by individual government levels in Slovakia to carry out public tasks corresponds to the resources that flow into their budgets.

The concept of the fiscal decentralization reflects a change in relations and competences between the state budget and the local government budgets with the aim of strengthening the financial independence and responsibility of the local government in providing services to citizens. Therefore, it seems meaningful to replace transfers - subsidies from the state budget to the budgets of lower governmental levels for the performance of their original competencies by tax revenues, which will be decided by self-governing territorial units separately.

In the strategy of the decentralization of public administration accepted in Slovakia in 1999, the objective to organize the state administration was accepted as follows: *"We will express the vertical division of power in the Slovak Republic as a unitary decentralized state with a specifically defined structure based on the principle of subsidiarity, heterogeneity of interests in society and free mutual polarization with the creation of separate bodies that can perform their assigned tasks independently, subject only to proper supervision. At the same time, they will have adequate normative instruments and adequate instruments of fiscal decentralization."* The principles of the reform have been defined: a separate model, creating conditions for civil society participation, meeting the principle of subsidiarity, effective governance, transparency, flexibility, denationalization [4].

### **1.1 Significant milestones of the decentralization in Slovakia**

The decentralization process in Slovakia can be divided into several stages. The first stage (1990-1991) began practically immediately after the political-social changes determined in November 1989, the moment when the National Committees were abolished, namely by the Constitutional Act of the Federal Assembly No. 294/1990. In September 1990, the Slovak National Council adopted Act no. 369/1990 on a municipal establishment that can be considered as the one of the most democratic laws of that period. This law restored the local government at the municipal level. In accordance with Act no. 472/1990 the tasks of state administration started to perform 38 district offices, 121 offices of general state administration and the network of local specialized state administration offices (environment, labor, forestry, land, school, education, cadastral, veterinary offices, etc.) [3].

During *the second stage of public administration reform (1995-1996)*, the National Council of the Slovak Republic accepted Act no. 221/1996 on Territorial and Administrative Arrangement of the SR and Act no. 222/1996 Coll. on the organization of local state administration, thus creating 8 regional offices and 79 district offices. On top, 41 permanent and temporary offices of district offices were set up to ensure the greatest possible availability of services. 23 networks of the local specialized state administration offices (environment, labor, forestry, land, education, cadastral, veterinary offices) have been preserved.

The direction of *the third stage of public administration reform (1998-2005)* was defined by the government's program declaration and resolution no. 788, in which it committed itself to consolidating the democratic rule of law, modernizing its functioning also through further decentralization of governmental powers to territorial self-government and decentralization of public finances, as well as the ratification of the European Charter of Local Self-Government [1]. We consider this step - the ratification of the European Charter of Local Self-Government to be particularly important, as it contains recommendations on certain basic rules for the setting up of the (local) financial system. For example, Article 9 states that local authorities have the right, within the framework of the State's economic policy, to their own financial resources in adequate height, which they can freely dispose within their jurisdiction. It further stipulates that the financial resources of local authorities are proportionate to the competences imposed on them by the constitution or the law, and at least part of the financial resources of local authorities are derived from local taxes and fees,

the amount of which these local authorities have the right to determine within the limits of the law. [6]. The recommendation that *"the transfer of powers to local and regional authorities must necessarily go hand in hand with the allocation of funds to enable local authorities to fully assume the tasks entrusted to them, as in the absence of resources these competences cannot be properly and effectively applied in the long term,"* [7] includes also the Statement of the Committee of the Regions on the state of the decentralization process in the European Union and the importance of the local and regional authorities. This stage of the reform also includes the creation of a regional level of territorial self-government - higher territorial units, which were created on the basis of Act no. 302/2001, on self-government of higher territorial units. At the turn of 2003/2004, the "Concept of the Organization of the Local State Administration of the Slovak Republic", in which district offices of the state administration were established instead of general state administration offices and the network of local specialized state administration offices, were approved (50). The state administration's regional offices (8) have been maintained as second-tier administrative authorities. State administration district offices were established as local government authorities, but without legal personality.

Another organizational change, with effect from 1 October 2007, the regional state administration offices were abolished (Act No. 254/2007). Their scope went to district offices in the county seat. This significant change can be seen as a springboard for *the fourth stage of public administration reform*. This stage can be linked to the reform ESO (known as Effective, Reliable, Open State Administration), which has been considered as the largest reform of state administration since 1989. It was approved by the government in April 2012. Its aim is to simplify the handling of state-run issues. State administration should be simple, transparent and accessible from the citizen's and business's perspective, it should operate in a sustainable, transparent and efficient way. It is legally anchored in Act no. 180/2013. on the organization of local government and on amendments to certain regulations. Its duration is foreseen by 2020.

The definition of the basic stages of public administration reform is also important in terms of identifying the key elements of the financial system of self-governments, on which we will focus our attention in the following section.

## **1.2 The creation of the financial system of self-government in Slovakia – the key elements**

As already indicated in the previous section of this paper, the Slovak Republic is a unitary state (with a dual / separate model of public administration applied), in which two levels of local government have been created in several stages of public administration reform, namely municipalities at the lowest/local level (1990) and higher territorial units (2002) as a regional level of self-government. Let us now look at some of the important steps that have accompanied their financial system.

### **1.2.1 Local taxes**

The real estate tax plays a crucial role in the local tax system in Slovakia. With the introduction of this tax in the Slovak Republic (1. January 1993), which replaced the house tax, agricultural land tax, as well as the localization fee, the objective was to stimulate natural and legal persons to optimize the use of real estate. Land tax and construction tax have been operating in the tax system since its introduction, apartment/flat tax was introduced only on 1 January 1998. However, in our conditions this type of property tax is determined in a completely different way to developed market economies. The tax base is differentiated not only by whether it is land, construction or apartment, but in case of the land there is also more detailed breakdown of the tax base depending on the type of land. The crucial factors for calculating the tax liability are the area of land, the general value of the land, the built-up area of the building (at the level of the largest above-ground floor), the number of floors, the floor area of the apartment, the location rent of the property, and so on. In general, real estate taxation takes greater account of the social situation of the population and the ability to pay such taxes as the experience of developed market economies, where the market price is the basis for this type of taxation - the price, which is determined on the basis of capital or annual value. All the essentials of

real estate taxation are defined in Act no. 582/2004 on Local Taxes and Local Fee for Municipal Waste and Small Construction Waste, as amended. As a result of the various practical experiences of the municipalities, this law has been amended several times, but in terms of fiscal decentralization it is considered as one of the key laws governing the financial system of self-governments.

If we wanted to capture the most significant changes in real estate tax since its introduction into the Slovak tax system, we could define them as follows::

- in case of land tax, the system of determining the value of land has been developed through the determination of the quality of soil-ecological units and through the so-called coefficient of the location rent, which took into account where the land is located (eg district town, county town, Bratislava ...), to the system of establishment of so-called general value of the land, which is determined by the law according to the type of land;
- in case of the construction tax, the subject of the tax was specified more precisely, e.g. the taxation of underground floors;
- compared to the 2004 taxation system, when self-government was practically limited by the location rent coefficient and the maximum rate set out in the law, local governments have been given the opportunity to apply tax powers more broadly to fiscal decentralization.

Except of the real estate tax, in the Slovak Republic we also include within local taxes the tax on dogs, the tax on the use of public space, the tax on accommodation, the tax on vending machines, the tax on non-winning gaming machines, the tax on entry and the retention of motor vehicles in the historical part of the city, tax for nuclear facility. In summary, we refer to them as other local taxes. The specificity of these local taxes is that they have been transformed from previously existing local fees into fiscal decentralization, some of which have been merged or completely abolished. The only local fee that has been retained in the form of the user fee is the local fee for municipal waste and minor construction waste. These taxes are the income of municipal budgets.

Till 2015, the Local Tax Act also included a tax on motor vehicles. Its income went to the budgets of higher territorial units. However, there was a change in one of the steps of fiscal decentralization and the revenue of this tax now flows into the state budget. The aforementioned change in the budget allocation of the tax was accompanied by compensation for the loss of this revenue from the higher territorial units budgets through the income tax of natural persons (as a shared tax).

### **1.2.2 The shares in centrally collected taxes**

Shares in centrally levied taxes, or so-called shared taxes can play an important role in the financial system of municipalities not only as a profitable source of income for a territorial self-governing unit, but also as a tool for financial equalization of regional or local disparities. Therefore, it is important to observe not only the volume of this resource itself, but also the mechanism of its redistribution among target entities, including the criteria that are taken into account in this redistribution process.

In the Slovak Republic, currently (2019), such a tax is the personal income tax (other than withholding tax) included in the group of own tax revenues of territorial self-government. In terms of economic substance, however, the mechanism of redistribution of its revenue is more or less a transfer (the tax revenue is concentrated centrally and is redistributed to the budgets of municipalities and higher territorial units on the basis of set criteria).

In the period 1993-2004, three taxes (the personal income tax, corporate tax, road tax) fulfilled the function of "shared taxes". In 1993, the only shared tax was the personal income tax of dependent persons and emoluments, from which 70 percent of revenue passed to the budgets of the municipalities. Between 1994-2004 there were three shared taxes – corporate tax, personal income tax, the road tax. The criteria for redistributing the income of these taxes were mainly the number of inhabitants of the self-governing unit (for all three taxes) and the taxpayer's residence (for corporate income tax). The most stable source was the road tax, the amount of which did not show any major

fluctuations in favor of local governments. Since 2001, a different approach has been taken to redistribute this resource between Bratislava and Košice on the one hand and other cities on the other hand. The personal income tax revenue, as well as corporate income tax revenue was redistributed between the municipal budgets and the state budget, the road tax revenue was redistributed between municipal budgets and the State Road Fund, after the abolition of most state purpose funds between municipal budgets and the state budget.

Following the reform of public administration and the related process of fiscal decentralization, significant changes were made to the system on 1 January 2005. The key element of the reform was the determination of a single share tax, namely personal income tax (except withholding tax). Higher territorial units were also involved in the system of redistribution through central tax shares. Until 31. December 2012, tax revenue was redistributed as follows: 70.3 percent revenue for municipalities, 23.5 percent of tax revenue was raised to higher territorial tax, and the state maintained a share of 6.2 percent. Legislatively, this division was anchored in Act no. 564/2004 on Budgetary Determination of Income Tax Revenue of Territorial Self-Government and on Amendment and Supplementation of Certain Acts and in Government Order no. 668/2004 on the distribution of income tax to territorial self-government. Following corrections by Government Decree no. 531/2010 and Government Regulation no. 415/2012 amending Government Order no. 668/2004 on the distribution of income tax on territorial self-government, brought a change in the form of a modification of the shareholding for individual government levels. In 2013, the state retained a share of 12.7 percent of the revenue, revenue for municipalities was shifted to 65.4 percent and for higher territorial units to 21.9 percent. In 2014, municipal tax revenue was set at 67 percent, for higher territorial units 21.9 percent and the state retained a share of 11.1 percent.

As a result of the crisis impacts, but also in relation to the changes in the tax budget allocation (since 2015, the motor vehicle tax revenue was redirected to the state budget – previously it was the income of the higher territorial units budgets). In order to compensate the loss of motor vehicle tax revenue in their budgets, in 2015 they were redirected to 29.2 percent of income tax revenue for higher territorial units and 68.5 percent revenue to municipalities. In the state budget, 2.3 percent of the stated tax revenue remained. Since 2016, the state has no longer participated in the tax revenue. The revenue is redistributed at 70 percent for municipalities to 30 percent for higher territorial units.

Equally important was the continuity of the setting redistribution criteria of this tax to the competences of the municipalities. The "population" criterion, which was applied until 2004, was modified by the altitude and size category of the municipality, and the criteria associated with the number of pupils in schools and school facilities as well as with the population over 62 years old (related to relevant competences of municipalities). For higher territorial units, in addition to the number of inhabitants was also added criteria of the area of self-governing region, length of roads II. and III. class, reverse density, 15- to 18-year-olds and population over 62 years. It can be stated that, as in the case of municipalities, as well as in the case of self-governing regions, the criteria correspond to competences of the regional level of self-government.

Four redistribution criteria apply to municipalities, with the main emphasis being placed on the population of the municipality, which represents the general needs of the population: "23% according to the population of the municipality with permanent residence in the municipality as of 1. January of the previous calendar year, of which 57% calculated by the altitude coefficient of the center of the village; 32% according to the number of inhabitants of the municipality with permanent residence in the municipality on 1 January of the previous calendar year, converted by the coefficient depending on the classification of the municipality into the size category; 40% according to the number of primary school pupils and school establishments in the founding competence of the municipality as at 15 September of the previous calendar year converted by the coefficient of basic art school and school facility; 5% according to the number of inhabitants of the municipality who have reached the age of 62, with permanent residence in the municipality on 1 January of the previous calendar year. "

For the self-governing regions, six criteria have been set on the basis of which the revenue from this tax is to be redistributed. These criteria were mainly derived from the three core competencies of the region, which are competencies in secondary education, social care and road transport. The criteria for distributing the revenue from this tax are as follows: 15% by the number of residents of the higher territorial unit resident in its territory on 1 January of the previous year; 9% according to the reversed population density of the higher territorial unit resident in its territory on 1 January of the previous year; 9% by area of higher territorial unit; 15% according to the population of the higher territorial unit aged 15-18 years residing on its territory on 1 January of the previous year; 32% according to the number of residents of the higher territorial unit who have reached the age of 62, resident in its territory on 1 January of the previous year; 20% by road length II. Class and III. of a higher territorial unit on 1 January of the previous year. [5].

## 2 Analysis sources and basic starting points

In accordance with the main intention of the paper, we focused on two areas in the next analysis, namely the assessment of the share of individual government levels in the total public expenditures according to the functional classification (we used the COFOG classification) and to assess the appropriateness of setting the tax determination in the Slovak Republic, and this is based on the calculation of indicators on tax strength and financial strength at individual government levels.

### 2.1 Public expenditure

The tasks, that meet individual government levels can be identified by their spending areas. In order to compare expenditures at individual government levels, we chose the COFOG classification, using data for 2016, as for this year the data from the final accounts for all three government levels in Slovakia were known as of the date of the contribution (state budget, higher territorial units budgets, and municipalities budgets). We also considered this year appropriate, because it was the year in which a significant change in taxation was made.

Looking at the COFOG spending structure, we can see that at national level, most spending is directed to social security, general public services and the economic sector. Education, which is related to higher education funding, can also be considered as an important item. Expenditure of higher territorial units mainly takes into account the significant competences in the area of education - secondary schools, in the economic field (eg financing of construction and maintenance of II and III class roads), also social security expenditures and general public services are not negligible. At the municipal level, it is possible to identify the highest expenditures in the area of education - pre-school facilities and primary schools, as well as expenses related to the running of self-governments - ie expenditures on general public services.

**Table 1 – Government levels in the Slovakia for 2016 according to COFOG (in ths. Eur)**

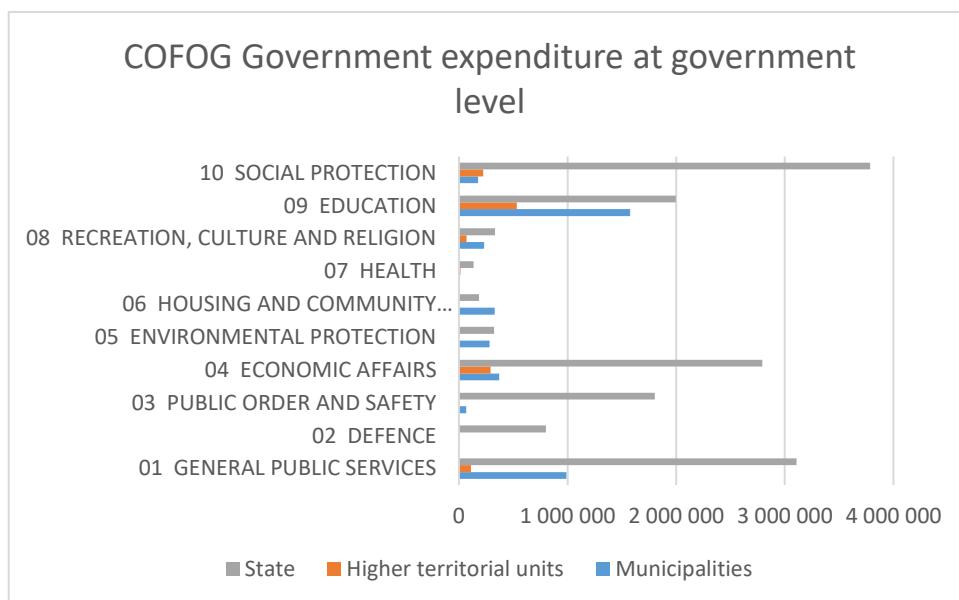
Expenditure type	Municipalities	Higher territorial units	State	IN TOTAL
01 GENERAL PUBLIC SERVICES	989 655	112 068	3 107 625	4 209 348
02 DEFENCE	765	2	800 328	801 095
03 PUBLIC ORDER AND SAFETY	67 750	0	1 801 278	1 869 028
04 ECONOMIC AFFAIRS	369 442	291 980	2 791 755	3 453 177
05 ENVIRONMENTAL PROTECTION	283 690	0	322 539	606 229
06 HOUSING AND COMMUNITY AMENITIES	328 603	0	185 915	514 518
07 HEALTH	5 711	13 498	134 126	153 335
08 RECREATION, CULTURE AND RELIGION	231 023	71 351	332 316	634 690
09 EDUCATION	1 576 244	531 714	1 995 696	4 103 654
10 SOCIAL PROTECTION	175 809	222 140	3 784 594	4 182 543

IN TOTAL	4 028 692	1 242 753	15 256 172	20 527 617
IN TOTAL in %	20	6	74	100

Source: Ministry of Finance of the Slovak Republic

**Figure 1 –Government level expenditures by COFOG in ths. Eur for 2016.**

Source: Ministry of Finance of the Slovak Republic



This review of the structure of spending at individual government levels is a good starting point for assessing the change in fiscal determination made in 2015-2016.

## 2.2 Public revenues

In the next section we will discuss the public revenue. We will compare the percentage of government revenues with their expenditures using again the data for 2016. With an effort to point to the change in tax budgeting and its impact on the level of municipal revenue, we have also included data for 2012 in the table.

As can be seen by comparing the data in Tables 1 and 2, the deviations between the percentage of government levels in public expenditure and public revenue are relatively small, i. j. the state budget accounts for 71% of total public revenue, 7% for higher territorial units and 22% for municipalities (74: 6: 20 shares in public expenditure). Although this percentage is the same in 2012 and 2016 we note, that for higher territorial units a change in the structure of tax revenue is apparent in relation to the fiscal decentralization change in the budgetary allocation. In other words, the tax revenues of the higher territorial units consisted of the motor vehicle tax (25.1%) and the personal income tax (74.9%) in 2016, in 2016 only the personal income tax, which was 100% volume of total tax revenues of higher territorial units. The compensation for the loss of motor vehicle tax revenue from the budgets of the HTU (the revenue was redirected to the state budget) was made by a gradual change of the percentage share of self-governing regions in the personal income tax. While in 2012 the percentage of state, higher territorial units and municipalities in the income tax revenue was 6.2: 23.5: 70.3 percent, at present (since 2016) it is 0: 30: 70.

**Table 2 – Government revenue in Slovakia in 2012 and 2016 (in EUR)**

Revenue		Municipalities	Higher territorial units	State	In total
Personal income tax revenue	2012	1 196 863 800	401 102 200	231 776 000	1 829 742 000
	2016	1 668 980 011	716 364 012	-11 479 000	2 373 865 023
Tax revenue	2012	1 674 253 600	535 726 900	8 462 284 000	10 672 264 500
	2016	2 191 840 047	716 364 012	11 068 156 000	13 976 360 059
Non-tax revenue	2012	347 059 900	72 972 100	8 462 284 000	8 882 316 000
	2016	511 129 767	97 170 860	1 222 973 000	1 831 273 627
Revenue in total	2012	3 697 754 400	1 185 250 500	11 830 036 000	16 713 040 900
	2016	4 388 947 601	1 286 336 724	14 275 917 000	19 951 201 325
In total %	2012	22	7	71	100
	2016	22	7	71	100

Source: Ministry of Finance of the Slovak Republic

However, such a simple comparison has itself a limited testifying ability. For more in-depth analysis is required to assess the direction of fiscal decentralization, especially in relation to the evolution of tax revenues. For this purpose, we used the calculation of two indicators, namely tax strength and financial strength.

We have tried to support the above findings by calculating two indicators, namely tax and financial strength.

The tax strength as an indicator serves to measure the tax profitability of a territorial unit. In calculations it takes into account the tax revenues of the relevant territorial unit and puts them in proportion to the number of inhabitants of this territorial unit. The indicator itself expresses the sum of total tax revenue per administrative unit. The formula for calculating tax strength is given as:

$$\text{Tax strength} = \text{tax revenues of territorial unit} / \text{number of inhabitants} \quad (1)$$

The second indicator is the financial strength indicator. This reflects the amount of own territorial unit revenue per capita.

$$\text{Financial strength} = \text{own territorial unit revenue} / \text{number of inhabitants} \quad \text{vlastné príjmy územného celku} \quad (2)$$

Financial strength is a broader term than the tax strength, as we include both tax and own non-tax revenue in the calculation (e.g. income from own business, income from own administrative activity (e.g. fees or fines). [2].

### 3 Results and Discussion

The following table shows calculated indicators of tax strength and financial strength for individual government levels in the Slovakia for the years 2012 - 2017.

Looking at the results of the calculations of the tax strength and financial strength indicators, it can be stated that during the period under review both indicators had a substantially increasing tendency with the exception of the indicator financial strength at the level of the state budget. However, it is important to assess the evolution of the proportionality of these indicators across all three levels of government.



**Table 3 – Indicators Tax Strenght and Financial Strength for Government Levels in the Slovakia (Eur) for 2012 - 2017**

<i>State budget - Slovakia</i>	2012	2013	2014	2015	2016	2017
Tax strenght	1 565,84	1 688,17	1 715,87	1 957,58	2 039,74	2 051,81
Financial strenght	1 694,74	1 921,50	2 017,86	2 193,45	2 265,12	2 235,94
<i>Higher territorial units</i>	2012	2013	2014	2015	2016	2017
Tax strenght	99,13	101,84	106,69	118,09	132,02	141,89
Financial strenght	112,63	126,50	130,37	142,47	149,93	160,25
<i>Municipalities</i>	2012	2013	2014	2015	2016	2017
Tax strenght	309,80	318,16	331,92	364,09	403,93	430,88
Financial strenght	374,02	418,51	432,07	468,72	498,13	525,03
Nr. inhabitants	5 404 322	5 410 836	5 415 949	5 421 349	5 426 252	5 435 343

Source: Ministry of Finance of the Slovak Republic, author's calculation

These calculations can also be clarified by indicating the average of these indicators for the reference years (2012 - 2017) and a closer look at their percentage at individual government levels. As can be seen, the lowest average value of both indicators was recorded at the level of higher territorial units, where the difference between the tax strenght and the financial strength is very small, which suggests that the higher territorial units have a minimum volume of tax revenues and the nature of their resources depends on the setting of tax revenues. Since it is only a share of personal income tax since 2016, it is worth considering whether such a model of financing higher territorial units is sustainable in the long term and whether it reflects the philosophy of functioning of the regional level of self-government.

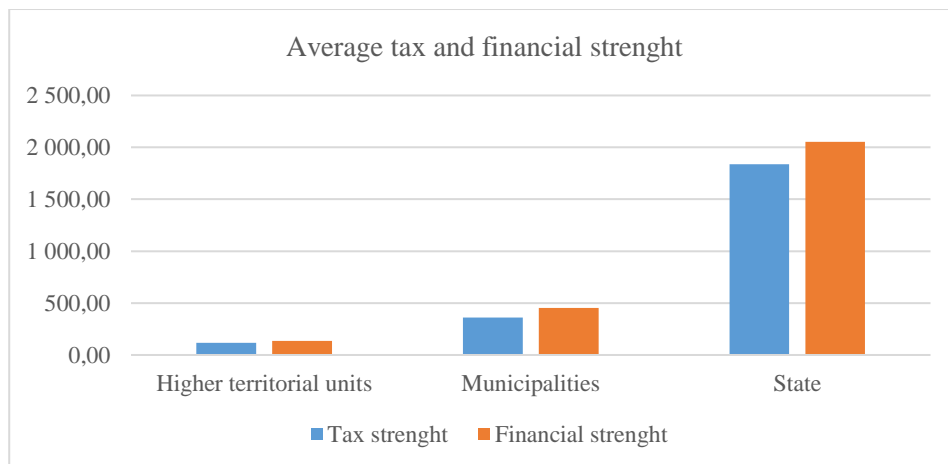
**Table 4 – Indicators Tax Strenght and Financial Strength for Government Levels in Slovakia (in Euros) - Average Values**

Average Value 2012 - 2017	<i>Higher territorial units</i>	<i>Municipalities</i>	<i>State Budget</i>	<i>In total</i>
Tax strenght	116,61	359,80	1 836,50	-
In %	5	16	79	100
Financial strenght	137,02	452,75	2 054,77	-
In %	5	17	78	100

Source: Ministry of Finance of the Slovak Republic, author's calculation

**Figure 4 – Indicators Tax Strenght and Financial Strength for Government Levels in Slovakia (in Euros) - Average Values**

Source: Ministry of Finance of the Slovak Republic, author's calculation



On the other hand, in case of the higher territorial units, it is possible to identify the fact, that both indicators - tax and financial strength - in percentage terms, show minimal deviations from the share of self-governing regions in total public revenues and expenditures. Significant differences were observed in municipalities and at the state level. This can be attributed to the longer existence of self-governments at the lowest level and thus to the existence of wider transfer relations between the central government level and local self-government. However, a more detailed analysis of these links goes beyond the scope of this paper and will be addressed in further research.

#### **4 Conclusion**

The main aim of the paper was to point out the key elements of decentralization of public administration in the conditions of the Slovak Republic with a special emphasis on setting up the tax system of local governments. Since 2005, when there have been significant changes in the financial system of local governments - the transformation of local fees into local taxes, the re-establishment of the financial system of the HTUs, that were established in 2002, several changes have been made. Based on the main idea of fiscal decentralization, where the resources of local governments should be strengthened in relation to the tasks they perform, we pointed out in this paper some of the interrelationships between spending and incomes of individual levels of government. We reached the following conclusions:

- one of the major changes in the fiscal decentralization process in recent years was the change in the budget allocation of taxes - the tax revenue from motor vehicles was transferred to the state budget; this change was accompanied by a gradual change in the percentage of municipalities in the personal income tax;
- the process of fiscal decentralization in Slovakia thus placed the most important tax income of self-governments on the personal income tax, which takes into account the most financially demanding sectors to which COFOG expenditures are directed within the redistribution criteria; at the same time, this tax (in relation to redistribution criteria, which take into account the competences of local governments) can also be considered as an instrument of financial balancing of regional and local disparities;
- despite the changes in the proportion between total revenues and total expenditures at individual government levels, they are broadly respected in percentage terms;
- slight deviations can be observed in the indicators of the tax strength and financial strength, where in percentage terms in tax strength show a 5% share for higher territorial units, 16% share for municipalities, but the tax strength of the state is up to 79%, in the indicator of financial strength these mutual ratios are only with a slight modification of the HTU - 5%, municipalities 17% and the state 78%.

The results of the analysis confirm, that the systemic changes to the financial system of self-governments, that were made in the fiscal decentralization process in Slovakia were smooth and did not seriously undermine the proportionality between the amount of self-government financial resources and the amount of expenditures that self-governments incur to carry out the tasks. For further research, however, questions arise as to how this system reflects on other societal and economic challenges.

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# Migration in Search of Work and Its Attendant Risks

Monika Nová

## Abstract

*The paper aims to specify risks that migrants may face while seeking a job in the Czech labor market. The text tries primarily to define such risks and to describe in detail the currently common cliental system. As regards the practical aspects, our research has employed qualitative methods. In discussing the research results, the author endeavored to suggest hypotheses applicable to also a quantitative research. Writing the paper, the author has not only drawn on the relevant professional literature but she has also applied her practical hands-on experience of people coming to the Czech labor market from Ukraine and Russia.*

**Keywords:** Migration, labor market, risks

**JEL Classification:** A13, F65, J15, J24

## 1 Introduction

The risks that the job-seeking migrants may encounter and the problems they have to tackle are manifold and frequent, and they can be attributed to an extensive range of strategies pursued both in the labor market and outside of it. These types of risks, run by the citizens of third countries, can be likewise taken by EU citizens. In the open labor markets the process of job seeking is either governed by the normal employment relationships, or it happens against the background of such relationships. The employers are free to apply regular recruitment procedures, enter into employment contracts with their employees and negotiate on the legal aspects of formal labor relations. Unfortunately, the labor laws and formal regulations are sometimes violated and a number of employees are even exposed to dreadful working conditions. In cases when the employers offend against the rules in a particularly blameworthy manner, or when they apply blatantly illegal methods (e.g. place constraint upon their employees), they can be accused of so-called human trafficking, which is a criminal offence. Conditions conducive to ruthless exploitation of workers, however, can be ascribed not just to such abuse but also to breaking the generally applicable legal rules and/or committing other criminal misconduct.

The risks mentioned above are relatively often run by foreigners whose dependence on employers is especially strong because of their inadequate language skills, for instance. Moreover, the residential status of foreigners is frequently associated with their legal employment relationship with an employer (Nová, 2016). People having moved to a foreign country may also develop feelings of uprooting and separation, and their social and economic standing in the new community can be worse than that they enjoyed previously. Such factors make the foreigners vulnerable and easily influenced by others (chiefly the employers). Foreigners are often ignorant of local laws, generally inadequately informed and clueless about where to seek assistance. In addition, they are more willing to accept worse working conditions and tolerate worse treatment by employers. The situation can also be aggravated by their fear of turning to the police or to other institutions since they can be intimidated and kept under constant surveillance by their employers and/or clients.

Such factors met by migrants in their labor relations can present risks of illegal treatment, and the risks may grow more serious in the course of time. The situation is thus exacerbated and can result in labor exploitation and human trafficking.

Risks:

1. Breach of labor legislation, first and foremost of the Labor Code.

2. Insufficient body of information available to employers and foreign employees resulting in unauthorized labor and/or illegal residence in the Czech Republic.
3. Inadequate working conditions.
4. Cliental system.
5. Human trafficking.

### **1.1 Cliental system**

The term "client" has already gained wide currency among Ukrainians who come to the Czech Republic to seek employment. Common in the Ukrainian migrant community, the word is used also by the Czech society as well as Czech governmental and non-governmental institutions, employers, police officers and research workers. In most cases the expression designates a person paid to search for job opportunities in the Czech Republic and offer them to Ukrainians. Such person has typically a ready command of know-how, information and skills needed to obtain for the new job seekers all the required documents and to oversee processes supposed to produce residence and employment permits. Most frequently the clients are people of also Ukrainian origin already well established in the Czech Republic, able to speak the local language and experienced in the activities specified above.

At first glance the term "client" may seem to be illogical and confusing. On principle, the word should be reserved for a person who seeks a gainful occupation abroad, and who, in so doing, uses services of intermediaries misnamed "clients". This logical incoherence is strengthened by one more meaning of the word - meaning associated with organized crime, an occurrence also partially involved in the labor migration of Ukrainians.

The cliental system consists basically of a two-tier imbalanced structure of power and three types of people involved. The pinnacle of the imaginary power pyramid is occupied by organized crime, i.e. the Ukrainian Mafia, while the bottom of the structure comprises immigrants who feed the entire system with their earnings. Both the groups are then interconnected by "clients" acting as intermediaries (Nekorjak, 2006).

The greater part of Ukrainians resort to this system of seeking employment because it is relatively simple and the desired result of landing a job abroad is more or less guaranteed. All issues related to obtaining the needed documents are handled by the client. At present, the cliental system operates in conjunction with a system of labor-lease employment. On initial consideration the entire process appears to be perfectly legitimate: specific firms, properly licensed to hire foreigners, cooperate with Ukrainian clients and assign their own workers to temporary jobs with prospective employers. The foreigners, before leaving their home country, have to pay to the client high fees for obtaining their documents, and they also have to cover the cost of their own transportation to CR. The costs can be pushed up by insurance policies paid either by the labor-lease agency or the employer. In reality, the fees entailed in obtaining the employment permit and the residence permit are much lower than what the clients charge to the foreigners. The margin is pocketed by the clients as their profit. Occasionally, the clients ask the foreigners for more payments, often without any good reason: debts, fines, accommodation surcharges... The clients can also be paid for being moved to another client or for terminating the employment contract.

## **2 Methods**

Encompassing six participants from Ukraine and Russia, the qualitative research employed the technique of in-depth interview and utilized the theoretical groundwork indicated above. The author tried to specify and summarize risks that can be faced by any migrant seeking a job in the Czech Republic. Besides, the author formulated hypotheses potentially useful for the quantitative research.

Risk factors following from the research do not have to be applicable to all individuals and cannot be considered valid for the entire population.

## 2.1 Results & discussion

Considered a major risk entailed by migration can be illegal labor, a phenomenon undesirable for both the country and the migrants themselves. "Illegal labor" should be regarded as a broad term open to interpretation. It can be ascribed to either intentional or mistaken behavior of both the employee and the employer. Migrants can choose to work outside the regular system on their own. In such a case, they can earn more money and visit their home countries more often. Concerning employers, this system allows them to evade paying taxes and insurance policies, and to hire and fire the workers as they see fit. Working outside the regular system can also be a consequence of insufficient information about the proper recruitment procedure. Employers encouraging illegal labor intentionally put also their employees at increased risk of being exposed to other detrimental factors.

Our research and practical experience lead us to believe that illegal labor is difficult to disclose, particularly since the employers are able to modify and improve their tactics every year. Consequently, the problem cannot be expected to disappear or even diminish any time soon, not least because the growing economy resulted in the scarcity of free domestic labor and the employers chose to solve the problem by hiring foreigners.

Steady demand for unqualified and low-paid migrant labor now felt in the Czech Republic translates into the relevant supply coming from the third countries - this accelerates the flywheel of migration (Miovský, 2003). Large groups of migrants, unable to win jobs in their host countries, find themselves in the position of illegal immigrants. As obvious, the existing system of migration has embedded mechanisms which create and further perpetuate the exploitation of labor. Such a situation deteriorates standards applied in labor legislation, not only for the target groups of migrants but also for any other foreigners present in the labor market. It can also erode the same standards applicable to Czech employees.

Another major risk rests in utilizing the client system. Currently, some clients have been legalizing their activities through lease-labor agencies. The agencies move migrants to CR and offer them low-paid jobs performed typically in substandard conditions for which they often fail to pay health & social insurance. Our research results and conclusions coincide with those arrived at by Drbohlav (2008): in both the researches migrants specified as three chief reasons for using the client services (1) the inability to find their ways in the Czech residential & labor legislation; (2) their insufficient command of the Czech language; and (3) the demand for using client services put forward by their Czech employers. The problem is further compounded by nonexistent checks and controls of persons mediating the contact between foreigners and their host country - this fact makes the migrants even more susceptible to abuse from the intermediaries.

Our research indicated that the services of intermediaries are popular with both the workers and their employers. Migrating workers carry out mostly unqualified jobs in shifts of 10 to 12 hours, an option that Czech people do not find attractive, especially for the same wages. The exact number of people engaged in the client system cannot be inferred with any certainty, but the system brings about utter disrespect for the well educated and potentially industrious people who, instead of being employed in the Czech Republic legally, are pushed into the black economy.

Let us mention other risk factors revealed in our research: poor working conditions; failure to pay the wage or paying just a fraction of it; and employers threatening the workers to cancel their residence permits and/or to report them to the Foreigner Police. Many victims of such intimidation are afraid of the police officers who are often on friendly terms with the employers - this fear of police corruption is fueled by what the foreigners might experienced back home. All these factors add up to create graver risks: exploitation of labor and human trafficking. The exploitation follows primarily from the fact that migrants are frequently unaware of the relevant legislation, ignorant of their rights and unable to defend them, particularly because their residential status may not fully comply with regulations. We agree with *Burčíková*, who also finds the situation complicated by the relevant authorities being

more inclined to punish the persons for violating regulations than to help them assert their rights (Burčíková, 2008).

Law-enforcement authorities often reveal only the most conspicuous cases of human trafficking. Other cases of men, women and children having to work in deplorable conditions for an inadequate wage remain unnoticed. Experts believe that people planning to leave their countries in pursuit of work should be thoroughly informed about the attendant risks.

All respondents engaged in the research identified the thorniest problem as the deficiency of information on their own rights and on the ways of how to proceed and where to call for help.

Even if a risk factor emerges, it does not necessarily have to turn the foreigners exposed to it into illegal aliens or victims of human trafficking. From another standpoint, knowledgeability of such factors could assist them in avoiding the major risks entailed by their residing and working in a foreign country. Professionals assisting migrants may use the risk factors to better inform the people about the options available to them in asserting their rights.

### **3 Conclusion**

Our research revealed that the three principal risks of work-related migration consisted in (1) illegal labor, (2) use of the client system and (3) the exploitation of labor together with human trafficking. These three constituent parts can take effect independently or work in synergy. The author wished to stress the fact that migrants who run such risks are vulnerable and can easily become victims of exploitation, social exclusion and discrimination. What is more, they are often unable to defend their fundamental rights despite being fully entitled to enjoy them.

Now, as regards mechanisms supposed to suppress the exploitation of migrant labor, the use of the client system and the illegal labor generally: authorities assigned to govern labor & migration policy must be able to map the economic needs of migrants and find the most effective ways of offering them legal employment instead of illegal jobs. Such authorities should develop an official migrational infrastructure and operate official services that will make the process of migration safe and well in hand. They should provide information, counsel, legal and agency services; offer assistance in seeking employment; allow access to medical treatment; give information on accommodation; and the like... Furthermore, the authorities can also institute a program aimed at gradually legalizing previously illegal work of migrants already present in the labor market. They could also establish special norms of criminal and administrative law effective in fighting the intermediaries and organizers of illegal migration.

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# Real Estate Tax as Part of Municipal Tax Incomes (Case Study)

Viera Papcunová, Božena Nováková

## Abstract

*Incomes from real estate tax represent part of incomes from municipal taxes and fees. These incomes represent an important source of funding for local self-government. Local taxes seek to ensure the fiscal interest of municipalities and through them municipalities can achieve their set aims. The aim of the paper is to evaluate and compare the incomes from real estate tax on the example of Slovak and Czech Republic in the period of 2009-2017. As a base we used the data from the evaluation of the results of budget management of municipalities and higher territorial units in the Slovak Republic, state final account of territorial budgets of the Czech Republic and data from the Slovak and Czech Statistical Office. From the results of the analysis, it turned out that while the share of incomes from real estate tax on the whole municipal tax incomes at the level of Slovak municipalities is on average 16%, at the level of Czech municipalities it is 6%. The share of the incomes from real estate tax on the current incomes of Slovak municipalities is on average 9%, while at the Czech level is on average of 4%.*

**Keywords:** Real estate tax, local self-government, incomes, municipal taxes and fees

**JEL Classification:** H71, R51, K34

## 1 Introduction

In federal countries, such as the United States, state and local governments play an important role. They provide many different types of local public goods and services and are able to tailor the amount and quality of these goods to the preferences of their constituencies. To provide these services, state and local governments can use different tax instruments. Among these tax instruments are the provision of social insurance and progressive income taxation. He notes that in United States in the year 2014, state and local governments collected \$340 billion incomes from tax incomes. It is represented 23% of all tax incomes of state and local governments, being the third largest source of tax income, after sales and property taxes (Dvorkin, 2017). Historical traditions have also influenced and are currently influencing the position of territorial self-government and its structure in individual countries. Since the second half of the 20th century, a process of public administration reform has taken place in most European countries, which has caused changes in local and regional government (Uramová, Kožiak, 2008; Vojtech, Levický, 2016). Good local governance according to Boadway, Shah (2009) is not just about providing a range of local services but also about preserving the life and liberty of residents, creating space for democratic participation and civic dialogue, supporting marketed and environmentally sustainable local development and which enrich the quality of life of inhabitants. This is also confirmed Otrusínová, Kulleová (2019) who note that municipalities and non-profit organizations are important part of general social policy in Czech economy. Thanks to them, important targets in education, in healthcare, and many other socially key areas are realized. However Dušek (2019) adds that the size structure of municipalities in the Czech Republic is characterized by a big number of small municipalities up to 2000 inhabitants. Especially in western and southern Bohemia and in western Moravia there are many small municipalities with 500 inhabitants and less. This dispersed settlement structure brings some problems related to the quality of public administration, its financing and leads to differentiation of socio-economic development of individual municipalities. A similar situation is in Poland when Satoła et al. (2019) say that based on research conducted in 2008-2017, the level of financial independence of the various types of rural municipalities in Poland varies considerably. Nearly 60% of them are at medium low or low levels. Consequently, their financial situation and ability to perform their own tasks depend on the allocation of funds from the state budget. This poses a considerable problem for their ability to remain financially

stable. After World War II, the idea of the so-called the theory of fiscal federalism is starting to expand. It plays an important role in public sector economies, which also covers the issue of local taxes, as it deals with the financial context within the diverse levels of government, and in particular with the need to increase the efficiency of public service delivery and public administration (Buček et al., 2010). In democratic countries, a model of fiscal federalism is used, which is based on the partial decentralization of public expenditures and incomes and includes also tax expenditures. The forms of fiscal decentralization are closely linked to spending competences and to the process of decentralizing public competences and responsibilities. The rate of decentralization of tax incomes to the territorial self-government budget is different in every developed country. In measuring and comparing the fiscal decentralization rate we can use for example following indicators: the share of tax incomes of territorial self-government budgets on total incomes of territorial self-government (%), the share of tax incomes of the territorial self-government budget on total tax incomes of territorial self-government (%), the share of received transfers of territorial self-government on total incomes of territorial self-government (%) (Peková, 2011). The tax system reform in Slovak Republic is part of a comprehensive tax and tax reform in the Slovak Republic. The tax reform should contribute to improving public finances, but its progress has been slowed down by many problems (Jakubek, Tej, 2015; Vavrek, 2018). According to Andrejovská, Hudáková (2016) taxes are an integral part of human society, regardless of the economic, cultural and political disparities between the countries. The issue of fiscal decentralization is connected with the effort to build space for own decision-making in municipalities in obtaining funds. In the 1990s, transition economies faced the challenge of restoring autonomy, defining competencies in the choice of funding sources, or determining their self-sufficiency in incomes growth (Janoušková, Sobotovičová, 2016).

One of the important tools that municipalities were getting at that time were local taxes and fees. Municipalities can decide on the amount of these incomes separately through the issued General-binding Regulations. But Mitaľová, Molitoris (2006) note that every local tax cannot be collected in every municipality. It also confirm it Radvan (2012) who note that local tax is a determined cash benefit that goes to the local budget. The local self-government can introduce, abolish and also influence it in any way. In the recession starting in 2001 Yonghong (2009) notes that most state governments experienced a significant decline in tax incomes. The shrinkage of financial resources has been driving states to control or even cut their budgets, raise existing taxes, or exploit new sources of incomes. One noticeable consequence is the substantial cuts in state aid to local governments. This raises the question of whether and how municipal governments responded to the reduction of intergovernmental incomes from state governments by raising their own property taxes.

