

University of Pardubice  
Faculty of Economics and Administration



# PUBLIC ADMINISTRATION 2020

THREE DECADES OF CHALLENGES, REFORMS,  
AND UNCERTAIN RESULTS

Proceedings of the 13<sup>th</sup>  
International Scientific Conference

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**PUBLIC ADMINISTRATION 2020:**

**Three Decades of Challenges, Reforms, and Uncertain Results**

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## Prologue

Dear colleagues,

Even in the special "coronavirus" year 2020 the 13<sup>th</sup> International Scientific Conference „Public Administration 2020“ was organized by the Faculty of Economics and Administration of the University of Pardubice every two years. The importance of the conference is underlined by the fact that it is organized in cooperation with the Regional Authority of the Pardubice Region, the statutory city of Pardubice and under the auspices of the Dean of the Faculty of Economics and Administration of the University of Pardubice.

This year, due to coronavirus circumstances, our international conference had to be transferred to the online environment and the number of participants is affected by uncertainty due to state restrictions. Nevertheless, many supporters of public administration, public and regional economics and other fields submitted their contributions and participated in the presentation of this conference. The conference was also presented abroad and a number of foreign participants responded positively (e.g. from Lithuania, Poland or Italy). The expert guarantee of the conference was provided by the Conference Research Committee, which brought together experts from many European countries.

All submitted papers at the conference were subjected to a review procedure. First, the submitted papers were reviewed internally by the Organizing Committee in terms of adherence to formal requirements, then the members of the Conference Research Committee consulted the papers from the point of view of topic compliance, and two blind reviews were made by experts in the conference topics. Positively reviewed papers are part of this Proceeding. This is a summary of the scientific and research activities realized in many reputable workplaces from different countries.

I believe that the importance of the International Scientific Conference „Public Administration 2020“ will build on many previous successful years, will offer interesting papers to participants and other interested parties about the results of scientific research in the public sector and public administration and will contribute to the development of public administration.

Pardubice, November 4, 2020.

Prof. Jan Stejskal, Ph.D.  
Chairman  
Public Administration 2020 Conference Research Committee



# FUNDING OF PUBLIC HEALTH CARE IN EU COUNTRIES IN 2010-2018: PREPARATION FOR THE COVID 19 PANDEMIC?

Lukáš Cívik, Matúš Meluš

**Abstract:** *The aim of our article is to identify the initial situation of public finances of the 27 EU countries in the field of public health and to monitor whether the amount of funds going to public health systems affects the successful fight against pandemic expressed by death toll and mortality per 1.000 infected patients. The result of our work is several significant findings, according to which below-average expenditure of EU countries in the field of health per capita indicate a better management of the pandemic (number of deaths and mortality per 1.000 infected). A specific case is Germany, which has the highest average health expenditure per capita of all EU countries and at the same time manages to maintain a very low death toll and mortality compared to countries with a similar number of COVID 19 infected. On the other hand, we found that even high amounts allocated to health care do not automatically mean more successfully managing the pandemic and minimizing the number of deaths or reducing mortality.*

**Keywords:** *COVID 19, EU countries, Mortality, Public health, Public finance*

**JEL Classification:** *H51, H11, H77*

## Introduction

At present, public policy must cope with the effects of the global pandemic COVID 19. The coronavirus directly or indirectly affects each of the state policies. From increased demands on health care, through restrictions on public services, a slowdown in education and a recession in the economy, to the creation of crisis networks for entrepreneurs and employees. As we have mentioned, the current situation caused by the pandemic is focusing on public health in particular. This is due to the primary need to identify, isolate and possibly treat coronavirus-positive patients. Therefore, first and foremost, the public authorities must urgently address these public health issues and then focus on stimulating the economy, supporting economic growth and reducing unemployment.

The way and effectiveness of the individual public health systems struggle against COVID 19 is different. To a large extent, the determining factors are the material assurance and quality of the staff (Asanduluia et al. 2014). Both of these unavoidable components have a common denominator – finances. Public health with sufficient resources, can respond more effectively to the situation. A country that directs more funds to public health tends to be more successful in maintaining quality and motivated health care professionals in all positions (Doorslaer, et. al. 1999; Łyszczarz, 2016; Meessen et al., 2011). Therefore, we focused on finding an answer to the question of whether European countries' health expenditure really has an impact on the course of a pandemic, especially in relation to the total death toll and mortality. The aim of our contribution is to identify the financial dimension of public health systems during the years 2010-2018 (total health expenditure to GDP and expenditure per capita) and to monitor the connection with the management of the effects of pandemic on individual EU member states public health.

## 1 Statement of a problem

The pandemic of COVID 19 hit the European continent in the first months of 2020. None of the EU member states was prepared for this extent of pandemic and sometimes it was derogated. The aggressive approach and uncontrollable spread of disease have led to the closure of countries and the resumption of border controls. The measures taken have partially affected fundamental freedoms (they have been curtailed), even though the EU has been built on them (restriction of persons, goods and services free movement) (Baldwin, Mauro, 2020).

The sharp increase in the number of infected placed higher demands on the work of health professionals, material assurance and, in fact, on the entire public health system in all European countries. After a short time, significant differences have emerged in how EU countries approach this risk and what results they are achieving. Today, we can say that we have seen positively tested people in all EU countries. There is an important difference especially in how many infected patients countries record and the mortality rate of them.

For our article, we decided not to monitor the number of infected patients. This is due to the large number of variables that lead to a higher or lower number of infected people and ultimately reflect the measures taken and their acceptance by the population in EU countries. From our point of view, it is therefore better to focus, not so much on the number of infected as on the number of deaths caused by COVID 19 and the COVID 19 mortality rate. According to authors, in these fields, the public health systems of the member states are directly responsible for the quality of provided services and treatments, which seek to cure infected patients. The health care that individual patients receive varies considerably across European countries (Mounier-Jack, Coker, 2006; Halásková, Halásková, 2017; Musgrove, 1999). Of course, we are aware of the limitations in our view. For example, the numbers of currently registered infected persons may be reassessed in retrospect, as well as the number of deaths. At the same time, the perception of the relationship between the number of COVID 19 victims in individual EU countries and the level of public health may seem problematic, as these patients are likely to die under normal circumstances (e.g. advanced incurable diseases, old age) or critical cases increased very rapidly and it was impossible to prepare for it. Alternatively, the fact that there is a difference between the number of infected patients who had only mild symptoms and those who were dependent on continuous medical care could arise as a counter-argument.

In principle, we start from the simple question of whether a better-funded public health system can reduce the number of victims and COVID 19 mortality rate of infected people. In our research, we did not distinguish between mild and critical condition of patients, but we relied on aggregate data of all infected in each of 27 EU member states. Key reason is the absence of Europe-wide database at present.

There are huge differences between EU countries in the number of infected and victims (Hagedorn, Mitman, 2020). As we have already mentioned, the number of infected people is a very volatile indicator. The way in which individual countries have dealt with these identified cases is a reflection of the public health quality. For example, adequate number of protective equipment for doctors and nurses, the availability of necessary tools or tests, and ultimately well-trained medical staff are certainly factors that have an impact on death toll and mortality rates on COVID 19 (Ceukelaire, Bodini, 2020). The public health system of each state can provide better services to the population, when it has sufficient financial resources and, in addition, it has the option to modernize and apply the latest procedures and equipment. Underfunded healthcare, on the other hand, has to contend with the lack of necessary material, declining numbers of medical staff and stagnation (Mihálik et al., 2019; Bencsik et al., 2019).

It is therefore logical to assume that the public health systems of EU countries, which allocate more funds to the health sector, are better able to manage the struggle against coronavirus.

There are many ways to assess the level of health care. For example, we could use the Euro Health Consumer Index (EHCI) to evaluate it. EHCI compares public health systems on the basis of 48 indicators (right to information, availability of medical care, treatment results, prevention, impact of services, etc.). In our paper, we decided to evaluate public health systems from the perspective of public finances. We followed long-term development trends in the allocation of aggregate funds of EU countries to the field of health care, as well as health care costs per capita. Thanks to this approach, we were able to identify countries that will spend more or less of their GDP on health care. At the same time, we monitored the expenditure of 27 European countries in the health care system per capita.

## 2 Methods

For our research, it was necessary to analyze two basic fields – the field of pandemic fatal impact (death toll and COVID 19 mortality rate) and the field of financial coverage of public health (health expenditure to GDP and health expenditure per capita).

The first step led us to determine the total number of identified positive cases of patients with coronavirus and the total number of deaths in individual EU countries. Thanks to the extensive WHO database, we were able to compile rankings of all 27 EU member states and determine the number of infected people and the death toll as of 10 May 2020.

The number of confirmed deaths at COVID 19 is the first monitored indicator. To determine the coronavirus mortality rate, we followed the formula:

$$\text{Mortality rate} = \frac{\text{number of confirmed deaths}}{\text{number of confirmed infected cases}} \times 1000 \quad (1)$$

The COVID 19 mortality rate expresses the ratio of the confirmed victims number to the confirmed cases number. This rate is usually expressed to 1.000 cases and reflects the average number of deaths per 1.000 cases infected with coronavirus.

The second monitored field was expenditure on public health systems in European countries. From the portfolio of possible indicators of public finances in sectoral policies, we chose one relative and one absolute indicator. We first expressed public expenditure on health in relative terms and represent total general government expenditure as a percentage of a country's GDP. We have included expenditure in the following fields to the total public expenditure on health care: current expenditure on health, curative and rehabilitative care, long-term care (health), ancillary services (non-specified by function), medical goods (non-specified by function), preventive care, governance and health system and financing administration.

At the same time, we considered the country's total expenditure on health care to be the sum of expenditure of all public government levels (central, regional, local), including expenditure of public health funds.

To express the absolute value of public health funding, we chose the amount of the country's total health expenditure per capita at current prices in USD (\$). This indicator complements the relative indicator, thus creating a more comprehensive system for assessing European countries' health expenditure. Its amount indicates how much money from the total public expenditure is allocated per capita.

Our work is based on WHO databases on the course of the COVID 19 pandemic and we selected a cumulative number of confirmed infected cases and deaths from the beginning to 10

May 2020. Data on public finances come from the database of international organizations (EU, OECD, WB). From Eurostat (EU), we used data on General government expenditure by function (COFOG) and selected data on health expenditure, which includes expenditure on medical products, appliances and equipment, outpatient services, hospital services, public health services, R&D Health and Health n.e.c. These data capture the share of public expenditure on health in relation to the GDP of member countries. The OECD database was an important source of information. In the health expenditure and financing component, we entered specific criteria and found data on EU expenditure on health per capita since 2010. In addition, we checked the summarized data and added the missing data from the World Bank database. The World Bank's data are based on WHO ground (Global Health Expenditure Database) and provides internationally comparable data on health spending for close to 190 countries. This information was added by data on the share of public expenditure on health care to the GDP of individual countries, on the basis of which we could proceed to their analysis and comparison.

We have placed our research in the international environment of European countries. The research sample consists of 27 EU member states (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, Ireland, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovak Republic, Finland and Sweden). These countries represent a very diverse group in terms of public health funding and the specific impacts of a coronavirus pandemic. This gives us space for possible identification of successful ones, as well as countries that have below-average values of monitored indicators.

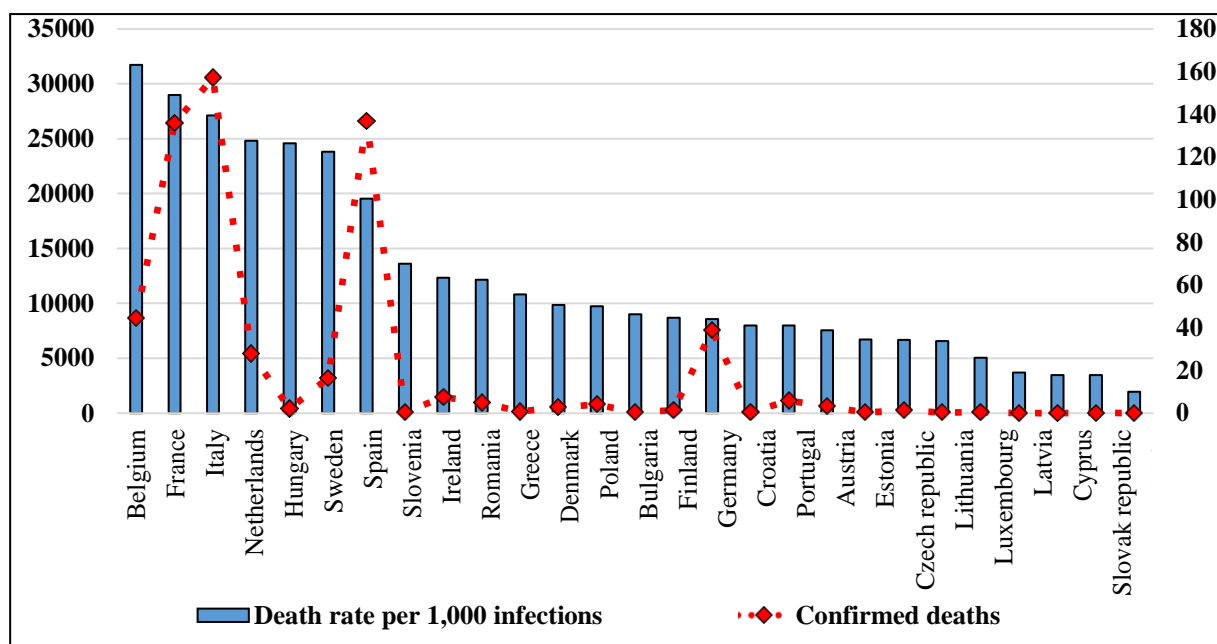
In addition to selecting a broad research sample, we tried to take into account the long-term approach of individual EU countries to the funding of public health. Therefore, we monitored the funding of public health systems from 2010 to 2018. Overall, we can say that we included data within nine years in 27 countries in our research. In part, we can capture longer-term development trends in health care funding in individual countries. We averaged these partial data for each country and presented only one specific data, which represents the average value for 9 years. Subsequently, our analysis works with these average values of financial indicators of health care expenditure.

By evaluating the death toll and COVID 19 mortality rate, we will be able to identify countries that show increased or decreased values of these variables. At the same time, it opens up space for us to create a ranking of countries and monitor disparities. Obtaining absolute and relative averages, which capture the state of funding of public health systems in the 27 EU countries, is the last step before comparing and evaluating the results. Subsequently, we can show the relationship between success of public health care in individual countries and the amount of public expenditure on it.

### **3 Problem solving**

Firstly, our research focused on identifying the success of public health in the 27 EU countries in the struggle against COVID 19 pandemic. In our case, this success or effectiveness is reflected in the number of victims and COVID 19 mortality rate per 1.000 infected. In this task, we based on current WHO data and our own calculation of related mortality rate. The results are shown in Figure 1.

**Fig. 1: Number of victims and mortality rate at COVID 19 in EU countries (as of 10 May 2020)**



Source: Own processing based on WHO data

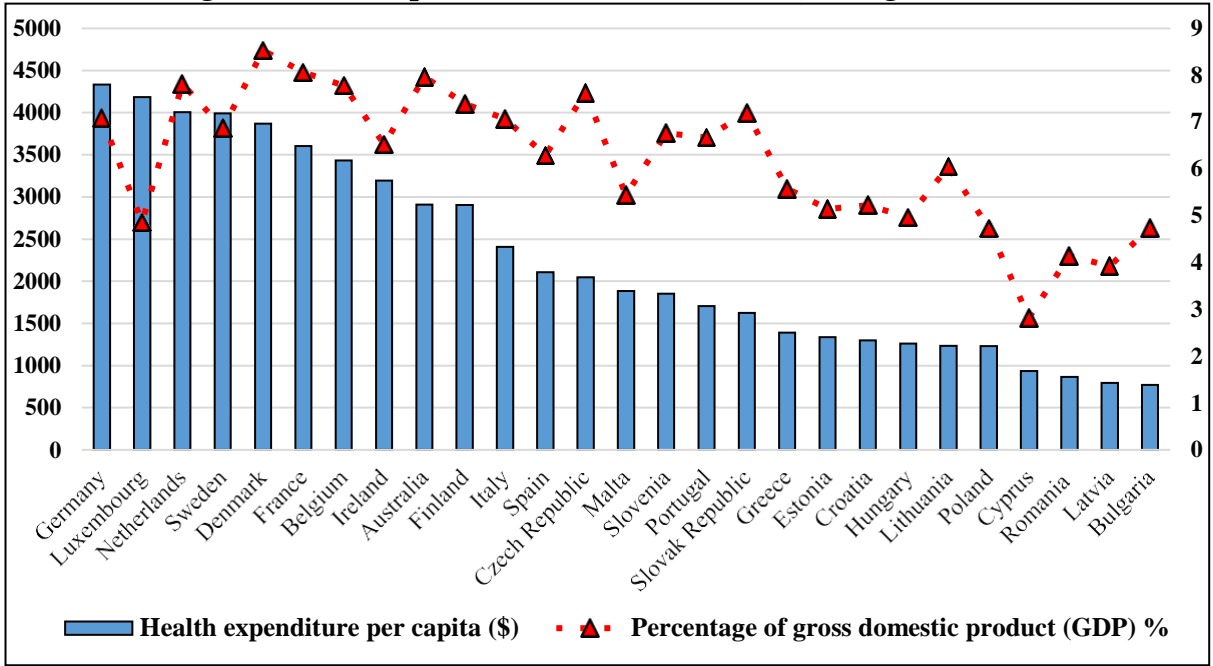
According to current data, among all monitored EU member states, Italy has the highest number of confirmed deaths at COVID 19 (more than 30.000). The other worst affected countries are Spain and France, with almost the same number of coronavirus deaths (26.000 confirmed cases). Belgium, Germany and Netherlands have very significant setback, with 5.400 to 8.600 confirmed deaths. The average number of victims in EU countries was 4.200. A total of 21 countries are below these averages, with as many as 10 having fewer than 102 deaths. Among all EU member states, Latvia (18), Cyprus (16) and Malta (5) have the fewest deaths. In essence, the rule is confirmed that the highest death tolls were recorded by the largest populations of EU (except Belgium).

Interesting is the view of mortality on COVID 19 calculated per 1,000 infected. We are finding that there are clear differences between countries, and the rule that the largest populations in EU are the worst off is no longer valid. The highest COVID 19 mortality rates per 1,000 infected patients were found in Belgium (163.1), France (149.1) and Italy (139.5). Netherlands (127.6), Hungary (126.3) and Sweden (122.5) have almost more than twice COVID 19 mortality rate compared to the average of all 27 countries. Spain also has a high COVID 19 mortality rate, reaching 100.5 per 1,000 cases of infected patients. The other 20 monitored countries have a COVID 19 mortality rate in the range of 10.1-70.1. The countries with the lowest COVID 19 mortality rates in this respect are Cyprus (17.8), the Slovak Republic (17.8) and Malta (10.1).

After analyzing how the public health systems of the EU member states were able to cope with the effects of the COVID 19 pandemic, we shifted our attention to the financial aspect of public health policy. In principle, we have combined two indicators that signal the amount of funds allocated to health care from 2010 to 2018. First, we identified the average value of total public government expenditure on health care in relation to GDP. Subsequently, we provided an overview of the average expenditure of the 27 countries governments that spend in the field of health per capita. In this way, we wanted to achieve a higher degree of explanation and link

the relative indicator (%) with the absolute values in USD (\$). The results of our work in the field of mapping the average expenditure of individual countries on health care are shown in Figure 2.

**Fig. 2: Health expenditure in EU countries (average 2010-2018)**



Source: Own processing based on Eurostat, OECD, WB data

During the years 2010-2018, EU member states directed funds to the health sector corresponding to their 6.19% of GDP. From all 27 countries, Denmark (8.53%), France (8.06%) and Austria (7.96%) allocate the most financial resources to health care on average in relation to GDP. Average expenditure on public health also account for more than 7% of GDP in Netherlands, Belgium, the Czech Republic, Finland, Slovakia, Germany and Italy. The share of average health expenditure in the country's total GDP is the lowest in the case of Latvia (3.92%) and Cyprus (2.82%). The relative indicator helps us to give an approximate picture of how health care is funded in the monitored EU countries. On the other hand, its interpretation may be misleading. The reason is real difference in the amount of funds, if two countries spend on health care, e.g. 7% of its GDP and there is a significant difference in the GDP of individual countries.

In order to make it clearer to see the actual amount of funds allocated to the field of public health, we have added data on average health expenditure per capita. This indicator reflects the costs of public government per capita in the health sector. During 2010-2018, average health expenditure per capita in the 27 EU countries was \$ 2,265.4. In the long term, Germany (\$ 4,332.2), Luxembourg (\$ 4,183.2) and Netherlands (\$ 4,006.5) have the highest per capita health expenditures. Sweden, Denmark, France, Belgium and Ireland allocate above-average per capita values in the range of \$ 3,193 - \$ 3,990. On average, Cyprus, Romania, Latvia and Bulgaria allocate the least resources per capita to health care. These countries spend on average four times less on public health than Germany and Netherlands, with average health expenditure per capita in Latvia \$ 794.5 and \$ 771.8 in Bulgaria over the past nine years.

## 4 Discussion

Our analysis covered two basic fields - the management of the COVID 19 pandemic by public health in EU member states and the amount of funds that went to the field of health care during the years 2010-2018. We monitored how individual public health systems respond to the coronavirus pandemic by number of confirmed deaths and COVID 19 mortality rate per 1,000 infected patients. We have recorded significant results. We identified seven countries (Belgium, France, Italy, Netherlands, Hungary, Sweden and Spain) whose COVID 19 mortality rates exceeded 100 deaths per 1,000 infected patients. In Italy, Spain and France, we also record the most confirmed cases of deaths from COVID 19.

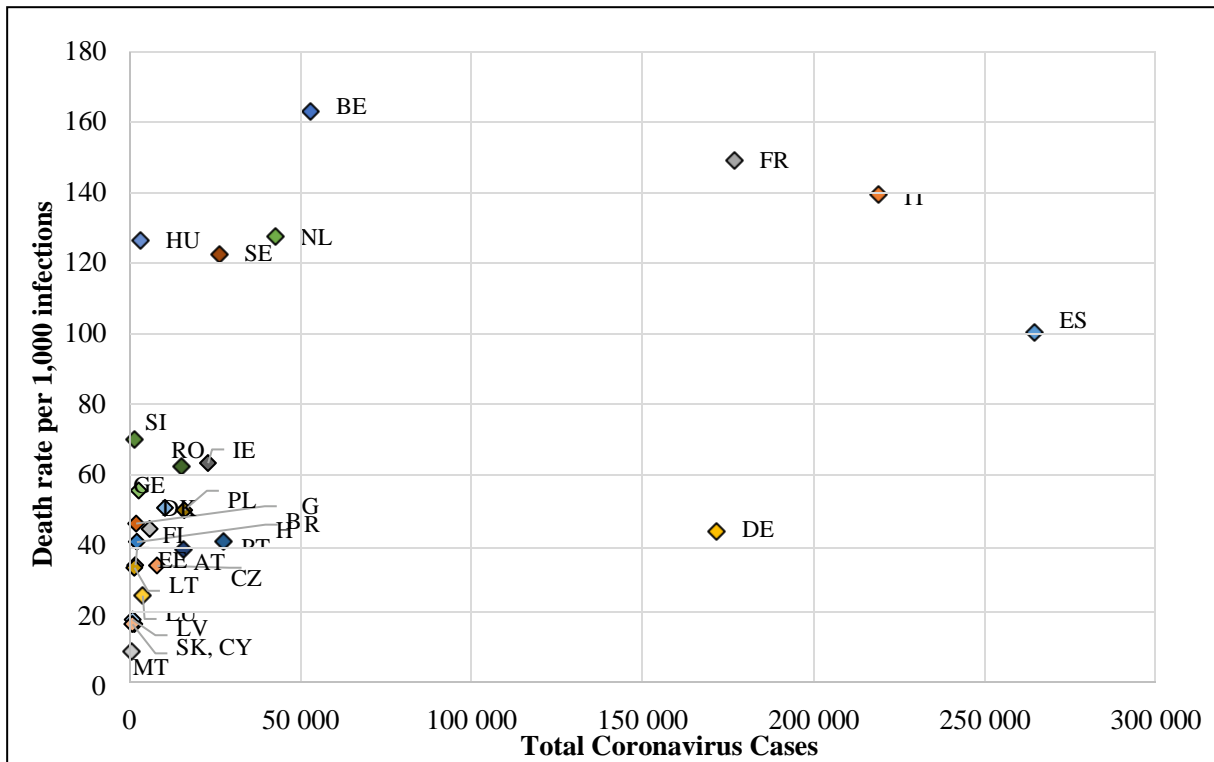
Germany achieved very interesting results in the examined fields. In the number of positively tested cases, it reaches almost the same numbers as France (approximately 171.000 infected). In the case of Germany, however, it has almost four times fewer coronavirus deaths. In addition, this is reflected in the COVID 19 mortality rate per 1,000 infected. Germany records 44.1, while France 149.1.

The paradoxical situation occurs in Belgium, which has the highest COVID 19 mortality rate of all EU countries. On the other hand, according to amount of infected, these numbers are still relatively low. It is reflected in a lower death toll than in the case of Spain, Italy or France.

From our research, we found out which public health systems in EU countries are achieving better results in the struggle against pandemic. The answer can be provided by a cluster analysis, which captures the number of infected cases in 27 EU countries and the rate of confirmed deaths per 1,000 infected.

EU countries can be divided into three relatively homogeneous groups. The first group is countries with a low number of positive cases and at the same time these countries also have a low COVID 19 mortality rate. There are a total of 19 monitored member states in this group of countries. The low COVID 19 mortality rate as well as the low death toll is a defining feature of this group. Hypothetically, we could consider the public health systems of these countries to be better able to cope with the COVID 19 pandemic. Additionally, we can also add Germany here, because it has a very low COVID 19 mortality rate, even though it reaches the fourth highest number of infected patients within EU countries.

**Fig. 3: Number of infected and mortality per 1,000 infected at COVID 19**



Source: Authors' own calculation

Another group is represented by countries that have recorded a relatively higher number of infected patients, but especially these countries are characterized by a high COVID 19 mortality rate of them. In the case of Hungary, Sweden, Netherlands and Belgium, mortality ranges from 122.5 to 163.1 deaths per 1,000 infected. This is a paradoxical situation because, on the one hand, these countries have had fewer infected than, for example, Spain, but the ability of their public health systems to provide healthcare to patients is limited.

The last group of countries consists of France, Italy and Spain. A typical cognitive feature is the large number of infected patients. At the same time, they show an increased mortality per 1,000 infected, which is above the limit of more than 100. The public health systems of these countries are struggling with the pandemic. However, the results of the health system of France, Italy and Spain place these countries in a group characterized by a high impact on it, which has caused a relatively high COVID 19 mortality rate for infected patients.

The amount of public funds flowing to health care in EU countries is very different. According to the relative indicator (the share of public government expenditure on health care on the country's total GDP), Denmark, France, Austria, Netherlands and Belgium spend the largest share of the country's GDP on health care in 2010-2018. If we evaluate the results of average health expenditure per capita, we find that over the past nine years, Germany, Luxembourg, Netherlands, Sweden and Denmark have allocated the most funds to this field.

At first sight, there is no link between the amount of finances spent on healthcare and the successful struggle against coronavirus. On the other hand, we are based on a primary research of the mutual causality between public health funding and COVID 19 mortality rate. The correlation relationship is on the level of 0.396, which indicates a slight dependence of individual variables. Of course, we are aware that the amount of funds allocated to the public health system is not a decisive factor in the success of individual countries. We have seen cases where the financially below-average health care of EU countries (Cyprus, Latvia, Bulgaria,



Poland, Croatia) achieves better results in managing a pandemic. At the same time, however, other variables need to be mentioned that eliminate the effects of pandemic on the population (political decisions, social responsibility, implementation of protection measures, slight increase in new positive cases, age structure of the population) and which affect mortality and death toll.

The worst situation in managing pandemic is in the public health services of France, Italy and Spain. On the other hand, we can state that the average expenditure on health per capita in the long term of these countries is not among the highest in the EU and, especially in the case of Spain and Italy, is rather on average. It is also clear that the countries with the highest average per capita expenditure (Germany, Luxembourg) have a very low COVID 19 mortality rate per 1,000 infected.

Thanks to our results, we found a paradox where under-funded public health systems (per capita expenditure lower than the EU average during 2010-2018) usually achieve lower COVID 19 mortality rates of infected patients, with the exception of Spain and Hungary. The success of public health in Germany is also a very specific case. This shows the highest amounts allocated to health care per capita and it is possible that it maintains several times lower mortality compared to countries with a similar number of infected cases.

Therefore, we cannot confidently verify the assumption that the public health system of a country with more financial resources can better respond to the COVID 19 pandemic, reduce mortality and minimize the number of deaths. After a sufficient period of time, we will be able to identify the decisive factors influencing this unusual situation. At present, we can rather conceive hypotheses and verify our assumptions only through still incomplete data. At the same time, there is a need for a permanent evaluation of the situation, the effectiveness of individual aspects and analysis of the initial situation in which the EU countries found themselves.

## **Conclusion**

The negative effects of the COVID 19 pandemic are being felt by all EU countries. It caused many deaths as well as the onset of the economic recession. The aim of our article was to identify the initial situation of public finances of the 27 EU countries in the field of public health funding during 2010-2018, to monitor whether the amount of funds going to public health systems affects the successful struggle against a pandemic expressed by death toll and COVID 19 mortality rates per 1000 infected. During the period 2010-2018, we recorded different amounts of funds allocated by individual governments to the health sector. Based on the monitoring of public government expenditure share on health care, as a share in the GDP of a given country and the average amount of health expenditure per capita, we revealed significant differences between EU countries. We examined impact of these differences on the pandemic management by individual health systems. It cannot be unambiguously verified at present, but thanks to our research we have noticed several interesting development trends. The below-average expenditure of EU countries on health per capita rather indicates better management of the pandemic (number of deaths and mortality per 1000 infected). A specific case is Germany, which has the highest average health expenditure per capita of all EU countries and at the same time maintains a very low death toll and COVID 19 mortality rate compared to countries with a similar number of infected patients. On the other hand, we found that high financial amounts allocated to health care do not automatically mean managing the pandemic more successfully and minimizing the number of deaths or reducing mortality.

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## References

- Asandulua, L., Romanb, M., Fatulescua, P. (2014). The efficiency of healthcare systems in Europe: a Data Envelopment Analysis Approach. *Procedia Economics and Finance*, 10 (2014), pp. 261-268. DOI: 10.1016/S2212-5671(14)00301-3.
- Baldwin, R., Mauro, B. W. (2020). *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes*, London: Centre for Economic Policy Research.
- Bencsik, A., Juhász, T., Mura, L., Csanádi, A. (2019). Formal and Informal Knowledge Sharing in Organisations from Slovakia and Hungary. *Entrepreneurial Business and Economics Review: a scientific quarterly: focusing on Central and Eastern Europe as well as emerging markets*. 7 (3), 25-42.
- Ceukelaire, W., Bodini, CH. (2020). We Need Strong Public Health Care to Contain the Global Corona Pandemic. *International Journal of Health Services* 50(2), pp. 166-172. DOI: 10.1177/0020731420916725.
- Doorslaer, E. et. al. (1999). The redistributive effect of health care finance in twelve OECD countries. *Journal of Health Economics*, 18 (3), pp. 291-313. DOI 10.1016/S0167-6296(98)00043-5.
- European Commission. (2019). *Joint Report on Health Care and Long-Term Care Systems and Fiscal Sustainability* [online]. Institutional Paper 105. June 2019. Brussels. Available at: [https://ec.europa.eu/info/publications/joint-report-health-care-and-long-term-care-systems-and-fiscal-sustainability-country-documents-2019-update\\_en](https://ec.europa.eu/info/publications/joint-report-health-care-and-long-term-care-systems-and-fiscal-sustainability-country-documents-2019-update_en) [10.5.2020].
- European Statistical Office. (2020). *General government expenditure by function (COFOG)*. [online]. EUROSTAT. Available at: [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov\\_10a\\_exp&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=gov_10a_exp&lang=en) [10.5.2020].
- Hagedorn, M., Mitman, K. (2020). *Corona Policy According to Hank*. [online] CEPR Discussion Paper No. DP14694. Available at: [https://cepr.org/active/publications/discussion\\_papers/dp.php?dpno=14694](https://cepr.org/active/publications/discussion_papers/dp.php?dpno=14694) [10.5.2020].
- Halásková, M., Halásková, R. (2017). Public expenditures in areas of public sector: analysis and evaluation in EU countries. *Scientific papers of the University of Pardubice- Series D*, 24 (39), pp. 39-50.
- Łyszczarz, B. (2016). Public-private mix and performance of health care systems in CEE and CIS countries. *Oeconomia Copernicana*, 7 (2), pp. 169-185. DOI: 10.12775/OeC.2016.011.
- Meessen, B., Soucat, A., Sekabaragab, C. (2011). Performance-based financing: just a donor fad or a catalyst towards comprehensive health-care reform?. *Bulletin of the World Health Organisation*, 89 (2), pp. 153-156. DOI: 10.2471/BLT.10.077339.
- Mihálik, J., Horváth, P., Švikruha, M. (2019). Give me liberty or give me money. *European Journal of Government and Economics*, 8 (1), 96-109. DOI 10.17979/ejge.2019.8.1.4573.
- Mounier-Jack, S., Coker, R. (2006). Pandemic influenza: are Europe's institutions prepared? *European Journal of Public Health*, 16 (2), 119–120. DOI 10.1093/eurpub/ckl034.
- Musgrove, P. (1999). Public spending on health care: how are different criteria related?. *Health Policy*, 47 (3), pp. 207-223. DOI: 10.1016/s0168-8510(99)00024-x.
- Organisation for Economic Co-operation and Development. (2020). Health expenditure and financing. [online]. OECD. Available at: <https://stats.oecd.org/Index.aspx?DataSetCode=SHA#> [10.5.2020].
- World Bank. (2020). Current health expenditure per capita, PPP (current international \$). [online]. WB. Available at: <https://data.worldbank.org/indicator/SH.XPD.CHEX.PP.CD> [10.5.2020].

World Health Organization. (2020). Coronavirus Disease (COVID-19) Dashboard. [online]. WHO. Available at: <https://covid19.who.int/> [10.5.2020].

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# THE IMPACT OF ADMINISTRATIVE FRAGMENTATION ON PROVIDING PUBLIC SERVICES IN FUNCTIONING URBAN REGIONS – A CASE STUDY OF SLOVAKIA

Tomáš Černěňko, Oliver Rafaj

**Abstract:** *In recent years, the effectiveness of provided public services at the level of local governments has been a subject of a vast number of research studies and expert work. However, local governments do not operate independently in isolated areas, but as parts of larger socio-economic entities. In this context, we were interested to find an answer to the question, how the structure of municipalities influences the structure of public services provided in larger socio-economic entities. The case study examines the influence of the municipal structure on the provision of public services on the whole territory of Slovakia. The main objective of this contribution was to find out whether administrative fragmentation is affecting the structure of provided public services in functional urban regions (FR). The partial objective was to find out which factors affect the structure of provided public services.*

**Keywords:** *public services, COFOG, fragmentation, functional urban regions*

**JEL Classification:** *H40, R50*

## Introduction

Nowadays, efficiency in providing public services is one of the most discussed topics in the field of public administration. Almost every national government, international institution or association is focusing on providing bigger amount, with higher quality and more suitable public services for less money. A good example provides the Council of European Municipalities and Regions (CEMR), which is the oldest and broadest European association of local and regional governments in Europe. It advises to European countries with a fragmented structure of local governments, to make the system more efficient. CEMR publishes “Structures and competences” as a regular publication that gives up-to-date overview of European towns and regions. According to their findings [16], the number of local entities in Europe has decreased over the last years by approximately 15%. Indeed, many reforms have been launched, [e.g. [1]. More than ten claiming to fight against the fragmentation of local governments and achieve economies of scale. Another example provides the OECD. It suggests to countries with fragmented structure of local government to merge them to achieve a better economic performance [3].

The topic of fragmented local governments and the efficiency of provided services is also an important topic in Slovakia, but it only remains as an academic topic (e.g. [2], [4], [5], [6], [7], [8]). The structure of local governments in Slovakia is one of the most fragmented among European countries [15]. Until today, none administrative reform that would decrease the number of local governments and make the system of providing local public services more efficient, was approved. The recommendation of a change in the structure of local governments is also a part of a Monitoring report of The Council of Europe [18], where the authors recommends Slovakia to “simplify the legal, regulatory and administrative organization of small municipalities, especially in rural areas, for instance by promoting their merging in order to have stronger local authorities”. And “give Bratislava a full and operational status of capital city, or a self-governing region and revising the present structure of districts, in order to ensure

a more efficient and expedient decision-making system on the general problems and policies affecting the city as a whole". These statements are important for the focus of our research in two points: first, it is necessary to merge local governments and second, it is necessary to have administration at the level of functional economic areas. Therefore, the aim of this article is to find out whether administrative fragmentation is affecting the structure of provided public services in FRs. Subsequently, we investigated factors, which could have an impact on the composition of public services provided by Slovak local governments, if they were merged into larger socio-economic entities, i.e. FRs.

## **1 Literature review**

### **1.1 Evidence from published studies and articles**

In recent years, a lot of research was done on the topic of fragmented local governments and their economic performances. For example, Pawel Swianiewicz [14] examined on countries of Central-East Europe, where the amalgamation of fragmented territories would be a better solution for achieving better government organization. He concluded that merging local governments is a better choice than to maintain the status quo. Michiel S. de Vries with Iwona Sobis [13] also came to the same conclusion. From their contribution it is clear, that municipal amalgamation brings higher benefits to communes compare to their costs. Moreover, Juraj Nemeč along with Michiel S. de Vries [12] pointed out, that European countries with a more unified local governments behaved better (from the point of view of management) during the last financial crisis, than countries with a more fragmented structure of local governments. In Slovakia, Tomáš Černěňko along with the Institute for Financial Policy [7] found out considerable financial reserves inside the structure of local governments. In the follow-up research, on the examples of cities of Bratislava and Košice, they calculated the financial reserves, once these cities would merge along with their surrounding communes [8].

The fragmentation of the administrative structure in Slovakia and its impacts on the various aspects of the life of local authorities was addressed by several studies. Numerous studies focused on the efficiency of the structure of the self-government system and the possible savings that could be made in changing the administrative structure [6], [7], [8]. Other cases were looking for the optimal size of the unit of administration where the specific public service is to be provided in order to achieve the highest possible economies of scale [11], [9].

### **1.2 Evidence from statistical data**

The administrative structure in Slovakia is one of the most fragmented in Europe. The number of mayors per 100,000 inhabitants ranks 3rd among European countries right behind Czech Republic and France [6], [7]. A large number of self-governing units may not appear to be problematic at first glance. However, in the case of Slovakia, we are struggling with the insufficient capacity of municipalities to ensure the performance of the administration and the production of public services. In the Czech Republic the competencies of state administration are divided among municipalities based on their size. In Slovakia the performance of more than 4000 competencies has been transferred from the state to all municipalities to the same extent and without taking into account their size and hence the ability to provide them. For example, the smallest village of Príkra with 7 inhabitants has the same competencies as the capital city of Bratislava with more than 430 000 inhabitants. The result is not only the insufficient capacity of municipalities to produce administration, but also to provide any public services with development character. This means that the inhabitants of small municipalities have fewer public services and in a lower quality than the inhabitants of larger cities. Together with constraints on the side of administration, this means "worse government". Many European countries have come to structural reforms decades ago and have reduced the number of self-

governing units. The main objective pursued by these reforms was to provide better public services to citizens and increase the quality of (local) government.

Table 1 provides an overview of the average public expenditure of municipalities per capita by size classes of municipalities in all NUTS3 regions of Slovakia for the year of 2017. Following trends can be observed from the data. With the increase in the size of the municipality, municipal expenditures for public services increase. This effect results mainly from the economies of scale that the larger municipalities achieve due to the concentration of larger numbers of inhabitants in the municipality. Another significant effect can be seen in the spatial dimension. The expenditure of municipalities from the same size categories differs in the space. In addition to this phenomenon, it certainly has a number of effects such as altitude, average daily temperature, number of sunny days per year, etc. In any case, regarding these results, merged municipalities would give different opportunities for inhabitants from the same size municipalities in different parts of the country.

**Tab. 1: Average public expenditures p.c. by different municipality sizes (in EUR)**

	BA	TT	TN	NR	ZA	BB	PO	KE	Average
<250		585,96	718,16	409,57	435,05	568,33	590,51	430,12	548,70
251-500	449,58	427,97	550,40	513,12	525,56	525,04	674,58	555,70	564,00
501-1000	547,86	618,45	542,45	656,26	603,89	799,04	697,48	606,05	656,89
1001-2000	662,15	678,68	760,85	701,29	742,51	773,37	690,54	724,59	719,73
2001-3000	735,47	760,31	747,62	1035,26	698,21	776,81	713,49	681,88	782,03
3001-4000	737,94	694,27	805,48	668,44	646,93	779,55	863,26	854,65	754,69
4001-5000	657,30	711,39	826,08	672,62	791,70	742,91	976,27	683,80	771,38
5001-10000	887,67	842,97	738,18	824,38	801,16	945,95	926,09	818,05	849,31
10001-20000	850,75	983,76	861,55	921,03	820,85	808,79	869,51	831,75	870,80
20001-50000	823,56	795,72	755,69	757,01	904,66	734,47	837,12	830,23	793,71
50001-100000		852,09	792,18	855,25	817,30	762,59	752,90		800,31
>100000	768,39							851,64	810,02

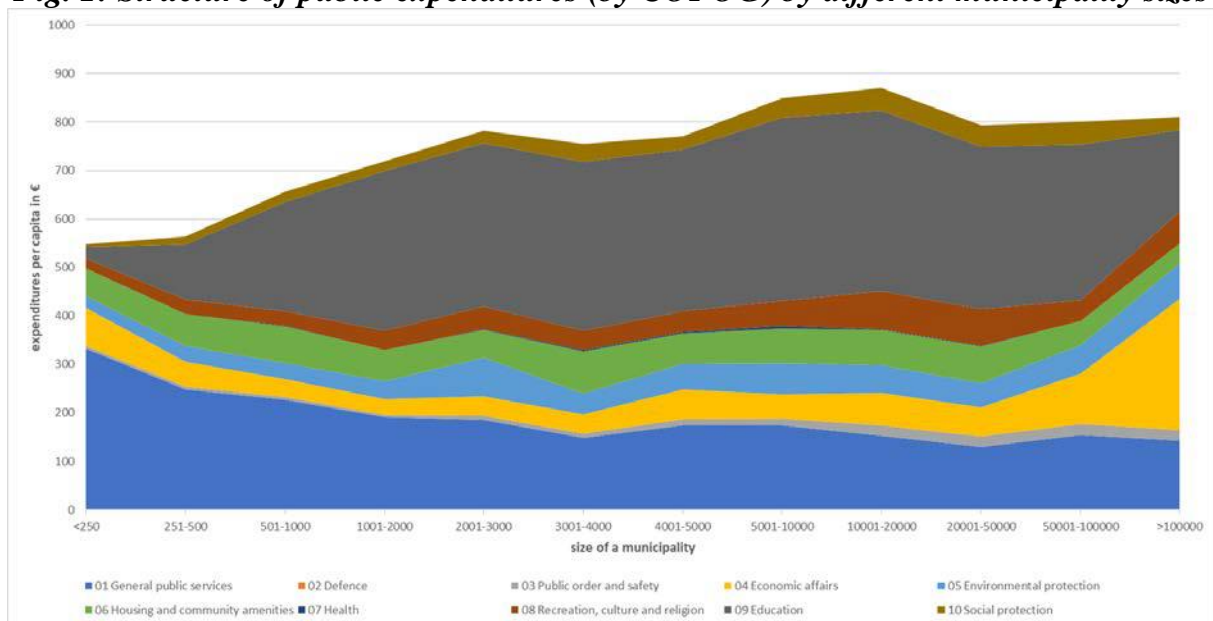
*Source: own elaboration, based on data from DataCentrum, year 2017*

Figure 1 shows the structure of public expenditures according to the COFOG<sup>1</sup> classification for each size group of municipalities in Slovakia. There are several interesting facts from the chart. The first is that the larger the municipality is, the higher the total expenditures are. The average per capita income of the smallest municipalities (municipalities with 250 or fewer inhabitants) is about 550 €. The largest average cost per capita is reached by municipalities with 10,000 to 20,000 inhabitants. They spend approximately 870 € per capita. The difference in public spending between the smallest and larger municipalities is therefore almost € 320. This

<sup>1</sup> For detailed information about service division into COFOG divisions, look at Eurostat: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification\\_of\\_the\\_functions\\_of\\_government\\_\(COFOG\)](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG))

difference has to be reflected in the amount and structure of provided services. This leads to the second interesting fact. It can be seen from the Figure 1 how the structure of the provided services changes with the change of the size of the municipality. The smallest municipalities spend more than 50% of their expenditures on their administration (COFOG 01) and the remaining 50% spent on the other 9 areas. As the size of municipalities grows, this structure changes. For larger municipalities, spending on administration is a subject of economies of scale. Thus, the amount of spending on COFOG 01 is noticeably decreasing. The largest municipalities spend less than 25% of their total expenditures on administration. Savings on administration enable them to finance a wider range of services. This can be clearly seen in the COFOG 04 expenditures - economic affairs. Therefore, greater municipalities can for example, afford to finance their own public transportation, repair or invest in transport and technical infrastructure or they can afford to consume more energy for public lighting or heating.

**Fig. 1: Structure of public expenditures (by COFOG) by different municipality sizes**



*Source: own elaboration, based on data from DataCentrum, year 2017*

## 2 Data and Methodology

In order to do elaborate our analysis on FR, we aggregated all Slovak communes into functional urban regions defined by Anton Bezák as model “FMR 01-A” [4], [5]. We consider this approach to be the best choice in the context of larger socio-economic entities, because we think that they represent an appropriate benchmark for the investigation. In addition, they are in accordance with the recommendations of The Council of Europe [18]. Moreover, we used them because they are comparable in terms of the structure of provided public services. The map of used functional urban regions defined by A. Bezák is shown in Figure 1.

**Fig. 2: Functional urban regions – model “FMR 01-A”**



Source: Functional urban regions defined by A. Bezák, 2001

For local public services we used local government expenditures per capita classified by COFOG divisions. Data on local government expenditures for the year 2017 comes from DataCentrum of the Ministry of Finance of the Slovak Republic. As factors for examination, which could have an impact on the composition of provided public services by FRs, we used 5 following indicators:

*Population density in FURs*  
(Number of inhabitants / 1 km<sup>2</sup>) (1)

*Share of built-up area in FURs in km<sup>2</sup>*  
(Built-up area in km<sup>2</sup> / Total area in km<sup>2</sup>) (2)

*Index of dissimilarity*

$$\frac{1}{2} \sum_{ii=1}^{NN} = \frac{aa_{ii}}{AA} - \frac{bb_{ii}}{BB} \quad (3)$$

*Rate of fragmentation in FURs*  
(1/number of local governments in FUR) (4)

*Rate of concentration in the core of FURs*  
(Population living in FUR cores/total population of FUR) (5)



For investigation of the effects of our selected indicators we used linear regression analysis for every COFOG division separately. The formal entry of the model was following:

$yy = \beta\beta_0 + \beta\beta_1 xx_1 + \beta\beta_2 xx_2 + \beta\beta_3 xx_3 + \beta\beta_4 xx_4 + \beta\beta_5 xx_5 + \varepsilon\varepsilon$	(6)
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Where  $y$  was represented by expenditures on public services of particular COFOG division,  $\beta\beta_0$  represented the constant value,  $x_1$  represented population density,  $x_2$  represented the share of built-up area,  $x_3$  represented the index of dissimilarities,  $x_4$  represented the rate of fragmentation,  $x_5$  represented the rate of concentration in the core and  $\varepsilon\varepsilon$  represented the error term. For better interpretation we used all values in natural logs. Then, the equation looked as follows:

$llllyy = \beta\beta_0 + \beta\beta_1 llllxx_1 + \beta\beta_2 llllxx_2 + \beta\beta_3 llllxx_3 + \beta\beta_4 llllxx_4 + \beta\beta_5 llllxx_5 + \varepsilon\varepsilon$	(7)
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To verify our model and to identify indicators that are statistically significant, we used standard MANOVA test. Based on the results of the MANOVA test we decided to drop statistically insignificant indicators<sup>2</sup>. Therefore, the final equation looked as follows:

$lllyy = \beta\beta_0 + \beta\beta_1 llllxx_1 + \beta\beta_2 llllxx_2 + \beta\beta_4 llllxx_4 + \varepsilon\varepsilon$	(8)
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In order to provide regression analyses, we used several sources of data. For local public services we used local government expenditures per capita classified by COFOG. We obtained the data from the Ministry of Finance of the Slovak Republic. From the Statistical Office of the Slovak Republic we used database DATAcube for demographical and spatial data.

### 3 Results and Discussion

From the perspective of the population density of functional urban areas, the following differences can be noted. Extreme values are reached by the Bratislava region (with a density of more than 250 inhabitants per 1 km<sup>2</sup>) and the Brezno region (with less than 50 inhabitants per 1 km<sup>2</sup>). Higher population density regions are more likely to achieve economies of scale, allowing them to provide a wider or wider range of public services to their residents. From the territorial perspective, the population density in the western and north-western regions is higher as a result of the natural settlement of the population in the basins.

From the map (included in Figure 3) that shows the share of the built-up area of each FR come following facts. Firstly, the highest value is reached by regions located in the west of the country and in regions in the north as well, as in Žilinský region and Považská Bystrica region, and in the north-west of the country in Trenčín region. In practice, it is possible to present the economic activity of actors who operate in the common territory. In the context of provided public services, there is increased use of these services in these places, since larger areas involve a higher incidence of activities of economic actors. In the context of the provision of public

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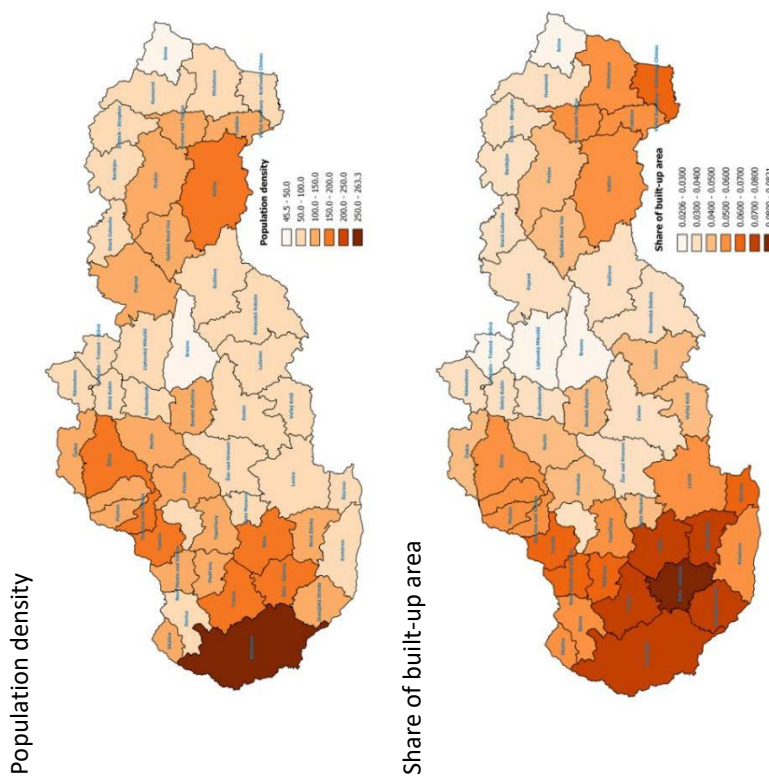
<sup>2</sup> We excluded the index of dissimilarities and the rate of concentration in the core.

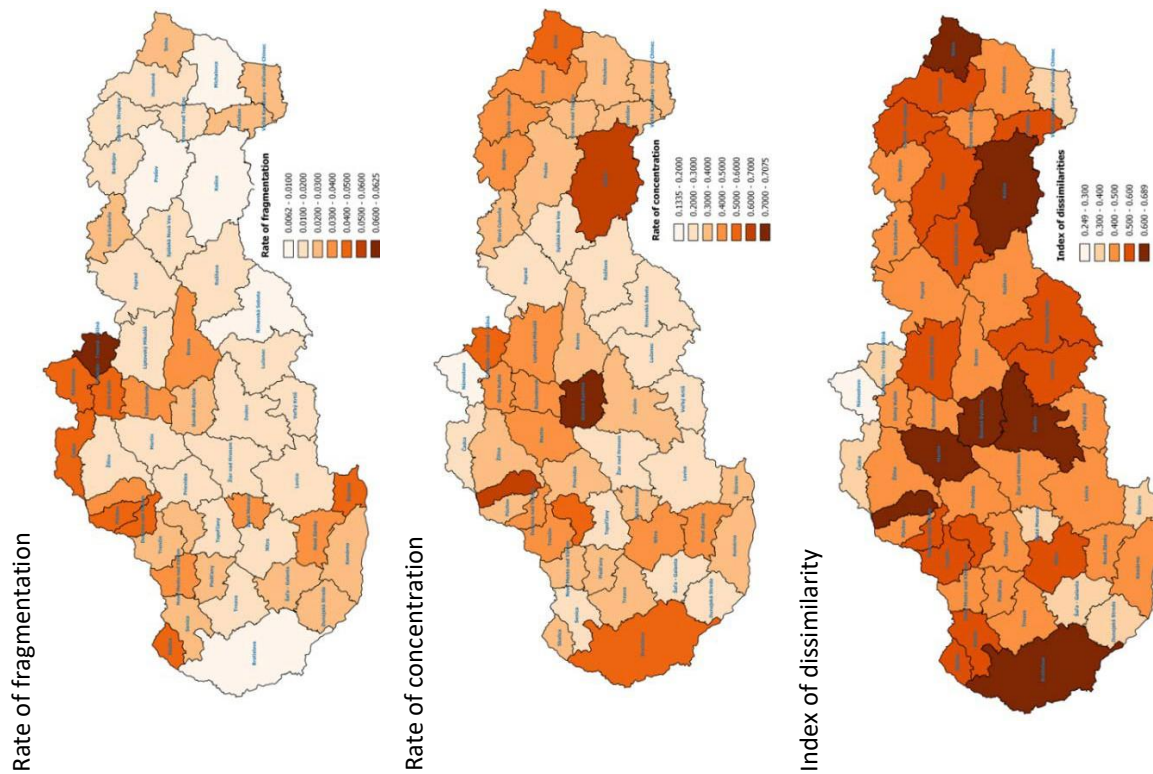
services by local authorities, fragmentation means a decentralization of public service providers, in other words municipalities. Map in Figure 3 shows the fragmentation rate in FRs. The least fragmented territories are the northern and north-west regions of Slovakia (namely FR Trstená, Námestovo, Dolný Kubín, Čadca, Púchov and Považská Bystrica) together with the south-western FR Štúrovo. The most fractured regions are Bratislava, Košice, Prešov, Rimavská Sobota and Michalovce. In most of these cases, there are FRs in which the central cities (cores) are dominant, providing much wider opportunities for their own residents and residents of other municipalities within the territory of the FR.

From the projected data of the concentration of population in the FRs core it is clear, that the population is concentrated mainly in FRs with 1 dominant centre (in terms of population) and the rest of the population is scattered in the rest of the region. This is proven by FRs Bratislava, Košice or Banská Bystrica. Most of these FRs residents live in centres and a significant minority lives in other municipalities. In the context of the effectiveness of the provision of public services these data show that as long as the critical mass of the population lives (is concentrated) in one municipality, the municipality has wider possibilities to finance the scale and scope of public services. At the same time, other municipalities in this type of FRs do not have sufficient population, which limits their public spending possibilities.

The last map in figure 3 shows the dissimilarity index (so-called Lorenz curve) of public expenditures per capita spent by municipalities in the relevant FR. The projected data confirms the idea from the previous indicator. The largest inequalities occur in FRs, such as Bratislava, Košice, Banská Bystrica and other regions, where a large part of the population is concentrated in the centre (core).

**Fig. 3: Projections of indicators**





Source: own elaboration

The results from all regression analyses (for every single COFOG division) is showed in Table 2. Statistically significant results are coloured.

**Tab. 2: Results from all regression analyses**

Equation	Obs	Parms	RMSE	“R-sq”	F	P
ln_cofog01pc	50	4	.1741273	0.3743	9.173421	0.0001
ln_cofog02pc	50	4	1.072699	0.0695	1.145244	0.3409
ln_cofog03pc	50	4	.340117	0.1863	3.511378	0.0224
ln_cofog04pc	50	4	.4200521	0.3389	7.861559	0.0002
ln_cofog05pc	50	4	.3931678	0.1216	2.122727	0.1103
ln_cofog06pc	50	4	.3584472	0.2364	4.747822	0.0057
ln_cofog07pc	50	4	1.416866	0.0738	1.221692	0.3125
ln_cofog08pc	50	4	.3274019	0.0759	1.258653	0.2996
ln_cofog09pc	50	4	.1197066	0.2038	3.925791	0.0141
ln_cofog10pc	50	4	.425471	0.0348	.5532026	0.6486

Source: own elaboration

From the results it is clear, that statistically significant are COFOG divisions 01, 03, 04, 06 and 09. In General public services (COFOG 01) our results show, that spending on administration services grows with the share of built-up area. This is probably caused by the internal structure of the FUR and geographical factors, which cannot be covered by our indexes and need further research. Moreover, administration in more populated and also less fragmented FURs is cheaper – economies of scale occurs. In case of services aggregated in division Public order and safety (COFOG 03), the result tells us that in FURs with lower population density, this service is not available.

In the division of Economic affairs (COFOG 04) was the result following. In FURs with higher population densities, it can be seen a higher consumption of goods like energy, construction services, communication, and „other industries“, which are used as input for production of other public services. In COFOG division 06 - Housing and community amenities it can be seen, that expenditures on these services grows with the FUR's share of built-up area. Higher share of built-up area is (when dropping geographical factors) caused by urbanization. This means, that becoming urbanized, and growing to town or city allows the local government to take advantage of economies of scale and produce administration much cheaper. This frees funds, that can be spend on other services. Becoming a town or city, also creates demand on new services caused by concentration of people in a place. In addition, with higher population density, public services (water supply, street lightning, amenities) are cheaper to produce. In Education (COFOG 09), in FURs with a higher share of built-up areas, the production of education is cheaper due to „larger“ schools. In other words, there is an ongoing effect of economies of scale. More detailed data from regressions is provided in Appendix.

## Conclusion

Based on our data, because of the results of the MANOVA test, we had to exclude indicators of dissimilarity and the rate of concentration in cores. In our understanding these indicators are related to the structure of FURs and it is surprising that they are not statistically significant to the model. The main conclusion from our research is, that it looks like the structure of the local governments in the region does, in the case of Slovakia, not affect the structure of provided public services. This means, that local authorities do not cooperate in provision of public services and stick to the structure of public services provided by any other similar local authorities, regardless of the public services provided by the neighbouring local authorities. This indicates, that Slovak local governments do not try to increase the number and quality of provided public services by cooperation with neighbouring municipalities and take advantage of economies of scale. Thus, the possibility of local government to produce and provide public services is strongly limited by its income. We have to mention, that the income of Slovak local governments is strongly equalized and connected to the general economic performance of the country and not the regional nor local economic performance. The structure of provided public services is more likely related to „spatial characteristics“ of the FURs such as population density and built-up area. The results correspond with our assumption, that citizens living in more fragmented FURs are consuming fewer public services. Therefore, our conclusion is similar that of the Council of European Municipalities and Regions [18], and that of Bartolini [3]. Slovak local governments should merge to a bigger socio-economic entity in order to achieve a better economic performance.

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## References

- [1] *Agreement on a Structural Reform*, (2004). The Danish Ministry of the Interior and Health, Copenhagen, 2004 ISBN 87-7601-104-6
- [2] Balážová, E. (2006). *Benchmarking služieb miestnej samosprávy na Slovensku*. online. Bratislava: Transparency International Slovensko, 2006. ISBN 80-89244-09-2.

- [3] Bartolini D. (2015). *Municipal Fragmentation and economic Performance of OECD TL2 Regions*, OECD Regional Development Working Papers, vol. 2, pp. 1-23.
- [4] Bezák A. (2001). Funkčné mestské region na Slovensku v roku 2001. In *Geographia Slovaca*, vol. 15, pp. 1-30.
- [5] Bezák, A. (2014). Funkčné mestské regióny na Slovensku v roku 2001. In: Lauko, V. a kolektív. *Regionálne dimenzie Slovenska*. Bratislava (Univerzita Komenského), pp. 169-198. ISBN 978-80-223-3725-0
- [6] Černěnko, T. (2010). *Efektívnosť hospodárenia územnej samosprávy*. Bratislava: Ekonomická univerzita v Bratislave, 2010. 95 s
- [7] Černěnko, T. - Harvan, P. - Kubala, J. (2017). *Skrytý poklad v samospráve: alternatívne možnosti sústredenia výkonu správy v samosprávach*. In Publikácie IFP: ekonomické analýzy [elektronický zdroj]. - Bratislava: Inštitút finančnej politiky (MF SR) a Katedra verejnej správy a regionálneho rozvoja (NHF EU v Bratislave), 2017, 22.6.2017, s. 1-26, URL: <https://www.mfsr.sk/sk/financie/institut-financnej-politiky/publikacie-ifp/ekonomicke-analyzy/41-skrity-poklad-samosprave-alternativne-moznosti-sustredenia-vykonu-spravy-samospravach-jun-2017.html#collapse-261371601481269347> [6.5.2020]
- [8] Černěnko, T. - Kubala, J. (2018). *Výzva pre slovenské metropoly: analýza alternatívnych usporiadaní výkonu správy Bratislavy a Košíc: komentár 2018/16*. Bratislava, 2018. online 7 s., URL: <https://www.mfsr.sk/sk/financie/institut-financnej-politiky/publikacie-ifp/komentare/16-vyzva-slovenske-metropoly-jul-2018.html#collapse-247251601481393770> [6.5.2020]
- [9] Černěnko, T. - Peciar, V. (2018). Effectiveness of Administrative Services in Czech Republic. In: *Current Trends in Public Sector Research. International Conference. Current Trends in Public Sector Research: Proceedings of the 22nd International Conference: Šlapanice, [Czech Republic], 18–19 January 2018*. - Brno: Masaryk University, 2018. ISBN 978-80-210-8923-5. ISSN 2336-1239, pp. 36-43 online
- [10] Eurostat. (2019). *Glossary: Classification of the functions of government*. online. URL: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification\\_of\\_the\\_functions\\_of\\_government\\_\(COFOG\)](https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Classification_of_the_functions_of_government_(COFOG)) [6.5.2020]
- [11] Matějová, L. – Plaček, M. – Krápek, M. – Puček, M. – Oochrana, F. (2014) Economies of scale – empirical evidence from the Czech Republic. In: *Procedia Economics and Finance 12* (2014) 403 – 411 [https://doi.org/10.1016/S2212-5671\(14\)00361-X](https://doi.org/10.1016/S2212-5671(14)00361-X)
- [12] Nemeč J., S de Vries M. (2015). Local Government Structure and Capacities in Europe. In *Public Policy and Administration*. vol. 2, pp. 249-267.
- [13] S de Vries M., Sobis I. (2013). Consolidation in local government – An international comparison of arguments and practices. In *The 21<sup>st</sup> NISPAcee Annual Conference “Regionalisation and Inter-regional cooperation”*. Belgrade, Serbia. pp. 1-15.
- [14] Swianiewicz P. (2010). If Territorial Fragmentation is a Problem, is Amalgamation a Solution? An East European Perspective. In *Local Government Studies*. vol. 36, no. 2, pp. 183-203.
- [15] The Council of European Municipalities and Regions. (2011). *Local and Regional Government in Europe – Structures and Competences*. URL: [http://www.ccre.org/en/papiers/index\\_broch/page:6](http://www.ccre.org/en/papiers/index_broch/page:6) [7.5.2020]
- [16] The Council of European Municipalities and Regions. (2016). *Local and Regional Government in Europe – Structures and Competences - 2016*. URL: [http://www.ccre.org/en/papiers/index\\_broch/page:3](http://www.ccre.org/en/papiers/index_broch/page:3) [7.5.2020]
- [17] The Statistical Office of the Slovak Republic. (2018). *Databases - DATAcube*. URL: <http://www.statistics.sk>

[18] The Congress of Local and Regional Authorities, Council of Europe. (2016). *Local and regional democracy in the Slovak Republic*. Report from the monitoring visit.

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## Appendix

**Tab. 3: Results from regressions**

	Coef.	Std. Err.	t	P >  t	[95% Conf. Interval]	
ln_cofog01pc						
ln_rateoffragmentation	-.1073666	.0430911	-2.49	0.016	-.1941044	-.0206287
ln_shareofbuiltuparea	.4669461	.1126752	4.14	0.000	.2401426	.6937495
ln_populationdensity	-.4009558	.0924425	-4.34	0.000	-.5870329	-.2148787
_cons	7.998315	.7464632	10.71	0.000	6.495763	9.500868
ln_cofog02pc						
ln_rateoffragmentation	-.3615123	.2654595	-1.36	0.180	-.8958546	.1728301
ln_shareofbuiltuparea	.4900395	.6941277	0.71	0.484	-.9071671	1.887246
ln_populationdensity	.0755085	.5694854	0.13	0.895	-1.070806	1.221823
_cons	-3.03737	4.598533	-0.66	0.512	-12.29374	6.218997
ln_cofog03pc						
ln_rateoffragmentation	.0787092	.0841684	0.94	0.355	-.0907129	.2481313
ln_shareofbuiltuparea	-.1947612	.2200847	-0.88	0.381	-.6377687	.2482464
ln_populationdensity	.4745027	.1805648	2.63	0.012	.1110446	.8376908
_cons	.0080218	1.458041	0.01	0.996	-2.926863	2.942907
ln_cofog04pc						
ln_rateoffragmentation	-.3077774	.1039498	-2.96	0.005	-.5170175	-.0985373
ln_shareofbuiltuparea	-.8480842	.2718096	-3.12	0.003	-1.395208	-.3009599
ln_populationdensity	.8723238	.2230016	3.91	0.000	.4234449	1.321203
_cons	-3.850153	1.800714	-2.14	0.038	-7.474802	-.2255046
ln_cofog05pc						
ln_rateoffragmentation	.1609579	.0972968	1.65	0.105	-.0348904	.3568061
ln_shareofbuiltuparea	-.0636319	.2544131	-0.25	0.804	-.5757389	.4484752
ln_populationdensity	.2992242	.208729	1.43	0.158	-.1209254	.7193738
_cons	2.88343	1.685464	1.71	0.094	-.5092333	6.276093
ln_cofog06pc						
ln_rateoffragmentation	.2471608	.0887045	2.79	0.008	.0686079	.4257138
ln_shareofbuiltuparea	.6097984	.2319459	2.63	0.012	.1429155	1.076681
ln_populationdensity	-.3477015	.1902961	-1.83	0.074	-.7307477	.0353448
_cons	8.624612	1.536621	5.61	0.000	5.531555	11.71767
ln_cofog07pc						
ln_rateoffragmentation	.0922515	.3506304	0.26	0.794	-.6135302	.7980333
ln_shareofbuiltuparea	-.7549201	.916833	-0.82	0.415	-2.600409	1.090569
ln_populationdensity	1.311903	.7522002	1.74	0.088	-.2021972	2.826004
_cons	-8.411987	6.073935	-1.38	0.173	-20.63819	3.81421
ln_cofog08pc						
ln_rateoffragmentation	.1561099	.0810218	1.93	0.060	-.0069784	.3191983
ln_shareofbuiltuparea	.0629544	.211857	0.30	0.768	-.3634916	.4894003
ln_populationdensity	-.0268699	.1738145	-0.15	0.878	-.3767403	.3230004
_cons	4.813821	1.403533	3.43	0.001	1.988655	7.638987
ln_cofog09pc						
ln_rateoffragmentation	0.172633	.0296237	0.58	0.563	-.0423671	.0768916
ln_shareofbuiltuparea	-.1874358	.0774604	-2.42	0.020	-.3433556	-.0315161
ln_populationdensity	.0172794	.0635511	0.27	0.787	-.1106423	.1452011
_cons	5.136688	.5131682	10.01	0.000	4.103734	6.169642
ln_cofog10pc						
ln_rateoffragmentation	-.064902	.1052908	-0.62	0.541	-.2768414	.1470375
ln_shareofbuiltuparea	-.0440044	.2753161	-0.16	0.874	-.5981869	.5101781
ln_populationdensity	.1943139	.2258784	0.86	0.394	-.2603558	.6489836
_cons	2.133297	1.823944	1.17	0.248	-1.538112	5.804705

Source: own elaboration

# EVALUATION OF THE BENEFITS OF LAG FOR THE FORMATION OF REIMAGE OF MUNICIPALITIES IN COAL REGIONS

**Martin Domín, Petr Hlaváček**

**Abstract:** *The aim of the project is to identify the benefit of LAG Naděje o.p.s. in the development of municipalities and territories and in the improvement of their image, which is negatively affected by the location of their territory in the mining region. The thesis also answers the research question whether the local action group, as part of its development and strategies, creates measures aimed at changing the image of municipalities in mining regions. From a methodological point of view, this project analyses projects implemented by the LAG. Selected projects were documented thanks to field research in the LAG Naděje o.p.s. and thanks to interviews with the mayors of the municipalities in the LAG as well as the representatives of the LAG. Statistical and other data not only from LAG Naděje o.p.s., but also from CZSO, have been used in this thesis. It has been discovered during the analysis of the projects that of the available calls for LAGs, grant applicants tend to use those grant titles that contribute to good economic stability, such as employment or social services, and consider the topic of reimage to be secondary. It can also be noted that the LAG helps to transform the image of municipalities in a structurally disturbed region only in certain areas. The problem of reimage of municipalities and territories at the level of the LAG is not comprehensively solved.*

**Keywords:** *rural, municipality, visual images, coal mining region, local action group*

**JEL Classification:** *R11, R12*

## Introduction

The region where the Local Action Group (LAG) is located has long specialized (and still specializes) in the mining sector of raw materials, especially lignite. These sectors are followed by other fields, such as energy or the chemical industry, which has affected the quality of life of several generations of people living here. (Hummel, 2012) With the gradual decline of mining, when some mines were closed, economic restructuring began, accompanied by a number of social problems in the functioning of municipalities, such as long-term above-average unemployment. (VDB, 2020) Not only the regions, but also the population and individual municipalities will have to prepare for the new challenges of transformation. (Krestchmann, 2020)

The functioning of municipalities is radically affected by the socio-economic and political environment in which the Leader method is to be implemented. Local action groups, which to some extent help to ensure the competitiveness and attractiveness of rural areas in opposition to the urban environment, have a specific role to play, especially in structurally disadvantaged regions. (NS MAS, 2014)

The LAG Naděje, o.p.s., operating in the Most and Teplice Districts in the Czech Republic, was selected for this purpose. Its members are rather smaller municipalities from the background of large cities in the given area. The Local action group Naděje o.p.s. is specific especially in its spatial scope, since its territory mainly includes those municipalities which in the past came (or are now coming) into contact with opencast lignite mining in north western Bohemia. As part of the grant, data will be collected on LAG Naděje o.p.s., which operates in



the Ústí nad Labem Region, in the Most District. Municipalities that are involved in the activities of LAG Naděje o.p.s. are in many cases small (in terms of population), in many cases there are no free representatives of these municipalities, so their development is more demanding, for example in terms of administrative burden.

LAGs in the Czech Republic use the LEADER method. LEADER stands for "*Liaison Entre Actions de Développement de l'Économie Rurale*," which means "Linking activities developing the rural economy". This method is based on the so-called "bottom-up" principle. This method is based on the belief that only people who live and work in the area of interest can know the strengths and weaknesses of the territory and can successfully solve the given problems. The main benefit of the LAG is the mobilization of local social capital. (NS MAS, 2016) Each LAG naturally has different priorities, different forms of cooperation and different procedures, but together they are unified by the rules of the LEADER method and community-led local development. (MAS Naděje, 2020)

The article aims to analyse the benefits of LAG Naděje o.p.s. for the territory where it operates and how it reflects in its strategies the support for projects that are to change the image of municipalities in the mining region.

## **1 Problem formulation**

Local Action Groups (LAGs) are groups with a defined spatial scope that have been set up by the European Common Agricultural Policy to implement local development strategies by awarding grants to local projects. (Menconi et al., 2018) In developed countries, rural areas are a complex grouping of social, political and historical factors. Several types of problems occur in these areas, from social problems to insufficient civic amenities or infrastructure. As a result, in practice, there are frequent disagreements between rural development measures and objectives and priorities. Gaining relevant experience and knowledge from local stakeholders is a key factor in overcoming this challenge. However, this does not involve only the municipalities themselves, as local governments, but also their citizens, their entrepreneurs and other economic entities that operate within the territory. In line with this idea, the European Commission supports the community-led approach to local development provided by Local Action Groups (LAGs). (Sisto et al., 2018)

Cooperation between the social, economic and public sectors is taking place within local action groups, which is an innovative approach in development policy towards rural areas in Poland. (Wojewódzka-wiewiórska, 2019) In southern European countries (such as France or Spain) there is a large fragmentation of municipalities. (Swianiewicz, 2017) The situation is similar in the Czech Republic. In the last sixty years, small municipalities have been under increased pressure due to their insufficient performance, which often threatens their existence. (Sisto et al., 2018) The processes of decentralization, globalization and the EU's influence also create new social and economic conditions, which in turn affect the development of municipalities in individual countries (Menconi et al., 2018), complemented by the process of concentration of population in metropolitan areas. (Hulst & van Montfort, 2007)

Efforts to create and convey positive images are an important part of current regional development strategies. Regions and municipalities use various methods to attract economic operators, capital, labour and potential residents by drawing attention to their original local character. This is done by attaching various symbols to the territory as an element of development initiatives. (Cassel, 2008) These measures can be interpreted in the context of the cultural economy's approach to development. (Ray, 1998) This special approach can be characterized as a tool mainly for rural and peripheral areas, but also for other less-favoured areas to locate economic control and to re-evaluate the place through its cultural identity. For

example Cassel (2008) argues that attractive places are treated as a relative and socially constructed concept that makes sense in specific social and historical contexts. The concept of attractiveness is discussed here as part of the discussion on regional development, where places are referred to as competitors in terms of financial resources, tourists, businesses and residents, and incoming migrants.

As Boisen, et al. (2018) points out, the branding of locations in general should not be confused with controlled promotion or marketing of the locations. The promotion of a place is solely about gaining attention to the place and no interventions in the physical space are required. It is rather perceived as a phenomenon that is driven by the offer of opportunities. On the other hand, marketing of a place is more focused on the adaptation of the place and its offer so as to attract specific target groups in which the place (municipality) is interested. Here, local branding is considered to be the most comprehensive concept, along with local marketing and promotion as contributing elements. (Boisen, et al., 2018)

Today, when the so-called "Green Deal" will give way to coal and lignite mining in Europe, it is a big question for the inhabitants and for the municipalities in the mining area how this transformation of the economy will take place within the whole region. That is why local action groups could help with the transformation and reimage of individual municipalities. The image of these villages has been damaged for many years by surface mines. Deteriorated air quality and noise are the most common negative externalities of mining, which affect municipalities, their inhabitants and, of course, their image. (CHMU, 2018)

Changing the image of the territory can help regions to perform better through regional development tools. In the Czech Republic, there are several examples where the landscape was modified after mining so that it now completely changes the character of the environment and image of region. An example is the zoo in Chomutov or newly established vineyards on a former dump in the village Chrámce or coal safari in the Most district.

## 2 Research methods

During the research, several expert methods were used, which allowed to comprehensively capture the territory of the local action group. A comparison was used, in which the LAG Naděje o.p.s. has been compared with other higher territorial units, i.e. with the Districts of Most and Teplice and with the Ústí nad Labem Region. Furthermore, a descriptive geographical method was used, where the institutional view of local action groups was mapped. An analysis of professional literature and analysis of LAG Naděje documents and own investigations were used, where a sufficient amount of information was not available. An integral part was a structured interview with representatives of member municipalities and the representatives of LAG Naděje o.p.s. For the specific location in the mining region, the LAG Naděje o.p.s. has been selected as the explored LAG. A local action group is a group that brings together municipalities, companies, individual citizens and non-profit organizations. Its goal is the development of the area, especially with a focus on rural areas and agriculture. LAG Naděje is located in the Ústí nad Labem Region (NUTS II Northwest). Its member municipalities belong to the districts of Most and Teplice. The LAG members are a total of 18 municipalities and 4 smaller towns. These member municipalities are in most cases in the background of larger cities (*Bečov, Bělušice, Braňany, Český Jiřetín, Havraň, Klíny, Korozluky, Lahošť, Lišnice, Louka u Litvínova, Lužice, Malé Březno, Mariánské Radčice, Obrnice, Patokryje, Polerady, Skršín, Želenice and the towns of Duchcov, Lom, Meziboří, Osek*). This LAG was assessed as appropriate given its geographical location and relatively diverse membership base.

It is exceedingly difficult to measure the impact of projects on the reimage of the territory, so the scale 1-5 was used, which is described below. Projects are evaluated according to how

they affect the quality of public space. Material changes in space greatly affect the reimage and appearance of communities. These projects have been assessed in the research in terms of their contribution to achieving reimage of the territory. They were evaluated according to 5 categories according to the influence of the projects on the reimage of the territory, so that each number of points was assigned a verbal expression: 5 - very strong influence, 4 - strong influence, 3 - average influence, 2 - weak influence, 1 - minimal effect.

### **3 Problem analysis**

The Local Action Group o.p.s. is located in the so-called Most Basin, which is characterized by its richness in brown coal. Systematic coal mining has been mapped here since the 19th century, which to some extent influences the member municipalities of the LAG to the present. The LAG is partly located on the rugged terrain of the Bohemian Central Mountains and at the same time extends into the territory of the Bohemian Central Mountains Protected Landscape Area. The natural centre of the LAG is the town of Most, around which the LAG is grouped, Teplice and Chomutov, which are adjacent to the LAG, also play a certain role. As of 31 December 2019, 32,000 inhabitants lived on the LAG Naděje, which covered an area of 29,827 ha. The Local Action Group provides its assistance not only to municipalities, but also to other entities operating in its territory. As of 31 December 2018, a total of 35 entities were operating in the LAG Naděje. Of this, 44% from the private sector, 38% from the public and 18% from the non-profit sector.

Implemented projects of LAG Naděje can be differentiated into two categories. Those where the applicant / partner for support was LAG Naděje o.p.s. and those provided by LAG Naděje o.p.s. in the form of calls for other applicants. Those projects, where LAG Naděje o.p.s. was the applicant / partner, involved a total of 16 implemented projects.

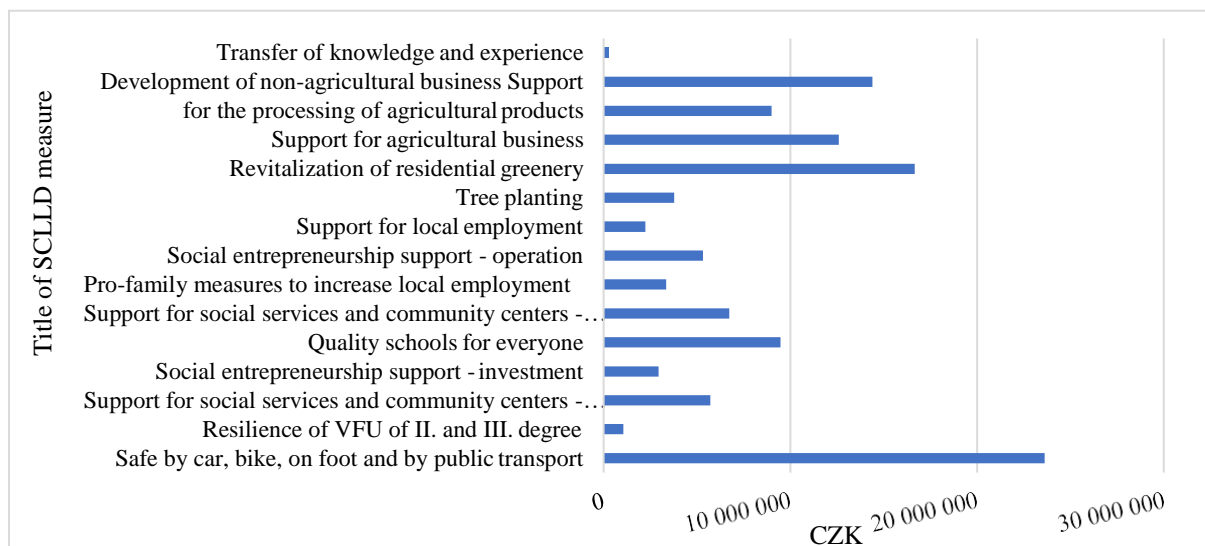
Regarding projects applied for by the LAG itself, 7 providers actually provided grant support. The largest financial support since 2013 has been provided by the Ministry of Regional Development of the Czech Republic to the LAG Naděje, with 2 of its grant titles. Almost 38% of all received grants were provided by the Ministry of Regional Development of the Czech Republic from the IROP 2014-2020 operational program and 3.1% from the grant title Technical Assistance. The Ministry of Education, Youth and Sports of the Czech Republic then provided financial support, which in total accounted for almost a third of the amount of all received grant titles. However, the most interesting project for LAG Naděje came from the State Agricultural Intervention Fund, from which LAG received 15.7% of all received financial support. The Our Friendly Train Stations project was implemented from this fund, for which a total of CZK 1,497,609 was received. This project builds on the railway and transport traditions of the Ústí Region and at the same time it enhances and makes the environment, which has been damaged several times in the past, either by World War II or by forced resettlement of the population thereafter, more attractive.

Most of the other projects provided to the LAG focused mainly on its operation and financed mainly the operating costs of the LAG, which were related either to the general operation of the office or the need to create a Strategy Community-Led Local Development (SCLLD), or to meet the standards or preparation needs for the upcoming grant period. However, in the case of grants, the main purpose of the LAG is especially with their mediation. This takes place via calls of the LAG, which are closely linked to the approved SCLLD and action plan.

The LAG Naděje Action Plan develops, in more detail, structured communications on the specific way of implementing the individual measures of the strategy, where financing is expected within the framework of operational programs (OP). The LAG's Action plan follows up on the set Strategic Objectives, Specific Objectives and Program Frameworks (MAS Naděje,

2013), with a total of 15 set for the 2014-2020 programming period. The financial allocation of the individual measures is shown in Figure 1. The figure shows that most funds were allocated to the measure called Safe by Car, Bicycle, Walk and Public Transport. In addition, great financial support (over CZK 15 million) was provided for the revitalization of residential greenery. The measure of non-agricultural development, as well as support for agricultural business, also received a high level of support. However, the allocation of funds does not reflect the actual state of interest in individual supports, as shown in Figure 2.

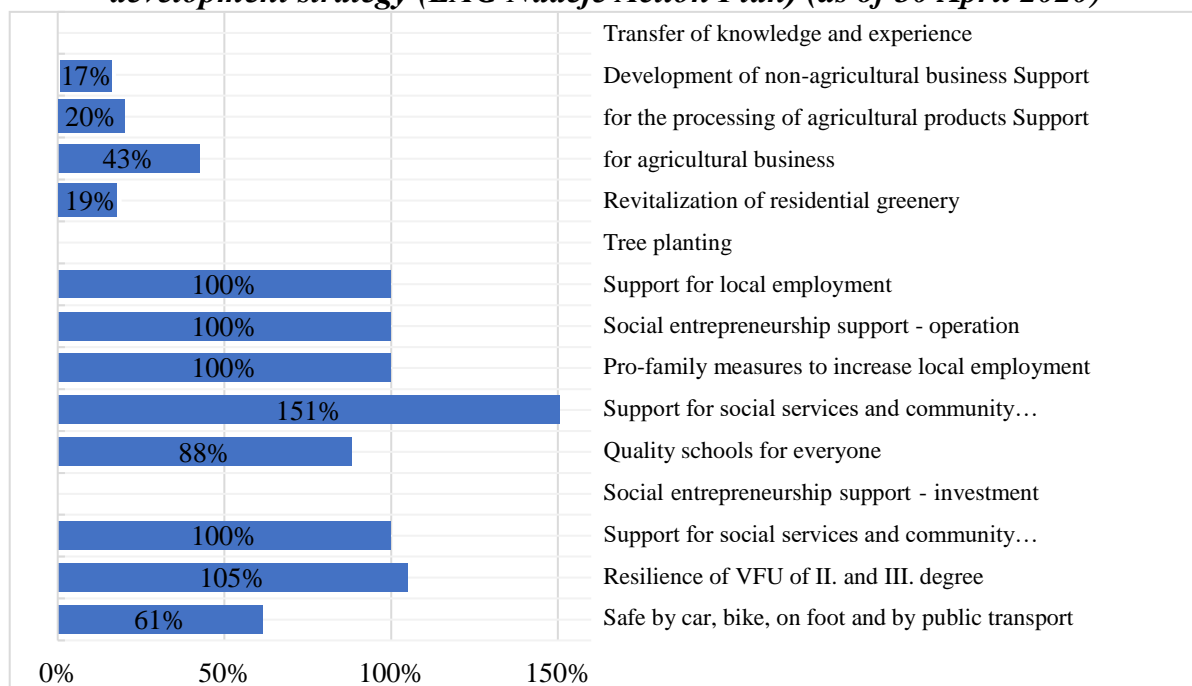
**Fig. 1: Allocation of funds of individual measures for the period 2014-2020**



Source: own calculation based on data from LAG Naděje, 2020

Applicants have the opportunity to draw financial support from these SCLLD measures, across all calls published by LAG Naděje. By 1 April 2020, a total of 17 projects were completed / prepared in the 2014-2020 programming period. These were drawn from the program frameworks - Integrated Regional Operational Program (IROP), Operational Program Employment (OPE), Operational Program Environment (OPŽP) and Rural Development Program (RDP).

**Fig. 2: Rate of drawing the financial allocations for individual pillars of the LAG development strategy (LAG Naděje Action Plan) (as of 30 April 2020)**



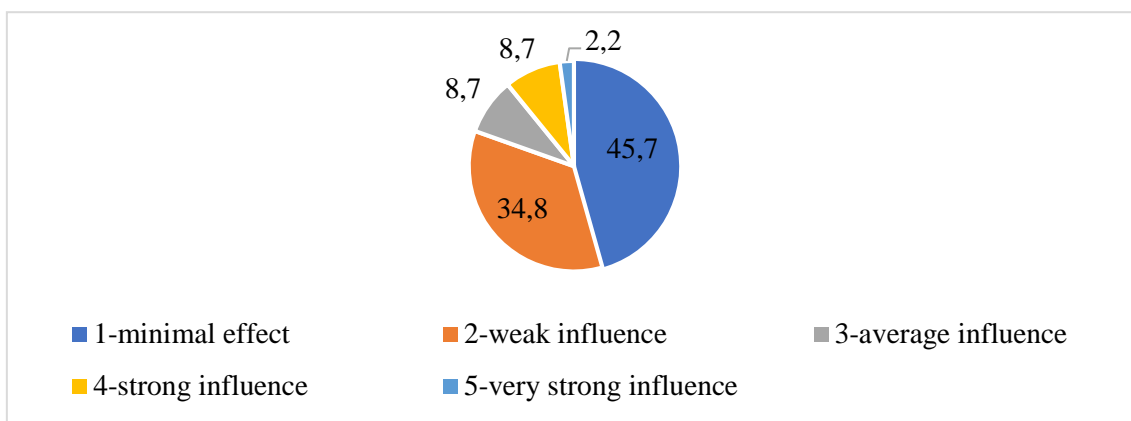
*Source: own calculation based on data from LAG Naděje, 2020*

Figure 2 shows what applicants were most interested in through LAG calls. Overdrawn allocation of the SCLLD measure Support of social services and community centres - operation, points to the great interest of applicants for grants from this measure. The measure for the resilience of Voluntary Firefighter Units was also slightly overdrawn. Other 4 measures have also been already exhausted to their 100%. These relate to the support of local employment, the support of social entrepreneurship and social services and pro-family measures in order to increase employment. Furthermore, several tens of percent of the allocated funds were used from measures for education, road safety and support for agricultural and non-agricultural business. There was only a very weak interest in the revitalization of residential greenery and there was no interest shown by the applicants in planting trees or in supporting social entrepreneurship. The support spent shows that applicants are most interested in the so-called soft projects, which financially support the activities and overhead costs of entities.

As of 30 April 2020, thanks to the LAG, there were a total of 31 projects requested through LAG calls in its territory, 11 of which were awaiting the opinion of the Managing Authority as of 30 April 2020. In case the pending projects are implemented, it is calculated that over 61 million CZK will be spent on eligible project costs in total. The LAG has implemented a total of 46 projects within its territory as an applicant or partner in the application, during its existence since 2013.

The basic category of this part was whether the project is, by its nature, or at least thanks to one of its partial parts, focused on the reimage of the municipality. Figure 2 shows that out of the whole group of all projects, only 17.4% were those projects which, by their nature, had a direct impact on the reimage itself. The remaining 82.6% of projects were projects that were not even partially aimed at working on the image of the municipality or location. Those projects aimed at cultivation of the location received an average of 3.5 points out of five evaluation points. Only 1.5 points out of 5 were awarded to those projects that did not aim to cultivate public space.

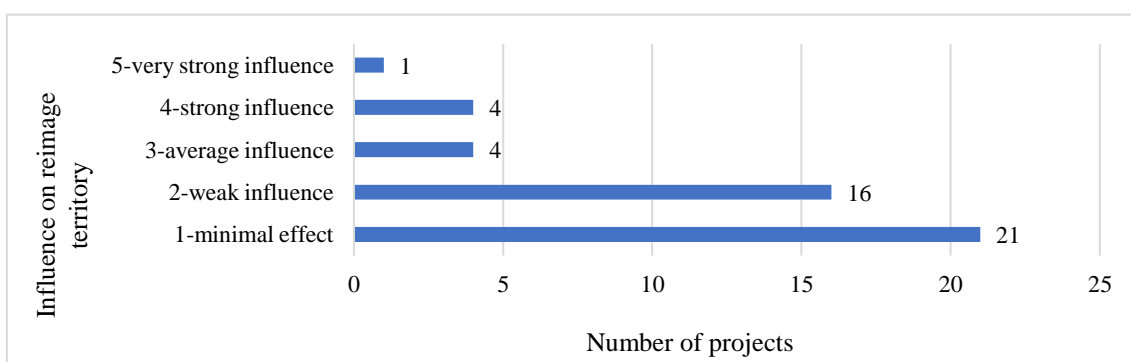
**Fig. 3: The assessment of projects' impact on the image of the territory (in %)**



Source: own elaboration

Figure 3 divides the projects according to the assigned effect on reimage. Since SCLLD itself does not focus only on projects that would be aimed at investment or only on projects that will strongly affect the creation of reimage territory, the projects were differentiated into several categories. The method of project evaluation and their impact on the reimage of the territory is described in Chapter 2. The highest proportion, almost 50%, is represented by projects that had minimal impact on the reimage of the environment. These are mainly non-investment projects, which were aimed at supporting the LAG itself in its operation. Almost 35% of all projects were rated as having a low impact on reimage. These were mainly projects that did not have a direct insight into the public space, but contributed to the functioning of municipalities, which undoubtedly has at least a marginal effect on the reimage. The projects rated as having average and strong impact were represented by the same number (8.7%). These projects had at least a partial or significant impact on the reimage of the environment. It mainly concerned infrastructure or improvement of the location thanks to the greenery. Only 2.2% of projects received a very strong designation. These are projects that have maximally affected the public space and helped with its reclamation and improvement. They aimed directly at the reimage of municipalities and helped to improve the perception of the whole area where the LAG operates.

**Fig. 4: Differentiation of projects according to the awarded assessment**



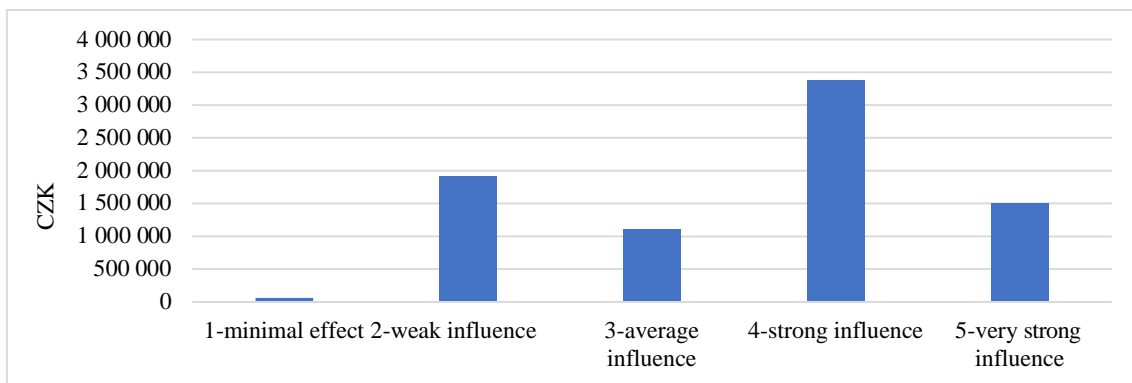
Source: own elaboration

To illustrate the situation, there is Figure 4, which numerically summarizes projects and their division according to the effect on reimage. A total of 46 projects have been (or still are being) implemented.

Of this number, most projects were evaluated as projects with minimal impact on reimage. There were a total of 21 such projects. Most of these projects specialized in the support of

employment or in the support of overhead costs of enterprises or the LAG itself. In addition, 16 projects were evaluated as projects with a weak impact on reimage. These 16 projects mostly specialized in the area of administration and preparatory processes, which could at least minimally influence the reimage with their results in the future. As projects with an average impact, 4 projects were identified. They mostly specialized in infrastructure repairs or innovations in education. These projects could, in the future, influence the LAG's reimage regarding human resources or even the appearance of municipalities. The same number of projects (4) was then regarded as projects with a strong impact on reimage. These projects include planned changes in urban greenery or other interventions in the environment. Only one project was identified as having a strong impact on reimage. The functioning and mission of this project has influenced several member municipalities of the LAG, both in terms of infrastructure and landscaping.