The most important part of local taxes and charges is real estate tax. In Slovak Republic, it was introduced in 1993 and replaced home tax, agricultural land tax and local localization fee (Burák, 2016). According to Act No. 582/2004 Coll. about local taxes and local fees for municipal waste and small construction wastes, the real estate tax in Slovak Republic consists of the following components: the land tax, building tax and tax on residential and non-residential premises in a residential building. Real estate tax is one of the stable incomes of the municipalities assigned to them. Incomes from real estate tax in the Czech Republic belong to the lowest ones within the EU. In the Czech Republic, tax incomes from immovable property (until 2013 real estate) goes to the budget of the municipality in whose territory the immovable property is located (Sedmíhradská 2013). The tax rates are set by law and the amount is the same for all municipalities. The municipality can affect the amount of incomes mainly through coefficients determined by generally binding ordinance. This is a corrective coefficient according to population, municipal and local coefficients. The corrective coefficient is determined by law and depends on the number of inhabitants in the municipality. The municipality has the possibility to affect the amount of coefficient that for each area may be reduced by one to three categories or increase of one category (Janoušková, Sobotovičová, 2016). But Szarowská (2017) notes that municipalities in Czech Republic have a limited discretion by adjusting coefficients over the property tax and full discretion over local fees. Very low value (about 1%) of tax revenue decentralization results from the fact the Czech Republic is the country without tax

legislative powers at the sub-national level. In the United States real estate tax is creating with two types: undeveloped land and improvements upon that land. The incomes from real estate tax covers the local self-government's expenses, especially so with regard to local benefit costs. Raising local fees to offset reduced incomes from real estate tax would be politically untenable. Property taxes occupy an unusual political position. The incomes from real estate tax is considered a highly reliable source for government incomes. Critics of the real estate tax argue that it measures wealth and not income, is regressive, and discourages capital investment in municipalities. The property tax also lags real value and thereby exacerbates the deadweight losses it imposes (Smolnik, 2008). But Spinney, Kanaroglou (2012) note that the current municipal property tax system in Ontario, and throughout most of North America, taxes the market value of the entire property, which means capital improvements are typically taxed more heavily than land. The distinction between land and capital is important, because they are different factors of production and their taxation, therefore, will have very different social and economic outcomes. In the state of Massachusetts, 351 incorporated municipalities exist in 14 counties. Municipalities with a bigger share of their incomes from real estate tax are less likely to increase this tax because they can benefit from a more diversified incomes structure through the use of other sources of incomes. If the growth of property value cannot generate sufficient incomes at the prior year tax rates, municipal governments have to go through political process to increase their tax rates. Like municipalities in other states, municipal governments in Massachusetts rely heavily on real estate tax and state aid to finance their activities and services. The reliance on incomes from real estate tax varies substantially across cities and towns. In the period of 2000 – 2007, about three-fourths of municipalities in the state collected more than 50% of their budgeted incomes from real estate tax. The median share of municipal incomes from real estate tax was slightly over 60%. At maximum, a municipal government could rely on real estate tax to finance 89% of its annual budget Yonghong (2009). In the Russian Federation, since 2014 the rules for calculating of real estate tax have been changed. The real estate tax increased several times as its value began to be formed from the cadastral value. The payment for land use in Russia is introduced since 1992, after adoption of the Law “On payment for land”. This law provided for the following types of payments - land tax and leasehold payment. Land tax plays an important role in the tax system, because it is one of the main sources of the formation of the financial base of local self-governments, and therefore it has significant impact on the socio-economic development of regions. After changing the system of calculation of real estate tax of its cadastral value, the tax increased several times, despite a gradual increase in tax rates: in 2016 - 0.9 %, in 2017 - 1.2 %, in 2018 - 1.5 %, in 2019 - 1.8 %, in 2020 and in subsequent years - 2.0 %. The impact of real property market to the cadastral value is an important factor, underestimation of which leads to serious consequences (Khasaev et al. 2018).

## 2 Material and Methods

The aim of the paper is to evaluate and compare the incomes from real estate tax on the example of Slovak and Czech Republic in the period of 2009-2017. Analysis and results were processed in MS Excel. We analyse following relationship:

$$RET_1 = \frac{\text{incomes from the real estate tax}}{\text{tax incomes of the municipalities}} \times 100 \quad (1)$$

$$RET_2 = \frac{\text{incomes from the real estate tax}}{\text{total current incomes of the municipalities}} \times 100 \quad (2)$$

$$RET_3 = \frac{\text{incomes from the real estate tax}}{\text{number of inhabitants}} \quad (3)$$

As a base we used the data from the evaluation of the results of budget management of municipalities and higher territorial units in the Slovak Republic, state final account of territorial budgets of the Czech Republic and data from the Slovak and Czech Statistical Office. For the purpose of comparison, we converted the data for the Czech Republic to € on the basis of the CZK and € exchange rate according to the National bank of Slovak Republic exchange rate for the relevant year.

**Table 1 Characteristic of real estate tax in Slovak and Czech Republic**

<i>Slovak Republic</i>	<i>Czech Republic</i>
<i>Real estate tax</i>	<i>Real estate tax</i>
Including into the local taxes (Act No. 582/2004 Coll. about local taxes and local fees for municipal waste and small construction wastes)	Individual act (Act No. 338/1992 Coll. about real estate tax)
Real estate tax to create: <ul style="list-style-type: none"> <li>▪ tax from the land</li> <li>▪ tax from the buildings</li> <li>▪ tax from residential and non-residential premises in a residential building</li> </ul>	Real estate to create: <ul style="list-style-type: none"> <li>▪ tax from the land</li> <li>▪ tax from the buildings and units</li> </ul>

Source: Act No. 582/2004 Coll., Act No. 338/1992 Coll., own processing

Under the legislation, there are some differences within the real estate tax components (table 1). The act of the Czech Republic determines as the subject of the tax land, located in the territory of the Republic and registered in the land register. Some land does not mention the law as a tax subject, for example, we can mention the forest lands on which there are protective forests, ponds for industrial or intensive fishing, and others. As far as the Slovak Republic is concerned, the act stipulates the subject of tax land that is located in Slovak Republic and includes, for example, arable land, vineyards, permanent grassland, ponds and others. The act in the Slovak Republic determines the land tax rate of 0.25%. The act determines the tax rate for arable land separately and also permanent grassland has a specific tax rate. Their value is given in euro per m<sup>2</sup>, depending on the cadastral area or district in which the land is located. Also, the act defines the tax rate for gardens, building plots, built-up areas and courtyards by population per m<sup>2</sup>. The Czech Republic has a defined tax rate based on the type of land regardless of the number of inhabitants in the territory (table 2). Both acts exempt some land from tax. In the Czech Republic, for example, the land that the republic (municipality) owns, or, for example: the land that forms a functional unit with a building of heritage importance. In Slovak Republic, are exempt from tax for example: swamps, cemeteries, lands where plots of electricity pylons or columns of communication stay.

**Table 2 Differences in the tax rate on land in Slovak Republic and Czech Republic**

<b>Land tax rate in Slovak Republic</b>	<b>Land tax rate in Czech Republic</b>
Territory to 1000 inhabitants <ul style="list-style-type: none"> <li>▪ gardens, built-up areas = 1,32€/m<sup>2</sup></li> <li>▪ building land = 13,27 €/m<sup>2</sup></li> </ul>	hop gardens, vineyards, arable land, gardens and orchards = 0.75% of land value
Territory from 1001 to 6000 inhabitants <ul style="list-style-type: none"> <li>▪ gardens, built-up areas = 1,85€/m<sup>2</sup></li> <li>▪ building land = 18,58€/m<sup>2</sup></li> </ul>	permanent grassland, farm forests and ponds = 0.25% of land value

Source: Act No. 582/2004 Coll., Act No. 338/1992 Coll., own processing

Even within the tax rate from buildings there are differences between countries (table 3). The subject of the tax from buildings and units in Czech Republic is a completed or used building, or an engineering structure and a unit completed or used. For example, in the Slovak Republic, the subject matter of the tax from the building is determined by buildings that have one or more above-ground floors, buildings with underground floors, but in this case they must have solid foundations laid on the ground. For example, dams, water mains, non-residential premises are not subject to tax. In the Czech Republic, the act exempts from paying tax in some cases. We can mention taxable buildings

owned by the republic (municipality), buildings as a monument and others. Slovak Republic exempts libraries, museums, cinemas, school buildings and etc.

**Table 3 Differences in the tax from the buildings in Slovak Republic and Czech Republic**

<b>Tax from the buildings in Slovak Republic</b>	<b>Tax from the buildings in Czech Republic</b>
an annual rate from the buildings is of 0.033€ for each m <sup>2</sup> of built-up area and also for each started m <sup>2</sup>	residential building = 0,08€ per m <sup>2</sup> of built-up area
	family recreation buildings = 0,23€ per m <sup>2</sup> of built-up area
	garage separated from the house = 0,31€ per m <sup>2</sup> of built-up area
	business in the industry, construction, etc.= 0,39€ per m <sup>2</sup> of built-up area

Source: Act No. 582/2004 Coll., Act No. 338/1992 Coll., own processing

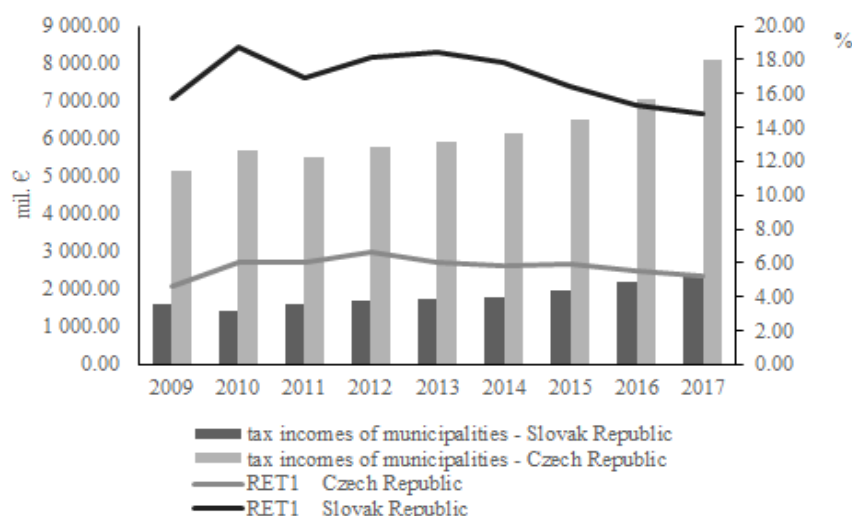
The tax from residential and non-residential premises in a residential building is only introduced in the Slovak Republic. The subject of this tax are apartments and non-residential premises. In this case, at least one apartment or non-residential premises must be owned by a physical or legal person. Part of the apartment or the whole apartment, used for a different purpose than housing, is not considered a residential space. The act sets tax from residential and non-residential premises an annual rate of 0.33 € for each m<sup>2</sup> of floor space of flat and also for each started m<sup>2</sup> flat and non-residential space. For example, flat owned by physical persons in material need, disabled card holders, etc., are exempt from this tax.

### 3 Results and Discussion

Real estate tax incomes present the part of tax incomes at municipal budget level in both countries. Tax incomes of Slovak municipalities from 2009 to 2017 with the exception of 2010 recorded annual growth. Tax incomes of municipalities are formed by own tax incomes and share tax. Own tax incomes include incomes from local taxes and fees, when they including also incomes from real estate tax. The increase of tax incomes of Slovak municipalities in 2017 was 44% higher compared to the year than in 2009. Tax incomes of Czech municipalities are made up of incomes from real estate tax and a incomes from the mix of taxes (value added tax, personal income tax and corporation tax), which divides the state to the level of municipalities by a defined share based on Act No. 243/2000 Coll. on budgetary allocation of certain taxes to territorial self-Governing units and some state funds. The increase of tax incomes of Czech municipalities in 2017 was 56% higher compared to the year 2009. In the Slovak Republic, the share of real estate tax incomes on municipal tax incomes ranged from 14.85% to 18.74%. Within the framework of Czech municipalities, this share ranges from 4.63% to 6.60% (figure 1).

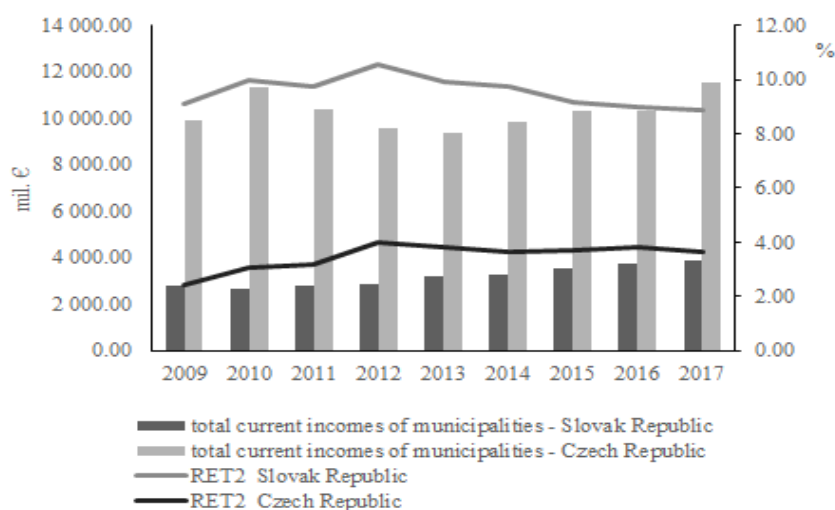
**Figure 1 Development of tax incomes of municipalities in Slovak Republic and Czech Republic.**

Source: Ministry of Finance of Slovak Republic, Czech Statistical Office, own processing



**Figure 2 Development of tax current incomes of municipalities in Slovak Republic and Czech Republic.**

Source: Ministry of Finance of Slovak Republic, Czech Statistical Office, own processing

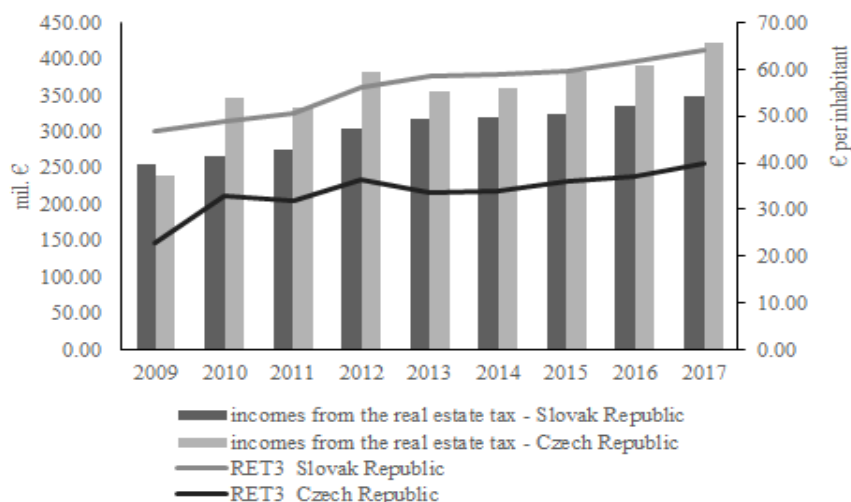


The current incomes of municipalities is generated from tax incomes, non-tax incomes and transfers. The municipalities then use them to ensure the daily operation of the municipality. The development of current incomes in the conditions of Slovak municipalities copied the development of tax incomes of municipalities. We see a more marked decline in these incomes only in 2010. Compare to 2009 and 2017, these incomes increased by 39%. Different development is recorded in the current incomes of Czech municipalities. In the analyzed time period only in 2009, 2010, 2014 and 2015 there was an increase of these incomes. However, compared to 2009 and 2017, this is a 16% increase of these incomes. Even within the share of incomes from real estate tax on the total current incomes of municipalities, we observe considerable differences between Slovak and Czech municipalities. At the level of Slovak municipalities, incomes from real estate tax accounted from 8.88% to 10.57% of the

total current incomes of municipalities and at the level of Czech municipalities these incomes ranged from 2.42% to 3.98% (figure 2).

### Figure 3 Development of incomes from the real estate tax of municipalities in Slovak Republic and Czech Republic.

Source: Ministry of Finance of Slovak Republic, Czech Statistical Office, own processing



Incomes from real estate tax in the conditions of Slovak municipalities increased every year. Compared to 2009 and 2017, there was a 37% increase of these incomes. The real estate tax rate in Slovak Republic is levied on the basis of the Act No. 582/2004 Coll. about local taxes and local fees for municipal waste and small construction wastes and each municipality has a specified rate within its terms in the General Binding Regulation. The real estate tax is optional tax, which means that the municipality may or may not introduce it. In the Czech municipalities, incomes from real estate tax increased with the exception of 2011 and 2013. The increase of these incomes in 2017 compared to 2009 was 76%. (figure 3). In the Czech Republic, real estate tax is levied on the basis of a separate law according to a specified coefficient according to the type of land and construction. In terms of per inhabitant incomes from real estate tax ranged from 43.87 € to 64.11 € in Slovak municipalities. In Czech municipalities, these incomes ranged from 22.75 € to 39.73 € per inhabitant. Ministry of Finance of the Czech Republic (2014) notes that from 1.1.2014 change the name of the tax (tax from real estate things), previously, the term "real estate tax" was used. Municipalities can significantly influence the amount of incomes from these tax because they have the possibility to set a general coefficient modifying the resulting tax (in the amount of 2, 3, 4 or 5) for all properties in the whole municipality by a generally binding regulation. This coefficient multiplies the taxpayer's tax liability for individual types of land, buildings, separate non-residential premises and flats, or their files, with the exception of some agricultural parcels. Of the total number of 6,248 municipalities, the local coefficient was increased by 514 municipalities for 2014 (excluding municipal districts), while in 2013 there were 494 municipalities.

## 4 Conclusion

Incomes from real estate tax present an important part of municipal own incomes. The analysis showed differences not only in the volume of these incomes, which flowing into municipal budgets, but also in the legislative anchorage. In the Slovak Republic, the real estate tax is defined by law as part of local taxes, in the Czech Republic it is regulated by a separate law. From the results of the analysis, it turned out that while the share of incomes from real estate tax on the whole municipal tax incomes at the level of Slovak municipalities is on average 16%, at the level of Czech municipalities

it is 6%. The share of the incomes from real estate tax on the current incomes of Slovak municipalities is on average 9%, while at the Czech level is on average of 4%. The share of incomes from this tax on tax incomes of Slovak municipalities is on average 3 times higher than the share of incomes from this tax in the conditions of Czech municipalities. One of the reasons for this is the fact that tax incomes of Slovak municipalities are made up of incomes from local taxes and one share tax, which is distributed by the state to the level of local self-governments, while Czech municipalities receive incomes from local taxes and also from the state, but not only from the one share tax. They get money from multiple state taxes.

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# Tax Assignment Mechanism in Slovak Republic – Legislative Changes and Functioning over the Years

León Richvalský

## Abstract

*Tax assignment mechanism was first time implemented into Slovak legislation in the year 1999. During the twenty years it underwent many changes and challenges, but it managed to persist and annually bring elements of citizen direct decision-making into the system of representative democracy. It presents one form of direct financial support for non-governmental and non-profit organizations. By using it, taxpayers can redistribute certain share of their income tax to certain entities. Basically, taxpayers do not pay the full amount of the tax to the government, but will assign share of it to the selected recipient, beneficiary, which is exactly defined by law. Beneficiaries are most frequently civic associations, foundations, non-profit organizations and similar subjects of the non-governmental sector. The aim of our paper is to demonstrate the importance of tax assignments for Slovak non-governmental organizations and its contribution to whole non-profit sector. The income of Slovak non-governmental organizations is annually growing, as well as the number of beneficiaries, which proves the popularity of tax assignment among Slovak taxpayers. Major beneficiaries are corporate foundations, complemented with charity, health and child care NGOs. After 20 years since implementation, this mechanism has delivered approx. 650 million € into slovak non-profit sector.*

**Keywords:** Personal income tax, tax assignment, tax redistribution, non-governmental organization, non-profit organization

**JEL Classification:** H21, H24, H25, H29

## 1 Introduction

Tax assignment mechanism is a tool by which individuals and legal entities can financially support selected NGOs and other non-profit organizations. The advantage of the assignment mechanism is the fact, that the physical or legal persons does not use their own funds to support the selected organizations, but use the share of the tax that must be paid to the government anyway. In essence, this is not a charity, but a redistribution of a tax – more precisely a tax redistribution on the initiative of the taxpayer. It represents the possibility to assign a certain part of the income tax to the selected organization, which is present on the list of beneficiaries administered by the Chamber of Notaries of Slovak Republic. Tax assignments are mostly subject to physical persons and their personal income taxes, but in case of Slovak Republic legal persons income taxes also. According to current legislation, physical person may assign 2% of the paid tax, and if he/she submits a certificate of volunteering for at least 40 hours, he/she may assign 3%. (Act No. 595/2003 Coll.) This amount is assignable only for one beneficiary, and the value must be at least 3€. For legal entities, the conditions are slightly different, they can assign 2% of their paid tax only if they have donated at least 0.5% of the paid tax amount to non-profit organizations during the last taxation period. In case they did not donate the corresponding amount of money, they can only assign 1% of the paid tax. However, they may divide the amount among several beneficiaries, but only if the amount for each beneficiary is at least 8€. The aim of our paper is to demonstrate the importance of tax assignments for Slovak non-governmental organizations and its contribution to whole non-profit sector.

### 1.1 Origin of tax assignment mechanism

The system of tax assignments originated as a new system of church financing, and Spain was the first country to introduce it. In 1979, the Treaty of Spain and the Holy See was ratified. According to

this treaty and on the basis of the principle of religious freedom, church funding should have been changed from a state-subsidized system to tax-based one, within three fiscal years. *"Three complete fiscal years after signing this agreement, the state may allocate a percentage of income tax, inheritance tax, or other personal taxes to the Catholic Church, according to an appropriate technical method. For this purpose, each taxpayer must explicitly declare the use of corresponding amount in the relevant tax form. If such declaration is missing, the corresponding amount will be allocated for other purposes."* (RELIGLAW, 2019) However, the transition to this new system lasted longer than foreseen in the contract, and taxpayers could not assign part of their paid tax until 1988. Since that year, they could also assign part of their paid tax (set to 0,5239%) to charity organizations, or neither of those and hand over full amount of tax to the state. In case of insufficient amount of funds assigned, the state committed to compensate for this difference by subsidies. (HOOPER, 2006) Over the years, this mechanism has been gradually reformed in Spain, with a tax share stabilized at 0.7%, and since 2016 it offers three options to the taxpayer. There are two boxes in the appropriate tax form, the Catholic Church and Charity Organizations. Taxpayer may mark one, both, or no option, and hand over the full amount to the state. If they mark both options, 0.7% of income tax will be distributed among them. Spanish taxpayer does not decide on a particular organization, and if he/she assigns this tax share to charity, government will redistribute it to organizations providing: Care for people in need of complete health and social care, Care for people with a problem of integrating into education or employment process, Promotion of public security and crime prevention, Environmental protection, Cooperation and development. (AGENCIA TRIBUTARIA, 2019)

## **1.2 Development of tax assignation mechanism in the Slovak legislation**

The tax assignation mechanism is introduced for the first time in the Act of November 24, 1999 in Slovak legislation. Act No. 366/1999 Coll. on Income Taxes contains it in Section 48 entitled "Declaration on the possibility of using the paid tax for public benefit purpose". It allowed physical persons to assign 1% of their paid income tax to a selected physical or legal person, whose identification data they provide to tax administrator.

The amendment from December 5, 2000, Act 466/2000 Coll., brought the first change into the functioning of the assignation mechanism, which was the removal of the words "physical person or" from the original wording "The taxpayer may submit a declaration to the tax administrator, stating that 1% of the tax paid by him shall be used to cover expenditures on education, health care, welfare, physical education, sport, environmental protection, culture and the restoration of cultural heritage, to the benefit of a physical person or legal entity defined by the taxpayer." As of 28 December 2000, it was possible to assign only to legal entities.

Another, more significant change was adopted by amendment 561/2001 Coll. of December 4, 2001. Within this amendment, Paragraph 48 was renamed to "Use of the share of the paid tax for special purposes" and its wording was broadened. A fundamental change was the obligation of potential beneficiaries to register in the central register kept by the Chamber of Notaries of Slovak Republic and to not have tax arrears. Beneficiaries were specified in more detail as a civic association, foundation, non-investment fund, non-profit organization providing services of general interest, special-purpose church and religious organization, organization with an international element or the Slovak Red Cross. This Act also stipulated the minimum amount of assigned funds, which had to be at least 20SKK.

Since its entry into force on December 23, 2001, the assignation mechanism has worked without major changes until 2003, when the new Income Tax Act, 595/2003 Coll. was passed. This Act, in force since 31 December 2003, extended the operation of tax assignments to both physical and legal entities, and the assignable share of paid tax increased to 2%. In the case of legal entity, the minimum amount was set to 250SKK and unlike a physical person, it gained the possibility to divide its assigned amount among several beneficiaries. The beneficiary, whose total income from assignation was over 100,000SKK was obliged to specify the use of these financial resources in the Commercial Journal.

In this Act, the section containing the assignation mechanism was renumbered from §48 to §50. By this Act, tax assignation has taken a form which is mostly operational to this day.

During the 15 years of operation, this paragraph 50 in the Income Tax Act was amended 9 times. The first amendment was implemented by Act No. 659/2004 Coll. The changes concerned parts 1, 6, 7, 8 and 9, the original part 8 was removed and the changes were rather definitional and refining. Amendment No. 534/2005 Coll. was smaller, modifying several formulations in part 6. Amendment 688/2006 Coll. significantly changed part 5 in which the purposes of using the share of the paid tax were redefined, as well as the subjects of the activities of beneficiaries were refined.

Original wording of part 5 reads:

"The share of paid tax may be granted to the beneficiary for the purposes of his activity, provided that his activity is:

- (a) the development and protection of spiritual values,
- (b) protection of human rights,
- (c) protection and creation of the environment,
- (d) protection and promotion of health and education,
- (e) promoting sport for children, young people and people with disabilities,
- (f) providing of social assistance,
- (g) preservation of natural and cultural values."

The amendment has changed it as follows:

"The share of paid tax may be granted to the beneficiary and used only for the purposes which are the subject of his activity, provided that his activities are:

- (a) health protection and promotion; prevention, treatment, resocialization of drug addicts in the area of health services and social services,
- (b) promoting sport for children, young people and people with disabilities,
- (c) providing of social assistance,
- (d) preservation of cultural values. "

Minor adjustments that did not affected the functionality of the mechanism were also made in parts 6 and 13.

Amendment 621/2007 Coll. expanded the range of beneficiaries to "research and development entities" and extended the scope of activities of beneficiaries with human rights protection, environmental protection and creation and science and research. In addition to these changes in parts 4 and 5, paragraphs 6, 9 and 11 were also amended to slightly improve the definitions.

Another amendment was made in 2009, by the Act No. 504/2009 Coll., which introduced a functional change for legal entities. Since 8.12.2009, they could assign 2% only if they donated finances in the value of at least 0.5% of their paid tax to non-business entities in the last tax period. Otherwise, they could only assignate funds up to 1.5% of their paid tax. Also since 2010, the maximal percentual amount of assignations (2%) was to annually decrease. Another major change was for beneficiaries who were obliged to set up a special bank account to receive and draw funds from assignation, if the amount in the relevant year was 33,000€ or more. In the event of neglecting this obligation, the beneficiary will be removed from the list of beneficiaries for the following year and will not be able to receive funds from assignation that year. Minor changes, like wording and definitions, were also present in parts 5, 9, 10, 11 and 12.

The original 14 parts in §50 were amended by 15th part by amendment no. 548/2010 Coll. This part added penalty conditions for taxpayers whose share of paid tax does not match the paid share. Amendment 463/2013 Coll. adjusted the minimal amounts of assignation, for physical persons to 3€, and for legal entities to 8€ for each beneficiary. Minor adjustments were also made to parts 1, 3, 4, 6,

8 and 13. Part 16 was added, as follows: "The Ministry and the Financial Control Administration are conducting a government audit of compliance with the regulations of this Act on the use of the share of paid tax for special purposes."

In 2015, there was a functional change for legal entities assignments, which could only assign 1% instead of 1.5% since 17.10.2015, in case that funds of at least 0.5% amount of their paid tax were not donated by them. These changes were made on the basis of the "Ministry of Finance and NGO's Memorandum" of 5.5.2015, which also exempted the planned annual decrease of maximal percentual amount of assignments. (MFSR, 2015) Thus, the adjustments were also made in parts 3, 7, 8 and 13. Behind §50, §50a was added consisting of 2 parts, however it was not directly concerning the assignment mechanism.

The last change in the legal regulation of tax assignment occurred in 2017, by Act 344/2017 Coll. in force from 28.12.2017. This amendment modifies paragraphs 1, 3, 6, 7 and 11, adding a number of additional and refining wording.

### **1.3 Discussion about the tax assignment mechanism during debates in the National council of the Slovak Republic**

The debates of the National Council of the Slovak Republic (NRSR) have been archived in the form of text transcripts only since 2002, exactly since the third parliamentary term and its constituent meeting on 15.10.2002. Thus, the discussion on the assignment mechanism can only be followed from the adoption of the new Income Tax Act, 595/2003 Coll., which among other things introduced equal taxation of 19% in Slovakia. The flat tax was the reason why former President of Slovak Republic, Rudolf Schuster, did not sign this law from October 28, 2003 and returned it to rediscussion with suggestion not to accept it entirely. (Schuster, 2003) Despite these comments, members of parliament (MPs) approved this law at the next meeting on 4.12.2003.

The 32nd meeting of the NRSR in October 2004 approved the amendment of the Income Tax, Act 659/2004 Coll. The meeting took place from 19.10.2004 to 2.11.2004, but the assignment mechanism was not discussed during the meetings. The same situation occurred during the 51st NRSR meeting taking place from 25.10.2005 to 9.11.2005, when amendment 534/2005 Coll. was passed.

At the 6th NRSR meeting held from 5 December 2006 to 15 December 2006, the discussion about the assignment mechanism was opened by Vice-President of the NRSR, Milan Hort, who critically responded to the proposal of Robert Fico's government about abolishing the assignment possibility for legal entities. He also criticized the rewording of the list of potential beneficiaries, which removed the educational organizations, and was supported by MP Magda Vášaryová. Parliament did not pass this change, and thanks to the pressure from opposition and NGOs, the assignment mechanism remained unchanged. (SITA, 2006) MP Július Brocka, on behalf of a group of MPs, introduced a proposal for an amendment to the assignment mechanism that would allow a physical person to assign 2% of the paid tax to his/her parent, who is receiving a retirement or disability pension. However, MPs did not support this proposal, and out of 143 participants, 80 abstained, and the amendment was no longer discussed.

At the 16th NRSR meeting taking place during November 27, 2007 and December 12, 2007, MP Ľudmila Mušková presented a proposal to amend Act 595/2003 Coll. in terms of complementing the circle of potential beneficiaries with the research and development entities, that have been passed by MPs. MP Ágnes Biró expressed her concern about the idea of financing Slovak churches through assignment mechanism, and she said that society was not yet prepared for it.

During the 42nd NRSR meeting taking place from 21.10.2009 to 5.11.2009, the amendment no. 504/2009 Coll. was passed, with Minister of Finances Ján Počiatek proposal to gradually decrease the assignable tax share from 2% to 0.5%, which should have taken place over the years 2010 to 2019. It concerned legal entities, along with the condition of donating funds of amount at least 0.5% of their

paid tax, to subsequently assign 2% of the tax. MP Július Brocka reiterated his proposal for an amendment to allow the physical person to assign share of the tax to his/her pensioned parent as a beneficiary. The proposal was drafted together with MPs Maria Sabolova and Pavel Hrusovsky, but the parliament did not support it and out of the 121 MPs present, 70 abstained their vote.

At the 11th parliamentary meeting on 21 December 2010, an amendment to the Income Tax Act No. 548/2010 Coll. was passed, but the parliamentary debate did not concern the functioning of tax assignments. In November 2012, NGOs objected to the legislation and limitations of the assignment mechanism by a joint statement "We do not want more, do not take from us what we have" (itretisektor, 2012) in which they expressed their concerns about decreasing the percentage of assignment for legal entities.

During the 27. NRSR meeting held from 26.11.2013 to 18.12.2013, the question about decrease of the share was opened. Minister of Finances Peter Kažimír expressed support for NGOs and the whole non-profit sector, and proposed to maintain the current status, by freezing the planned decrease for the next year. (According to the amendment of the previous Minister of Finances, Ján Počiatek, the annual decrease should have been active since 2010, but this never happened due to negotiations with NGO representatives.) At the same time, he appealed upon whole non-profit sector help in fight with tax evasion, as taxes are their source of income. MPs Jana Žitňanská and Mikuláš Huba also supported this proposal to postpone the decrease for another year. Amendment 463/2013 Coll. was therefore passed with these modifications.

In 2015, amendment No. 253/2015 Coll. Was passed, which amended the law in accordance with the aforementioned memorandum signed between the Ministry of Finances and NGOs. As part of the debate at this 54th meeting taking place from 16.9.2015 to 7.10.2015, MP Daniel Krajcer presented proposal of Act on the separation of church and state. This proposal included the transformation of church funding into a tax-based model, utilizing assignments. MP Jozef Mikloško was involved in the discussion and presented several arguments for and against, but finally said he would abstain this vote. MPs Jozef Kollár, Martin Chren and Alojz Hlina, who was also the greatest critic, further discussed this source of financing. The bill did not passed to second reading, from 126 present only 16 voted in favor, 51 against, and 59 were abstentions.

While adopting the latest amendment 344/2017 Coll. there was no discussion about the assignment mechanism at the 23rd session of the parliament, which taken place from 28.11.2017 to 13.12.2017.

## **2 Material and Methods**

Our paper has analytical and inductive character. It utilizes multiple methods of scientific research. Method of scientific abstraction was used during the processing of theoretical knowledge about researched issue, to clarify the causes and their consequences. Analytical method was utilized during the data collection from multiple sources, which is essential for detailed examination of deeper parts of the issue. For this research, comparative method was used as well, to compare annual financial statistics. We have used data available from Ministry of Finance of Slovak republic, Financial administration of Slovak republic and website by NGO WellGiving, o.z.: [www.dvepercenta.sk](http://www.dvepercenta.sk).

### **2.1 Tax assignment in figures**

According to summary statistics in Tab. 1 as well as Fig. 1, the income of Slovak non-governmental organizations has a growing character, which suggests the popularity of using this mechanism among Slovak taxpayers, and at the same time, it is a certain motivation for non-profit organizations. Sudden peak and fall during the 2008 – 2010 period was caused by economic crisis, which hit Slovak republic in this same time.

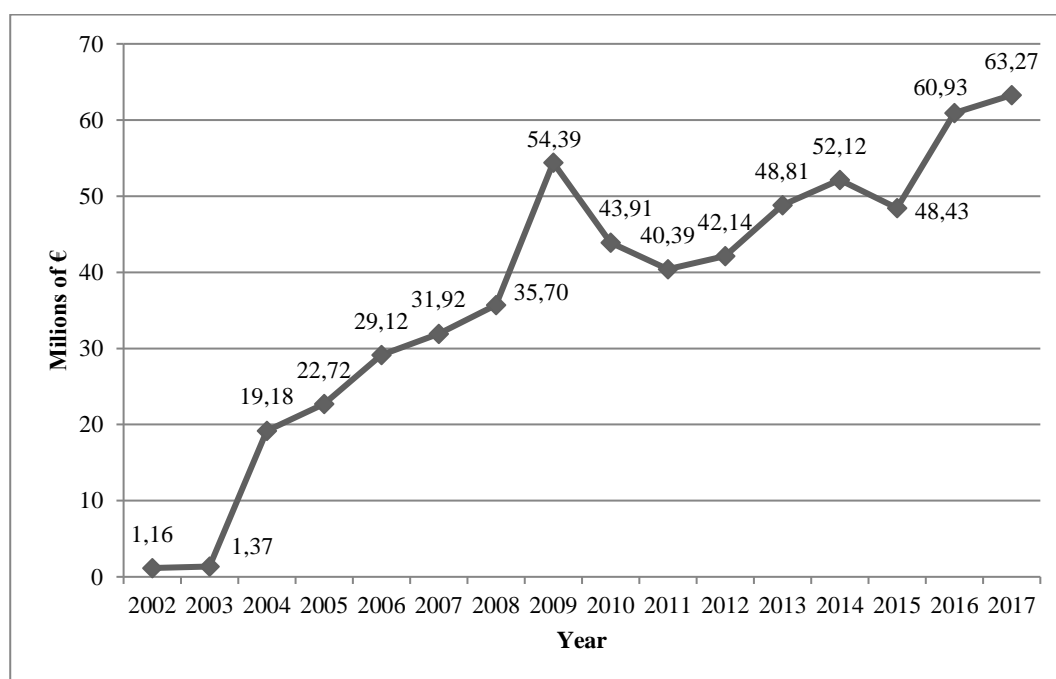
**Table 1 - Summary income of Slovak organizations from tax assignment**

Year	Amount
2002	1.16 mil. €
2003	1.37 mil. €
2004	19.18 mil. €
2005	22.72 mil. €
2006	29.12 mil. €
2007	31.92 mil. €
2008	35.70 mil. €
2009	54.39 mil. €
2010	43.91 mil. €
2011	40.39 mil. €
2012	42.14 mil. €
2013	48.81 mil. €
2014	52.12 mil. €
2015	48.43 mil. €
2016	60.93 mil. €
2017	63.27 mil. €

Source: MFSR, WellGiving, o.z.

**Figure 1 - Summary income of Slovak organizations from tax assignment**

Source: MFSR, WellGiving, o.z.





**Table 2 - Average NGOs income from tax assignment**

Year	Average income	Number of receiving organizations
2002	927.66 €	1 250
2003	976.48 €	1 402
2004	8931.71 €	2 147
2005	6322.66 €	3 593
2006	5501.78 €	5 292
2007	5700.17 €	5 599
2008	6904.45 €	5 170
2009	6188.08 €	8 789
2010	4673.14 €	9 396
2011	4291.72 €	9 411
2012	4272.46 €	9 863
2013	4486.53 €	10 879
2014	4429.35 €	11 766
2015	4923.16 €	9 837
2016	4740.17 €	12 853
2017	4525.75 €	13 980

Source: MFSR, WellGiving, o.z.

The average annual income in Tab. 2 above, can roughly determine the number of receiving organizations applying for tax assignment and their growing character. For example, in 2005, the total income of the third sector from tax assignment was 22.72 mil. €, the average annual income of the organization was 6322.66 €. This amount was thus divided between approx. 3 593 organization. In 2010, the total revenue was 43.91 million €, average annual income was 4673.14 €, which meant approx. 9 396 organization. By the same calculation we can find out that 12 853 non-profit organizations has already been applied for tax assignment in 2016, etc.

**Table 3 - Number of assigning legal persons**

Year	2%	1,5%	1%	Together
2004	12 905	-	-	12 905
2005	16 684	-	-	16 684
2006	20 867	-	-	20 867
2007	28 594	-	-	28 594
2008	41 757	-	-	41 757
2009	32 084	-	-	32 084
2010	2 420	23 154	-	25 574
2011	2 066	24 953	-	27 019
2012	1 954	27 450	-	29 404
2013	1 846	29 534	-	31 380
2014	3 684	54 781	434	58 899
2015	5 337	0	55 021	60 358
2016	5 810	0	60 180	65 990
2017	6 660	0	59 306	65 966

Source: MFSR

**Table 4 - Number of non-assigning legal persons**

Year	Could assign	Could not assign	Together
2004	12 815	70 736	83 551
2005	13 214	78 452	91 666
2006	14 148	82 677	96 825
2007	13 539	92 323	105 862
2008	4 483	105 051	109 534
2009	9 976	121 119	131 095
2010	18 447	129 067	147 514
2011	18 514	136 248	154 762
2012	17 779	152 899	170 678
2013	20 657	164 745	185 402
2014	122 936	45 477	168 413
2015	125 530	39 473	165 003
2016	124 205	45 010	169 215
2017	131 230	45 288	176 518

Source: MFSR

Numbers of legal persons with option to assign in Tab. 4 and actually assigning in Tab. 3 implies, that large part of legal persons often decide not to use the tax assignation, and hand over the entire tax to the government. In 2004, roughly a half of legal persons decided this way, but in 2008 over 9x more legal persons decided to assign part of their tax. In recent years a positive change occurred (for the third sector) and more legal persons are able to use assignation mechanism since 2014. This is, of course, also due to the changes in the functioning of the assignation mechanism, as the number of legal entities with the possibility to assign part of their tax increased. Number of legal persons using this mechanism doubled since this change and keeps growing annually, but vast majority of legal persons with newly acquired assignation possibility decided not to use it yet.

**Table 5 – Predicted summary income of Slovak organizations from tax assignation for the following years**

Year	Amount
2018	64.56 mil. €
2019	68.61 mil. €
2020	73.10 mil. €

Source: MFSR

As we can see in Tab. 5, Ministry of Finance of Slovak republic is predicting continual rise of total amount of finances assigned through this mechanism, proving its ongoing popularity among slovak taxpayers. Tab. 6 and Fig. 2 shows twenty largest beneficiaries of tax assignation funds since 2009 and their incomes. The year was not chosen randomly, but Financial Administration of Slovak republic started to publish detailed yearly reports only since 2009. Examining this list, we can notice the ongoing trend in slovak tax assignation, which is large support of foundations created by companies and corporations. Those foundations are supporting wide range of public-benefit projects, mostly related to education, health, young talents, charity or environment. Aside from company foundations, this list also consists of non-profit organisations focused on health care and prevention, charity and child care.

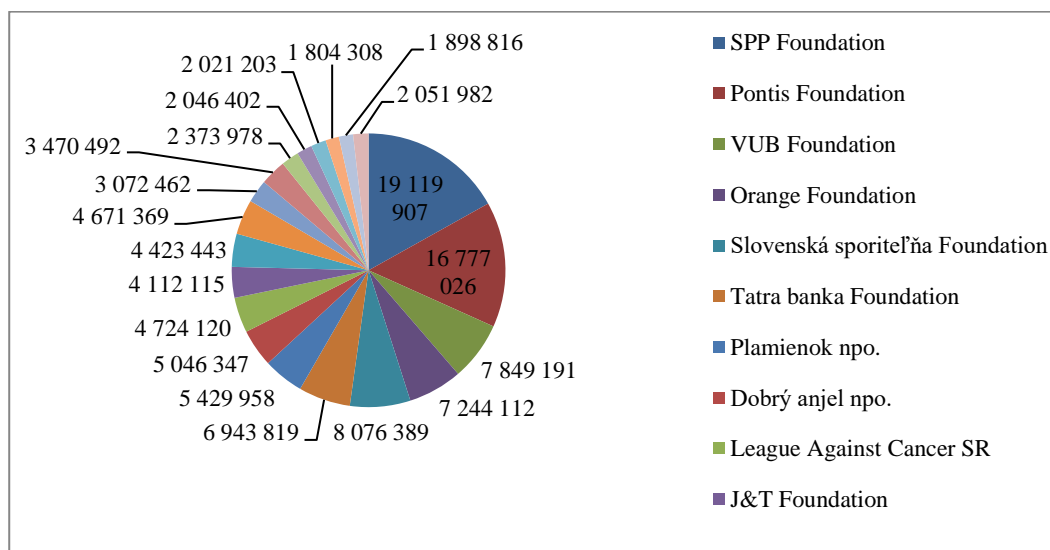
**Table 6 – Twenty largest beneficiaries of tax assignment funds since 2009**

Receiving NGO / Beneficiary	Total income from tax assignment in 2009 – 2017 period	Average yearly income from tax assignment in 2009 – 2017 period
SPP Foundation	19 119 907 €	1 900 000 €
Pontis Foundation	16 777 026 €	1 650 000 €
VUB Foundation	7 849 191 €	760 000 €
Orange Foundation	7 244 112 €	752 000 €
Slovenská sporiteľňa Foundation	8 076 389 €	742 000 €
Tatra banka Foundation	6 943 819 €	694 000 €
Plamienok npo.	5 429 958 €	524 000 €
Dobrý anjel npo.	5 046 347 €	506 000 €
League Against Cancer SR	4 724 120 €	492 000 €
J&T Foundation	4 112 115 €	408 000 €
VOLKSWAGEN Slovakia Foundation	4 423 443 €	364 000 €
Kia Motors Slovakia Foundation	4 671 369 €	352 000 €
SANUS, Preventive Medicine Foundation	3 072 462 €	305 000 €
Disability Assistance Association - APPA	3 470 492 €	303 000 €
MONDI SCP Foundation	2 373 978 €	226 000 €
ČSOB Foundation	2 046 402 €	212 000 €
Allianz Foundation	2 021 203 €	192 000 €
Foundation for Children of Slovakia	1 804 308 €	190 000 €
Svetielko nádeje npo.	1 898 816 €	186 000 €
Association for Child oncology help	2 051 982 €	181 000 €

Source: Financial Administration of SR

**Figure 2 - Total income of twenty largest beneficiaries of tax assignment from 2009 – 2017 period**

Source: Financial Administration of SR



### 3 Results and discussion

Tax assignment mechanism has been operating in Slovakia since the year 2002, and during this time it gained popularity among both taxpayers and NGOs, as the simplest form of donation and help. It is best expressed by the fact, that since 2002 more than 600 million € has been distributed to NGOs through tax assignments. Last year, there was 14 915 NGOs on the recipients list, which is cca. 12x higher than in 2002 with 1 250 NGOs. According to summary statistics, the income of Slovak non-governmental organizations has a growing character, which suggests the popularity of using this mechanism among Slovak taxpayers, and at the same time, it is a certain motivation for non-profit organizations. Financing of NGOs and civic associations can be regarded as a form of participation in the democratic process. (Šramel, 2018) Citizens from the position of taxpayers can financially support organisations they believe in, and consider them beneficial. Those finances are not coming directly from their pockets, because it's part of their already paid tax, which is then redistributed from government to selected receiving organizations. (Grásgruber, M., Otavová, M., Solilová, V., 2014.) Discussions about abolishing this mechanism are therefore improper, because lots of smaller local NGOs dependent on funding through tax assignment might face a problem in that case, until the government would decide to compensate with subsidies. (Švikruha, Cívik, 2018) Using tax assignment mechanism for financing of the churches has shown its efficiency in Spain or Italy, but must be looked upon differently in terms of Slovak republic. Church and especially christian youth played a big part in our political transition from communist regime, we can mention the Candle Manifestation as a best example. The church is therefore perceived as one fundament of freedom and democracy by many slovak citizens. (Horváth, Machyniak, 2018) The separation of church from the state is still sensitive topic, which was clearly visible in the National Council debate concerning this proposal.

### 4 Conclusion

Donating money from own savings or company funds may be discouraging for obvious reasons. Many non-profit organizations, NGOs and other non-governmental subjects require stable source of finances for their activities and relying purely on government subsidies is not sufficient. Some recipients of this tax share, which is 2% most frequently, are dependent on it as their only source of funding and cutting it off would cause their collapse. Of course, there are also foreign donors and foundations as well as European Funds, but local support by citizens themselves is the best way for legitimizing activities of an NGO. Tax assignment mechanism was introduced as a tool for substituting donations for NGOs, by giving the taxpayers an option to redistribute part of their paid income tax to chosen recipient. This tax redistribution gained popularity very quickly, among both taxpayers and recipients – NGOs. Functioning of this mechanism underwent many legislative changes, but all efforts attempting to impair or abolish it were suppressed by NGO support groups as well as certain politicians and public. According to financial statistics, tax assignment has found its place in Slovak tax system, gained large popularity among taxpayers and receiving NGOs, and amount of money annually assigned keeps growing. All in all, the fact is that since 2009, only the income of top 20 beneficiaries was almost 11 million €, and there are currently 14 915 NGOs on the list of beneficiaries. Counting from the very beginning of tax assignments and taking the financial predictions into account, total income from tax assignment mechanism should reach 800 million € after taxation period of 2020. Implementation of tax assignment mechanism as a support for non-governmental sector was therefore successful, and continues to support its development which is important in every post-communist country.

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# Theoretical and Methodological Principles of Financial State Management System Development in Ukraine

**Olga Rudachenko, Natalya Bibik, Valeriya Yesina**

## ***Abstract***

*In the article it has been proved that the achievement of effective indicators of social development is possible with the use of prudent financial policy instruments, which significantly depends on the optimality of distribution and redistribution of financial resources. Thus, the purpose of the research is to analyze the theoretical and methodological foundations of the financial management system of Ukraine formation, which is a significant instrument of the economy state regulation. To achieve this goal, a statistical method for the study of macroeconomic indicators was applied. The article uses general and special methods of scientific research: analysis and generalization of domestic and foreign experience of existing theoretical and methodological principles regarding the formation of a financial management system. The authors defined constituents of financial system consist, which includes internal and organizational structure. The internal structure consists of spheres and units, and is represented by the following components: public finances, finances of subjects of management, international finances and financial market (providing sphere). The scheme of financial system management, as well as the directions of activity of the bodies and institutions of financial management is presented. The budget system of Ukraine is considered in details. The analysis of incomes and expenditures of the state budget of Ukraine for the last ten years has been provided.*

**Keywords:** Budget, distribution, financial system, management, public finances

**JEL Classification:** H20, H61, E49

## **1 Introduction**

Creating a perfect and stable system of financial management of a country is one of the main conditions for the effective functioning of its economy. The construction of such a rational and efficient system of tasks is rather complicated, since the financial sector is one of the main areas of government activity that allows it to be competitive in the world. However, the current state of the system of financial management of Ukraine indicates negative trends and the presence of a large range of problems in this area, which require the immediate formation of effective measures to overcome them.

The crisis phenomena that have emerged in the system of financial management of the country have led to the formation of a low level of financial security of Ukraine, which does not enable it to be competitive in the modern world market. Thus, the analysis of the theoretical and methodological principles of the formation of the financial management system has a significant value in identifying problem areas.

Achieving effective indicators of social development is possible with the use of prudent financial policy instruments, which is highly dependent on the optimality of the allocation and redistribution of financial resources. Thus, the purpose of the study is to analyze the theoretical and methodological foundations of the financial management system of Ukraine formation, which is a significant instrument of the economy state regulation.

## **2 Material and Methods**

The financial system is an aggregation of various types of financial resources available at the state level. It consists of an internal structure and an organizational structure. The internal structure includes spheres and units, and is represented by the following components: public finances, finances of

business entities, international finances and financial market (providing sphere). Organizational structure includes budget management, control and regulatory institutions, financial institutions and trust funds.

The term "financial system" is currently one of the most widespread and often used in regulatory acts (Lovochkin, 2009), the media, in the speeches of the head of state. And yet, the legislative definition does not have this term, there is also a single conceptual approach of scientists to the development of this definition.

The theoretical foundations of the financial management system formation are reflected in the scientific works of Ukrainian and foreign scientists such as: Hou, Lunsford, Sides, Jones (2011), Borisenko (2013), Boyarko (2012), Brown (2016), Gamalius (2012), Gurgula (2013), Julnes, Holzer (2001), Kimenko (2016), Kostyrko (2015), Malyutin (2014), Mullen (2006), Pokataeva, Guk (2013), Stetsenko, (2013) Willoughby (2004), Tat-Kei Ho, Ya Ni (2005).

However, it should be noted that mentioned above scientific works do not cover the whole range of issues that constantly arise and require pursuit for the new methods for their solution. Most scientific works are devoted to organizational issues, to a lesser extent procedural and to the definition of an analytical basis for the management of financial constituents. Thus, the solution of financial management issues for the stable and stable development of the state requires further investigation.

The financial system of any country has certain characteristics (Lovochkin, 2009):

- each element of financial systems has its own methods of mobilizing funds for the creation of financial resources and their directions and methods of their use;
- each element in the financial system is relatively independent, has its own specific scope of application;
- between the links of the financial system there is a close relationship and mutual conditionality, each link can function successfully only with the perfection and efficiency of the system as a whole;
- the financial system of the state achieves the greatest efficiency only when the activity of each of its branches is set up and legally fixed;
- depending on the factors influencing the organization of finance, primarily on the formation and use of funds of financial resources, each link of financial system can be divided into smaller units (Lovochkin, 2009).

Thus, public finances are engaged in the following transactions (Malyutin, 2014):

- income generation;
- distribution of expenditures;
- investment activity;
- lease of state property;
- privatization of state property;
- creation of joint ventures;
- attraction and use of funds on loan terms, etc.

Within the framework of public finance, financial transactions can be carried out by various entities of public administration (Lovochkin, 2009): the government, central bank, state trust funds, government bodies of state enterprises and institutions, local self-government bodies, and others. The finances of individual private and collective enterprises belong to the finance of non-state enterprises and institutions.

## **2.1 Model and Data**

The purpose of this paper is to analyze the theoretical and methodological principles of the Ukrainian financial management system formation in order to find ways to improve it in modern conditions.



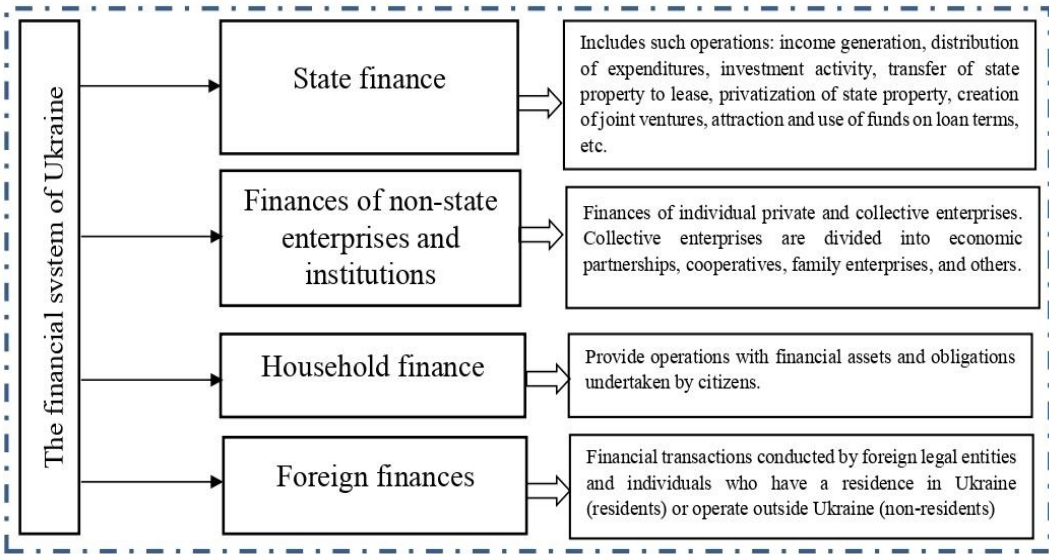
The article uses general and special methods of scientific research: analysis and generalization of domestic and foreign experience of existing theoretical and methodological principles regarding the formation of a financial management system; dialectical methods and evolutionary patterns, system analysis, comparison and synthesis, mathematical statistics and graphical method.

3 Results and Discussion

Financial transactions in Ukraine are also conducted by foreign legal entities and individuals who have a residence in Ukraine (residents) or operate outside Ukraine (non-residents). The structure of the financial system of Ukraine is shown in Fig. 1.

The relationship between the elements of the financial system is carried out using various instruments such as taxes, fees, deductions, investments, loans, subsidies, subventions, prices and tariffs, quotas, licenses, issuance of funds, securities, asset sales, formation and use insurance funds, etc. Such interaction takes place within a certain financial and credit mechanism.

**Figure 1 – Components of the financial system of Ukraine**  
Source: Official web-site of the Ministry of finance of Ukraine.



Functioning of the financial system based on the circulation of financial resources is aimed at creating favorable conditions for social production.

The financial system is characterized by ambiguity, it is actively investigated by local and foreign analysts. In local science, there are very few fundamental scientific studies that are directly devoted to the analysis of the state of the financial system and to the substantiation of directions for its development (Stukalo, 2012).

The issue of further development of the financial system in Ukraine is debatable. The most general tendency in the development of finance is the transformation of the financial system into an independent infrastructure sector, which has a growing influence on the economic situation in each individual country and in the world as a whole.

The main task of financial management bodies is to ensure coherence in the functioning of individual spheres and parts of financial relations. This could be achieved by a clear separation of functions and authorities between financial bodies and institutions (Alfred Tat-Kei Ho, 2005). The scheme of

management of the financial system, as well as the directions of activity of bodies and institutions of financial management characterizes the information given in the table.

**Table 1 – Management of the financial system, its spheres and elements**

Financial bodies and institutions	Elements of financial system	Areas of activity, functions
Ministry of finance	State budget	Composition and execution
	State credit	Issue of loans, use of borrowed funds, repayment of debts
	International financial relations	Interaction with governments of other countries, international organizations and international financial institutions
	Finance of enterprise	Normative and organizational regulation of financial activity
State Treasury	State budget	Execution of the State Budget: financing of expenditures by region
Control and audit service	State budget	Audits, compilation and execution of budgets, control over the use of budget allocations
	Public sector finance	Control over financial activities
State Tax Administration	State budget, national trust funds	Accounting of taxpayers and obligatory payments, control over observance of tax legislation
The Accounting Chamber of the Verkhovna Rada	State budget	Control from the standpoint of macroeconomic, financial regulation and financial policy. Control over drafting and execution of the budget
	State credit	Control over the attraction, use and repayment of state loans
	Financial market	Control in the field of monetary policy

Source: Created by authors according to statutory documents of the state institutions

The central place in the financial management in Ukraine, as well as any other state, is the Ministry of Finance. It is assigned the task of general management of the whole financial system of the country. Its most important functions are (Official web-site of the Mministry of finance of Ukraine,2019):

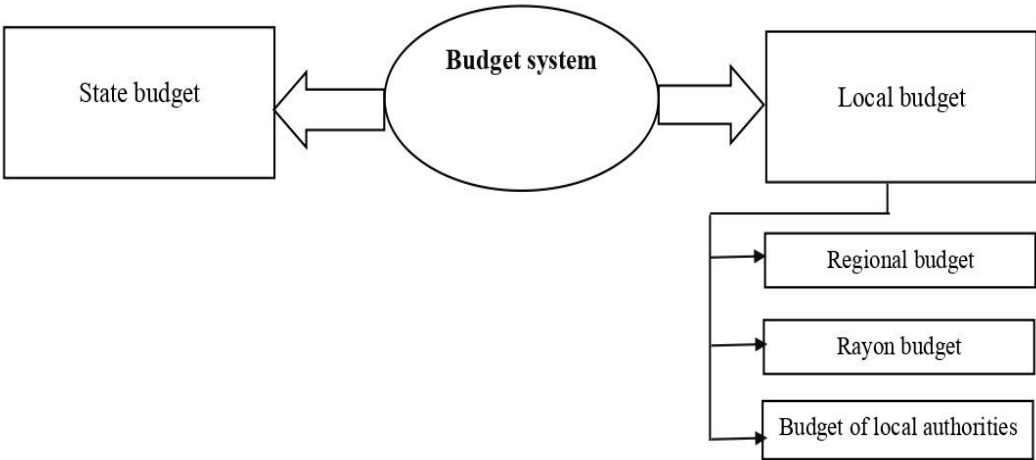
- 1) ensuring the formation and implementation of state financial and fiscal policy, state policy in the field of state election control, accounting, issue and carrying out of lotteries;
- 2) ensuring the formation and implementation of the state policy in the area of control over observance of budget legislation, state internal financial control, treasury service of budget funds, prevention and counteraction to legalization (laundering) of incomes received illegally or due to financing of terrorism;
- 3) ensures the formation and implementation of a single state tax and customs policy, state policy on administering a single contribution to compulsory state social insurance, state policy in the field of combating offenses when applying tax and customs legislation, state financial policy in the field of cooperation with foreign states, banks and international financial organizations, as well as legislation on issues of single payment, state policy in the field of production, use and storage of precious metals and precious stones, precious stones of organogenic formation and semiprecious stones, their circulation and accounting;
- 4) ensuring the formation of state policy in the field of organization and control of the production of securities, documents of strict accountability;
- 5) ensuring the concentration of financial resources on the priority areas of socio-economic development of Ukraine.

The mission of the Ministry of Finance of Ukraine is to provide financial support for the implementation of state functions on the basis of sound budgetary policy and to create conditions for the sustainable development of the economy through the management of public finances on the

principles of balance, efficiency, impartiality, integrity, sustainability and transparency (Official web-site of the Mministry of finance of Ukraine, 2019).

Thus, the primary task of the Ministry of Finance of Ukraine is to ensure the formation of the budget policy of the country. The budget system of Ukraine consists of the state budget of Ukraine and local budgets (Fig. 2).

**Figure 2 – Budget system of Ukraine**  
Source: Official web-site of the Mministry of finance of Ukraine



Below the diagram of the analysis of revenues and expenditures of the state budget of Ukraine for 2008 to 2018.

**Figure 3 – Analysis of incomes and expenditures of the state budget of Ukraine for 2008 to 2018 (mln.UAH). Source: Official web-site of the Mministry of finance of Ukraine**



The figure shows that in recent years the budget deficit has increased. For example, in 2018 it was - 59247,9 million UAH, which is 46747,2 million UAH. more compared to 2008, which indicates a significant excess of budget expenditures over its revenues. Thus, Ukraine's loans (Official web-site of the Mministry of finance of Ukraine, 2019) in 2018 was 1514.3 million UAH.

Table 2 provides a detailed description of the revenues of the consolidated budget of Ukraine in terms of revenue items in 2018 (UAH million).

**Table 2 – Revenues of the consolidated budget of Ukraine by income December 31, 2018 (UAH million)**

Title of the article	Revenues
<b>Total (excluding intergovernmental transfers)</b>	<b>1184278,1</b>
Tax revenues	986348,5
Taxes on income, profit and increase of market value	336083,0
Income tax	229900,6
Corporate income tax	106182,3
Rents and fees for the use of other natural resources	50086,9
Internal taxes on goods and services	507158,0
Excise tax on manufactured excisable goods in Ukraine	72695,5
Excise tax on imported excisable goods in Ukraine	54062,3
Value Added Tax on Domestic Goods (including budget reimbursement)	79130,9
Value Added Tax on Imported Goods	295377,3
Taxes on international trade and external transactions	27076,6
Import duty	26560,4
Exit duty	516,2
Fee for fuel and energy resources	-6,2
Local taxes and fees	61026,4
in tc Single tax	29564,2
Other taxes and fees	4923,4
Non-tax revenues	192703,9
Income from property and entrepreneurial activity	89030,6
Administrative fees and fees, income from non-profit activities	23002,4
Other non-tax receipts	14798,8
Own receipts of budget institutions	65872,1
Income from capital operations	2801,0
Proceeds from sale of fixed capital	740,1
Proceeds from the sale of state inventories of goods	573,2
Funds from the sale of land and intangible assets	1487,7
Funds from foreign countries and international organizations	1559,0
Trust Funds	865,6

Source: Official web-site of the Ministry of finance of Ukraine

The table shows that the state receives the highest percentage in the form of income from tax revenues (83.29%), domestic taxes on goods and services are second only (42.82%), the top three revenue leaders are taxed on income, profit and increase market value (28.38%).

Hence, the financial system of Ukraine is well developed, but there are many problems that require an immediate search for ways to improve the system. The effectiveness of the functioning of the financial system essentially depends on the optimality of distribution and redistribution, which should be based on the correspondence of income received by each of its contributions to the production of GDP. Over the realization of this task all branches and branches of the financial system of financial management should work in modern conditions.

## 4 Conclusion

Summarizing the results of the research, it can be said that the present financial system interacts with other systems, such as budget, tax, insurance and others. The financial system works closely with the external environment, while acting as a subsystem of larger entities - the credit, financial, credit and economic systems of the country, which determines its functioning within the framework of generally accepted legislation and the observance of united legal norms. The value of the financial system of any country lies in the organization of monetary circulation and redistribution of capital. Thus, at present, the stage of improvement of the financial system of Ukraine continues, as it is the basis of the economic system of the country and is a connecting link between all economic actors. The activities of the financial system as a subsystem of the national economy are subordinated to the goals of the state's economic policy and stimulates the optimal pace of development. Therefore, improvement of the structure of the financial system of the country should be considered as one of the priority tasks of the development of the national economy as a whole.

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# The Changes of Housing Affordability in the Czech Republic

David Slavata

## Abstract

*The paper focuses on the comparison of housing affordability in Czech regions and the extent to which prices of apartments and rents in individual regions are more or less affordable. The affordability of housing is examined from the perspective of universally recognized indicators of housing affordability. The main parameters are the apartment price, household income and rent for the apartment. The data were processed using standard statistical methods and based on a simple mathematical model for calculating the deviation for a given region from the average prices of apartments and rents and the average values of housing affordability indicators. Data processing revealed that on average in the Czech Republic there is worse housing affordability than year ago. Prague is the most expensive region in comparison to other regions and also the least accessible region of all the regions examined.*

**Keywords:** Housing affordability, prices of flats, housing market

**JEL Classification:** R30, P50

## 1 Introduction

The paper is devoted to the comparison of main housing affordability indicators in Czech Republic and in 14 regions of Czech Republic. The comparison will be provided by using of summarized statistical housing data presented in portal [www.trzniceny.cz](http://www.trzniceny.cz), which calculates every day the average prices of real estates. At the present there is high increase of real estate prices indicated in all over the world (with some exceptions). The same trend we can indicate even in Czech Republic. The main housing affordability indicators have been monitored since the financial crises in 2008. There have been published lots of articles from the field of real estate price analyses and its relationship to the average income of households.

It is clear, the increase of house prices together with decrease or stagnation of households incomes can influence the social level of households. It is necessary to pay attention to such indicators because of its sensitiveness to the welfare of society. There has been published many articles in such topics, Halaskova, Halaskova (2016) for instance.

There are many of papers oriented to the housing market analysis as well. Such papers analyse basic housing affordability indicators. Mainly they compare international housing affordability indicators recorded from official statistical web pages of national governments Kasik, Slavata (2018).

The aim of this paper is to make housing affordability analysis by creation of the most typical indicators. There will be used some mathematical and statistical formulas to develop simple model to indicate deviations of values from its average. In searched regions there will be indicate the improvement or impairment of housing affordability of households during the period of last year. There will be compared the present values of data with the same year ago.

In scientific literature sources there are many of them analysing of real estate bubble in real estate market. In Czech Republic the real estate market prices are analysed by Cadil (2009) for instance. In his article he searches real estate bubble using of P/I indicator and OLS model. The real estate bubble defines as result of expectation of housing price increase. Such expectations accelerate increase of aggregate demand for real estates which in result empower its price increase. This accelerations work until the price bubble bursts.

The housing affordability is analysed by Kim and Lim (2014) who are searching progress of P/I affordability indicator in Ireland during 1976 and 2012. Using by Campbell – Schiller model for

calculation of present value they find out, the housing price increase expectations of households are the main explanation of P/I value. Their research clarify that price increase expectations cause up to five multiplication increase of P/I indicator value. The real estate bubble is analysed by Czech authors as well. Zemcik (2011) analyses housing price bubble by using P/I indicator. The price level of real estates it is possible to search from the point of regional GDP. Such searching is presented by Polednikova (2014).

The latest papers devoted to the analysis of real estate bubbles were presented by Gomez – Gonzales (2018). The authors were searching possible spilling of real estate price bubbles between the different countries. The authors were analysed quarterly house price data of OECD 20 countries during the 1970 – 2015. There were indicated the real estate price bubbles in all the countries. They find out that the source of the latest housing price bubble had its origin in housing price bubble in USA and it spilled to European countries.

The analysis of real estate bubbles is provided even by some national and international financial institutions such as Goldman Sachs, Czech National Central Bank. The base of their search is the comparison of past value of basic housing affordability indicators with the present ones.

The basic aim of this paper is to provide basic market analyse of house prices and rent prices in Czech regions. There were recorded data even in August 2018, so there will be provided comparison of price changes between 2019 and 2018. There will be inspected whether the prices have risen or decreased since 2018. The extent to which price movements have occurred will be investigated as well. There will be use in this paper similar analogy used in Slavata (2018) and Slavata (2015), describing housing affordability from historical point of view.

As second aim of the paper, there will be the possible changes of housing affordability of regional households examined. There will be provided comparison of housing affordability changes between 2019 and 2018. There will be inspected whether the housing affordability have risen or decreased since 2018. The extent to which housing affordability movements have occurred will be investigated as well. To define selected goals it is necessary to set some housing affordability indicators, which will be explained in next chapter.

## 2 Material and Methods

To analyse housing affordability, it is necessary to set some simple indicators of housing affordability. The most common housing affordability indicator is P/I and P/R ratios. To make an analysis it is necessary to record regional prices of houses as well as regional rents of average flats. Such results should be compared with average regional income of households. The basic housing affordability indicators are as follows (+) and (2):

$$PI = P/I \quad (1)$$

where P..... average flat price  
I..... average employee income

$$PR = P/R \quad (2)$$

where P..... average flat price  
R..... average year rent of average flat

PI (formula 1) indicator is a basic indicator used to measure housing affordability. Its value says how many year incomes to purchase an average flat. The indicator is used by bank officers to make right decisions in mortgages providing. PR (formula 2) indicator inverse to rate of return says how many year rents to pay a market price of average flat. As lower the PR's indicator value as favourable the flat purchase is. It is recommended by theoretical literature to buy the flat if its value is lower than 15. If its value is higher of 15 the more favourable to rent the flat.



The extent to which housing prices are available will be examined. In the paper there will be the values of PR and PI indicators compared. There will be calculated the deviation of its values to the average of all the regions. Such deviation explains the possible unavailability or affordability considering to the average calculated from the regional values. To summarize partial unavailability or affordability of PR and PI separately, the PR and PI ratios are transformed into OU indicator. The formula follows:

$$OU (\%) = (((P_n/I_n + P_n/R_n) - (\sum (P/I + P/R)/U)) / (\sum (P/I + P/R)/U)) * 100 \quad (3)$$

where P..... average flat price  
 I..... average employee year income  
 R..... average year rent  
 n..... the region  
 U..... total number of regions  
 OU..... deviation in % per each region

The data used in this research were from real estate servers recorded. The prices were calculated from partial ads, which express likely the most dynamical source of such information. The official statistical data are reachable with round three to six month prolongation. If in some cases it is not possible to record the data, the official statistical data will be used. As source will be use the official statistical web page of Czech Statistical Office. The main source of real estate data describing the regional house prices will be [www.trzniceny.cz](http://www.trzniceny.cz), which calculates every day average prices on the level of Czech regions.

### 3 Results and Discussion

The most recent data of flat prices and salaries are in next table 1 shown. It is clear the highest price and highest rents are indicated in Prague. Prague is even one of the European the most expensive region, many other researches present. The price per m2 is almost twice as high as the second most expensive region in Czech Republic (region Jihomoravský 48,5 thousands per m2). The most cheap region is region Ústecký with its price 16,3 thousand of Kč per m2 on the other hand.

The segment of rents show Prague as the most expensive region. Prague's monthly rent per m2 reach 358,- Kč per m2 for the average flat. The most cheap region is region Ústecký on the other hand. The average month rent per m2 is 151,- Kč per m2. Prague month rent is even more than twice higher than the rent in the most cheap region.

The average salaries were the highest in Prague as well. It reached 497 400,-Kč. The lowest salary was indicated in Karlovarský region (340 620,- Kč per year) the table 1 shows.

**Table 1 – Flat prices, rents on 25.7.2019 and salaries on 1<sup>st</sup> quarter of 2019 in regions**

Region	Price per m2 in thousands of CZK	Month rent per m2 in CZK	Gross year salary in CZK
Praha	94,60	358,00	497 400,00
Jihomoravský	48,50	223,00	375 300,00
Karlovarský	37,00	166,00	340 620,00
Středočeský	42,00	201,00	389 568,00
Plzeňský	34,50	180,00	376 848,00
Liberecký	32,10	173,00	360 408,00
Jihočeský	32,60	170,00	350 100,00
Vysočina	29,80	159,00	354 840,00
Královéhradecký	36,60	179,00	356 880,00
Pardubický	30,20	178,00	346 464,00
Zlínský	34,50	189,00	342 396,00
Olomoucký	29,80	166,00	347 868,00

Moravskoslezský	21,70	166,00	348 744,00
Ústecký	16,30	151,00	358 740,00

Source: [www.trznice.cz](http://www.trznice.cz), [www.czso.cz](http://www.czso.cz)

Whereas a similar survey was carried out last year (7/2018), it is possible to indicate the year increases or decreases. The increase of flat prices was indicated in all of regions. The average price increase for all the regions was +10,07%. The highest increase of year flat price was indicated in region Ústecký. To compare the previous year, there was indicated +23,5 % increase of flat price. The lowest year increase was indicated in region Karlovarský (+3,64%) on the other hand. The prices in Prague in comparison to previous year increased by 6,41%. The situation in rents looks to be similar. In average there was indicated the increase +8,51%. The highest increase was indicated in Moravskoslezský region +25,75%. The lowest was +1,12% in Plzeňský region. The rents in Prague increased by 1,41%. The salaries increased in average by +7,56%. The highest increase was indicated in Olomoucký region +8,74%. The lowest in Jihomoravský region +6,57%. The prices of flats increased disproportionately. The flat prices increased 1,33 times more in comparison to average salaries. Such situation can possibly indicate the increasing of flat price bubble.

In the next table 2 there are presented all the calculations of each affordability indicators described in this chapter. In the table 2 there are presented the values of indicators in 7/2019, 3/2019 and 7/2018. The values of indicators are recalculated in Table 3. The highest values of indicators are in Prague, the table 2 presents. The value of PI indicator during the period shown moves from 12,75 to 13,49. It explains that to buy the average flat its necessary to dispose of 13 times year average salary. Even PR indicator is the highest in Prague. Its value moves from 20,99 to 22,02. To pay the flat value it is necessary to rent it for around 22 years for recent market rent.

**Table 2 - Values of indicators**

Region	P/I (7/19)	P/I (3/19)	P/I (7/18)	P/R (7/19)	P/R (3/19)	P/R (7/18)
Praha	13,31	12,75	13,49	22,02	21,48	20,99
Jihomoravský	9,05	8,61	9,18	18,12	19,25	18,16
Karlovarský	7,60	6,97	7,92	18,57	20,26	18,95
Středočeský	7,55	7,01	7,29	17,41	17,25	16,94
Plzeňský	6,41	6,07	6,57	15,97	16,62	15,31
Liberecký	6,23	5,67	5,87	15,46	15,01	14,42
Jihočeský	6,52	5,96	5,98	15,98	17,33	15,75
Vysočina	5,88	5,48	5,93	15,62	15,02	15,31
Královéhradecký	7,18	6,10	6,84	17,04	15,98	16,17
Pardubický	6,10	5,87	6,22	14,14	15,07	15,09
Zlínský	7,05	6,15	6,69	15,21	15,61	14,43
Olomoucký	6,00	5,61	6,28	14,96	15,27	15,14
Moravskoslezský	4,36	3,88	4,17	10,89	10,68	12,25
Ústecký	3,18	2,99	2,75	9,00	8,89	8,21

Source: own calculations

The lowest values of indicators are in Ústecký region the table 2 shows. From that point of view the most affordable flats are in Ústecký region. The average value calculated from all the regions move round 6,5 in case of PI indicator. In case of PR indicator the value moves round 15,7. In the next table 3 there are summarised the values of PR and PI indicators and compared with the values of regions and calculated its deviation using mathematical formula 3.

The table 3 using the values of deviation in %, suggests how affordable are the flats in searched regions, due to its average values. The most unaffordable flats it is seen are in Prague region. In comparison with average of regional values the housing affordability is 56% worse in comparison to regional average. The sum of P/I and P/R ratios is more than 35. From that point of view the housing

affordability in Prague is the worst. On the other hand the most affordable flats you can find in Ústecký region the table 3 shows. The deviation is 46%.

**Table 3 – values of PI + PR indicators, deviation**

Region	P/I + P/R (7/19)	P/I + P/R (3/19)	P/I + P/R (7/18)	deviation (7/19)	deviation (3/19)	deviation (7/18)
Praha	35,33	34,23	34,48	0,5614	0,5320	0,5457
Jihomoravský	27,17	27,85	27,34	0,2006	0,2464	0,2258
Karlovarský	26,18	27,23	26,87	0,1568	0,2188	0,2047
Středočeský	24,96	24,26	24,23	0,1030	0,0857	0,0863
Plzeňský	22,38	22,69	21,87	-0,0110	0,0152	-0,0194
Liberecký	21,70	20,68	20,29	-0,0412	-0,0744	-0,0904
Jihočeský	22,50	23,29	21,73	-0,0058	0,0423	-0,0259
Vysočina	21,50	20,51	21,23	-0,0501	-0,0823	-0,0482
Královéhradecký	24,22	22,08	23,01	0,0702	-0,0119	0,0316
Pardubický	20,24	20,94	21,32	-0,1056	-0,0629	-0,0444
Zlínský	22,26	21,75	21,12	-0,0161	-0,0264	-0,0534
Olomoucký	20,96	20,88	21,42	-0,0740	-0,0657	-0,0399
Moravskoslezský	15,25	14,56	16,42	-0,3262	-0,3483	-0,2639
Ústecký	12,18	11,88	10,96	-0,4619	-0,4683	-0,5088

Source: own calculations

Due to fact that the similar data were recorded last year (and in 3/2019) it is possible to calculate the changes of deviation. There was even used the same methodology to record the data, because of it they are highly comparable. The calculation of deviation changes are quantified in next table 4. The highest deviation of average affordability was reached in Ústecký region +11,14%. By other words the housing affordability in comparison with previous year decreased by 11,14%. On the other hand Ústecký region is still region with the lowest values of housing affordability indicators. The affordability in Prague dropped between 2019 and 2018 by +2,48%. The best improvement on the other hand was indicated in Moravskoslezský region. The housing affordability improved by 7,13%. The deviation calculated for the Czech Republic has increased by +1,45%.

**Table 4 – Deviation and changes of deviations in %**

Region	Deviation of average affordability % (7/19-7/18 *100)	Changes of deviation %
Praha	2,48	2,87
Jihomoravský	-0,64	-11,17
Karlovarský	-2,58	-23,39
Středočeský	3,01	19,28
Plzeňský	2,31	43,07
Liberecký	6,93	54,38
Jihočeský	3,54	77,53
Vysočina	1,25	-3,85
Královéhradecký	5,25	122,13
Pardubický	-5,05	-137,94
Zlínský	5,44	69,77
Olomoucký	-2,15	-85,56
Moravskoslezský	-7,13	-23,59
Ústecký	11,14	9,21

Source: own calculations

The % changes of deviation explain the improvements (-) or impairment (+) of the housing affordability. The best improvements (-137,94%) was calculated in Pardubický region. The highest impairments was calculated in Královehradecský region (+122,13). In Prague the situation got worse by +2,87%. The average changes of housing affordability calculated for the Czech Republic has worsened by 8,05% since 2018.

#### 4 Conclusion

In the paper there was the housing affordability analysis done. The affordability was examined from the point of regions of Czech Republic. The analysis certified the trend of house price increase in Czech Republic, which is the common trend in most of European countries. The Czech Republic is not an exception. The prices of flats have increased by 10,07% since 2018. The rents has increased by 8,52% since 2018. The flat prices have increased 1,33 times more in comparison to average salaries since 2018. Such situation can possibly indicate the increasing of **flat price bubble**.

The **lowest housing affordability** from the point of selected indicators was indicated in Prague with the values of PI (13,31) and PR (22,02). The **highest level of housing affordability** was indicated in Ústecký region with the values of PI (3,18) and PR (9).

The analysis of housing affordability in Czech Republic dropped by 1,45%. In average the situation **has worsen since 2018**. The highest improvement in housing affordability was indicated in Moravskoslezský region (7,13%). The highest impairments in housing affordability was indicated in Ústecký region (11,14) on the other hand. The average changes of housing affordability calculated for the Czech Republic **has worsened** by 8,05% since 2018. The best improvements (-137,94%) was calculated in Pardubický region. The highest impairments was calculated in Královehradecský region (+122,13).

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# Evaluation of Impacts of Subsidies

Lucie Sobotková, Ondřej Kočí

## Abstract

*The article deals with the issue of assessing the impact of subsidies provided from EU funds. The aim is to evaluate how and whether it can be captured impacts of subsidies provided in general. The example of subsidies provided was chosen through the Operational Program Enterprise and Innovation for Competitiveness, which is mainly used by private sector enterprises. A complicating factor is the fact that subsidies are always provided for a longer period of time. For this reason, analysis through time trends is difficult to implement. Therefore, rather space-based analysis was used, comparing the values of subsidies drawn among individual regions. For analysis, correspondence analysis was chosen, which allows to capture the predominant character of subsidies provided (here according to the most frequently drawn volume of provided support). It was necessary to categorize, which on the one hand more generalized the analyzed data. At the same time, it allowed to eliminate the impact of extreme subsidies in terms of their amount. The results were further compared with the values of the selected statistical indicators that relate to the respective support areas. However, on the basis of this approach, the impact that would be visibly reflected in the region's economic situation has not been proven.*

**Keywords:** European Union, regional policy, subsidies

**JEL Classification:** H87, O38, R11

## 1 Introduction

Regional policy is still at the forefront of EU policies. Its significance can be deduced from the fact that within it, funds are allocated in the form of subsidy policy to various areas to support development, especially at local level. We can say that it acts as a catalyst that facilitates the implementation of other policies, increases the efficiency of public and private financial resources. Many multiplier effects are triggered.

This article focuses on the evaluation of subsidy policy. It seeks to establish a link between the EU funds drawn and their impact on the development of the region concerned. The article seeks to capture these impacts in the most discussed area of subsidies, which are subsidies to private enterprises. Specifically, these are the two priority areas of the Operational Program Enterprise and Innovation for Competitiveness, where the impacts are identified through statistical indicators and their different developments among individual regions of the Czech Republic. The assumption is based on the above-mentioned thesis on the positive impacts of subsidies on the development of the local economy.

## 2 Regional policy of the EU

Regional policy is also referred to as cohesion policy, as it expresses solidarity between EU countries (and individual regions). Furthermore, the importance of regional policy stems from its universality. Indeed, the resources invested affect various areas of socio-economic development, the funds spent finance the transport and communication infrastructure, support a sustainability-based economy and promote green resources, support the innovation and competitiveness of SMEs, create new jobs, strengthen and modernize education systems and deepen social inclusion (see EC, 2014).

The purpose of regional policy is to promote the development and harmonious development, in particular by reducing social and economic disparities among regions (see EU, 2012). Zahradník (2017) recalls that thus formulated policy is a development policy that is also aimed at promoting long-term sustainable growth and prosperity by removing barriers to growth and facilitating the process of structural adjustment.

This policy is close to another notion of convergence. This can be characterized simply, for example, by the Commission Communication (2005), according to which the main objective of convergence is to support growth potential for achieving higher growth rates. This objective should be seen taking into account the increase in regional disparities and efforts to reduce these differences. This is expected to contribute to the competitiveness of the Union as a whole. Minařík, Borůvková, Vystrčil (2013) draw attention to the original concept of convergence (the turn of the 1980s and 1990s), which was derived only for the area of economic growth. The approach was based on a neoclassical growth model, where the key issue was to determine whether poorer countries or regions tend to grow faster than the richer countries, and these automatic forces lead to convergence of income or product levels per capita over time (cf. e.g. Barro, Sala-i-Martin, 1992).

Consequently, the concepts of cohesion and convergence partly overlap. In this context, Zahradník (2017) notes that finding the appropriate definitions of both concepts will make it easier to solve the old dilemma. This consists in determining what areas should be priorities for cohesion policy targeting. That is, whether the beneficiaries should only be those in the poorest or "only" poor regions, or whether the beneficiaries can be entities from all EU regions. The prevailing opinion of the present on this issue is that cohesion policy should cover all regions. It does not have to be concentrated only on the least developed regions. Convergence can thus be perceived as complementary to the concept of competitiveness.

This widespread picture of the focus of EU regional policy says more about its very nature and current implementation. Alternatively, we can also better perceive the current settings of individual sub-objectives (expressed at national level by each operational program). Moreover, as Fiala et al. (2018), it is now largely questionable whether a common market project would be a decisive impulse for the establishing a common regional policy, or whether the attempt to mitigate economic disparities could be considered as the main stimulus. Thus, the realization of the four freedoms (free movement of goods, services, labor and capital) cannot in itself ensure balanced economic growth throughout the common market (see eg Fiala et al., 2018). From this point of view, regional policy is rightly marked as "controversial". Supporting the mitigation of the common market paradoxically leads to the implementing measures that act against the principles of free competition.

The above arguments thus raise the question of how regional policy is currently being implemented and how it contributes to deepening the cohesion of EU regions and at the same time contributes to increasing competitiveness (eg at regional level).

## **2.1 The current form of EU regional policy**

The actual implementation of regional policy is based on the partnership between the national and regional authorities of the Member States on the one hand and the European Commission on the other side. For this purpose, funds are earmarked in the European funds, which in the current programming period are called Structural and Investment Funds or other funds. The link between the EU and the Member State is then evident in the investment priorities that Member States will create. At the same time, they will present proposals for their operational programs setting out its objectives for specific areas. When they are discussed by the European Commission with the authorities of the Member States, they are implemented and the efforts are focused on achieving both national and European goals.

The content of EU regional policy is gradually evolving. We are now talking about its fifth development stage, which is embedded in the programming period 2014 to 2020. We can say that its form is focused on performance, economy and efficiency. Although its targeting of weak regions has been mentioned above, the degree of solidarity with these regions gradually loosens. Its targeting is so much wider than it was in previous programming periods. On the other hand, it is possible to perceive a deepening effort to make its use conditional on many qualitative conditions.

Current regional policy focuses on two goals:

- investment for growth and employment,
- European territorial cooperation.

Both objectives and their achievement are thus evident in the individual operational programs linked to the provision of subsidies (although there is an apparent effort to make more use of returnable financial instruments). It is also worth mentioning the rule, which was adopted from the previous programming period 2007 - 2013. This is related to the possibility of drawing on funds after 2020. This is the so-called "n + 3" rule, which affects the eligibility of expenditure (in the previous period a more limited rule "n + 2"). This time rule is an advantage for the implementation of regional policy, because it allows for a better drawdown of the prepared funds. However, in the case of analysis it makes its implementation more difficult. The definite timing of the impacts is less difficult to define.