**Fig. 5: Average eligible costs per 1 project according to the point scale**



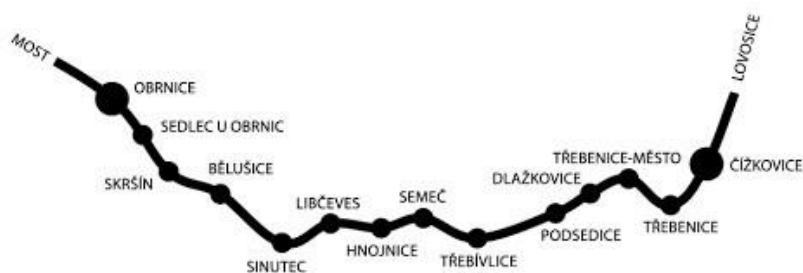
*Source: own elaboration*

As Figure 4 shows, most funds per project were spent on projects that were awarded four points. Here, the eligible financial costs per 1 project amounted to almost 3.5 million CZK. On the contrary, the least funds per 1 project were spent on projects rated with only one point. Here, the eligible costs per 1 project did not reach even 65 thousand CZK. The average costs of three point projects got just over a million CZK. Projects with a very strong impact on reimage reached an average of 1.5 million CZK. Obviously, there is no direct relationship between the financial cost of a project and its direct impact on territorial reimage, despite the fact that the four-pointed projects proved to be the most expensive.

### 3.1 Case study – Our friendly train stations project

The project, that was awarded 5 points, was selected for the case study as one of those that has had the greatest impact on the reimage of the environment and cultivates public space. The project has an even greater impact, as it was implemented in locations where a high concentration of inhabitants is expected - at railway stations and railway tracks. The project had several important parts. On the one hand, it mapped the railway tracks in three LAGs, but there were also studies on the renovation of station buildings carried out, some of which are already being implemented. The so-called Plum Railway Track is important for LAG Naděje. This is a historically significant track, which in the past had a significant impact on the rural development of the Bohemian Central Mountains. This line connects Most and Lovosice and via its stations it links a total of 14 municipalities and 2 cities.

**Fig. 6: Scheme of stations of the railway line U10 – the Plum Railway Track**



Source: AŽD (2019)

The aim of the project was to obtain basic documentation of the tracks for the implementation of the subsequent renovation, which was successfully carried out at the mentioned Plum Track. The project also planned to prepare conditions for the renovation of entire station buildings, which is gradually being implemented along the Plum Railway Track today. As part of the project, one railway car was purchased, where the project was presented and popularized along the reconstructed lines. Modern train sets that fully meet the needs of modern travel have now returned to the tracks. In connection with the project, a publication, *Management of Municipalities for the Preservation of Public Railway Transport*, was created. It points to the need for a vibrant railway network in rural areas. (Šatava, 2015)

The project has a clear impact on the territory. The renewed railway track together with the repaired stations not only improves the view of the landscape as such, but undoubtedly also helps the economic indicators of the area. The track connects 2 large cities and can help with employment or tourism thanks to regular connections.

The U10 railway line is at a very good technical level. It belongs to the most modern railways in the Ústí nad Labem region. It is one of the projects that visually changed its surroundings. The railway line provides maximum security systems along the entire length of the line. The train communicates with the track via a wireless connection and now drones are being tested to monitor the cleanliness and faultlessness of the track. In the near future, it is expected that fully autonomous trains will be operated here. Their control and management will take place from one place. Modern safety features ensure that trains can travel up to 160 kilometers per hour. The train line improves the quality of life of the region's inhabitants. Not only does it help to improve the accessibility of cities and municipalities by public transport, but it is also an important landscape element. The whole project is evolving very fast, but it is relatively fresh. The new elements on the track were installed gradually, even during the first half of 2020. Only during the summer of 2020 will full operation be launched. (NTP, 2020)

According to Šatava (2015), local railways have significant socio-economic impacts on the area. The increased attractiveness of the area served will be reflected in the strengthening of the function of permanent housing in the area thus affected. It also helps to develop the service sector in the region, influences real estate prices and contributes to the quality of life in the broadest sense. Thanks to these effects, we can expect to contribute to the transformation of the reimage region. A similar project that helped change the image of the region is the local line Šumperk–Kouty nad Desnou. Further mapping of the impacts of this project on cities and municipalities and reimage of the territory would require further independent research. (Šatava, 2015)



## 4 Discussion and conclusion

The Naděje LAG operates in the District of Most and Teplice, i.e. in the area that has historically been affected by surface lignite mining. The displacement of the population after the Second World War and the targeted resettlement of the population precisely due to the planned massive mining and other social, economic and environmental phenomena, based on the location of the territory in the structurally affected region contributed to the already poor image of the region.

The Local Action Group Naděje o.p.s. has been operating in its entrusted territory since 2013. Despite that, 46 projects have already been implemented or are being implemented within its territory. These projects are closely linked to SCLLD, the individual SCLLD measures are based on them. Until April 30, 2020, there were still 3 measures that were not exhausted at all. In contrast, some measures have even been overdrawn. It is the ratios of (non) exhaustion of these measures that point to the attractiveness of individual challenges for municipalities or individuals. There is a great interest especially in projects that support employment, the social environment or aim at supporting the LAG itself in its activities.

In terms of the contribution of projects to the reimage of the territory, it can be stated that the development of the LAG Naděje reflects the specifics of the entrusted territory and that to some extent some projects directly and indirectly contribute to the reimage of the territory. The LAG contributes to the reimage of the environment through its calls, which are based on the SCLLD measures. In their calls, they offer funding to the reimage the environment of municipalities. The problem is not the lack of funding that the LAG offers in its calls, but the small interest of applicants in specific calls related to the environment or municipal greenery, which contributes greatly to the reimage of the territory. Applicants make the most of calls for support for employment and social services, which reflects the profile of the area where unemployment is a problem. As a body, the LAG is aware of the shortcomings of its territory, as it mentions in its strategy, but at the same time it highlights the advantages and potential of the territory. The results show that in the future development of municipalities in the LAG, greater emphasis should be placed on projects that increase the quality of life of residents and the attractiveness of municipalities to stabilize their growth in competition with strong urban regions.

Based on the performed research, the research of reimage of the territory can be further developed. It is possible to develop research through a qualitative survey of local stakeholders and their evaluation of projects and the impact on the transformation of the image of the territory.

### Acknowledgement

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### References

AŽD. Linka U10. *Švestková dráha*. 2019. Also available at: <https://www.svestkovadraha.cz/>

Boisen, Martin, Kees Terlouw, Peter GROOTE a Oscar COUWENBERG. Reframing place promotion, place marketing, and place branding - moving beyond conceptual confusion. *Cities* [online]. 2018, 80, 4-11 [cit. 2020-04-06]. DOI: 10.1016/j.cities.2017.08.021. ISSN 02642751. Available at: <https://linkinghub.elsevier.com/retrieve/pii/S0264275117301373>

Boisen, Martin, Peter Groote, Kees Terlouw a Oscar Couwenberg. Patterns of place promotion, place marketing and/or place branding in Dutch municipalities. *Place Branding and Public Diplomacy*

- [online]. 2018, 14(2), 78-88 [cit. 2020-05-05]. DOI: 10.1057/s41254-017-0083-5. ISSN 1751-8040. Available at: <http://link.springer.com/10.1057/s41254-017-0083-5>
- CHMU. Úsek ochrany čistoty ovzduší. *Český hydrometeorologický ústav* [online]. 2018 [cit. 2020]. Available at: <http://portal.chmi.cz/historicka-data/ovzdusi>
- Heldt Cassel, Susana. Trying to be attractive: Image building and identity formation in small industrial municipalities in Sweden. *Place Branding and Public Diplomacy*. Palgrave Macmillan Ltd 1751-8040, 2008, 4(2), 102-114. DOI: <https://doi.org/10.1057/palgrave.pb.6000086>.
- Hulst, Rudie a André van Monfort, ed. *Inter-Municipal Cooperation in Europe* [online]. Dordrecht: Springer Netherlands, 2007 [cit. 2020-05-05]. DOI: 10.1007/1-4020-5379-7. ISBN 978-1-4020-5378-8.
- Hummel, Martin. *Comparison of existing open coal mining methods in some countries over the world and in Europe*. Ostrava: VŠBT Ostrava, 2012, (1062-7391).
- Krestchmann, Jürgen. *Sustainable change of coal-mining regions*. 2020, 72(2), s. 51-53.
- MAS NADĚJE. *MAS Naděje* [online]. 2020, 9.4.2020 [cit. 2020-04-09]. Available at: <http://www.masnadeje.cz/>
- MAS NADĚJE. *Strategie komunitně vedeného místního rozvoje Místní akční skupiny Naděje o.p.s. na období 2014 –2021*. Líšnice: MAS Naděje, 2013. Also available at: [http://www.masnadeje.cz/e\\_download.php?file=data/multipage/editor/editor-47-990-cs\\_1.pdf&original=SCLLD%20MAS%20Nad%C4%Bje%20o.p.s.pdf](http://www.masnadeje.cz/e_download.php?file=data/multipage/editor/editor-47-990-cs_1.pdf&original=SCLLD%20MAS%20Nad%C4%Bje%20o.p.s.pdf)
- Menconi, Maria Elena, Sara Artemi, Piero Borghi a David Grohmann. Role of Local Action Groups in Improving the Sense of Belonging of Local Communities with Their Territories. *SUSTAINABILITY* [online]. 2018, 10(12) [cit. 2020-04-03]. DOI: 10.3390/su10124681. ISSN 20711050. Available at: <https://www.mdpi.com/2071-1050/10/12/4681#>
- NS MAS. Co je MAS. *Národní síť místních akčních skupin* [online]. 2016 [cit. 2020]. Available at: <http://nsmas.cz/>
- NS MAS. Národní standardy. *Národní síť Místních akčních skupin České republiky* [online]. 2014 [cit. 2020-04-12].
- NTP. INFORMAČNÍ ZPRAVODAJ TECHNOLOGICKÉ PLATFORMY INTEROPERABILITA ŽELEZNIČNÍ INFRASTRUKTURY [online]. 2020. Praha, 2020 [cit. 2020-07-17]. Available at: [www.sizi.cz](http://www.sizi.cz)
- Ray, Christopher. Culture, Intellectual Property and Territorial Rural Development. *Sociologia Ruralis* [online]. 1998, 38(1), 3-20 [cit. 2020-05-05]. DOI: 10.1111/1467-9523.00060. ISSN 0038-0199. Available at: <http://doi.wiley.com/10.1111/1467-9523.00060>
- Šatava, Jan. *Management obcí pro zachování veřejné železniční dopravy*. 1st edition. Líšnice: Mas Naděje o.p.s., 2015.
- Sisto, Roberta, Antonio Lopolito a Mathijs van Vliet. Stakeholder participation in planning rural development strategies: Using back casting to support Local Action Groups in complying with CLLD requirements. *Land Use Policy* [online]. 2018, 70, 442-450 [cit. 2020-04-03]. DOI: 10.1016/j.landusepol.2017.11.022. ISSN 02648377. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S0264837717309596?via%3Dihub>
- Swianiewicz, Pawel, Filipe Teles, ed. *Inter-Municipal Cooperation in Europe: Institutions and Governance*. 1. Warsaw: Springer, 2017. ISBN 9783319628196.
- VDB (Public database) CZSO [online]. 2020 [cit. 2020-05-05]. Available at: <https://vdb.czso.cz/vdbvo2/>
- Wojewódzka-wiewiórska, Agnieszka. LOCAL ACTION GROUPS AS ENTITIES OF SOCIO-ECONOMIC DEVELOPMENT OF RURAL AREAS IN POLAND. *Proceedings of the International*

*Multidisciplinary Scientific GeoConference SGEM* [online]. 2019, 19(1), 499-506 [cit. 2020-04-03].  
DOI: 10.5593/sgem2019/5.3. ISSN 13142704.

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# **BARRIERS INFLUENCING THE DEVELOPMENT OF E-GOVERNMENT SERVICES IN THE CZECH REPUBLIC FROM THE PERSPECTIVE OF MUNICIPAL AUTHORITIES**

**Josef Horák, Jiřina Bokšová, Jiří Strouhal, Michal Bokša, Karel Pavlica**

***Abstract:** The paper deals with the analysis of e-Government in the Czech Republic based on the questionnaire survey we provided. We were interested in whether the e-Government was functional and useful for the citizens of the Czech Republic and companies operating in this country. Unfortunately, we found that the level of e-Government was not as good as it was presented by the government. In order to this finding, we decided to realize large research. The research results are based on three different types of a questionnaire survey to find the most wanted e-Government services from the perspective of citizens of the Czech Republic, businesses, and last but not least from the perspective of municipal authorities. This paper is focused on the presentation of research results we obtained from municipal authorities with extended powers and to point out the main barriers that limit the successful development of e-Government. Undeniably, we are sure that there exists considerable space for improvements in the area of e-Government in the Czech Republic to offer better online services and mutual communication between all its participants.*

***Keywords:** Barriers of e-Government, e-Government, Municipal authorities, Survey, the Czech Republic, the European Union*

***JEL Classification:** H4, H7*

## **Introduction**

The main aim of the submitted paper is to determine which services provided by the municipal authorities should be digitized as a matter of priority and subsequently to analyze the barriers that may negatively affect the digitization of these services in the Czech Republic. Many authors and scientists defined e-Government. In our opinion, one of the most accurate definition was developed by the OECD that defined the e-Government as the use of communication and information technologies to achieve better government based on powerful instruments to transform structures, processes, and culture of government. Consequently, the government would be more efficient, transparent, and user-oriented (OECD, 2003), (Björklund, 2016), (Isaac, 2020), (Valle-Cruz, 2019). Although this definition was created already in 2003, it is still valid and generalizes the purpose and main goals of e-Government. Hence, different levels of e-Government such as federal, state or local level must be interconnected. (Snead & Wright, 2014), (Twizeyimana & Andersson, 2019)

According to the COVID-19 situation, e-Government services is a hotly discussed topic nowadays than ever before, because online communication eliminates the risk of the virus transmission and facilitates communication between citizens and businesses on the one hand and government agencies on the other side. For this reason, we expect that the development of e-Government will be faster and more efficient in market developed economies in near future. We believe that the submitted paper will help the development of e-Government not only in the Czech Republic, but also in other member countries of the European Union.

## 1 Statement of a problem

Therefore, the proper application of e-Government initiatives leads to upgrade the governmental services provided to citizens and the private sector and enhance the effectiveness of government work internally, in addition to broadening the participation of citizens in the decision-making process (Singh & Sahu, 2018), (Meijer & Bekkers, 2015). The main objective of e-Government is to increase the communication between governments' employees with the citizens and companies located in the country (Henriksen, 2018). Digital services increase openness and transparency of government and subsequently, deliver smart services to everyone needing information. (Milić & Veljković & Stoimenov, 2018). Hence, a user oriented approach must be taken into the consideration during use of e-Government services. (Wirth & Kurz, 2016), (Bannister & Connolly, 2015) The electronic communication can be provided online 24/7 (Al-Fakhri, 2008) and share information between all its participants. For this reason, the fully developed e-Government ensures public administration to be more efficient, faster, and cheaper while also being more comfortable (Ølnes & Jansen, 2017), (Batubara & Ubacht & Marijn, 2018). For this reason, the e-Government has been considered a facilitator of public value. (Weerakkody et al., 2016), (Janowski, 2015). Explosion of big data is a great challenge for the e-Government, because it can deliver better services and create value from a large volume of data. (Anshari & Lim, 2017), (Ionescu, 2016). On the other hand, the less detailed information may be more effective at improving relationship between e-Government stakeholders. (Porumbescu, 2016), (Jansson & Erlingsson, 2016)

Based on the results of the Digital Economy and Society Index (DESI 2019) that monitors, for instance, the use of internet services by citizens, integration of digital technology by businesses, digital public services, etc. in the European Union (EU) countries, the Czech Republic is not positively evaluated and is ranked on the 18<sup>th</sup> position of 28 evaluated EU countries. Due to this fact, our research team provided the analysis based on the questionnaire survey to identify the most important and requested e-Government services that should be implemented at first to ensure better placement of the Czech Republic in the DESI index in near future.

## 2 Methods

The research was based on the online survey – computer-assisted web interviewing (CAWI) method – that took place from 7<sup>th</sup> November to 11<sup>th</sup> November 2019. The questionnaire consisted of 24 questions and was divided into two main parts. The first part dealt with the preferences of the e-Government services provided by municipal authorities that can be useful for citizens and companies and second part was focused on the municipality administration. We used different types of questions (e.g. multiple-choice questions, open-ended questions, closed-ended questions etc.) in the questionnaire. We took into the consideration all advantages and limitations of the different types of questions to obtain qualitative and quantitative data to be next analyzed. The e-Government performance and extent of government capacity are crucial factors influencing the successful implementation of e-Government. (Mensah, 2020) Subsequently, the implementation of e-Government should be looked upon as a network, because factors such as incentive design, politics of partner selection, institutionalisation processes, network structuring etc. can make e-Government projects more realistic. (Guha & Chakrabarti, 2014)

Hence, the main aim of the research was to assess the current state of the digitalization process on the level of municipal authorities with extended powers in the Czech Republic and subsequently to determine which governmental services (useful for citizens & companies and administration of municipality) should be digitized first, in the opinion of the municipal

authorities. We are sure that the relevant officials have one of the best knowledge of services that should be digitized first. The collection of data was conducted in cooperation with the Union of Towns and Municipalities of the Czech Republic to ensure a better return of answered questionnaires.

The Czech Republic consists of 14 regions, in which there are a total of 232 municipalities with extended powers. Due to this situation, we included all 232 municipal authorities with extended power into the research sample. Table 1 shows the number of distributed and received questionnaires by region. We can see that totally 65 % of respondents who participated in the questionnaire survey filled it and answered our questions.

**Tab. 1: The number of completed questionnaires**

	Received	Distributed	Percentage
Prague region	17	28	61 %
Central Bohemia region	16	26	62 %
South Bohemia region	13	16	81 %
Pilsen region	9	15	60 %
Carlsbad region	3	7	43 %
Usti region	13	16	81 %
Liberec region	7	10	70 %
Hradec Králové region	13	15	87 %
Pardubice region	8	15	53 %
Vysocina region	10	15	67 %
South Moravian region	12	21	57 %
Olomouc region	7	13	54 %
Zlin region	7	13	54 %
South Moravian region	15	22	68 %
<b>Total</b>	<b>150</b>	<b>232</b>	<b>65 %</b>

*Source: own elaboration*

According to the research methodology, it is important take into consideration that the lowest questionnaire return was in the Carlsbad region, and also lower in the Pardubice, Olomouc, Zlin and South Moravian regions. Nevertheless, it is necessary to emphasize that no region "fell out" of the survey to a critical extent and the data should be used for next analyses. Table 2 presents the number of completed questionnaires we got from the municipalities. Municipalities up 5,000 to 19,999 inhabitants had the largest representation in the questionnaire survey. We appreciated that 23 of the 24 municipalities with a population of more than 50,000 responded to the questionnaire survey. We think that the representatives of municipalities may have different views and opinions on digitization, and that is why the size of the municipality may be one of the key criteria that will affect the answer to the relevant question.

**Tab. 2: Completed questionnaires according to the size of the municipality**

	<b>Number</b>	<b>Share [%]</b>
Municipality to 4,999 citizens	10	6.67
Town up 5,000 to 19,999 citizens	80	53.33
Town up 20,000 to 49,999 citizens	37	24.67
Town up 50,000 to 90,000 citizens	10	6.67
City over 90,000 citizens	13	8.67

*Source: own elaboration*

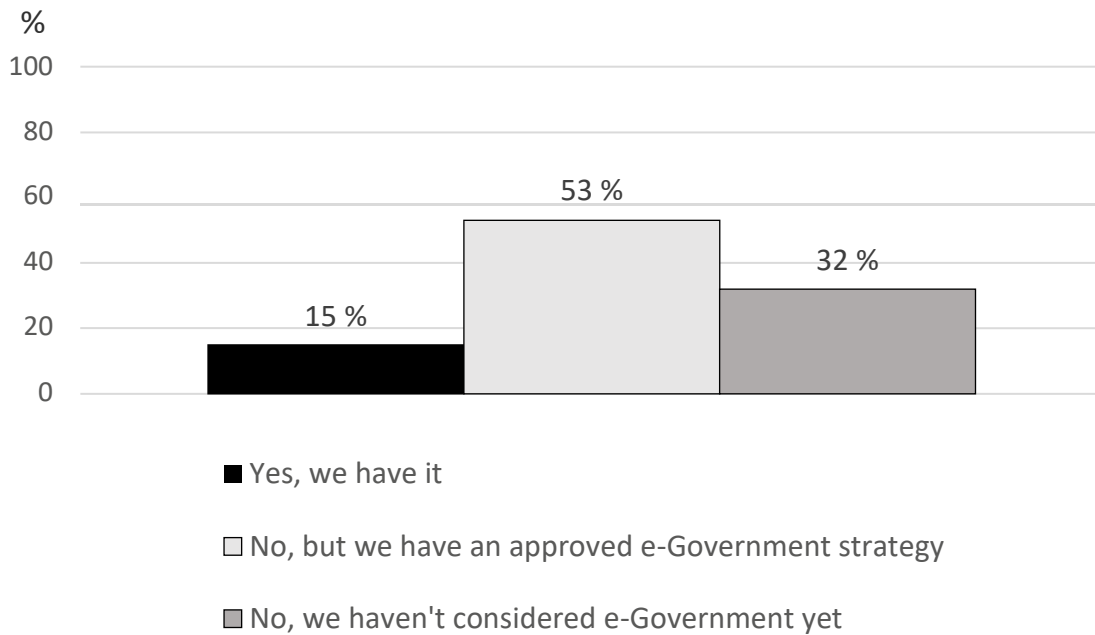
The questionnaires were filled by majors of the cities or towns (30 %), general directors of the municipalities (21.33 %), deputy majors (8.67 %), directors of IT departments (21.33 %), teams of different respondents (18.67 %).

### **3 Problem solving**

The main aim of the research was to analyze the current situation in digitization of municipal authorities in the Czech Republic. Based on the research results, we found that the representatives of most municipal authorities with extended power were not satisfied with the current progress of the digitization of the e-Government services in their towns or cities. Unfortunately, 66 % of respondents of the research survey answered the level of state administration is at a bad or very bad level. On the other hand, the positive finding was that the vast majority of all representatives said that digitization would be very beneficial for all its stakeholders. To be honest, the research team expected this situation and that is why we wanted to identify the main barriers of the digitization process and to find the most useful e-Government services for citizens, businesses, and municipal authorities.

The municipality must be well prepared for the successful implementation of e-Government services. Figure 1 shows the research results if the municipality authorities own the plan for implementation of e-Government in their town or city. We found that only 15 % of respondents have prepared the concrete and unambiguous strategy and are ready to start and continue with the digitization of e-Government services. Subsequently, 53 % of municipalities have had approved the e-Government strategy, which can be then evolved into the existing plan. On the other hand, 32 % of respondents said that they have not considered the e-Government yet.

**Fig. 1: Do you currently have a plan for the e-Government of your municipality?**



*Source: own elaboration*

The obtained results can be correlated with the level of employees working for the municipal authority. Unfortunately, in the labor market, it is very difficult to find and employ well educated IT employees according to the low salaries in state administration nowadays. Table 3 presents this unhappy situation from the perspective of the research respondents.

**Tab. 3: Number of IT employees working for the municipal authority**

Number of IT employees	Share
no employee	4 %
up 1 to 2 employees	27 %
up 3 to 5 employees	43 %
up 6 to 10 employees	14 %
11 and more employees	12 %

*Source: own elaboration*

Based on the research results, the most affected municipal authorities are authorities in towns with less than 20,000 inhabitants. These entities are not able to employ IT specialists to develop local e-Government services for their citizens or companies located in that area. As it was mentioned above, the crucial problem is budget allocated to these municipal authorities by the government of the Czech Republic. Despite this difficult situation, 12 % of respondents (mainly cities over 90,000 citizens) were able to employ 11 or more IT specialists.

Part of the research was also to find out whether municipal authorities are interested in improving the IT qualifications of their employees, and secondly, whether they provide them



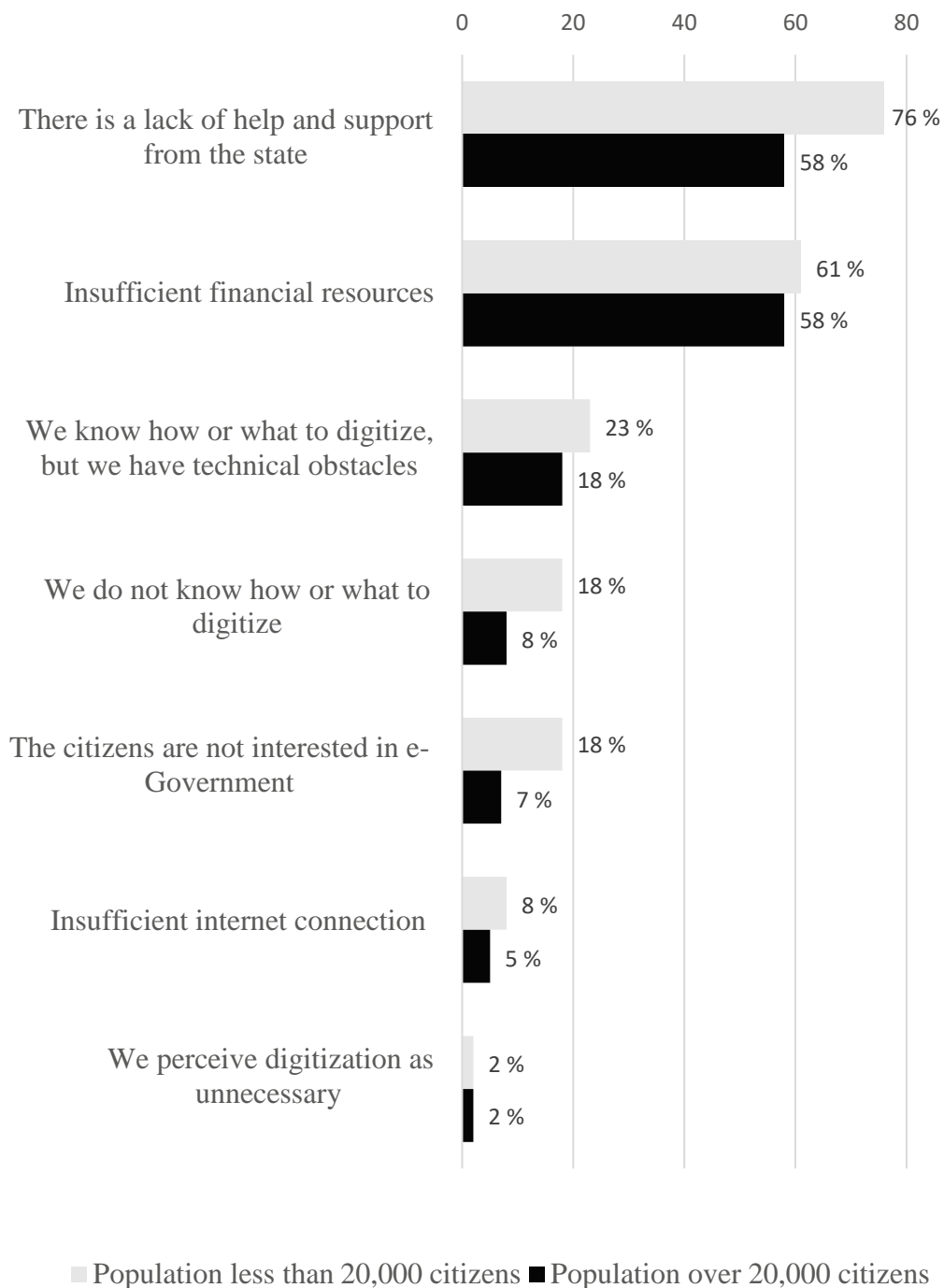
with the necessary training that could increase their IT skills. Almost half of the respondents stated that they regularly enable their employees to grow their IT skills (65 % share in towns and cities over 20,000 inhabitants). At other offices, employees usually took at least a basic course. On the other hand, there is only a low proportion of employees that were not trained due to a lack of financial resources. Only 3 % of respondents answered that their employees did not need any training to increase their IT skills. The approach of the leaders is quite striking and can undermine the future qualifications of the employees.

Although it might seem that the crucial barrier to the implementation and development of e-Government is non-sufficient funding, this is not the case. The municipal authorities mainly lack the government help and support. This opinion was said by 76 % of respondents included in the group of municipalities to 20,000 inhabitants and by 58 % of respondents included in the group of municipalities over 20,000 inhabitants.

Available technical assistance from the government or the state institutions would be more often welcomed by representatives of authorities in municipalities with less than 20,000 inhabitants (almost half of them said this option, among representatives of larger cities it was less than a third). We think that this information is very important for the next development of the e-Government in the Czech Republic, because with no or low help and support it is not possible to do this process successfully and effectively.

The second position of the most important barriers identified by the respondents were problems with financing their activities. When they have not financial resources, it is really difficult to employ highly skilled employees, to purchase IT components and software products and solutions or to develop useful e-Government services. Regardless of the size of the town or city, this opinion was expressed by 60 % of majors, general directors, deputy majors, directors of IT departments, and other teams that answered the questionnaire survey as it is presented in Figure 2.

**Fig. 2: Barriers influencing the development of e-Government from perspectives of municipalities in the Czech Republic**



*Source: own elaboration*

In terms of the effectiveness of digitization, i.e. the ratio of financial demands and practical use by citizens, the representatives of the municipalities are divided, about half of them fear that the digitization process will be "waste of money", but almost half of them do not share this view. These opinions are more common among authorities of municipalities with less than 20,000 inhabitants. The implementation and development of e-Government will be probably

enormous technically demanding for the municipal authorities. This opinion was answered by a minority of respondents, about two-fifths, again more often by smaller towns.

On the other hand, as positive findings could be marked the answer that only 8 % of respondents (towns to 20,000 inhabitants) and 5 % of respondents included in the group of large towns or cities see the problems with the insufficient internet connection. A two-thirds majority of respondents stated that they had sufficient infrastructure for fast internet in their town or city. And the vast majority stated that there were more internet providers of high-speed internet connections in the territory. There were no significant differences in these issues according to the size of the town or city.

## **4 Discussion**

We can say that representatives of municipal authorities with extended powers are convinced that digitization at the level of municipal authorities will be beneficial for their citizens and subsequently, will improve the functioning and efficiency of their offices. Unfortunately, most respondents said that the current state of digitization of public administration was insufficient in the Czech Republic. The crucial problem is that only a minority of the analyzed municipal authorities have a special plan for the implementation and development of e-Government in their towns or cities. The current progress of implementation of digital services is only at the level of the approved strategy or the authorities have not yet considered e-Government at all.

Ignorance of what to digitize and lack of interest of citizens are also more often perceived in the offices of municipalities with less than 20,000 inhabitants, but the share of those who selected these barriers is significantly lower than the main obstacles such as government support or problems with financial resources.

Soon, it would be appropriate to focus mainly on the digitization of the following services such as online preview and extracts from public administration information systems and basic government administration registers. The big challenge is to enable the online exchange of identity documents, subsequently, matters related to the sale or purchase of a car or moving from one municipality to another or online submission and issuing of construction permits. According to our research, these services could be very useful for citizens. In terms of municipal authorities, it is important to focus on the digitization of the records management, archiving and online mail, and the modernization of the technical support for digitization as soon as possible. Respondents required the digitization of financial accounting, online processing of subsidies, online submission of information to the financial administration, automation of value-added tax as well.

## **Conclusion**

It is obvious that the process of digitization of e-Government services will be very important for the Czech Republic. Unfortunately, the current state of this process is not very optimistic. We think that the problem is in decentralized organizational structure of e-Government. Different ministries prepare special portals for citizens and companies or implement special digital services that do not cooperate with other existing solutions. For this reason, it is very difficult to take over data owned by one ministry for the needs of another ministry. At the same time, enormous financial resources are being spent to make these solutions work together, at least in part.

On the other hand, it is necessary to take into account that many countries in the European Union have similar problems with the implementation of digital services to their citizens. We

believe that our research can help to develop and implement new and required e-Government services useful for their stakeholders to ensure efficient and fast mutual electronic communication and solution of problems and requests that need to be processed.

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## References

- Al-Fakhri, M. O, Cropf, R. A., Kelly, P., Higgs, G. (2008). E-government in Saudi Arabia: between promise and reality. *International Journal of Electronic Government Research (IJEGR)*, 4(2), pp. 59-85.
- Anshari, M., & Lim, S. A. (2017). E-government with big data enabled through smartphone for public services: Possibilities and challenges. *International Journal of Public Administration*, 40(13), pp. 1143-1158.
- Bannister, F., & Connolly, R. (2015). The great theory hunt: Does e-government really have a problem?. *Government Information Quarterly*, 32(1), pp. 1-11.
- Batubara F. R., Ubacht, J., Janssen, M. (2018). Challenges of blockchain technology adoption for e-government: a systematic literature review. In *Proceedings of the 19th Annual International Conference on Digital Government Research: Governance in the Data Age (dg.o '18)*. Association for Computing Machinery, New York, NY, USA, pp. 1–9.
- Björklund, F. (2016). E-government and moral citizenship: the case of Estonia. *Citizenship studies*, 20(6-7), pp. 914-931.
- Guha, J., & Chakrabarti, B. (2014). Making e-government work: Adopting the network approach. *Government Information Quarterly*, 31(2), pp. 327-336.
- Henriksen H.Z. (2018). One Step Forward and Two Steps Back: E-government Policies in Practice. In: *Gil-Garcia J., Pardo T., Luna-Reyes L. (eds) Policy Analytics, Modelling, and Informatics. Public Administration and Information Technology*, vol 25. Springer, Cham.
- Ionescu, L. (2016). E-Government and Social Media as Effective Tools in Controlling Corruption in Public Administration. *Economics, Management, and Financial Markets*, 11(1), pp. 66-72.
- Isaac, K. M. (2020). Impact of Government Capacity and E-Government Performance on the Adoption of E-Government Services, *International Journal of Public Administration*, 43(4), pp. 303-311.
- Janowski, T. (2015). Digital government evolution: from transformation to contextualization. *Government Information Quarterly*, 32(3), pp. 221–236.
- Jansson, G., Erlingsson, G. Ó. (2014). More e-government, less street-level bureaucracy? On legitimacy and the human side of public administration. *Journal of Information Technology & Politics*, 11(3), pp. 291-308.
- Meijer, A., & Bekkers, V. (2015). A metatheory of e-government: Creating some order in a fragmented research field. *Government Information Quarterly*, 32(3), pp. 237-245.
- Milić P., Veljković N., Stoimenov L. (2018). Semantic Technologies in e-government: Toward Openness and Transparency. In: *Rodríguez Bolívar M. (eds) Smart Technologies for Smart Governments. Public Administration and Information Technology*, vol 24. Springer, Cham.
- OECD (2003), *The e-Government Imperative*, OECD e-Government Studies, OECD Publishing, Paris pp. 331-343.

- Ølnes S., Jansen A. (2017). Blockchain Technology as a Support Infrastructure in e-Government. In: Janssen M. et al. (eds) *Electronic Government. EGOV 2017. Lecture Notes in Computer Science*, vol. 10428. Springer, Cham.
- Porumbescu, G. A. (2016). Linking public sector social media and e-government website use to trust in government. *Government Information Quarterly*, 33(2), pp. 291-304.
- Singh, M., Sahu, G. (2018). Study of e-governance implementation: A literature review using classification approach. *International Journal of Electronic Governance*. 10. 237. 10.1504/IJEG.2018.095954.
- Snead J. T., Wright, E. (2014). *E-government research in the United States. Government Information Quarterly*, 31(1), pp. 129-136.
- Twizeyimana, J. D., & Andersson, A. (2019). The public value of E-Government—A literature review. *Government Information Quarterly*, 36(2), pp. 167-178.
- Valle-Cruz, D. (2019). Public value of e-government services through emerging technologies. *International Journal of Public Sector Management*.
- Weerakkody, V., Irani, Z., Lee, H., Hindi, N., & Osman, I. (2016). Are UK citizens satisfied with e-government services? Identifying and testing antecedents of satisfaction.
- Wirtz, B. W., Mory, L., Piehler, R., Daiser, P. (2014). Measuring e-government portal management on the local level: results from a survey of public administration officials. *International Public Management Review*, 15(2).
- Wirtz, B. W., Piehler, R. (2016). eGovernment Applications and public personnel acceptance: an empirical analysis of the public servant perspective. *International Journal of Public Administration*, 39(3), pp. 238-247.
- Wirtz, B.W., Kurtz, O.T. (2016). Local e-government and user satisfaction with city portals – the citizens' service preference perspective. *Int Rev Public Nonprofit Mark* (13), pp. 265–287.

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# OUTSOURCING SOLUTIONS AND IT OUTSOURCING STRUCTURE IN THE PUBLIC SECTOR

Valerii Logvinov, Svitlana Malonoga

**Abstract:** *The purpose of this article is to propose a structural model information technology outsourcing (ITO) in the public sector as well a some of solutions in the field of IT outsourcing infrastructure forming. In order to gain an understanding of this topic, an extensive literature review was performed, analyzed with trends and the main IT Outsourcing development factors. The data yielded from the review was used to create a framework for pyramidal outsourcing solutions. In realizing the main research objectives, authors to identified three major levels of outsourcing solutions in the Public sector and proposed IT Outsourcing's pyramidal structure. This allowed us more detail study the causes to use IT infrastructure outsourcing as the base level of IT Outsourcing pyramid in the public sector. The proposed three level IT Outsourcing model can be use as a guidance for future research aimed at advancing knowledge of IT Outsourcing in the public sector. In the same time, it research aims to help public authorities, investors and decision-makers choose the most advantageous ITO destination.*

**Keywords:** *IT outsourcing, pyramidal model, pyramidal structure, public sector, services, solutions*

**JEL Classification:** *L32, L86*

## Introduction

The issues of efficiency, economy and decrease of management risks are becoming more and more important for public authorities and all public sector. In this context, ITO in public sectors is getting more attention because Government is now moving towards Gov3.0 which includes big usage of IT to provide better IT-enabled services. In conditions of the simultaneous growth of demand for quality services, the authorities are forced to save and optimize their costs. This situation is very favorable for the activities of various IT outsourcing service providers. Thus, the interest in outsourcing as a business model is primarily due to economic motives. By handing over the execution of a task or function to a service company, the customer has the ability to control the result.

In the condition a significant increase in complexity of information technology infrastructure that ensures the work of public sector organizations, IT outsourcing becoming more and more developed in the world. The practice of using IT outsourcing (Cox M.et al., 2011; GovCentres, 2016; DiRomualdo & Gurbaxani, 1998; Weinert & Meyer, 2005) is to carry out part of processes in governmental bodies and organizations that were actively in the 1980s. In the late 1990s and early 2000s, the market received even more support from the authorities ( Dibern J. et al., 2004; Flemming R. & Low G., 2007; IT Outsourcing, 2004; Prefontaine L et al.,,2000 ), as many national governments began to encourage government bodies and organizations to apply outsourcing.

This organization wanted to reduce their own costs, to optimize their administrative activities, to reduce inefficient administrative processes and thereby increase the level of efficiency and flexibility of management. In the absence or high workload of specialists, the authorities can use the resources of third-party companies that specialize in the execution of certain administrative processes, functions, tasks and are outsourced.

Despite of the difficulties and volatility of the political and economic situation in the world, a significant percentage of successful IT companies appeared in the late 1990s (Griffild & Figgs, 1997; Jae-Nam Le et al., 2003). Currently, the industry is less state regulated and characterized by a minimal monopolists' intervention level. Probably this is what contributed to such a rapid development of the IT sphere. However, perhaps the industry has become successful due to the natural evolution and realization of people potential.

Global popularity of outsourcing could be explain by as a combination different factors (Outsourcing as a Global Trend, 2018; Outsourcing Trends, 2019; ITO, 2019; JCommerce, 2020). Firstly, the amount of work companies increases daily, so they often use own staff, which need more experience. In addition, the cloud technologies more stimulate organizations, including in the public sector, more to give up of handling their data and sent them to outsourcing. In this case, investing in public cloud infrastructure (IaaS) and software (SaaS) as services is more profitable both economically and organizational.

This is notable in IT infrastructure outsourcing specially in non-core activity, in the public sector, when IT is becoming important to service delivery. Considering that IT as a complex and specific sphere (Weinert and Meyer 2005) and it affects all activities within an organization this makes IT outsourcing unique in comparison with another outsourcing activities and one of the most important branches of outsourcing.

## **1 Statement of a problem**

Analysis of outsourcing practice and trends (Duhamel F. et al., 2017 ) shows that outsourcing is an effective strategic tool and can aside from reducing the costs for performing non-core functions (Accenture, 2011), but also, more importantly, increase the efficiency of the organization. More and more government agencies are using outsourcing to increase efficiency and value with the purpose to gain access to expert knowledge rather than with a purpose to reduce costs.

However, the world has not yet formed a unified strategy for the development of IT outsourcing in the public sector (IT Outsourcing Strategies, 2020), there are only scattered examples in the field of outsourcing of IT infrastructure. A separate place among the publications is occupied by the study of Gatman (Vilvovsky) (Vilvovsky, 2008; Gatman, 2011), in which explicitly address IT outsourcing in the government as a separate research field, which to overlap of three big research fields - Information Systems (IS), Management and Public Administration.

At the same time (Rigotto L. et al, 2019), the part of publications on outsourcing public services and government processes to outsourcers often view outsourcing as just another services, which can be consider the same way as rent car, for example.

The question of what kinds of government functions and processes should be outsourced depends on one's theoretical perspective on main areas of outsourcing use in public authorities.

## **2 Methods**

The design of this study is based a comparative research approach with use a statistical data (IT Outsourcing Statistics, 2019/2020); consulting firms reports (A.T. Kearney, 2019; Tech Ecosystem Guide 2019 and other), and experts' reviews (GovCentres, 2016; DAXX, 2019, and others) that are in the public domain. This research methodology has advantages, such as the analysis comparative, which relies on an experience, scientific researches results, professionals' constructivist position about the IT Outsourcing trends and use ITO in the Public sector.

The authors used content analysis methodology, statistics, research results, and IT outsourcing experience in some countries and companies to identify IT outsourcing trends and management strategies related to public sector research and practice.



In this research, an extensive search performed using open online and Libraries resources ACM Digital Library, Elsevier Science Direct, Research Gate, OBCE, EU Commission and other. We found and formed sources base according main objective and tasks our article. And the next, we actualized research base, added new data and compared IT outsourcing new trends and government policy in this field. The authors took into account new trends in the development of IT outsourcing in the process of developing a pyramidal model and summing outcomes.

### **3 Problem solving**

#### **3.1 Structure of outsourcing solutions in the Public sector**

There are two main areas of outsourcing usage in public authorities: improving the quality of functions and reducing the costs of performing functions:

1. The "function performance enhancement" direction uses outsourcing as a tool to achieve strategic goals, influenced by budget constraints. For example, United Kingdom (GovCentres, 2016), Canada (Au A. & Hale V., 2019; Hodgett S.& Gross V., 2017; Baldwin J.R. and Gu W., 2008), Australia (White Paper, 2019; ICLG, Canada, 2020; Correnti M.) and United States (ICLG, USA, 2020; Steinberg J. et al., 2018) have proven effective in tackling complex infrastructure and business process outsourcing projects.

2. The second direction "cost-cutting and productivity growth" focus on technology infrastructure and outsourcing business applications as a means of reducing costs.

Experience shows (Olsen K.B., 2006; Fixler D., 1999; Windrum, 2009) that, on average, governmental bodies and organizations oriented on outsourced for "function performance enhancement" have been more successful in achieving their goals than those who expected a significant reduction in the cost of performing their functions, although in half of these criteria also testified to the success of outsourcing initiatives.

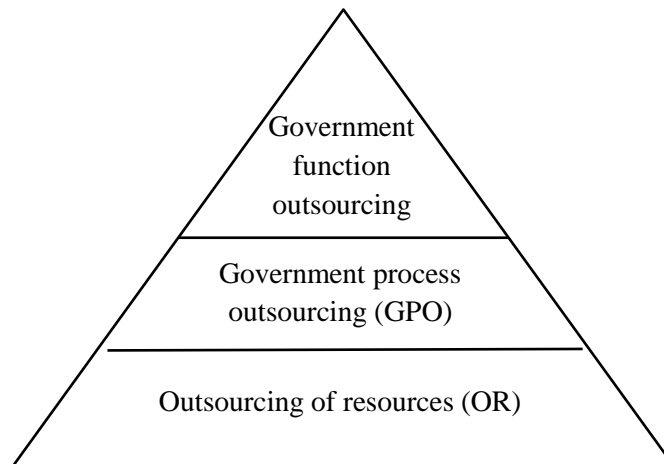
The answer to the question about the place of this type of outsourcing in the system of outsourcing practices used by the authorities will help to give a "Pyramidal structure of outsourcing solutions" which represents all possible types of interaction between the state and external suppliers in the implementation of the functions of public authorities (Fig. 1 )

At the top of this pyramid are the functions of the authorities and their subordinate organizations, which cannot perform them effectively.

The two lower stages of the pyramid of outsourcing solutions include government process outsourcing and outsourcing of resources. Authorities have traditionally used these types of outsourcing in different variants.

Government Process Outsourcing (GPO) differs from the top level of the pyramid in that the subject of this outsourcing may not be a function entirely, but may be a set of administrative processes that performed during the implementation of this function. GPO differs from the lower levels of the pyramid in that the subject of outsourcing is processes closely linked to the exercise of state authority, and the chain of processes transmitted not only for administration but also for management.

**Fig. 1: Pyramidal structure of outsourcing solutions in the Public sector**



*Source: authors*

Outsourcing of resources (OR) is the next stage in the IT outsourcing solutions and it has been used in the world for a very long time and widely. Most often, authorities outsource human resources using the services of large HR companies. Outsourcing of office and other premises is also common. The most up-to-date manifestation of resource outsourcing is the outsourcing of IT infrastructure elements

### **3.2 IT outsourcing pyramid in the public sector**

World practice indicates that IT outsourcing carried out in the following main directions, presented in the form of an “outsourcing pyramid”:

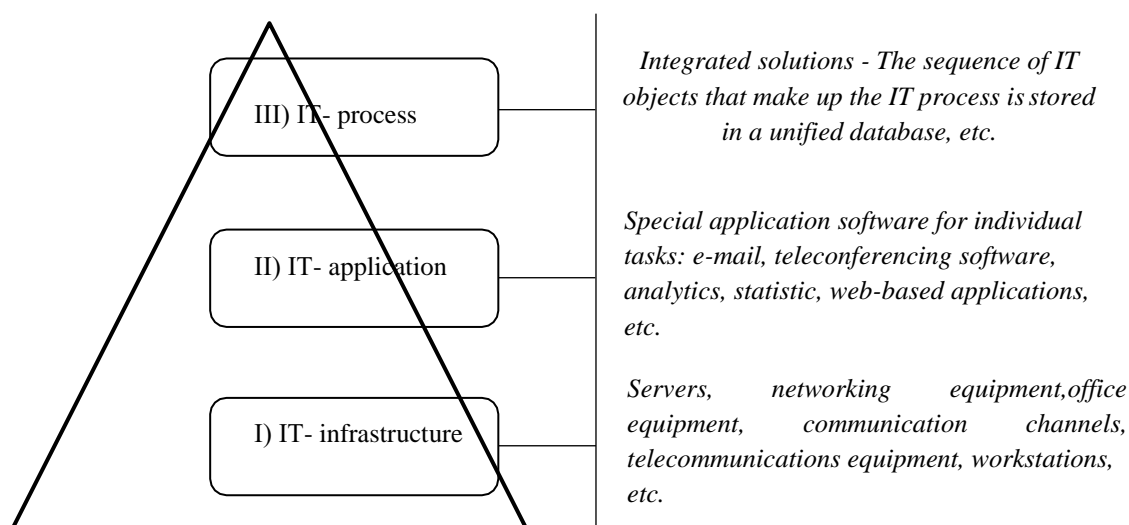
1. IT Infrastructure Outsourcing (ITIO).
2. IT applications outsourcing (ITAO).
3. IT processes outsourcing (ITPO).