In the case of the Czech Republic, funds from the Structural and Investment Funds are allocated through ten national operational programs in this programming period (cf. MMR, 2019):

- Operational Programme Enterprise and Innovation for Competitiveness,
- Operational Programme Research, Development and Education,
- Operational Programme Employment,
- Operational Programme Transport,
- Operational Programme Environment,
- Integrated Regional Operational Programme,
- Operational Programme Prague – Growth Pole of the Czech Republic,
- Operational Programme Technical Assistance,
- Operational Programme Fisheries 2014–2020,
- Rural Development Programme.

## 2.2 Drawdown and impact assessment

The success of regional policy implementation is primarily related to the choice of the appropriate instrument. Significant tools by which regional policy can influence the economic and social situation in the region are the instruments supporting the allocation of resources (Armstrong and Taylor, 2000). Here we can include all forms of capital - that is, human, material and financial. In the context of this article, we will be particularly interested in the funds that are provided, as stated above through the Structural and Investment Funds in the form of subsidies.

The basis for providing resources and evaluating their use in the 2014-2020 programming period was based on a certain reform of the entire cohesion policy. Zahradník (2017) outlines ten basic pillars aiming to improve the entire resource delivery system so that regional policy can respond adequately to EU challenges. It is on this level that the aim of this paper is to find out the situation in the drawdown of funds and, based on statistical indicators to evaluate the impacts of provided subsidies on the situation in the Czech Republic.

The above overview of the ten national operational programs it is diverse in its entirety. Therefore, the focus was only on selected areas of support. Specifically, the OP Enterprise and Innovation for Competitiveness was selected and managed by the Ministry of Industry and Trade. This program is also quite heterogeneous. The funds are further provided within the sub-priority axes:

- Promotion of research and development for innovation,
- Development of SMEs' entrepreneurship and competitiveness,
- Efficient energy management, development of energy infrastructure and renewable energy sources, support for the introduction of new technologies in the management of energy and secondary raw materials,
- Development of high-speed internet access networks and information and communications technologies,
- Technical assistance.



Since the targeting needs to be supplemented by static indicators, the first priority axis, which is aimed at supporting research and innovation creation, has been chosen.

These are mainly private sector entities that implement innovation-related projects. In order to capture the impact of these subsidies, it is necessary to look at the reasons and possible impacts that granting subsidies can bring to private entities. Vanino, Roper, Becker (2019) mention four possible effects of public support on businesses and their performance or innovation capacity:

- public support can increase liquidity and strengthen the financial situation of the business by helping to overcome the innovation risks and increasing the probability that the company will realize a risk project; at the same time, however, the company's dependence on support increases,
- public support promotes private R&D expenditure and innovation through cost sharing;
- the importance of public support is particularly evident when innovations bring extensive social benefits,
- public support can encourage cooperation with other actors, creating new knowledge, experience and skills.

The overview is rather general. However, from the point of view of our investigation, it suggests that the potential impacts may be reflected in the economic situation of the supported enterprise. However, Bayona-Sáez, García-Marco (2010) draws attention to possible difficulties in choosing appropriate indicators. In their view, public support has an impact on strengthening the company's competitiveness (achieving a competitive advantage). However, it no longer reflects in strengthening profitability.

The impact of support was also addressed by Fotopoulos and Storey (2019), who demonstrated, among other things, different impacts in the area. In the medium term, support for enterprises in low-enterprise areas seems less effective. Conversely, in areas with market-growing potential, it is reflected in higher economic growth, an increase in attractiveness for immigrants and a higher level of human capital.

From the database of the Czech Statistical Office, the analysis focused on indicators that relate to recording changes in innovation. However, before approaching appropriate indicators, it is still necessary to stop the way the whole assessment is carried out.

### **3 Methodology of analysis**

The basic criterion of the whole evaluation is the situation of the multi-year drawdown of most of the Structural and Investment Fund subsidies. This reduces the possibility of using time-based analysis over time. In addition, considering the differing lengths of drawdowns across individual grant applications, and considering that we only have the knowledge of the total amount drawn (not sorted per year), the above-mentioned method of assessment over time becomes more complicated.

The analysis of spatial drawing of the relevant funds became the basis of the analysis. The Ministry for Regional Development (MMR, 2019) provides a constantly updated overview of submitted and implemented grant applications. At the same time, the drawdown can be distinguished at the level of individual regions. The limitation here was the fact that some projects are carried out in a territory involving more regions. In this respect, some simplification was made and the funds drawn were evenly distributed among the regions. The assumption of the possibility to determine the region in which the respective grant is implemented is thus the cornerstone of the whole analysis. The disadvantage is some distortion of the analysis results. With regard to the low range of multi-country projects in comparison with other projects implemented in the territory of one region, the possibility of distorting the results is acceptable.

The analysis therefore focused on the comparison of the drawdown of funds in individual regions. The correspondence analysis was chosen as the main tool of the whole comparison. This is a method based on an analysis of the structure of interdependencies of two or more nominal and ordinal

variables arranged in a pivot table. According to Clausen (1998), the main purpose of correspondence analysis is to reveal the structure of a data set matrix by replacing raw data with a simpler data matrix without losing substantial information. This means eliminating noise and unnecessary information.

According to Hebák et al. (2007) is a popular tool method especially when processing larger pivot tables that contain multiple categories, and when graphical methods become more transparent than numeric tables. Since correspondence analysis essentially allows research on the dependencies of nominal and ordinal variables, it is necessary to first categorize any continuous variables.

The graphical output of the so-called correspondence map contains two groups of points, namely I-points of line categories (objects) and J-points of column categories (characters). Each row (or column) of the correspondence table can be imagined as a point in the I-dimensional (J-dimensional) space. The relative distances of the points can be transferred to the two-dimensional Euclidean plane, in which the points will correspond to the individual categories. The ordinary output of the correspondence analysis contains the "best" two-dimensional data display.

Each table row or column represents a point in the J-dimensional (or I-dimensional) space with coordinates corresponding to the values of the respective profiles. You can then calculate distances between points. By distance we mean the distance between line and column profiles. The purpose of the whole analysis is, according to Hebák et al. (2007) convert distance into Euclidean space (preferably two-dimensional), in which points correspond to individual categories.

The graphical representation of the categories represents the correspondence map. The closer the row and column points in the correspondence map are, the greater the correspondence between the corresponding categories.

#### **4 Statistical indicators**

The evaluation in this article is based on the analysis of the drawing of subsidies from Priority Axis 1.01 Development of Research and Development for Innovation. From the statistical indicators that would capture the level of innovation in individual regions, the Indicator on R&D in individual regions of the Czech Republic (see CZSO, 2019) was chosen. Again, there is some restriction in the form of published time series of provided data. In terms of the programming period 2014 - 2020, the reported time series is shortened to the evaluated period 2015 to 2017. The first mentioned year was selected with regard to the start of drawing of funds by applicant entities. As the analysis focuses on the spatial distribution of the drawdown of the relevant funds, the average value in the expenditures of individual regions for innovations between the years shown was found. On the basis of these, it is possible to create a ranking of regions according to the amount of money spent on relevant innovations.

The indicator of R&D expenditures, which is monitored by the Czech Statistical Office, was chosen as the monitored statistical indicator. This total expenditure indicator was chosen. This is because the projects implemented are not funded solely by private or public sources. Referring to the principles of EU regional policy, the principle of complementarity is fully respected here (see eg El-Agraa, 2011, Zahradník, 2017). The essence of this principle lies in the fact that at least some kind of financial source from the receiving state must contribute to the financing of projects. EU resources must not replace but merely complement national resources.

The article examines mostly private sector projects that use subsidies as a complementary resource. Because the investment includes both sources, the total expenditure indicator is used in the analysis. The share of public and private funding in financing is not uniform and has therefore been abstracted from the analysis.

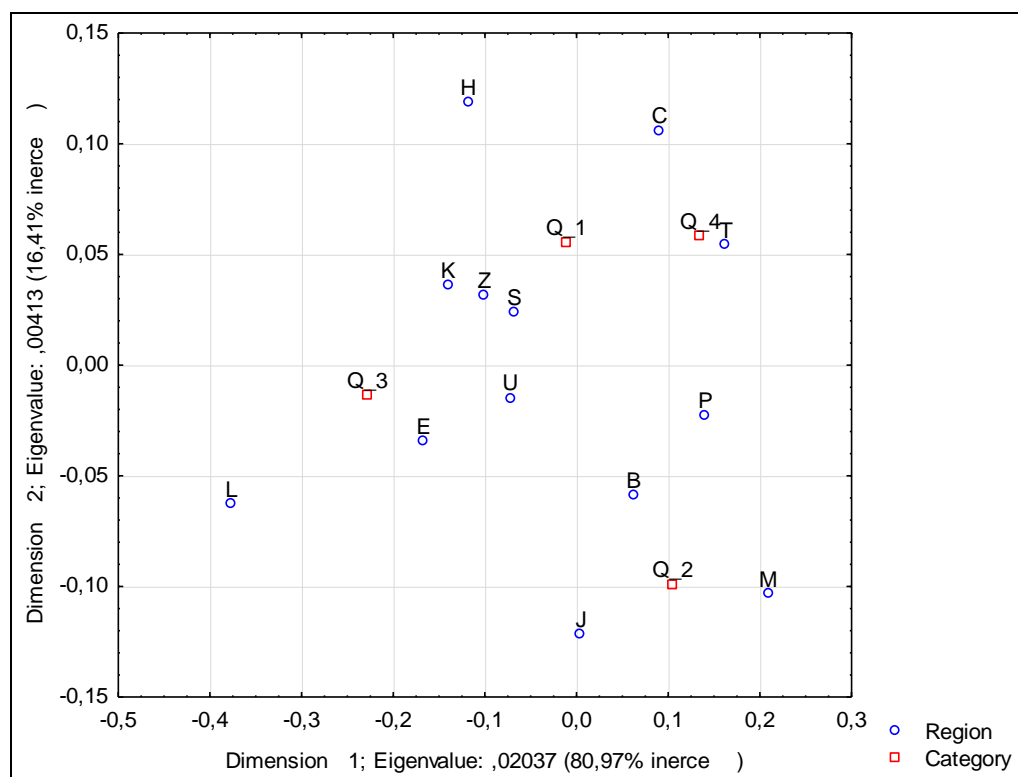
## 5 Analysis of the territorial structure of drawing support from EU funds

As mentioned above, the analysis of drawing on funds for the support of innovations was focused on the structure of its distribution among the regions of the Czech Republic. The correspondence analysis used works with categorized variables. It is based on an analysis of frequencies between categories. In this respect, it was necessary to categorize the amount drawn. The quantile distribution was used as the basis for this categorization. Specifically, it was the finding of lower and upper quartile and median. The result is the creation of four groups recording the amount drawn and the number of entities in the relevant category. The following categories are used in the following contact map:

- Q\_1 - very low value of EU funds used,
- Q\_2 - low value of drawn EU funds,
- Q\_3 - higher value of drawn EU funds,
- Q\_4 - very high level of utilization of EU funds.

**Figure 1 – Correspondent map for priority axes Promotion of research and development for innovation**

Source: own calculation



Notes: B – The South-Moravian Region, C – The South-Bohemian Region, E – The Pardubice Region, H – The Hradec Kralove Region, J – The Vysocina Region, K – The Karlovy Vary Region, L – The Liberec Region, M – The Olomouc Region, P – The Plzen Region, S – The Central Bohemia Region, T – The Moravian-Silesian Region, U – The Usti Region, Z – The Zlin Region.

It can be unequivocally stated that the highest number of entities applying for a high level of subsidy (in comparison with other entities) - category Q\_4, is in the Moravian-Silesian Region. The situation is similar in South Bohemia. In this case, however, it can be stated that, within this region, a significant proportion of entities also applied for a subsidy that falls under the category of lowest subsidies (Q\_1)

compared to other amounts drawn. However, the distance between the region's position and the category of subsidy is shorter in the case of Q<sub>4</sub>.

On the other hand, there are Central Bohemia, Zlín, Karlovy Vary and also Hradec Králové regions. A typical phenomenon in these regions is the representation of a significant number of applicants for subsidies at the level of the lowest values of funds provided.

The other regions were placed among the two central categories in terms of the amount of subsidies drawn. The Olomoucký, Vysočina, Jihomoravský and Plzeňský regions draw in particular subsidies in terms of their amount, which can be classified as lower quartile and median (Q<sub>2</sub>). Another group was created by the Pardubice, Ústí nad Labem and Liberecký Regions. In terms of the number of entities, the amount of subsidies between the median and the upper quartile is typical for these regions.

Correspondence analysis thus created the structure of regions and their subjects according to their characteristic behavior. With regard to the objective of regional policy, it is possible to look at the structure of beneficiaries and the character of their regions. The maturity of the region is assessed by the amount of GDP per capita produced (see eg Eurostat, 2015). Table 1 below gives an overview of GDP per capita. In view of the above-mentioned correspondence analysis, which evaluates the use of subsidies since 2015, the value of GDP per capita was also expressed by means of an average value. As this is a ratio indicator, the available GDP figures for 2015 to 2017 are expressed as a geometric mean in the table. In the same way, the average GDP growth per capita was measured in 2015 to 2017. The arithmetic average was chosen to determine the average R&D expenditure.

**Table 1 - Selected characteristics of the regions of the Czech Republic**

Region	GDP per capita		Growth of GDP per capita		R&D expenditure	
	Amount (CZK)	Order	Rate of growth	Order	Amount (mil. CZK)	Order
B	437 725,2	1	103,6	13	16 050,9	1
C	372 348,5	8	103,9	9	2 812,8	7
E	369 806,4	9	105,2	4	2 652,4	9
H	406 207,4	4	107,2	1	1 981,9	10
J	372 745,1	7	104,7	5	1 442,7	11
K	301 270,2	13	103,8	10	195,3	13
L	350 149,5	11	104,7	6	2 689,4	8
M	352 819,9	10	105,5	3	3 061,0	5
P	422 285,1	2	104,3	8	3 889,4	4
S	418 436,0	3	105,8	2	11 841,0	2
T	376 286,9	6	104,5	7	5 090,4	3
U	336 345,1	12	103,7	12	953,6	12
Z	390 020,1	5	103,8	11	2 837,0	6

Source: CZSO, own calculation

Comparison of the results of correspondence analysis with statistical indicators is more complicated in that level, that the outputs of correspondence analysis are rather illustrative. Quantitative expression through points between points is also distorted by the categorization of input variables.

It was pointed out above that the entities that used the highest amount of subsidies are located in the Moravian-Silesian and South Bohemian regions. However, from the point of view of the region's development according to the GDP produced per capita, these are rather average regions (see the 6th and 8th rank among regions). The same criterion can also be stated in the supplementary criterion of the growth rate of the respective region (see 7th and 9th order).

The R&D expenditure indicator does not correspond in all respects to the order of the regions set by the previous indicators. In this case, the Moravian-Silesian Region shows the third highest

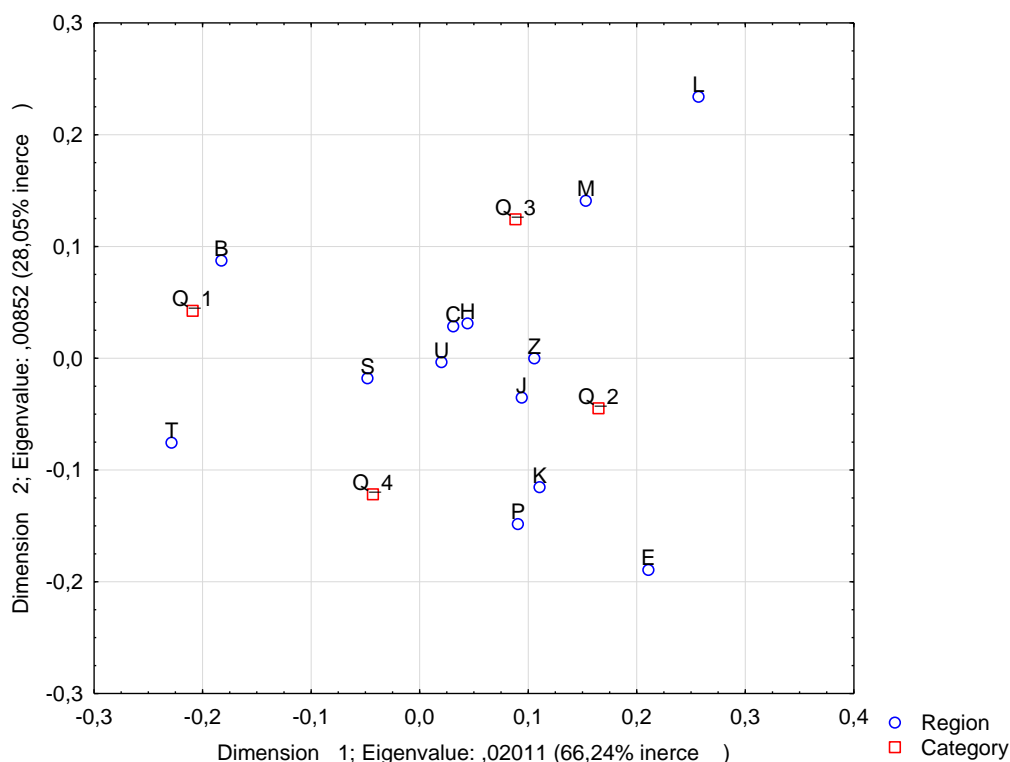
expenditure in the surveyed area (far from South Moravia and Central Bohemia). The South Bohemian Region once again ranked among the middle of the monitored regions.

The results of the analysis thus confirm the above-mentioned current concept of regional policy. Thus, the funds used in regional policy can affect all regions (not only the poorest). Another question is then to assess the impact of the aid provided. By means of statistical indicators it is not possible to unequivocally demonstrate the direct impact of implemented projects (supported by EU subsidies) on the economic performance of the region. One example is the Hradec Králové Region, which, on the one hand, recorded the highest average growth of the regional economy. The projects implemented here all have the closest to the category of very low spending. In addition, the R&D expenditures rank this region at the end of the region's imaginary ranking.

Another indicator that can be used to analyze the use of funds by the beneficiary is the priority axis "Efficient energy management, development of energy infrastructure and renewable energy sources, support for the introduction of new technologies in the field of energy management and secondary raw materials", which also falls under the same operational program as the priority axis analyzed above. The distribution of the drawdown of funds between individual regions is indicated in the correspondence map in Figure 2.

**Figure 2 Correspondence map for Priority Axis 1.3 of OP Enterprise and Innovation for Competitiveness**

Source: own calculation



Once again, the distribution of points is characterized by the characteristic drawdown of funds within individual regions. Rather lower volumes of funds then relate to the drawing of subsidies in the South Moravian Region. Also the Moravian-Silesian Region is closer to this lowest quartile. Higher amounts of funds allocated to individual projects are related to the Zlínský Region, the Vysočina Region, the Kralovarský Region or the Pardubice Region. The third quartile can include the Olomoucký and

Liberecký, Jihočeský and Královéhradecký regions. However, the highest amounts were allocated to projects that were implemented in the Central Bohemian Region. In the case of the Ústí Region there is a problem with its unequivocal inclusion in the relevant quartile. Its position is on the imaginary line between the third and fourth quartiles.

Like the previous Priority Axis, it was assessed through other statistical indicators, and in this case we are also interested in documenting the relevant impacts.

**Table 2 - Average increase in industrial waste production between 2014 and 2017**

Region	Average increase in waste production	Order
B	1,0913	1
H	1,0905	2
C	1,0758	3
U	1,0739	4
Z	1,0731	5
T	1,0128	6
J	1,0080	7
S	1,0047	8
L	1,0006	9
K	1,0000	10
M	0,9774	11
E	0,9719	12
P	0,9654	13

Source: CZSO, own calculation

For comparison, the indicator Industrial Waste Production, which is monitored by the Czech Statistical Office, was chosen. As this indicator includes the total waste production in tonnes, it will certainly be influenced also by the size of the region concerned (whether measured by the Region's area or by the number of entities). For this reason, the average increase (decrease) of waste production within individual regions was found between 2014 and 2017. In particular, the distribution of regions into two groups can be seen from Table 2. The larger group includes regions where waste production is increasing, while the average reduction in waste production can be combined with only three regions. The link between the volume of subsidies drawn and changes in waste production cannot be described as unambiguously proven in this case either. While the increase in production by less than 1% is proven in the South Moravian Region, which also drew very small volumes of subsidies, the Hradec Králové Region, which was included in the third quartile, was also located here. The decrease in waste production is evident in the Olomoucký, Pardubický and Plzeňský regions. Again, however, these are the regions that we ranked above in terms of drawing subsidies into various quartiles. Therefore, we cannot unambiguously determine the relevant context with the volume of drawing subsidies.

## 6 Conclusion

The article focused on assessing the impact of subsidies provision through statistical indicators. As the objective of subsidies is to achieve development support in the territory, it can be expected that the impact of the aid will be evident. The article focused on support for private sector businesses. Therefore, this is not a widely provided subsidy, which makes their relevant impact as measured by statistical indicators less evident. Another complicating factor is the fact that most subsidies are provided for a longer period of time, which makes it impossible to carry out a common time trend analysis. For this reason, the article has focused on the spatial impacts when the use of subsidies within the respective regions is compared.

Correspondence analysis was used for comparison, which simplified the evaluation of subsidies through their grading according to the above. As a result, the impact of extremely large subsidies, which could distort results in other types of analysis, has also decreased. Correspondence analysis thus enabled to divide the regions of the Czech Republic according to the prevailing amount of subsidies drawn.

With the help of statistical indicators, it was assessed whether visible impacts could be observed, which would indicate support for competitiveness or innovation associated with the volume of subsidies provided. This correlation has not been demonstrated in either case. This opens the door to discussing whether the positive impacts of granting subsidies can be captured in general, or how to justify granting subsidies.

## Acknowledgements

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# Social Security System of the Czech Population in the Context of Demographic Development

Ivan Šotkovský

## Abstract

*Today, sustainable development is seen as a balance between the three fundamental pillars: economic, environmental and social. Make the world a fair, liveable and viable, it needs a more comprehensive approach when deciding on the future development of human society. The use of demographic science knowledge can be very useful. Especially for the assessment of the status and possibilities of the social pillar, many of its analyses, theoretical and methodological knowledge can be used. Therefore, the article focuses on the process of aging of the Czech population and the impact of this trend on the social security system of the population. And all this in connection with the need and further development of social policy in the Czech Republic. In its broad scope, the basic focus is on the social security system. In its content framework, issues related primarily to the sustainability of financing of all the basic parts that we rank among benefits and support in social security are addressed. That is why the expenditure part of the state budget, managed by the Ministry of Labour and Social Affairs, comes to the fore. Preferably, an important link between demographic development is examined, focusing on population size changes and age composition. These changes then deal with possible impacts on the pension area and selected state social support benefits. The accuracy of the evaluation is based on the data quality of the Czech Statistical Office and two key ministries (Ministry of labour and social affairs and Ministry of finance).*

**Keywords:** Ageing process, demographic development, social policy, social security system, sustainable development

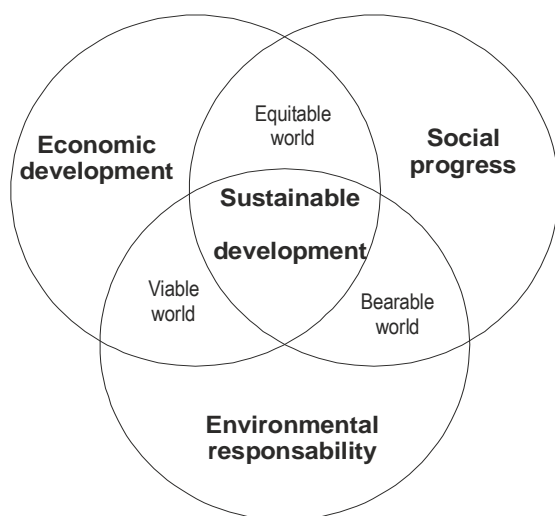
**JEL Classification:** C46, J11, J13, J14, R23

## 1 Introduction

The social security system is one of the two decisive parts of the state's social policy. The second part is the area of employment policy. In our analysis, we will focus on the social security of Czech citizens from the perspective of current and anticipated population development. Social protection alone is as important as any form of aid to improve living conditions. Governance of states and thus of human society is based on a number of policies that should ensure the so-called sustainable development. The definition proposed at the time by the Brundtland United Nations Environment Commission in our report *Our Common Future* (WCED, 1987) is very broad in terms of the notion of undermining the basic needs of future generations. From the complexity of defining and hierarchy itself to human needs (Maslow, 1954), general growth limits (Meadows et al., 1972, 1992) to the complexities of development (Buček, 1992) and its magical pentagon by Nohlen and Nuscheller. Other questions raise discussions about basic biological needs and consumption preferences (Becker, 1993).

**Figure 1 - Basic pillars of sustainable development**

Source: Adams (2006, p. 2, adapted)



The three main pillars of sustainable development are: economic, environmental and social (**Chyba! N enalezen zdroj odkazů.**). Their explanation is certainly not easy. That is why they are often very large, different, and open and thus provide a number of different and contradictory views. The human population plays a decisive role in all pillars. Moreover, the basic pillars of sustainable development are very close to the basic pillars of the geographical environment. It is geographic sciences that have long dealt with spatial integration as a result of interaction relationships between human society and the geographic environment or landscape. Because we take the territory of the state as the basic spatial unit in our research, we do not have to pay more attention to the issue of geographic approach and, in essence, to sustainable development, we will not address part of the environmental pillar of sustainable development. Perhaps only from the point of view of the habitability of the area, i.e. the population size and the related issue of the overall humanity of the evaluated area, i.e. Czech. In part we will touch the economic pillar in its subset focused on the aspect of righteousness. However, the main objective will be to focus on the social pillar and its essential aspects, which significantly affect the social security system within the social policy of the Czech Republic (Šotkovský, 2017b).

Its content is institutionally provided by the Ministry of Labour and Social Affairs of the Czech Republic (MoLSA), but mainly by its Social Policy Section. Exceeding the limits of ecological, population growth, natural resources, a living lifestyle, industrial output and sufficient food production tells us about the quality of the social values of the contemporary world. The failure to enforce and respect the desired new social perspectives on the quality of life is the result of increasing social inequality, the deterioration of natural wealth, and increasing social tensions. Social policy should contribute to mitigating these negative trends, and its concrete procedures will then determine its success rate. The aim of the expert study will be to assess the importance, success and future changes of the social policy of our state focused on the area of social security, in particular with the expected demographic trends. The most important of these are the aging process. Not only in monitoring the increase in the number of seniors, but also in terms of low fertility rates. Meanwhile, we can classify the Czech population as an aging population, which still has more aging stages ahead (old population to very old population). The extent of the ageing of Czech society is highlighted by the results of population projections of the age structure in the near future, carried out by the staff of the Czech Statistical Office. Here we will draw on the latest forecast of the development of the age structure of the Czech population, which carried out by the Czech statistical office in 2018.

## 2 Theoretical background and methodological approach

We see the social pillar as an inseparable part of sustainable development, representing an area with a visible interest in human society. We will try to assess the state and importance of the social pillar of sustainable development in our country by analysing selected components:

- Population size linked to changes in age composition, reproductive process and migration.
- Financial framework for possible support in relation to the state budget.
- Social policy, focusing on the most vulnerable groups of the population (children, seniors).

Social policy thus faces a number of serious issues, often depending on the state-accepted type of social policy (redistributive, performance, residual), which specifically addresses the general functions of social policy. Within this framework, most of the activities can now be attributed to the following sub-policies: pension, sickness, social support and assistance, employment, health, family, housing and education (Krebs et al., 2010). Social policy as a tool of the state is a practical content of the activities of the MoLSA and its Section of Social Policy from the seven sections.

Finally, we want to underline the fact that while sustainable development has three basic pillars, we see the social pillar as a fundamental, not a third, part. Although several previous CZSO forecasts were quite optimistic in terms of a slower aging process, we can consider the last forecast to be very realistic. The phenomenon of population ageing in the most demographically developed countries (Šotkovský, 2014) and their regions (Šotkovský, 2018) will be one of the most serious problems over the next few decades. The social policy of the state will have to deal more and more consistently with questions about social insurance, especially to ensure the real functioning of its main part - pension insurance. This task will be very difficult now that the Czech Republic will significantly enhance the process of ageing, especially from the top of the age pyramid. Our population is ageing from the bottom of the pyramid too. It was already been mentioned that the proportion of the child population is reduced. But the biggest change has already taken place between 1915 and 2008. During these more than ninety years, the relative proportion of children decreased from 34% to 14%. Overall, the weight of children decreased by 60%. During the period under review, the population size of the Czech Republic remained virtually unchanged. But the number of children decreased from 3.5 million to 1.5 million. And it is precisely for children in primary school age (6-14 years) that our population of around 10.5 million has significantly reduced their number by almost 2 million from a historical maximum of 3.5 million children before First World War to the historical minimum of 1.48 million children in 2007. Fortunately, since this year, the number of children in the Czech Republic has risen slightly to today's 1.69 million (2018). Nevertheless, the latest CZSO forecast (2018 projection) assumes further drop in children, although their relative share is expected to remain around 14% throughout the 21st century. However, the middle forecast speaks of a further decline in the number of children by half this century by another 100,000 children and by a further less than one hundred thousand by the end of the 21st century. While in 2100 the proportion of children is still to exceed 14%, it will be almost 200,000 less than today. Their total number is thus likely to fall below the historical low of 2007 (1.48 million). The 2013 projection foresaw a greater loss of children, estimated to be below one million by the end of the 21st century. Recent years have confirmed that we have an active family policy. And the main issue remains the political debate about its scope. Today, it all suggests that it should still not only be perceptible, but that its weight should increase slightly. It is related not only to the fact of the general definition of sustainable development, but also to the aging of the population and the provision of resources to create a dignified environment of a very large and still growing senior component.

In our research, we are most interested in issues related to the ageing process both from the bottom and from the top of the age pyramid. This is an important part of working in two departments: the Ageing Policy Department and the Family Policy Concept Department. If in 1915 the child component was presented by 34 percent, then only 6% of the seniors aged 65 and over. Nearly 3.5 million children were absolute, but only less than 610,000 seniors. Today, we have children of less

than 1.7 million, but seniors over the age of 64 have nearly 2.1 million in our population. This means that we have about almost 400 thousand more elderly than children. Monitoring these weights is thus very important in terms of social pillar sustainability.

The main mission of the state's social policy is to mediate and guarantee solidarity among its citizens. Among the most important ones in the Czech Republic we can include social security policy and closely related family policy. One of the main pillars of social policy is undoubtedly family policy, which interconnects mainly two basic areas of supporting relations. The first is the relationship between family and childcare and the second is the relationship between family and employment. A clear support for the family is the active implementation of financial assistance through specific instruments. Among the three main ones in contemporary Czech society, which are maternity leave, parental leave, maternity cash benefit and parental allowance, we can also include the following:

- Birth grant. Since the beginning of 2015 in our country have been entitled to birth parents with the first child (13 000, - CZK or 23 000, - CZK for multiple birth) or the second child (10 000, - CZK). At the same time, the average net household income in the calendar quarter preceding the quarter in which the child or children were born must not exceed 2.7 times the subsistence level. Given the limiting factors for the birth grant, it is clear that most mothers will not obtain a birth grant.
- Child allowances. Child benefit is a basic, long-term benefit provided to families with children, helping them to cover the costs of raising and nourishing dependent children.
- Tax advantage for a dependent child in a co-operating household.
- Discount on a wife (husband, but also a partner) living in a household taxpayer (annual discount limited by annual income of up to CZK 68,000).
- Annual discount for placement of a child (tuition fees, maximum amount for 2018 12 200 CZK, for 2019 13 350 CZK).
- Foster care allowances.
- Student discount (may be applied by a taxpayer who was a student himself in the given tax period).

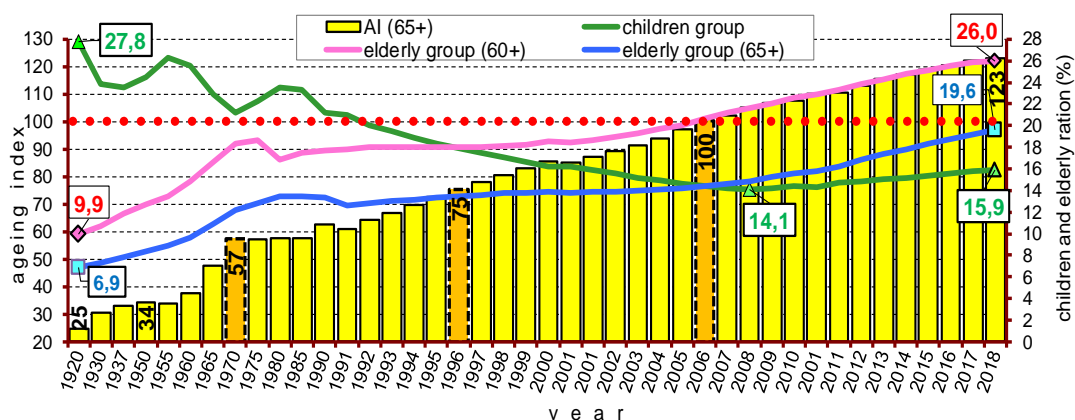
Given the predominance of the elderly over the child component and the future deepening of this predominance, social security policy is very important. Despite this, family policy, especially aimed at supporting the number of children in the family, is increasingly important in this context.

### **3 Ageing of the Czech population and social security**

The Czech population is rapidly ageing for the last hundred years. The only exception was the 1970s. At that time the pro-natalist policy was successfully applied (figure 1). Their impact on the ageing process shows that between 1970 and 1985 the ageing index value (Šotkovský, 2013, 2017a) was stabilized at the level between 55 and 60. It was only in 1996 that it exceeded 75 and the magical limit of 100 until the end of 2006. So far, in the last closed calendar year of 2018, the ageing index of the Czech population equals 123. For every one hundred children, there are over 120 oldest citizens aged 65 and over.

**Figure 1 - Development of the youngest and oldest age groups in the Czechia since 1920**

Source: Author, CZSO data (31<sup>st</sup> December)



The ageing of the population has many implications for the development of human society. The basic ones are:

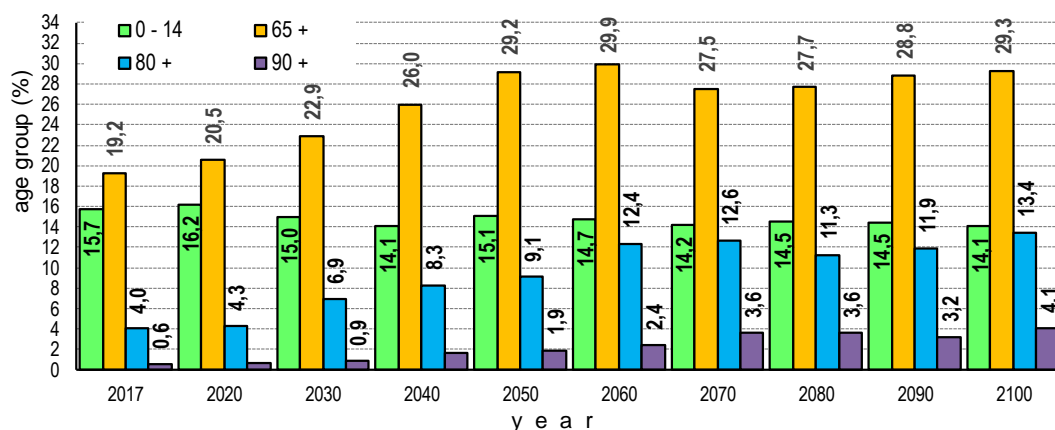
1. Social impacts (changing generational relationships, etc.)
2. Economic impacts (e.g. the dependence of companies on the work of seniors increases, expenditures from the state budget on pensions, etc.),
3. Sociological impacts (a group of seniors is becoming increasingly numerous, but their life expectancy increases, which brings new needs)
4. Impacts on health care (frequent visits to doctors, difficulty of medication needs, rehabilitation etc.).

The age structure of the population of our country indicates that we are a long-term aging society, in which, since the beginning of 1996, the child component of the population is predominantly over 60 and since 2006 also seniors aged 65 and over.

The extent of the aging of Czech society is highlighted by the results of population projections of the age structure in the near future, carried out by the staff of the Czech Statistical Office. Their projection has a default year-related threshold. The usual three variations allow for time-differentiated fertility and mortality and the projection of annual migration gain. According to today's views on birth and mortality processes, the share of children in 2020 will be slightly above 15%. But since this year, a slight but steady decline in the relative frequency of children is expected. It is much more realistic to consider the long-term steady decline in the weight of children in the Czech population. Thus, by 2050, we can expect the baby component to be under 13 percent throughout the population. The relative proportion of our citizens over the age of 65 is estimated at 20% for 2020. According to the latest development of the representation of seniors in our population, we can say that this is a very real value. In addition, we can count on the fact that the relative numbers of seniors will reach 30% around 2050 (figure 2). Thus, every third citizen of our state (in fact over 3 million) will belong to the age category of citizens aged 65 and over. The latest prognosis of the development of the Czech population's age structure, developed by the CZSO in 2018, further demonstrates that, from the mid-21st century until 2100, the relative representation of seniors will be virtually constant. When forecasting the absolute number of seniors, the situation is much more complicated due to the considerable differences in the reported development of the Czech population according to three variants.

**Figure 2 - The projection of the composition of the age groups of the Czechia by 2100**

Source: author (CZSO data, projection 2018, mid-variant)



Although a total of four types of benefits (old-age, invalidity, widowed and orphan) are provided from the basic pension insurance scheme, the oldest pension benefit is (81 to 82 percent). Here, the connection with the aging process and the age structure of the population is obvious. Likewise, the vast majority of widow's and widower's pensions are related to the senior population. By basic analysis of the development of the number of seniors and the amount and number of pension benefits at the end of 2017, we find that:

- Seniors aged 65 and over were almost 1 million less (855,780) than the total number of pensioners in the Czech Republic.
- The number of old-age pensions paid is almost 400 thousand higher than the number of seniors aged 65 and over.
- The total amount of pensions paid is approximately 3.5 million, which is 1.5 million more than the population aged 65 and over.

**Table 6 Development of social security expenditures in the Czech Republic**

Year	Seniors	Number of pensioners	Paid pensions	Paid old-age pensions	Av. old-age pension	Av. Pension	Total expenditure	Total pension expenditure		Total expenditure for social security benefits and support		
	(65+)				(CZK)	(CZK)		(bil. CZK)	(%)	(bil. CZK)	% SB	% MLSA
2018	2,086,123	2,896,973	3,506,002	2,410,080	12,435	11,960	1.401	423.7	30.2	532.5	38.0	89.9
2017	2,040,183	2,895,963	3,508,301	2,403,933	11,866	11,435	1.280	404.6	32.5	506.0	39.5	90.4
2016	1,988,922	2,892,469	3,508,965	2,395,382	11,475	11,078	1.220	389.5	32.1	513.1	42.1	95.2
2015	1,932,412	2,873,953	3,492,397	2,376,883	11,363	10,994	1.297	385.6	29.7	506.4	39.0	94.9
2014	1,880,406	2,863,210	3,485,257	2,355,144	11,090	10,741	1.212	376.7	31.1	496.0	40.9	95.4
2013	1,825,544	2,857,856	3,482,237	2,340,321	10,985	10,653	1.173	373.4	32.4	489.7	41.7	96.2
2012	1,767,618	2,866,056	3,493,544	2,341,220	10,793	10,490	1.152	372.8	31.9	481.1	41.8	96.9
2011	1,701,436	2,873,004	3,501,402	2,340,150	10,567	10,296	1.155	359.1	31.1	444.1	38.4	91.6
2010	1,635,826	2,819,093	3,446,767	2,260,032	10,138	9,884	1.157	337.8	29.4	430.9	37.2	90.5
2009	1,598,883	2,790,391	3,477,926	2,108,370	10,045	9,803	1.167	339.8	29.1	438.1	37.5	-
2008	1,556,152	2,754,011	3,437,596	2,066,005	9,638	9,424	1.084	312.5	28.8	-	-	-
2007	1,512,834	2,729,161	3,397,124	2,028,865	8,747	8,560	1.092	289.9	26.5	-	-	-
2006	1,482,437	2,683,784	3,354,898	1,995,350	8,187	8,010	1.021	261.4	25.6	-	-	-
2005	1,456,391	2,645,100	3,307,799	1,961,870	7,744	7,571	.923	247.4	26.8	326.0	35.3	-
2004	1,434,630	2,625,685	3,284,918	1,944,915	7,270	7,118	.863	230.9	26.8	313.3	36.3	-
2003	1,423,192	2,590,844	-	1,914,219	7,075	6,936	.809	225.8	27.9	305.0	37.7	-
2002	1,417,962	2,577,798	-	1,907,830	6,833	6,703	.751	213.7	28.4	293.3	39.1	-
2001	1,420,310	2,584,018	-	1,922,772	6,808	-	.694	201.1	29.0	-	-	-
2000	1,423,003	2,567,865	-	1,906,759	6,292	-	.632	186.9	29.6	-	-	-

Source: own processing according to data of the Czech Social Security Administration, CZSO and MoLSA

- If in 2000 pension expenditures amounted to less than CZK 190 billion, then their current level (in 2018) exceeds CZK 420 billion. Thus, this spending item has increased by more than 120% over the past seventeen years. At the same time, the number of seniors increased by almost 43% and the number of pensioners by only 13% over the same period.
- The average old-age pension has increased by almost CZK 600 to the current value of CZK 12,435 (2018) in the last 19 years.

Our state's current social policy is based on a social security system and employment measures (table 6). In terms of legal regulation, the social security system includes three basic pillars in the Czech Republic: social insurance, state social support and social assistance. In general, the Ministry of Labor and Social Affairs places them in the subsection "Benefits and support in social security". It is a decisive part of this ministry's expenditures when its weight exceeds 90% in the last decade (over CZK 530 billion in 2018). This group accounts for 38 to 42% of the total expenditure of the state budget. If there are 30% of pension benefits, then 8 to 12% remain for other benefits of this nature.

#### 4 Conclusion

The increase in the number of seniors in the Czech Republic is likely to continue for several decades, at least until 2050. This necessarily means an increase in spending on social income and social services. For the latter, we would like to add that it would be desirable to change the way we care for the elderly in their final life. Today, family co-operation does not work and so seniors are increasingly dependent on specific forms of social services.

If the latest forecasts indicate that the total number of old citizens in the Czech Republic will be 3.2 million between 2050 and 2060, then this would mean that nearly 70,000 live in elderly homes with a current weight of 2.1%. Again, however, we can assume that the relative frequency of seniors in these facilities will grow as well. Only by doubling the relative share would it mean that the number of people in elderly homes could reach 150,000. It will naturally increase the demands of services also in the area of health of seniors. This is not only about their basic health, but also about ensuring the growth of comprehensive care. We know that cooperation in this complex issue is at the very beginning of both the most affected ministries (MoLSA and MF).

The aging process, where both the relative and absolute representation of seniors in the population is growing, is becoming an important parameter for decision-making at the state level. The seriousness and at the same time the novelty of the trend of increasing the weight of citizens aged 65 and over led, among other things, to the establishment of the Senior Council (RS) of the Czech Republic in the Czech Republic in 2005, which was modelled on Western Europe. As stated in the statutes of an open society for all generations, "in the representation of the elderly, the Czech Republic fulfils the negotiating, consultative, negotiating, informative, initiative, control, intergenerational and advisory functions in relation to the government, the ministries, the Parliament of the Czech Republic". The Senior Council works with the state to ensure an adequate social status and standard of living for the "oldest" generation, including exploiting the potential, intellect and experience of seniors for the benefit of society.

The expert committee for retirement reform, headed by its chairman, prof. M. Potůček from the Faculty of Social Sciences, Charles University in Prague. One of his three working teams was led by demographer Tomáš Kučera. The commission's mission was to propose changes to the pension system that would lead to adequate and decent pensions, strengthen the merit principle, and smooth out transfers between family and society.

Since the beginning of 2019, the Commission for Fair Pensions has begun work under the auspices of the current Minister of Labour and Social Affairs Jana Maláčová. Its activities should focus primarily on three themes:

- Inequality of pensions for men and women.

- Earlier retirements for physically demanding professions.
- Pension system income issues.

It is very difficult to get to know the background of the social pillar itself. It is clear that its operation is heavily dependent on economic development and on:

- Amount of social insurance as part of social security premiums (this includes not only pension insurance, but also sickness insurance and a contribution to the state employment policy) intended for employees, employers, self-employed persons or voluntarily sickness insured persons.
- Amount of pensions in all types (old-age, invalidity, survivors).
- Cost of administering the pension system.

In recent years, the annual growth rate of seniors has reached 3%. Annual growth in social security benefits and support is more than half a percentage point higher. Pension benefits grow at a rate of less than 3% per year. Sickness insurance benefits have grown most in recent years.

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# Degree of Autonomy of City Districts Management of Statutory Cities

Petr Tománek

## Abstract

*The paper is focused on the evaluation of the degree of autonomy of city districts management of territorially structured statutory cities in the Czech Republic, that are seven (except Prague). These statutory cities may delegate self-government competences to the lower administrative level. This transfer is then reflected in the structure of the city budget, i.e. by the share in which the city districts contribute on management. The management of statutory cities is governed by the same rules as other municipalities, however, the general rules for financial relations between the statutory city and the city districts are not set and are set by the statutory city themselves. Unlike the financial results of individual municipalities, the financial results of individual parts of territorially structured statutory cities are not published in summary, and finding out the given values for a set of towns requires an analysis of the financial management of these statutory cities and their city districts, whereas the approach to analysis is made difficult due to management rules that differ from one city to another. The aim of the paper is to describe the state of degree of autonomy of management in territorially dismemberment statutory cities within their city districts. The method of solution is to analyze the management of statutory cities in 2018. The paper thus shows how the conditions of autonomy management of these statutory cities differ through the financial results for 2018; it appears that this degree of autonomy varies considerably between statutory cities.*

**Keywords:** Statutory city, city districts, revenues, expenditures

**JEL Classification:** H50, H72

## 1 Introduction

The basic territorial self-governing unit in the Czech Republic (CR) constitute municipalities, some of them have a specific position in the form of statutory cities. There have been 26 statutory cities in the CR since 2018 (except Prague). Statutory cities can create city districts with their own self-government. However, only seven of the 26 statutory cities use this possibility.

The statutory city that wants to create city districts will adopt a decree, which is designated as the statute and the dismemberment of activity of the city council of statutory city and city districts is regulated there. The regulation also applies to the area of city management. Statutory city management and also its city districts are governed by the rules of management as for other municipalities, which are individually regulated by the statute. The law does not regulate the relationship between the statutory city and the city districts, so it depends on the specific decision of the respective statutory city how to regulate these relationships.

The monitored issue fits into the wider context of monitoring the effectiveness of municipal expenditures, here focused specifically on one segment of municipalities, on the statutory cities (Bagorová, 2017). The conditions of individual statutory cities in the CR are different (Čechák, 2017), which is reflected in their administrative arrangement and the existence of city districts. It is therefore not possible to generally specify the financial relations between the entire statutory city and its city districts, which on the other hand creates the need to deal with trends in the given area. However, in the light of the above assessment, it is necessary to state in a broader context that, in general, public expenditure is influenced, for example, by the political cycle (Plaček et al. 2016) and also in conditions of statutory cities, in terms of distribution of resources between city districts, the role of statutory city bodies may be significant, which can be expressed in terms of financial performance indicators.

The number of city districts has a role to play in monitoring relations between statutory city and city districts, which, for example, increase administration costs as a result of the creation of their own city councils. In the CR, the number of city districts of statutory cities differs, and there is no binding between the size of the city and the number of city districts. In addition to the models of the complete dismemberment of the statutory city territory into city districts, there are also incomplete territorially dismembered statutory cities and in the CR these are two of the seven territorially dismembered statutory cities, Opava and Liberec (for details see Tománek, 2018).

The aim of the paper is to describe the state of degree of autonomy of management in territorially dismemberment statutory cities within their city districts. The evaluation of the degree of autonomy is represented by the proportion of the budget of city districts in the budget of the statutory city.

The method of solution is to analyze the management of statutory cities in 2018, which analysis was carried out individually in particular statutory cities with the aim of defining the links between the statutory city budget and the budget of city districts; The reason for the necessity of an individual approach to the analysis of statutory cities was the methodical inconsistency in the monitoring of management within particular statutory cities and especially the various financial forms of transfers or relations between the statutory city and the city districts. The unifying point of view for the analytical part was the breakdown of financial operations given by the budget structure.

## **2 Methodology and Data**

Evaluation of the degree of autonomy of management of city districts of statutory cities is based on the monitoring of their budgetary management, which is given by the rules of management of municipalities. The income structure of municipalities generally consists of tax revenues, non-tax revenues, capital revenues and received transfers. The expenditure side consists of current and capital expenditures.

The problem of evaluating the autonomy of the management of cities districts is that, as the relations between the city districts and the statutory cities are individually regulated, so are also the financial relations. Nor is there a uniform approach to monitoring and addressing the relationship between the statutory city and the city districts.

So what are the main possibilities for financial relations between the statutory city and the city districts; usually in the appropriate statutory city it is a combination of the following financial relationships. The analysis revealed that the income of the city districts may consist of the following types of income (alternatives or their combination):

- the city districts own income, which consists of: collecting of selected local fees, rental income, property selling income, etc.; these revenues are earned directly by the city districts without any connection to the statutory city budget (e.g. in the statutory city of Ostrava),
- income from the real estate tax, which is fully provided to the city districts from the statutory city budget (e.g. in the statutory city of Ostrava),
- income from all shared taxes that are sent to city districts according to a certain rule (e.g. in the statutory cities of Liberec and Pardubice),
- tax income, which are the income of the statutory city, which are provided to city districts on the basis of established rules (criteria) in the form of transfers to city district budgets (e.g. in the statutory city of Brno),
- the share on received transfers of the statutory city, which is sent as a transfer to the city districts (e.g. it is used in transfers for the operation of state administration by the city),
- city districts receive part of transfers by their own activity (e.g. in the statutory city of Ostrava).

In the statutory city of Ostrava, for example, in 2018 the revenues of the city districts in transfers accounted for 58.1%, non-tax revenues 31.1%, tax revenues 9.2% and capital revenues 1.6% (Tománek, 2019).

From this point of view, it is not possible to compare and evaluate the income structure of city districts of statutory cities in terms of the above-mentioned types of income. Therefore, to assess the autonomy of management is as the basis used the expenditure side of the budget, where expenditures are already by all city districts in statutory cities realize separately based on the obtained types of resources.

The management of individual statutory cities can be monitored from the following points of view:

- management of the entire statutory city (including its parts),
- management of individual city districts of the statutory city,
- management of all city districts of the statutory city as a whole,
- statutory city-level management (i.e. without management of city districts).

In addition, indicators for the management of entire statutory cities and for the management of all parts of the statutory city as a whole are used for the monitored evaluation of the degree of autonomy of city districts. To assess the autonomy of parts of statutory cities, it is necessary to base on their different size in terms of population, respectively the number of inhabitants in city districts and on the number of city districts (see Table 1). The three largest statutory cities also have the most city districts. The size of city districts also varies significantly within one statutory city. However, if we evaluate the average number of inhabitants per city district, then on average the largest city districts has Ústí nad Labem (about 23 thousand inhabitants) and Plzeň (17 thousand inhabitants).

**Table 1 - Territorially dismembered statutory cities in the Czech Republic, population and number of city districts**

Statutory city	Population / population of self-government parts	Number of city districts
Brno	377 973 / 377 973	29
Ostrava	291 634 / 291 634	23
Plzeň	170 548 / 170 548	10
Liberec*	103 853 / 8 600	1
Pardubice	90 044 / 90 044	8
Ústí nad Labem	92 984 / 92 984	4
Opava*	57 387 / 7 529	8

Source: Own calculation based on Monitor and Final Accounts of Statutory Cities (2018)

\* Note: The statutory cities of Liberec and Opava are not fully territorially dismembered, except mentioned city districts, the main part of the statutory city is not part of any city district. The population of these two statutory cities is supplemented by the total number of inhabitants of self-government city districts.

When comparing the expenditures of entire statutory cities per capita, it turns out that the monitored statutory cities consist of two groups, namely the cities of Brno, Ostrava and Plzeň and then other cities. Between these two groups, the spending per one capita varies by an average of about half (see Table 2), which is an objective reflection of the magnitude of coefficients in tax sharing, where for the cities of Brno, Ostrava and Pilsen is applied a coefficient about 2.29 and for other cities the value is about 1.36. These values are therefore an objective reflection of the management conditions of statutory cities, resp. generally municipalities in the Czech Republic.

Nevertheless, the expenditure values of city districts, resp. expenditures of city districts per capita, are reflecting then its own internal organization of statutory cities (and management rules). The highest expenditures of the city district per capita has a city district in Liberec (21.9 thousand CZK / inhabitant). Liberec, as already mentioned, is an incompletely dismembered statutory city, where it's only one part manages almost independently with that the statutory city retains one quarter of the shared taxes fall on this part and the other income is only from its own activities. This state of almost independent management of the city district is apparent when comparing the expenditures of the entire statutory city of Liberec per capita and its city district per capita, which differ by only about 13% (see Table 2).

**Table 2 – Expenditure of statutory cities and city districts in 2018**

In thousand CZK	Statutory city expenditure (SCE)	SCE / inhabitant	City districts expenditure (CDE)	CDE / inhabitant
Brno	15 093 775	39,9	3 295 666	8,7
Ostrava	10 604 602	36,4	3 599 136	12,3
Plzeň	6 413 663	37,6	722 557	4,2
Liberec*	2 471 344	23,8	188 516	21,9
Pardubice	2 496 488	27,7	280 529	3,1
Ústí nad Labem	2 050 500	22,1	225 422	2,4
Opava*	1 456 152	25,4	41 542	5,5

Source: Own calculation based on Monitor and Final Accounts of Statutory Cities (2018)

The aim of the paper is to evaluate the degree of autonomy of the management of territorially dismembered statutory cities. It turns out (see Table 3) that there are quite significant differences between statutory cities.

If we mechanically evaluate the proportion of the expenditures of city district budgets to the size of the statutory city budget, then the highest share is reported by the statutory city of Ostrava at 33.9%, then Brno with 21.8% and the statutory cities of Plzeň, Pardubice and Ústí nad Labem are on level around 11%.

On the other hand, the lowest share was in Opava (2.9%) and Liberec (7.6%). However, these two statutory cities are not completely territorially structured, so some simulation can be done here. The starting point of this simulation is the assumption that the existing incomplete territorial breakdown of these cities would be converted to a complete breakdown (all residents of the city would be part of a district). And on this principle of the size of the existing expenditures of the budgets of the existing city districts, the expenditures of all such created parts in the whole city territory would be calculated (simulated).

In this simulation, Liberec would achieve the highest degree of autonomy in all statutory cities (92.1%). Opava (22.6%) would rank third among statutory cities on the level of Brno.

**Table 3 – Proportion of expenditures of city districts on expenditures of statutory city**

in %	Share of city districts expenditures on the statutory city expenditures (P)	P (modified share*)
Brno	21,8	-
Ostrava	33,9	-
Plzeň	11,3	-
Liberec*	7,6	92,1*
Pardubice	11,2	-
Ústí nad Labem	11,0	-
Opava*	2,9	22,6*

Source: Own calculation based on Monitor and Final Accounts of Statutory Cities (2018)

Note: P (modified share \*) is represented by a simulation - by calculation - in the case of the statutory cities of Liberec and Opava the current size of expenditures of city districts, which do not cover the whole territory of the city, is recalculated to the total population of the statutory city.

### 3 Results and Discussion

The aim of the paper was to describe the degree of autonomy of the municipal districts management in territorially dismembered statutory cities. The degree of autonomy was determined here as the ratio of expenditures of city districts to expenditures of the entire statutory city.

The real values for 2018 showed that in all statutory cities more than two thirds of the budget is managed by the statutory city. The reasons that lead to this situation are related to the fact that the

statutory city usually retains within its competence the arrangement of activities common to the entire statutory city and which, if fragmented into city districts, could mean an increase in the costs of the entire statutory city. Such a service is especially public transport, when it is technically logical to create one system for the whole city. In general, urban transport plays a significant amount in the budgets of large cities, so it is also projected here. Furthermore, there are other activities that are city-wide character and fragmentation between parts would not be useful, such as residential sanitary facilities, waste collection, etc.

In this sense, the value of the degree of autonomy of city districts must also be seen in connection with the fact that there are provided by statutory city also another services to inhabitants of the city districts without any impact on their budget, which is obviously not reflected in city district budget and it's represented by statutory city budget.

Within the monitored expenditures of the seven statutory city and the size of expenditures per capita there are two groups of cities. One group constitute form Brno, Ostrava and Plzeň, where are reflected into the management higher income of these cities by influence of higher coefficients in tax sharing. The second group of the remaining statutory cities manage in terms of per capita with resources that are about a third lower. However, these circumstances are not related to the degree of autonomy of city districts, but to the principles of budgetary allocation. However this situation allows the cities of Ostrava and Brno, in particular, to provide higher resources per capita to city districts.

The proportion of budgets allocated to city districts then reflects the way in which other services are organized in individual cities, which are individually regulated in their respective statutory cities by their statutes. In this mean, these city districts' governance have not been further explored in this paper. What can be said in general for all city districts is that city districts spend their resources on their own self-government and their office and on the activities of their own and others organizations operating in the city district and by theirs activities they can receive transfers from other budgets.

A somewhat different situation in terms of the degree of autonomy of city districts is in the statutory cities of Opava and Liberec, which are not fully territorially dismembered, and thus the real share of the city district budget is at their lowest values compared to other statutory cities. The results are already different through a simulation that recalculates the budget share values to values that are commensurate with other cities. Both these statutory cities would thus be among the cities with the highest proportion of the budget. Liberec would reach the absolutely highest share among all territorially dismembered statutory cities with a share of over 92% and Opava would have the third highest share among statutory cities, almost 23% (after Liberec and Ostrava). Thus, it appears that in these two cities, there are given relatively significant competences in the area of economy to the city districts, and thus the position of the city districts in these two cities creates greater conditions for their independence.

If we summarize the reasons for the differences in the management conditions of city districts of territorially dismembered statutory cities, this includes in particular the rules of management given by the statute, the total amount of funds of the relevant statutory city, but also the activities of city districts in obtaining subsidies. Among the methodological aspects of assessing this level of autonomy on the basis of expenditure, it is necessary to draw attention to the question of the way of managing the property, especially the housing stock, which is reflected in the budget, if it is provided directly by the city district office.

#### **4 Conclusion**

On the analysis of the management of city districts of statutory cities, there can be also documented the issue of the existence of statutory cities in general. It has been shown that the freedom of rules of statutory cities management is very extensive. And it is not only in terms of the management of city districts, but also in terms of other rules. The basic question is which city should be the statutory city. The designation of the statutory city is given by law, but the law no longer imposes an obligation to

divide the city into city districts and therefore the question arises as to what meaning the designation of “statutory” city is, when the most of the statutory cities identified in this way operate on the same principles as other cities and have the term statutory only in their name. In this meaning the legislative conditions for statutory cities should be modified, for example, so that designating a city as “statutory” would be associated only with the division of the city into city districts. Otherwise, the term statutory loses its meaning. And this is linked with the issue of the management of city districts of statutory cities, where it would be useful, for example, to create minimum resources that the city districts of statutory cities would manage.

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# Technical Efficiency of Retirement Homes Aggregated in Particular Districts of the Czech Republic

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## Abstract

*The aim of the paper is to define and evaluate the technical efficiency of selected residential social services aggregated into 77 districts, which represent homogeneous production units. Specifically, these are retirement homes for the elderly that provide services to persons who have reduced self-sufficiency because of their age and whose situation requires regular assistance from another person on a daily basis in coping with their basic life needs. As of 31 December 2017, according to the Register of Social Service Providers, 519 homes for the elderly were registered. The DEA evaluation model assuming variable yields from the scale was chosen for the evaluation of technical efficiency. One input parameter was analyzed - total cost per bed / month (in CZK) and three output parameters - number of clients, amount of subsidy per bed / month (in CZK), amount of service user payment per bed / month (in CZK). Two models were set up for modeling, the M1 model is input-oriented and the M2 model is output-oriented. Selected parameters were subjected to a correlation test, the Pearson's coefficient, to meet the basic condition for the analysis. Based on the resulting values, effective production units were defined. In both models, there are 16 districts of the Czech Republic, which, based on selected input and output parameters, reached an effective production limit.*

**Keywords:** Data Envelopment Analysis model, districts, retirement homes, social services

**JEL Classification:** H10, C67

## 1 Introduction

Social services are perceived as services of general economic interest. These are public services intended for specific groups of people who are at risk of social exclusion or poverty. The aim of social services is to integrate these people into society and enable them to live a full life as much as possible. The National Strategy of Services in the Czech Republic defines a global and strategic goal in this area. The aim is to set up a long-term sustainable system of affordable social services and support for informal care for people in unfavorable social situations. Furthermore, to provide quality and affordable social services that will target the individual needs of social service users and their families.

Social services are legally anchored in the Czech Republic by Act No. 108/2006 Coll., On Social Services, as amended (hereinafter referred to as the Social Services Act). The adoption of this Act was very important in the Czech Republic, as it contributed to the fulfillment of the meaningful provision of social services while respecting the fundamental human rights and dignity of users of social services. Čamský et al. (2011) states that the Social Services Act has abandoned its current paternalistic-directive practice and created space for the development of relationships between social service providers and their users, based on equality, volunteering, consistently individual approach and efforts not to exclude social service recipients from the natural environment from the society.

The development and consumption of social services are influenced by the adopted model of the welfare state, which determines the source of funding and the conditions of social services provision (Keller, 2007). Social services have specific economic characteristics because their consumption is determined by the objective state of the individual and the development of society (Mertl, 2007). An important factor in the social services market is the nature of individual demand, demand-indicated supply (especially for social care services) and the fact that social services are a good of trust, when the true nature of a good is valued or valued by the consumer at the point of consumption (Mertl, 2007). Pestoff (2019) draws attention to market failure and information asymmetry in the social services market. It states that market failures and information asymmetry make social services suitable



for providing by the third sector, not-profit organizations, as they moderate some types of market failure and bring greater confidence in the relationship between the consumer and the service provider.

The performance of any system includes two basic components, efficiency and effectiveness. Effectiveness refers to the evaluation of the relationship between inputs and results or the relationship between outputs and the results of a given expenditure program. Economic efficiency means choosing the resources available in the company to derive the maximum benefit from those resources. Allocation efficiency is assessed as the ability to select the optimal combination of factors of production and technical efficiency as the ability to produce maximum output at given input values and for given technologies (Vrabková, Vaňková, 2015, Steřko, Gavurová, Kocisová, 2018). For the evaluation of efficiency it is necessary to choose parameters (variables) that are internally interconnected and say about the production system.

Social services are very specific in its nature (see above), so it is necessary to take these specifics into account when evaluating them. The effectiveness of social services in the literature is mainly associated with the availability of social service providers in terms of capacity and financial capacity, both service providers to operate the facility and in terms of users' financial capacity (Allard, 2004, Gavurová, Šoltés, 2016). When examining the effectiveness of social services, it is necessary to perceive the nature of the service and the factors that affect the extent of the offer.

The aim of the paper is to evaluate the technical efficiency of residential services of retirement homes aggregated in individual districts of the Czech Republic. These districts represent homogeneous production units (DMUs) in technical efficiency modeling.

The object of modeling is 77 districts of the Czech Republic based on selected input and output parameters. Koprić et al. (2018) states that in assessing the effectiveness of social services, it is necessary to correctly select the input and output parameters. The input parameters of the research are mainly material, human and other resources. Here, however, it highlights the problem of measuring and evaluating of human resources. Staffing of social services is essential for the quality of services and social workers have an irreplaceable role in the performance of social work. The performance of the activity of a worker in direct care with the client is very dependent on the scope of the services provided and on the individual approach to the client. Output parameters usually include a number of quantitative or qualitative indicators responding to the results of produced and provided public services.

## **2 Social Services in the Czech Republic**

Social services in the Czech Republic have different structures, both in terms of orientation to the final group and in terms of the purpose and forms of assistance. They can be categorized according to the method of provision, the causes leading to the occurrence of an adverse social event or the function they perform in society. In general, the financing of social services is multi-source. The main sources are subsidies from the state budget, subsidies from the budget of territorial self-governments, received donations, incomes from abroad, etc. The sources of financing are also determined by the legal form of facilities provided by social services.

The subject of this research, within this contribution, has become retirement homes for the elderly, which are aimed at helping and supporting seniors who have reduced self-sufficiency. The purpose of this service is therefore to help people engage in everyday life, to provide people with a dignified environment and treatment. The financial support from the state of social care services in residential facilities is set per bed taking into account the determined income. Funds are set within the defined shares of regions, which further redistribute these funds within the subsidy procedure. However, there are considerable differences in the subsidies provided, both according to the legal form of the provider and according to the entity that is the founder of these organizations (contributory organizations established by regions or municipalities).

As of 31 December 2017, there were 519 retirement homes with a capacity of 37,037 beds in the Register of Social Service Providers and the Czech Statistical Office. According to statistics of the Czech Statistical Office, the service was used by 35,501 clients and the bed capacity utilization reached 95.9%. In terms of the legal form of retirement homes for the elderly, contributory organizations established by the territorial self-governing unit clearly dominate (65.1%). The second major provider of retirement homes for the elderly is NGOs (21.4%), more than half of which are church organizations. Private organizations are involved in the production of this social service by 14.5% of the provider.

### 3 Metodology

The Data Envelopment Analysis model (DEA model) is a multi-criteria method for assessing the technical efficiency of homogeneous production units (Charnes, Cooper, Rhodes, 1978). In terms of application, the DEA model is considered as a universal evaluation tool, assessing the technical efficiency of homogeneous production units in both the profit and non-profit sectors. The efficiency of a given unit is determined by the ratio of output and input. The essence of this model is to determine efficient and inefficient objects according to the size of consumed resources and the amount of produced production (outputs). The result of the modeling is to determine the order of units according to the degree of value, indicating the measure of efficiency of the unit. For example, Jablonský, Dlouhý (2015) consider the DEA CCR as the basic model, based on the assumption of constant range returns. In the case of constant range yields, the effective production boundary is conical in shape, and objects not located at that boundary should either increase their outputs while maintaining the input level or reduce the values of inputs consumed while maintaining the output level, respectively by combining both attitudes. However, in the case of variable range yields (DEA BCC model), the shape of the effective production boundary changes to convex, depending on whether these yields are increasing (so-called economies of scale) or decreasing, with a proportional increase in all inputs less than proportional output growth (Vrabková et al., 2017).

The DEA model is very often used to assess production units in both the private and public sectors. Within the public sector, this method is often used in the evaluation of homogeneous production units in health care (eg Vaňková, Vrabková, 2015; Kocisová et al., 2019, Ozcan, 2014), education (eg Nazarko, Šaparauskas, 2014, Vrabkova et al., 2017) or public and private transport (eg Hajduk, 2018, Roháčová, 2015). Modeling of technical efficiency can be done on macro, meso and micro level according to defined input and output parameters.

A total of 77 districts of the Czech Republic became the object of modeling. These districts are considered as homogeneous production units. For modeling of technical efficiency was implemented in DEA Frontier Add-In for Microsoft Excel. The source of data for selected parameters was statistical data provided by the Ministry of Labor and Social Affairs of the Czech Republic for all retirement homes as at 31 December 2017. These retirement homes were aggregated into the above-mentioned DMUs units.

For modeling needs, the M1 model was chosen, oriented to inputs with variable yields from the range. Here, if the resulting value is equal to 1, then the unit is effective. For inefficient units, their efficiency is less than one (Jablonský and Dlouhý, 2015).

Fractional formulation (see 1) of primary input-oriented BCC DEA model is presented below:

maximize

$$z = \sum_i^r u_i y_{iq} + \mu \quad (1)$$

subject to

$$\sum_i^r u_i y_{ik} + \mu \leq \sum_j^m v_j x_{jk}, \quad k = 1, 2, \dots, n$$

$$\sum_j^m v_j x_{jq} = 1$$

$$u_i \geq \varepsilon, \quad i = 1, 2, \dots, r$$

$$v_j \geq \varepsilon, \quad j = 1, 2, \dots, m$$

$\mu$  – free

Furthermore, the selected parameters were also evaluated according to the output-oriented model M2 model, which is based on the same assumptions as the input-oriented model, but we search for such weights where the efficiency coefficient value is equal to or bigger than one. Primary output-oriented BCC DEA model with variable return to scale. Fractional formulation of this model has the following form:

minimize

$$g = \sum_i^m v_j x_{jq} + v, \quad (2)$$

subject to

$$\sum_i^r u_i y_{ik} \leq \sum_j^m v_j x_{jk} + v, \quad k = 1, 2, \dots, n$$

$$\sum_i^r u_i x_{iq} = 1,$$

$$u_i \geq \varepsilon, \quad i = 1, 2, \dots, r$$

$$v_j \geq \varepsilon, \quad j = 1, 2, \dots, m$$

$v$  – free

### 3.1 Chosen input and output parameters

The choice of selected parameters for the modeling of technical efficiency by DEA was confronted with the basic assumptions that apply to this model, as defined, for example, by Klieštk (2009). For the purposes of modeling the technical efficiency of districts, based on selected DEA models, one input parameter and three output parameters were selected (eg Table 1).

**Table 1 - Construction of the input and output paramatres of the individual models**

DMU (n = 77)	M1 model	M2 model
Input	x1 total cost per bed/month (in CZK)	x1 total cost per bed/month (in CZK)
Outputs	y1 number of clients y2 amount in subsidy per bed/month (in CZK) y3 payment from users per bed/month (in CZK)	y1 number of clients (according to sined contracts) y2 amount in subsidy per bed/month (in CZK) y3 payment from users per bed/month (in CZK)
Type of model	Input-oriented model	Output-oriented model
Economics of scale	Variable returns to scale (VRS)	Variable returns to scale (VRS)
Efficient/inefficient $e$	$e_z = 1, e_z < 1$	$e_g = 1, e_g > 1$

Source: Own processing.

Input parameter:

- total cost per bed / month (in CZK) refers to the total cost of all retirement homes located in a given district converted to 1 bed in a district per month.

Output parameters:

- number of clients – represents the number of clients in a given district with whom a contract for the provision of residential social services in retirement homes was concluded in the given year,
- subsidy amount per bed/month (in CZK) – operating subsidies for registered homes for the elderly in the relevant district to cover eligible costs. Subsidies are used in accordance with the purpose and under the conditions stated in the agreement on the provision of a subsidy from the budget of the given region,
- payment from users per bed / month (in CZK) – includes payments of users for the provision of basic activities (care, accommodation, meals) and payments for the provision of facultative activities. Payments are always agreed in the social service contract between poskytovatelem a uživatelem. The maximum amounts of reimbursements are set by the implementing regulation, MoLSA Decree No. 505/2006 Coll., as amended.

### 3.2 Basics statistics of input and output parameters

The basic characteristics of the inputs and outputs of the set of 77 homogeneous production units are given in Table 2. The table shows that the set of units is differentiated from the point of view of the indicated values, as evidenced by the considerable variance of the values and the standard deviation.

**Table 2 - Basic characteristics of the input and outputs variable**

Variable		minimum	maximum	mean	standard deviation
input	Total cost per bed/month (in CZK)	16 263.6	48 883.4	27 484.4	4 819.2
outputs	Number of clients	91.0	4 619.0	606.2	551.8
	Amount of subsidy per bed/month (in CZK)	2 266.5	10 880.0	6 267.8	1 779.2
	Payment from users per bed/month (in CZK)	9 998.4	21 994.2	15 426.6	2 339.5

Source: Own calculation in the program MsExcel.

## 4 Results and discussion

The M1 model (BCC-DEA model) maximizes the measure of effectiveness of a unit's DMU, expressed as a ratio of outputs to inputs, provided that the efficiency rates of all other units are less than or equal to one. The M1 model is an input-oriented model based on the assumption of variable yields from the range. The results of the efficiency modeling are presented in Table 3 and Figure 1.

Based on the calculation of technical efficiency, 16 efficient production units were found in the M1 model. The average efficiency rate was 0.870. The districts that achieved the lowest level of efficiency are Brno-venkov, Benešov, Praha-západ and Litoměřice. The largest number of effective units, out of the total number of districts in the given region, is located in the Moravian-Silesian Region (50%) and the average efficiency rate of these districts is 0.969. Furthermore, there were effective districts in the South Bohemian Region (4 out of 7 districts), whose average efficiency rate reached 0.936. The Capital City of Prague, which has 32 retirement homes for the elderly and whose efficiency rate reached 100%, dominates independently.

In case of input-oriented models, inefficient units should reduce their input parameters to become effective. Only one input parameter was chosen for the analysis, the total cost of retirement homes per month, aggregated into districts of the Czech Republic. Total cost of retirement homes includes consumed purchases, services, personnel costs, taxes and fees, other operating expenses, depreciation and more. It is up to the management of individual organizations to focus on these items in their budgets and look for reserves.

**Table 3 – Summary results of the model M1 and M2**

DMU (n=77)	Input oriented – BCC DEA model	Output oriented – BCC DEA model
Average (in %)	87.0	87.8
Number of effective units	16	16
Standard deviation	0.104	0.125

Source: Own calculation in the program MsExcel.

**Figure 1 – Results of input/output oriented models with variable return to scale in year 2017.**

Source: Own calculation in the program MsExcel.

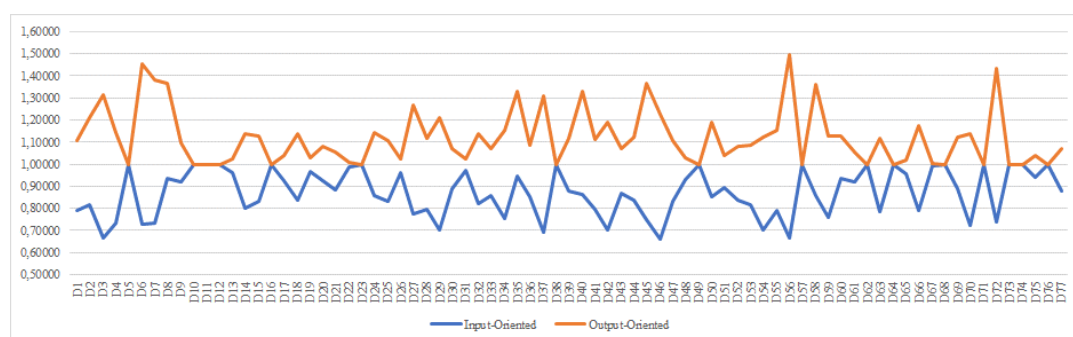


Table 3 also documents the results of the M2 model, which is an output oriented model. In the case of output-oriented models, the effective units reach 1 ( $e = 1$ ), inefficient units the efficiency rate is higher than 1, ie  $e > 1$ . From the total set of DMU units (districts), the number of effective units is the same as input orientated model, ie 16. The average efficiency rate was 87.8%. The lowest efficiency rates were reached in the districts of Vyškov (54.8%) and Český Krumlov (56.6%). Especially the retirement homes for the elderly in these districts should maximize their outputs with a given amount of input parameter. The number of clients parameter is given by the capacity of the facility, ie the number of beds. This parameter is a basic indicator for ensuring the availability of social services. The amount of subsidy per bed / month is very different in the comparison of individual districts. The highest value of this indicator is reached in Karlovy Vary District (CZK 10 880), Jindřichův Hradec District (CZK 10 025.9), Písek District (CZK 9 296.1) and Opava District (CZK 9 080.9). The lowest value of this indicator is registered in the districts of Český Krumlov (CZK 2 266.5), Teplice (CZK 2 566.9) and Most (CZK 2 945.3). Subsidies are provided by individual regions, respectively. regional councils based on priorities, which should reflect the medium-term plans for the development of social services in the region. Subsidies can only be granted to registered social service providers who meet all the conditions for the provision of social services stipulated by law (Act No. 108/2006 Coll.). They are not demanding, so there is no legal entitlement to them, which complicates the development of development programs for social service providers. Průša (2012) states that there are no clear rules for the provision of subsidies for objective decisions on the determination of the subsidy amount for social service providers.

Payments of social service clients are agreed in contracts between the service provider and the client. The amount of reimbursement reflects the scope of services of the selected persons who are provided social services. The setting of rates is regulated and further specified by the implementing regulation (No. 505/2006 Coll.). The amount of the reimbursement is further determined by the Act on Social

Services, namely § 73, which guarantees clients of residential social services 15% of their income. Obviously, the amount of client reimbursement will also reflect the legal form of the facility providing the service. In this context, Průša (2015) adds that the amount of the client's reimbursement for the provided social service should be determined either by the founder or directly by the social service provider. Legislative pricing for services protects the client but on the other hand limits the desirable development of social services.

## 5 Conclusion

The evaluation of the performance of public services is an area under discussion and includes both general and specific procedures resulting from the nature of the public service. Social services are public services designed to help people mitigate their adverse social events and help people integrate into society. Performance involves the perception of expediency (input-output relationship) and efficiency (input-output relationship). Part of the evaluation of the program performance is also the economy of the system, which requires avoiding waste, especially with public funds. Significant methods of assessing the performance of public services include single and multi-criteria decision making.

The aim of the paper was to evaluate the technical efficiency of homogeneous production units, which became districts of the Czech Republic. Individual input and output parameters were examined behind retirement homes and were aggregated within individual districts of the Czech Republic. Two models were chosen for the modeling of technical efficiency: M1 input-oriented model with variable yields from the range and model M2 output-oriented model assuming also variable yields from the range. The subject of modeling was one input parameter - total costs converted to 1 bed / month in (CZK) and three output parameters - number of clients, the amount of subsidy per 1 bed / month (in CZK) and the amount client reimbursement / month (in CZK) . The results of both models showed that 16 Czech districts are technically efficient. of The remaining retirement homes aggregated in the individual districts of the Czech Republic should either reduce their inputs (for the entry-oriented M1 model) or maximize their outputs (for the output-oriented model) to reach an efficient production threshold.

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## Appendix

Region	DMU: Districts		Efficiency M1 model	Average efficiency rate of M1 DMU units for regions (in %)	Efficiency M2 model	Average efficiency rate of M2 DMU units for regions (in %)
South Moravian Region	D1	Blansko	0.791	78.2	1.108	77.1
	D2	Brno-město	0.818		1.207	
	D3	Brno-venkov	0.667		1.312	
	D4	Břeclav	0.732		1.140	
	D5	Hodonín	1.000		1.000	
	D6	Vyškov	0.729		1.451	
	D7	Znojmo	0.735		1.380	
Moravian-Silesian Region	D8	Bruntál	0.934	96.9	1.366	91.8
	D9	Frydek-Místek	0.921		1.095	
	D10	Karviná	1.000		1.000	
	D11	Nový Jičín	1.000		1.000	
	D12	Opava	1.000		1.000	
	D13	Ostrava-město	0.963		1.025	
Olomouc Region	D14	Jeseník	0.799	87.7	1.138	91.2
	D5	Olomouc	0.830		1.125	
	D16	Prostějov	1.000		1.000	
	D17	Přerov	0.922		1.038	
	D18	Šumperk	0.834		1.137	
Zlín Region	D19	Kroměříž	0.966	94.0	1.027	95.6
	D20	Uherské Hradiště	0.923		1.082	
	D21	Vsetín	0.884		1.055	
	D22	Zlín	0.986		1.008	
Vysočina Region	D23	Havlíčkův Brod	1.000	0.885	1.000	89.2
	D24	Jihlava	0.859		1.142	
	D25	Pelhřimov	0.830		1.105	
	D26	Třebíč	0.962		1.024	
	D27	Žďár nad Sázavou	0.776		1.268	
Pardubice Region	D28	Chrudim	0.794	83.9	1.114	89.5
	D29	Pardubice	0.703		1.214	
	D30	Svitavy	0.891		1.072	
	D31	Ústí nad Orlicí	0.970		1.021	
Hradec Králové Region	D32	Hradec Králové	0.820	84.5	1.138	84.4
	D33	Jičín	0.856		1.070	
	D34	Náchod	0.752		1.153	
	D35	Rychnov nad Kněžnou	0.948		1.329	
	D36	Trutnov	0.850		1.084	



Central Bohemian Region	D37	Benešov	0.692	81.7	1.310	84.8
	D38	Beroun	1.000		1.000	
	D39	Kladno	0.879		1.118	
	D40	Kolín	0.864		1.328	
	D41	Kutná Hora	0.787		1.109	
	D42	Mělník	0.700		1.187	
	D43	Mladá Boleslav	0.867		1.071	
	D44	Nymburk	0.839		1.124	
	D45	Praha-východ	0.746		1.366	
	D46	Praha-západ	0.663		1.224	
	D47	Příbram	0.830		1.108	
	D48	Rakovník	0.930		1.030	
Prague	D49	Hl.m.Praha	1.000	100	1.000	100
Liberec Region	D50	Česká Lípa	0.853	85.0	1.190	89.9
	D51	Jablonec nad Nisou	0.895		1.041	
	D52	Liberec	0.836		1.082	
	D53	Semily	0.815		1.086	
Ústí nad Labem Region	D54	Děčín	0.703	81.6	1.119	80.2
	D55	Chomutov	0.792		1.150	
	D56	Litoměřice	0.666		1.497	
	D57	Louny	1.000		1.000	
	D58	Most	0.856		1.362	
	D59	Teplice	0.761		1.127	
	D60	Ústí nad Labem	0.937		1.125	
Karlovy Vary Region	D61	Cheb	0.921	90.1	1.053	94.3
	D62	Karlovy Vary	1.000		1.000	
	D63	Sokolov	0.783		1.116	
Plzeň Region	D64	Domažlice	1.000	90.8	1.000	93.4
	D65	Klatovy	0.956		1.020	
	D66	Plzeň-město	0.792		1.173	
	D67	Plzeň-jih	0.995		1.004	
	D68	Plzeň-sever	1.000		1.000	
	D69	Rokycany	0.889		1.124	
	D70	Tachov	0.722		1.138	
South Bohemian Region	D71	České Budějovice	1.000	93.6	1.000	92.2
	D72	Český Krumlov	0.736		1.433	
	D73	Jindřichův Hradec	1.000		1.000	
	D74	Písek	1.000		1.000	
	D75	Prachatice	0.938		1.037	
	D76	Strakonice	1.000		1.000	
	D77	Tábor	0.880		1.071	

Source: MPSV, Registr poskytovatelů sociálních služeb, 31. 12. 2017.

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# The Czech Tax Mix at a Crossroads

Jaroslav Vostatek

## Abstract

*The Czech tax system has the typical characteristics of post-communist systems of taxation and social security: social security contributions are the dominant tax channel and in addition the public health insurance premiums are collected by 7 public health insurance companies and redistributed between them. The most significant change since the 1993 tax reform has been the reduction of the corporate income tax rate from 45% to 19%. A Czech peculiarity is the transition to the taxation of the super-gross wage from 2008; the last three governments have included the departure from this type of taxation in their programs, but for all that it is apparent that there is still no concept which could replace the existing system with its numerous neo-liberal elements.*

*This paper analyses the linkage of the social insurance premiums to the respective social security branches in the interest of defining the area for the rational share of these contributions in the tax mix. We define four social taxation models in contemporary western countries to solve this problem: the liberal, Christian-democratic, social-democratic and neo-liberal models. Afterwards we define the space for personal and corporate income taxation. The Czech value added tax has a slightly above-average basic rate, so it would not be expedient to raise it as the OECD has advised us to do in response to the very high social security contributions. At the same time, it is also not desirable to reduce the taxation of wages and overall capital incomes.*

**Keywords:** Corporation tax, personal income tax, social insurance, social security contributions, tax mix

**JEL Classification:** H20, H24, H25, H55, I13

## 1 Introduction

The transformation to a market economy in the post-communist countries has essentially led to a change in the tax mix: a dual-channel system of levies on enterprises into the state budget (levies from profits, sales tax) dominated the previous system, while social security contributions followed by value added tax occupy first place in the new market-oriented post-communist economy. The personal income tax (PIT), significant in the advanced market economies, “was pared down”; in Czechia this happened by the mechanical division of the former wage tax into the labour income tax and social security contributions from 1993. The fundamental influence of neoliberal tax theory, which prefers the taxation of consumption (for example, in the form of value added tax) and also makes do with the taxation of personal incomes with the deduction of capital incomes, savings or investments, was also apparent in a number of other post-communist countries. The influence of neoliberalism and international tax competition has also manifested itself in an international fall in the role of the corporate income tax; in our country this tax rate has fallen from 45% in 1993 to the current 19%. These tendencies have resulted in the existing Czech post-communist tax mix which prioritises the role of the social security contributions (42% of public revenues); the value added tax takes the second place (34%, along with selective consumption taxes) and the taxation of personal and corporate incomes (23% of public revenue) come in the third place – see Figure 1.