I. The main components of information technology infrastructure (IT infrastructure) of government authorities are at the lower level of this “pyramid” are: computer, telecommunication, technological equipment and software (Fig. 2).

IT Infrastructure Outsourcing helps in the overall transformation of the IT service delivery system and oriented on decline cost and raising performances, thus improving IT spend management and streamlining IT processes. Infrastructure Outsourcing increases flexibility, ITO work takes away the stress of finding new employees.

The IT Infrastructure model is the chief framework that reflects activity the organization using IT infrastructure with innovation technologies, such as Software-as-a-service (SaaS), Grid Computing, Platform-as-a-Service (PaaS), Grid Computing, Platform-as-a-Service (PaaS), Cloud Computing, Data Security, etc.

**Fig. 2: IT Outsourcing Pyramid in the Public sector**



Source: authors

This infrastructure (Zenlayer blog, 2018) gives rapid deployment which help to adapt and evolve, changes its IT strategy because organization current resources is unlikely able to handle the bandwidth.

Moreover, this Infrastructure that scales on demand with development and customized solutions that flexes for public sector unique demands and budget, gives instantly optimize that gives upgrading in-house hardware which is cumbersome for public sector. Moreover IT Infrastructure gives full processes control without having to physically manage servers and other equipment (Outsourcing IaaS ), connect all systems together into one cohesive network and the best performance all infrastructure components and their work together seamlessly in the public sector (Smart Communication).

If the equipment or system software, that is supposed to be outsourced, directly affects the performance of other elements of IT infrastructure, it is necessary drawn up a list of related equipment or system software for these elements.

II. The middle level is represented by specialized and applied software the so-called IT applications that provide the possibility of collective work of users within the framework of the provided functionality (e-mail, document management, reference information, etc.).

The main processes that outsourced at this level can be divided into two main directions as follows:

- Development and implementation of new IT applications: a) solutions based on replicated IT applications; b) “Ready-made” IT applications and ERP systems; c) unique IT applications or solutions based on ready-made components designed for a specific subject area;
- Supporting the availability of IT applications existing in government authorities: a) personal programs or software packages like MS Office, educational software, etc.; b) applications for user collaboration, communication and interaction; d) components of ERP-systems; e) analytical applications; a) electronic document management systems; g) call centers, Service Desk or Help Desk; h) web applications (portals of government authorities, websites), etc.

III. When deciding whether to outsource any IT management processes of the public sector that belong to one of the levels of the “Pyramid of Outsourcing Solutions”, it is also important to consider the level of maturity of IT infrastructure of the public sector.

The following main processes can be outsourced:

- Maintenance and monitoring of the status of server and active network equipment, peripherals as well as copying equipment;
- Network administration as well as administration of network operating and mail systems;
- Providing backup and data recovery;
- Ensuring information security, including antivirus protection;
- Maintenance and administration of telephony, telecommunications equipment and communication channels.

Next, it is necessary to take inventory and formalize the current characteristics of the selected elements of IT infrastructure in terms of structuring such information:

- Hardware or software configuration (exact specifications);
- Key dates for ordering, delivery, installation;
- Exact location of the elements of IT infrastructure;
- Periods of highest and lowest load;
- Degree of dependence of the main processes on the operability of equipment or software during periods with different loads;
- Assessment of quality losses upon performance of basic functions of administrative regulations of government authorities in the event of disability of equipment or system software during periods with different loads, etc.

So, in order to transfer processes located at the upper levels (IT process) of the “Pyramid”, government bodies and organization shall have formalized information about existing information technologies of a basic level (components of IT infrastructure).

#### **4 Why Public authorities should use IT infrastructure outsourcing?**

Literature review and other practice confirms that success of organization activity depends on a properly organized IT infrastructure, as well as its quality support in working condition. Information systems become more complicated over time, perform more functions that are new, increase the hardware and software component. In this situation, more and more organizations and government body are transferring support for their IT infrastructure to an IT outsourcing company.

IT-infrastructure outsourcing (Accenture, 2011), for example, can include the next services:

- Service desk outsourcing. Main task - reduce technical risk and decline personnel costs to 50 percent through multi-site support and self-service capabilities;
- Workplace outsourcing. Provides more secure and stable environment; reduces total cost of IT equipment and infrastructure ownership up to 40 percent;
- Data center outsourcing. Reduces complexity and data center operating costs to 25 percent;
- Network outsourcing - establishes more secure and robust network infrastructure, reduce network-operating costs to 20 percent;
- Managed Security Operations - identity tools, end-user equipment protection intrusion and information security;
- Cross-functional Service. A business-led, service-oriented approach to IT management that enable the platform to react on demand to requests.

Despite of the problems of IT implementation in the government sector we can see that there are a number of advantages when using IT outsourcing, such as those stipulated below;

- Transfer of information system support functions to an external executor reduces the cost of maintaining of own staff of IT-specialists and saves budgetary funds that can make significant savings nationwide;

- Transfer of work to IT outsourcing allows creating and maintaining large-scale distributed IT systems. In this case, the outsourcing company not only creates such a system in full, but also provides support for its further functioning, including provision of training and consulting services for government employees who work with this IT system;
- Outsourcing of IT systems and resources maintenance allows you to completely switch to monitoring the quality of services and planning the development of IT support as a whole. In this option, the outsourcing organization provides the customer with a ready-made solution and agrees on the forms of servicing, setting a fee for the services provided. This is convenient for government sector as the contractor is responsible for all works to be done;
- Overcoming the government agencies incoherence. A number of services in terms of information infrastructure assigned to a separate service, uniform for all agencies within the system of government authorities.

However, despite the trend in world practice of using individual components of IT outsourcing in the government sector, this model has not yet become widespread in the developing countries. Moreover, the analysis of data from various studies confirms that market participants have already taken the first step towards discussing the possibility of implementing an outsourcing strategy for the development of IT component in the government sector.

## Conclusion

The contribution of this article lies in advancing understanding of IT outsourcing solutions as a tool of public governance. Additionally, this study augments our knowledge that:

- Public sectors are not profit-oriented, and transparency, quality of services is considered as central issue.
- IT outsourcing is rapidly developing in the public sector, and will continue to increase its potential.
- IT outsourcing will give the public sector access to specialized talent and save time, effort and resources that can be channel into social projects and sustainable development.
- As a many other causes cost factor have major influence in IT outsourcing solutions.
- Government functions, processes and outsourcing of resources represent in unity the structure outsourcing solutions in the public sector.
- ITO pyramid can be define as a set of decision consists of IT processes, IT application and IT infrastructure, which has significant effect in public sector activity.
- Organizations that successfully implemented ITO can benefit from a reduce cost from IT including increased performance of management such as improving the quality of services and reducing their cost.

## References

- Accenture (2011). Infrastructure Outsourcing Solutions. Available at: <https://www.accenture.com/us-en/service-it-infrastructure-outsourcing> [Accessed 29.09. 2020]
- Almutairi Moneef and Riddle Stephen (2018), 'Managing Outsourced IT Projects' Security Risks: A Case Study', ICIME 2018: Proceedings of the 2018 10th International Conference on Information Management and Engineering September 2018, Pages 21-26 <https://doi.org/10.1145/3285957.3285986>
- Au A. & Hale V. (2019) Outsourcing in Canada. Available at: <https://www.lexology.com/library/detail.aspx?g=0bf24964-afdd-4dd2-a48b-da1d063408c3>. [Accessed 29.09.2020]
- Baldwin J. R. & Gu W. (2008) Outsourcing and Offshoring in Canada. Available at: <https://www150.statcan.gc.ca/n1/en/pub/11f0027m/11f0027m2008055-eng.pdf?st=8A80jGpe> [Accessed 29.09.2020]

- Brown A. & Swersky A. (2013) Smarter Outsourcing in the Public Sector. Available at: <https://www.bcg.com/publications/2013/procurement-smarter-outsourcing-public-sector> [Accessed 29.09.2020]
- Cox Michael B., Roberts Martyn & Walton John (2011). IT outsourcing in the public sector: experiences from local government. Available at: <https://www.semanticscholar.org/paper/IT-outsourcing-in-the-public-sector%3A-experiences-Cox-Roberts/bb09bec1b73a6e05fbd3759f342a2597d9d31c33> [Accessed 29.09.2020]
- DAXX (2019). 'IT Outsourcing Trends in 2020: Emerging Outsourcing Destinations for Small Businesses'. Available at: <https://www.daxx.com/blog/development-trends/it-outsourcing-trends-2020>, [Accessed 25.09.2020]
- DiRomauldo A., Gurbaxani V. (1998), 'Strategic Intent for IT'. Available at: [https://pdfs.semanticscholar.org/bc97/f9a91f9622390c04cf28459752369d3682af.pdf?\\_ga=2.255456392.1071072484.1584104474-1662179603.1584104474](https://pdfs.semanticscholar.org/bc97/f9a91f9622390c04cf28459752369d3682af.pdf?_ga=2.255456392.1071072484.1584104474-1662179603.1584104474) [Accessed 29.09.2020]
- Dibbern Jens, Goles Tim, Hirschheim Rudy, Jayatilaka Bandula 'Information Systems Outsourcing: A Survey and Analysis of the Literature', *The DATA BASE for Advances in Information Systems – 2004*, Vol. 35, No. 4. pp 97 <https://doi.org/10.1145/1035233.1035236> [Accessed 29.09.2020]
- Duhamel F.; Gutierrez-Martinez I.; Picazo-Vela S.; Luna-Reyes L.F. IT outsourcing in the public sector: A conceptual model.(2014) *Transforming Government: People, Process and Policy: Volume 8 Issue 1*. DOI: 10.1108/TG-05-2013-0012 <https://www.scopus.com/record/display.uri?eid=2-s2.0-84893457577&doi=10.1108%2fTG-05-2013-0012&origin=inward&txGid=b59a01acd09d9d48281da2b7e3e95676>
- Duhamel F., Gutiérrez-Martínez I., Macias-Figueroa J.E., Luna-Reyes L.F., Picazo-Vela S. 'Best Practices in the Management of IT Outsourcing in the Public Sector' (2017). [https://www.researchgate.net/publication/317270105\\_Best\\_Practices\\_in\\_the\\_Management\\_of\\_IT\\_Out\\_sourcing\\_in\\_the\\_Public\\_Sector](https://www.researchgate.net/publication/317270105_Best_Practices_in_the_Management_of_IT_Out_sourcing_in_the_Public_Sector). DOI: 10.1145/3085228.3085268 [Accessed 29.09.2020]
- Duhamel F., Gutiérrez-Martínez I., Picazo-Vela S., Luna-Reyes L.F. An integrated model of success in IT outsourcing relationships: Implications for the public sector. Available at: [https://www.researchgate.net/publication/297364636\\_An\\_integrated\\_model\\_of\\_success\\_in\\_IT\\_outsourcing\\_relationships\\_Implications\\_for\\_the\\_public\\_sector](https://www.researchgate.net/publication/297364636_An_integrated_model_of_success_in_IT_outsourcing_relationships_Implications_for_the_public_sector). DOI: 10.4018/978-1-4666-4860-9.ch009.
- Flemming R., Low G. (2007) Information Systems Outsourcing Relationship Model. *Australasian Journal of Information Systems* 14(2). DOI: 10.3127/ajis.v14i2.472. Available at: [https://www.researchgate.net/publication/30062903\\_Information\\_Systems\\_Outsourcing\\_Relationship\\_Model](https://www.researchgate.net/publication/30062903_Information_Systems_Outsourcing_Relationship_Model)
- Gantman Sonia (2011). IT Outsourcing in the Public Sector: A Literature Analysis, *Journal of Global Information Technology Management*, 14(2), pp. 48-83, April 2011, DOI: 10.1080/1097198X.2011.10856537 [Accessed 29.09.2020]
- GovCentres (2016). Government Outsourcing Strongest Quarter Since 2016, Available at: <https://contact-centres.com/government-outsourcing-records-strongest-quarter-since-2016/>, (Accessed 29.09.2020)
- Griffild & Figgs (1997). Gareth Griffith and Honor Figgis. Outsourcing and the Public Sector. Available at: <https://www.parliament.nsw.gov.au/researchpapers/Documents/outsourcing-and-the-public-sector/22-97.pdf> [Accessed 14.09.2020]
- Hodgett S.& Gross V. (2017). The International Comparative Legal Guide to: Outsourcing 2017. Canada. Available at: <https://www.osler.com/osler/media/Osler/reports/outsourcing/Outsourcing-in-Canada-Legal-Guide-2017.pdf>
- Hlova Marta (2018). The top 7 IT outsourcing trends that will rule in 2019. Available at: <https://www.nix.com/top-7-it-outsourcing-trends-2019> [Accessed 19.05.2020]

- Noor Habibah Arshad, Azlinah Hj Mohamed. Conceptual framework on risk management in IT outsourcing projects. May 2008 WSEAS Transactions on Information Science and Applications 5(4):816-831. Available at: [https://www.researchgate.net/publication/234799516\\_Conceptual\\_framework\\_on\\_risk\\_management\\_in\\_IT\\_outsourcing\\_projects](https://www.researchgate.net/publication/234799516_Conceptual_framework_on_risk_management_in_IT_outsourcing_projects) [Accessed 29.09.2020]
- ICLG (2020). Australia: Outsourcing Laws and Regulation 2020. Available at: <https://iclg.com/practice-areas/outsourcing-laws-and-regulations/australia> [Accessed 29.09.2020]
- ICLG (2020). USA: Outsourcing Laws and Regulation 2020. Available at: <https://iclg.com/practice-areas/outsourcing-laws-and-regulations/usa> [Accessed 29.09.2020]
- IT outsourcing in the public sector (2004). Available at: [https://www.cms-lawnow.com/ealerts/2004/02/it-outsourcing-in-the-public-sector?cc\\_lang=en](https://www.cms-lawnow.com/ealerts/2004/02/it-outsourcing-in-the-public-sector?cc_lang=en) [Accessed 29.09.2020]
- IT Outsourcing Statistics (2019/2020). Outsourcing Trends and Cost/Service Experiences for 11 Key IT Functions. Available at: <https://www.computereconomics.com/page.cfm?name=Outsourcing> [Accessed 29.09.2020]
- IT Outsourcing Strategies: Types, Their Pros, and Cons (2020). Intellectsoft blog. Available at: <https://www.intellectsoft.net/blog/best-it-outsourcing-strategies-pros-and-cons/> [Accessed 29.09.2020]
- ITO (2019) / IT Outsourcing Trends for 2019. Available at: [https://jelvix.com/blog/it-outsourcing-trends-2019?source=post\\_page](https://jelvix.com/blog/it-outsourcing-trends-2019?source=post_page) [Accessed 29.09.2020]
- IT Services Outsourcing Market, 2019. Available at: <https://www.prnewswire.com/news-releases/it-services-outsourcing-market-to-reach-531-billion-by-2022-says-beroe-inc-300911295.html> [Accessed 29.09.2020]
- Jae-Nam Lee, Minh Q. Huynh, Ron Chi-Wai Kwok, and Shih-Ming Pi, IT outsourcing evolution- Past, present, and future, May 2003, Communications of the ACM, May 2003, Vol. 46, No.5 <https://doi.org/10.1145/769800.769807> [Accessed 29.09.2020]
- JCommerce (2020). Main trends in IT outsourcing in 2020. Available at: <https://www.nearshore-it.eu/jcommerce-expert-knowledge/main-trends-in-it-outsourcing-in-2020/> [Accessed 29.09.2020]
- Kearney Global Services Location Index, (GSLI), 2019, Digital resonance: the new factor influencing location attractiveness. Available at: <https://www.kearney.com/digital-transformation/gсли/2019-full-report> [Accessed 29.09.2020]
- Keytotech (2019). The future of IT outsourcing: Top trends in 2020, Available at: <https://keytotech.com/2019/12/23/top-trends-it-outsourcing-2020> [Accessed 19.06.2020]
- Li Fan, Luis F. Luna-Reyes 'Theoretical Foundations to Information Technology Outsourcing Research in the Public Sector'. Proceedings of the 17th International Digital Government Research Conference on Digital Government Research, June 2016 Pages 136–145 <https://doi.org/10.1145/2912160.2912182> [Accessed 29.09.2020]
- Marco-Simó Josep M.& Pastor-Collado Joan A. (2019). IT Outsourcing in the Public Sector: A Descriptive Framework from a Literature Review, Journal of Global Information Technology Management. Pages 25-52. Published online: 14 Dec 2019 <https://doi.org/10.1080/1097198X.2019.1701357> [Accessed 29.09.2020]
- Moore A., Segal G. and McCormally J. Infrastructure Outsourcing (2000). Available at: <https://reason.org/policy-study/infrastructure-outsourcing/> [Accessed 29.09.2020]
- Olsen K.B.(2006). Productivity Impacts of Offshoring and Outsourcing: A Review. OECD. Available at: <http://www.oecd.org/sti/ind/36231337.pdf>
- Outsourcing as a Global Trend (2018). Excerpts from "IT Outsourcing Statistics 2017-2018" Report. Available at: <https://logicify.com/en/blog/outsourcing-as-a-global-trend-excerpts-from-it-outsourcing-statistics-2017-2018> [Accessed 29.09.2020]

- Outsourcing Trends In 2019. Available at: <https://www.outsourcinginsight.com/outsourcing-trends> [Accessed 29.09.2020]
- Pena S. IT outsourcing governance: a conceptual framework for theory and practice. Available at: [https://digitalcommons.lsu.edu/cgi/viewcontent.cgi?article=3054&context=gradschool\\_dissertations](https://digitalcommons.lsu.edu/cgi/viewcontent.cgi?article=3054&context=gradschool_dissertations)
- Pessoa A. Outsourcing And Public Sector Efficiency: How Effective Is Outsourcing In Dealing With Impure Public Goods? Available at: [https://www.researchgate.net/publication/46448522\\_Outsourcing\\_And\\_Public\\_Sector\\_Efficiency\\_How\\_Effective\\_Is\\_Outsourcing\\_In\\_Dealing\\_With\\_Impure\\_Public\\_Goods](https://www.researchgate.net/publication/46448522_Outsourcing_And_Public_Sector_Efficiency_How_Effective_Is_Outsourcing_In_Dealing_With_Impure_Public_Goods) [Accessed 29.09.2020]
- Préfontaine L., Line Ricard, Hélène Sicotte, Danielle Turcotte, Sharon S. Dawes (2000) New Models of Collaboration for Public Service Delivery. Available at: [https://www.researchgate.net/publication/237436935\\_New\\_Models\\_of\\_Collaboration\\_for\\_Public\\_Service\\_Deliver](https://www.researchgate.net/publication/237436935_New_Models_of_Collaboration_for_Public_Service_Deliver) [Accessed 29.09.2020]
- Shark Alan R (2019). Ten Reasons Why Local Governments Should Outsource All IT Operations. Available at: <https://www.comptia.org/blog/ten-reasons-why-local-governments-should-outsource-all-it-operations>. [Accessed 29.09.2020]
- Sethi Arjun, Gott Johan & Suman Vidisha (2019). ‘Digital resonance: the new factor influencing location attractiveness’. Available at: <https://www. Kearney.com/digital-transformation/gсли/2019-full-report> [Accessed 29.09.2020]
- Steinberg J., Benson J.M., Cook F.F. et al. (2018) Outsourcing in the USA. Available at: <https://www.lexology.com/library/detail.aspx?g=b64643cc-429d-4794-a7dc-a07a8720cebe> [Accessed 29.09.2020]
- Sterba C., Grechenig T., Pazderka M. (2008). Outsourcing as a strategy for IT harmonization: a public sector case study proposing an approach in independent stakeholder scenarios, ICEGOV '08: Proceedings of the 2nd international conference on Theory and practice of electronic governance, December 2008, pp 245–250 <https://doi.org/10.1145/1509096.1509146> [Accessed 29.09.2020]
- Fixler D. (1999). Outsourcing and Productivity Growth in Services. Available at: [https://www.researchgate.net/publication/222026413\\_Outsourcing\\_and\\_Productivity\\_Growth\\_in\\_Services](https://www.researchgate.net/publication/222026413_Outsourcing_and_Productivity_Growth_in_Services). [Accessed 29.09.2020]
- Vilvovsky (Gatman) Sonia (2008), ‘Differences between public and private IT outsourcing: common themes in the literature’, Proceedings of the 2008 international conference on Digital government research, pp 337-346. Available at: [https://www.researchgate.net/publication/221585221\\_Differences\\_between\\_public\\_and\\_private\\_IT\\_outsourcing\\_common\\_themes\\_in\\_the\\_literature](https://www.researchgate.net/publication/221585221_Differences_between_public_and_private_IT_outsourcing_common_themes_in_the_literature) [Accessed 29.09.2020]
- Weinert S. & Meyer K. (2005). ‘The Evolution of IT Outsourcing: From its Origins to Current and Future Trends’. Available at: <https://www.semanticscholar.org/paper/The-Evolution-of-IT-Outsourcing%3A-From-its-Origins-Weinert-Meyer/d6e056d852a8c16a5211863135e4e7e0317c94a5> Accessed 29.09.2020]
- White Paper (2019) The positive impact of outsourcing within Australia. Available at: <https://www.haccounting.com.au/articles-resources/blog/white-paper-the-positive-impact-of-outsourcing-within-australia/>
- Windrum P., Reinstaller A. & Bull C. (2009). The outsourcing productivity paradox: total outsourcing, organisational innovation, and long run productivity growth. Available at: <https://link.springer.com/article/10.1007/s00191-008-0122-8>. [Accessed 29.09.2020]



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# CHANGES IN ECONOMIC STRUCTURE AND THEIR IMPACT ON SOCIOECONOMIC DEVELOPMENT OF RURAL REGIONS

**Ján Machyniak, Beáta Adamkovičová, Dušan Gut'an**

**Abstract:** *There are a large number of indicators used to evaluate economic and social development of regions. The objective of the paper is to identify and assess changes in the economic structure in rural regions of the Trenčín Region and their impact on socioeconomic development. We have analyzed the changes in economic structure of the rural regions in the Trenčín Region through the indicators of sectoral employment development and the development of number of businesses. Our analysis was focused on the period of five years, from 2014 to 2018. We present the impact of the changes on the economic structure and the business base of the Trenčín Region through four basic indicators characterizing the economic and social development – the number of the unemployed, the unemployment rate, the average monthly salary, and GDP in total and per capita. To process the information database and evaluate the changes in economic development of the rural regions, we have applied a method of developmental trends over time that we have used for assessing development of the set indicators and which allowed us to determine the changes occurring in the region during the period considered.*

**Keywords:** *Countryside, Rural regions, Economic development, Social development*

**JEL Classification:** *P25, R58*

## Introduction

Slovakia had been a typically agricultural country for centuries (Pazúr and Bolliger, 2017; Kanianska, Kizeková, Nováček, et al., 2014). The differentiated development of its territory has its historical basis. Despite the fact that during the period of socialism the standard of living was growing and there was an attempt on reducing disparities between the urban and rural regions, the differentiated regional development has remained to this day. Slovak countryside started to change more notably in the late 1990s. Due to the influence of the processes of transformation and globalization, the problems related to the economic and social development of rural regions have deepened even further (Cívik, Meluš, 2019). Until then, agricultural production was one of the dominant sectors of the rural areas. Its main goal was to ensure the self-sufficiency in food production. Up to 1991, the rural economic and social development had been based on three pillars: the possibility of employment in industrial plants and services outside villages in cities and daily commute to work, the possibility of employment in industrial facilities within the agricultural enterprises (ancillary production), and the employment in the primary production of the agricultural enterprises. All three pillars of rural economy collapsed during the period of transformation (Radičová, 1993). The privatisation process and the search for a place on the market for goods and services caused a subdued labour supply even in the cities. The opportunities of rural population to find employment in the cities were lower during the transformation, as well as later on. Later, small and medium-sized enterprises started to locate themselves in rural settlements, mostly those near cities. Establishing industrial parks in the rural regions has actively solved the employability process. Agricultural production thus no longer fulfils the main role in the regional development; it has steadily been reduced and diversified. New businesses have gradually been entering rural areas and new commercial and

business zones, production and storage sites, and residential satellites have been formed here (Adamkovičová, Guťan, 2019).

According to Woods (2011), the modernization of current rural areas has been influenced by four interconnected basic processes: *modernisation of agriculture* – transition from subsistence farming to commercial agriculture through the implementation of modern mechanization processes, application of agrochemicals and biotechnology, and specialization of the agro-food industry; *economic modernization* – diversification of rural economies, formerly dependent on traditional sectors, towards the modern sectors; *infrastructural modernization* – represents the electrification, gas supply, telecommunication networks, construction and repair of road and railway networks, etc.; *social infrastructure* – support of traditional folk culture, education, and promotion of practices of good citizenship and civil society (Lancee, Van de Werhorfst, 2020; Bonfiglio, Camiaoni, Coderoni et al., 2017; Waldman Levin, 2013). In the last twenty years, countryside has become an active rural type of livings, business activities, and tourism. Just as the society has been undergoing major changes since 1990, changes have also occurred in individual spatial and settlement types. The most notable changes have taken place on a local and regional level, thus improving living conditions of rural residents (Gajdoš, 2015; Jencova, Litavcova, Kotulic, Vavrek, et al., 2015).

Regional economic development is influenced by several factors. The basic factors that have a direct impact on the economic and social development of regions include mainly: the concentration, size, and sectoral orientation of businesses, human potential, natural resources, the level of development of the technical, but also social, infrastructure, as well as the state economic policy and its regulatory instruments that constitute the major framework for economic development of both the whole country and its regions (Pike, Pose, Tomaney, 2017; Torre, Wallet, 2016; Buleca, Mura, Horváth, et al., 2014). However, the decisive impact on the economic and social development of regions comes from the businesses allocated in the settlements. The change in socioeconomic conditions in Slovakia has crucially affected the economic structure of the regions. Privatization has brought major changes in ownership relations (Mihálik, Horváth, Švikruha, 2019). The process of opening to the market has transformed the demand for goods and services. The aforementioned changes have significantly influenced spatial reallocation of capital in regions. The synergic consequence of these changes was the restructuring of the economic base in both the country and regions. Individual types of regions have, however, different localization factors that attract companies to the area. Rural regions have always had a comparative disadvantage in relation to the localization conditions for attracting businesses. The localization disadvantages of rural regions include mainly the low concentration of population associated with lower education attainment level and the resulting insufficient labour supply and a limited professional portfolio, especially for the needs of larger companies. Another significant localization disadvantage of rural regions is their inadequate technical infrastructure. Rural regions of transitional type are more attractive for the companies in both the area of labour supply and the development of technical infrastructure and, therefore, these regions are also more interesting for the localization of business. Urban regions provide the firms with the most advantageous localization factors not only through more concentrated and qualified labour force, but also through complex technical infrastructure and a higher concentration of companies, which they can build mutual input and output relations with and thus gain the agglomeration effects arising from urban environment. That is why they constitute a constant interest of spatial localization of firms (Adamkovičová, Králiková, 2016).

# 1 Statement of a Problem

## 1.1 Definition of Rural Area and Typology of Rural Regions

The topic of the development of countryside and rural areas is also one of the important priorities of the European Union (Geppert, Stephan, 2008). It is mostly connected to reduction of regional disparities in the current member states that were allowed to formulate their own definitions of rural areas based on the OECD definition and its modifications or based on own criteria (Klufová, 2015). Current typology of rural areas is based on the OECD definition, adopted by the Committee on Rural Development for the 2007-2013 programming period. It is based on two main hierarchical levels of territorial units, i.e. on the local level and on the regional level. On the local level of LAU2 (formerly NUTS V), a rural municipality is a municipality with population density of less 150 inhabitants per km<sup>2</sup>. Presently, there are 2933 municipalities in Slovakia, from which 140 municipalities have the statute of a city. The average population density on the territory of Slovakia is 110 inhabitants per km<sup>2</sup>. On the regional level, NUTS II distinguishes four basic territorial units according to their level of rurality, namely Bratislava Region, Western Slovakia, Central Slovakia, and Eastern Slovakia. Besides the Bratislava Region, the three remaining regions are of a rural character. The aforementioned typology is based on the percentage of population living in rural areas per total population.

The same indicator (the percentage of population living in rural areas per total population) is applied for the typology of regions on the level of NUTS III (8 regions):

- predominantly rural regions – the share of population of the region living in rural areas is higher than 50%,
- intermediate regions – the share of population living in rural areas is between 15 to 50%,
- predominantly urban regions – less than 15% of population live in rural areas.

The Slovak Republic on the level of NUTS III has two predominantly rural regions, namely the Banská Bystrica Region and the Nitra Region. The Trnava, Prešov, Žilina, Košice, and Trenčín regions are classified as intermediate regions. Only one region in Slovakia, the Bratislava Region, is considered predominantly urban, as less than 15% of its inhabitants live in rural areas.

On a local level of LAU 1 (NUTS IV), there are 79 districts in Slovakia. This typology is also based on the proportion of the whole population living in rural municipalities. Their classification is as follows:

- Predominantly rural regions – more than 50% of inhabitants live in rural municipalities.
- Significantly rural regions - 15-50% of inhabitants of the region live in rural municipalities.
- Predominantly urban regions – less than 15% of inhabitants live in rural municipalities.

From the overall number of 79 districts of Slovakia, 31 districts are predominantly rural and 39 districts are of the significantly rural type. Urban regions (districts) on the territory of Slovakia are situated in the Bratislava Region (districts Bratislava I to V) and in Košice Region (districts Košice I to IV) (Buchta, 2007; Statistical Office of the Slovak Republic).

## 2 Methods

To process the information database and evaluate changes in economic development of the rural regions, we have applied the method of development trends over time, which we have used to evaluate the development of the set indicators and which allowed us to assess the

changes that have occurred in the region over time, while excluding the influence of exogenous factors on the development of the particular sector. The object of our study was the territory of the Trenčín Region and its regions, specifically the predominantly rural regions and significantly rural regions. There are no urban regions in the Trenčín Region. We have based our definitions of individual types of rural regions on the urban-rural typology of rural areas currently in force in the Slovak Republic. We have set the years of 2014 – 2018 as a time series of our evaluation of the changes in economic structure and their impact on the economic and social development of rural regions in the Trenčín Region. The analysis of relevant data was based on statistical data from the Statistical Office of the Slovak Republic, represented by databases monitoring indicators of economic and socioeconomic development. (DATAcube, STATdat, Register of organizations, Register of spatial units (REGPJ) and Population and housing census).

### 3 Problem Solving

Changes in economic structure of the national economy, as well as the regional economy, can be analyzed through several indicators. We consider the contribution of an individual sector to GDP or to the value added to be the most accurate. However, these indicators cannot be used to evaluate changes in economic structure on a spatial unit smaller than a region (on districts or other specifically defined regions, e.g. rural regions), because they are not being statistically recorded. In the economic structure, changes can also be assessed on the basis of the development of the number of businesses, their size or entrepreneurial activities in individual sectors of national economy. These indicators, however, describe the changes in economic structure only secondarily. The indicator most frequently used to express the changes in economic structure is the number of people employed in a specific sector, because such statistical data are being collected even for the lower spatial units. These can be aggregated within the process of regionalization into various types of regions and are, furthermore, being monitored in a long-term time series.

For the needs of the analysis of economic structure of the Trenčín Region rural areas, we have defined individual types of regions according to their level of rurality. We have performed this regionalization on the basis of the indicator of the share of the population living in the rural areas in total population of the region. We provide the data on the Table 1.

**Tab. 1: Typology of regions of the Trenčín Region according to the rurality level**

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

Source: (Statistical Office of the Slovak Republic), own processing

In accordance to the stated methodology, we have divided the Trenčín Region into two types of rural regions, namely the predominantly rural regions and the significantly rural regions. Four regions have been classified as predominantly rural: Bánovce nad Bebravou, Nové Mesto nad Váhom, Partizánske, and Púchov. From these, the highest proportion of inhabitants living in rural municipalities is in the region of Púchov – 59.92%. The lowest proportion of the population living in rural areas is in the region of Bánovce nad Bebravou (50.25%). In the Trenčín Region, significantly rural regions prevail, comprising five districts: Ilava, Myjava, Považská Bystrica, Prievidza, and Trenčín. On the territory of the Trenčín Region, there are no regions of predominantly urban type with a 15% or lower share of population living in rural areas.

Within the sectoral classification of sectoral activities, we are analyzing the development of the average recorded number of employees in the sectors of agriculture, manufacturing, construction, trade, and other sectors marked as other services (numbers of employees in the public administration, financial and insurance services, and tourism facilities). In the Table 2, we present the average recorded number of employees in the stated sectors in individual regions of the Trenčín Region in the period from 2014 to 2018.

**Tab. 2: Development of sectoral employment in the Trenčín Region and its rural regions**

Region	Sector	Year						Difference 2018-2014
		2014		2016		2018		
		Number of employees	%	Number of employees	%	Number of employees	%	
Predominantly rural	Agriculture	2 318	5	2 282	4	1 771	3	-547
	Manufacturing	28 959	58	30 289	57	31 611	54	2 652
	Construction	629	1	933	2	913	2	284
	Trade	5 121	10	5 983	11	7 162	12	2 041
	Other sectors	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>
Significantly rural	Agriculture	1 428	2	1 432	2	1 484	1	56
	Manufacturing	38 482	42	40 537	41	45 324	43	6 842
	Construction	3 858	4	3 546	4	3 278	3	-580
	Trade	13 406	15	13 532	13	12 896	12	-510
	Other sectors	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>106 216</b>	<b>100</b>	<b>14 948</b>
Trenčín Region	Agriculture	3 746	3	3 714	2	3 255	2	-491
	Manufacturing	67 441	48	70 826	47	76 935	47	9 494
	Construction	4 487	3	4 479	3	4 191	3	-296
	Trade	18 527	13	19 515	13	20 058	12	1 531
	Other sectors	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>164 320</b>	<b>100</b>	<b>22 983</b>

Source: (Statistical Office of the Slovak Republic), own calculation

During the period considered, the number of people employed in the sector of agriculture in the predominantly rural regions of the Trenčín Region dropped significantly, namely by 547 people. The largest decline of employees in agriculture (-394) was noted in the region of Nové Mesto nad Váhom. The only predominantly rural region that experienced a marginal increment of 29 jobs was the region of Partizánske. Gradual decline of the average recorded number of employees in agriculture can also be observed in the significantly rural regions, although it is not as steep as in the predominantly rural regions. During the examined period of 2014 – 2018, an increase of 174 employees occurred in the region of Prievidza. This increase was caused by a decline of mining and creation of new positions in plant production. New businesses aimed at agriculture, e.g. production of tomatoes or oyster mushrooms, have been emerging. We can state that the predominantly rural regions experienced a decline in employees (-547) in the sector of agriculture. This decline was caused by an already existing trend of a continuous decrease in the number of workers of higher age groups and of lower education, who used to work in the sector of agriculture. In the significantly rural regions, despite the decline (besides the region of Prievidza), we have noted an increase (56) of people employed in this sector.

From the selected analysed sectors, the sector of manufacturing plays a major role in the economic development of the Trenčín Region. From the point of view of employment and generation of new jobs, the sector of manufacturing occupies an important and prominent position compared to the other sectors. During the analyzed period, the number of employees of this sector in the Trenčín Region grew by 9 494 in total. This trend mirrors the overall state in Slovakia. It is connected to the creation of new jobs in the sector of manufacturing in the automotive and electrotechnical industry. In the predominantly rural regions, an increase (2 652) in the number of people working in the sector of manufacturing had occurred in all regions besides the region of Púchov, which registered a decrease (-59). Although the region of Púchov is considered an industrial region, where companies such as Continental Matador Rubber s.r.o., Continental Matador Truck Tires s.r.o., Rona a.s., and Makyta a.s. are situated, this decrease was most likely caused by modernization and introduction of new technologies, and a downturn in production (Makyta a.s.). In the significantly rural regions, the number of employees of the manufacturing sector in the examined period from 2014 to 2018 grew by 6 842. The increase in the number of people employed in the sector of manufacturing was registered in all five regions. The highest growth in the number of employees occurred in the region of Trenčín (3 808) and in the Ilava region (1 676) and was caused by the localization of an industrial park and businesses with international involvement. We can state that, from the view of generating new jobs in the sector of manufacturing, the significantly rural regions predominate over the predominantly rural regions, with 4 190 less jobs generated in the latter.

The sector of construction did not bring an increase in the number of jobs in the region. During the analyzed period of 2014 – 2018, the decline of the employed in the Trenčín Region represented 296 jobs. The significantly rural regions showed a similar trend with a decline of 580 people employed in this sector. The predominantly rural regions experienced an increase (284) in the labour force supply in this sector during the analyzed period. The result may be affected by the fact that the Statistical Office's database of the number of people employed in individual sectors is based on businesses with more than 20 employees. The construction companies usually have fewer employees.

The sector of trade (retail, wholesale) is also one of the dynamizing sectors of economic development in the Trenčín Region. During the analyzed period, this sector provided 1 531 jobs in the Trenčín Region. In the predominantly rural regions, we can see an increase by 2 041 newly generated jobs, while the only region that registered a decline (-12) was the region of Bánovce nad Bebravou. A completely different situation occurred in the significantly rural regions, where employment in this sector fell by 510 jobs in total during the examined period.

A significant decline was registered in the regions of Prievidza (-656) and Trenčín (-616), which was likely caused by a sufficiently built infrastructure of trade networks in these regions in the prior period.

In accordance to our methodology, we have accumulated services in the areas of finance and insurance, tourism, and public administration in the category of other sectors. We can state that this sector was the most dynamically developing sector in the Trenčín Region during the examined years of 2014 – 2018. The number of employees in the Trenčín Region grew by 12 745; 9 140 of this in the significantly rural regions and 3 605 in the predominantly rural regions. The highest growth in the predominantly rural regions occurred in the region of Púchov (+1 328); the lowest increase of 743 newly generated jobs was recorded in the region of Nové Mesto nad Váhom. In the significantly rural regions, the most notable growth (+4 948) in the number of employees occurred in the region of Ilava.

The forming of spatial economic structure of regions is strongly influenced by localization decisions of businesses. Relations between a business and its sales markets and supply markets are especially important. Sectoral orientation and size of a business, usually measured by the number of employees, significantly influence economic structure of a region. Presence of larger companies and the downstream medium-sized and small enterprises is crucial for a region. They are a significant factor of providing employment in a region and meeting the demand of the region's inhabitants for goods and services. The economic structure of regions is influenced by the state and its political and legal system. We have analysed the businesses according to their classification as legal persons (LP) and natural persons (NP). The group of legal persons comprises mainly business companies (limited liability companies, joint-stock companies, limited partnership companies, and general commercial companies), other legal forms of business such as cooperatives, state enterprises, and interest associations of legal persons, and also European companies and European cooperative societies.

**Tab. 3: Development of the number of businesses in the regions of the Trenčín Region**

Region	Indicator	2014		2015		2016		2017		2018	
		NoB*	%	NoB	%	NoB	%	NoB	%	NoB	%
Predominantly rural	LP	5 575	29	5 969	31	4 753	27	5 188	29	5 852	33
	NP	13 877	71	13 557	69	13 003	73	12 572	71	11 991	67
	From this:										
	Self-employed persons	13 178	-	12 867	-	12 296	-	11 819	-	11 158	-
	LP	572	-	570	-	591	-	636	-	713	-
	SEF	127	-	120	-	116	-	117	-	120	-
	<b>Total</b>	<b>19 452</b>	<b>100</b>	<b>19 526</b>	<b>100</b>	<b>17 756</b>	<b>100</b>	<b>17 760</b>	<b>100</b>	<b>17 843</b>	<b>100</b>
Significantly rural	LP	14 286	31	15 128	33	12 177	29	14 443	33	14 172	34
	NP	31 727	69	30 681	67	29 545	71	28 781	67	27 419	66
	From this:										
	Self-employed persons	30 375	-	29 768	-	28 059	-	27 216	-	25 763	-
	LP	1 198	-	1 248	-	1 047	-	1 404	-	1 495	-
	SEF	154	-	147	-	132	-	162	-	161	-



	<b>Total</b>	<b>46 013</b>	<b>100</b>	<b>45 809</b>	<b>100</b>	<b>41 722</b>	<b>100</b>	<b>43 224</b>	<b>100</b>	<b>41 591</b>	<b>100</b>
<b>Trenčín Region</b>	LP	19 861	30	21 097	32	22 509	35	19 631	32	20 024	34
	NP	45 605	70	44 238	68	42 548	65	41 353	68	39 410	66
	From this:										
	Self-employed persons	43 553	-	42 635	-	40 355	-	39 035	-	36 921	-
	LP	1 770	-	1 818	-	1 638	-	2 040	-	2 208	-
	SEF	281	-	267	-	248	-	278	-	281	-
	<b>Total</b>	<b>65 466</b>	<b>100</b>	<b>65 335</b>	<b>100</b>	<b>65 057</b>	<b>100</b>	<b>60 984</b>	<b>100</b>	<b>59 434</b>	<b>100</b>

\*NoB - number of businesses *Source: (Statistical Office of the Slovak Republic), own processing*

In 2018, 59 434 businesses operated in the Trenčín Region, 66% of which were the self-employed persons. Compared to the year of 2014, the overall number of businesses declined, namely by 6 032. There was a notable decline in the number of the self-employed persons (- 6 632), which was probably caused by disadvantageous legislative amendments (social security contributions) by the government. We have noted a slight increase in the category of legal persons (+163). In both types of regions, an overall decrease in the number of businesses occurred in the examined period. As we have already mentioned above, this decrease occurred mainly in the category of self-employed persons. This decline was most likely a result of legislative measures set by the state and a pressure coming from larger companies that employ them. This is related mainly to the social security contributions. In the category of legal persons, the number of businesses grew in the predominantly rural regions (+277). In the significantly rural regions, it fell slightly, by 114 businesses. The analysis of the development of the number of businesses in the regions of the Trenčín Region shows that, within the examined period, the greatest contribution to the diversification of economic structure had been brought by the legal persons.

We present the impact of changes in economic structure and business base in the Trenčín Region through four basic indicators that characterize socioeconomic development, namely number of the unemployed, unemployment rate, average monthly salary, and GDP in EUR per capita. We see unemployment as a lost potential of economic development in the Region and also as a serious social problem that requires redistribution of an already produced added value.

The changes in economic structure and business activities had immediately manifested themselves in the number of the unemployed. As the changes were happening, the number of the unemployed was changing simultaneously. It is, however, necessary to mention that, up to 2018, the Trenčín Region had been recording one of the lowest unemployment rates in Slovakia. The development of the number of the unemployed is presented in the Table 4.

**Tab. 4: Development of the number of the unemployed in the rural regions of the Trenčín Region**

Region / Year	2014	2015	2016	2017	2018	Difference 2018-2014
Bánovce nad Bebravou	2 366	2 143	1 766	1 355	962	-1 404
Nové Mesto nad Váhom	3 064	2 772	2 385	1 838	1 150	-1 914
Partizánske	3 345	2 983	2 510	1 831	1 150	-2 195
Púchov	2 034	1 854	1 531	1 184	854	-1 180
<b>Predominantly rural</b>	<b>10 809</b>	<b>9 752</b>	<b>8 192</b>	<b>6 208</b>	<b>4 116</b>	<b>-6 693</b>
Ilava	2 996	2 700	2 165	1 758	1 036	-1 960
Myjava	2 152	1 143	946	696	465	-788
Považská Bystrica	4 042	3 770	3 027	2 400	1 635	-2 407
Prievidza	10 253	9 623	8 097	6 315	4 228	-6 025
Trenčín	5 227	4 779	3 873	2 871	1 720	-3 507
<b>Significantly rural</b>	<b>23 770</b>	<b>22 015</b>	<b>18 108</b>	<b>14 040</b>	<b>9 083</b>	<b>-14 687</b>
<b>Trenčín Region</b>	<b>34 579</b>	<b>31 767</b>	<b>26 300</b>	<b>20 248</b>	<b>13 199</b>	<b>-21 380</b>

Source: (Statistical Office of the Slovak Republic), own processing

In 2014, the overall number of the registered unemployed in the Trenčín Region was 34 579. This number had decreased significantly by 2018, namely by 21 380 newly generated jobs. The decrease was more evident in the significantly rural regions (-14 687). The greatest decrease in the number of the unemployed occurred in the region of Prievidza (-6 025). This region has been encountering a long-term decline in traditional sectors, especially the mining sector. Emergence of new sectors in the area of agricultural production and development of industrial parks has contributed to the diversification of economic structure in this region. In the predominantly rural regions, we have also recorded a decrease by 6 693 unemployed people. In the predominantly rural regions, this decrease was also caused by diversification of economic structure and emergence of new sectors, such as footwear industry, food industry, implants production, processing of medicinal plants, etc.

The absolute numbers of the unemployed in the regions of the Trenčín Region correlate with the unemployment rate of the country. These are listed in the Table 5. During the analyzed period of 2014 – 2018, the unemployment rate in the Trenčín Region decreased markedly by 7.21%. Currently, the lowest unemployment rate in the predominantly rural regions is in the region of Nové Mesto nad Váhom.

**Tab. 5: Unemployment rate in the rural regions of the Trenčín Region**

Region / Year	2014	2015	2016	2017	2018
Bánovce nad Bebravou	11,59	10,24	8,13	6,09	4,16
Nové Mesto nad Váhom	8,52	7,69	6,32	4,75	2,75
Partizánske	13,34	11,39	9,4	6,54	3,6
Púchov	8,2	7,15	5,69	4,43	2,9
<b>Predominantly rural</b>					
Ilava	9,07	7,92	6,18	4,87	2,55
Myjava	8,69	7,74	6,19	4,52	2,73
Považská Bystrica	11,53	10,53	8,07	6,42	4,05
Prievidza	13,9	12,47	10,35	8,13	5,14
Trenčín	8,79	7,82	6,22	4,46	2,45
<b>Significantly rural</b>					
<b>Trenčín Region</b>	<b>10,74</b>	<b>9,56</b>	<b>7,71</b>	<b>5,85</b>	<b>3,53</b>

Source: (Statistical Office of the Slovak Republic), own processing

This region is characteristic by the localization of companies with multinational involvement (Vertiv Slovakia a.s. – engineering production, Hella Slovakia Front Lighting s.r.o. – production of lighting components) and the industrial park Prologis Park Nové Mesto. In the significantly rural regions of the Trenčín Region, the lowest unemployment rate in 2018 was recorded in the region of Trenčín, the regional capital. The largest employers in this region are the companies Konštrukta Industry a.s., AU Optronics s.r.o., Považský cukor a.s., Vetropack Nemšová s.r.o., and Old Herold s.r.o. The nominal average monthly salary in the regions of Slovakia is influenced by various economic, demographic, and social elements. Its levels are spatially differentiated in individual regions of Slovakia and strongly affect the living standards of the population.