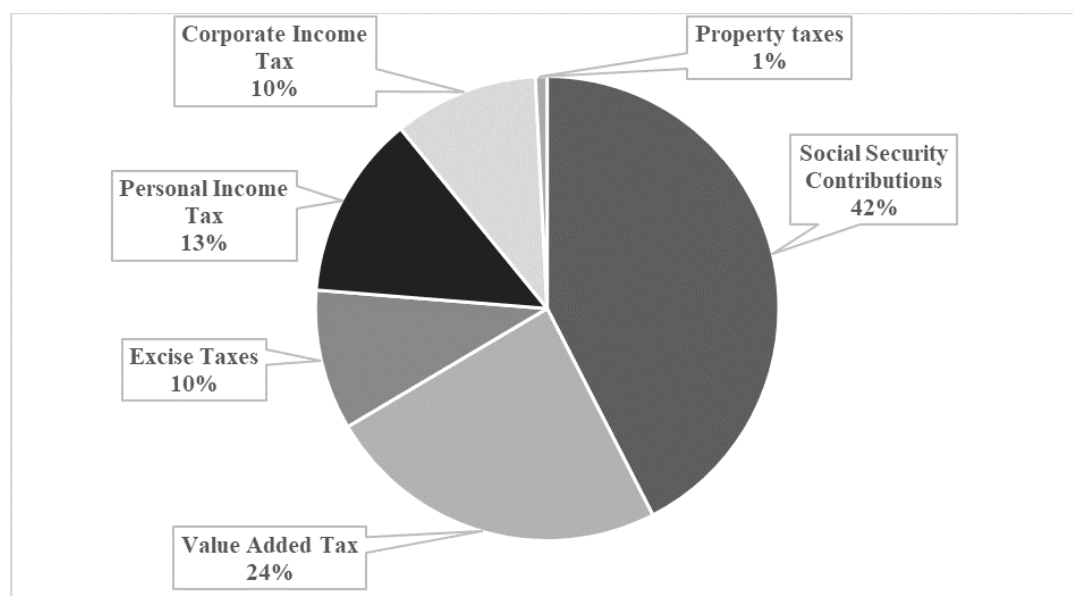
The average tax mix of the OECD countries has three key components: consumption taxation (a 33% share), social security contributions (26%) and personal income taxation (24%). The corporate income taxation keeps some distance (a 9% share) followed by the property taxation (6%) [4]. This “large” (unweighted) average for the OECD countries includes both liberal tax mixes (with negligible social security contributions, for example New Zealand), and Christian-democratic mixes (with social security contributions accounting for the greatest share, for example Germany: 38% of public

revenue). To keep order, I add that social insurance premiums are not considered to constitute taxation in Germany and that our taxation experts at the beginning of the 1990s knew the German taxation and insurance system very well, so they did not have any problem with the distinctive role of social and health insurance from the beginning of 1993. The Czech tax reform of that time essentially preceded (potential) social reforms, while the reform of the financing of healthcare was further advanced at that time: as such it can be of no surprise that health insurance premiums became a revenue for the individual, newly established health insurance companies.

One of the goals of this paper is to point to the connection between the tax mix and the social model or models used in individual countries and subsequently to compare the existing Czech tax mix with the essential features of Czech social security and with any prepared or recommended social reforms. A further goal is to analyse the OECD and EU recommendations for the reform of the Czech tax mix. The third goal is to analyse the government and other proposals for the tax reform with a significant impact on the tax mix. Finally, we will then summarise the acquired knowledge into a proposal for the reform of the tax mix.

**Figure 1 – The Czech Tax Mix in 2018**

Source: [8]



## 2 Social tax models

If we disregard the periods when liberals were rejecting even to look into the incomes of citizens as a rule (and therefore in practice an entire system of yield taxation supplemented with excises was implemented), it is possible to associate liberalism with the dominance of income tax in the tax mix. As the queen of the classic liberal tax system, the income tax should be proportionate and not change the income relations which have been created in the market (the Edinburgh Rule). A new significant tax channel was established after the First World War not only in our country – the turnover tax, as a general consumption tax, which was implemented “as a manifestation of the exceptional need of the public finances, especially in the post-war period; from the point of view of the personal or material tax sustainability it cannot stand up to criticism” [5]. The star of value added tax has risen in the last half century, this tax has stood the test of criticism from the point of view of the material tax sustainability because it does not lead to the taxation “snowballing” in associated production and distribution levels. If contemporary liberals now accept the existence of value added tax (or a single-

phase sales tax – in the USA) as a fact, they can therefore “approve” the existence of a progressive income tax without any greater problem – as a counterweight to the regressive value added tax.

A good example of the modern liberal tax mix is the tax system of New Zealand, preferably prior to the last tax reform. In 2009, the personal income tax (with a sliding progressivity of rates ranging from 12.5% to 38%) brought in 53% of all public revenues, while value added tax (GST) accounted for 21% and the share of corporate income tax was 17% (the remaining 9% consisted of selective consumption taxes, custom duties and some fees). There are practically no social security contributions (only a contribution to the compulsory insurance of employee non-work injuries). The state provides all residents with a relatively high, flat-rate old age pension. The tax reform from and after 2014 substantially strengthened the role of the universal value added tax: its flat rate was increased to 15%. The tax rates on personal income were reduced to a range from 10.5% to 33% (without a zero starting rate or basic tax credit), while the corporate income tax rate fell from 30% to 28%. The taxation of personal and corporate income accounted for 52.4% of the New Zealand tax mix in 2017, while the taxation of consumption amounted to 38.4% and property tax amounted to 6% [2]. The liberal model of taxing labour is therefore very simple: it consists of the progressive personal income tax only.

The modern Christian-democratic tax mix differs from the modern liberal mix “only” in the existence of considerable social insurance premiums. At the same time, we must overlook the frequent existence of state provision for public employees, which is financed from the public purse. In the Christian-democratic social model, social insurance stands outside the state budget and the insurance premiums are at most a parafiscal levy which in essence most certainly does not involve a tax. In the interests of our subsequent comparison, we must, however, consider these insurance premiums to constitute part of the overall labour costs. At the same time, the basic structural parameters of the social insurance premiums, which belong to 3-5 social insurance branches with the premiums being paid into autonomous social insurance funds (for example, 6 branch funds and 6 local sickness funds operated in the basic Austrian “employee” sickness /and health/ insurance scheme. This year, they merge into a single Austrian Health Fund. Health/sickness insurance premiums account for 7.65% of wages!

Earnings ceilings are applied substantially in the individual social insurance branches of the Christian-democratic model and the same ceilings are also used to calculate the pecuniary benefits. In general, the ceilings amount to about 150-200% of the national average earnings. Earnings ceilings (usually somewhat higher) also exist for the compulsory participation in the individual branches of social security; the participant may leave the system, if his or her earnings exceed this limit. A typical characteristic of the Christian-democratic model is the “halving” of the insurance premium between the employee and the employer, which has been explained as an expression of the harmonisation of the opportunities and interests of both social partners in the social market economy. An exception is the social accident insurance, where the employer pays the entire insurance premium because this involves a work risk. This also usually involves the smallest part in the overall insurance premiums, so we can disregard the non-halving of the social accident insurance premium. The theory is also able to explain some state subsidies to a social insurance branch; for example, the state may or should finance the childcare credits in the social pension insurance which constitute “state procurement” and not an insurance benefit. Employee social insurance premiums are deducted from the employee wage tax base (it is an employee cost from the point of view of the system).

Germany is an example of the Christian-democratic tax mix. The social insurance premiums are not locally recorded as part of the tax system. However, the situation is different in the OECD statistics [9] and the data from 2017 show that these premiums constitute 38% of total taxation and insurance revenues and that they are therefore the main German tax channel. The second largest tax channel is the income taxation in all forms (32%). The wage tax in Germany is progressive thanks to the progression of the tax rates (the upper marginal rate is 47.5%), moreover the earnings of up to 9,168 € per year (2019) are tax exempt. The third tax channel is the taxation of consumption (27%) which

includes the value added tax. As such, the overall labour taxation in Germany as per the OECD concept is significantly more dominant than the taxation of consumption and the insurance premiums exceed the personal income taxation (38:23) within the framework of the labour taxation. The Christian-democratic model of payroll taxation therefore mainly consists of social insurance premiums and only secondarily of the progressive wage tax.

The social-democratic tax mix also “works” with social insurance contributions, but these insurance contributions are paid exclusively by the employer and are not used to finance the healthcare of the employee (and his or her family) unlike, for example, the situations in Germany and Austria. Here, the social insurance contributions are used (relatively more) in the interests of the entire economic and social policy, for example to support the employment of young and older individuals. This policy is or can be associated with the non-existence of an earnings ceiling for the payment of insurance contributions, whereby earnings ceilings are applied in relation to employees when calculating insurance benefits, for example when designating the amount of the contribution towards pension savings/insurance of the NDC type (the ceiling is around 120% of the national average earnings).

Sweden is an example of a social-democratic tax mix. The taxes on personal and corporate incomes account for 36% of the overall tax revenues. The share of income tax alone is about 27%. Social security contributions account for about 34%, while it is estimated that about 60% of these contributions have the character of a tax and only 40% can be standard social insurance contributions [13]. The employees pay contributions to NDC pension insurance at a rate of 7% (16% is credited to their personal account in the NDC system), but these contributions are deducted from the personal income tax. Employers pay contributions at a rate of 31.42% of the wages without any earnings ceiling. The taxation of consumption account for approximately 29% of the total tax revenue according to the OECD definition. The overall labour taxation amounts to about 60% of all tax revenue, while the contributions towards social security account for 36% of the total labour taxation; the remainder is the personal income taxation [4]. The small role of the state personal income tax (two rates: 20% and 25%, and a non-taxable minimum which is higher than the average annual wage) is also not without interest. The regional personal income taxes have flat rates ranging from 29.2 to 34.7% with substantially lower non-taxable minimums; regional tax revenues represent about 90% of all personal income tax revenues. The regions finance the healthcare, amongst other things. The social-democratic model of the labour taxation (in its Swedish version) therefore comprises approximately 55% of social security contributions in the shape of a proportional income tax and 45% of flat-rate municipal taxes and dual-rate state tax, the progressivity of which is given by the non-taxable minimums. The deduction of employee contributions to pension insurance from the income tax base plays a non-systemic role here which clearly reduces the progressivity of the personal income tax.

The neo-liberal tax mix “knows” no social insurance contributions because all social security has been systematically privatised. The ideal neo-liberal tax would be a general tax on expenditure with a tax return which would apply a sufficiently high non-taxable minimum. This kind of consumption taxation is, however, very rarely practical and neo-liberals therefore now mainly do not recommend “leaving” income tax as the basic tax, but incorporating deductions of all income which is not directly aimed at consumption (this includes all capital incomes amongst other things) will be fundamentally modified. It is also necessary to deduct any certified private insurance and savings contributions, i.e. mainly contributions towards compulsory and voluntary pension savings or insurance, healthcare savings or insurance etc. The economy is also assisted from this point of view by the tax deductions of interest from mortgages and other loans. The neo-liberal tax model does not include the corporate income tax because it does not represent the taxation of the final consumption. The fundamental components of the neo-liberal tax mix therefore include substantially modified personal income tax which is supplemented in practice with a value added tax or a sales tax so that the tax burden is divided into two channels with lower tax rates. In the marginal neo-liberal variant of personal income taxation, this tax has a single rate and a tax credit (or a tax-free minimum), which replaces all social benefits.

Chile became famous for its neo-liberal pension reform from 1981. In 2017, Chile had the highest share of consumption taxation in its public revenues of all the OECD countries [1]: 55%. This share was even as high as 63% in 1990! Corporate tax occupies second place in the Chilean tax mix: 21% in 2017 and 12% in 1990. The personal income taxation was in third place in 2017 with a 10% share, while social insurance contributions (7%) were in fourth place, they include social health insurance which has escaped compulsory privatisation.

The compulsory contributions to private social security logically are not part of public revenues. Nevertheless, this fact does render the tax mixes of the affected countries significantly less comparable. This is substantial, for example, in the US where the insurance premiums for compulsory private health insurance are significantly high. Nobody has probably ever presented a proposal to extend the tax mix to include compulsory private insurance. However, the same does not apply in the case of the tax wedge (between the net wage and the labour costs for the employer); the tax wedge has been expanded to include non-tax compulsory payments in the compulsory payment wedge. Recently, Bruenig [2] calculated that health insurance provided via an employer in the US represents approximately 26.4 points of the overall American compulsory payment wedge of 43.2 points for a family with two children. This has catapulted the US into the 2<sup>nd</sup> place with regard to the amount (of this variant) of the compulsory payment wedge within the framework of the OECD countries (behind the Netherlands).

The post-communist tax mix developed under specific conditions in many post-communist countries, under the significant influence of neo-liberalism. The neo-liberal social security reforms in these countries have mostly been unsuccessful; either completely or partially. These countries have taken up the historical Christian-democratic model of social insurance, including social health insurance, which is manifested in the essential role of social security contributions in the tax mix. According to the OECD, the share of these contributions in 2017 was 44% in Slovakia, 43% in our country and over 41% in Latvia. On the other hand, the personal income taxation is relatively low: it accounts for 10-13% of public revenues in the stated countries. The taxation of capital incomes is also low, which “logically” follows on from the low taxation of wages. Estonia is considered to be a European pioneer in the flat taxation of income: in 1994, it introduced a flat tax rate of 26% on personal income and a corporate income tax with the same rate. The rate for these taxes was subsequently reduced to 20%; the value added tax also has the same rate. The corporate income tax concept is also quite unique: it taxes the distributed profits of companies; the dividends are not subject to tax at the personal level. Most post-communist countries have followed in Estonia’s footsteps.

Slovakia introduced a uniform flat rate of 19% for all three taxes in 2004 like Estonia: the personal income tax, corporate income tax and value added tax. The Slovak tax reform also significantly influenced the experts from the Czech Ministry of Finance: “Perhaps the most consistent and best-developed tax reform which concerns the flat tax, and which therefore deserves the closest attention, is the Slovak version with its unitary rate of 19% for individuals and corporate entities, as well as for VAT (true flat tax). This is, in fact, the rate recommended by Hall and Rabushka” [7].

The Hall-Rabushka modified neo-liberal tax concept replaces the generally recommended universal tax on consumption with two taxes with the same rate, an individual wage tax and a business tax, for practical reasons: each of them taxes a specific part of the value added only. An advantage of this proposal (was and) is that these two “partial” taxes gel with the existing American personal and corporate income taxes; the proposal was presented as a substantial simplification of these two taxes [6]. At the same time, both taxes were suitably “modified” in the spirit of neo-liberalism. The new personal income tax was intended to tax wages only and therefore not any interest, dividends or other capital incomes. At the same time, Hall and Rabushka “kept” the tax exemptions for the payer and his or her family from the existing personal income tax, the result being a progressive tax. Interest was not deducted from the business tax base, but investments were fully and immediately deducted (instead of write-offs). Both taxes were intended to have the same flat tax rate, i.e. 19%. The flat rate connects these two taxes: “Our flat tax adheres to the principle of a consumption tax: people are taxed

on what they take out of the economy, not on what they put in“ [6]. The Hall-Rabushka proposal has served as the blueprint for several proposals to reform the US federal tax system, but it has never been realised: it was simply too radical, amongst other things because American personal income tax has a large number of tax deductions strongly supported by lobbyists. However, the Hall-Rabushka concept has been relatively successful in post-communist countries. The irony of fate, however, is that it did not replace (and indeed could not have replaced) the already existing (and compulsory in the EU) value added tax. Value added tax was “additionally” packed in with the personal and corporate income taxation with the same flat rate without this making any sense.

The concept of a single flat rate for the stated three taxes subsequently fell apart in several post-communist countries. For example, Slovakia introduced a second personal income tax rate (25%) in 2013; the value-added rate rose to 20% and a reduced rate of 10% was introduced; the corporate income tax rate was increased to 22%.

The introduction of the super-gross wage taxation from 2008 was a small Czech step to the realisation of the neo-liberal tax policy. It was preceded by an unrealistic election promise by the ODS party to introduce a flat personal income tax rate of 15%. To realise it, the base for this tax had to be increased by the employer social security contributions and, in addition to it, the deduction of the employee social security contributions from the tax base was cancelled. We therefore became the only state in the world where the employee social security contributions are included in the personal income tax base. The tax base for single employees was thus increased by 54% [14]. The model anticipated the social security privatisation, including an increase in the level of gross wages to the level of the total labour costs (super-gross wage). If we ignore the unsuccessful attempt at the partial privatisation of public pensions, all that essentially “remained” from the concept of taxing the super-gross wage is the low taxation of capital incomes thanks to the 15% rate. Currently, the third consecutive Czech government has included the abolishment of the super-gross wage taxation in its program.

The social taxation models have their different internal logic which has developed from the given social philosophy or public policy. They can or could constitute the basis for or the objective of the tax policy of the appropriate political parties. If we accept the existence of value added tax and selective consumption taxes in the EU and in other countries, it becomes clear that the social taxation models differ mainly in their approach to social security contributions and to the role and structure of the personal income tax, followed by the corporate income and capital income taxation. There are no social security contributions in the liberal and neoliberal models, these contributions (paid by both employers and employees) are very important in the Christian-democratic model whereas they are close to a tax and paid by employers under the social-democratic model.

### **3 Social security contributions**

According to the OECD the Czech “structure of government revenues is unbalanced, with a heavy reliance on social security contributions. While government tax revenues were almost 35% of GDP in 2016, social security contributions were 14% of GDP... In terms of collected social security contributions, the Czech Republic ranks among the highest across the OECD. At the same time, personal income tax revenues are low... VAT revenues are above the OECD average... Imbalances in the structure of government revenues contribute to a relatively high cost of labour. The tax wedge is the 6<sup>th</sup> highest across the OECD and the average rate of employers’ social contributions is the second highest” [10], see Figure 2. The OECD recommends to „rebalance tax revenues by reducing social security contributions and raising indirect taxes (VAT through better compliance and environmental taxes).” The OECD specifically offers us 4 scenarios for increasing the VAT rate which should enable a reduction in the social security contributions by 1% of GDP (the 1<sup>st</sup> scenario: increasing the basic rate to 25%, the 4<sup>th</sup> scenario: cancelling the reduced VAT rates) [10].

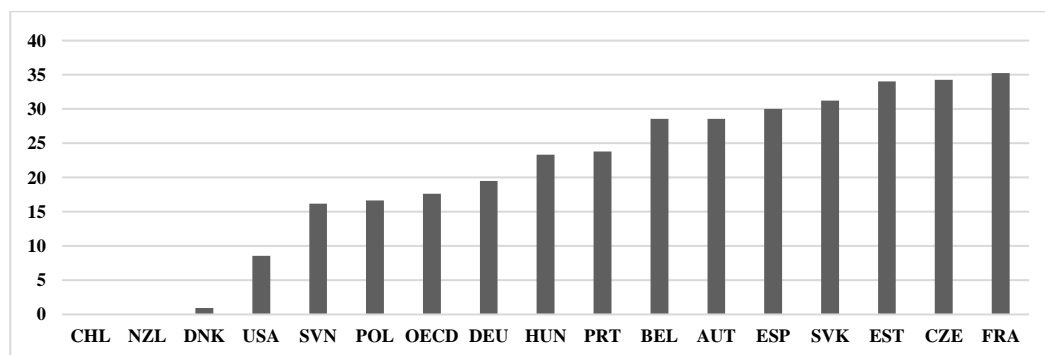
The OECD’s argumentation in favour of reducing the overall rate of Czech social security contributions is more than problematic. One weakness lies in the very use of the tax wedge: its

imperfect depiction of the wedges between net wages and the labour costs in several OECD countries (but not in Czechia). We have already shown above that the low wedge in the US has been essentially influenced by the non-inclusion of compulsory health insurance premiums and this is just one of the extreme examples. The rectification of the OECD tax wedges will substantially raise the average OECD wedge and Czechia will be counted as below-average. The OECD's recommendation of increasing the value added tax rate or rates is also more than problematic in that the OECD has already confirmed that this taxation is above average in our country.

An analysis of the social security contributions not only in our country should constitute part of a social security analysis, which should clearly show the role of insurance in financing the individual branches of social security. Social security contributions should definitely not substitute the general taxation of income and/or consumption. The ideal basic general tax may only involve the income or consumption taxation. According to (Engliš and) most taxation theoreticians, such a tax should be a general income tax, according to the neo-liberals it should be a general consumption tax. Model social insurance premiums are not a tax, because the pecuniary benefits are earnings-related. Not everything in the world, which is designated as social insurance, is completely or at least predominantly real social insurance. That is why the term social security contribution exists, as it is essentially wider than the term social insurance premium. When analysing the Czech social security contributions we must also pose the question as to whether and to what extent these contributions are insurance premiums at all.

**Figure 2 – Average rate of employer social security contributions**

Source: [10]



The Czech “general health insurance premium” is fully, without any doubt a tax and not a social insurance premium from an economic point of view. The amount of the premiums (with a rate of 13.5% of the gross wage!) is not in any way projected into the provision of public healthcare. There are also no rules for adjusting the rate to the amount of the healthcare expenditures in total or at the (seven) individual health insurance companies. Czech health insurance premium is therefore close to the income taxation, but it is of course a bad income tax, mainly because it does not apply to capital incomes (the OECD has, however, recommended that we extend the tax base to include these incomes). On the other hand, however, a lump-sum “premium” is paid by “persons without taxable incomes” (currently 1,803 CZK per month). A gross imbalance lies in the taxation of employees and self-employed and a special problem involves the premium paid by the state on behalf of “state insureds” (currently 1,018 CZK per month) which constitutes a de facto state subsidy to the health insurance system separated from the state budget (unlike the remainder of the social security system). The health insurance system is a de facto trust fund which is administered by the General Health Insurance Company of the Czech Republic. The fund is designated as “a special public health insurance account” and it is used for the realisation of the “100% redistribution of the insurance premiums” between the 7 health insurance companies and for the collection of the insurance contributions for “state insureds” paid by the state. This “redistribution of the premiums” results in



the provision of risk insurance premiums for the clients of the health insurance companies according to the same or comparable principles (formulae), similarly to the way in which the central public healthcare fund functions, for example, in Germany or the Netherlands. The essential difference in comparison with these countries lies in the fact that the health insurance companies collect the premiums themselves in our country. Czech health insurance premiums therefore constitute a special-purpose income tax, the yields of which are designated exclusively for the financing of healthcare. “Though tax hypothecation might have an expedient role to play in getting a specific project or part of a programme undertaken, it is not a solution to the large-scale and very difficult problems that governments face in making decisions on taxes and public spending” [16].

Czech employers pay premiums for the sickness insurance and the contribution to the state employment policy at a total of 3.3% of gross wages. From our point of view, the most significant fact is that these two social security sub-systems predominantly have the character of social insurance. The Czech old-age “pension insurance” scheme is approximately by 70% a liberal flat-rate pension and only by 30% a social insurance premium. In accordance with the modern pension theory and policy, it is necessary to divide this “pension insurance” into a solidary pension pillar (financed from general taxes) and a social insurance (financed by premiums). The social security contributions, except for the aforementioned “health insurance premiums”, constitute regular revenues of the state budget and the corresponding social security benefits are mandatory expenses for the state budget. In essence, no direct link exists between these revenues and expenses within the state budget, these links are typical for classic social insurance systems. It therefore generally applies that these Czech “social insurance premiums” are approximately by one third real social insurance premiums and by two thirds they are an unfair income tax, because it is degressive. In this, we are essentially different from all our neighbouring countries.

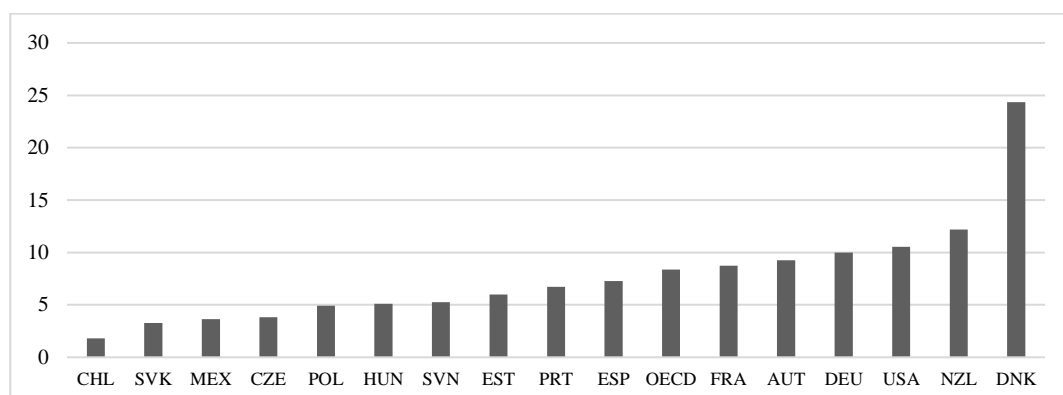
The completely predominant non-insurance essence of the Czech social security contributions has created a significant room for a substantial reduction of the rates of these contributions, for the tax reform.

#### **4 Personal and corporate income taxes**

Figure 3 confirms that Czech personal income tax revenues are low. Despite this, we have witnessed repeated attempts to reduce the tax rate on personal income in parallel with proposals for the cancellation of the concept of the super-gross wage. The program declaration of the existing Czech government states: “We will cancel the super-gross wage for the personal income tax, and we will propose a new reduced rate of 19% on the gross wage. We will preserve the existing solidary tax increase by introducing a 23% rate on the gross wage. We will allow entrepreneurs to deduct three quarters of their insurance contributions. The changes in the system must bring a reduction in the tax burden on employees by one percentage point” [15]. The first proposal by the Minister of Finance to cancel the super-gross wage in 2018 was in compliance with the government declaration in that “the cancellation of the super-gross wage and the associated simplification and increased transparency of the tax system was one of the promises of previous government which had not been realised on reasonable grounds. The cancellation of the super-gross wage without a change in the rates or any other parameters is merely an administrative measure which would not bring about any real change to the tax burden. It was therefore responsible to wait to cancel the super-gross wage until such time when the improved collection of taxes would enable the reduction of employees’ real tax rate from 20.1 to 19%.” [12]

**Figure 3 – The Czech fiscal burden on individual incomes**

Source: [10]



Our Minister is correct: the departure from the super-gross wage taxation alone would have been self-serving and pointless. However, it is not only necessary to “monitor” the impact on the self-employed, but also on tax deductions whenever a change is made to the structure, because an increase in the nominal tax rate also leads to an increase in tax expenditures, for example on state support for financial products. As such, the concept and extent of any such tax expenditures should be duly considered. Consideration should also be given to the liquidation of the principle of the flat tax rate. Is it truly necessary to (“definitively”) implement a second tax rate (increased by only 4%) instead of the current solidarity tax increase with a 7% rate on gross wages which exceed the average national earnings by 400%? And alternative options for reducing the tax burden should, of course, also be considered. Why was a reduction in the rates for social security contributions not proposed? Is there to be an increase in the rate of withholding tax on dividends and other capital gains? The absence of an expert approach by the Ministry of Finance is clear. The aforementioned proposal was rejected by the Prime Minister (despite the fact that it was in compliance with the government’s program) with the justification that the proposal did not have political support from other parties without the entire proposal ever having been published (meaning that it could not gain any wider political support). They were keeping something essential from us...

Coincidentally, the realisation of the basic manoeuvre in the Minister’s proposal, i.e. the introduction of a 19% personal income tax rate, would have led to the realisation of the Hall-Rabushka plan for the introduction of two income taxes with one 19% tax rate: the Czech corporate income tax currently also has a flat 19% rate. The completion of the Hall-Rabushka neo-liberal concept would require the cancellation of the taxation of capital incomes (interests and dividends). The Prime Minister would not be against this, but he could fear a “hailstorm” from his coalition partner or the opposition, because it would be apparent that any such tax reform is mainly beneficial to the oligarchy. Any additional joy at the application of the Hall-Rabushka plan would be slightly spoilt by the fact that there is no need for us to force ourselves into the (“definitive”) introduction of a 2<sup>nd</sup> personal income tax rate without a corresponding analysis of the completely different Czech conditions.

A remarkable proposal for the reform of personal income tax was leaked from the inter-resort expert meetings of the Ministry of Finance and the Ministry of Health at the end of February 2019. The Minister of Finance proposed raising the rate of employee health insurance premiums from 4.5% to 8.2%, while at the same time cancelling the insurance premiums paid by the state on behalf of “state insureds”. (These insurance premiums are a remnant of the efforts to implement a neo-liberal healthcare reform.) The personal income tax rate (15%) would have remained unchanged, but the tax base would have changed from the super-gross wage to the gross wage. This would have led to a de facto reduction in this tax rate by 5.1% of gross wage, so employees would have gained 1.4% of their wage due to this reform [11]. This proposal was opposed by “healthcare experts”, including lobbyists,

who consider the periodic increases in the state's low payments to the "special public health insurance account" to be a more suitable method of implementing growth in the healthcare expenditures than the increases in the insurance premium rate. Subsequently, the proposal of the Minister of Finance was also opposed by the Prime Minister. Thus, the plan for "a large tax reform including smaller taxes, but higher health insurance" finished. The government, or rather its marketing experts, do not (yet) have any other plan.

If the politicians or the oligarchs do not insist on the preservation of the illogical post-communist tax model, there is a simple reform of Czech personal income tax available which involves the inclusion of the employee social security contributions into the tax on employment income or in the overall personal income tax. The reason is simple: under the given model of public healthcare financing, the insurance premiums are completely unnecessary. Approximately 70% of the contributions for pension insurance are also unnecessary and we can therefore reduce them by 19-20 percentage points. So, we have the option of cancelling insurance premiums at around 33% of the gross wage which we can (should) transform to other taxation. To begin with, we can settle for 11% of the gross wage which the employee pays and by which we will increase the tax rate on employment income to the resulting 31.1% of the gross wage. Given that we are not beholden to the post-communist tax model which unilaterally favours the capital income taxation and the extremely high labour taxation, we can use this 31.1% rate in all personal income taxation, i.e. also when taxing all personal capital incomes.

Health insurance premiums should not be left out of any reform of the income tax, as they include several irrational and easily removeable structural elements, such as the isolated collection of the insurance premiums by the individual health insurance companies, the payment of the premiums for "state insureds" from the state budget and the payment of insurance premiums by individuals "without any taxable income". All of this may be cancelled in a single stroke. The cancellation of the insurance premiums from individuals without any income (from what are they supposed to pay it?) will cost the system 1% of its revenue. Approximately, the same applies to the isolated collection of the insurance premiums, so the total effect will be negligible. We replace the payment of the insurance premiums for state insureds by increasing the personal income tax rate, the remainder up to 11% of the wage reduces the rate of the health insurance premiums. All pension insurance contributions will then be paid by the employer within the framework of the existing social insurance rate of 34% or 33.8% (from July 2019). A small health insurance premium thus remains within the framework of employer insurance contributions and we can include it in the sickness insurance premium.

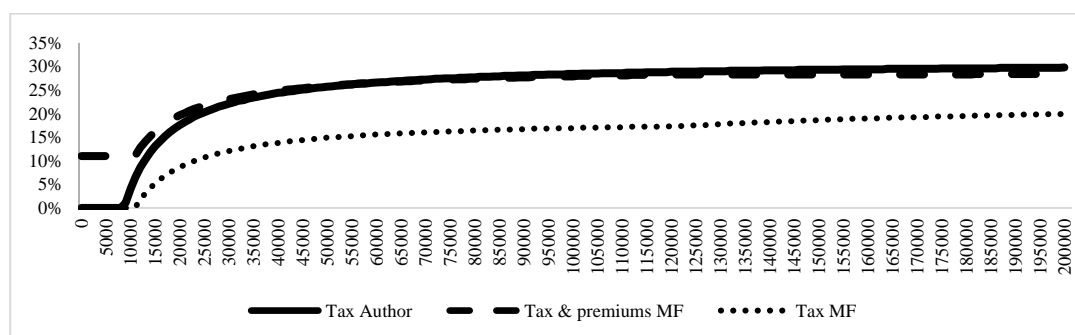
There is no reason to reduce the personal income tax rate with the exception, of course, of populist marketing. Quite the contrary, this income tax has a clearly low rate which can, from an expert point of view, be simply raised by including the insurance premiums paid by the employee into the employment income tax. The overall income taxation of natural persons needs to be further adapted to this. International comparisons have shown that a personal income tax rate at the level of 31.1% is at the lower edge of comparable personal income taxation in western countries. The progressivity of the Czech personal income tax involves a basic tax credit per payer of 2,070 CZK per month, which has not been adjusted for inflation since 2008. It is advisable to adjust this tax credit for inflation so that the progressivity of the tax, including the insurance premiums paid by employees, reaches the average international level, which was the case in 2008. The corresponding rate of the tax credit is 8.9% of the national average wage. This would therefore amount to 2,910 CZK per month in 2019. This proposal to increase the basic tax credit by 840 CZK per month need not be seen as a marketing gift to voters, because Czechia needs to get rid of its extremely high fiscal costs arising from supplementary pension savings (370 CZK per month per participant) and the state contribution to the building savings (up to 167 CZK per month). The level of taxation on the average wage would thus newly be 22.2%. Figure 4 compares this proposal with the Minister's original proposal. Our proposal eliminates the insufficient progressivity of the taxation, including the burden on very low incomes due to the flat insurance rate of 11%. The progressivity of the income taxation might be further

increased by cancelling the basic tax credit for high income groups (while maintaining the flat tax rate).

The personal capital income taxation is very low in Czechia: the “flat” income tax rate of 15% is applied. Deloitte has stated that the European average for capital income taxation in 2017 was 26.78% on interest and 26.47% on dividends [3]. In general, the same degree of taxation should be applied when taxing these incomes and employment incomes. The withholding tax is often used abroad in this case, including as an option. Either way, this taxation should rise significantly in our country. There is no reason to continue to apply the post-communist model of the low taxation of capital and the high tax burden on labour.

**Figure 4 – Personal income tax proposals: Minister of Finance (MF) and author**

Source: Author



The classic corporate income taxation theory and policy was based on the so-called material payment ability of the joint-stock companies or on their large market strength which manifests itself in their profits. This was also used to explain the necessity of using profitability surcharges [5]. Corporate tax rates were relatively high after the 2<sup>nd</sup> World War, but these rates began to fall significantly from 2004, while this was balanced out to a significant extent by the expansion of the tax base. In recent years, there has been regular talk of the ongoing drop in rates, especially in the EU, as a “race to the bottom”. The Czech corporate tax rate of 19% could have been slightly below average two years ago, which generally corresponded to the rates in other smaller countries. However, the race to the bottom has continued and it is possible to expect that we will have to respond to it within the next 2 years.

In the case of corporate income tax, the connection to personal income tax is also important. If the aforementioned classic concept of corporate tax essentially “falls”, the (neo-liberal) theory which rejects the double taxation of dividends and at the same time expediently unifies the taxation of dividends and interest (from corporate bonds), which can be encapsulated in the concept of the “comprehensive business income tax” (CBIT) which was proposed by the US Treasury in 1992, should be implemented. In the case of the CBIT, interest is not a deductible item from the corporate tax base. The CBIT rate was proposed at the highest upper limit rate for the personal income tax, which would correspond to 31.1% under Czech conditions after the proposed reform of the employment income taxation. In total, the double taxation of dividends in our country currently amounts to 31.15% given the full allocation of profits to the dividends. The taxation of capital incomes and corporate incomes according to the CBIT should therefore not fall below 31.1% in Czechia. The advantage of the CBIT for our country lies in the fact that any profits created in this country would be fully taxed here.

The attempts of the Czech Ministry of Finance to reduce the effective personal income taxation is in conformity with the post-communist tax model but contrary to the provision of the Czech universal healthcare and to the prevailing universal state pensions. The (flat) rate of the personal income tax might be easily increased at the expense of the employee social security contributions, as in the social-

democratic model. A transition to the comprehensive business income tax need not be vetoed by the Czech Prime Minister due to his personal interests.

## 5 Conclusion

Czech social security contributions are extremely high, and they unilaterally increase the labour costs. It is not rational to increase the health insurance contribution rate at the expense of the personal income tax; the opposite should apply: health insurance contributions constitute a bad income taxation and it is possible to essentially cancel them under the existing Czech conditions or to include them in the taxation of employment income. The reduction in public revenues because of the cancellation of these contributions paid by individuals without any taxable earnings will be recouped by the cancellation of the collection of these contributions by the (seven) health insurance companies. The revenues of the health insurance trust fund will be replaced with a share of the personal income tax within the framework of the budgetary allocation of taxes. The remainder of the health insurance contributions (2.5% of the gross wage) will be levied to the state budget as (increased) sickness insurance contributions.

The reduction of the flat personal income tax rate to 19% of the gross wage is not rational, because we need to eliminate the health insurance contributions which are only collected from labour earnings. The reform of the tax mix by replacing 81% (11% / 13.5%) of health insurance contributions with the flat employment income taxation will also lead to the extension of this flat 31.1% tax rate to capital incomes. At the same time, we anticipate a substantial increase of the basic tax credit per payer in the interests of increasing the progressivity of the personal income tax to the average international level which corresponds to the degree of progressivity of Czech personal income tax achieved after the reform of 2008. This substantial increase in the basic credit will enable the government to keep its promise to reduce the income taxation and at the same time to reform the extremely high state support for pension and building savings.

The international “race to the bottom” in corporate income tax rates is forcing Czechia to make a further reduction in this rate. At the same time, it is not feasible to reduce the existing overall taxation of capital incomes (in the form of a tax on corporate income and a withholding tax on dividends) to 31.15%. We have reached a conclusion that it is useful to apply the comprehensive business income tax concept, which taxes corporate incomes without the deduction of interest costs, while dividends will no longer be taxed (in Czechia). This would lead to the strengthening of the role of corporate income tax in the Czech tax mix and to the systemic incorporation of corporate tax into general income tax. This should be accepted by both liberals and neo-liberals.

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# Greening of the Public Transport as an Essential Part of the Public Economy

Iveta Vozňáková, Kamila Janovská

## Abstract

*Public transport in cities pollutes the environment. Therefore, urban public transport companies use alternative fuels. Possibilities of using alternative propulsion in public transport today are almost unlimited, and it will always depend on the specific conditions of the company to what extent it chooses to use alternative fuels in its vehicle fleet. One of the main arguments for using alternative motor fuels is environmental reasons. The article aimed to carry out an environmental analysis of the possibilities of using alternative propulsion in urban transport. The research method was mainly the analysis, synthesis and statistical evaluation of information obtained by studying scientific articles, literature and legal acts at various levels of the state, EU and worldwide institutions. The Life Cycle Assessment analysis was used to answer the question about the environmental impact of fuels in cities. According to ecological analysis, CNG was evaluated in the article as one of the most suitable alternative fuels, and at the end of the article, the obstacles to further development of the CNG market are assessed and possibilities of their removal are suggested.*

**Keywords:** Alternative fuels, urban public transport, ecological analysis, Life Cycle Assessment, CNG

**JEL Classification:** L62, Q42, Q56, Q59

## 1 Introduction

Urban transport can account for about one-third of the environmental burden, and there is a need to seek ways to reduce this pollution constantly. One way is to reduce the entry of cars into city centres and replace them with environmentally friendly public transport. Urban public transport (UPT) can be defined as a system of public passenger transport lines designed to provide transport services within the city by public transport. Cities usually have their integrated transport system (either for the city itself, or for its surroundings as well), in which uniform transport and tariff conditions apply, and the operation of public transport lines is subsidized by the city. A specific public transport system may include bus, tram and trolleybus services, and in cities with a population of over a million inhabitants, as a rule, also metro and urban or suburban rail. In some cases, public transport also includes cableways and unconventional overhead railways or ferries or other forms of water transport. At present, in some regions of the Czech Republic, there is a tendency to interconnect urban and regional transport and to reduce the differences between them by creating and developing integrated transport systems (ITS). [12]

For cities with more than 50,000 inhabitants, regular public transport is a necessity. Present-day cities could not exist without public transport. Public transport is mostly supported by municipal authorities, mainly in Europe, not only by financial subsidies, but also by reducing car traffic, tolls, or pedestrian zones in the centres of large cities. The advantage of public transport over automobile transport is the relatively low level of environmental pollution and noise. Public transport is 2.5 times less energy-intensive than individual transport. Public transport companies are often set up by public corporations (towns, cities, municipalities, or the state). Expenditure on public transport in the Czech Republic is one of the most substantial items of city budgets and is increasing with the number of inhabitants and the total area of the city. [12]

### 1.1 Alternative fuels in public transport

In order to minimize the pollution of European cities, governments are striving to support the development of alternative propulsion systems and fuels. According to both the European Commission and industry experts, natural gas and renewable biomethane are considered to be the

most promising alternative fuel in the medium and long term (for the period up to 2030), as they represent a “bridge” to the hydrogen economy. The basis of this European transport policy is COM (2001) 370, White Paper on European transport policy. The White Paper adopts the Green Paper (COM (2000) 769, the European Energy Supply Strategy), which set a target to replace 20-23% of conventional fuels with alternative fuels by 2020 (of which **8% are supposed to be biofuels, 10% natural gas and 2-5% hydrogen**).

Therefore, European cities are currently investing in CNG (compressed natural gas) vehicles that have CO<sub>2</sub> emissions clearly below standards. It is anticipated that converting diesel-consuming vehicles to CNG vehicles can reduce CO<sub>2</sub> emissions by up to a quarter. CNG can be used in passenger cars, vans and trucks, but most often, CNG is used in public transport buses. Other advantages of CNG fuel are a lower price, simplified periodic inspection, lower administration fees. Adding the option of introducing a ban on diesel cars to city centres will make the use of natural gas by urban transport, local distribution and municipal vehicles the best option. While buying such a vehicle is 15-20% more expensive, the possible savings in operating costs can be as much as 20-50%.

## **2 Material and methods**

The aim of the paper is to analyse the possibilities of using alternative propulsion systems in urban transport. As a research method, the article uses literature studies, including mostly scientific articles, as well as legal acts of different institutional levels: national, EU and global, as well as analysis and synthesis of the information collected.

The issue of alternative fuels is described in the literature from different perspectives and at different levels. The aggregate results of the comparative analysis are presented only to a very limited extent. The use of scientific research methods in this article is based on the use of information relevant to the description of the problem and its evaluation by induction, deduction and synthesis. In order to answer the question of the environmental impact of fuels, a simplified form of well-to-wheels analysis was used as the most appropriate research tool. This is a specific type of Life Cycle Assessment (LCA) analysis that is often used in the transport sector to assess the impact of used fuels, vehicle types and their propulsion. [4]

The LCA analysis is divided into two basic parts - the first “WTT - Well to Tank”, and the second “Tank to Wheels” (TTW). Both of these cover the entire fuel life cycle. The first evaluates fuel from the extraction of raw material along the entire processing chain after delivery to the means of transport. The second part concerns fuel consumption, i.e., fuel utilization [4,8].

### **2.1 CNG in the Czech Republic**

The situation on the Czech market for alternative fuels is mostly the result of institutional activities carried out more than ten years ago, especially in the area of fuel taxation and other activities stimulating the development of the CNG segment in accordance with EU directives on transport emissions reduction. As a result of the consensus of the government and gas market participants in the Czech Republic, solutions supporting the development of environmentally friendly technologies in transport were adopted, and the key step has been the introduction of zero excise tax on CNG since early 2008. In the period of zero excise duty, the number of cars on CNG has increased by several tens of per cent per year. The growth has been the largest in the passenger car segment, and it has more and more frequently concerned corporate vehicle fleets and public institutions. Interest in using CNG has also been evident in public transport. The increase in the number of users has been reflected in an increase in the number of CNG filling stations as well. While in 2008 there were only 17 of them, in four years their number doubled, now there are 192 filling stations. [4]



## 2.2 Utilization of CNG in the Transport Company Ostrava, a.s.

In the Czech Republic, compressed natural gas buses are used in more than 50 cities in urban public transport - at the end of last year, there were about 1,200 CNG buses [11]. The amount of carbon monoxide produced by state-of-the-art CNG buses is reduced by 95%, the amount of flammable hydrocarbons by about a third, and these buses are also less noisy, by up to 70%. [17]

In its strategic plan, the Statutory City of Ostrava sets out to increase the number of low-emission vehicles in public transport [11]. This is in line with the intentions of Dopravní podnik Ostrava a.s. (Ostrava Public Transport Company), which plans to cover public transport in the city using at least 60% of emission-free vehicles (currently 54%) and at least 35% of low-emission vehicles (currently 17%) by 2025. [12] The City of Ostrava plans to spend approximately 680 million Czech crowns on the purchase of alternative urban propulsion systems for vehicle fleet renewal by 2020. [17]

It is mainly an increase in the number of electric buses, trolley-buses and buses powered by CNG, whose positive feature is that not only CNG consumption is much lower than diesel consumption, but also that the price of CNG is lower than the price of diesel.