**Tab. 6: Average nominal monthly salary in the regions of the Trenčín Region in EURO**

Region / Year	2014	2015	2016	2017	2018	Difference 2018-2014
Bánovce nad Bebravou	738	785	816	875	955	217
Nové Mesto nad Váhom	856	909	944	974	1 034	178
Partizánske	716	775	821	858	917	201
Púchov	844	892	944	1 032	1 114	270
<b>Predominantly rural</b>	<b>789</b>	<b>840</b>	<b>881</b>	<b>935</b>	<b>1 005</b>	<b>216</b>
Ilava	810	872	893	945	1 008	198
Myjava	724	773	837	867	925	201
Považská Bystrica	770	841	888	915	996	226
Prievidza	814	848	890	915	993	179
Trenčín	836	906	935	986	1 077	241
<b>Significantly rural</b>	<b>791</b>	<b>848</b>	<b>889</b>	<b>926</b>	<b>1 000</b>	<b>209</b>

Source: (Statistical Office of the Slovak Republic), own processing

The increase in the nominal monthly salary in the examined period was more pronounced in the predominantly rural regions (+216 EUR). The most notable change in the growth of average nominal monthly salary was recorded in the region of Púchov (+270 EUR). In the significantly rural regions, the average nominal monthly salary grew at the highest rate in the region of Trenčín, namely by 241 EUR. Although the increase in the average nominal monthly wage in the significantly rural regions was more moderate compared to the predominantly rural regions, we can state that the figures of this indicator show a positive upward trend.

The overall economic performance of the businesses and their sectoral orientation is reflected in the rates of regional gross domestic product. While in 2014, the regional gross domestic product produced in the Trenčín Region represented 7 217 million EUR and a 9.5% share of the total GDP of the Slovak Republic, in 2018 the Trenčín region produced 7 678 million EUR, which is 461 million EUR more than the base year of 2014. Despite the aforementioned increase, The Trenčín Region's share of the total GDP of the country had declined to 8.7%, ranking fifth among the regions of the Slovak Republic.

**Tab. 7: GDP development in the Trenčín Region**

Region	Indicator/year	UM	2014	2015	2016	2017	2018
Trenčín Region	Total GDP	EUR mil	7 217	7 467	7 531	7 602	7 678
	GDP per capita	EUR	12 196	12 647	12 778	12 931	13 060
SR	Total GDP	EUR mil	76 088	79 138	81 226	84 851	88 244
	GDP per capita	EUR	14 042	14 595	14 957	15 602	16 226
Proportion	GDP TR/GDP SR	%	9,5	9,4	9,3	9	8,7

*Source: (Statistical Office of the Slovak Republic), own calculation*

The indicator of GDP per capita is a more accurate indicator of the level of economic development of a region. From this point of view, the Trenčín Region, with 13 060 EUR GDP per capita in 2018, joined those regions that do not reach the average level of GDP per capita of the Slovak Republic (16 226 – in 2018). The growth dynamics of this indicator have accentuated the fact that the differences in the regional GDP production per capita between the Trenčín Region and the Slovak average are growing. The Trenčín Region manifested its tendencies to lag behind in the economic development.

## 4 Discussion

A vast number of indicators are being used to evaluate the economic development of regions. With regard to the limited extent of the paper, we have analyzed changes in economic structure of rural regions of the Trenčín Region on the basis of the indicators of sectoral employment in the following sectors of the economy: manufacturing, agriculture, construction, trade, and other sectors. In the other sectors, we have accumulated employees of public administration, financial services, and facilities connected to tourism. The changes in economic structure have also been evaluated through the number of businesses localized in the region, as these are the bearers of change in the economic structure of a region. We have used their division into natural persons and legal persons and the further subdivision (self-employed persons, liberal professions (LP), and self-employed farmers (SEF)). The impact of changes in economic structure on the social and economic development has been evaluated through total regional GDP and GDP per capita. Because this indicator is not being statistically recorded for units smaller than a district, we have not been able to analyze the RGDP (Regional Gross Domestic Product) for individual types of rural regions. The impact of changes has also been

evaluated through the number of the unemployed, the unemployment rate, and the average monthly salary in the individual types of rural regions of the Trenčín region. Despite the fact that we were not able to obtain a sufficient amount of relevant information for the RGDP analysis, we consider as necessity to subject our findings to further observation in the following steps (also in the context of other regions of Slovakia). Only then will we be able to formulate relevant conclusions.

## Conclusion

Using the method of developmental trends over time, we have come to a conclusion that the economic structure of the Trenčín Region and its regions had changed throughout the period of the five analysed years. The most notable decrease in the generation of jobs has been registered in the sector of agriculture in the predominantly rural regions (-547). The greatest growth dynamics in the number of jobs was brought by other sectors and the manufacturing sector. Despite the increase in the number of businesses and the growth of GDP, its share of the total GDP of the Slovak Republic has been falling. This reflects the fact that the changes in sectoral structure are not being directed to sectors with a higher added value. It follows from the above that the change in economic structure has not brought the desired growth of the regional GDP. Positive development in the generation of jobs, decline in the unemployment rate, and growth of the nominal monthly salary has manifested itself mainly in the area of social development. Changes in directing capital to the sectors of the Trenčín Region and in the economic performance of the businesses have not brought such dynamics of the regional GDP that would help the Region come closer to the Slovak average. On the contrary, the gap between the Trenčín Region and the more advanced regions of Slovakia has been widening in the absolute value of GDP, as well as calculated per capita.

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## References

- Adamkovičová, B. and Guťan, D. (2019). The assessment of changes in the economic development of Trenčín region countryside. In: *Public Economics and Administration*. Ostrava: Vysoká škola baňská – Technická univerzita, pp. 11-17.
- Adamkovičová, B. and Králiková, K. (2016). *Transformácia slovenského vidieka na prelome 20. a 21. storočia (na príklade Trenčianskeho kraja)* Hodonín: Ústav práva a súdneho inžinýrství. p. 145.
- Bonfigio, A., Camiaoni, B. and Coderoni, S., et. al. (2017). Are rural regions prioritizing knowledge transfer and innovation? Evidence from Rural Development Policy expenditure across the EU space. In *Journal of Rural Studies*, 53, 78-87.
- Buchta, S. (2007). Možnosti a perspektívy riešenia vidieckej zamestnanosti. *Sociológia*, 39 (2), 119-135.
- Buleca, J., Mura, L., Hovráth, P. et al. (2014). Identification of Funding of Regional Governments Using Correlation Analysis. *Procedia Economics and Finance*, 2014 (15), 154-161.
- Cívik, L. and Meluš, M. (2019). Fiscal Decentralization in the Slovak Republic: Revenues and Expenditures. *Lex Localis*, 17(3), 697-720.
- Gajdoš, P. (2015). *Ako sa mení vidiek na Slovensku*. Bratislava: Iris.
- Geppert, K. and Stephan, A. (2008). Regional disparities in the European Union: Convergence and agglomeration. In *Regional Science*, 87 (2), 193-217.

- Jencova, S., Litavcova, E., Kotulic, R. and Vavrek, R., et. al. (2015). Phenomenon of Poverty and Economic Inequality in the Slovak Republic. In *Procedia Economics and Finance*, 26, 737-741.
- Kanianska, R., Kizeková, M., Nováček, J. and Zeman, M. (2014). Land-use and Land –cover changes in rural areas during different political systems: A case study of Slovakia from 1782 to 2006. In *Land Use Policy*, 36, 554-566.
- Klufová, R. (2015). *Demografický vývoj a typologie českého venkova v kontextu prostorových souvislostí*. Bratislava: Wolters Kluwer.
- Lancee, B. and Van de Werfhorst, H. (2012). Income inequality and participation: A comparison of 24 European countries. In *Social Science Research*, 41 (5), 1166 – 1178.
- Mihálik, J., Horváth, P. and Švikruha, M. (2019). Give me liberty or give me money: The fiscal decentralization and autonomy of regional governance in Slovakia. *European Journal of Government and Economics*, 8 (1), 96-109.
- Pazúr, R. and Bolliger, J. (2017). Land changes in Slovakia: Past processes and future directions. In *Applied Geography*, 85, 163-175.
- Pike, A., Pose, R.A., and Tomaney, J. (2017). *Local and Regional Development. Second Edition*. New York: Routledge.
- Radičová, I. (1993). Privatisation: The case of Slovakia. In *History of European Ideas*, 17, (6), 735-740. Statistical Office of the Slovak Republic.
- Torre, A., and Wallet, F. (2016). Policies of Regional Development and Planning. In: *Regional Development in Rural Areas. SpringerBriefs in Regional Science*. Springer, Cham, pp. 35-49.
- Waldman Lewin, O. M. (2013). Income, civic participation and achieving greater democracy. In *The Journal of Socio – Economics*, 43, 83-92.
- Woods. M. (2011). *Rural*. Abingdon: Routledge.

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# QUALITY EVALUATION IN EDUCATION

**Daniela Mališová, Jana Štrangfeldová**

**Abstract:** *Several authors have already dealt with the evaluation of the quality of schools based on efficiency measurement. However, for a comprehensive expression of quality it is not enough to compare only inputs and outputs, but it is also necessary to consider results and costs. The aim of this paper is to evaluate the quality of education on example of selected secondary schools by the value for money method. The subject of research is quality of selected secondary school. Ten Business academies, with pupils aged 15-19 years old, established in Banská Bystrica and Žilina self-governing regions were examined as object of research. In the analyse we used panel data gathered in school year 2013/2014 – 2017/2018. The benefit of paper is creation of quality ranking of schools and suggesting solutions for schools with under average results. Our finding is designed by hands of Business academies for comparison with competition, founders of secondary school and resort of education to assess the quality of chosen segment of education.*

**Keywords:** *Quality, Education, Business academy, Value for Money, Self-governing region*

**JEL Classification:** *A20, I21, H75*

## Introduction

Evaluation of quality in the field of education and educational institutions is current topic in Slovakia. Education should be commensurate with the money invested in it [14]. Funds going to the education system should be used to the best possible extent to maximize student development. No country can achieve sustainable economic development without significant investment into human capital [20]. Education improves the quality of life and leads to the country's wide social benefits. That is why there must be a functioning and balanced education system in the country. These system supports not only economic aspects but also productivity per capita [5]. Consequently, income distribution will also improve because of education. The quality of educational institutions therefore plays an important role.

From the historical cross-section of the formation of educational policy in Slovakia, we find that the goals of several school reforms have not been fully met. Several reforms led to a change in content, but the problem arose in their application at the lowest level, which led to stagnation and insufficient student results. We agree that school reforms are rushing, with the result that the content of the curriculum is unchanged and there is no room for innovation in practical teaching [30]. The state curriculum does not create didactic models on which teachers could build a new teaching structure. This was also proved by the research [18], focused on the comparison of education systems of OECD countries. We find from the results that encyclopaedic knowledge still prevails in Slovak education.

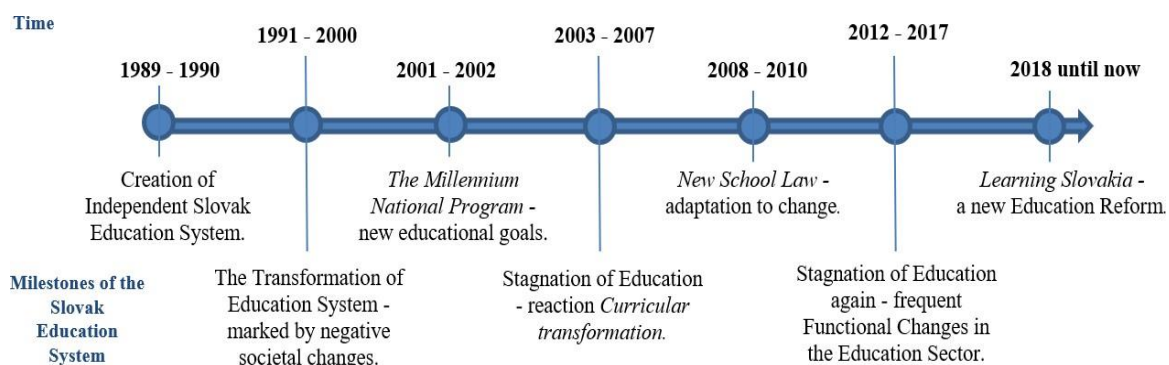
In the article, we want to verify the research assumption, which discusses the need to rationalize and focus on the quality of education. This assumption is also included in the new school reform - Learning Slovakia, which was adopted in 2018. Based on the established research plan, the subject of the paper is to evaluate the quality of education on the example of equipped secondary schools using the value for money method. The results will be compared between other types of secondary schools. An extensive study aimed at monitoring this issue was prepared [15] current year. We consider this study as a starting point for research. We

address the findings to the founders of the monitored secondary schools as well as the Minister of Education, as a basis for the planned rationalization in education.

## 1 Theoretical background of quality in education

As we suggest in the introduction of paper, the quality of education and educational institutions is linked with the development of Slovak education. Education policy is shaped by school reforms (Figure 1). We perceive that historically the most important period occurred during the 1990s, when the transformation of education was affected by adverse societal changes due to restructuring, privatization, and declining living standards [22]. For this reason, it was important to approve the Millennium National Program in 2002, which created rules that ensure the evaluation of the quality of education provided to put graduates into practice after graduation. In the following decades, the turbulent period in the education system came again. Although, the reforms led to a change in content, problems arose in their implementation at the lowest level, leading to stagnation. The consequence of this situation is below-average student results in international PISA or TIMSS assessments. An important factor influencing the education system are also frequent functional changes in the education sector, which did not contribute to solving the situation. We are of the opinion that reforming parts of the school system will not help, it is necessary to innovate the whole educational system.

**Fig. 1: Milestones of the Slovak Education System since 1989 to the present**



Source: own processing (2019)

The above conclusions of the development of Slovak educational policy lead us to examine quality. In generally, under the quality concept we understand exceeding customer's requirement at a set price [9]. In terms of education, the term expresses excellent graduate achievements and a high standard of educational institutions. Quality education is a dynamic concept made up of the right balance between knowledge and skills. In the long term [23, 7, 11], the aim of quality in educational institutions is to integrate teaching methods at all levels of vocational education for which teachers are responsible. High-quality educational institutions apply intersection between funding, balanced teaching methods, responsible teacher attitudes and student performance that meet educational standards.

We monitor the quality of education at selected secondary schools. We chose secondary schools because 60% of Slovaks have reached this level of education during their lifetime, as is hampered by research [4]. For this reason, the quality of selected secondary schools is subject of research. In Slovakia, self-governing regions are the founders of secondary schools. The self-



governing regions are responsible for creating conditions for fulfilling compulsory school attendance at secondary schools, education, and training for children with special needs, development of the concept of education and sport and regional strategy of vocational education [1].

Ten Business academies established in the Banská Bystrica and Žilina self-governing regions, attended by pupils aged 15-19 years old were object of research. The curriculum of the Business academy (acronym BA) meets ISCED-3A standard, is carried out during a 4-year study and is focused on vocational training for economic, commercial, marketing, monetary activities and work in tourism [27]. It is important to note that we do not include classes in the field of business academy and private Business academies in the research object. We use the method of scientific abstraction when compiling the object.

Several authors used the main method of research in their works. The method assesses how the institution spends its resources. The value for money method works with three indicators 3E- efficiency, effectiveness, economy. Monetary, qualitative, and quantitative indicators are used for identification [2]. The goal of the method is to find out which object makes the best use of its resources. The application of the method is used in the evaluation of investment projects [19], also in professional sports [24] and in health care [8]. In education, the method was used [5] to extent of the public sector and political power have an impact on the quality of education, which is related to the implementation of educational reforms.

The value for money method [29] was applied in regional education, with using data from the period of 6 school years and a set of 19 grammar schools established by the Banská Bystrica self-governing region. The results point to a downward trend in the overall quality of grammar schools in the Banská Bystrica self-governing region and propose regular monitoring of pupils' knowledge and increasing the interest of schools in extra-budgetary resources. From the point of view of the used methodology we follow up the realized research.

In the research, we expand the observation by comparing the public and foreign finance of the monitored schools with the indicator of economy. This extension gives us a more comprehensive view of the overall value of school quality. We also enrich the research with primary research to identify relevant indicators for measuring individual indicators based on the method of semi-structured interviews with the professional public.

Effectiveness can be identified as targeted use of work and extent of set out goals [6]. We find out whether the selected secondary school is sufficiently fulfilling its mission of educating pupils. We can say that effectiveness compares the outputs and results of schools. It also speaks about the readiness of pupils for their future professional life. For the measurement we use qualitative indicators. In the absence of data, we work as follows, replacing missing indicator values by the lowest measured value of the corresponding indicator in a given year.

The comparison of inputs, that are personnel resources with outputs, is monitored through efficiency. As outputs we monitor the number of pupils per teacher and the number of pupils in the classroom. We use quantitative and qualitative indicators to investigate efficiency. Again, the best measured value of the indicator in the given self-governing region is considered the best. From an economic point of view, achieving greater output efficiency at specified resources should be the main criterion for schools priorities [21]. We start from the current situation, when the number of teachers is decreasing due to lack of interest in this profession. Some authors [3] states that the reason is the unfavourable situation caused by the employment of retired teachers, which results in a low number of job vacancies in this sector in the labour market and hence lack of interest in the profession.

When measuring economy, we use monetary indicators that monitor the financial resources and costs of academies. As economical academies, we evaluate those who spend their resources on ensuring the right amount and quality at the best price [14]. The benefit of the research is to use the share of public and foreign finances, which gives us a new, more comprehensive view of the economy of schools. At present, the increase of foreign finance is an important factor in improving the financial situation in education. European Union grants and projects and cooperation with the private sector are most often used as foreign resources. From interviews with several headmasters, we note that this new element of school funding helps to expand the overall resources of schools.

## **2 Methodology and methods**

In terms of methodological construction, the research is divided into 5 stages. In the first stage, primary research was carried out with members of the professional public, consisting of headmasters, representatives and economic workers of secondary schools and former graduates using the semi-structured interview method. The semi-structured interview method [10, 13] focuses on qualitative research. Questions are important to be discuss and should be backed up by data or facts. The selected indicators of educational performance that were discussed we compiled according to the research [15]. The authors of mention research state which indicative ones are suitable for the evaluation of the personnel, material-technical, economic, and pedagogical area, which influences the quality of the educational institution. The discussions were conducted in accordance with ethical principles. Based on the outcome of the interviews, we select the 4 most rated indicators according to the professional public.

The second stage of the research was carried out in cooperation with the monitored secondary schools. The stage included the collection of data from Internal Reports, the Annual Evaluation of Secondary Schools, and the Financial Statements. Please note, that Business academy in Banská Bystrica has no data available for the school years 2013/2014 and 2015/2016, Business academy in Brezno has not made available data for the school years 2013/2014 - 2015/2016 and Business academy in Žilina has not made data available for the school year 2017/2018. This may be due to slightly biased results or disproportionately high statistical error. However, it was not possible to abstract from these academies, as they are established by a self-governing region for a comprehensive expression of value for money measuring of the self-governing regions and their comparison. The result of this phase is the collection of panel data for the school years 2013/2014 - 2017/2018, which we consider to be metadata.

The third stage involves the processing of analytical data using a standardized variable and integral indicator method. To add missing data and adjust the indicators to a dimensionless number, we use the standardized variable method, which is one of the other multi-criteria analyses. In the fourth stage, we use the key value for money research method to quantify the quality of selected secondary schools. The fifth stage contains the evaluation of the results of the value for money of selected secondary schools. Based on indicators 3E, we propose measures to improve quality for schools that have achieved below average results.

One of the main methods of the paper is multicriteria analysis. Multi-criteria analysis is a tool that significantly facilitates the decision-making process [26]. The advantage of the method is that we can use an unlimited number of input and output indicators. To use the method, we must initially convert the value of the input indicators to a dimensionless number using the method of standard variables. In the first step, we calculate simple arithmetic means ( $\bar{x}_j$ ), standard deviations ( $s_{xj}$ ) for each indicator. Subsequently, we subtract the arithmetic mean from the original values and divide their difference by the standard deviation. In the case of indicators

for minimization, on the other hand, the value is subtracted from the arithmetic mean and subsequently the difference divided by the standard deviation. Mathematical expression [12]:

(1)

$$uu_{iii} = \frac{(xx_{iii} - xx_{ppppii})}{ss_{xxii}} \quad uu_{iii} = \frac{(xx_{ppppii} - xx_{iii})}{ss_{xxii}}$$

Where:

$x_{ij}$  - the value of the  $j$ -th indicator in the  $i$ -th subject.

$x_{priemj}$  - arithmetic mean calculated from the values of the  $j$ -th indicator.

$s_{xj}$  - standard deviation, calculated from the values of the  $j$ -th indicator.

The next step of the multicriteria analysis is the substitution of the obtained values of indicators into an integral indicator to express the overall economy, efficiency and effectiveness of academy. The mathematical expression of the integral indicator is given according to the formula [24]:

(2)

$$dd_{ii} = \frac{\sum_{ii=1}^{mm} uu_{iii} * pp_{ii}}{\sum_{ii=1}^{mm} pp_{ii}}$$

Where:

$u_{ij}$  - the value of the  $j$ -th indicator in the  $i$ -th subject.

$p_j$  – the weight of  $j$ -th indicator.

The best object is the one whose integral indicator is the maximum. The advantage of the method is the variability of the indicator. The result of this phase is the quantification of 3E indicators of the monitored secondary schools. The method evaluates the degree of fulfillment of the set criteria in time periods, considering their importance using scales [28]. The weights are used to score individual indicators found in the first phase of the research. In our research, we determine weights according to the evaluation of the professional public. For the economy indicator, the weights are 10:9:8:12; for the efficiency indicator, the weights are 10:9:11:10; for the effectiveness indicator, the weights are 7:12:10:8. Subsequently, we substitute the data into a formula for calculating value for money. The mathematical expression of the value for money method is given according to the formula [16]:

(3)

$$VVVVV_{iii} = \frac{1}{\log \frac{1}{H_{iii} E_{iii} U_{iii}}}$$

Where:

$H_{ij}$  – the overall economic performance indicator of the organization  $i$  in year  $j$ ;

$E_{ij}$  – the overall efficiency performance indicator of the organization  $i$  in year  $j$ ;

$U_{ij}$  – the overall effectiveness performance indicator of the organization  $i$  in year  $j$ .

The method expresses the relationship between all sub-indicators [2]. The higher measured value of the entity means better use of resources and higher overall quality. Achieved value

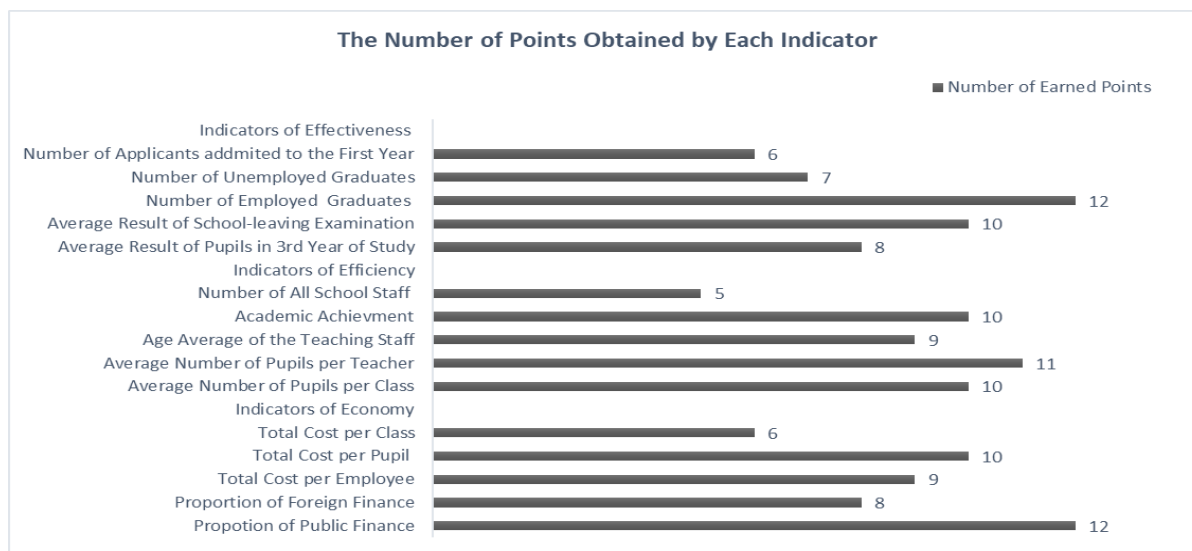
1 expresses 100% use of resources of the monitored subject. Also, the aim of this method is to express the relationship between all sub-indicators.

### 3 Research results

As mentioned in the methodological part of the paper, we use the value for money method in our research. Through a semi-structured interview, we found out the monetary, qualitative, and quantitative indicators that the professional public considers most suitable for measuring economy, efficiency, and effectiveness. The mentioned indicators for measuring economy, efficiency and effectiveness were determined according to research [15] in which the authors use the Delphi method to identify the suitability of indicators for measuring quality in education. If the professional public during semi-structured interview considered the indicator relevant, it awarded it 1 point. The results of the obtained points for individual indicators are shown in Figure 2. To evaluate economy, efficiency, and effectiveness we use 4 indicators in each category, which were awarded the most points.

As we can see, in the article we do not monitor the indicators focused on the material and technical area due to the fact that the Reports on the assortment of school assets were not made available to us. Likewise, this area is not included in the concept of value for money. However, this area can bring new opportunities and expand the evaluation of school quality in the future.

**Fig. 2: Appropriate indicators for measuring effectiveness, efficiency and economy according to professional public (in points)**



Source: own processing based on the results of semi-structured interviews (2019)

The results of measuring value for money are shown in Table 1. The best quality level was achieved by the monitored academies in both regions in the school year 2016/2017. The average quality of academies in the Žilina self-governing region is higher than in the Banská Bystrica self-governing region. Average quality results were achieved in BA in Martin (i.e. 28,2% average for the whole period) and BA in Čadca (i.e. 38,6% average for the whole period). Overall, BA in Dolný Kubín achieved the best measured value in this region (i.e. 50,7% average for the whole period). The academy made use of its efficiency potential, which reached 47,3% in the 2014/2015 school year and is close to 100% in the last reference year. The long-term excellent average results of the school-leaving examination and the average grade in the third

year of study influenced the positive development of the efficiency indicator. The economy decreased in the school years 2015/2016 and 2016/2017 due to an increase in the total cost per pupil and the total cost per class.

**Tab. 1: Value for Money of 10 Business academies in the monitored periods**

<i>Žilina self-governing region</i>					
Name of academy/ VFM in school year	VFM 2013/2014	VFM 2014/2015	VFM 2015/2016	VFM 2016/2017	VFM 2017/2018
BA in Liptovský Mikuláš	-0,268	-0,139	-0,122	-0,343	-0,201
BA in Dolný Kubín	0,397	0,679	0,416	0,457	0,585
BA in Žilina	0,386	0,482	0,627	0,597	-0,044
BA in Ružomberok	-0,047	-0,045	-0,063	0,150	-0,046
BA in Čadca	0,503	0,245	0,421	0,316	0,446
BA in Martin	0,268	0,247	0,214	0,354	0,327
<i>Banská Bystrica self-governing region</i>					
Name of academy/ VFM in school year	VFM 2013/2014	VFM 2014/2015	VFM 2015/2016	VFM 2016/2017	VFM 2017/2018
BA in Banská Bystrica	-0,304	0,322	-0,786	0,492	0,351
BA in Brezno	-0,676	-0,873	-0,786	0,272	0,228
BA in Rimavská Sobota	-0,231	-0,387	-0,214	-0,162	-0,904
BA in Lučenec	0,701	0,314	0,493	0,416	0,509

*Source: own processing (2019)*

Based on the measured values, BA in Žilina (i.e. 41 % average for the whole period) has the second-best quality in this region. The efficiency indicator was mainly influenced by the high number of employees and the high age average of the teaching staff - 7 teachers in retirement age. We note the fall in the economic performance indicator in the school year 2017/2018, which caused a low share of foreign finance. This indicator decreased by 27.950 EUR. The best result of the efficiency and effectiveness indicators was proved by the academy in the school year 2015/2016, when it was also placed on the first rank of the quality evaluation. The significant drop in quality in the last year is due to missing data and their subsequent replacement. The process of data replacement is presented in the methodological part of paper.

The self-governing region of Banská Bystrica recorded lower quality results than the previous ones. We rate BA in Lučenec (i.e. 48,66 % average for the whole period) as better than other academies in this part of the set. The number of pupils and teachers in this academy decreased during the monitored periods. We appreciate the increase in the share of foreign finance by 75.432,09 EUR during the monitored periods. This is due to the use of European Union grants to develop pupils' skills. This increase also results in an improvement in the efficiency indicator, which has been increasing since 2014/2015.

BA in Banská Bystrica achieved a significantly lower average quality result for the period under review. In the 2014/2015 school year, the efficiency indicator reached a level of 90.8%, but declined by 10,95 % per year (SE 1,55 %) in subsequent periods. The reason for the decrease is the low values of the indicators average result of the school-leaving examination and the average result of pupils in the third year of study.

## 4 Discussion

In Tab. 2 we present the proposed solutions of the monitored 3E indicators that have an impact on the quality of schools. In terms of effectiveness, it is not possible to quantify the appropriate measures. We propose measures in this area based on Internal Reports. In general, it is about improving work with students, increasing students' motivation, and creating new possibilities for cooperation with practice.

**Tab. 2: Proposed solutions for Business academies with average and below-average quality results measured by value for money method**

<i>3E Indicators</i>	<i>Proposed solutions</i>
Effectiveness	<ul style="list-style-type: none"> <li>• For BA in Ružomberok we proposed to support the motivation of pupils for increase of school-leaving examination results.</li> <li>• For BA in Liptovský Mikuláš we recommend focusing on systematic foreign language preparation of pupils to improve school results.</li> <li>• For BA in Čadca and BA in Martin which achieved average results of quality we propose to cooperate with local entrepreneurs, universities and companies for support the employment of graduates on labour market.</li> <li>• For BA in Rimavská Sobota it is recommended to raise the interest of students in different (extracurricular) areas to reduce absenteeism.</li> <li>• For BA in Brezno we recommend increasing the promotion of the academy at primary schools to increase the interest of future students.</li> </ul>
Efficiency	<ul style="list-style-type: none"> <li>• For BA in Ružomberok we propose to reduce the number of classes by 1 and the number of teachers to 16, thus achieving an efficiency of 17,3% (SE 2,87%).</li> <li>• For BA in Liptovský Mikuláš we propose to reduce the number of classes to 6 and the number of teachers by 9, so efficiency increasing to 48.3% (SE 9,42%).</li> <li>• For BA in Čadca we propose to reduce the number of classes by 2 and the number of teachers by 5, resulting in an overall efficiency of 67,7% (SE 10,16%).</li> <li>• For BA in Martin we propose to reduce the number of classes by 1 and number of teachers by 7, which mean increasing efficiency by about 50% (SE 7,52%).</li> <li>• For BA in Rimavská Sobota we recommend increasing number of pupils by 9; increasing an overall efficiency to 59% (SE 11,79%).</li> <li>• For BA in Brezno we recommend significantly reducing the number of teachers compared to the current number of pupils. This measure should increase the efficiency to 40.6% (10,15%).</li> </ul>

Economy	<ul style="list-style-type: none"> <li>• For BA in Ružomberok we propose to increase proportion of foreign finance to 6,34%; resulting is increase economy by 13% (SE 1,56%).</li> <li>• For BA in Liptovský Mikuláš we propose to increase proportion of foreign finance on the 25% level of public finance. This measure should increase the economy by 59,6% (7,16%).</li> <li>• For BA in Čadca and BA in Martine we suggest maintaining the current balance of resources and available resources.</li> <li>• For BA in Rimavská Sobota we propose to increase proportion of foreign finance by 25%, resulting in increase of economy by 84,74% (SE 16,95%).</li> <li>• For BA in Brezno we recommend keeping the proportion of foreign finance at 20.000 EUR.</li> </ul>
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*Source: own processing (2019)*

When evaluating the efficiency area, we compare two options for improvement. The first option is to adjust the number of classes and the number of teachers in the last reporting period, assuming there is the same number of students. The second option is to adjust the number of students at current class and teacher values. From our results, we can conclude that efficiency increases more significantly when applying the first solution in all academies. For monetary indicators, we focus on proportion of foreign finance. The main reason is that the academy can directly influence this indicator by its activities. Proportion of public finance is set by the academies fixed from the state budget for the year. Costs are adjusted automatically by changing efficiency.

Four academies show below-average quality levels. BA in Ružomberok states in an internal report that the problem is the low level of knowledge of pupils at the start of their studies. After applying the efficiency measure, the academy would reach 0,173. This is the highest efficiency value for academies. Increasing the share of foreign finance to 6,34 % (i.e. 34.441 EUR) next year should not be a problem. On average, the academy drew 55.103 EUR per year. By reducing the number of teachers, the total cost per teacher will be reduced by 3,22 % (SE 0,49 %). This positively affects the relationship between total resources and total costs.

BA in Liptovský Mikuláš shows 100% employability of graduates in the labour market in the last monitored year. The problematic area is the lack of language preparation, which affects the indicators of the appropriate result of the school-leaving examination and the average result of pupils in the third year of study. More substantial measures are needed in efficiency. With a capacity of 148 pupils, which is 34 % lower than BA in Ružomberok, the academy employs the same number of teachers (i.e. 21). The proposed measure would achieve an efficiency of 0,483 and the total cost per employee will fall by 20 % (SE 4,67 %). The share of foreign finance in the school year 2017/2018 did not even make up 1 % of the total resources. We therefore recommend increasing the share of these finance to 25 % (i.e. 173.639,50 EUR) of own resources. This will ensure that the total cost per pupil and the total cost per employee is covered and 59,6 % (SE 7,16 %) higher efficiency is achieved.

BA in Rimavská Sobota and BA in Brezno achieved low quality values in the monitored periods. The socio-economic level of the population is low in regions where these academies operate. This was also reflected in low values of effectiveness and efficiency. BA in Rimavská Sobota proposes to reduce the number of classes by one and the number of teachers by 4. This will achieve the minimum recommended value of the average number of pupils in the class (i.e. 25). Overall efficiency will increase significantly compared to the last reference year. Similarly, reducing the total cost per employee will improve the economy. And with an increase in the proportion of foreign finance, the economy will be 83,74 % higher (SE 16,95 %).

BA in Brezno is the smallest surveyed school. It has 100 students and employs 26 teachers. The academy shows a large disparity in the average number of pupils per teacher indicator (i.e. 3,85). The recommended value by Ministerial Decree [17] is 12 pupils per teacher. If the academy does not want to release the recommended number of teachers, it is necessary to increase the number to 325 pupils. Proportion of foreign finance is about 20.000 EUR. We recommend keeping this proportion for the size of the academy. Significant reductions in overall costs will occur after the application of efficiency measures.

## Conclusion

The aim of this paper is to evaluate the quality of education on example of selected secondary schools by the value for money method. We monitor the development of value for money during the 5-year period at selected Business academies established in Banská Bystrica and Žilina self-governing regions. A new perspective on quality evaluation in education is provided by the implementation of primary research with the professional public. In economics we evaluate the impact of proportion of public and foreign finance on school resources. We find that the proportion of foreign finance in contrast to the proportion of public finance academy affect its activities.

Quality assessment in education has its merit. From the results we conclude that there is not only a quality difference between institutions but also between self-governing regions. Of the observed self-governing regions, the Žilina self-governing region shows higher quality of Business academies than Banská Bystrica self-governing region. In Žilina self-governing region BA in Martin and BA in Čadca achieved average results. BA in Ružomberok and BA in Liptovský Mikuláš achieved below-average quality results. We note that there is scope for improvement in several areas. In the Banská Bystrica self-governing region we examined four academies, of which BA in Rimavská Sobota and BA in Brezno achieved below-average results. The reason is low values of qualitative and quantitative indicators as well as unsatisfactory socio-economic conditions of the regions in which the academy operates. By performing a value-for-money analysis, we verified the research assumption, which discusses the need to rationalization and focus on the quality of education. Therefore, we propose rationalization measures to academies with below-average results that could affect their overall quality.

We remind that during the implementation of the research part three of the monitored academies did not provide us with all the necessary data. This may be due to slightly biased results or disproportionately high statistical error. However, when abstracting from these academies, we would not get a relevant result for the entire self-governing region. Also, please note that the measurement of the quality by value for money method of secondary schools was carried out based on selected indicators that the professional public has marked as appropriate, valuable, and meaningful. Using a different combination of indicators may result in differences in the overall results of quality.

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## References

- [1] Act No. 597/2003 Z. z. on the financing of primary schools, secondary schools and school facilities. In *Ministry of education, science, research and sport of the Slovak republic*. [online]. Bratislava:



- Ministry of education, science, research and sport of the Slovak republic. [cit. 2020-02-14]. Available on internet: <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2003/597/20200101>
- [2] Barr, J., Christie, A. 2015. *Improving the Practice of Value for Money Assessment*. 1<sup>st</sup>. ed. Brighton: Institute of Development Studies. 9 p. ISSN: 2053-0536.
- [3] Beňo, M., Šimčáková, E. 2007. *Analyticko-prognostické štúdie o regionálnom školstve SR*. 1<sup>st</sup>. ed. Bratislava: Ústav informácií a prognóz školstva. 2007. 266 p. ISBN 978-80-7098-458-1.
- [4] Burjan, V. Ftáčnik, M. Juráš, I. et al. 2017. Learning Slovakia. In *Ministry of education, science, research and sport of the Slovak republic*. [online]. Bratislava: Ministry of education, science, research and sport of the Slovak republic, 113 – 118 p. [cit. 2020-09-11]. Available on internet: [https://www.minedu.sk/data/files/6987\\_uciace\\_sa\\_slovensko.pdf](https://www.minedu.sk/data/files/6987_uciace_sa_slovensko.pdf)
- [5] Dolton, P., Gutiérrez, O., Still, A. 2014. *Which education systems deliver the best value for money?* 1<sup>st</sup>. ed. London: GEMS Education Solution, 2014. 43 p. ISBN 978-0-9930379-3-1.
- [6] Gilbert, W., Coté, J. 2009. An Integrative Definition of Coaching Effectiveness and Expertise. In *International Journal of Sports Science & Coaching*. Vol. 4, No. 3, p. 307-323. ISSN 1747-9541 DOI: 10.1260/174795409789623892
- [7] Green, D. 1994. *What is Quality in High Education?* 1<sup>st</sup>. ed. Buckingham: SHRE and Open Universtiy Press, 1994. 131 p. ISBN 0-335-15740-8.
- [8] Grimshaw. J. M., Hutchinson. A. 1995. Clinical practice guidelines – do they enhance value for money in health care?. In *British Medical Bulletin*. Vol. 51. No. 4, p. 927-940. ISSN 0007-1420. DOI: 10.1093/oxfordjournals.bmb.a073006
- [9] Harrington, H. J. 1991. *Business Process Improvement: The Breakthrough Strategy for Total Quality, Productivity, and Competitiveness*. 1<sup>st</sup>. ed. Baskerville: McGraw Publisher-Hill Education, 1991. 274 p. ISBN 978-00-7026-768-8.
- [10] Hendl, J. 2016. *Kvalitativní výzkum*. Praha: Portál.2016. 1<sup>st</sup>. ed. 440 p. ISBN 978-80-262-0982-9.
- [11] Janík, T., et al. 2013. *Kvalita (ve) vzdělávání: obsahově zaměřený přístup ke zkoumání a zlepšování výuky*. 1<sup>st</sup>. ed. Brno: Masarykova univerzita. 2013, 434 p. ISBN 978-80-210-6349-5.
- [12] Jenčová, S. 2011. *Finančno-ekonomická analýza podnikateľských subjektov*. 1<sup>st</sup>. ed. Prešov: Grafotlač. 2011. 256 p. ISBN 978-80-970485-7-0.
- [13] Kallio, H., Pietilä, M.-A., Johnson, M. et al. 2016. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. In *Journal of Advanced Nursing*. Vol. 72, No. 12, p. 2954-2965. ISSN 0309-2402. DOI: 10.1111/jan.13031
- [14] Lewis, W. A. 2003. *Theory of Economic Growth*. 1<sup>st</sup>. ed. London: Routledge, 2003. 456 p. ISBN 978-02-037-0966-5.
- [15] Meričková Mikušová, B., Štrangfeldová, J., Muthová Jakuš, N., Štefanišínová, N. 2020. Performance Measurement in Education Public Services Based on the Value for Money Concept. In *Scientific Papers of the University of Pardubice*. Vol. 28, No. 3. p. 1 – 11. ISSN: 1804-8048. DOI: 10.46585/sp28031099
- [16] Meričková, B., Šebo, J., Štrangfeldová, J. 2011. *Základy verejných financií*. 1<sup>st</sup>. ed. Brno: Rašínova vysoká škola. p. 327. ISBN 978-80-87001-26-4.
- [17] Ministerial Decree No. 65/2015 Z. z. In *Ministry of education, science, research and sport of the Slovak republic*. [online]. Bratislava: Ministry of education, science, research and sport of the Slovak republic, §6 [cit. 2020-02-11]. Available on internet: <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2015/65/20190901>

- [18] Nejedlý, T. 2018. Žiakom stále predpisujeme encyklopedické vedomosti. In *Trend*. Vol. 2018/50. p. 50 – 53. ISSN: 1335-0684.
- [19] Nisar, T. H. 2007. Value for money drivers in public private partnership schemes. In *International Journal of Public Sector Management*. Vol. 20, No. 2, p. 147-156. ISSN: 0951-3558. DOI: 10.1108/09513550710731508
- [20] Ozturk, I. 2008. Financial Development and Economic Growth: Evidence from Turkey. In *Applied Econometrics and International Development*. Vol. 8, No. 1, p. 85-98. ISSN 1610-2878.
- [21] Palmer, S., Torgerson, D. 1999. Economics Notes - Definitions of Efficiency. In *British Medical Journal*. Vol. 318, No. 7191, p. 1136 - 1136. ISSN 0959-8138. DOI: 10.1136/bmj.318.7191.1136.
- [22] Plavčan, P. 2005. *Slovenské školstvo na prahu nového storočia*. 1<sup>st</sup> ed. Bratislava: Parasline, s. r. o. 64 p. ISBN 80-85756-95-1.
- [23] Reháková, H., Chudíková, A., 1986. *Hodnota za peniaze*. 1<sup>st</sup> ed. Bratislava: Západoslvenské tlačiarne, 1986. 233 p. ISBN 63-157-86-07.
- [24] Rosca, V. 2013. A model for measuring value for money in professional sports. In *Theoretical and Applied Economics*. Vol. 20, No. 7(584), p. 77-86. ISSN: 1844-0029.
- [25] Sabol, J., Tkáč, M. 2012. Multicriterial performance evaluation and Balanced Scorecard. Business Performance. In ZÁVADSKÝ, J. (eds.) *Výkonnosť podniku*. Banská Bystrica: Výskumný ústav ekonomiky a manažmentu. p. 95-106. ISSN 1338-435X.
- [26] Skubičan, P. 2010. Priestorová multikriteriálna analýza pre podporu rozhodovania. In Kečkéšová, L. (eds.) *Mladí vedci 2010*. Nitra: Univerzita Konštantína Filozofa. p. 462 – 470. ISBN 978-80-8094-742-2.
- [27] Šlosarová, D., et al. 2002. *Obchodná akadémia: 100 rokov*. 1<sup>st</sup> ed. Banská Bystrica: ERLAND BB. 73 p. ISBN 80-967846-6-8.
- [28] Štrangfeldová, J. 2013. *Výdavky na zdravotníctvo v Slovenskej republike*. 1<sup>st</sup> ed. Bratislava: Iura Edition. 160 p. ISBN 978-80-8078-585-7.
- [29] Štrangfeldová, J., Štefanišinová, N., Hronec, Š., et al. 2018. Evaluation of Performance in Education – Value for Money. In BOĎA, M. (eds.) *Economic Theory and Practice 2017*. Banská Bystrica: Belianum, p. 598-613. ISBN 978-80-557-1424-0.
- [30] Zimenová, Z. 2011. Reformu školstva brzdia systémové prekážky. In *Konzervatívne listy M. R. Štefánika*. [online]. Vol. 06/2011. [cit. 2020-09-11]. Available on internet: [https://konzervativizmus.sk/wp-content/upload/Konz\\_listy/KL\\_06\\_2011.pdf](https://konzervativizmus.sk/wp-content/upload/Konz_listy/KL_06_2011.pdf)

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# TO THE CREATION OF FISCAL SPACE FOR HEALTH

Jan Mertl

***Abstract:** This paper deals with the fiscal space for healthcare and the resources we can use to create it. The aim is to map the possibilities of building fiscal space for healthcare, to grasp it in theory and to use a triangle graph tool to perform basic quantifications. Findings are complemented and concretized by the analysis of fiscal dimension of the configuration of health systems including the use of an innovative concept of fiscal space for healthcare. It works with the classification of financing into government schemes (based on general taxation), compulsory health insurance schemes (earmarked taxation, social and nominal health insurance, or compulsory private insurance) and voluntary private expenditure (private insurance, savings, or direct out-of-pocket payments).*

***Keywords:** fiscal space, health insurance, earmarked taxation*

***JEL Classification:** I18, I13, H20*

## Introduction

This paper deals with the fiscal space for healthcare and the resources we can use to build it. The aim is to map the possibilities of creating the fiscal space for healthcare, to grasp it in theory and to use a triangle graph to perform basic quantifications. To achieve this, we shall also classify the sources of health care financing in the universal and optional part so that we know their basic typology and socioeconomic properties. Obviously, this is an important research topic since health financing is one of the major social and fiscal challenges today.

## 1 Formulation of concepts and problems

It is essential to define the concept of fiscal space for healthcare (Heller, 2006) and its importance from the point of view of health policy. The concept of fiscal space is a general concept of fiscal policy (Nerlich & Reuter, 2016). When we reënter this concept at the healthcare level, it is understood as the government's ability to mobilise and allocate resources to healthcare without compromising the balance and sustainability of public budgets (Cashin & Tandon, 2010) (Wolfe & Powell-Jackson, 2013). It is quantitatively related to the overall economic level, the tax quota, and the share of public expenditure in GDP. In developing countries undergoing the process of building the fiscal space, the mechanisms of its creation are essential (Meheus & McIntyre, 2017); in developed countries, it is mainly the optimisation of the existing fiscal space in relation to healthcare performance (OECD, 2015).

There are two basic ways to provide and pay for health care. The first of them works with the link between the need for health care (given that people do not choose their diseases usually) and the objectively recognized entitlement of the patient financed using the principle of solidarity. The second is based on the client's decision-making in relation to the health care provider and the subjective benefit financed for private money on the principle of equivalence. In terms of reimbursements, the state, a public or private insurance company can enter between the patient and the doctor; this creates third-party care funding schemes. Two basic parts of current healthcare systems correspond to these methods: universal and optional. The boundary between them is clearly definable in theory, but in practice it is not

completely sharp, and it evolves in time and space. Nevertheless, I believe that this categorization is essential for health economics and policy (Mertl, 2018).

The universal part ideally corresponds to the health care that the patient must receive due to his health condition and which demonstrably improves or maintains his health condition or reduces his suffering. In practice, this principle may not be adequately implemented, which leads to poorer health and unmet medical needs of patients. The actual unavailability of this care with its formal legal guarantee can also be a problem. The advantage of health care from the research point of view is that the vast majority of health effects in this part can be objectively demonstrated using evidence-based medicine, double-blind studies and statistically significant methods, even in international comparisons.

The optional part ideally corresponds to the health care and services that the client requests because he wants or can have them, and the medical facility offers them to him. It thus increases its individual subjective utility in the consumption of health care. In practice, the optional part may also include a part of health care with an objective necessary indication, if the universal system in a given country is not sufficiently developed or financed on the solidarity principle. The consumption of care and services in the optional part need not be objectified, the main criterion here is the benefit of the client and effective market demand. At the same time, it is possible to indicate it medically rationally and offer it as a professionally valid treatment option beyond the universally available (as well as professionally verified) standard.

## **2 Methods**

A valuable mathematical tool for the analysis of fiscal space is the triangular graph, which shows the relationship of the ratio of three variables providing a sum. It has appeared in the literature years ago (Doorslayer & Wagstaff, 1999); it was used to illustrate the ratio of funding from taxes, social security, and private spending. For the purposes of this research, I have updated and supplemented it so that it can be used for financing from general taxes, earmarked payments for healthcare and private expenditure, including specific data for OECD countries for 2017.

An important theoretical source is the theory of public finance (Rosen & Gayer, 2008; Tresch, 2015; Ulbrich, 2013; Auerbach, 2010), which is also reflected in national monographs (Hamerníková & Maaytová, 2010; Peková, 2011; Kubátová, 2018). These findings are complemented and put in concrete terms by the fiscal dimension of the configuration of health systems (OECD, 2015; McCoy, Chigudu, & Tillmann, 2017), including the use of an innovative concept of fiscal space for healthcare (Cashin & Tandon, 2010; Meheus & McIntyre, 2017).

As a source of data, I use the OECD Health Data database (OECD, 2019) for year 2017 (the last reliably statistically processed one available at the time of research). The reflection on the development of health systems in international statistics is sometimes complicated or delayed, as shown, for example, by the OECD's approach to considering the reforms of the US system. At the same time, it must be noted that in recent years, the OECD methodology for health funding sources and schemes has been modified. In this paper, I utilise the innovated approach, as contained in the description of the current methodology of data tables and in the current OECD Policy Brief (OECD, 2020). It works with the classification of financing into government schemes (based of general taxation), compulsory health insurance schemes (earmarked taxation, social and nominal health insurance that are compulsory by nature or compulsory private insurance) and voluntary private expenditure (private insurance, savings, or out-of-pocket payments). This methodology is consistent with the sources of financing that are analysed in the first part of this paper (subchapters 3.1 and 3.2).

## **3 Analysis and discussion**

### **3.1 Sources of financing the universal part of the system**

#### **3.1.1 General taxes**

The financing of healthcare from general taxes corresponds to the principles of public economics in the financing of public goods with a possible congestion effect in health care (Hamerníková & Maaytová, 2010), or non-market and impurely market goods with state intervention according to institutional criteria (Bénard, 1985). Other parts of the public sector, such as defence, police, justice, or transport infrastructure, can be funded similarly. The basic principle here is the non-designation and general collection of taxes based on the principles of tax theory and policy, which form a unique tax mix in each country. The necessary volume of funds is thus accumulated in public budgets, which is decided by public choice, and individual budget chapters are generated annually within the budget process, one of which is also healthcare. From the point of view of taxpayers, the principle of tax-bearing capacity and distribution of the tax burden according to the taxpayers' solvency is applied (Engliš, 1932). For the taxpayer, there is no dependence between the tax paid and the level of healthcare consumption, nor is there a signalling function in terms of the visibility of healthcare expenditures in tax rates or types of taxes.

#### **3.1.2 Hypothecated (earmarked) health tax**

This source of financing consists in the purposeful allocation of a certain tax or part of the tax rate to healthcare. It is clear to the taxpayer how much of the amount or what rate is paid for this purpose (signalling function). The principle differs slightly from tax assignments, where a taxpayer may decide to allocate part of the taxes he/she pays to a chosen area (e.g. church tax in Germany); in our case, the payment is mandatory, and the purpose is given in advance. In the English literature, the terms hypothecated tax or earmarked health tax are used (Buchanan, 1963) (Bloom, Cashin, & Sparkes, 2017); the Czech translations are “účelová zdravotní daň” (purpose-based or special-purpose health tax) or “omašličkovaná zdravotní daň” (earmarked health tax), as the relevant tax income receives a “mark”, “bow” or “label” (gets earmarked) at the time of payment, which accompanies it on its way through the public budgets until its final allocation to healthcare. This creates a fiscally autonomous scheme and funding mechanism.

In practice, the most common allocation is a certain percentage of earnings (earmarked payroll tax) or a certain percentage of income (earmarked income tax). Additionally, some countries also use a share of excise duties (tobacco, alcohol, etc.) (Hellowell, Smith, & Wright, 2017), or rarely even a share of VAT (WHO, 2020). Sometimes mild forms of earmarking are also used, such as the allocation of resources to healthcare through the budgetary determination of taxes or other fiscal rules, but there is no longer a signalling effect of a separate rate or health tax for the taxpayer.

#### **3.1.3 Social insurance**

Social insurance is based on the payment of insurance premiums as a percentage of earnings up to the amount of the ceiling and the payment of insurance benefits in a specified compensation ratio in the case of an insured event (healthcare consumption) (Vostatek, 2000).

In the past, it was used to finance healthcare through in kind benefits (payment by a third party to the provider) or through cash benefits (“treasury” system – i.e. reimbursement of part or all of the incurred medical expenses) and it was very important in some countries as a healthcare financing tool based on the performance (conservative) principle and social model (Vostatek, 2013). Gradually, it encountered two major problems: the requirement to spread health risk across the entire population associated with reducing system fragmentation; and the

universality of healthcare, where the patient's entitlement cannot be related to the amount of earnings or benefits to which the insured would be entitled according to the principles of insurance mathematics. For these reasons, it is currently not very suitable for financing universal healthcare in the classical form, but in many countries the term social health insurance is still used for schemes created by its evolution (these are usually mandatory solidarity payment from earnings up to the ceiling earmarked for healthcare).

### **3.1.4 *Nominal health insurance***

Nominal health insurance or nominal premiums are used as part of the two-component premium in the Netherlands and separately in Switzerland. Economically from the public finance's theory point of view, it is an earmarked poll tax for healthcare; everyone pays a single absolute amount regardless of their income.

This concept concerns the nature of solidarity in healthcare: while tax or social insurance funding employs solidarity in terms of both income and health status, nominal premiums maintain solidarity only in terms of health status: they do not change according to the health risk or the income of the insured.

### **3.1.5 *Fees and surcharges (co-payments)***

Fees for the consumption of healthcare are in the form of out-of-pocket payments and correspond to the definition of a fee in the theory of public finance.

Their function in the universal part of the system is regulatory – they should alert the patient to the cost of care and motivate him/her to consider its consumption and to move rationally in the system. In this sense, it differs from private direct payments at the market price of healthcare; the patient does not receive additional benefit for them. Another important item is represented by surcharges for medicines, medical devices, or a certain method of treatment or a doctor's action not fully reimbursed within the universal system. These are determined by the difference between the market price and the payment from public resources; often the market price is subject to specific regulation, as is the case with medicines.

However, it is necessary to analytically distinguish these two aspects – to make it clear when it is an effort to eliminate some objectively given inefficiencies of the public health system and when it is an effort to reduce the scope of jointly paid healthcare in relation to what the medicine offer to the patient at the moment. Such a specification would simplify and clarify the economic analysis of fees and surcharges, but it would also clarify the discussion on the social and medical effects of the implemented measures. The need to differentiate the regulatory effect and the simple sharing of part of the costs (co-financing, co-payments) by patients is also confirmed by comparative studies between the typologically different systems of Germany and Norway (Herrmann, Haarmann, & Baerheim, 2018).

## **3.2 Sources of financing of the optional part of the system**

### **3.2.1 *Private insurance***

Private health insurance is based on the payment of a premium corresponding to the health risk identified before the conclusion of the insurance contract by means of an individual health taxation. The premium paid also implies the scope and amount of insurance coverage and it represents the market price of the insurance. Commercial insurance company operates on the risk market and offers insurance plans to potential clients that correspond to their purchasing-power-based demand and health profile, thus creating individual groups of clients (insurance pool for a certain product).

In private insurance, there are two main approaches to determining insurance rates: according to individual risk (risk classes) and community (group) risk – community rating or adjusted community rating. The determination of the premium amount is the result of actuarial calculations (Němec, 2008). The client pays a gross premium, i.e. risk premium + administrative costs + profit of the insurance company.

In private insurance, co-payments are used to varying degrees as an element of cost control and product differentiation. The level (amount) of co-payments affects the amount of insurance premiums. The most frequently used are deductible (the amount paid by the client before the insurance company begin to pay), coinsurance (the share of total costs always paid by the client), co-payment (also fee, co-payment for the use of the service).

### 3.2.2 Health savings

Health savings consist in building a personal account, to which the client regularly pays a selected amount, and draws from it when consuming healthcare, if necessary. The economic purpose is to weaken the influence of the current budget constraint on decision-making in the consumption of care and to accumulate resources at the level of the individual. If individual resources are not enough to pay, the mechanism fails because there is neither national nor group risk sharing. When both risk-sharing and savings component is missing, this source of financing can also have form of prepaid health programs which provide continuous financing of purchased packages in time. (Mertl, 2017).

### 3.2.3 Direct payments (out-of-pocket)

Direct out-of-pocket private payments are the oldest source of healthcare financing, where its price is based on market supply and demand for healthcare consumption. By purchasing this care, the client benefits from its consumption, which he/she compares to the price paid and to his/her budget limit. At first glance, the economic logic behind direct payments is similar to the purchase of other goods and services; however, healthcare has a number of characteristics that reduce or prevent the effectiveness of these direct transactions; why this is not such a simple matter has been defined many times in the literature (Arrow, 1963) (Culyer & Newhouse, 2000).

## 3.3 Fiscal space for healthcare

In the introduction we defined the concept of fiscal space being the general framework for analysing the health financing within public budgets and fiscal policy. An important variable influencing the fiscal space is the tendency towards public expenditure on healthcare  $k_k$ , which can be defined as follows:<sup>1</sup>

$$G_h = k_k \cdot G \quad (1)$$

Where  $G$  is the total volume of public expenditure and  $G_h$  is the volume of public expenditure on health. The propensity to spend on healthcare is constant as long as government spending priorities do not change, and thus, for example, when government spending  $G$  increases, healthcare will also receive correspondingly increased spending  $G_h$ . If this is not the case, the  $k_k$  coefficient changes, and so do government spending priorities. Reprioritisation of healthcare means an effort to increase  $k_k$ , the opposite process is its reduction, which can occur during economic development, if emphasis is not put on healthcare as a development priority.

From the point of view of health policy, this concept is important because while not denying the importance of fiscal adjustment of payments to the system and efficiency of healthcare expenditures, it defines and generates the necessary amount of resources together with public

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<sup>1</sup> Adjusted according to (Cashin & Tandon, 2010).

governance procedures that can be available and used to finance universally available healthcare where the state takes over the guarantee for the coverage of the population by the relevant health services.

Finding fiscal space for health is a major topic in health economics and policy (OECD, 2015). It is being addressed, as can be documented for example at the level of the World Health Organisation, by nearly every healthcare system (WHO, 2018).

According to the findings of social medicine (Holčík, 2009), this problem cannot be solved only by setting rational cash flows, the ways to solve it are broader and consist of the following points (Holčík, 2010):

- investing more money into the healthcare system;
- increasing the efficiency of healthcare;
- limiting the universal availability of health services;
- improving human health in general in order to reduce healthcare costs due to a lower incidence of disease.

These procedures work with the problem of healthcare expenditures not at the level of optimising the market structure or the degree of competition in the healthcare market, but at the material and factual level, trying to influence the need for and consumption of healthcare resulting from the health of the population and people's relationship to their health.

In case of difficulties with the creation of adequate fiscal space, the authors recommend supporting it using the following options (Cashin & Tandon, 2010):

- Appropriate macroeconomic conditions, such as economic growth and an increase in overall public revenues, which, given a sufficient propensity for health expenditure, may lead to their increase;
- (Re)prioritisation of healthcare within the state budget / public budgets;
- Increasing the volume of resources going to healthcare, including the use of earmarked taxes;
- Specific grants and development programs improving partial problems in healthcare;
- Increasing the effectiveness of existing spending programs in healthcare;

The last point concerns the effectiveness of existing spending – the results we get from the resources available. If we denote  $Y_h$  the total output of healthcare available for a given expenditure  $G_h$ , then the ratio of these indicators  $Y_h/G_h$  corresponds to the overall efficiency of healthcare, which increases with the growth of this ratio and decreases with its decrease. We can also increase the fiscal space by being able to provide a wider range and volume of healthcare for the money, for example by reducing “black holes” in the system or by improving the procurement of health services and medicines.

With regard to universally available care, the concept of fiscal space can also be reversed, and healthcare can be understood as an input to the model and the effect of expansion or restriction of its volume on the behaviour of subjects in the system can be addressed. Its need is primarily determined by the health status of the population and the need to address it, but the forms and frequency of care may vary. This healthcare is provided by doctors with the help of medical equipment, medicines, and other medical devices. If there was a model with only one diagnosis that would be treated, then the cost of treatment of one diagnosis would be given by the ratio of available resources and the number of diagnoses that occur in the population in a



given period. When there is a constant volume of financing for healthcare, they can increase their income per procedure by reducing the volume of healthcare that they will provide within the framework of public funds. This can be observed, for example, when financing bodies set financial thresholds on the healthcare provided in the form of financial ceilings. Physicians' usual response to this development is to limit the volume of healthcare so that the yield per procedure remains constant. The problem appears when this restriction comes into conflict with the volume of healthcare demanded, i.e. if the overall demand for a certain type of healthcare remains unsatisfied. Then there is the issue of the possible general lack of resources, but also the fact that the price of the performance may not be adequate to the actual demand factor of the performed treatment. Due to the fact that "objective" pricing by means of an "arbiter" tends to fail in the healthcare sector, a possibility offers itself to use global budgets (budget envelopes) and to monitor developments for several consecutive periods, or to compare efficiency with another healthcare facility and ask why some medical facilities are able to provide the given healthcare for a certain price and others are not. A simple comparison of cost-effectiveness between individual healthcare facilities cannot be considered as the only criterion of adequate costs, because the complex nature of healthcare facilities practically excludes the possibility of same conditions being achieved and with hard-set economic criteria could lead to rejection of seriously ill patients for fear of losing competitiveness.

We can offer the following general formula, which summarises the links between the volume of healthcare, the cost per procedure and the resources available. Let us assume a model where only one type of healthcare with fixed costs would be implemented in the economy. Then the following relationship applies:

$$G_h = P \cdot Q \quad (2)$$

Where  $G_h$  is the available volume of resources for healthcare,  $P$  is the price (cost) of one procedure and  $Q$  is the number of these procedures (volume of care provided). The movements of the individual variables can manifest themselves differently. For example, if the available resources increase, then with a constant volume of healthcare, the price of services will also increase, a significant component of which is the income of health workers. If the volume of healthcare increases with resources remaining constant, then the price of one procedure must decrease and vice versa. If the cost of one procedure increases, it means there is pressure on available resources, or also on reducing the volume of procedures. Current healthcare systems often face an increase in the volume of / need for healthcare, which is reflected in the demands on available resources, but in some segments (aftercare, some types of inpatient care) even in relatively low reimbursement per procedure.

From the point of view of cost control, it should be noted that limiting patient demand has only a limited effect on the macroeconomic efficiency of healthcare, for two reasons. Most healthcare costs (60–70%) have got a fixed character and are borne by the network of medical facilities itself (Němec, 2008, p. 139). In connection with the above relationship between costs and the volume of care, providers will tend to compensate for a drop in revenues resulting from the limited use of services with higher prices of individual procedures.

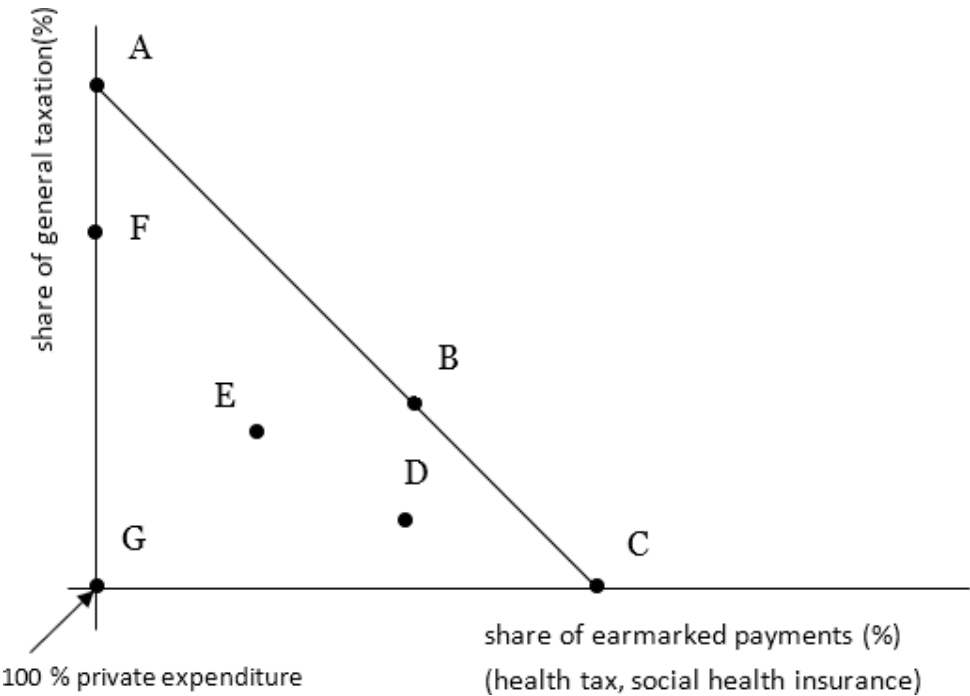
Such considerations affect de facto any universally available health system financed from public (compulsorily collected) resources and are especially useful for understanding the actions of individual entities when there are disparities either on the revenue or expenditure side of the system. At this point, there are restrictions, and the individual subjects in the system are starting to protect their positions. It is logical behaviour, and if we know the macroeconomic dimension of health policy, we should not be surprised by it.

The above considerations could be applied by analogy to the optional part of the system, in the sense of an analysis of private household expenditure on optional healthcare. In this case, we could consider private healthcare expenditure, the coefficient of private healthcare expenditure in relation to total household expenditure, optional care prices in relation to the volume of private expenditure, and the amount of optional care consumed. This analysis would be closer to a standard analysis of the functioning of markets (due to optionality), but it would still maintain the specific characteristics of healthcare.

**3.3.1 Triangular graph of fiscal space**

Above we have discussed the fiscal space for health as a whole, now we shall focus on what it is created from. In terms of the use of particular types of resources, a simple diagram (Figure 1) can be drawn, which shows the possibilities of their use in creating the fiscal space – general taxes, earmarked payments for healthcare (health tax, social health insurance), private expenditure. It is necessary to see that the picture is simplified, it is based on the times when social health insurance still had a bigger role in healthcare systems, but it can also be applied to health tax as we have defined it, and generally to earmarked mandatory payments for healthcare.

**Fig. 1: Use of general taxes, earmarked payments, and private expenditure in creating the fiscal space in healthcare**



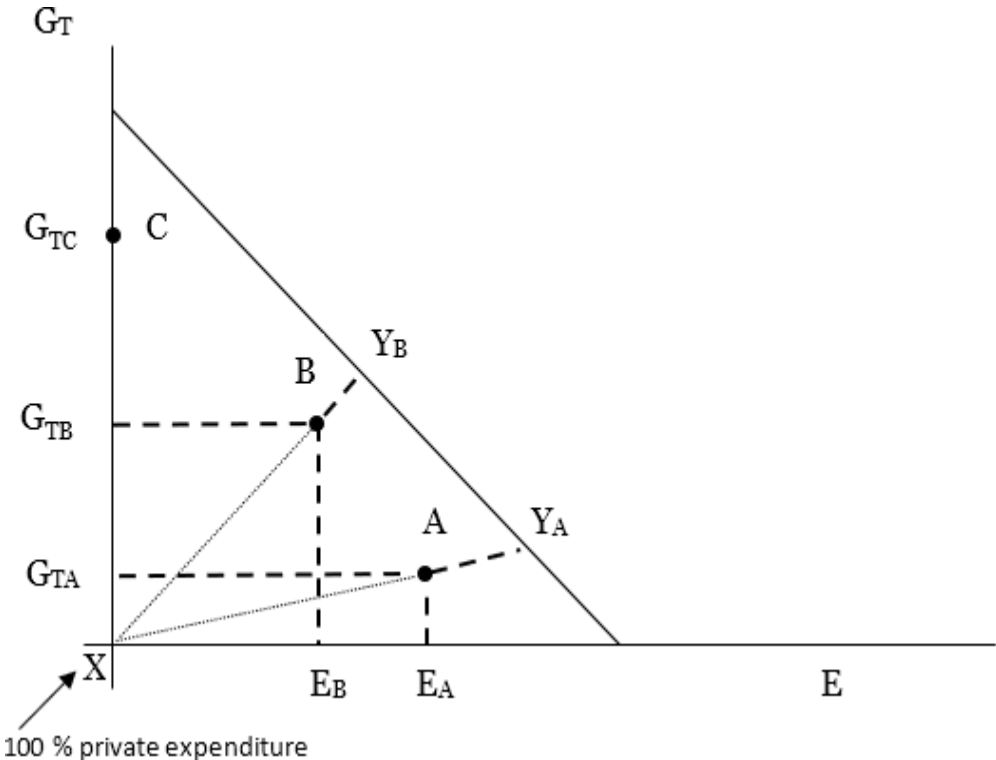
A – full financing from general taxes; B – partial financing from general taxes and earmarked payments; C – full financing from earmarked payments; D – financing mainly from earmarked payments, supplemented by general taxes and private sources; E – similar share of all three sources; F – financing from general taxes supplemented by private expenditure; G – full financing by private expenditure

Source: according to (Doorslayer & Wagstaff, 1999; Murray, Knaul, Xu, Musgrove, & Kawabata, 2012), modified, updated for earmarking by author

The concept of fiscal space for healthcare concerns primarily the universal part of the system. Figure 1 shows (or can be drawn for) the universal part of the system separately if we include in private expenditure only the regulatory fees and surcharges. By analogy, it could be applied to total healthcare expenditure. In this case, the entire system (all healthcare expenditures) can be drawn into the triangle, if we also include private sources of financing of the optional part of the system in private expenditure. Mathematically, it must always be true that the shares of three analysed variables together give 100 percent of the total indicator that we want to analyse on the triangle graph (in this case total health expenditure).

Figure 2 then shows three model situations with a combination of sources, including the delimitation on the axes and the connection to the apex of the triangle (with full funding from private sources – theoretical case). In this figure, the specific values of the share of financing from general taxes ( $G_T$ ) and earmarked payments ( $E$ ) can be deducted on the axes.

**Fig. 2: Shares of general taxes, earmarked payments, and private sources in creating the fiscal space in model situations**



Axes: Horizontal axis variable  $E$  – percentage (share) paid from earmarked payments for healthcare (health tax, social health insurance ...); vertical axis  $G_T$  – percentage (share) of resources paid from general taxes  
 Points:  $A$  – higher share of earmarked payments ( $E_A$ ), lower from general taxes ( $G_{TA}$ ), lower from private sources;  $B$  – the same share of  $E_B$  and  $G_{TB}$ , a small share from private sources;  $C$  – high share of general taxes ( $G_{TC}$ ), zero from earmarked payments, lower from private sources ( $100 - G_{TC}$ ). It can be deduced that the ratio of the distance  $d(A Y_A) / d(X Y_A)$ , or  $d(B Y_B) / d(X Y_B)$  corresponds to the share of private resources, the length of the line  $A Y_A$  or  $B Y_B$  indicates the size of private resources.

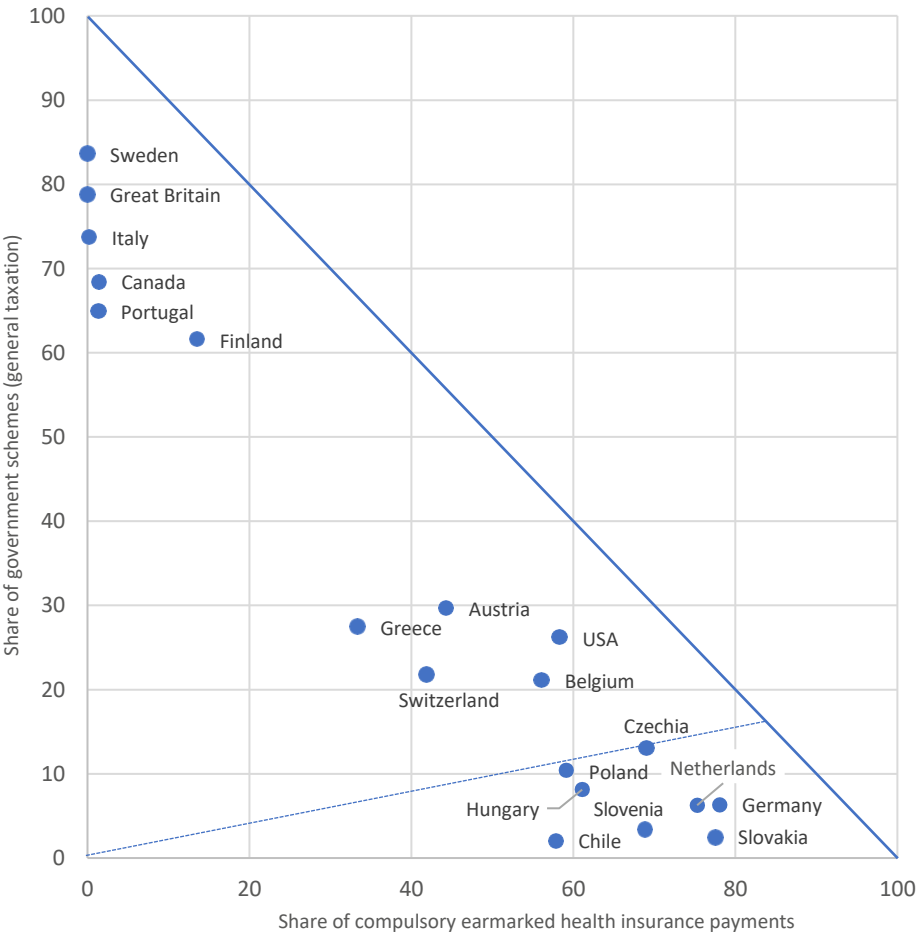
*Source: author, original scheme (Doorslayer & Wagstaff, 1999)*

We can utilize this theoretical concept for empirical analysis, concerning government schemes, and compulsory contributory health insurance schemes, the third variable in this case being the share of voluntary private expenditure, which is indicated for the Czech Republic by dividing the line from the zero point to the hypotenuse of the triangle by the relevant data point

(Figure 3). The dashed line is thus divided by this point for Czechia’s case according to the share of voluntary private expenditure on health, and can be drawn for other countries too. It includes also some other significant OECD countries, but we tried to limit the number of points so that the graph remains readable and the whole paper has got reasonable size. The author has got available also data and graph for other OECD countries by request.

As a supplementary information to the countries on the graph, we ought to note that USA, Netherlands and Switzerland are the main OECD countries that rely primarily on neoliberal principle of compulsorily (or quasi-compulsorily) bought private health insurance (with absolute premium amount) that is heavily regulated; the other countries collect the earmarked resources mainly on solidarity principle (usually proportional to earnings – percentage rate). Therefore, their earmarked share consists primarily from these compulsory private resources, which was one of the reasons for revision of OECD’s methodology when those schemes (like USA’s Affordable Care Act – Obamacare or Enthoven’s reform in the Netherlands) were established (OECD, 2020). USA’s case is even more complicated because of the plurality of resources and huge disputes during last decade whether the insurance plans are compulsory to buy or not for American citizens.

**Fig. 3: Triangular diagram of government, compulsory and voluntary health expenditures, OECD 2017, %**



Source: author, data (OECD, 2019)

## Conclusions

The resources for financing health care can be divided according to the character of health care they finance and the earmarking at the time of collection. While private resources and social health insurance are earmarked by nature, financing from taxation can be general or earmarked based on public choice and the health policy goals. The design of fiscal space for health for particular country corresponds to the sources used. We have provided a general overview of possible financing resources and pointed out their principal socioeconomic characteristics. We recognize if the resources are obligatorily or voluntarily allocated, used for universal or optional part of care, utilize primarily principle of solidarity or equivalency, are earmarked or not. Then we moved into the concept of fiscal space for health where these sources are mixed into financing schemes that together create the annual health budgets.

The application of a triangular graph clearly showing the share of the three variables (government expenditure, compulsory earmarked payments, voluntary private expenditure) in the creation of the fiscal space in healthcare has shown that the share of individual sources of financing differs fundamentally between countries. Three basic variants of dominant sources of healthcare financing can be traced: from general taxes, from compulsory solidarity-based payments (earmarked taxes, social health insurance) and from compulsory private payments (private insurance); in all cases supplemented by an appropriate share of optional private expenditure. The specific nature of compulsorily collected resources is important for building the fiscal space, from general taxes through health tax and variations of social insurance premiums collected as a percentage to nominal insurance premiums in the form of an absolute amount. From the general taxation various health schemes can be directly or indirectly subsidized or in case of private schemes, tax exemptions and special regimes can exist.

The triangular graph tells us that considering earmarking resources for health, we can observe three main groups of countries. The first one, including e.g. Canada, Great Britain, Sweden, which relies mainly or solely on general taxation as a resource for healthcare. And the second group, including e.g. Slovakia, Germany, Netherlands, Slovenia and also Czechia, that relies mainly on earmarked payments. Few countries fall into the third group (like USA, Switzerland or Austria) that combines resources with no major preference.

We can say that this paper's objective has been achieved, we enlightened the construction of fiscal space on both theoretical and empirical level. This has created further research opportunities to optimize Czech fiscal space in the future and better handle its configuration, knowing the elements it consists of. Given the nature of health expenditure, we also know how the health care financing behaves in the macroeconomic environment.

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## References

- Arrow, K. (1963). Uncertainty and the Welfare Economics of Medical Care. *American Economic Review*, 53(5), 941-973.
- Auerbach, A. J. (2010). Public Finance in Practice and Theory. *CESifo Economic Studies*, 56(1), 1-20. Retrieved 4 14, 2020, from [http://iipf.org/rmvp08\\_auerbach.pdf](http://iipf.org/rmvp08_auerbach.pdf)
- Bénard, J. (1985). *Economie Publique*. Paris: Economica.

- Bloom, D., Cashin, C., & Sparkes, S. (2017). *Earmarking for health. Theory and Practice*. Geneva: WHO.
- Buchanan, J. (1963). The Economics of Earmarked Taxes. *Journal of Political Economy*, 71(5).
- Cashin, C., & Tandon, A. (2010). *Assessing public expenditure on health from a fiscal space perspective*. Washington: World Bank.
- Culyer, A. J., & Newhouse, J. P. (2000). *Handbook of Health Economics*. Elsevier.
- Doorslayer, E., & Wagstaff, A. (1999). Equity in the finance of health care: some further international comparisons. *Journal of Health Economics*, 18, pp. 263-290.
- Engliš, K. (1932). *Malá finanční věda*. Praha: František Borový.
- Hamerníková, B., & Maaytová, A. (2010). *Veřejné finance*. Praha: Wolters Kluwer.
- Heller, P. (2006). The prospects of creating 'fiscal space' for the health sector. *Health Policy and Planning*, 26(2), pp. 75-79.
- Hellowell, M., Smith, K., & Wright, A. (2017). Policy lessons from health taxes: a systematic review of empirical studies. *BMC Public Health*, 17(1).
- Herrmann, J., Haarmann, A., & Baerheim, A. (2018). Patients' attitudes toward copayments as a steering tool - results from a qualitative study in Norway and Germany. *Family Practice*, 35(3), pp. 312-317.
- Holčík, J. (2009). *Systém péče o zdraví a zdravotní gramotnost*. Brno: MSD.
- Holčík, J. (2010). *Potřeba rozvoje zdravotní gramotnosti*. Retrieved 9 10, 2019, from [http://www.ped.muni.cz/z21/knihy/2010/26/26/texty/cze/holcik\\_s.pdf](http://www.ped.muni.cz/z21/knihy/2010/26/26/texty/cze/holcik_s.pdf)
- Kubátová, K. (2018). *Daňová teorie a politika*. Praha: Wolters Kluwer.
- McCoy, D., Chigudu, S., & Tillmann, T. (2017). Framing the tax and health nexus: a neglected aspect of public health concern. *Health Economics, Policy and Law*, 12(2), pp. 179-194.
- Meheus, F., & McIntyre, D. (2017). Fiscal space for domestic funding of health and other social services. *Health Economics, Policy and Law*, 12(2), pp. 159-177.
- Mertl, J. (2017). Private prepaid health financing schemes' role in health system. *Conference Proceedings RELIK 2017* (pp. 297-304). Praha: VŠE. Retrieved from <https://relik.vse.cz/2017/download/pdf/136-Mertl-Jan-paper.pdf>
- Mertl, J. (2018). The Relationships and Configuration of Universal and Optional Healthcare Financing Schemes in Czechia. *Danube: Law and Economics Review*(3), pp. 177-192.
- Murray, C., Knaul, F., Xu, K., Musgrove, P., & Kawabata, K. (2012). *Defining and Measuring Fairness of Financial Contribution to the Health System*. (GPE Discussion Paper Series: No.24). World Health Organization. Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2053994](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2053994)
- Němec, J. (2008). *Principy zdravotního pojištění*. Praha: Grada.
- OECD. (2015). *Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives*. Paris: OECD.
- OECD. (2019). *OECD Health Data Statistics*. OECD ILibrary: OECD. Retrieved 3 1, 2020, from <http://www.oecd.org/els/health-systems/health-data.htm>
- OECD. (2020). *Public funding of health care: OECD Policy Brief*. OECD. Retrieved 3 1, 2020, from <https://www.oecd.org/health/Public-funding-of-health-care-Brief-2020.pdf>
- Peková, J. (2011). *Veřejné finance: teorie a praxe v ČR*. Praha: Wolters Kluwer.
- Rosen, H. S., & Gayer, T. (2008). *Public Finance*. New York, McGraw-Hill education. Retrieved 4 14, 2020
- Tresch, W. (2015). *Public Finance: A Normative Theory (third edition)*. London: Academic Press.

Ulbrich, H. H. (2013). *Public Finance in Theory and Practice Second edition*. Retrieved 4 14, 2020, from <https://taylorfrancis.com/books/9780203817018>

Vostatek, J. (2000). *Sociální a soukromé pojištění*. Praha: Codex Bohemia.

Vostatek, J. (2013). Politická ekonomie financování zdravotní péče. *Politická ekonomie*, 61(6), pp. 834-851.

WHO. (2020). *Earmarking revenue - country experience*. Retrieved 3 1, 2020, from WHO: [https://www.who.int/health\\_financing/topics/earmarking-revenues-for-health/country-experience-database.pdf?ua=1](https://www.who.int/health_financing/topics/earmarking-revenues-for-health/country-experience-database.pdf?ua=1)

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# EGOVERNMENT AND CITIZENS' APPROACH IN THE CZECH REPUBLIC: PREFERENCES, OBSTACLES AND SOLUTIONS

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**Abstract:** *The purpose of this article is to further examine obstacles that governments face when implementing digitalized public services, also known as eGovernment, and how these could be rectified. In initial hypothesis the SKODA AUTO Research Team divided potential obstacles into two categories. The first one being linked to obstacles associated with the provision ('supply' side) of eGovernment and the second one connected with the citizens' approach towards eGovernment ('demand' side). Research Team conducted a survey, incorporating 1,613 respondents from across the Czech Republic, which identified and corroborated most common difficulties citizens face when interacting with eGovernment. Based on this confirmation this paper subsequently conducted an analysis of varying academic approaches, literature, and psychological studies in order to establish how could these obstacles in citizens' attitudes ('demand' side) be overcome. In specific, it focused on further engendering and nourishing citizens' positive attitude to eGovernment. These were eventually synthesized in the end of the article and transformed into the set of recommendations and expectations. Of note, although the data derived in the initial stage were solely from the Czech Republic the SKODA AUTO Research Team is convinced that the provided recommendations are versatile and, therefore, can be applied internationally.*

**Keywords:** *Digitalization, eGovernance, the Czech Republic, Population, Public Services, Obstacles, Behaviour, Citizens' Participation*

**JEL Classification:** *O38, O35*

## Introduction

Implementation of fully digitalized public services indisputably represents one of the key challenges for present-day effective governance. Nevertheless, despite its relevance numerous countries throughout Europe, and across the globe, continue to struggle with the process and its realization. Furthermore, due to numerous complexities – associated with ever-present discrepancies in infrastructure, societies or even accessibility to the internet – that exist between the states no unified panacea for delivering eGovernment effectively currently appears to be in sight. As a result, within the European Union (EU) itself, varying countries have developed different strategies and roadmaps for digitalizing their public services.

The focus of this article is to, firstly, provide primary data concentrating specifically on citizens' perspective regarding the Czech Republic's eGovernment services. Secondly, by inferring and establishing what the key obstacles are, the article will propose and further explore ways in which citizen's acceptance of digitalized public services can be increased and further enhanced. Although the initial stage derived data solely from the Czech Republic the SKODA AUTO Research Team is convinced that the recommendations are to a large extent transcendent with versatile applicability and, therefore, can be likewise implemented internationally, particularly in other European countries.



## **1 Formulation of the Problem**

Despite different approaches in implementing eGovernance that can be found and identified across the globe, several common denominators appear to remain. These denominators are often epitomized by overarching commonalities found in obstacles that governments face when transforming their public services for eGovernment. Eventually, these can be, among many other potential division lines, broadly categorized into two essential groups.

The first group primarily encapsulates the technical or ‘supply’ issues that governments have to overcome when initially setting up the eGovernment framework. In other words, the first group of problems is typically associated with the process of actually digitalizing public services as such and making them easily accessible to the public. These therefore include areas, such as the creation of online portals, training governmental employees, ensuring sufficient security of new systems, etc.

The Second group subsequently incorporates issues associated primarily with the ‘demand’ side of digitalized public services. In other words, problems closely interconnected with questions, such as how to make sure that citizens will start using eGovernment services, how to provide necessary training to the public for using them, what behavioural components of the public are currently most disruptive for citizens’ acceptance of digitalized public services, etc.

This article is primarily concerned with the second set of issues, or as labelled above the ‘demand’ side of eGovernment. In particular, it deals with reasons which currently discourage citizens from utilizing digitalized public services, even when such services have been made readily available to them, and most importantly how to rectify them. Furthermore, and partly as a result, it needs to be noted that the SKODA AUTO Research Team oftentimes also addresses processes which in fact the government (the supply side) itself needs to, or at least should, consider implementing when striving to engender more favourable approach towards the eGovernment on the citizens’ side.

## **2 Methodology**

The initial stage of the data collection for assessing the societal perception of eGovernment in the Czech Republic occurred in two key phases and on two distinct platforms. Overall, the SKODA AUTO Research Team in the initial stage gathered data from 1,613 respondents – a sample which was representatively divided between different genders, ages, educational backgrounds, and locations. In the key first phase, between October 31<sup>st</sup> 2019 and November 6<sup>th</sup> 2019, Research Team online acquired data from 611 respondents via Computer-assisted web interviewing (CAWI) method. During the second phase, which took place between October 11<sup>th</sup> 2019 and October 25<sup>th</sup> 2019, SKODA AUTO Research Team gathered data from 1,002 respondents. Out of these, 680 were interviewed via Pen-and-Paper Personal Interview (PAPI) method and 322 via Computer-assisted Personal Interview (CAPI) method. Followingly, we have identified key problem areas in which citizens’ participation in eGovernment is lacking. This served as a basis for the subsequent effort in identifying key recommendations, via psychological studies and literature analysis, which should be implemented in order to buttress and further enhance the citizens’ utilization of digitalized public services.

## **3 Survey Results**

Overall results indicated that the Czech Republic’s society generally supports the digitalization of public services. In specific, those who were interviewed online supported digitalization in 86% of cases, those who were interviewed in-person in 67% of cases. Likewise,

corresponding results were obtained when asked about whether respondents perceive the digitalization of public services as a beneficial process.

Nevertheless, out of those who reported that they do access and use digitalized public services (N=271) the key deficiencies and problems mentioned were particularly, listed in order as they were most commonly reported: 1) Offered services are not fully digitalized, 2) Offered services are complicated and non-intuitive; 3) I do not know how to use Portal Obcna [key governmental online platform for accessing digitalized public services in the Czech Republic]; 3) Logging into the Portal Obcna is difficult; 4) I am worried about the security of my data and personal information; 5) Online services are not accessible via mobile phones; 6) Provided forms are not user-friendly.

This indicates that while some of these obstacles clearly fall into the first aforementioned category that can be rectified or notably improved on the ‘supply’ side (that is directly by the government); others are more likely to fall into the category associated with problems or general distrust on the ‘demand’ side (the side which is predominantly associated with citizens’ approach). This in particular refers to issues such as not knowing how to log-in; broadly suggesting a general education deficiencies and a lack of ICT skills among the population, or very common fears pertaining to the overall data security when accessing such services online.

Additionally, the survey has clearly indicated that some societal groups are more prone to such tendencies (for instance epitomized by the high distrust in eGovernment or by the lack of ICT skills), therefore more commonly intentionally avoiding or potentially being directly unable to access eGovernment services as currently provided by the government. These groups particularly included those who were from the 60+ age group, and those with below-average household income.

## **4 Discussion and Potential Solutions**

The results of our analysis indicate that in order to further strengthen active citizens’ approach towards eGovernment (the ‘demand’ side) it will be necessary to focus on two interrelated tasks – (1) a change of the negative, ambivalent and or neutral attitudes to eGovernment to the positive ones; (2) maintenance and reinforcement of the existing positive attitudes. Both these tasks are of the same importance as it was illustrated in a research conducted by Andersen (2016). This chapter of our article is therefore structured in the following way:

- definition and description of the attitudes, their structure and impact on our behaviour
- psychology of change management and attitudes to information technologies and eGovernment
- recommendations focused on positive changes of the CR citizens to eGovernment

### **4.1 Attitudes, their nature and influence on human behaviour**

The term “attitude” is used to represent relatively complex psychological and sociological phenomenon. Attitudes have been traditionally studied, particularly within social psychology because of their influence on social life. There exist different definitions of the attitudes.

One of the most influential definitions of the attitudes has been proposed by Secord and Backman in 1969. According to these authors attitudes represent “certain regularities of an individual’s feelings, thoughts and predispositions to act toward some aspects of his environment” (Arnold and Randall, 2016: 212). Pennington and McLoughlin (2013: 193) define attitudes as “general evaluations people make about themselves, others, objects or

issues”. According to them attitudes have a past, present and future; they were developed from our past experiences, they guide our current behavior and can direct our development in the future.

There exists relatively wide agreement (i.e. Pennington and McLoughlin 2013, Jex and Britt, 2014, Arnold and Randall, 2016) that attitudes can be broken down into three components:

- Cognitive component
- Affective component
- Behavioral component

In practical terms this structure means that attitudes reflect a person’s tendency to think, feel and behave in a positive or negative manner towards different “objects” (eGovernment and information technologies in our research).

The cognitive component refers to person’s perceptions and knowledge of the object of the attitude and/or what the person says he/she believes about that object (i.e. that eGovernment services are reliable).

The affective component of an attitude is reflected in a person’s feelings and physiological responses to the object of an attitude (i.e. satisfaction when a person manages to reach expected outcome while using eGovernment tool(s)).

Behavioral component is reflected by a person’s (observable) behavior toward the object of the attitude (i.e. propagating eGovernment, continuing to use eGovernment tools).

Attitudes are relatively enduring, and they do not change easily. It would be naive to believe that if somebody holds a negative attitude to eGovernment today that experience, feelings, and behavior toward this “object” will change tomorrow. Change of the attitudes usually represents a long-term process, particularly in a case of negative attitudes. While positive attitudes can turn into ambivalent and/or negative ones on a basis of one or few more “bad” experiences (i.e. “couple” of frustrations associated with the efforts to use eGovernment tool(s)) turning negative attitudes to positive ones demands much more time (one or two positive experiences with the use of eGovernment tool(s) represent only a potential start of a change process). Public administration officers and their managers must therefore pay attention to both a task to make sure that people with positive attitudes to eGovernment will not “lose their faith” in this service/institution and a task to change existing negative perceptions, feelings and behavioral tendencies toward eGovernment.

Arnold and Randall (2016) explain three general functions/roles of the attitudes.

- Attitudes help us to make sense of our environment and act accordingly. For example, people who trust the government are more likely than others to believe that implementation of eGovernment is a good and useful “thing”.
- Attitudes help us to define and maintain our sense of self-identity (who we are) and self-esteem (a sense of personal value). For example, people with frustrating experience with information technologies and/or eGovernment will probably tend to avoid using these technologies and services in order to reduce a risk that they will be perceived by others as incompetent, out of date etc.
- Attitudes help us maintain good relations with other people. For example, people with positive attitudes to eGovernment are probably members of the groups/communities with similar attitudes and on the contrary. In this respect a task for the digitally literal

and competent people (particularly and hopefully public administration officers and managers) to offer a friendly and sensitive assistance to those who are digitally excluded seems to be very important.

There were identified four factors which increase the correspondence between attitudes and behavior (Arnold and Randall, 2016):

- When the object of the attitude is well defined. In reference to eGovernment this means that the clear and understandable explanation of its tools and their function increases willingness of the citizens to use them.
- When attitude strength is high – i.e. both strong positive and strong negative attitudes to eGovernment have significant impact on the behavior of the citizens.
- When knowledge supporting the attitudes is plentiful and complex. This means that people responsible for eGovernment should avoid tricking and “games playing”. They should communicate to citizens complex and “fair” information – i.e. stressing positive aspects and assets of available eGovernment services while also admitting its (current) limitations and liabilities.
- When the attitude supports important aspects of the self (see also above the role of attitudes in a maintenance of self-identity). Two of the important aspects of the self are represented by self-esteem and self-efficacy (believe in our ability to master different tasks and activities successfully). In reference to this fact eGovernment and its services must be presented and communicated as a matter of choice (not as a necessary “duty”) as well as a user-friendly and manageable option.

#### **4.2 Psychology of change management and attitudes to information technologies and eGovernment**

Implementation of eGovernment must be understood as a long-term project and the same concerns also a development and change of the citizens’ attitudes as part of this “endeavour”. The following text therefore focuses on the psychological principles which underly successful management of change.

Planning and implementing any change must be always understood as a process during which both “authors” of the change and those who will be affected by it are learning to interact and cooperate together in the new ways. Our explanation of the psychology of change will be therefore based on the approaches linked to the theory of experiential learning (Pavlica et al., 2015). Osland et al. (2001) describe (organizational, societal etc.) change in the following way:

- Managing change is a joint project/task for both managers and employees, local authorities, and citizens etc.
- Change is a process rather than event.
- The essential components of the change include the need for change, forming guiding coalition, developing a shared vision, creating a tentative plan, analyzing potential resistance, obtaining participation, establishing and implementing plan, communicating the change, and evaluating the change.
- Resistance to change is natural reaction and part of the process of adaptation.
- Managers/people responsible for implementation of change should seek to understand the sources of resistance and listen carefully to concerns employees/people have regarding proposed change rather than seeing those who resist as adversaries.

- Tactics for dealing with resistance include empathy, education and communication, participation and involvement, facilitation and support, co-optation, negotiation and (hopefully) agreement.

Key role in the change process represent emotions, particularly negative ones like resistance, disappointment, frustration. If we link this observation to a fact that affective component represents one of three basic structural parts of attitudes it must be clear that understanding emotional reaction of people affected by changes is crucial in the change management process.

Van Velsor et al. (2010) are referring to Bridges' model of emotional response to change in this respect. It shows that the path through change is indirect and painful and consists of five phases: (1) denial of change; (2) resistance to change; (3) phase of "chaos" – middle of the process associated with feelings of ambiguity, uncertainty, fear and self-doubt; (4) exploration; (5) commitment.

Phase (3) seems to play crucial role in the process. Leaders/implementers of change must be able to reduce feelings of ambiguity, doubts, and fear (i.e. through patient listening, smart arguing, encouraging people and rewarding them for desirable behavior), otherwise they will lose the "game" (Yousef, 2000).