The Ostrava Public Transport Company started operating CNG buses in 2015. Today, roughly a third of all buses are CNG vehicles. However, they cover half of the transport performance. It should be noted that CNG buses are newer and more heavily loaded than diesel buses. The number of CNG-powered buses used by the Ostrava Public Transport Company is steadily increasing so that the transport performance of buses is primarily accomplished using CNG.

## 2.3 Ecological analysis of alternative fuels

The currently used alternative fuels in transport include mainly [4]:

- Gaseous fuels - primarily compressed natural gas (CNG) and conditionally liquefied petroleum gas (LPG) (which, however, cannot be regarded in the real sense as an alternative fuel because of its direct link to crude oil processing),
- Biofuels - pure (fatty acid esters - FAME as well as pure vegetable oils) and mixed concentrates with fossil fuels bioethanol with petrol (e.g. E85) and fatty acid esters with diesel fuel (e.g. mixed diesel with 30% rapeseed methyl ester).

The use of second-generation biofuels produced not from food crops but non-food biomass (wood pulp or other plants) is considered within the next few years).

Internal combustion engines produce a number of environmentally polluting chemicals, such as nitrogen oxides, airborne dust, or volatile organic compounds, which are easily vaporized and contribute, among other things, to photochemical smog. These adverse environmental impacts are regulated mainly by the European Union legislation and, in particular, by the necessity of the manufacturers' compliance with the Euro Emission Standard (EuroVI Emission Standard - effective from September 2014), which define the exhaust emission limits for petrol and diesel engines for motor vehicles in relation to the pollutant weight over the distance travelled. [4,8] Also, some large cities are currently preventing the arrival of motor vehicles due to pollution-related to the EURO VI standard - for example, the German cities of Stuttgart, Berlin, Hannover, etc.

Legislative measures addressing the promotion of the use of alternative fuels in Europe initially addressed the process of introducing biofuels in transport, and subsequently focused on defining procedures for replacing parts of internal combustion engines with alternative propulsion vehicles. The EU legislation is followed by national legislation in individual European countries, which deals with support for alternative fuels in transport. The Czech Republic has also adopted many legislative documents, resolutions and agreements, the main objective of which is to support the development and use of environmentally friendly fuels in transport. Recently, the "Memorandum on long-term cooperation in the field of natural gas vehicles for the period up to 2025" (May 2018) has been one

of the most significant ones. The document, which was created based on joint negotiations of the Government with the Czech Gas Union and the Automotive Industry Association, is concluded by 31 December 2025. [14] The Memorandum aims to set reasonable conditions for further development of natural gas use in transport without compromising the stability of public budgets. The document also declares, in line with European Union policy, the need to increase the share of alternative propulsion vehicles and reduce transport emissions.[4]

The impacts of the operation of combustion propulsion vehicles on the air and the overall ecosystem are relatively good. The impact of alternative propulsion operation is definitely lower, and virtually emission-free for electric motors and fuel cells. However, the problem may be increased emissions in the production of individual propulsion systems and fuels, as their production can be technically complicated. [14]

For example, electric vehicles do not produce any pollutants in their operation and therefore, do not pollute the environment in this life cycle. However, it is necessary to take into account the methods of producing electric energy itself and also the method of their storage in cars. Electricity is stored in propulsion batteries, the production of which consumes a lot of energy and minerals, the extraction and processing of which are highly polluting for the environment. Moreover, the disposal of these batteries is demanding and environmentally burdensome. [12]

As mentioned in the introduction of the article, to evaluate the use of fuels and their environmental impacts in any transport, including public transport, it is necessary to follow the valid LCA (Life-Cycle Assessment) methodology. It is a method of life cycle assessment analysis. [9]

The analysis is divided into two parts - the first "Well to Tank" (WTT) and the second "Tank to Wheels" (TTW). Both of these parts cover the entire life cycle called "Well to Wheels" (WTW). The first part evaluates the fuel production process from the extraction of basic raw materials through the entire processing chain to its delivery to the means of transport. The second part evaluates the actual use of the fuel. Impacts are expressed in relation to the global warming impact category as CO<sub>2</sub> equivalents. [1]

According to these analyses, it can be stated that in virtually all alternative motor fuels, except for CNG and LPG, the first phase (i.e. the phase of mining, production and distribution of fuel) is very energy-intensive. Energy consumption at this stage (WTT - Well to Tank) at best corresponds to the actual usable energy content of the alternative fuel (DME, synthetic liquid fuels, hydrogen produced from natural gas or biomass). However, in the vast majority of alternative fuels, the usable energy content of the fuel is 1.5 to 5 times the energy consumption in the WTT phase (electrolytic hydrogen, bioethanol, biodiesel). It has been shown that the energy contained in biomass or natural resources is very poorly concentrated and that a more substantial proportion of the usable energy potential of renewable resources has to be reserved for alternative fuel production and cannot be used effectively in the final consumption phase. Almost in the process of producing any alternative fuel, energy from non-renewable sources is more or less consumed. [4] Mostly, it is the case of electricity and motor fuels in agriculture and transport. [18] Therefore, only a comprehensive analysis is objective, taking into account the fact that in some cases, the production phase may be so environmentally and energy-intensive that the positive effect of final fuel consumption in the vehicle (e.g. hydrogen) is completely negated in the overall balance. Comprehensive Environmental Impact Assessment (LCA - Life Cycle Assessment) is currently the focus of many research centres worldwide. This is a very complex issue requiring the analysis of a large number of different input data from many sectors of the national economy (agriculture, mining, power engineering, chemical industry, automotive industry, economy). [4]

According to a number of these analyses, CNG seems to be the most suitable fuel for use in public transport, where the total WTW emissions of greenhouse gases related to usable energy content are lower than the corresponding emissions of automobile petrol and diesel.

For LPG, emission reductions are minimal compared to petrol and diesel, but they contribute significantly to the reduction of hazardous pollutants. However, LPG resources are tied to oil resources, so it is a medium-term fuel. [8]

Comparison of emission factors characteristic of liquid (bioethanol, biodiesel) and gaseous (CNG, LPG) alternative motor fuels shows that gaseous fuels are significantly more advantageous. [4] Relatively higher hydrocarbon emissions in the case of CNG-powered vehicles are predominantly composed of residual unburned methane. If only non-methane hydrocarbon (NMHC) emissions, i.e. emissions of higher hydrocarbons posing higher health risks are assessed, CNG vehicles seem to be even more environmentally friendly in this comparison. [5] Volatile aldehydes may be the only problematic pollutant, but their degradation on efficient catalytic exhaust converters is generally much easier than the degradation of hydrocarbons, whose partial oxidation in the combustion process results in volatile aldehyde formation. The use of alternative gaseous fuels is also significant in terms of a significant reduction in the health risk of emissions from the vehicle fleet of an earlier production date, often without the presence of exhaust catalytic converters. The replacement of conventional motor fuels with alternative fuels also means a significant benefit in terms of reducing the potential for the formation of photo-oxidative smog and ground-level ozone, which is particularly beneficial in congested urban agglomerations. [4]

Alternative gaseous and liquid fuels, in comparison to conventional petroleum-based fuels - automotive petrol and diesel, generally impose less air pollution at the final stage of their consumption in the vehicle (TTW) in terms of greenhouse gases (GHG) and other inorganic emissions and organic pollutants contained in combustion engine exhaust gases - carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), total hydrocarbons (HC), particulate matter (PM), and minor organic compounds with high risk potential (polyaromatic hydrocarbons, aldehydes, alkenes). The advantage of alternative gaseous fuels is that they do not impose any burden on water resources and soil. [4] According to the above assessments, it can be stated that CNG is a very suitable alternative for use as a propellant.

## **2.4 Possibilities of using alternative fuels in transport companies**

Ways and possibilities of using alternative propulsion systems and fuels in public transport can be very different. It always depends on the specific conditions of the particular transport company to what extent it will use alternative propulsion systems and fuels in its means of transport. In general, the following factors need to be taken into account when deciding on the use of alternative propulsion systems in the conditions of a transport company [4]:

- the number of persons transported and the area served (average daily action radius of means of transport),
- type, number of means of transport and their age,
- the estimated amount of investment in the acquisition of new vehicles, the availability of funds
- the availability of alternative fuels (filling station infrastructure).

Based on the analysis of these factors, economic, ecological and technical prerequisites for the use of alternative means of transport can be defined. According to these assumptions, it is then possible to propose a methodology for the application of alternative propulsion systems for motor vehicles in a transport company, and, subsequently, to create a transport model that allows an optimal choice of the use of alternative fuels in the conditions of a particular transport company. For example, it is possible to use the following evaluation criteria in the transport model [4]:

- environmental criteria - primarily all emissions
- economic criteria - fuel price, vehicle price, availability of funds
- technical criteria - travel range and performance (number of passengers carried), number of filling stations and their availability, safety of operation.

### 3 Results and Discussion

As mentioned above, the main argument for the use of alternative motor fuels is economical and, above all, environmental reasons. In general, the emission of pollutants in the case of the combustion of alternative fuels is significantly lower than the emissions from the combustion of conventional fuels. [4]

Based on the results of the analysis, it is possible to state that CNG (Compressed Natural Gas) is the most advantageous option for the operation of public transport vehicles. CNG is not an entirely typical alternative fuel, but its combustion is minimally harmful to the environment and complies with current legal requirements according to Euro VI Emission Standard specification. Given the stable price of gas and its expected surplus, as the US is currently a gas exporter, CNG seems to be the best possible alternative to reduce fuel costs relatively quickly and with minimal costs while meeting EU requirements to reduce CO<sub>2</sub> emissions and other pollutants. [4]

Support for compressed natural gas CNG for the propulsion of cars will continue to be very massive not only in the world but also in the Czech Republic even after 2020; e.g. the Czech government approved a memorandum in May 2018 under which it commits to maintaining the excise tax on lower than for petrol or diesel because it wants to encourage the use of CNG as an alternative fuel in transport. [14] Further support is provided, among other things, by the Ministry of Transport of the Czech Republic by supporting the construction of public CNG/LNG filling station infrastructure, or by gas companies by supporting the purchase of new CNG buses, etc.

A comprehensive environmental impact assessment of different types of fuel (LCA) is currently the subject of activities at many research and professional workplaces worldwide. However, this is a very complex issue based on an analysis of a large number of relevant input data from many sectors of the national economy. [14]

In the future, it is necessary to take into account price changes and the fact that price movements on oil markets will also cause changes in natural gas prices with some time lag. Energy crises and price movements are putting pressure, especially on developed industrial nations to massively support research and development of more advanced technologies for the use of alternative fuels. [4]

### 4 Conclusion

The primary tasks of the concept of sustainable development include, above all, improving the quality of life with a gradual minimization of human impact on the environment and reducing the use of natural resources. [1]

The European Union recommends that its Member States use 20% of alternative fuels (of which 10% is supposed to be CNG) to propel means of transport by 2020. CNG, also called natural gas (compressed natural gas), is compressed to 20 MPa (megapascals) of gas, which contains approximately 97% of methane. Theoretically, CNG has the same advantages as car fuel. It is characterized by a high octane number (130) and hence resistance to articulated combustion. In addition, it also has a better energy balance than diesel or unleaded petrol. A methane-driven vehicle should, therefore, travel more kilometres per kg of CNG than per litre of petrol or diesel. Natural gas is also greener because it contains very little carbon, which is converted into a small amount of carbon dioxide in the exhaust gas. From an ecological point of view, CNG vehicles do not produce particulate matter (PM<sub>10</sub> e), emissions of nitrogen oxide, sulphur and especially carbon oxides (CO<sub>2</sub> by 25% to 35%) are significantly lower, there is no risk of contamination of land, roads and garages, and the significant reduction of exhaust emissions contributes to air protection. [4]

Given the stable price of gas and its expected surplus, CNG is the only possible alternative to quickly and cheaply reduce fuel costs in public transport while meeting EU requirements to reduce CO<sub>2</sub> and other pollutants and thus improve the urban environment. [4]

In order to develop the alternative fuels market in the coming years, it is necessary to continue in building infrastructure with public refuelling stations, to harmonize regulations, and to make legislative changes to allow the economically efficient introduction and use of alternative fuels, to introduce specific tax incentives for the alternative fuels market, and to propose financial instruments and incentives for purchasing vehicles using alternative fuels. [4,9]

The solution of the topic mentioned in the text of this article fits into the concept of the circular economy, which is an integral part of sustainable development and deals with ways to improve the quality of the environment and human life. It is very positive that this concept is being introduced into individual strategic development plans by individual cities. City leaders are striving to influence environmental cleanliness in all areas that pollute the air:

- emissions from local heating systems,
- emissions from industrial manufacturing plants in urban areas,
- emissions in public transport.

While it is often very difficult and complicated for city management to influence the reduction of emissions from industrial enterprises, municipal authorities have been increasingly successful in two other areas. Reducing emissions from local heating systems has been successfully reduced by boiler subsidies for the introduction of environmentally friendly boilers for citizens, and emissions in public transport have been reduced by replacing diesel and petrol-consuming means of transport by environmentally-friendly vehicles, and by the effort to push private transport out of the city centres and replace it with green public transport.

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# **The Level of Information Accessibility of the Web Portals of Private Retirement Homes in the Czech Republic**

**Iveta Vrabková, Izabela Ertingerová**

## **Abstract**

*The subject of the research is the issue of the availability of provided information about the services of seniors' homes through web portals. The aim of the paper is to evaluate the level of information availability of 74 official web portals of the home of private providers in the Czech Republic. The evaluation is carried out according to the TOPSIS multi-criteria method. Together 10 types of information (criteria) were included in the evaluation. The results show that seniors' homes do not adequately publish – the conditions for admission to the elderly home, the annual report, the price list, the house rules and the electronic link to communication with elderly home. In terms of assessing the overall level of 10 types of information provided on senior home web portals, 76% of web portals have a very low level of information availability.*

**Keywords:** *Information, multi-criteria evaluation, TOPSIS method, private retirement homes, web portal*

**JEL Classification:** *H41, D82, L33*

## **1 Introduction**

In the Czech Republic is the topic of social service and specially the social services for the seniors, significantly. In the Czech Republic, according to the Register of social services providers, there are 529 organizations providing residential social services for the retired people, with the total capacity above 38 thousand places. Within this number, there are 113 private providers of social services, among which there 74 organizations with the legal form of a limited liability company. (Ministry of Labour and Social Affairs, 2019)

The information about social services should be easily accessible for everyone who could need it. The information accessibility and impartial counselling on the types and range of services available and on their providers should be accessible to the persons interested in the service not only in the social facilities but also, for example, on their websites. With the development of online social services, the websites now provide more information for the public. These types of information can reflect the quality of results of social facilities and their providing, with the objective to facilitate the selection of the concrete provider for the persons interested in the service. (Průša, Horecký, 2012)

The providers of social services should, try to materialize the process of services, for example, via a description of the procedure of the social help, which would eliminate the ignorance of the clients. This especially applies to the cases when the demand for a social service is related to existential issues connected to life, health and rights, or substantial economic issues. (Holásová Malík. 2004)

**The aim of this paper is to evaluate the accessibility of the web portals of private retirement homes in the Czech Republic that are related to the supply of the services being provided.**

In relation to the defined aim, two research questions will be tested:

- RQ1: “Do retirement homes disclose basic and practical online information for future clients?”;
- RQ2: “Which important piece of information about the service being offered by the retirement home is not being sufficiently disclosed?”.

Evaluation of information accessibility of the web portals of private retirement homes in the Czech Republic are performed according to the multi-criteria method TOPSIS. It includes 74 private retirement homes established by three types of providers (state-funded institutions, private limited



liability companies, church legal entities), and during the selection of types of information, it takes into account the requirements of the Act no. 108/2006 Coll. on Social Services.

## 2 Methodology and data

For the needs of identification and evaluation of the information availability within the online sources, 74 websites (online sources) of retirement homes were analysed.

### 2.1 The selected private retirement homes

The legal form and the numbers of retirement homes (RH) for which the information disclosed on official websites was evaluated:

- Joint-stock Company with the number of 17, representing 23% within the total number of selected private retirement homes;
- private organizations Private Limited Company (Ltd companies) with the number of 52, representing 70 % within the total number of selected private retirement homes;
- self-employed person with the number of 5, representing 7 % within the total number of selected private retirement homes.

### The types of information evaluated

Based on a review of expert literature sources, consultations with experts in the field of social work and services, and the requirements of the Act on Social Services, 10 types of information were determined as the criteria listed in Table 1 (criteria C1 – C10).

An important step within the whole calculation using the TOPSIS method is determination of weight for the criteria. The weight for the criteria was assigned subjectively (see Table 1). The information was searched for on the websites of retirement homes during April and May 2019. The accessibility of a piece information was evaluated using a scale of 0 – 10, where 0 points = absence of the piece of information, and 10 points = fully and easily accessible piece of information.

**Table 1 - Characteristics and weight of the pieces of information (criteria) evaluated for the retirement homes**

Criteria	Criterion's description	Weight
C1	type of social services of the retirement home	10
C2	characteristics of the retirement home's services	10
C3	criteria for the acceptance into the retirement home	15
C4	price list of the services (accommodation, eating, caring services) of the retirement home	15
C5	annual reports of the retirement home	10
C6	basic contact information of the retirement home (address, phone number, e-mail)	10
C7	localization contact information of the retirement home (map, transport connection)	10
C8	visualization of the retirement home (for example, images of the interior, exterior, virtual presentation)	10
C9	downloadable application form into the retirement home	5
C10	electronic link for the communication with the retirement home	5

Source: Own processing

### 2.2 The TOPSIS method

The Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS)) is a specific technique, representing one of the most frequently used Multi Criteria Decision Making. The procedure of the TOPSIS technique can be described in several steps:

- putting the alternatives in order according to the corresponding, beforehand identified, criteria is captured by the  $D$  matrix;
- normalization of the created matrix according to formula (1):

$$r_{ij} = x_{ij} / \sqrt{\sum_{j=1}^j x_{ij}^2} \quad (1)$$

where  $x_{ij}$  = value of the  $j$  criterion reached by the  $i$  alternative;

- multiplication by the weight for the individual criteria according to formula (2):

$$v_{ij} = w_{ij} \cdot r_{ij} \quad (2)$$

where  $v_{ij}$  = weighted normalized value, and  $w_{ij}$  = criterion's weight;

- identification of the PIS and NIS alternative according to formula (min or max);
- calculation of the distance from the PIS and NIS alternative according to formula (3):

$$d_i^+ = \left[ \sum_{j=1}^k (w_{ij} - H_j)^2 \right]^{1/2}, \quad d_i^- = \left[ \sum_{j=1}^k (w_{ij} - D_j)^2 \right]^{1/2} \quad (3)$$

- calculation of the relative distance from the PIS alternative according to formula (4):

$$c_i = \frac{d_i^-}{d_i^- + d_i^+} \quad (4)$$

where  $c_i$  = relative closeness to PIS;

- values  $c_i$  lie in the interval  $<0,1>$ , where the basal variant has the value 0, and the ideal variant has the value 1. Putting the variants in order according to  $c_i$  from the highest one to the lowest one. According to the required number of variants, those ones with the highest values of the indicator are selected. (Jablonský, Dlouhý, 2015; Vavrek, 2015)

The TOPSIS method is used also to evaluate both performance and quality of public services and programs (public sector), as listed in the table (see Table 2).

**Table 2 - Application of TOPSIS method in public sector**

Authors (year)	Subject
Ardielli, E., Bečica, J. (2018)	Financing of professional theatres in the Czech Republic
Ghatari, AR., Shamsi, Z., Vedadi, A. (2014)	Business process reengineering in public sector: ranking the implementation barriers
Kuo, RJ., Wu, YH., Hsu, TS. (2012)	Integration of fuzzy set theory and TOPSIS into HFMEA to improve outpatient service for elderly patients in Taiwan
Ocampo, L., et al. (2017)	Public service quality evaluation with SERVQUAL and AHP-TOPSIS: A case of Philippine government agencies
Shafabakhsh, G., Hadjihoseinlou, M. (2013)	Selecting the appropriate public transportation system to access the Sari International Airport by fuzzy decision making
Vavrek, R., Novotová, J. (2017)	Use of multi-criteria method in customer decision making process

Source: Own processing

### 3 Empirical results

The results of the multi-criteria evaluation using the TOPSIS method are determined (i.) partially according to individual criteria C1-C10 (according to number points 0-10); (ii.) in total level of the information being provided is evaluated according to the determined four-level scale for the  $c_i$  value:

- 1.00 – 0.80 very high level of the information being disclosed;
- 0.79 – 0.60 lesser than very high level of the information being disclosed;
- 0.59 – 0.40 low level of the information being disclosed;
- 0.39 – 0.10 very low level of the information being disclosed.

#### Results I.: according to individual criteria C1-C10

The evaluation of accessibility of information C1 – C10 of the retirements homes web portals is strongly heterogenous, (Tab. 2). Based on the performed analysis, it can be stated that four specific information gaps were detected, and these gaps are related to:

- C5 annual reports of the retirement home → absent at 96% of RH web portals;
- C3 criteria for the acceptance into the retirement home → absent at 74% of RH web portals;
- C10 electronic link for the communication with the retirement home → absent at 46% of RH web portals;
- C4 price list of the services (accommodation, eating, caring services) of the retirement home → absent at 35% of RH web portals.

**Table 3 - Basic statistical analysis of criteria analysis, (RH = 74)**

Criteria	Mean	Median	Standard deviation	% zeros
C1	9.473	10	1.387	1
C2	8.095	9	2.626	8
C3	1.851	0	3.262	74
C4	4.986	7	4.161	35
C5	0.324	0	1.578	96
C6	9.351	10	0.813	0
C7	7.595	9	3.259	14
C8	8.068	9	3.112	5
C9	7.419	8	2.885	9
C10	4.486	6.5	4.218	46

Source: Own calculation

However, the positive is it, that:

- 99% of RH web portals offer the information about the type of social services of the retirement home (C1);
- 95% of RH web portals offer the information about the visualization of the retirement home (C8);
- 92% of RH web portals offer the information about the characteristics of the retirement home's services (C2);
- 91% of RH web portals offer the information about the downloadable application form into the retirement home (C9).

#### Results II.: the total level of information web portals according to TOPSIS

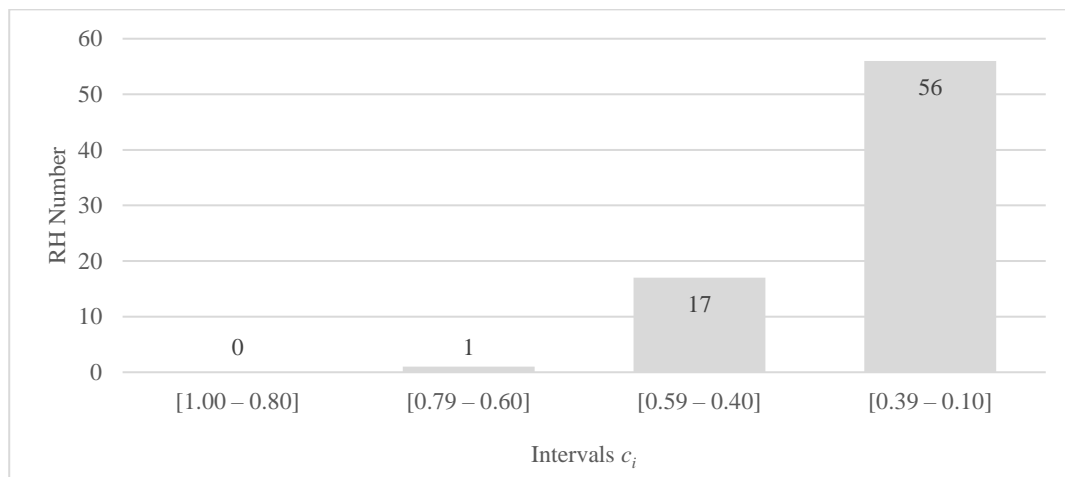
The total level of the information being disclosed is evaluated according to the determined four-level scale for the  $c_i$  values, where from the perspective of 74 evaluated entities (Fig. 1):

- a very high level of the information being disclosed, when the value of the relative closeness to the PIS ( $c_i$ ) lies within the interval [1.00 – 0.80], was achieved by 0% of the RH web portals;

- a lesser than very high level of the information being disclosed, when the  $c_i$  value lies within the interval  $[0.79 - 0.60]$ , was reached by 1% of the RH;
- a low level of the information being disclosed, when the  $c_i$  value lies within the interval  $[0.59 - 0.40]$ , was reached by 23% of the RH;
- a very low level of the information being disclosed, when the  $c_i$  value lies within the interval  $[0.39 - 0.10]$ , was reached by 76% of the RH.

**Figure 1 - The level of the information web portals of RH**

Source: Own calculation and processing



The web portals of private RH offering very low level of the information. The mean value of  $c_i$  is 0.33 and median value of  $c_i$  is 0.33.

Web portals of private RH with best offers of information are:

- RH23: Domov pro seniory OASA Petřvaldík (s.r.o), [www.agentura-oasa.cz](http://www.agentura-oasa.cz);
- RH11: Domov pro seniory Jižní město (a.s.), [www.jmsoc.cz/strediska/domov-pro-seniory](http://www.jmsoc.cz/strediska/domov-pro-seniory);
- RH49: Centrin (s.r.o), [www.centrin.cz](http://www.centrin.cz);
- RH58: Senior dům Beránek (s.r.o), [www.sdbu.cz](http://www.sdbu.cz);
- RH55: Senior-komplex Praha Třebešín Domov pro seniory (s.r.o), [www.senior-komplex.cz](http://www.senior-komplex.cz).

Web portals of private RH with worst offers of information are:

- RH22: Pension pro seniory (FO), [www.ziveobce.cz/penzion-pro-duchodce\\_f1190115&obec=539392](http://www.ziveobce.cz/penzion-pro-duchodce_f1190115&obec=539392);
- RH62: Senior centrum Čtyřlístek (s.r.o.), [www.seniorcentrum24.cz](http://www.seniorcentrum24.cz);
- RH65: Amfion sanatorium (s.r.o), [www.amfion.cz](http://www.amfion.cz);
- RH63: SeneCura SeniorCentrum Kolín (s.r.o.), [www.kolin.senecura.cz](http://www.kolin.senecura.cz).

#### 4 Discussion and conclusion

Discussion is focused on RQ1 “Do retirement homes disclose basic and practical online information for future clients?” and RQ2: “Which important piece of information about the service being offered by the retirement home is not being sufficiently disclosed?”.

Nowadays, the web portals represent the most used mean of communication with the potential clients of social services as well as with the public. Thus, it is legitimate to expect that social services in the form of retirement homes should be maximally transparent regarding their specific societal nature as well as their relatively high proportion of funding from the public budgets.

The results of the multi-criteria and statistical analyses show that (see research questions RQ1, RQ2) all the evaluated retirement homes offer almost full information on the type of social service provided, and they also state its description.

The evaluation according to individual criteria (C1-C10) unexpected considerable information gap was detected, in the annual reports of the retirement home (C5), the criteria for the acceptance into the retirement home (C3), the electronic link for the communication with the retirement home (C10) and the price list of the services (accommodation, eating, caring services) of the retirement home (C4). The absence of these types of information considerably limit the decision-making ability of potential clients, which results in the emergence of additional costs (time and financial) needed for the additional searching for them. Pertaining to this, the results gained can be confronted with the opinion that the provided online information about social services of retirement homes needs to be seen as a product that has its current and future value, for the concrete client as well as for the public, (Holásová Malík, 2014, Průša, 2013).

The bigger problem is the overall level of RH offered, because it is very low. Most private retirements homes (76%) offer a very low level of information ( $ci < 0.4$ ). The remaining question is “why”? In the Czech Republic, there is a predominance of institutionalized care for retired people, being provided by public entities. According to Kubalčíková, Havlíková (2016), liberalization and substitution of residential care by alternative forms of all-day care are delayed by 20 years when compared with western Europe. The social care for re-tired people in the Czech Republic were not able to adapt to growing needs for the care for elderly adults, and the rising demand caused an unintended effect. Unregistered, profit-making caring homes emerged, which offer care of low quality and which provide poor working conditions for their employees. This phenomenon can have negative impact on the qualities offer the information on the web portal private RH.

Generally it is possible to deduce from the evaluation results that the information about the supply of social services available can currently be gained by several ways. The first is online resources (for example web portal), it is the fastest way, as to gain information, and allows comparison in the service offerings and allows the client to pre-select the provider. Then there should be a personal visit to a retirement home and an interview with staff of provider.

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# Legal and Regional Aspects of Structuring of the Czech Republic

René Wokoun, Pavel Mates, Petr Čechák

## Abstract

*The choice of the state's model of public administration, especially then its local and regional structures, belongs to the most important issues of the optimal functioning of the state. The contribution attempts to analyze critically the genesis of the creation of this model in the Czech Republic since the 1990s and focuses on the fact, how the administrative structure of the state has been created gradually, how the material and political criteria have been taken into account and deals also with the perspectives of its further reforms. As the method of the article, there were used the description of legal, political and program documents, their analysis, generalization of conclusions and formulation of recommendations for other political decisions and legal regulations.*

**Keywords:** *Regional structures, administrative organization, microregional structure of the Czech Republic*

**JEL Classification:** *K19, R50, H70, H73*

## 1 Introduction

The territorial administrative organization is one of the most important components of the territorial proceedings. Its importance grows with the degree of the intervention of the state, or possibly of other public authorities into the life of a society. It deals with the problem of internal administrative structure, especially of the territorial administrative one. And right here, there are important the legal and regional aspects that have in fact the permanent nature. Every state has to solve in all periods and under all conditions the issue of its organization.

### 1.1 How the existing model of territorial public administration was established

In the programming document of perhaps all government since the early 1990s, there has been a request for enforcement of subsidiarity, thus gradual shift powers and thus responsibilities from the central level to lower degrees of public administration, with the significant role of the self-governing regions. This degree at the regional level was absent for a long time, despite the constitutional establishment of the existence of the so-called higher territorial self-governing units, that was one of the decisive factors for the action of strongly centralized all public administrations and politics. The non-existence of the self-government at the regional level complicated substantially, among others, the development of for example cross-border cooperation (eg. at the level of Euroregions on the Czech-German border<sup>86</sup>), the compatibility of the individual subsystems of public administration on the vertical and especially on the horizontal levels.

From the past, recent and close history, it follows clearly, that the organization of public administration, including its territorial structure, has always been a subject of political interest, that, inter alia, causes, that its final form may not be rational and optimal.

The first debates on the organization of territorial administration began in early February 1990 and resulted in a proposal to abolish Regional National Committees, the spatial concentration of the districts, thus their enlargement and restoration of the municipalities as the self-governing

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<sup>86</sup> Partially self-governing German regions did not have a corresponding partner on the Czech side at the time, with municipalities and districts substituting this role.

corporations.<sup>87</sup> Due to the fact, that in the society, the aversions grew against the even only temporary preservation of the national committees, it was decided at the beginning of June 1990, that their activities would be terminated on the day of the elections to the municipalities, the next perspectives of the organization of territorial administration had remained open. The districts, as the administrative units, in which state administration should be performed, remained outside of the discussions and whose existence nobody had contested.

The laws, by them it happened to the restitution of the self-governing municipalities in 1990, were prepared in a hurry, without sufficient analysis and conceived consequences, which led to the fact, inter alia, that the municipalities started to be established by the uncontrolled way, that were separated, especially from the so-called center municipalities, where they had been incorporated insensibly in the previous years. Thus during three years, the number of the municipalities has increased by about 50 %, and we have been facing till nowadays with the negative consequences, that these localisation brings.<sup>88</sup> Only during 1990 it increased from 4100 to 5769, and continued to rise to about 6250.

For the next seven years, the question of the form of second or higher degree of self-government was solved then, and the debates were influenced by a considerable political accent. This accent was significantly seen in the discussions of the renovation of the historical lands, that were demanded by some politicians of then South-Moravia Region, against whom the protest on the regional organization were up<sup>89</sup>. The government accepted finally the second alternative and in February 1992, it prepared the relevant drafts of the laws that weren't although discussed, inter alia from the reason, that the disintegration of the federation was getting closer and the administrative reform got to the second center of interest.<sup>90</sup> However, the Moravian parties kept themselves their influence, that was reflected into the diction of the Constitution: due to the fact, that the government wanted to adopt it before the termination of the federation and it wasn't possible to reach another solution, the compromise formulation was adopted, when under Article 99 of the Constitution the republic should be divided into municipalities as the basic territorial self-government units and higher territorial self-government units, which would be countries or regions.

The discussions on the model of the administrative organization of the state continued and rather political aspects than material ones still prevailed in them, and there was exploited knowledge of the administrative sciences and foreign experiences, that's why the comprehensive concept of the reform lacked.<sup>91</sup> As the example it can be mentioned the position of the Civil Democratic Party (ODS), at that time the strongest party, which supported such proposals of that it had to be aware, that they didn't a chance to be adopted, such as the draft of the constitutional Act from April, respectively June 1994, according to which 17 higher territorial self-government units should be set up, that would exercise only the autonomous competence. This party, presenting itself as the liberal oriented one,

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<sup>87</sup> ZÁŘECKÝ, P. K některým otázkám rozvoje místní správy, *Správní právo* č. 1/1001, s. 3.

<sup>88</sup> VIDLÁKOVÁ, O. *Správní reforma v České republice v devadesátých letech (cesta zkoušek a omylů)*, *Veřejná správa a právo*. Pocta prof. JUDr. Dušana Hendrychovi k 70. narozeninám. Praha: C. H. Beck 1997, s. 55.

<sup>89</sup> See, e.g. BALCÁREK, P. *Boj o demokratizaci ústřední moci v našem státě. Výchova občanů k demokracii*. Sborník referátů (publishing point and publisher not listed), 1997, s. 81; however, much less support was given to these projects not only in Bohemia but also in Silesia (MALAST, J. *Teoretická východiska obecní samosprávy v České republice*, Plzeň: Západočeská univerzita v Plzni, 2016, s. 250).

<sup>90</sup> POMAHÁČ, R., VIDLÁKOVÁ, O. *Veřejná správa*, Praha: C. H. Beck 2002, s. 242.

<sup>91</sup> See to it SKULOVÁ, S. *K postupu reformy veřejné správy v České republice*, *Časopis pro právní vědu a praxi* č. 2/2000, s. 161 a následující; this situation was criticized in the European Commission's opinion of July 1997 on the Czech Republic's application for membership of the European Union, blíže viz POMAHÁČ, R., VIDLÁKOVÁ, O., cit. práce, s. 246.



and thus subsidizing the self-government, was afraid of the fact, that the opposition might emerge to its government in larger and economically strong self-government units, especially in the case, if their political composition differed.<sup>92</sup>

The provisional status of the territorial administration was also complicated by the fact, that after the abolition of Regional National Committees vacuum remained on the level of the regions and the problem with the direct management of the districts by the government arose. The various detached and deconcentrated bodies of the individual ministries were created,<sup>93</sup> which not only complicated processing of the remedies, but also disrupted the effort to create an unified system of the territorial administration, the resources were drained away, that could be used otherwise for the purpose, so that the local self-government could start to operate and but last not least, thus, the influence of the state on the local and regional level was strengthened and, in a certain sense, the ground was prepared for the fact, in order the joint model of the performance of public administration hadn't become an universal one.<sup>94</sup> Let us add, that these trends continued subsequently, where it was rational at such administrative agendas as the fire rescue service, mining administration, cadastre of the real estates, but later with a more vague argument for better efficiency of exercise of public administration for example by setting up of the system of labor authorities completely separated from the structure of municipal and regional authorities. It seems, that misgivings expressed in connection with the adoption of the unified model of territorial public administration are fulfilled, namely if the state is able to ensure their tasks for all the time and in all spheres only through self-governments and if self-governing units will be able to set up the caesuras between it, when they perform in the independent or in the delegated scope.<sup>95</sup> At the same time, there is a growing range of direct performers of state administration without links to existing division, and it is only a question, when this trend will stop, because the reasons for creating such specialized bodies are always found, as we are witnesses of it nowadays in the intention for creation of a special system of building authorities, as bodies of the state, outside municipal and regional bodies.<sup>96</sup>

The discussions on the organization of territorial administration were finished by the adoption of the Constitutional Act No. 347/1997 Coll., on the creation of higher territorial self-governing units, by which 13 regions and capital city Prague were established, whose boundaries were set by the territories of the districts to the day, when this Act should come into effect, thus on 1<sup>st</sup> January 2000, that meant a problem, whereas the districts in certain cases had been encumbered historically with their unsuitability. This law was, in many ways, the result of the compromise of the political parties than rational considerations, because most of the regions, concretically 9 of them are small ones, have from 300.000 to 700.000 inhabitants and their size is up to four times smaller than the average in the European Union, that gives the legitimate questions for the meaning of their existence. As it known, among others, it complicated the drawing from the structural funds of the European Union, and that's

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<sup>92</sup> ZOUBEK, V. Několik poznámek k problému ústavnosti a účelnosti ve veřejné správě, Sborník příspěvků z mezinárodní konference Public administration '96, Pardubice 1996, s. 69, 72-73.

<sup>93</sup> E.g. The Ministry of Education, Youth and Sports had so-called specialized territorial administrative authorities (school authorities) 86, the Ministry of Agriculture had 65 detached workplaces (territorial departments).

<sup>94</sup> VIDLÁKOVÁ, O., The First Decade of Public Administration Reform in the Czech Republic, Administrative Law No. 1/2001, p.

<sup>95</sup> E.g. PRŮCHA, P. K současnosti a perspektivám veřejné správy, Skulová, S. (ed.) veřejná správa na prahu 21 století. Sborník z konference, Brno: Masarykova univerzita 2001, s. 15 a následující; PRŮCHA, P. K reformě místní, resp. územní správy a dosaženému stavu, Sládeček V., Frumarová, K., Melotíková. P. (eds.) Organizace státní správy-vývojové tendence, Praha: Leges, 2014, s. 84.

<sup>96</sup> POMAHAČ, R. a kolektiv Veřejná správa, Praha: C. H. Beck, 2013, s. 98.

why eight regions so-called cohesion regions on the NUTS 2 level had to be established purposefully by the Act No. 248/2000 Coll., on subsidy of the regional development.<sup>97</sup>

## 1.2 NUTS – the problem of the context

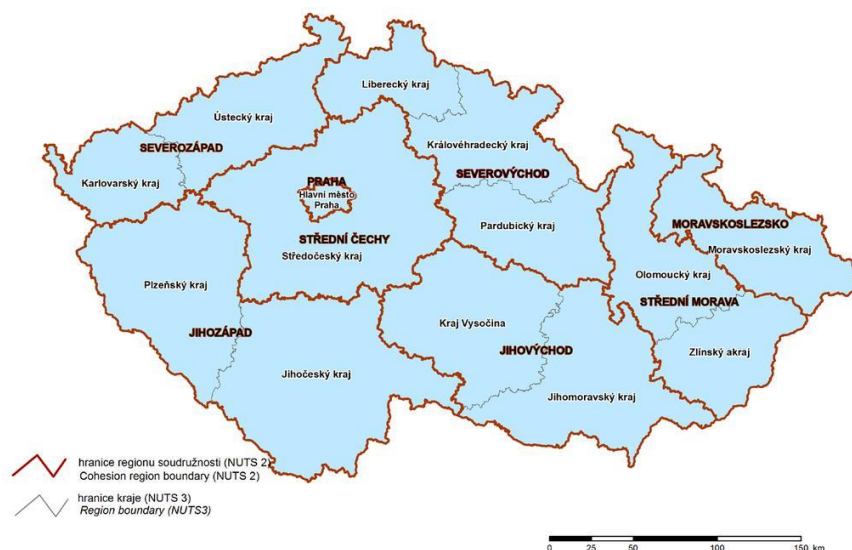
In the European Union, so-called the nomenclature of territorial statistical units – NUTS – is used for various mutual comparison. For the purposes of the regional and economical statistics, the NUTS units are used for the monitoring of rate of unemployment, for calculating of regional gross domestic product, for population data. Within the regional policy (economic policy and social cohesion policy or cohesion) these units are basic territorial framework for the assessment and evaluation of the subsidy from the Structural Funds. Within the definition of NUTS, besides the existence of territorial administrative levels, it is necessary to come out from their complementarity (i.e. higher units are formed by a certain number of whole lower units) and follow also the size of the units in relation to practice of the European Union.

The maximum value and the minimum one (number of inhabitants) for three basic levels of NUTS regions are set in the relevant Regulation on the NUTS units:

Level	minimum	maximum
NUTS 1	3 milions	7 minions
NUTS 2	800 000	3 milions
NUTS 3	150 000	800 000

The Czech Republic couldn't argue too much with stable territorial administrative division during setting of NUTS. For this reason, it acceded especially at NUTS 2 units to low geografically justified, but practically relatively feasible solution, i.e. mostly to the association of two or more units of higher territorial self-governing units into NUTS 2 units.

### 1. Map of NUTS 2 in the Czech Republic



<sup>97</sup> Among other things, the accepted arrangement of the regions was reproached for not respecting the historical borders between Bohemia, Moravia and Silesia, although this was certainly not a primary problem.

## 2 Material and Data

### 2.1 Geographical context of territorial public administration in the Czech Republic

#### *Macroregional and interregional centers in the Czech Republic:*

Thus, in the 1990's, the position of the regional centers (especially of the metropolises, interregional and some microregional centers), which perform the backbone of the regional systems, has been strengthened, with an increasing share of the production in the Czech Republic.

These centers are highly hierarchized<sup>98</sup>:

- 1) metropolis of international importance – Prague (metropolis of international importance; the main development center in Bohemia and also in the Czech Republic),
- 2) regional metropolis of the first order – Brno (the main development center in Moravia),
- 3) regional metropolis of second order – Ostrava (the development center in northern Moravia and territory of the Czech Silesia),
- 4) interregional center of the first order – Pilsen (with the aspiration to the regional metropolis, the development center in southwest Bohemia),
- 5) interregional centers of the second order – Olomouc (central Moravia), Liberec (North Bohemia), Hradec Králové and Pardubice (eastern Bohemia), Ústí nad Labem (northwest Bohemia), České Budějovice (south Bohemia), Zlín (east Moravia) and to certain extent Karlovy Vary (west Bohemia),
- 6) significant development microregional centers – Mladá Boleslav, Opava, Uherské Hradiště, Jihlava, Cheb, Jablonec nad Nisou, Tábor – Sezimovo Ústí, Kolín and others.

The cities listed from the first to fifth hierarchical level are strong socio-economic centers with a high concentration of services and industries. Other cities no longer have the appropriate parameters to be included into the interregional centers. The cities belonging to the sixth group are also the significant centers.

### 2.2 Criteria and reality of definition of new territorial administrative structures of the Czech Republic

One of the most sensitive issues of the legislative regulation in this area is the delimitation of the individual units. Although it deals ultimately with a political decision, it is necessary, so that the real regional structure of the Czech Republic was respected in the interest of the viability of not only higher territorial self-governing units (i.e. regions). And of course, this question is also very sensitive at the microregional level from a certain point of view.

#### *Criteria and reality of the definition of higher territorial administrative units in the Czech Republic*

When defining territorial administrative units, it is often operated with some criteria, for example with the minimum and maximum size of territorial administrative unit, it is requested at least approximate comparability of the units in terms of area size, number of inhabitants, eventually degree of economic, social and cultural development etc. Furthermore, it is taken into account the transport accessibility. Psychological-sociological arguments (i.e. identification) and economic aspects are also significant. At the same time, it is necessary to respect the fact, that the territorial self-government is a set of legal, regional, economic, political and cultural relations.

As the example the following criteria were used to define higher territorial self-governing unit in the Czech Republic<sup>99</sup>:

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<sup>98</sup> E.g.: Wokoun R., Malinovský J. a kol.: Regionální rozvoj. Linde Praha a.s., 2008.

<sup>99</sup> Kolektiv autorů (editors: J. Kadeřábková, P. Mates, R. Wokoun): Úvod do regionálních věd a veřejné správy. 4. vydání. Vydavatelství a nakladatelství Aleš Čeněk, s.r.o., Plzeň, 2004.

- significant centers of settlement with a relatively “natural” catchment area, with developed service infrastructure, commuting to the work and for the services, migration centers,
- quantifiable knowledge about the regional structure of the Czech Republic, for example complex functional size, number of inhabitants of the regional center above 80 thousands,
- historical and historical-geographical aspects (at least to a certain extent, it is necessary to reflect the development of territorial administrative and regional structures on the territory of the Czech Republic, the border between Bohemia and Moravia etc.),
- physical-geographical characteristics, especially natural barriers, relief, course of watercourses, forest complexes,
- regional, political, cultural and social relations in the territory in their historically related context with certain “natural” centers and their regions.

On the basis of these criteria, there can be defined again 12 centers, from which very strong and strong centers (Prague, Brno, Ostrava, Pilsen, Olomouc, Hradec Králové, Liberec, Pardubice, České Budějovice, Zlín) and two weak centers (Jihlava, Karlovy Vary), and from it, there can be derived 13 higher territorial self-governing units with a high degree of autonomy and relative closeness, albeit with the non-high degree of internal integration. Basically, these criteria were respected in the governmental proposal from year 1997 on the establishment of thirteen higher territorial self-governing units in the Czech Republic. However, by the Constitutional Act No. 347/1997 Coll., on the creation of higher territorial self-governing units and on the amendmend of the Constitutional Act of the Czech National Council No. 1/1993 Coll., the Constitution of the Czech Republic, fourteen higher territorial self-governing units were established, thus regions and the capital.

The designated regional cities have strong positions as the regional centers (except for Jihlava and Karlovy Vary), the problem is rather the delimitation of their territorial districts. With respect to the experience with previous territorial administrative regions and their centers, their functioning, it can be supposed with high probability, that virtually all designated regional cities will strengthen their position in the system of the regional centers in the Czech Republic. By this, there will be a shift in a regional hierarchy of the centers. The regional role of two “weaker” regional cities, Jihlava and Karlovy Vary, will probably be strengthened.

### **3 The problem how to organize hierarchically territorial self-government with the impacts on the performance of state administration**

#### **3.1 Microregional structure of the Czech Republic**

The microregions can be characterized as the territorial units, where in their 428regional428 the most intensive 428regional processes, for example commuting to the work and for the basic types of the services, are relatively closed. We can emphasize the relatively highest integrity of these units within the 428regional structure of the Czech Republic. The are ranges of the microregions are highly differentiated.

In the Czech Republic, a two-tier microregional organization has been 428regional428: microregion of the 1st and 2nd degree, but also three levels can be seen<sup>100</sup>. However, the distinction of the microregions into two or three degrees is not absolute, because higher degree of the microregions is usually given only by the administrative function (former district towns, authorized municipalities). The microregions integrate 90 % to 95 % of the territory of the Czech Republic and can become a very suitable base for the determining of any new territorial administrative structure of lower degree.

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<sup>100</sup> Wokoun R.: Určení typů elementární mikroregionální struktury vhodné pro optimalizaci výkonu veřejné správy podle konkrétních vlastností sídelní struktury. In: Sborník z konference „Samospráva, územní členění a zemská hranice mezi Moravou a Čechami“. Moravskoslezská akademie pro vzdělávání, vědu a umění, Brno, 2006. s. 47-54.

The relations between residence, workplace and complex of basic services are dominant at the microregional level for formation of the relevant units and the microregional structure has always a nodal form.

When defining territorial administrative units, 429egio often operated with some criteria, for example with the minimum and maximum size of territorial administrative unit, 429egio requested at least approximate comparability of the units in terms of area size, number of inhabitants, eventually degree of economic, social and cultural development etc. Furthermore, 429egio taken into account the transport accessibility. Psychological-sociological arguments (i.e. identification) and economic aspects are also significant. At the same time, 429egio necessary to respect the fact, that the territorial self-government is a set of legal, 429egional, economic, political and cultural relations.

The criteria applied in defining of the regions have only the inspirative characters to a certain extent for the determining of the types of the elemental microregional structure suitable for the optimalization of execution of public administration. Primarily, it deals with the appropriate reflection of the historical and historical-geographical aspects, taking into account the physical-geographical characteristics (it deals with the natural barriers, relief, course of watercourses, forest complexes etc.) and especially the 429egional, political, cultural and social relations in the territory in their historically related context with certain “natural” centers and their microregions.

It can be stated, that in the Czech Republic, all municipalities with extended powers – of 3rd degree have more than 2000 inhabitants. From the original total number of 205 municipalities with extended powers, 131 of these municipalities were in the size group of the municipalities with 5000 to 19 999 inhabitants. Authorized municipal authorities – of the 2nd degree can be also found in the municipalities of up to 2000 inhabitants, and four of these municipalities have no more than 1000 inhabitants.

However, with the respect to the character of the settlement, also the municipalities with less than 2 thousands of the inhabitants can fulfill certain administrative function in the justified cases.

### 3.2 Practical questions

In the period preceding the activation of the regions, it became as the central question, if the joint or separate model of public administration should be chosen, and if the supporters of one or second variant had for it the sufficient arguments to do it. Finally, the joint model was preferred by the Chamber of Deputies in May 1999. At the same time, it happened to the abolishment of the district authorities, which constituted the most stable article of the performance of state administration, that caused the critical reactions among the professional public and also many municipal mayors. Their powers should go to the municipal authorities of the municipalities with extended powers, partly to the bodies of the regions.<sup>101</sup> The choice of these municipalities became again the subject of the interests of the politicians, which proved to increase their number from the initially proposed 194 to 205 ones, and it happened often not with regard to the material aspects. Some second level of the municipalities represented by the municipalities with the authorized municipal authority (381 ones were created by 2002, their number has increased nowadays to 393 ones) seems to be problematic, which are seen as the redundant article in the actual form, but there is no consensus that would enable their reform.<sup>102</sup>

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<sup>101</sup> They summarized the data VAJDOVÁ, Z., ILLNER, M. Starostové českých měst o problematice územní veřejné správy, Reforma veřejné správy v teorii a praxi. Sborník z mezinárodní konference, Plzeň: Vydavatelství a nakladatelství Aleš Čeněk, 2004, s. 59 and next.

<sup>102</sup> This happened somewhere that the districts of these municipalities hit the borders of the existing districts and regions, and only then had the situation elsewhere been resolved, was the seat of the municipal office and elsewhere, the reform of intact offices (see to it PRŮŠA, L. Vliv reformy veřejné

The new administrative structure wasn't been adapted to the territorial scope of some bodies of state administration, but also to the Police of the Czech Republic or to the courts, next to 14 new territorial administrative self-governing units 7 regions, established by Act No. 36/1960 Coll., on Territorial Division of the State, were preserved. Although this problem has been resolved during further years, it lasts up to nowadays and has been awaiting, together with other problems, on the completion of the organizational side of the reform of public administration.

## **4 Results and Discussion**

### **4.1 What are the perspectives of the organization of territorial public administration**

The substantive intention of the Act on the Territorial Administrative Division of the State (approved in February 2018 by the Government Resolution No. 134/2018), reacts on the existence of these problems, and from which the text of the government proposal of the Act of the same name came. The government was aware of the fact, that too big changes would show themselves as the politically difficult to pass, and that's why the proposal of the act exploits current administrative structures, which aren't changed anymore. The aim of the regulation is "in particular to make state administration more transparent, especially from the point of view of elimination of double mutually mismatched structure of the state and ensuring the legislative regulation of the structure of the state best suited to the actual conditions and the needs of the territory". The proposal counts with the repeal of the Act No. 36/1960 Coll., by which the regions existing under this Act shall cease to exist and only the self-governing regions established under the Constitutional Act No. 347/1997 Coll. will exist.

The units of the basic territorial should be the territory of the municipality or military area, the administrative district of the municipality with extended powers and the self-governing regions. Specifically, the territory of the regions, with the exception of the Capital City of Prague, should be divided into the administrative districts of the municipalities with extended powers, and these ones should be defined by a list of the municipalities and military area, and the territory of the municipalities / military areas should be defined by the boundary of one or more cadastral areas. However, next to the structure of the basic administrative division, the districts should be still also preserved from the practical reasons and the districts on their level on the territory of Prague should be also remained, that Act No. 36/1960 Coll.<sup>103</sup> uses as the units of the territorial division. The districts should be defined newly by the list of the administrative districts of the municipalities with extended powers as a category of basic territorial division, thereby it shall be solved also the problem of non-composability among the territorial districts of the municipalities with extended powers and the districts, which has been solved up to nowadays only through the provisional measures.

Although the existing administrative structure created during the reform is used in the relation to the new regulation of the territorial division of the state, it doesn't count in it with the category of the municipalities with the delegated authorities and with the link to this category, nor the establishment of new state administration bodies performing a specialized agenda (as the example it can be mentioned a proposal of new Building Act, according to which there will be established contact

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správy v ČR na postavení obcí jako samostatných celků, Reforma veřejné správy v teorii a praxi, s. 53 and next).

<sup>103</sup> It can be assumed that the reason for the preservation of districts is the fact that it is through them that the Constitutional Act No. 347/1997 Coll. delimiting the territories of individual self-governing regions, and the abolition of districts would also result in the need to change the text of this constitutional law, which seemed to be an attempt to avoid. The Explanatory Memorandum further highlights the fact that the abolition of districts would mean significant interference with basic records and would entail significant costs associated with the need to exchange personal data, and that districts as territorial units are used in some international agreements with neighboring states in the event of their cancellation, it would be necessary to amend the text of these contracts.

centers at a lower level than the municipalities with extended powers, but whose network is not bonded necessarily on the existing municipalities with authorized municipal authority). This may also deal with the fact, that it wasn't set the size criteria<sup>104</sup>, respectively the concept for their formation, when it happened to the establishment of the districts of the municipalities with authorized municipal authority.

The mentioned situation, when there is a large number of relatively small municipalities (more than half of them are municipalities with less than 500 inhabitants), makes it difficult the possibility of the efficient performance of public administration at this level. Although this state is not considered to be desirable, it can be expected, that the efforts for abolishment and merging of the municipalities with the small number of the inhabitants "out of the center" would encounter to the resistance of the municipalities, that will have the effort to maintain their autonomy from the various reasons (Article 5 of the European Charter of Local Self-Government always requires in such cases doing the consultation with the citizens of the concerned units, namely, preferably through the form of referendum. It would be difficult also to seek the support for such a procedure even in the Parliament, whose many members are also municipal politicians.

The proposal of Act on the territorial administrative division of the state doesn't try to solve the problem of fragmentation of the municipal structure, because it would probably prevent its adoption. The reality is, that the municipalities themselves are not too interested in entrusting them with other competences within their independent powers, because they would have to bear the costs connected with their performance, so that the total scope of such performed competences, that from the base of law on self-government can't be exercised by none other one than the municipalities themselves, is relatively small. If it concerns the delegated powers, the situation can be solved in the future by it, that with the preservation of the small municipalities, which are not able to perform it, they can transfer it to higher level, that the current regulation doesn't enable.<sup>105</sup> However, the municipalities with extended powers shouldn't be considered by higher level mentioned above, because the municipalities with extended powers are already "too big", and delegating of these powers on their level shouldn't correspond to the principle of subsidiarity. The level of the current municipalities with authorized municipal authority, although their structure and probably also the form should be revised fundamentall, would probably fulfill this function.

In the recent years, there can be considered to be as a significant trend in the functioning of public administration the abolition of local jurisdiction for certain agendas, that was enabled through computerization and digitalisation of public administration. Therefore, the citizen can process his application also at the other anyone than only at concrete locally competent authority (at non-locally competent authority). This trend increases certainly the availability of public administration "as the service" and thus modifies largely the importance of the territorial administrative structure of the state. Indeed, the form of this division is reflected into the life of the citizen only to a very limited extend thanks to the abolition of local jurisdiction during processing of his application. Otherwise, it is in the relation to the management of the particular territory, for example in the form of the preparation of the development plans for the particular territory, where the abolition of territorial jurisdiction can't play any role, and possible inefficiency in the territorial administrative structure of

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<sup>104</sup> In the catalog of the exhibition 100 Years of Changes in the Borders of our Regions held in 2018 by the Ministry of the Interior, for example, on page 37 it is noted that if the village of Chodov had 13,547 inhabitants on January 1, 2018, Vranov nad Dyjí had only 824 inhabitants on the same date.

<sup>105</sup> Of course, there is also a procedure under § 65 of the municipal system, authorizing the regional authority to withdraw the authority from the municipality, which does not properly perform the delegated powers, and to transfer it to the authorized municipal office to which the municipality belongs.

the state, that can be represented by too large number of small municipalities or small size of some regions, will be reflected necessarily here.

Repeal of Act No. 36/1960 Coll. aims to eliminate two competing concepts of the territorial structure of the state. According to the explanatory report to the Act on the Territorial Administrative Division of the State, the administrative districts of the municipalities with extended powers are defined “on the basis of natural spatial links, functional relations (center – background) and internal integrity of individual regions”, and thus they respect the general territorial and settlement structure of the republic (explanatory report, however, claims it also in the relation to the self-governing regions, where there is a doubt at least in some cases about the truth of the statement). The approval of this Act will lead to the promotion of this concept at least in basic territorial division. The remains of the concept represented by Act No. 36/1960 Coll., based on the idea of creating of territorial economic complexes<sup>106</sup>, will be maintained, however, also henceforward in the form of the preservation of the existing districts, even through these ones will not be a part of basic territorial division. In the result, the proposed Act should contribute to ensuring of better accessibility of public administration for the citizen, although as it was mentioned, the importance of the form of the territorial division will decrease in connection with the abolition of local jurisdiction. However, there is the question, whether it is also suitable for ensuring of the management of the particular territory.

In the past, it was possible to observe some tendency to use the structure of the districts during determination of the territorial scope of some bodies (perhaps mainly from the reason of lower costs) rather than of the administrative districts of the municipalities with extended powers. The Act on the Territorial Administrative Division of the State doesn't want apparently to prevent from it completely, because it doesn't abolish specialized territorial administrative division for the individual branches of the performance of state administration. The explanatory report states, that this Act constitutes “an offer of general division, that can be used in the legal regulation of the scope of state administration bodies”, and should show “the development tendency, to which fulfillment also the performance of specialized administration should approach in the future”. The question to what extent will this concept, respectively especially the structure of basic territorial division seem for the needs of the specialized bodies of state administration as appropriate, and whether the ministries, under which these bodies function, will be willing to accept it, remains open, and it can't be excluded, that also in the future, at least some of them will have the tendency to use rather the territories of the districts for the definition of spatial jurisdiction of the individual specialized bodies.

## 5 Conclusion

### Final notes

Nowadays, the situation in the Czech Republic is characterized by a relatively high degree of the decentralization and problematic interconnection on the horizontal and partly on the vertical level in public administration. From the point of view of subsidiarity, it will be necessary to supervise on it, so that it wouldn't not happen during any transfer of the competencies, e.g. from the center to the regions, to ineffective horizontal and vertical duplication and further overlap of the competencies.

The fundamental problem is, however, the realization of so-called mixed model. The exercise of certain competencies should not be ensured by local self-government authorities, but directly by the relevant authorities of territorial state administration. The decentralization of public administration was a positive phenomenon undoubtedly, nevertheless, anyway, this process was accompanied by some problems dealing, on one side, with too rapid transfer of the competencies in this sphere to the regions and municipalities, without adequate financial guarantee, on the other side, with the “disrupting” of the central role of the state (e.g. some regions after their establishment have even

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<sup>106</sup> See Parliamentary Print No. 395/0, available from: <http://www.psp.cz/sqw/text/tiskt.sqw?O=8&CT=395&CT1=0>, p. 19



begun to prepare their own security documents). However, this unfortunate “sererapist” trend has already been overcome. The financial guarantee of functioning of the delegated powers hasn’t been solved though completely.

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# Eligibility of Social Factors in Taxation

Alena Zubaľová

## Abstract

*The application of exceptions on taxation brings many possibilities for the implementation of social aspect into taxation. We can state that various exceptions on taxation have an enormous selective potential in terms of tax impact, except for the case when the implementation of social aspect is deepened by the increase respectively decrease of the effect of basic construction of tax rate. In extreme cases the potential means the exclusion of some tax subjects from taxation. The aim of present article is to compare the influence of the social factors of taxation on the resulting taxation of individuals in the V4 countries based on the comparison of currently used social factors in the taxation of individuals in these countries. It followed from the analysis, that the existence of social and solidarity factors in taxation is eligible for the preservation of tax justice. The extent these factors are implemented in tax laws also largely depends on the decision of governments and their attitude to so called social state. The comparison of the social factors use in the taxation of natural persons proved that the V4 countries use the comparable quantity of deductible items and bonuses. The Slovak and Czech Republic are the most similar from this point of view. In Hungary there is the smallest number of tax allowances. Therefore its tax system is the most transparent and simple. Poland is the only V4 country, that does not favor marriage in the case of personal income taxation.*

**Keywords:** Sociability, solidarity, tax bonus, non-taxable part of the tax base

**JEL Classification:** E62, H21, H24

## 1 Introduction

In tax theory the models of optimal taxation of income are usually based on the assumption that tax system should maximize the function of social welfare which is subject to government budget constraints. Social welfare is bigger when sources are distributed more evenly. It can be achieved by the means of the progressivity of the taxation due to the redistribution tax effect, though it is very "dangerous" due to the possible negative impact on the motivation of people to work.<sup>107</sup> The question arises whether to give preference to the progressive or linear taxation of income in relation to the taxation justice. Theoretical models of the optimal income taxation are not inclined to the clear form of the linear income taxation. Its conditions would mean the taxation of income under one tax rate with no exceptions or tax allowances. Therefore it is not the preference of "total" linearity in taxation. In this type of taxation the existence of certain taxation tools is acceptable. By the means of them the sufficient redistribution of income would be guaranteed. The chance to "bring" certain tax tools into the structure of the linear taxation means a certain level of progressivity even in case of the linear taxation. Progression is a social as well as solidarity factor in taxation. When using progression the high-income factors are in solidarity with low-income factors in terms of higher effective tax rates they pay. Apart from the progressivity of taxation the social differences can be "moderated" by taxes in terms of various tax exemptions, deductible items, non-taxable parts of the tax base, non-taxable

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<sup>107</sup> There are many reasons for the redistribution of income. According to the utilitarians the marginal benefit from consumption gradually decreases altogether with the increasing income, so "more equal" distribution of income in society generates higher social welfare. Another argument is that the differences in income are generated not only due to the different attitudes of taxpayers to work that can be quite easily changed, but factors such as innate abilities of taxpayer, family background and random events are often the reasons. The utilitarians - Jevons, Edgeworth and Marshall preferred the progressive income taxation they came to based on their theoretical results - the principle of marginal benefit and the same sacrifice. In: EDGEWORTH, F.Y. 1897: *The Pure Theory of Taxation*, Economic Journal 7, 46-70, 226-238, and 550-571.

minimum, or tax bonuses (they reduce the total tax liability in comparison to non-taxable part of the tax base which reduces the tax base). The aim of this paper is to compare the influence of the social factors of taxation (progressivity of taxation, children and marriage) on the resulting taxation of an individual in the V4 countries based on the comparison of currently used social factors in the taxation of individuals in these countries.

## 1.1 Social Aspect of Taxation

Sociability is understood as any advantage (the reduction of tax burden in taxation). Then the social factor is an element in the tax system which generally reduces the tax burden of a taxpayer. A typical example of the social factor in our tax system is non-taxable part of the tax base. We understood a social factor as an element which influences the tax burden of certain group of taxpayers. On the one hand it can reduce the tax burden of low-income groups, such as in case of health contribution deductible items, or on the other hand, it can increase the tax burden of high-income groups, such as in case of the diminution of non-deductible part. On the basis of the mentioned above we agree with the distribution of social factors in three groups<sup>108</sup>: general, selective and others. **General ones** are those factors which influence the tax burden of all taxpayers regardless their family status or specific life status<sup>109</sup>. They include the structure and amount of tax rates, the amount and method of the determination of non-taxable part of the tax base and the structure and amount of contribution rates. **Selective factors** include those factors which are applied not only to certain groups of taxpayers, while it applies that in majority of cases these factors follow the social aspect in taxation. They are: non-taxable part of the tax base on spouse, non-taxable part of the tax base on child and tax bonus, health contribution deductible item for low-income taxpayers and also the reduced contribution rate for, for example, severely disabled people, retired people. The **other** advantages, which are not directly the part of tax-contribution system, include: child bonus and benefit.

We currently distinguish two basic streams in terms of the understanding of social justice. The first one is based on the merit distribution principle and it expects openness of society and the equal career chances for all. The other direction represents the basic idea of the need and equality distribution. Other theories of social justice include social fair distribution based on the demand for the creation of the biggest summary of happiness for the biggest number of people.

Social justice has been the most accepted and used in the social types of states. The social aspects in taxation can be understood as certain factors of social policy which is realized in a certain state. The concept of "social state" included the whole range of social policy factors, whose aim is to react on social risks, respectively their possible negative consequences (e.g. old age, illness, invalidity) and to eliminate social hardness which accompanies the action of market mechanism (e.g. unemployment, poverty), while the interventions of the state within the solution of social issues should not undermine work motivation nor labour morale. An incentive for the interventions of the state in this area should be the effort to solve and eliminate social tension which is often a source of disturbances in economy and business.<sup>110</sup> A social state which recognizes the involvement of state, views inequality so that it can be remedied by the attribution of privileges to the poorest and therefore it can restrict the economic power accumulated in one's hands. When solving the conflict between the freedom and equality the supporters of socio-legal state put equality first. "In the concept of socio-legal state the principles of

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<sup>108</sup> Dissertation Thesis: Adriana Vassová: Factors determining the rate of the tax burden by the tax on the income of natural persons, 2013, NHF EU Bratislava

<sup>109</sup> However, they do not depend on the income level (which can limit the entitlement to these "exemptions" from taxation).

<sup>110</sup> PANCÁK, M. – Niektoré pohľady na ekonomické zásahy štátu do národného hospodárstva v podmienkach trhovej ekonomiky. In: Ekonomický časopis, annual 42, no. 4 (1994), pp. 250 – 258. ISSN 0013-3035.

freedom and equality are equal."<sup>111</sup>Critics of socio-legal state reproach it from being too inclined to socialism. In their opinions the social security organized by the state weakens the meaning of personal freedom principle. J. Rawls claims that: "Society is correctly organized and therefore fair if all its basic institutions are organized so that they guarantee the biggest amount of satisfaction for all its individual members."<sup>112</sup>Theoreticians of the state of welfare also support the state ingerence as the means of the realisaion of the idea of social justice and the principle of equal changes, while it realizes the redistribution of national pension. Critics of state interventionism, neo-liberals, consider social justice realized by a state to be something that cannot exist. According to **Nozicka** such a state violates human rights and a principle of the same rights for all people. The most radical branch of liberalism, so called libertarians, has recognized the impossibility of inequality elimination. According to them the social good is nonsense. In their opinion the highest good is freedom. These liberals refuse to accept democracy as the will of majority, because in democracy an individual is not able to claim his right for free life. A critical approach to social justice of the philosopher and economist **F.A. Hayek** is considered to be interesting. He does not contest that the results and initial changes of various individuals are variable and they depend on the social environment they exist in. In order to achieve social justice he demands the provision of equal opportunities, respectively the principle of the same initial conditions and not equal results. If the government was fair and provided the same material position of people who differ in their knowledge, intelligence and persistence, it would have to approach individually to every person. According to Hayek it is an illusion and an unreachable idea.<sup>113</sup>

## 2 Material and Methods

In the submitted article the subject of our research was the analysis of the eligibility of the social factors in taxation and the comparison of the social factors in taxation of natural persons in the V4 countries. Writing was proceeded by the collection and sorting of information and materials pursuant to the issue being solved. We sorted the obtained data according to various criteria and we applied systematic approach in their hierarchical classification and sorting. We used several methods of scientific work within the article elaboration, the theoretical and empirical ones. The theoretical methods included inductive-deductive method, especially for sorting theoretical information. The empirical methods we used included the observation method, especially for the valuation and interpretation of the use of social factors in taxation in the V4 countries. The comparative method was used for processing of national as well as foreign issue (The Slovak Republic and the V4 countries) for monitoring the factors which basically influence the amount of the tax burden of tax entities.

### 2.1 Comparison of Social Factors in Taxation in the V4 Countries

Since Slovakia is the part of the Middle Europe region together with the states with similar or interconnected geopolitical and economic development, we made the comparison of the social factors in taxation within the separate V4 countries. The comparison of the use of the social factors in taxation of the income of natural persons within the V4 countries also enables us to assess the tax competitiveness from this point of view - i.e. from the point of view of one of the forms of taxation justice in those countries. Table no. 1 shows the currently used various forms of non-taxable parts of the tax base and tax bonuses in the V4 countries<sup>114</sup>.

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<sup>111</sup> KULAŠIK, P. 1997. *Dejiny politického myslenia*. Banská Bystrica: FPVMV UMB, 1997, p. 191 ISSN 808055-011-5.

<sup>112</sup> RAWLS, J. 1995. *Teorie spravedlnosti*. Victoria Publishing, Praha 1995, p. 27 ISBN 80-8560-589-9.

<sup>113</sup> HAYEK, Friedrich August von. *Právo, zákonodarství a svoboda*. 2nd edition Praha: Academia, 1994. 211 p. ISBN 80-200-0278-2.

<sup>114</sup> We focused only on the mentioned social factors in taxation in this article.

**Table 1 - Deductible items and tax bonuses used in the V4 countries in 2017 in EUR**

Item/Country	The Slovak Republic	The Czech Republic <sup>115</sup>	Poland <sup>116</sup>	Hungary <sup>117</sup>
Tax bonus per taxpayer <sup>118</sup>	-	943.55	279.07	-
NPTB per taxpayer <sup>119</sup>	3,803.33	-	-	-
Tax bonus on spouse	-	943.55	-	-
NPTB on spouse	3,803.33	-	-	1,293.76 <sup>120</sup>
Tax bonus on the first child	256.92	509.15	261.22	2,587.51 <sup>121</sup>
Tax bonus on the second child	256.92	737.07	261.22	7,762.14
Tax bonus on the third child	256.92	919.40	469.82	25,615.07
Tax bonus on the fourth child and the next children	256.92	919.40	634.25	34,153.43 <sup>122</sup>
NPTB on paid mortgage interests	since 2018 <sup>123</sup>	up to 11,396	Yes	No
NPTB on contributions to Supplementary pension management company (SPMC)	180	455.82	-	-
NPTB on paid life insurance	-	455.82 <sup>124</sup>	-	-
NPTB on spa	50	-	-	-
Health insurance allowance	Yes	No	Yes	No
Donation of % of tax	Yes	No	Yes	No

Source: processed according to OECD. (2018). Tax wages. Available online on: <[https://read.oecd-ilibrary.org/taxation/taxing-wages-2018\\_tax\\_wages-2018](https://read.oecd-ilibrary.org/taxation/taxing-wages-2018_tax_wages-2018)>.

There is the comparable amount of deductible items or bonuses in the Slovak and Czech Republic. The tax system of Poland implemented fewer exemptions than the mentioned countries. The smallest number of tax allowances is in Hungary. On the other hand it has to be said that the tax scheme in Hungary is the most transparent and the simplest from all V4 countries.

From the social factors "only" non-taxable parts of the tax base and tax bonuses implemented in the laws on income tax were subject to comparison.

The basic non-taxable part which taxpayers can apply in the conditions of the **Slovak Republic** is NPTB (non-taxable part of the tax base) on a taxpayer. A taxpayer is automatically entitled by law to this deductible item. The amount of non-taxable part in 2017 was 3803.33 EUR. The same amount of non-taxable part in 2017 was the same as the deductible item on spouse which can be applied by a taxpayer upon meeting one of four conditions specified by law<sup>125</sup>. When applying this part the fact whether the conditions of the entitlement are met is examined on a monthly basis. It should be emphasized that after exceeding the income level of 19.809 EUR the non-taxable part per taxpayer starts to decrease. Non-taxable part on spouse starts to decrease if the income level reaches 35,022.31

<sup>115</sup> Yearly average annual rate 2017 used for the conversion 1 EUR = 26.326 CZK

<sup>116</sup> Yearly average annual rate 2017 used for the conversion 1 EUR = 4.257 PLN

<sup>117</sup> Yearly average annual rate 2017 used for the conversion 1 EUR = 309.193 HUF

<sup>118</sup> It directly reduces the calculated tax liability of a taxpayer

<sup>119</sup> It reduces the partial tax base after the deduction of taxpayer's contributions and it results in the tax base

<sup>120</sup> It can be applied 2 years after the marriage of the newly married

<sup>121</sup> The situation in Hungary is different. Tax bonus on children is unequal and the lines show the total amount

<sup>122</sup> The amount of the bonus on the fifth, sixth child and so on is constant in the amount of 220 000 HUF a month per a child

<sup>123</sup> Since 2018 the tax bonus on paid interests has been valid, up to 400 EUR a year

<sup>124</sup> If several conditions are met, it does not apply to persons under 55 years of age

<sup>125</sup> Income Tax Act no. 595/2003 Coll. § 11, ...a spouse of a taxpayer cares for a child at home up to the age of 3, respectively 6 years of age in case of disability, he/she is unemployed, receives a care allowance or is seriously disabled.

EUR. In January 2018 a new NPTB on spa care started to be applied. Tax allowance is for the employees as well as tradesmen on services in spa facilities which are not reimbursed by a health insurance company. They are the accommodation, catering and procedures services. A taxpayer can apply the non-taxable part of the tax base on spa on a spouse and children too, up to 50 EUR per person.

The amount of tax bonus on child<sup>126</sup> does not change in relation to the number of children at home as it is in the other three V4 countries. In Slovakia the amount of the tax bonus on child was 21.41 EUR a month, i.e. 256.92 EUR a year. Since 2018 taxpayers can apply the tax bonus on mortgage interest, up to 400 EUR a year. In order to apply the bonus it is necessary to meet the condition of income, age, the property is located in the country and it could not have been closed before 2017. The taxpayer can apply the non-taxable part on paid contributions to a supplementary pensions saving company in the amount of up to 180 EUR a year he actually paid.

Health insurance contribution exemption implemented in 2015 shows a decreasing tendency with increasing minimum wage. If a taxpayer earns 380 EUR they can apply the total sum on non-payment of health contributions. The increase of the gross income by one EUR results in the drop of the sum of health contribution exemption by two EUR. When the income is 570 EUR the possibility of applying the exemption ceases to exist.

**There is also another point of view of solidarity in taxation, i.e. the existence of assignment tax. Natural persons can also donate a part of their paid tax to a selected non-profit entity. The amount of tax that can be donated by a natural person is 2% of the total tax due.**

In the **Czech Republic** non-taxable part of the tax base is substituted by tax bonus. The taxpayers can deduct 943.55 EUR per taxpayer from the calculated tax obligation. They can deduct the same some on spouse who lives with them in the common household. The tax bonus on children gradually increases with the increasing number of children. The allowance of 509.15 EUR can be annually applied on the first child, 737.07 EUR on the second one and 919.40 EUR on the third and next children.

Interesting in this tax system is, that the tax is calculated to the taxpayer based on the super gross wage. This means that 34% of the employer's contributions are added to the employee's gross wage. The tax base can be reduced by the non-taxable income parts, and a tax is calculated as 15% of this super gross income. The calculated tax liability can be reduced by the tax bonuses mentioned above.

Non-taxable part on paid mortgage interests on real estate in the Czech Republic is up to the amount of 11,395.58 EUR and non-taxable part on pension contributions is up to the amount of 455.82 EUR a year. One of the last important items is a non-taxable part on environment. Other allowances existing in the Czech tax system, which are not listed in the table, e.g. for PhD students, cardholders of disabled or severely disabled persons, are not listed due to their singularity.

In the Czech Republic taxpayers cannot donate percentage of their tax to non-profit or public organisations.

A specificity of the tax system in **Poland** is the fact that it does not include non-taxable income part or tax bonus on spouse (does not favor marital status in case of personal income taxation), which are implemented in the Czech and Slovak Republic. The non-taxable part per taxpayer in Poland in the

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<sup>126</sup> In 2004 the tax bonus on child substituted previously existing non-taxable part of the tax base on child. This change contributed to the rise of the progressivity of the taxation of families and single parents with children. The solidarity rate also grew, since in case of the tax bonus, low-income families and single parents with children with zero tax obligations receive this factor in form of a cash benefit. Tax bonus on child is considered to be more suitable from the point of view of solidarity than a non-taxable part on child.

form of bonus depends on the income a taxpayer earns and it decreases with the growing income. There are several zones within which the amount significantly changes. It ceases to exist in case of higher income. A taxpayer who acquires the maximum amount of annual income of 1,550.39 EUR can apply the total sum of tax bonus.<sup>127</sup> When this amount of the annual income is exceeded, it starts to be proportionally reduced. When the income limit of 2,384 EUR is exceeded, the amount of tax bonus stabilizes at 130.61 EUR up to the income of 20,091 EUR a year.

The amount of the tax bonus on child in Poland depends on the number of children in household. If a taxpayer has only two children, he can apply the bonus of 261.22 EUR a year on each of them. If there is the third child in the household, the taxpayer can apply the bonus of 469.82 EUR on him/her. The bonus is 634.25 EUR a year on the fourth and next child. The household with four children can apply the total allowance of 1,626.51 EUR. However the fact remains that if a taxpayer does not reach such a high tax obligation he can request a refund of the difference between the tax due and the bonus from the tax administrator. However it has to be said that within this procedure it is examined whether the sum the taxpayer requests to refund does not exceed the amount of the deductible item on social and health insurance the taxpayer is obliged to pay. In the Polish tax system the tax bonus of paid mortgage interests can be also applied. Assignment tax - the possibility to donate percentage from paid tax - also exists in Poland. The interesting fact is that 7.75 percent of health contributions become tax credit in the conditions of the Polish tax system. It is the amount the taxpayers can cut the calculated tax obligation.

The tax scheme in **Hungary** might be characterized as a very simple and transparent scheme that is easy to read. The statement is well founded in the non-existence of deductible items per taxpayer<sup>128</sup>, mortgage interests, health insurance allowances and various other "tax credits" on the contrary to above mentioned V4 countries.

In Hungary non-taxable part on spouse can be applied by taxpayers for not more than two years after the marriage and only if it is the first marriage of one of the spouses. Only one of the spouses is entitled to apply non-taxable part in the amount of 1,293.76 EUR a year. The income of the second spouse is not examined within this non-taxable part on the contrary to the conditions in the Slovak Republic. It is the same benefit which should encourage young people to get married and have family. The biggest stimulus for having family in Hungary is that non-taxable part on child can start to be applied even during the pregnancy of woman. The condition is 91 days from the conception, since this day non-taxable part on child can be applied. The amount of this part depends on the number of children in family. The amount of non-taxable part on child grows with every other child. The taxpayers can reduce the tax base by 2,587.51 EUR a year when having the first child in family. In case of two children at home the amount is 100,000 HUF a month on each child, i.e. 7,762.14 EUR a year. If there are three children in family, the monthly amount of non-taxable part is 220,000 HUF on each child. It is 25,615.07 EUR in total a year. In case of more children, the amount of 220,000 HUF a month on the fourth, fifth and the next child increases the total sum. The interesting fact is that the non-taxable part on children can be divided between parents in the ratio they prefer. The important fact is that if they cannot apply the whole amount of this deduction after the division, they can reduce the base for the calculation of the health and social security contributions in order to use the full amount of this allowance. This contribution allowance does not influence the provision of health services in future, nor the impact on the possible amount of retirement pension. Apart from non-taxable part on spouse in the first two years after the marriage and non-taxable parts on children the Hungarian tax system does not include any allowances characteristic for the other V4 countries.

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<sup>127</sup> This tax allowance can be applied only within the tax return

<sup>128</sup> This deductible item was revoked on 1st January 2012



## 2.2 The comparison of the Impact of Social Factors of Taxation on Final Personal Income Taxation in V4 Countries

The comparison of the resulting personal income taxation at the level of individual standardized households in V4 countries provides interesting results (Table no. 2). In generally, within V4 countries, the tax systems in the Czech and Slovak Republics can be considered as progressive. Both countries attribute social taxation factors to children and marital status in the tax system, reducing the resulting taxation at family level. Hungary's flat tax causes taxpayers to be taxed equally regardless of their income, while the marital status does not affect the resulting taxation. Poland is the only country in V4 that does not favor marriage in the case of personal income taxation.

**Table 2 - The Impact of Social Factors in Taxation - Progressivity, Children and Marriage on final personal incometaxation in V4 Countries (2017)**

	J - 0 - 50%	J - 0 - 100%	Progressivity Impact	J - 2 - 100%	Vplyv detí	M -2-100%	Marriage Impact
	(1)	(2)	(2) - (1)	(3)	(3) - (2)	(4)	(4) - (3)
Czech republic	37,4 %	43,0 %	5,6 p.b.	32,8 %	-10,2 p.b.	27,2 %	-5,6 p.b.
Hungary	48,3 %	48,3 %	0 p.b.	32,9 %	-15,4 p.b.	33,7 %	0,9 p.b.
Poland	34,4 %	35,8 %	1,4 p.b.	30,8 %	-5,0 p.b.	30,8 %	0 p.b.
Slovakia	32,8 %	41,5 %	8,7 p.b.	34,0 %	-7,5 p.b.	28,9 %	-5,0 p.b.

Explanations: J (individual)/M (married couple) - 0/2 (number of children) - wage as % of average wage

Source: Dissertation Thesis: Ján Remeta: Interaction of the Tax System and Economic Growth, 2018, NHF EU Bratislava

## 3 Results and Discussion

The aim of this paper was to compare the influence of the social factors of taxation (progressivity of taxation, children and marriage impact) on the resulting taxation of an individual in the V4 countries based on the comparison of currently used social factors in the taxation of individuals in these countries. In terms of ensuring justice as one of the conditions of optimal and competitive tax system, we consider the implementation of social elements in taxation to be eligible.

According to the comparison of the influence of social factors in taxation on the resultant taxation of the individual, we can state that within the V4 countries tax systems in the Czech and Slovak Republics are progressive, thus we consider to be one of the social factors in taxation. Both countries attribute social taxation factors to children and marital status in the tax system, reducing the resulting effective taxation at family level. Hungary has the least tax benefits in tax system. Regardless of their income, taxpayers are equally taxable, since a flat tax is levied on the personal income in the Hungarian tax system. Poland is the only country in V4 that does not favor marriage in the case of personal taxation.

Regarding the tendencies in the use of social factors in the personal income taxation in Slovakia we can state that while there was more emphasis on the use of non-taxable parts in the past, nowadays the existence of tax credits and bonuses is quite important. Before the income tax with the linear tax rate was implemented, for instance Slovak tax system did not recognize the concept of negative tax. When a new tax was introduced previously unused non-taxable part of the tax base on child was substituted by tax bonus which significantly contributed to the increase of solidarity and sociability. The implementation of employee bonus in 2009 contributed to the popularity of negative tax. It lost its justification due to the implementation of health contribution-deductible item. However it applies that both concepts of negative tax, apart from the social and solidarity aspect, also create positive motivational effects on the participation of taxpayers on the labour market.

In the discussion a question arises about the way of the construction of these social factors. Their link to the living wage<sup>129</sup> causes the effect of quiet taxation and therefore the growth of the average effective income tax rate increases without the change of the nominal tax rate, respectively the modification of the construction of personal income tax<sup>130</sup>. Another question in the discussion of the social factors in taxation is the concurrence of these items with many social benefits (big number and the lack of transparency within the system of social benefits in Slovakia) for low-income citizens. In our opinion the number and amount of social benefits should represent the amount necessary for the provision of basic human needs and the benefits should be short-term solutions for overcoming the difficult life situations. The difference between the minimum wage and the amount of social benefits a low-income citizen is entitled for should be big enough in favour of the minimum wage in order to be motivating in connection to employment.

#### 4 Conclusion

The social factor is an element in the tax system which generally reduces the tax burden of a taxpayer. A solidarity factor we understood as an element which influences the tax burden of certain group of taxpayers. On the one hand it can reduce the tax burden of low-income groups, such as in case of health contribution-deductible item, or on the other hand, it can increase the tax burden of high-income groups, such as in case of the diminution of non-deductible part. Therefore the taxpayers with high-income are in solidarity with the taxpayers with low-income in the tax system. If the solidarity of the high-income persons with the low-income persons occurs, we call it the progressivity of taxation. The solidarity is not viewed only as the difference between the groups with different incomes but also with different social status, health status and age.

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<sup>129</sup> The tax reform in 2004 significantly simplifies the system of the taxation of personal income tax. It introduced previously unknown indexation, respectively valorisation of individual non-taxable parts of the tax base and later of tax bonus, too. The benefit of the valorisation comes from the stabilisation of tax burden of taxpayers with relatively same income in the monitored period. Non-valorisation of non-taxable parts before 2004 contributed to the situation when some taxpayers due to the inflation and real wages growth between individual years got into the zone with the highest tax rate and they had to bear a higher tax burden. The same effect occurs also in case of non-valorisation of non-taxable parts in the system with linear tax.

<sup>130</sup> A slow growth of deductible items of income tax and the fixed sum of health contribution deductible item increases the tax burden "quietly" without legislative changes. In the Slovak tax system tax burden automatically changes the method of deductible items calculation. Their amount is legislatively bound to the living wage which has been growing more slowly than nominal wages in recent years. Therefore the effect of quiet taxation occurs. Moreover, the slow growth of deductible items at the current quick growth of minimum wage lead to the gradual diminution of the amount of employee bonus for the people with low-income until it reached zero in 2015. Since 2016 the fact has contributed to the quiet taxation that health contribution-deductible item (CDI) introduced in 2015 was determined by a fixed sum (In: RRZ Občas nahlas, väčšinou potichu, Trendy v daňovom zaťažení, 3/2016, available online on [https://www.rozpoctovarada.sk/download/komentar\\_201603.pdf](https://www.rozpoctovarada.sk/download/komentar_201603.pdf))

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