Leading people through change demands understanding and responding effectively to complex emotional dynamics described above. It is normal that in the initial phases of change implementation majority of people affected by it tend to hold negative attitudes. It is normal as well that even in the final phase of change implementation (phase of commitment) there still exist a group of people with negative attitudes to it. The same applies also to the efforts to implement eGovernment.

A very useful guide to a successful change (and attitudes) management offers Authentic Leadership Paradox Wheel (ALPW) developed by Bunker and Wakefield in 2005 (Van Velsor et al., 2010). It was constructed as a tool which helped federal government of Canada with restructuring the nature and scope of public service.

ALPW reflects a fact that successful change management requires balancing the dynamic tension between seemingly contradictory leadership agendas. ALPW reflects the dynamic tension that exist between six pairs of competing but equally important attributes of change and transition leadership:

- 1) Self-reliance VS Trusting others
- 2) Optimism VS Realism
- 3) Being tough VS Being empathetic
- 4) Sense of urgency VS Realistic patience
- 5) Catalyzing change VS Coping with transition
- 6) Going against the grain VS Capitalizing on strengths

Ability to maintain balance between all these competing/opposing behaviors helps leaders to gain trust of "their" people. However, besides maintaining balance the task is also to use each of the behaviors in the "right amount". The opposites to "right amount" (i.e. of self-reliance) are "underdoing" (i.e. never/rarely relying on one-self) or "overdoing" (i.e. always relying only on one-self) each of the recommended approaches. The practical trouble concerns a fact that many managers and leaders tend to rely too much (overdoing) on approaches with which they

have a positive experience (i.e. self-reliance) while overlooking and/or underestimating (underdoing) their opposites (i.e. trusting others).

Implementation of eGovernment represents a technological change. Following text brings a brief overview of the current findings related to readiness and willingness of people to accept new technologies.

Study conducted by Henry and Stone (1997) illustrated that self-efficacy and outcome expectancy represent important determinants of information technology acceptance. In practical terms this means that people will accept/begin to use information technologies (and within it also eGovernment) when they believe both they can master them, and these tools will be useful/helpful.

Potosky and Bobko (2001) demonstrated that attitudes to information technologies (computers in their research) can influence the way in which people perceive/approach them. According to their findings people with positive attitudes to computers usually report on positive experience with them and the opposite. Different study conducted by Marikyan et al. (2020) presents the findings about an influence of personal experience with information technologies on the feelings and attitudes towards them. These authors proved that new positive experience with information technologies can have positive impact on people with originally negative attitudes to them because it challenges their negative expectations. Results of these and other similar studies (i.e. Ecker et al., 2014, Dibbets and Meesters 2020) demonstrate that relationship between attitudes and personal experience is two-sided and relatively complex. This can be understood as one more argument for the need to pay specific attention to a formation and development of the citizens' attitudes to eGovernment.

Vejačka (2016) tested in his work which factors (perceived usefulness; perceived quality; amount of information; perceived security; perceived enjoyment; perceived ease of use) of technology acceptance model have positive influence on citizens' adoption of eGovernment in Slovakia. He came to conclusion that significant influence on citizens' adoption of eGovernment (in other words on a development of positive attitudes to eG) have perceived usefulness, perceived security, amount of information and perceived quality of service. The factors of perceived ease of use and perceived enjoyment were not detected as statistically significant in this research.

Study conducted by Mlekus et al. (2020) presents quality of output, novelty, dependability, and perspicuity as the significant general predictors of technology acceptance. In the discussion of the results authors of the study came to conclusion that change managers should include the future users' opinions in the technology design process. Analogical "bottom-up" approach was described by Noack and Kubicek (2010) as a part of introducing online authentication in Germany and recommended also by Crabu and Magaudda (2018).

Another interesting set of findings related to attitudes to information technologies and consequently to eGovernment is focused on adults and older people. In a perspective of the specific needs of the adult and older learners, informal approach to a development of their new skills and competencies has been recommended several times (i.e. Osland et al., 2001, Peeters et al. 2014). This can occur in both traditional schools and specific community and learning centers for adult and/or senior citizens. As very useful and motivating were proved digital games in a development of digital competencies of older people (Lin and Chuang, 2019). This finding demonstrates that general believe in an existence of the negative attitudes of the older people towards new technologies is wrong and misleading (see also Fergusson et al., 2017).

Two recent studies demonstrated that the use of new information technologies (and potentially also of the eGovernment services) can satisfy important social needs of the older

people. Shin and Kim (2020) came to conclusion that the use of new technologies can help to satisfy such important social needs of the older people like a need for a friend/close human being. Wu and Liu (2020) illustrate that the use of digital technologies can also help to satisfy the need for control – a need to have an opportunity to influence what is happening to me and what is happening around me.

## **Conclusion and Recommendations**

The survey results, the SKODA AUTO research team has gathered in its initial survey, have corroborated the earlier hypothesis that the obstacles found in the approach of citizens towards eGovernment (‘demand’ side) are as relevant and potentially common as those found on the government side (‘supply’ side). This article has subsequently focused on current academic discussion and approaches how could specifically the ‘demand’ side of the eGovernment be further enhanced, by for instance increasing citizens’ willingness to interact with digitalized public services, or be equipped with better ICT skills. Inferring from that a set of recommendations have been created.

As it was stated before implementers of eGovernment should focus on two interrelated tasks: (1) a change of the negative, ambivalent and or neutral attitudes to eGovernment to the positive ones; (2) maintenance and reinforcement of the existing positive attitudes. In respect to the results of our analysis of the nature of attitudes, of the psychological principles of change management as well as to the presented research findings we would like to address people who are responsible for an implementation of the eGovernment in the Czech republic the following practical recommendations:

- Be patient - attitudes are relatively enduring, and they do not change easily. Turning negative attitudes to positive ones demands a relatively long time – one or two positive experiences with the use of eGovernment tool(s) represent only a potential start of a change process.
- Many Czech citizens (respondents in our research) were complaining about a lack of information about eGovernment. Well design information campaign is needed, therefore. Clear and understandable explanation of eGovernment, its tools and their function increases willingness of the citizens to use this service. Campaign should focus on topics of eGovernment usefulness, security, complexity, and quality.
- Information campaign must be well balanced at the same time. People responsible for eGovernment should avoid tricking and “games playing”. They must communicate to citizens complex and “fair” information – i.e. stressing positive aspects and assets of available eGovernment services while also admitting its (current) limitations and liabilities. Further, eGovernment and its services must be presented and communicated as a matter of choice (not as a “duty”) as well as a user-friendly and manageable option.
- Do not forget that digital technologies (including eGovernment tools) can help adult and older people satisfy their social needs – i.e. need to belong, need to have a friend/close person, need for control. Help people understand that through learning how to use of eGovernment they can meet new friends and colleagues, they can gain better control over their matters and issues etc.
- Be prepared for resistance to eGovernment implementation – it is natural reaction and part of the process of adaptation to changes. Try to understand the sources of resistance and listen carefully to concerns citizens have regarding eGovernment rather than seeing those who resist as adversaries.

- Be versatile, try to behave according to principles of Authentic Leadership Paradox Wheel (see above). Try to avoid extremes (underdoing and overdoing) in application of different leadership and managerial approaches while implementing (new) eGovernment tools and services.
- Use “bottom-up” approach, include the future users’ (Czech citizens’) opinions and experience in the eGovernment tools and services design process. Allow people test different versions of the new eGovernment tools before you implement them. Try to do it in a form of games which help citizens also to develop their digital competencies and to increase their self-esteem and feelings of self-efficacy.
- Educate adult and older citizens in informal, friendly ways and settings – i.e. in community centers (libraries). Involve in this process also skilled volunteers from wider public, do not rely on the trained professionals exclusively.

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## References

- Andersen, T.K. (2016). Beyond Acceptance and Resistance: A Socio-Technical Approach to the Exploration of Intergroup Differences in ICT Use and Non-use at Work. *Systematic Practice and Action Research*. Volume 29, pp. 183–21. Available at: <https://doi.org/10.1007/s11213-015-9360-5>
- Arnold, J., Randall, R. et al. (2016). *Work Psychology. Understanding Human Behaviour in the Workplace*. Edinburgh: Pearson Education
- Crabu, S., Magaudda, P. (2018). Bottom-up Infrastructures: Aligning Politics and Technology in building a Wireless Community Network. *Computer Supported Cooperative Work*. Volume 27, pp. 149–176. Available at: <https://doi.org/10.1007/s10606-017-9301-1>
- Dibbets, P., Meesters, C. (2020). Disconfirmation of confirmation bias: the influence of counter-attitudinal information. *Current Psychology*. Volume 48, pp. 351-358. Available at: <https://doi.org/10.1007/s12144-020-00744-x>
- Ecker, U.K.H., Lewandowsky, S., Fenton, O. et al. (2014). Do people keep believing because they want to? Preexisting attitudes and the continued influence of misinformation. *Memory and Cognition*. Volume 42, pp. 292–304. Available at: <https://doi.org/10.3758/s13421-013-0358-x>
- Ferguson, C.J., Nielsen, R.K.L., Maguire, R. (2017). Do Older Adults Hate Video Games until they Play them? A Proof-of-Concept Study. *Current Psychology*. Volume 36, pp. 919–926. Available at: <https://doi.org/10.1007/s12144-016-9480-9>
- Henry, J.W., Stone, R.W. (1997). The development and validation of computer self-efficacy and outcome expectancy scales in a nonvolitional context. *Behavior Research Methods, Instruments, & Computers*. Volume 29, pp. 519–527. Available at: <https://doi.org/10.3758/BF03210603>
- Jex, S.M., Britt, T.W. (2014). *Organizational Psychology. A Scientist-Practitioner Approach*. 3d edition. New Jersey: Wiley
- Lin, C., Chuang, S. (2019). A Study of Digital Learning for Older Adults. *Journal of Adult Development*. Volume 26, pp. 149–160. Available at: <https://doi.org/10.1007/s10804-018-9314-0>



- Marikyan, D., Papagiannidis, S., Alamanos, E. (2020) Cognitive Dissonance in Technology Adoption: A Study of Smart Home Users. *Information System Frontiers*. Available at: <https://doi.org/10.1007/s10796-020-10042-3>
- Mäki, M., Kokko, T. (2019). Digital Tools in Service Competence Development — Case: Learning Verbal Judo Digitally. *Journal of Service Science Research*. Volume 11, pp. 69–91. Available at: <https://doi.org/10.1007/s12927-019-0004-7>
- Mlekus, L. et al. (2020). How to raise technology acceptance: user experience characteristics as technology-inherent determinants. *Gruppe. Interaktion. Organisation. Zeitschrift für Angewandte Organisationspsychologie (GIO)*. Volume 51, pp. 273-283.
- Noack, T., Kubicek, H. (2010). The introduction of online authentication as part of the new electronic national identity card in Germany. *IDIS*. Volume 3, 87–110. Available at: <https://doi.org/10.1007/s12394-010-0051-1>
- Osland, J., Kolb, D., Rubin, I. (2001). *Organizational Behavior. An Experiential Approach*. 7th edition. New Jersey: Prentice Hall
- Pavlica, K., Jarošová, E., Kaiser R.B. (2015). *Vyvážený leadership*. Dynamika manažerských dovedností. Praha: Management Press
- Peeters, J., De Backer, F., Buffel, T. et al. (2014) Adult Learners' Informal Learning Experiences in Formal Education Setting. *Journal of Adult Development*. Volume 21, pp. 181–192 (2014). Available at: <https://doi.org/10.1007/s10804-014-9190-1>
- Pennington, D., McLoughlin, J. (2013). *AQA(B) Psychology for As*. Milton Park: Hodder Education
- Potosky, D., Bobko, P. (2001). A Model for Predicting Computer Experience from Attitudes Toward Computers. *Journal of Business and Psychology*. Volume 15, pp. 391–404. Available at: <https://doi.org/10.1023/A:1007866532318>
- Shin, H.I., Kim, J. (2020). My computer is more thoughtful than you: Loneliness, anthropomorphism and dehumanization. *Current Psychology*. Volume 39, pp. 445–453. Available at: <https://doi.org/10.1007/s12144-018-9975-7>
- Van Velsor, E. et al. (2010). *Handbook of Leadership Development*. 3d edition. San Francisco: Jossey-Bass
- Vejačka, M. (2016). Citizen Adoption of eGovernment in Slovakia. *Journal of Applied Economic Sciences*. Volume 39, Issue 7, pp. 1395-1404.
- Wu, L., Liu, J. (2020). Need for control may motivate consumers to approach digital products: a social media advertising study. *Electronic Commerce Research*. Available at: <https://doi.org/10.1007/s10660-020-09399-z>
- Yousef, D.A. (2000). The interactive Effects of Role Conflict and Role Ambiguity on Job Satisfaction and Attitudes Towards Organizational Change: A Moderated Multiple Regression Approach. *International Journal of Stress Management*. Volume 7, pp. 289-303.

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# CORPORATE PERSPECTIVE ON DEVELOPMENT OF CZECH E-GOVERNMENT SERVICES

**Jiří Strouhal, Josef Horák, Jiřina Bokšová, Michal Bokša, Karel Pavlica**

**Abstract:** *Digital transformation is becoming a popular trend today and it applies to e-Government as well. Since the digitalization is often done merely as applying new technology into an organization without considering the internal processes or complete business model, it is evident, that digitalization in public administration is often focused on renovation the visual part of public portals, while, according to Manfreda (2017), bureaucratic procedures and processes often remain unchanged. This research aims to determine which public administration services shall be digitized as a matter of priority from Czech corporate representatives' point of view. Research sample covers 278 interviewees, mostly CEOs and heads of ICT departments. These representatives were personally interviewed via phone calls. Results show relatively high level of digitalization of Czech companies mostly having digitized financial agenda, HR agenda and logistics. As potential surprising finding we can say that despite interviewees attach high priority to digitalization, their companies have not developed any strategic approach to digitalization.*

**Keywords:** *e-Government, Public administration, TOP100 Companies, SMEs, ICT, Digitalization, Czech Republic*

**JEL Classification:** *L86, L88, Q55*

## **Introduction**

E-government is more than simply making information and some citizen services available via a website. E-government runs wide and deep across all aspects of government, deep within the core of every government entity (Curtin et al., 2013).

The general perception is that e-government uptake helps to reduce costs by making operations more efficient, serving citizens and companies better and reducing complex and over-stretched bureaucratic system (Sharifi and Manian, 2010; Basu, 2004). Past studies have highlighted the potential contribution of e-government to enhance interactivity, transparency, and openness of public sector entities and to promote new forms of accountability (Bonson et al., 2012). Government websites or e-government sites have evolved from the pure information-sharing phase to interactive, transactional, and intelligent or integration phase. Today, many nations view e-government as an enabler of economic competitiveness and growth (Thi et al., 2014).

## **1 Statement of a problem**

There are a number of empirical studies undertaken in different countries to study e-government adoption. For example, United States (Norris and Moon, 2005), Germany (Schedler and Schmidt, 2004), Britain (Li, 2003) and South Africa (Wong and Welch, 2004). These studies are conceptual, descriptive and exploratory in nature. However, the findings failed to provide relevant facts regarding the current state of e-government across different countries and sectors.

Changing the relationship between citizens and government, businesses and government are often cited as goals for e-government adoption and implementation. Networks such as e-

government have the potential to improve interactions between government and businesses (Mossberger et al., 2013).

Advances in ICT have changed what is measurable, analysable, and communicable within firms. Firms that invest significantly in ICT – either concurrently or in prior periods – are likely to have a greater volume of digitized information to draw on. Conversely, firms that shift to being more data-driven are likely to boost their ICT to provide better inputs to data-driven decision-making (Brynjolfsson and McElharan, 2016).

Härting et al. (2017) believes that the potential value of digitalization is influenced by efficiency, innovation, data privacy, mobility, new business models, and human integration. As moderators within their model act industry and company size.

Although public administration within single country has no competition and therefore contemporary challenges may be less relevant, the environment is also forcing it into changes. Citizens are namely expecting number of digitized services and bringing e-Government services towards them (Manfreda, 2017).

The concepts related to e-Government that were important a decade ago significantly differ from the topical concepts. Digital transformation is becoming a new trend today and it applies to e-Government as well. Since the digitalization is often done merely as applying new technology into an organization without considering the internal processes or complete business model, it is evident, that digitalization in public administration is often focused on renovation the visual part of public portals, while bureaucratic procedures and processes often remains unchanged (Manfreda, 2017).

Over the years, EU member states have attempted to adopt and implement the objectives enshrined within EU e-government strategies. Nevertheless, nowadays, member states are far from achieving most of these objectives. Recent EU research projects points to the fact that the ICT systems of the member states are still not inter-operable within each other (Kalvet et al., 2018).

The adoption of National G2B e-government services by businesses in the countries represented in DIGINNO (Digital Innovations Network) is above 70 % (DG Connect, 2018).

Denmark adopts a centralized approach to the delivery of G2B e-government services. The G2B platform (virk.dk) is a user centric platform that provides digital self-service. The G2B platform hosts e-forms and e-documents. The platform is accessible in Danish and English. Both horizontal (all inclusive) and vertical (sector specific) G2B services present in Denmark can be accessed on this platform. However, these services are grouped into 8 categories. These services include: social contributions for employees; corporate tax: declaration and notification; VAT: declaration and notification; registration of a new company; submission of data to statistical offices; customs declarations; environment-related permits (including reporting); and public procurement (EC, 2015; Williams et al., 2018).

Sweden adopts the decentralized approach toward G2B e-service delivery. On the [verksam.se](http://verksam.se) it is not a one stop shop for all G2B services. It is only a central hub for few fundamental services. These services are company registration; tax related issues; changing company data; creating a business plan; searching company names; and links to checklist on how to start a company (verksam, 2018). The Swedish Employment Agency, the Swedish Companies Registration Office (who is the platform operator), the Swedish Tax Agency and the Swedish Agency for Growth provide these services to the platform. The Swedish Companies Registration Office manages the platform. G2B e-government services are

delivered in Swedish and in some cases English. But the supporting language vary from agency to agency.

In Germany at the federal level, G2B service delivery is via the e-government portals of the different agencies and [www.bunde.de](http://www.bunde.de). Bunde.de is a platform where informational services on G2B and G2C services are delivered. Unlike the case of Denmark and Sweden, Bunde.de is not a user centric platform. The services are delivered in German (EC, 2016).

Major companies may not be affected by the need to outsource their G2B service needs. However, small start-ups and SMEs are affected more by these barriers identified in the delivery of G2B service delivery in the EU. Hence, in order to make these small start-ups and SMEs competitive, there is the need to make the G2B cross-border service delivery efficient (Williams et al., 2018).

In their turn Alshehri et al. (2012) contend that an e-Government is understood as a “means to deliver government related information and services”.

Papadomichelaki and Mentzas (2009) contended that one of the main critical factors in the e-Government evolution is the development of websites that better serve the needs of citizens. However, we face a challenge: the implementation of the idea that an e-Government is not a technology. On the contrary, the use of technologies in the service of governmental institutions, whose purpose is to improve the quality of life of their citizens by redefining the relationship they establish with their government (Kumar et al., 2007). According to Gautrin (2004) the existence of online services in the governmental field can significantly increase accessibility, as well as save the time and the money of citizens.

## 2 Methods

The main aim of this research was to determine which state services should be digitized as a matter of priority from the point of view of the experience and opinions of company representatives.

As part of data collection, a combination of telephone surveys and online surveys was chosen. Telephone survey was intended for a sample of 250 companies selected according to fields of activity and company size; the online survey was intended for respondents from the TOP100 Czech companies (ranking based on total sales in 2018), where 28 companies responded. The survey itself was conducted in the period November – December 2019.

The structure of respondents was as follows:

**Tab. 1: Structure of Respondents**

	<b>Number of companies</b>	<b>Share</b>
Agriculture	10	4 %
Production	83	30 %
Trade	61	22 %
Services	99	36 %
Knowledge services	25	9 %
<b>TOTAL</b>	<b>278</b>	<b>100 %</b>

*Source: our research*

Within the results presented below, we dare to work with three groups only: (i) production and agriculture, (ii) trade, and (iii) services (including knowledge services).

In terms of company size, 178 small companies (64 % of respondents), 63 medium-sized companies (23 % of respondents) and 37 large companies (13 % of respondents) were surveyed.

If we look at the respondents who responded the survey, the CEOs dominate (44 % of respondents), the heads of the ICT departments made up 31 % of the respondents, and the CFOs 25 % of the respondents.

### 3 Problem solving

In the first part of the survey, we focused on the current level of digitalization in individual companies. According to the respondents, the level of digitalization in their companies is at least relatively advanced (71 % of respondents) – but it should be mentioned that due to self-evaluation, this is a subjective result. The highest level of digitalization was recorded among medium-sized companies (84 % of respondents), on the contrary – and here it is necessary to emphasize the above subjective self-assessment – the lowest level of digitalization was recorded in a sample of large companies (57 % of respondents). It can also be said in the industrial context that a higher level of digitalization is in the sample of companies in the field of trade (77 % of respondents), respectively in services (74 % of respondents).

Now let's see which of the company's activities have already been digitized:

**Tab. 2: Digitized Agenda in Czech Companies**

	Production and agriculture	Trade	Services
Financial accounting and financial reporting	93 %	80 %	82 %
Controlling	76 %	66 %	65 %
Budgeting	62 %	57 %	69 %
Costing system	69 %	48 %	54 %
Verification of identity of suppliers and customers	65 %	67 %	48 %
Supply system	67 %	69 %	38 %
Customer network	47 %	57 %	41 %
Business logistics	56 %	62 %	27 %
HR agenda	46 %	49 %	37 %
Tenders	31 %	36 %	48 %
Training and development of employees	27 %	36 %	44 %
Production automation	46 %	8 %	10 %
Support activities	19 %	16 %	19 %

*Source: our research*

Overall, it can be said that the area of financial agenda (accounting and reporting, controlling, costing and budgeting) dominates regardless of the size of companies; in the case of large companies, the area of HR agenda and supply/logistics is often digitized (65 % of respondents). At the same time, it would be good to state here what the respondents have in mind under the item of “supporting activities” – e.g. communication with the public administration, internal communication or document management and archiving, attendance records, production planning and management, project documentation, etc.

Respondents most often cite an increase in the efficiency of company processes (87 % of respondents) and an increase in competitiveness (67 % of respondents) as the engine for digitizing the company. It is mentioned by 32 % of respondents digitalization being a decision of the parent company. Efforts to comply with the requirements of applicable legislation or public administration, efforts to optimize costs and the management of the company, efforts to save time or efforts to protect the environment were also mentioned in a minority.

In the context of the above, it is interesting that more than half of the respondents (58 %) mention that they do not have a designated specialist for digitalization. 29 % of respondents have an internal employee for digitalization, the rest use the services of external consultants. Medium-sized (40 %) and large (54 %) of companies have their own employees being in charge of digitalization.

In the second part of this research, we focused on the digitalization plan in the company. 51 % of respondents give digitalization of their company a top or at least high priority – this trend is especially noticeable in trade companies (62 % of respondents), less so in production and agriculture companies (44 % of respondents). At the same time, it is a high priority topic especially for medium-sized and large companies (60 % of respondents), less so for small companies (46 % of respondents).

From this point of view, however, it is interesting that the vast majority of respondents have not developed any strategic approach to digitizing the company (64 % of respondents) – only 8 % of respondents have a solution from the parent company, respectively 10 % of respondents have their own solution.

Therefore, an interesting matrix is offered between the previous questions:

**Tab. 3: Priority of Digitalization and Implementation Strategy Matrix**

	Priority			
	top	high	medium	minimum
Strategy and plan not developed	45 %	49 %	77 %	96 %
We have developed a plan for the progress of work in digitalization	7 %	26 %	16 %	4 %
We have developed a long-term strategy	48 %	25 %	7 %	0 %

*Source: our research*

When implementing digitalization, companies most often assume the search for professional help (32 %), respectively use of either the own solution (18 %) or the solution taken over from the parent company (18 %). The results are not fundamentally different, whether they are small, medium-sized or large companies.

And what barriers do companies see most often for digitizing?

**Tab. 4: Barriers of Digitalization**

	Production and agriculture	Trade	Services
Lack of qualified ICT experts or insufficient ICT competence of employees	56 %	38 %	53 %
Lack of help and support from the state	37 %	38 %	43 %
Lack of funds	41 %	30 %	44 %
Insufficiently digitized business partners	33 %	44 %	31 %
We do not know what and how to digitize	28 %	20 %	27 %

*Source: our research*

Digitalization is associated with additional costs. To mitigate the impact, companies would most often welcome deductions from the income tax base (39 % of respondents), respectively subsidy programs for digitalization (26 % of respondents) or free consulting services of a private company with a state guarantee (24 % of respondents). Subsidy programs are slightly dominated by companies operating in the field of production and agriculture (34 % compared to 15 % of respondents from among trade companies); for trade companies, on the other hand, the interest in deductions from the tax base clearly won (57 % of respondents). Representatives from medium-sized companies (40 % of respondents) are also most often in favour of subsidy programs.

Now let's look at the current experience of representatives of Czech companies with e-Government services. 63 % of respondents mention that they use these regularly (this is more of the case for companies operating in the field of production, agriculture and trade – 69 % of respondents). This is associated with a relatively logical question of what problems the company encounters in using online services when communicating with government agencies:

**Tab. 5: Common Problems with Czech e-Government Services**

72 %	Offered services are not fully digitized (necessary physical presence at offices or telephone communication)
56 %	Offered services are confusing and complicated (web portals are not intuitive)
44 %	Paid data archiving in the data box for more than three months from the delivery of the message
36 %	Registration in the systems is complicated
31 %	In the portal we do not know what to do (insufficient support from the portal)
28 %	We are concern about data and data security
9 %	Web portals are unstable and data is lost from them
8 %	Web portals have poor quality and insufficient language mutations

*Source: our research*

From the above, across sectors and sizes of companies, criticism of the insufficient digitalization of the services offered and their lack of clarity and complexity is often mentioned. On the other hand, the positive findings include the fact that company representatives are not too worried about data security and are also convinced of the stability of web portals.



The final part of the survey focused on the preferences of e-Government services, separately from the parties to online business in general, and then the online financial and HR agenda. For each of the services offered, respondents were able to express themselves on a Likert scale (1 – 5) from the most important (1) to the least important (5).

The overall results indicating the importance of dealing with business matters online are as follows:

**Tab. 6: Preferred e-Government Services on General Level**

80 %	Viewing and extracts from public registers <i>(e.g. associations register, foundation register, register of houses owners, business register)</i>
79 %	Legislation online – full text of applicable laws available free of charge <i>(full text of valid laws, decrees, Czech state norms and other relevant legislation available free of charge – not paid versions such as ASPI system or www.sbirka.cz)</i>
76 %	Viewing and extracts from public administration information systems <i>(e.g. real estate cadastre, vehicle register, trade register, criminal record register, an extract from the driver's score, extract from the register of unreliable payers, extract from the insolvency register, etc.)</i>
74 %	Electronic circulation of documents <i>(digitalization – minutes of meetings and negotiations, contracts, invoices and follow up on orders, etc.; archiving; mail online)</i>
62 %	Digital electronic identity <i>(verification of documents stored in online data files – e.g. verification of contracts, smart contracts)</i>
61 %	Construction process online <i>(the process from the submission of applications to the individual authorities concerned to the actual acquisition of a construction permit)</i>
59 %	Company appeal against decisions of the public office or court online
59 %	Means of transport <i>(registration of the vehicle, online registration of technical certificates of the vehicle, searching for vehicle details in the vehicle register, reporting fines, driving license and its renewal online, professional card online, paying road tax online, vehicle insurance, technical inspection information, reporting a stolen vehicle)</i>
58 %	Insolvency proceedings online <i>(submission of the application, initiation, course of proceedings, sharing of evidence, results, contradiction of results )</i>
54 %	Offenses and administrative proceedings online <i>(notification of the proceedings, course of the proceedings, sharing of evidence, acquaintance with the result, contradiction of the results of the proceedings, payment for the proceedings)</i>

Source: our research

The results are clearly dominated by inspection and extracts from public registers and information systems of public administration and the possibility of obtaining valid legislation free of charge. The online solution for the establishment and dissolution of a company, the area of open data and the area of patent proceedings and trademarks are not very attractive for companies.

The overall results indicating the importance of handling financial and HR agenda online are as follows:

**Tab. 7: Preferred e-Government Services for Handling Financial and HR agenda**

80 %	Health insurance <i>(automatic search of employees and their health insurance companies from the central register)</i>
77 %	Social insurance <i>(online reporting of employee's sickness, automated calculation of benefits, reporting of work accidents – sharing of evidence)</i>
71 %	VAT automation <i>(generation of tax forms and control reports from the accounting software without the need for further modification, submission of claims, confirmation of payment, request for refund or excessive deduction, appeal against the decision)</i>
71 %	Submission of information to fiscal office <i>(publication of documents and reports)</i>
66 %	Corporate income tax automation <i>(generation of tax form from digitized financial statements, submission of claims, payment, automation of advance payments, overpayments, appeal against the decision)</i>
65 %	Financial statements digitalization (xBRL reporting)
65 %	Automatic verification of the identity of business partners
57 %	Execution and repayment calendars for personal bankruptcy of employees <i>(centralised online solution for executions and other similar deductions from wages)</i>
56 %	Digital documents <i>(an invoice in the form of a record of a digitized track in the system – i.e. not a document in paper form, not a document in pdf format)</i>
54 %	Submission of information to the Statistical office <i>(automation from digitized financial statements – e.g. regular statistical reports of types P3, P5 and P6)</i>

*Source: our research*

The results are clearly dominated by the tax agenda, including social and health insurance. For companies, the online solution for confirming qualifications or the solution for employing foreign nationals is not very attractive.

If we look at the main differences of the requirements in relation to the size of companies, we can see the following:

**Tab. 8: Major Differences between Companies**

	Small	Medium	Large
Construction agenda online	58 %	64 %	70 %
Insolvency proceedings online	55 %	60 %	70 %
Complaint procedure online	50 %	36 %	38 %
Online evaluation of creditworthiness of business partners	46 %	56 %	68 %
Expansion of the online public data portal (open data)	34 %	41 %	59 %
Automatic verification of the identity of business partners	59 %	68 %	89 %
Execution and repayment calendars for personal bankruptcy of employees	51 %	64 %	73 %

*Source: our research*

Verification of the identity of business partners is crucial for large companies (89 % of respondents), while for small companies the interest is only at the level of 59 %. On the contrary, an online complaint handling is attractive for small companies (50 % of respondents compared to 36 % of representatives of medium-sized companies, or 38 % of representatives of large companies).

## Conclusion

Based on the results of this research, it can be said that the current level of digitalization of companies in the opinion of respondents can be characterized at a very advanced level, with the highest level of digitalization recorded in medium-sized companies and those in trade and services. Respondents consider the increase in the efficiency of business processes and the increase in competitiveness to be the main reasons for digitalization.

Companies already have the most frequently digitized areas of the financial agenda (accounting and reporting, controlling, costing and budgeting), while digitalization in logistics (supply and business logistics) also predominates in production companies, and the area of HR agenda and logistics is often digitized in large companies.

An interesting finding of this research was the fact that although respondents attach high priority to digitalization, they often have not developed any strategic approach to digitalization in the company. To mitigate the effects of the implementation of digitalization, respondents would most often welcome deduction from the income tax base (business firms), resp. subsidy programs for digitalization (companies in the field of production and agriculture, as well as medium-sized companies).

If we focus on the current experience of respondents with e-Government services, despite their regular use, company representatives often come across the fact that the services offered are not fully digitized, and thus a physical presence at the authorities or at least telephone communication is necessary. They also often mention the opacity and complexity of the services offered, when web portals are not very intuitive and also mention the need for paid archiving of data in the data box for more than three months from the delivery of the message.

As part of the online handling of business matters, company representatives would most often be interested in viewing and extracts from public registers and public administration information systems, as well as the possibility of obtaining valid legislation completely free of charge. Companies operating in the field of production and agriculture are also interested in online insolvency proceedings.

For e-Government services focused on the financial and HR agenda, company representatives would most often be interested in online solutions to the tax agenda including the social and health insurance. There is also a great interest in companies operating in the field of production and agriculture in the online solution of executions and repayment calendars for personal bankruptcy of employees.

As a limitation of this study might be mentioned the sample size and where there were interviewed only 28 representatives from TOP100 companies. This limitation cannot be eliminated as it is linked to the willingness of corporate representatives to provide the insight to the level of digitalization in their companies.

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## References

- Alshehri, M., Drew, S., Alhussain, T., Alghamdi, R. (2012). The Effects of Website Quality on Adoption of e-Government Service: An Empirical Study Applying UTAUT Model Using SEM. *Paper presented at the 23rd Australasian Conference on Information Systems, Geelong, Australia*, pp. 1-13.
- Basu, S. (2004). E-Government and Developing Countries: An Overview. *International Review of Low Computer and Technology*, 18 (1), pp. 109-132.
- Bonson, E., Torres, L., Royo, S. (2012). Local E-Government 2.0: Social Media and Corporate Transparency in Municipalities. *Government Information Quarterly*, 29 (2), pp. 123-132.
- Brynjolfsson, E., McElharan, K. (2016). *Data in Action: Data-Driven Decision Making in US Manufacturing*. Center for Economic Studies – working paper 16-06.
- Curtin, G. G., Sommer, M. H., Vis-Sommer, V. (2013). *The World of E-Government*. New York: Routledge.
- DG Connect (2018). *Digital Economy and Society Index Report 2018 – Digital Public Services*.
- European Commission (2015). *E-Government in Denmark*. Available at: [https://joinup.ec.europa.eu/sites/default/files/document/2015-03/egov\\_in\\_denmark\\_-\\_january\\_2015\\_-\\_v\\_17\\_0\\_final.pdf](https://joinup.ec.europa.eu/sites/default/files/document/2015-03/egov_in_denmark_-_january_2015_-_v_17_0_final.pdf) [Accessed 17.06.2020].
- European Commission (2016). *E-Government in Germany*. Available online: [https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment%20in%20Germany%20-%20February%202016%20-%202018\\_00%20-%20v2\\_00.pdf](https://joinup.ec.europa.eu/sites/default/files/inline-files/eGovernment%20in%20Germany%20-%20February%202016%20-%202018_00%20-%20v2_00.pdf) [Accessed 17.06.2020].
- Gautrin, H.-F. (2004). *Connecting Quebec to Its Citizens. Report on E-Government – Québec*, pp. 1-34. *Government services for businesses* [online]. Available at: [www.verksamt.se](http://www.verksamt.se) [Accessed 17.06.2020].
- Härting, R.-C., Reichstein, C., Jozinovic, P. (2017). The Potential Value of Digitalization for Business – Insights from German-Speaking Experts. Eibl, M., Gaedke, M. (Eds). *Informatik 2017. Lecture Notes in Informatis (LNI)*. Bonn: Gesellschaft für Informatik, pp. 1647-1656.
- Kalvet, T., Toots, M., van Veenstra, A. F., Krimmer, R. (2018). Cross-Border e-Government Services in Eruope. Expected Benefits, Barriers and Drivers of the Once-Only Principle. In. *ICEGOV 2018*

*Proceedings of the 11th International Conference on Theory and Practice of Electronic Governance*, Galway, Ireland.

Kumar, V., Mukerji, B., Butt, I., Persaud, A. (2007). Factors for Successful e-Government Adoption: A Conceptual Framework. *The Electronic Journal of e-Government*, 5 (1), pp. 63-76.

Li, F. (2003). Implementing E-Government Strategy in Scotland: Current Situation and Emerging Issues. *Electronic Commerce in Organisations*, 1 (2), pp. 44-65.

Manfreda, A. (2017). Is E-Government Serving Companies or Vice-Versa? In: Themistocleous, M. Morabito, V. (Eds). *EMCIS 2017*, pp. 250-260.

Mossberger, K., Wu, Y., Crawford, J. (2013). Connecting Citizens and Local Governments: Social Media and Interactivity in Major US Cities. *Government Information Quarterly*, 30 (4), pp. 351-358.

Norris, D. F., Moon, M. J. (2005). Advancing E-Government at the Grassroots: Tortoise or Hare? *Public Administration Review*, 65 (1), pp. 64-75.

Papadomichelaki, X., Mentzas, G. (2009). A Multiple-Item Scale for Assessing e-Government Service Quality. In Wimmer, M. A. (Ed), *EGOV 2009*. Berlin Heidelberg: Springer Verlag, pp. 163-175.

Schedler, K., Schmidt, B. (2004). Managing the E-Government Organization. *International Public Management Review*, 5 (1), pp. 1-20.

Sharifi, M., Manian, A. (2010). The Study of the Success Indicators for Pre-Implementation Activities of Iran's E-Government Development Projects. *Government Information Quarterly*, 27 (1), pp. 63-69.

Thi, L.-S., Lim, H.-E., Al-Zoubi, M. I. (2014). Estimating Influence of TOE Factors on E-Government Usage: Evidence of Jordanian Companies. *International Journal of Business and Society*, 15 (3), pp. 413-436.

Williams, I., Falch, M., Tadayoni, R. (2018). Institutional Legitimacy and Digital Public Cross-Border Service Delivery between Denmark/Sweden and Denmark/Germany. *Journal of NBICT*, 1, pp. 1-30.

Wong, W., Welch, E. (2004). Does E-Government Promote Accountability? A Comparative Analysis of Website Openness and Government Accountability. *Policy Administration and Institutions*, 17 (2), pp. 275-297.

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# THE MULTI-LEVEL DYNAMICS OF STATE GOVERNANCE: DECENTRALIZATION TENDENCIES IN EUROPEAN COUNTRIES

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**Abstract:** *This presented paper deals with decentralization tendencies in the European area and their influence on the form of multi-level governance in individual countries. The issue of decentralization and reforms in the area of functionality and shaping spatial structure of public administration is highly actual. Examining the trends in the field of decentralization is interesting mainly due to the gain of positive elements resulting from practice in other European countries. From theoretical, as well as practical point of view, this is frequently discussed issue, as we are talking about a process of constant constructive changes in the area of multi-level dynamics of state governance. Decentralization and the subsequent dynamics of multi-level governance in modern Europe reflects the state of democratization and integration of society in all spheres of public life. The dynamics of multi-level governance determines all management processes taking place at individual levels of government and lead to the administration of public affairs in the country. In our paper, we will primarily deal with the decentralization of public power, which divides governing to several administrative levels. Paper also points to the challenges and current trends emerging in this area in Europe.*

**Keywords:** *decentralization, multi-level governance, reform, sub-state level, public administration, state*

**JEL Classification:** *H11, H77, H79*

## **Introduction**

The defining feature of development of most democratic countries in Europe during the last decade of 20th century are the processes associated with transferring some parts of the power from central institutions to lower, often newly created territorial units. These processes vary considerably across the Europe, for example in the case who initiates the decentralization itself. Initiative might come from government authorities, but also from citizens living in a given territorial unit. The reasons leading one or other actor to transferring competences are also different. Likewise, the scope of the delegated competences oscillates from rather administrative tasks to creation of primary legislation in various spheres. Thus, there is no unified model according to which would these processes be implemented. This is due to differences in functioning of political systems in different countries, as well as different traditions, population density or historical development.

The aim of this paper is to analyze the impact of decentralization on the dynamics of multi-level governance in the context of the territorial organization of European countries. The paper deals with the reform processes in European countries in more detail, as well as the decentralization trends on the European continent in general.

In this context, public administration reforms, which are also influenced by international organizations such as the European Union or the Council of Europe, play an important role. The already mentioned historical traditions have strong influence on the form of multi-level governance in public administration - not in European states only. In addition, another important evaluation aspects are the form of government, the number and size of of territorial

self-government levels, as well as the population factor. In this context, we must bear in mind that the number of sub-state units in the federal states and their form of governing varies from country to country. However, the general trends should be the same or very similar for all European countries.

## **1 Statement of a problem**

There From the outside, compactness and integrity are identical features of modern established democracies. From the inside, it is the fragmentation of power to different levels (Rhodes, 2007). In this context, we differentiate the territorial division of public power into the central level and other sub-state levels. Based on the relationships formed and implemented between the center and the periphery, represented by self-governing territorial units, we can speak of a centralized or decentralized form of governing in the country. The relationship between these two processes, which determine the character of a given country, is changing in terms of the democracy development in Europe. At the end of the 20th century, tendencies emphasizing the diffusion of power began to dominate. The consequence of this situation is the retreat of the concept of nation states, and in several Western democracies, new specific trends changing the processes of governance are emerging. Pierre and Peters (1998) point out the globalization as a factor in the decline of centralized form of government. The progress of global economy and the issues associated with it are making it impossible for centralized countries to carry out the tasks, which they were able to carry out before. In this context, the concept that prefers smaller units managed by their own self-governing bodies emerges. This process is further reinforced by urbanization and impulses from the European Union and its authorities. (Cihelková, 2007). As far as economic theory is explaining, the main role of regional or local self-governments is to provide goods and services within a certain geographical area, to the citizens who are willing to pay for them (Cibik – Meluš, 2019). If the benefits of certain services are limited to local units, efficiency increases because the combination and level of services may vary according to local preferences. Local authorities are in a better position to respond to local preferences than central government officials. Stegarescu (2005) states that, according to this theory, the main goal when creating an optimal governing structure is to maximize the well-being of individuals. It is assumed that the well-being of individuals will depend, at least partly, on the satisfaction they get from the locally provided public goods and services. The optimal level of governance is one which provides the required level of local public goods and services at the lowest price in the form of taxes.

The characteristic attributes of countries based on the centralized public power were, in particular, the concentration of power in the center, sovereignty, a territory with precisely defined borders, as well as strengthened military forces. (Horsman - Marshall, 1994) The importance of states based on the centralized public power began to be questioned from various perspectives in the 20th century. The basic imperative was the fact, that the main role in the case of defense is not taken by individual states, but by larger integrated transnational associations. This trend is also reinforced by the delegation of countries' economic functions to supranational organizations (Stegarescu, 2005). Until then, the decisive process of forming nation states by centralization was substituted by opposite processes (Peters, 1998; Peters – Pierre, 2001).

Decentralization tendencies have arisen in Europe as a result of various factors - economic, ideological and cultural are mentioned most frequently. From an ideological point of view, importance is placed on the democratization of political actors' interests between the center and the periphery (Pierre, 2000). Cultural factors is interpreted by Cihelková (2007) in connection with the already mentioned globalization. Compensation of economic inequalities between individual territorial units was unfulfilled priority of several countries. As this was very



demanding process without the desired results, European countries proceeded to the fragmentation of power into lower sub-state units (Vykupilová, 2007). It was specific process in each country, mainly because it contained original procedures aimed at transforming the political power organization (Klobučník – Bačík, 2016). At the theoretical level, term for this is not entirely clear, as similar processes have taken place throughout Europe, but have been named differently. Fiala and Říchová (2002) explain that in Spain these decentralization processes were called regionalization, in France decentralization, in Great Britain devolution, in the conditions of Italy the term federalization was used, but in some cases regionalization as well. These processes took place because of different reasons in each country, and the degree of their implementation also varied. The creation of different sub-units of government - in terms of intensity and size, was characteristic for all European countries (Hooghe - Marks, 2003). Each of these processes is therefore unique and characterized by a certain difference in each country, hence it is necessary to look at each country and its decentralization process separately. E.g. some European countries (CEE countries) were ill-equipped to change in the early 1990s as they remained burdened by inadequate public administration structures inherited from former regimes (Klimovský – Pinterič – Jüptner, 2019). In the case of Slovakia, decentralization began after the end of the Mečiar regime (Tudoroiu - Horváth - Hrušovský, 2009).

According to Lidström (2007), two approaches are applicable to the process of decentralization and thus the dispersion of central power in individual countries. These differ depending on whether the process of decentralization was initiated from the top, i.e. by the government, or vice versa - from the bottom, i.e. by the citizens. In the second option, where the state responds to suggestions from citizens, Faludi (2012) highlights territorial identity as the main attribute. On the contrary, in a situation where the initiative comes from the government, it is more likely a political affair, where political elites direct the central government to delegate a certain amount of competences. Depending on the type of dispersion of power and whether the delegated competences will allow sovereign decision-making in certain areas, or will just give individual sub-entities administrative powers, we distinguish the type of decentralization that took place in given country (Litvack - Seddon, 1999). In this context, however, it should be noted that both levels of decentralization overlap and that it is not easy to draw the line between them, which also makes it difficult to determine the structure and nature of multi-level governance in given country.

## **2 Methods**

In this presented paper, we use a combination of two approaches often used in public policy theory from methodological point of view. These are normative and positivist (descriptive) approaches, focused on the issues addressed. (Dunn, 2004) The normative approach is reflected in the fact, that it does not focus only on the description of multi-level governance forms and decentralization tendencies in European countries. It also aims to find positive elements from already implemented reforms, and their impact on the development of multi-level governance dynamics in European countries. The main goal of our paper is to accentuate the reform trends, which have been applied during the process of creating principles and spatial structure within the multi-level governance of countries from European area. And how they differ from case to case. This paper does not have an ambition to cover this issue completely, hence it describes some partial steps which point to variations in the architecture of multi-level governance systems in the field of public administration in the European area.

This analysis also includes a comparative perspective. It is assumed, that the form of autonomy resulting from decentralization in the sphere of multi-level governance differs depending on various functional and institutional settings across European countries. As decentralization tendencies - we understand both the scope of activity in relation to other sub-

units at the same administrative level, together with the relation to other administrative (governing) levels within a multi-level governance system. In the European area, especially between the member countries of European Union, these units are currently present in most countries (Loughlin – Hendriks – Lidström, 2011). The largest country without a second level of governance is Bulgaria (population of 7.4 million), while Croatia (population of 4.3 million) is the smallest member country with two sub-state levels. (Table 1) This suggests that one of the reasons for creating such units is that different self-governing functions require different territorial levels, in order to be carried out in an optimal way.

### 3 Results

Relations at the level of public administration differ from one European country to another, mainly due to the degree of position and influence of state administration and local self-government. In this context, in Europe we can distinguish public administration systems where the state administration with a hierarchical system is dominant, as well as those which are characterized by the main position of local self-government at the expense of state administration (Lacina - Čechák, 2005; Jasaňová, 2007). In the scientific literature, various typologies of public administration systems appear in this context, which define e.g. Southern and Northern European systems (Page and Goldsmith, 1987), the continental and Anglo-Saxon systems (Machyniak, 2019), the Napoleonic model of Southern Europe, the Anglo-Saxon model and the model of Central and Northern Europe (Hesse and Sharpe, 1991) or newer typology defining the Franco model of Southern Europe, the Anglo-Saxon model, the Germanic model of Central Europe and the Nordic or Scandinavian model (Loughlin – Hendriks – Lidström, 2011). For other supplemented and improved typological systems of public administration expected in your study, e.g. Ringleřová (2009) or Swianiewicz (2014).

In most modern democracies, the system of public administration is established as multi-leveled. This fact can be noticed in the far right column of following Table 1. This is the result of development in European countries in the late 20th century, when there was an increase in decentralization at the expense of centralized governing (Rhodes, 2007).

**Tab. 1: Structure of multi-level governance in EU countries**

Country	Political system	Form of government	Population	Area in km <sup>2</sup>	Number of sub-state territorial administrative levels
Belgium	CM	F	11,2 mil.	30 500	3
Bulgaria	R	US	7,4 mil.	110 900	1
Cyprus	R	US	0,8 mil.	9 250	1
Czech Republic	R	US	10,5 mil.	78 900	2
Denmark	CM	US	5,6 mil.	43 100	2
Estonia	R	US	1,3 mil.	45 200	1
Finland	R	US	5,2 mil.	338 100	1

Country	Political system	Form of government	Population	Area in km <sup>2</sup>	Number of sub-state territorial administrative levels
France	R	US	65 mil.	668 800	3
Greece	R	US	10,8 mil.	131 900	2
Netherlands	CM	F	16,4 mil.	41 500	2
Croatia	R	US	4,3 mil.	56 500	2
Ireland	R	US	4,6 mil.	70 300	2
Lithuania	R	US	3,5 mil.	65 300	1
Latvia	R	US	2,3 mil.	64 600	1
Luxemburg	CM	US	0,45 mil.	2 600	1
Hungary	R	US	9,9 mil.	93 000	2
Malta	R	US	0,4 mil.	316	1
Germany	FR	F	82,4 mil.	357 000	3
Poland	R	US	38,1 mil.	312 700	3
Portugal	R	US	10,6 mil.	92 400	2
Austria	FR	F	8,4 mil.	83 900	2
Romania	R	US	20,1 mil.	238 400	2
Slovakia	R	US	5,4 mil.	49 000	2
Slovenia	R	US	2 mil.	20 300	1
Great Britain	CM	US	63,2 mil.	244 800	3
Spain	CM	US	46,8 mil.	504 800	3
Sweden	CM	US	9,5 mil.	450 000	2
Italy	R	US	59,4 mil.	301 200	3

Source: (Own processing according to: Eurostat, 2017; Local & Regional Europe, 2017.)

Legend: R – republic, FR – federative republic, CM – constitutional monarchy, US – unitary state, F - federation

In this context, European integration is an important factor in the distribution of public power at sub-state levels. We follow the arguments of the authors (Stephenson, 2013; Hoghe–Marks, 2019), who state that European integration has made political autonomy more economically viable for regions trying to self-govern. As a result, the demand for decentralization of public power became more realistic, and significantly contributed to the progression of the importance of multi-level governance dynamics in the comprehensive understanding of public administration systems in Europe. In addition to the general effect of EU membership, EU funding was a crucial tool for strengthening decentralization in European Union member and candidate countries (Novosák, Hájek, Horváth and Nekolová, 2017). The gradual integration of individual countries into the European transnational community has harmonized the principles applicable to public governance (Fleurke – Willemse, 2006). Despite this trend, the public administration systems in some European countries can be described as specific. For example, Loughlin, Hendriks and Lidström (2011) emphasize that we also know countries with a lower number of public administration levels. According to Table 1, we include territorially smaller countries in this group, such as Luxembourg, Malta, Lithuania, Latvia or Estonia.

The number of sub-state territorial administrative levels within which public administration operates is various in European conditions, as the table above shows. The state administration usually consists of several levels, while the core is the central level and other levels are derived from it. The self-governing level is usually organized as a single-leveled or double-leveled, in some cases even triple-leveled. In this context we recognize the local level, by which we mean the lowest level of territorial governance in the country. In addition to this level, there may be one or more levels with "supralocal" character, referred to as higher territorial level or sub-state level. (Fiala - Říchová, 2002; Hooghe – Marks, 2003) In terms of definitions and terminology, we can meet with variable naming of these levels in individual countries - provinces, departments, cantons, districts, counties, regions, etc. At both territorial levels, we can observe differences across all European countries. In this respect, regional level is often specific as it not only varies between countries, but in some cases between regions within single country as well. According to Loughlin (2007), the number of governance levels depends on various factors. As most important ones, he considers the historical events and compromises of political actors representing diverse groups within the country. Territorial levels often exist symmetrically throughout the country. We can also find countries where legislators have opted for an asymmetric structure, creating more governing levels in some parts of the country than in others. Dančák and Hloušek (2007) conclude that management structure in each sub-state territorial unit is based on its specific characteristics, such as the size and location of given unit, the size of this unit in relation to whole country, the nature of relations between individual levels, the history of cooperation with neighboring units and other factors as well. In some countries, legislators have incorporated an additional level of governance into larger territorial sub-units, i.e. meso-level. Switzerland is an example (even though it is not an EU Member State), since there are districts within the cantons, which are administrative units for implementing cantonal policies. However, the smaller cantons do not need these units to manage their affairs and therefore not all cantons have administrative units in the form of districts. (Böckenförde, 2011) An asymmetric structure with different levels of governance and administration itself does not indicate the degree of decentralization.

On the other hand, the important fact cannot be overlooked, that decentralization (which may according to Švec (2010), take the form of political decentralization or administrative deconcentration), has a significant impact on the multi-level form of state governance. The difference is that while political decentralization means the delegation of political responsibility from the central level to lower sub-state units, administrative deconcentration represents the

delegation of just certain scope of administration from the center to lower levels. (Fiala - Říchová, 2002) This means that territorial administrative units originating from administrative deconcentration cannot implement important political decisions, as they do not have adequate competences, and their activity has rather administrative nature. In the context of this definition and European setting, we can perceive sub-state units with supralocal character as an element, which is showing signs of administrative nature - mainly performing tasks in cooperation with the central government. Into this group, we can especially include unitary states belonging to the geographical space of Central Europe, Scandinavia and countries of Southeastern Europe such as Romania and Croatia. On the contrary, for some unitary and federal states - predominantly in Western Europe, there is a different perception of position and functionality of sub-state units with supralocal character. According to Fiala and Říchová (2002), we include the countries referred to as regional within this subset (e.g. Great Britain, Spain, Italy or Belgium).

In summary, according to Table 1, it can be stated that number of individual sub-state levels that create territorial self-government in a given country usually corresponds with its territorial size. An important factor influencing the differences at the level of territorial self-government in Europe is also the form of government, which represents a system of relations between the entire country and its territorial fragments. In this respect, there are differences between unitary states - where territorial self-government operates in up to triple-leveled form, and federal states - where as Provazníková (2015, p. 18) states, the „absence of the regional level is replaced by the existence of federal states“. A characteristic feature of federations is the fact, that individual countries have a considerable degree of independence from central power. As we can see in the table above, this is also the case in Austria and Germany. We see that in the European area, systems of governing which are special to a certain extent are applied in the field of public administration, whether from an institutional, organizational or functional point of view (Alman – Volochová, 2020). On the other hand, certain common elements can be found in the field of public administration management, especially in the case of countries with historical, cultural or geographical affinity.

## **4 Discussion**

There Europe is an area where individual countries are constantly carrying out reforms of multi-level governance systems. Loughlin (2007) explains that compensation of regional inequalities has not achieved desired results, thus individual European countries delegated some of their responsibilities to lower levels, which has led to the start of decentralization reform processes in Europe. Provazníková (2015) further adds two other reasons for commence of these reform processes. Firstly, the regionalization trends present in some countries, secondly, the economic crisis that has affected all European countries. Stevens and Wright (2000) point out that regionalization is also determined as a form of decentralization, as it universally means a process, during which the competences are delegated from the center to the regions. According to Provazníková (2015), the result of its implementation may be the creation of another segment in the system of multi-level governance, or strengthening of the competences and financing of existing sub-state levels. We will focus our attention on these aspects and observe their influence on the creation of spatial structure of public administration in specific European countries.

The period when France oscillated between centralization and decentralization ended at the beginning of 21st century, when a series of laws aimed at stronger decentralization of the country was adopted. The adoption of the law from 16 December 2010 reforming local self-governments meant the ending of decentralization process launched in 2008. Cole (2011) concludes that this process, initiated by the so-called The Balladur Committee (Committee for

the Reform of Local Self-Government) sought to simplify territorial structures (municipalities, departments, regions), reduce the number of territorial levels and make competences and their financing more transparent. Decentralization in France has aimed to give self-governing authorities their own competences, to enable citizens to choose their representatives and also to ensure better balance of power throughout the country. Departments and regions acquired the so-called „exclusive competences“ in 2015, which means that they have acquired competencies that cannot be performed by any other level of self-government. From this point on, no municipal or inter-municipal project may benefit from cumulative grants from a department or region without the decision of elected representatives. Thus, the last stage of decentralization was completed, and the recent reform tendencies in France confirmed the trend of expanding of decentralization within individual territorial sub-state levels, hence strengthening their position at the expense of the central government.

In Italy, decentralization tendencies began to emerge in the 1990s, when the regions in the north of Italy demanded the transformation of the country into a federation. According to Baldini and Baldi (2014), the motive of these demands was to develop the economic and cultural potential of individual regions in the international sphere, which was closely related to development of the European Union. This sphere was reformed during the 1990s, which brought strengthened competences to existing regions, as well as greater financial independence from the government and reinforced regional participation in national and European decision-making. Palermo and Wilson (2014) state that, the next wave of decentralization of the Italian regions was brought by the constitutional reform at the beginning of the 21st century, which regulated some competences between the regions and government. This constitutional reform, which had to be approved by Italian citizens in a referendum as it did not obtain the necessary two-thirds of parliamentary votes, concerned a larger group of regions - i.e. regions with proper status. An important change was the abolition of the position of state commissioner, who performed the control function of the regional activities, which weakened the central power in the regions. At the same time, the regions acquired the right to determine and adjust their own fees. The reform also introduced a mechanism obligating the government to regulate social and economic differences between individual regions. An important change also took place in the competence matters in Article 117 of the Italian Constitution. Reformed, this article directly mentions the competences of the government, as well as the rule that other competences not assigned to government in this article are automatically in the competence of the regions. Another benefit which regions gained in this reform, is the possibility to modify the EU legislation, as long as these laws adopted on “European soil” have an impact on the regions' activities. The established decentralization in Italy was to be suppressed by the 2016 constitutional reform by Matteo Renzi. Ceccarini and Bordignon (2017) conclude that its aim was to weaken the powers of the regions at the expense of central government. However, citizens rejected this constitutional reform by a referendum hence rejecting the centralization of power, which resulted in the resignation of prime minister.

Reform tendencies towards decentralization are not characteristic for all European countries. On the contrary, it has recently been disrupted in several countries. This group of countries includes for example Hungary, where the competences of self-governing units at regional and local level were partly limited, as a result of the 2011 reform. According to the implemented reform, the area of competences was focused mainly to regional development, while competences in the field of health care, social affairs and education were limited. An increase in centralization tendencies can also be observed in the Baltic countries. As a result of the territorial self-government reform, which took place in Latvia and Lithuania during 2009 - 2010, administrative units of supralocal character were abolished and their competences were delegated between municipalities and government. Thus, there was no transformation of self-

governing units, but reinforcement of central power instead. In Slovenia, there are many discussions about creating the regional self-government, and creation of this level of self-governance is also preconditioned by Slovenian Constitution. A pilot project of regionalization was introduced in 2005, but as Provazníková (2015, p. 19) observes, „the original assumption of project expansion to entire country will probably not be implemented“.

A specific example of experimental public administration reform is Finland. This Nordic Country differs from other Nordic countries (Sweden, Denmark, etc.) with its model of multi-level state governance. In 2003, a public administration reform was launched with the aim of decentralizing public power to lower sub-state units, by creating a self-governing region of Kainuu. It was a pilot project that ran from 2003 until the end of 2012. In this process, the Kainuu region became a self-governing unit with its own elected body (regional council), which gained administrative power. Until then, this was a domain of the government and its representative. The main responsibilities delegated were social and health care and education, which were transferred from municipality competences to the region. Responsibility for the financing remained within municipalities. In the meantime, this pilot project has ended, and as Klimovský (2014) states, development in Finland have led to a comprehensive decentralization reform aimed at strengthening regions' competences in social and health services, as well as legalizing established regional council structures and competences from Kainuu to other regions. It can be stated that in Finland there is, in fact, no level of self-government between municipalities and central government. The second and informal level is called the „Joint municipal board“, which represents a cooperation between municipalities in areas they are not able to ensure independently. However, it is not an independent self-governing level, as the bodies at this level consist of members from the bodies of individual municipalities within the given region. In addition, there are also government bodies in the regions, which operate primarily as decentralized territorial units of state administration. The non-traditional system of relations in multi-level governance in Finland is also reflected in the fact, that the tasks performed by regional councils are mainly of an administrative nature, and municipalities, on the contrary, have regulatory competences. The Finnish regions (with the exception of Åland region) have de facto no tax powers, hence are dependent on the resources from municipalities, which are still significantly stronger in the overall system of self-government. According to Sjöblom (2011), regions in Finland can be designated as federations of municipalities.

For comparison, other Nordic countries such as Denmark and Sweden share a long tradition of continuous structural reforms of territorial self-government, which has continued over the last decade. In 2007, Denmark abolished its counties and delegated most of their competences to municipalities. Thus, it has created new sub-state units at regional level, mainly responsible for health services. Lidström (2010) states, that Sweden is undergoing a reform of the second sub-state level of self-government, which aims at merging and should be complemented by assignation of additional functions to deconcentrated central government at this sub-state level. These types of coercive reforms are also emerging in Germany. The German Länder (countries) are frequent examples of these territorial reforms, but overall there are noticeable differences in the reforms within German federal state. Bertrana and Heinelt (2013) state, that territorial reforms to reduce the number of regions in Saxony-Anhalt or Mecklenburg-Western Pomerania, and various types of functional reforms over the last decade, shifting competences from deconcentrated government offices (Bezirksregierungen) to regions (such as Baden-Württemberg), creating new metropolitan arrangements; (e.g. the Hanover region) or introducing direct elections of regional presidents. Given the „from the top“ coercive approach in these reforms and according to Wollmann (2010), this type of reform is called a „Northern European Strategy“ in the northern and northern-central European countries - in order to be distinguished from „Southern European Strategy“. Latter one has preserved small format of the

municipalities size, not only from historical point of view but also by creating various types of inter-municipal bodies, and has also maintained the second sub-state level of territorial self-government, which is specifically designed to support local governments. The Southern European strategy is best notable in France, but also in Greece until the 1990s and, until recently, also in Italy.

Based on the above findings, we can state that the final concept of reforms towards centralization or decentralization, as well as their scope is different across individual countries. At the same time, the stage of their completion in the individual Member States can also be described as different, as the reform is an ongoing and evolving process.

## **Conclusion**

In terms of our goal, our priority was to indicate the importance of decentralization in the reform trends, which are applied in the process of forming multi-level governance across the countries in the European area. Based on our comparative approach, which we used to compare decentralization processes in selected European countries, we can state that decentralization is a driving force in the process of determining the form of multi-level governance in the European area. On the other hand, the examined countries vary from case to case, therefore it is necessary to approach them individually. Each country is specific, which means that there is no single unified model of the optimal ratio between centralization and decentralization, which would be generally applicable in each country. It is therefore necessary to take the different arguments into account - in favor or against the centralization and decentralization. In general, the principle is that public sector tasks should be provided by such level of public administration, that can provide them in the most efficient and cost-effective way. Furthermore, the increased degree of centralization carries the risk that public administration will cease to be flexible and will not be able to swiftly respond to the demands coming from below, from the sphere of territorial units. In the case of excessive centralization, the central government is unable to focus on executing own governing and conceptual activities. Another risk arises when there is no coherence between formal and actual level of centralization or decentralization. We can also observe this fact in case of some European countries, for example Netherlands. It is a country formally described as decentralized, but in reality it shows more elements towards centralization, as sub-state units receive funds exclusively from the government budget, as well as the heads of the provinces and municipalities are officials decided by the government. A similar situation applies to the countries belonging to the geographical space of Central Europe, where the systems of territorial self-government are referred to as decentralized from the formal point of view, but from the point of view of competencies and methods of financing we can classify them as centralized. On the other hand, it must be stated that centralization or decentralization alone does not, in principle, determine a good or bad system of public administration.

In conclusion, we can describe the form of multi-level governance as a result of number of different influences, which acted either alone or in combination (economic, geographical, historical, international, ethnic, etc.) In most countries today, some system of multi-level governance is present, hence governing power within country is territorially divided (and not only territorially). In addition to the national or central level, the institutions also operate at the regional or other local level. The relation between the central government and individual sub-state units differs depending on the setting of their authority and responsibilities within the constitutional framework. It determines the position of lower sub-state units, the degree of autonomy of individual sub-state units, administrative, political or economic powers. On the other hand, it is common practice to find that even within single country, individual sub-state units have different status, powers and a different degree of autonomy (as mentioned in the case of Italy). Thus, we can state that centralization is nowadays complemented by an element of



devolution. In practice, this is for example reflected in the fact that main concept of a certain policy is determined by the national government, but specific measures are then applied by individual sub-state units. We believe that decentralization is a crucial process in multi-level governance, as it encourages the need for multiple levels of government, which brings some additional benefits. For example, citizens have the opportunity to vote multiple times, expressing their preferences and deciding who will manage the public space in which they live. Citizens can also easily assess the costs of taxes and fees at multiple levels, which is related to the transparent division of competences, finances and political power.

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## References

- Alman, T. and Volochová, J. (2020). Transparentná samospráva – právo verejnosti na informácie ako forma priamej demokracie. *Scientific Papers of the University of Pardubice. Series D. Faculty of Economics and Administration*. 28(1), 5-16.
- Baldini, G. and Baldi, B. (2014). Decentralization in Italy and the Troubles of Federalization. *Regional and Federal Studies*, 24(1), pp. 87-108. DOI: 10.1080/13597566.2013.827116
- Bertrana, X. and Heinelt, H. (2013). The Second Tier of Local Government in the Context of European Multi-Level Government Systems: Institutional setting and prospects for reform. *Revista catalana de dret públic*. No 46 (2013), pp. 73-89. DOI: 10.2436/20.8030.01.4.
- Böckenförde, M. (2011). *A Practical Guide to Constitutional Building: Decentralized Forms of Government*. Stockholm: International Institute for Democracy and Electoral Assistance.
- Ceccarini, L. and Bordignon, F. (2017). Referendum on Renzi: The 2016 Vote on the Italian Constitutional Revision. *South European Society and Politics*. 22(2), pp. 1-22. DOI: 10.1080/13608746.2017.1354421.
- Cíbk, L. and Meluš, M. (2019). Fiscal decentralization in the Slovak Republic: Revenues and expenditures. *Lex Localis*, 17(3), pp. 697-720. DOI: [https://doi.org/10.4335/17.3.697-720\(2019\)](https://doi.org/10.4335/17.3.697-720(2019))
- Cihelková, E. (2007). *Nový regionalismus: teorie a případová studie*. Evropská unie. Praha: C. H. Beck.
- Cole, A. (2011). France: Between Centralization and Fragmentation. In: J. Loughlin, F. Hendriks, and A. Lidström, eds., *The Oxford Handbook of Local and Regional Democracy in Europe*. New York : Oxford University Press, pp. 307-330.
- Costituzione della Repubblica italiana aggiornato alla legge costituzionale 20 aprile 2012, n. 1 (G.U. n. 95 del 23 aprile 2012).
- Dančák, B. and Hloušek, V. (2007). *Víceúrovňové vládnutí v Evropě: zkušenosti, problémy a výzvy*. Brno: Masarykova Univerzita, p. 245.
- Dunn, W. (2004). *Public Policy Analysis. An Introduction*. Third. Edition. New Persey: Pearson Hall.
- Faludi, A. (2012). Multi-Level (Territorial) Governance: Three Criticisms. *Planning Theory & Practice*, 13(2), pp. 197-211. DOI: 10.1080/14649357.2012.677578
- Fleurke, F. and Willemse, R. (2006). The European Union and the autonomy of sub-national authorities: Towards an analysis of constraints and opportunities in sub-national decision-making. *Regional & Federal Studies*, 16(1), pp. 83-98. DOI: 10.1080/13597560500533752
- Hesse, J. J. and Sharpe, L. J., (1991). Local government in international perspective: some comparative observations. In: J.J. Hesse, ed. *Local government and urban affairs in international perspective*, Baden-Baden: Nomos Verlagsgesellschaft, pp. 603–621.

- Hooghe, L. and Marks, G. (2003). Unraveling the Central State, But How?: Types of Multi-Level Governance. *The American Political Science Review*, 97(2), pp. 233-243. DOI: 10.1017/S0003055403000649
- Hooghe, L. and Marks, G. (2019). Grand theories of European integration in the twenty-first century. *Journal of European Public Policy*, 26(8), pp. 1113-1133. DOI: 10.1080/13501763.2019.1569711
- Horsman, M. and Marshall, A. (1994). *After the Nation State: Citizens, Trihalism and the New World Disorder*. London: Harper Collins, pp. 298.
- Jasaňová, K. (2007). Verejná správa v niektorých krajinách Európskej únie. *Scientific Papers of the University of Pardubice. Series D. Faculty of Economics and Administration*. 11(2007), 56-60.
- Klimovský, D. (2014). Samospráva vo Fínsku. *Územná samospráva*. 10. 46-49.
- Klimovský, D., Pinterič, U. and Jüptner, P. (2019). Path Dependence and Local (Self)Government Systems: A Comparison of three CEE Countries. *Politics in Central Europe*, 15(2), 193-218. DOI: 10.2478/pce-2019-0015
- Klobučník, M. and Bačík, V. (2016). Local self-government structure in the EU member states in 2011. *Journal of Maps*, 12(4), pp. 671-675. DOI: 10.1080/17445647.2015.1060181
- Lacina, K. and Čechák, V. (2005). *Evropské systémy veřejné správy*. Praha: Vysoká škola finanční a správní, p. 124.
- Lidström, A. (2007). Territorial Governance in Transition. *Regional & Federal Studies*, 17(4), pp. 499-508. DOI: 10.1080/13597560701691896
- Lidström, A. (2010). The Swedish Model under Stress: The Waning of the Egalitarian, Unitary State? In: H. Baldersheim and L. Rose, L., eds., *Territorial Choice. The Politics of Boundaries and Borders*. New York: Palgrave Macmillan, pp. 61-79.
- Litvack, J. and Seddon, J. (1999). *Decentralization. Briefing notes*. Washington, DC: World Bank Institute, 1999, p. 99.
- Loughlin, J. (2007). Reconfiguring the State: Trends in Territorial Governance in European States. *Regional & Federal Studies*, 17(4), pp. 385-403. DOI: 10.1080/13597560701691912
- Loughlin, J., Hendriks, F. and Lidström, A., eds. (2011). *The Oxford Handbook of Local and Regional Democracy in Europe*. New York: Oxford University Press, 2011. p. 785.
- Machyniak, J. (2019). Theoretical models of government in the world. In: *Political and economic unrest in the contemporary era: proceedings of the 6th Academos conference 2019*, Bologna: Filodiritto, pp. 142-150.
- Novosák, J., Hájek, O., Horváth, P. and Nekolová, J. (2017). Structural Funding and Intrastate Regional Disparities in Post-Communist Countries. *Transylvanian Review of Administrative Sciences*, 51E (2017), 53-69. DOI: <http://dx.doi.org/10.24193/tras.51E.4>
- Page, E. C. and Goldsmith, M., eds. (1987). *Central-local government relations: a comparative analysis of West European unitary states*. London: Sage.
- Palermo, F. and Wilson, A. (2014). The multi-level dynamics of state decentralization in Italy. *Comparative European Politics*, 12(4-5), pp. 510-530. DOI: <https://doi.org/10.1057/cep.2014.11>
- Peters, B. G. (1998). Governance without government? Rethinking Public administration. *Journal of Public Administration Research and Theory*, 8(2), 223-243.
- Peters, B. G. and Pierre, J. (2001). Developments in Intergovernmental Relations: Towards Multi-Level Governance. *Policy and Politics*, 29(2), pp. 131-135. DOI: 10.1332/0305573012501251.
- Pierre, J. (2000). Introduction. In: J. Pierre, ed., *Debating Governance: Authority, Steering and Democracy*. New York: Oxford University Press, pp. 1-10.

- Pierre, J. and Peters, B. G. (1998). Governance without Government? Rethinking Public Administration. *Journal of public administration research and theory*, 8(2), pp. 223-243. DOI: <https://doi.org/10.1093/oxfordjournals.jpart.a024379>
- Provazníková, R. (2015). *Financování měst, obcí a regionů: teorie a praxe*. Praha: GRADA Publishing.
- Rhodes, R. A. W. (2007). Understanding Governance: Ten Years On. *Organization Studies*, 28(8), 1-22.
- Ringlerová, Z. (2009). Typologie komunálních systémů. In: P. Jüptner, M. Polinec et. al. In: *Evropská lokální politika 2*, Praha: Institut politologických studií FSV UK, pp. 37-53.
- Říchová, B. and Fiala, V. (2002). Decentralizační trendy v současné západní Evropě. In: V. Fiala, B. Říchová, et al. *Úloha politických aktérů v procesu decentralizace*. Olomouc; Praha: Moneta-FM, pp. 9-35.
- Sjöblom, S. (2011). Finland: The Limits of the Unitary Decentralized Model. In: J. Loughlin, F. Hendriks, and A. Lidström, eds., *The Oxford Handbook of Local and Regional Democracy in Europe*. New York : Oxford University Press, pp. 241-260.
- Stegarescu, D. (2005). Public Sector Decentralization: Measurement Concepts and Recent International Trends. *Fiscal Studies*, 26(3), pp. 301-333. DOI: 10.1111/j.1475-5890.2005.00014.x
- Stephenson, P. (2013). Twenty years of multi-level governance: ‘Where Does It Come From? What Is It? Where Is It Going?’. *Journal of European Public Policy*, 20(6), pp. 817-837. DOI: 10.1080/13501763.2013.781818
- Stevens, C. and Wright, A. (2002). Regionalism, Regionalisation and Regional Government. *Teaching Public Administration*, 22(1), pp. 1-15. DOI: 10.1177/014473940202200101.
- Swianiewicz, P. (2014). An Empirical Typology of Local Government Systems in Eastern Europe, *Local Government Studies*, 40(2), 292-311.
- Švec, K. (2010). Stát a moc. In: P. Dočekalová, Švec, K. et al., *Úvod do politologie*. Praha: Grada Publishing, pp. 63-92.
- Tudoroiu, T., Horváth, P. and Hrušovský, M. (2009). Ultra-Nationalism and Geopolitical Exceptionalism in Mečiar's Slovakia. *Problems of Post-Communism*, 56(4), pp. 3-14. DOI: 10.2753/PPC1075-8216560401
- Vykupilová, H. (2007). Víceúrovňové vládnutí v Evropě: koncepce, modely, typy. In: B. Dančák, and V. Hloušek, eds., *Víceúrovňové vládnutí v Evropě: zkušenosti, problémy a výzvy*. 1. vyd. Brno: Masarykova univerzita. Mezinárodní politologický ústav, pp. 13–28.
- Wollmann, H. (2010). Comparing Two Logics of Interlocal Cooperation: The Cases of France and Germany. *Urban Affairs Review*, 46(2), 263-292.

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# THE SEPARATE SYSTEM OF ADMINISTRATIVE JUSTICE IN THE SLOVAK REPUBLIC

**Juraj Vačok, Lenka Grešová, Petra Uličná**

**Abstract:** *The paper focuses on the organization of administrative justice in historical perspective. Based on analysis of the contemporary situation, the authors considered the pros and cons of separation of administrative justice from the structure of general courts. The research compares the situation in the Slovak Republic with the Czech one.*

*The authors pointed at a long-term discussion on separation of administrative justice from the system of general courts both in the Czech Republic and the Slovak Republic. The research sought to establish the exact number of judges handling the agenda of administrative justice in particular regional courts, and thus determine the extent of administrative justice within the general courts.*

*Finally, the authors evaluated the outcome of their research. They emphasize that the professional opinions in the relevant area vary a lot, and there exists no uniform view neither in theory nor in practice. Nevertheless, there is some unity in view of the need for professionalism and legal certainty in the decision-making of the administrative judiciary. The authors admit that administrative justice might also develop within the system of general courts. Nevertheless, they recommend to separate it from the general judiciary and offer relevant arguments supporting this solution.*

**Keywords:** *separate administrative justice, general courts, public administration, judicial review, professionalism, specialism*

**JEL Classification:** *K23*

## **Introduction**

The judicial review represents a significant part of control over public administration activities.<sup>1</sup> The strong position of the courts in this procedure furnishes them with the power not only to review the legality of the same but, through their holdings, they may also influence the future application practice of the public administration rules. Today, the role of administrative justice increases. Judicial decisions do not have an impact only on participants of the specific proceedings, but also on the application of the concrete provisions in the future.

Both the Czech Republic and the Slovak Republic have adopted separate procedures before the administrative courts. Nevertheless, the competencies remained with the general courts, the only exception being the establishment of the Supreme Administrative Court in the Czech Republic.

### **1 Statement of a problem**

In our contribution, we focused on two goals, i.e., on the evaluation of the contemporary organization of administrative justice and on some pros and cons of the creation of a separate system of administrative justice.

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<sup>1</sup> See further Pekár, 2011, p. 95 – 152.

## 1.1 Literature Review

In the Slovak Republic, for a long time, the professional circles have been discussing the possibility of a separate system of administrative justice. This discussion started and has continued since the adoption of the Act No 519/1991 Coll. on Amending Civil Procedural Code and Notarial Code. This Act, in fact, restored the administrative justice.

Katarína Tóthová presented the need to separate the administrative justice from the general courts already in 1991 based on the argument that Slovakia should pursue the tradition of the separate administrative judiciary. (Tóthová, 1991)

Michal Mlynek highlighted the difficulties the judges face at performing their judicial power in matters of administrative justice. He underlined the need for responsibility and high-level skills of judges. (Mlynek, 1992)

Michal Gašpar admitted the creation of a supreme administrative court. Furthermore, he proposed to create administrative tribunals. He recommended that Slovakia could use the experience from the advisory bodies of the heads of central state administrative authorities. (Gašpar 1995)

Tibor Seman underlined the need for consistency in administrative courts' rulings. This request is difficult to meet as the administrative justice is fragmented. (Seman 2000)

Sergej Kohut presented his opinion that administrative justice should be part of general courts. He argued that the contemporary model is operational when supported by sufficient professional staff and equipment. (Kohut, 2001: 282)

Eva Babjaková suggested administrative justice remained within the structure of general courts. Nevertheless, she proposed the application of the review principle in some type of cases. (Babjaková, 2002)

Elena Kováčová also opened the problem of decision-making procedures within the administrative justice. However, she proposed to solve these problems through the changes within the system of general courts, and not to create a separate system of administrative courts. (Kováčová, 2002)

Štefan Harabín did not directly address the problem of separation of administrative justice from the general courts. He praised the work of the administrative department of these courts. Nevertheless, he highlighted that the Supreme Court of the Slovak Republic should not decide ordinary cases in administrative courts. This court should rule on extraordinary remedies. (Harabín, 2002)

Jozefína Machajová referred to the opinion of Jozef Hendrych. Under his opinion, the argument in favor of the integration of administrative justice into the system of general courts in 2003 was justified. (Machajová, 2003)

Peter Škultéty noted that the modern type of administrative justice was performed by separate courts. The opposite model gives lower guarantees and certainty to the protection of individual rights and freedoms of citizens. (Škultéty, 2003)

Silvio Boleček noted that administrative justice should also react to the Council of Europe, the European Court of Human Rights, and other authorities of the European Union. In his view, our system complies with the criteria set by these authorities. (Boloček, 2006)

Ida Hanzelová did not address the need for the separate administrative courts directly. However, she introduced the need to ensure the personnel, material, and organizational requests and high specialism and expertise of judges. (Hanzelová, 2011)

Elena Závadská considered opening a debate on separation of administrative courts from the system of general courts essential. She underlined that judicial control represents one of the urgent pre-requisites of a well-functioning modern state. (Závadská, 2012)

Marian Vrabko also pointed at the need to separate the administrative judges from judges of general courts institutionally. He admitted the potential establishment of the supreme administrative court also within the Slovak jurisdiction. (Vrabko, 2014)

The discussion about the separation of administrative courts from the system of general courts has been going on also in the Czech Republic. The opinions there vary as well.

According to Josef Macur, administrative justice should encompass a separate system of courts. He referred to the theory and practice of developed countries. Moreover, he expressed a view that also the separate system of administrative courts should maintain the character of judicial power. (Macur, 1992: 71 – 73)

Zdeněk Bažil recognized two possible approaches. The former sees administrative justice as a part of the contemporary system of courts, while the latter establishes independent entities. Bažil favours the latter. (Bažil, 1995)

Michal Mazanec is also concerned with the organizational structure of judicial power within administrative justice. He stated that the jurisdiction in matters of administrative justice should be performed by separate courts, administrative tribunals, or general courts. (Mazanec, 1996: 281)

Jaruška Stavínohová stated that it was not necessary to create a separate system of administrative courts. The suitable changes may ensure the performance of administrative justice within the system of general courts. (Stavínohová, 1998)

In 1999, Jan Ryba and Marie Součková did not assess the pros and cons of the separate system of judicial courts, however, they stated that pro futuro, they did not anticipate separation of administrative justice from general courts. (Ryba, Součková, 1999: 6 – 7)

In the period of creation of the Supreme Administrative Court in the Czech Republic, Richard Pomahač, in the discussion on separation of administrative justice from the system of general courts, pointed out that this highly professional and scientific problem had become a political issue. (Pomahač, 2002: 203)

Iva Chvátalová highlighted some potential problems enshrined in the possible separation of public and civil courts in the review procedures related to the activities of public authorities. She also stated that the praxis would show if the hybrid model of judicial review was appropriate. She admitted the creation of a separate system of administrative courts. (Chvátalová, 2004)

David Kryška drew attention to the fact that some of the controlling administrative authorities may have features of judicial authorities. He brought Poland as an illustrative example. (Kryška, 2012)

Vladimír Sládeček suggested opening a debate on the creation of independent administrative tribunals. They may help the administrative courts. (Sládeček, 2012)

## **2 Methods**

The research is focused on the contemporary organization of administrative justice in the Slovak Republic and the Czech Republic. Firstly, we analyze both systems. Secondly, we evaluate the data from both systems. The research data are valid as at 1 January 2020.

## 2.1 The Organization of Administrative Justice in the Slovak Republic

The general legal framework of administrative justice is laid down in the Act No 162/2015 Coll. Code of Judicial Administration, as amended (hereinafter referred to as Code of Judicial Administration).<sup>2</sup> Prior to the adoption of this Act, the administrative justice was regulated by the Act No 99/1963 Coll. Civil Procedural Code, whose primary purpose was to control the civil procedures. Although the Code of Judicial Administration strengthened the position of administrative justice, the organizational issues still remain open. The Slovak legal framework gives the jurisdiction in administrative cases to the courts of the Slovak Republic (hereinafter referred to as general courts).

The Act No 460/1992 Coll. Constitution of the Slovak Republic, as amended (hereinafter referred to as Constitution of the Slovak Republic), establishes the judicial power in its Title VII, Section Two. According to this section, the courts are divided into Constitutional Court of the Slovak Republic and general courts. The basis of the structure of general courts is laid down in Article 143 hereof.

The system of general courts, their structure, and organization are laid down in the Act No 757/2004 Coll. on Courts and Amending Other Acts, as amended (hereinafter referred to as Courts Act). According to Section 5 hereof, the system of general courts consists of the district courts, regional courts,<sup>3</sup> the Supreme Court of the Slovak Republic and the Specialised Criminal Court, which enjoys the status of a regional court. These courts are empowered to rule in all civil and criminal cases, as well as in cases related to administrative justice.

The Code of Judicial Administration regulates the scope of the general courts in matters of administrative justice, jurisdiction, and judicial procedure. The whole organization and function of these courts are established in the Courts Act.

For the purpose of analysis, it is essential to mention that the courts decide on matters of administrative justice in one instance. The Code of Judicial Administration introduces two types of extraordinary remedy, i.e. cassation complaint, that may be brought against the decisions of regional courts, and retrial.

The material jurisdiction is established in Sections 10 – 12 of the Code of Judicial Administration. Under Section 10, the regional courts enjoy jurisdiction in most of the cases. The jurisdiction of the district courts and the Supreme Court of the Slovak Republic is limited only to some kind of procedures. The district courts review some acts of the self-government concerned with the performance of the voting right. The Supreme Court of the Slovak Republic is empowered to decide on cassation complaints. It exceptionally serves also as an administrative court.<sup>4</sup>

In view of the aforementioned, it is possible to state that the regional courts enjoy material jurisdiction in most of the cases. Therefore, our research is focused on the performance of administrative justice, specifically before these courts. We found the number of judges deciding in matters of administrative justice and analyzed their position within the particular regional courts.

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<sup>2</sup> This law entered into force on 1 July 2016. Since then this law has had three amendments which are not significant.

<sup>3</sup> Pursuant to the Law no 371/2004 Coll. on the seat and the districts of courts and on amendmet of the Act no 99/1963 Coll. Civil Procedural Code, as amended (hereinafter referred to as the Act on the Seats and the Districts of Courts), there are 54 district courts and 8 regional courts.

<sup>4</sup> For instance, the Supreme Court of the Slovak Republic decides on actions filed by the General Prosecutor concerning dissolution of a political party.

## 2.2 How the General Courts Work

The system of work of general courts is established in the work schedules, issued annually and separately for every court. Under Section 50 of the Courts Act, the work schedules govern the organization of courts' work with the purpose to ensure the proper administration of justice.

Work schedules are issued by presidents of the courts following consultation with the court committees in the particular courts.<sup>5</sup> The statements of the court committees serve only as a recommendation. They do not have binding force upon the presidents of the courts.

The work schedules set the work for the judges and supporting staff for the whole year. As a result, through modification in the work schedule, presidents of courts are empowered to redirect judges from one area of judicial decision-making to another. For instance, the judge who covered the criminal law agenda may be removed to hear civil matters.

## 2.3 The Performance of Administrative Justice by Regional Courts in the Slovak Republic

As already mentioned, the system of general courts encompasses eight regional courts, i.e. the Regional Court in Bratislava, the Regional Court in Trnava, the Regional Court in Trenčín, the Regional Court in Nitra, the Regional Court in Banská Bystrica, the Regional Court in Žilina, the Regional Court in Prešov and the Regional Court in Košice. This selection was made pursuant to Section 3 of the Act on Seats and Court Districts. The same was also applied hereinafter.

The regional courts have established the divisions which include particular judges according to the work schedules. Every regional court shall have a civil division, a criminal division, a commercial division, and an administrative division. The division may be established if it contains at least five judges.

The research further focused on the administrative divisions with the purpose to establish whether the particular regional courts had separate administrative divisions, and what the number of judges in these divisions was. The relevant data were abstracted from the work schedules of specific courts. The results are as follows:

The Regional Court in Bratislava has a separate administrative division consisting of 17 judges. One of these judges is on maternity leave.<sup>6</sup>

The Regional Court in Trnava has a commercial-administrative division. It consists of seven judges.<sup>7</sup>

The Regional Court in Trenčín has an administrative division. It consists of five judges.<sup>8</sup>

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<sup>5</sup> Court Committee is the self-government judicial body which is established in every ordinary courts from the elected judges of this court. Its basis are laid down in the Section 45 of the Law on Courts.

<sup>6</sup> The work schedules of this court are published in the website [https://obcan.justice.sk/infosud/-/infosud/detail/sud/101/rozvrhy\\_prace](https://obcan.justice.sk/infosud/-/infosud/detail/sud/101/rozvrhy_prace), 23 April 2020.

<sup>7</sup> The work schedules of this court are published in the website [https://obcan.justice.sk/infosud/-/infosud/i-detail/rozvrh/%7B2A88635A-07F2-492B-BBE3-20C2BDB29E99%7D%3A%7B1F2E126F-0950-4CF9-BA25-6E3228C7AB4A%7D?\\_isufont\\_WAR\\_isufont\\_parentDetailPart=rozvrhy\\_prace&\\_isufont\\_WAR\\_isufont\\_no\\_group=true&\\_isufont\\_WAR\\_isufont\\_parentEntityPk=109](https://obcan.justice.sk/infosud/-/infosud/i-detail/rozvrh/%7B2A88635A-07F2-492B-BBE3-20C2BDB29E99%7D%3A%7B1F2E126F-0950-4CF9-BA25-6E3228C7AB4A%7D?_isufont_WAR_isufont_parentDetailPart=rozvrhy_prace&_isufont_WAR_isufont_no_group=true&_isufont_WAR_isufont_parentEntityPk=109), 23 April 2020.

<sup>8</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSTN/Rozvrh%2520pr%C3%A1ce%2520KS%2520TN%2520na%2520rok%25202020/RP%2520na%2520rok%25202020.pdf>, 23 April 2020.



The Regional Court in Nitra does not have a special administrative division. The scheduled work within administrative justice is performed by judges from the commercial division. The commercial division consists of eleven judges.<sup>9</sup>

The Regional Court in Banská Bystrica has a separate administrative division. It consists of seven judges.<sup>10</sup>

The Regional Court in Žilina has a separate administrative division. It consists of seven judges.<sup>11</sup>

The Regional Court in Prešov has a separate administrative division. It consists of five judges.<sup>12</sup>

The Regional Court in Košice has an administrative division. It consists of ten judges.<sup>13</sup>

For the purpose of illustration and clarity, we have summarized relevant data in the following table:

**Tab. 1: The Administration of Justice before Regional Courts in the Slovak Republic**

The Court	The Division	The Number of Judges.
Regional Court in Bratislava	Administrative Division	17
Regional Court in Trnava	Commercial-Administrative Division	7
Regional Court in Trenčín	Administrative Division	5
Regional Court in Nitra	Commercial Division	11
Regional Court in Banská Bystrica	Administrative Division	7
Regional Court in Žilina	Administrative Division	7
Regional Court in Prešov	Administrative Division	5
Regional Court in Košice	Administrative Division	10

*Source: Authors' own processing*

<sup>9</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSNR/Rozvrh%2520pr%C3%A1ce%2520%2520na%2520rok%25202020/Rozvrh%2520pr%C3%A1ce%2520na%2520rok%25202020.pdf>, 23 April 2020.

<sup>10</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSBB/Rozvrh%2520pr%C3%A1ce%2520KS%2520BB%2520na%2520rok%25202020/Rozvrh%2520pr%C3%A1ce%2520Krajsk%C3%A9ho%2520s%C3%BAdu%2520v%2520Banskej%2520Bystrici%2520na%2520rok%25202020.pdf>, 23 April 2020.

<sup>11</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSZA/Rozvrh%2520pr%C3%A1ce%2520Krajsk%C3%A9ho%2520s%C3%BAdu%2520v%25200%C5%BDiline%2520na%2520rok%25202020/Rozvrh%2520pr%C3%A1ce%2520KS%2520v%25200%C5%BDiline%2520na%2520rok%25202020.pdf>, 23 April 2020.

<sup>12</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSPO/Rozvrh%2520pr%C3%A1ce%2520KS%2520PO%2520na%2520rok%25202020/Uplne%2520znenie%2520rozvrhu%2520prace%2520na%2520rok%25202020.pdf>, 23 April 2020.

<sup>13</sup> The work schedules of this court are published in the website <https://docs.google.com/viewerng/viewer?url=https://www.justice.gov.sk/Stranky/SuborStiahnut.aspx?Url%3D/RozvrhyPrace/KSKE/RP%25202020/RP%2520KS%2520KE%25202020%2520%C3%BA%C4%8Din.%2520od%25201.1.2020.pdf>, 27 April 2020.

Upon the aforementioned data, we can conclude that the departments performing the agenda of administrative justice are relatively small. Two courts have only five judges, which represents the minimal quorum for the existence of a division. Furthermore, two courts do not have a separate division for administrative agendas.

In this context, we consider significant to mention that the control over public administration and solution of commercial disputes represent two different agendas with separate principles and systematic correlations. The combination of these distinct agendas, in our view, is highly questionable.

## 2.4 The Situation in the Czech Republic

The courts in administrative justice also decide in a one-tier procedure. Pursuant to Section 7 (1) of Act No 150/2002 Coll. Judicial Administrative Code, as amended, material competence is given to seven regional courts and one town court. All of them have their administrative division. The research data were collected from the work schedules of particular courts. The numbers of judges are mentioned below. This selection was made pursuant to the Appendix No 2 of the Act No 6/2002 Coll. on Courts, Judges, Assessors and State Court Administration and amending some other Acts (the Act on Courts and Judges), as amended.

The administrative division of Town Court in Prague consists of 36 judges.<sup>14</sup> The administrative division of Regional Court in Prague consists of eight judges.<sup>15</sup> The administrative division of Regional Court in České Budejovice consists of 5 judges.<sup>16</sup> The administrative division of Regional Court in Plzeň consists of ten judges.<sup>17</sup> The administrative division of Regional Court in Ústí nad Labem consists of six judges.<sup>18</sup> The administrative division of Regional Court in Hradec Králové consists of 7 judges.<sup>19</sup> This court also has a branch in Pardubice, where are four administrative judges.<sup>20</sup> The administrative division of Regional Court in Brno consists of 17 judges.<sup>21</sup> The administrative division of Regional Court

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<sup>14</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/14569/2149482/RP+MS+v+Praze+2020/438448f6-442f-47c4-9a94-273de7b24f6e>, 14 April 2020.

<sup>15</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/17929/2165724/RP+01.01.2020.pdf/a931e6ad-9504-47ce-8385-39408acc8d20>, 14 April 2020.

<sup>16</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/15689/2165609/Rozvrh+práce+pro+rok+2020/7ebbd1bf-13b6-4752-81f6-a786161eb772>, 14 April 2020.

<sup>17</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/17369/907222/ke+dni+1.+1.+2020.pdf/ebece3fc-91f5-454d-97b8-df2d04fccae0>, 14 April 2020.

<sup>18</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/18489/2159885/ROZVRH+PRÁCE+pro+rok+2020.pdf/a20e8c04-2c05-4939-a6ec-db68a7287ff4>, 14 April 2020.

<sup>19</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/16249/2159905/05.Ca.pdf/cff91b7d-b74a-4ada-a7df-6653d2082076>, 14 April 2020.

<sup>20</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/16249/2159905/09.Ca+PA.pdf/d619a778-0f2c-411e-839d-632f4d8acf21>, 14 April 2020.

<sup>21</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/15129/2157768/RP+KS+2020.pdf/503a6bb3-7b49-43ca-aa79-1756ed9242aa>, 14 April 2020.

in Ostrava consists of eight judges. This court also has a branch in Olomouc, where there sit four administrative judges.<sup>22</sup>

For the purpose of illustration and clarity, we have summarized relevant data in the following table:

**Tab. 2: The Administration of Justice before regional courts in the Czech Republic**

The Court	The Division	The Number of Judges	The Branches	The Number of Judges
Town Court in Prague	Administrative Division	36		
Regional Court in Prague	Administrative Division	8		
Regional Court in České Budejovice	Administrative Division	5		
Regional Court in Plzeň	Administrative Division	10		
Regional Court in Ústí nad Labem	Administrative Division	6		
Regional Court in Hradec Králové	Administrative Division	7	Pardubice	4
Regional Court in Brno	Administrative Division	17		
Regional Court in Ostrava	Administrative Division	8	Olomouc	4

*Source: Authors' own processing*

This research shows that the size of administrative divisions in particular courts is different. In comparison with the situation in the Slovak Republic, the advantage of the Czech system rests with the fact that each court enjoys its own administrative division.

### 3 Problem Solving

It is obvious that the administrative divisions in most of the courts are minimal. Moreover, two of the regional courts of the Slovak Republic do not have separate administrative divisions. Their dissatisfactory position is strengthened by the fact that these small units have a minor say within the regional courts in comparison with other divisions with more judges and supporting staff.

In view of the further development of administrative justice, we consider this situation inappropriate. The contemporary system does not allow for specialism namely in the small divisions. It is also important to mention that the conditions depend on the management, which usually consists of judges drawn from more significant divisions.

This situation urgently necessitates discussion about the organization of administrative justice. The system, we deeply believe, does not meet contemporary challenges and seems to be inappropriate. It does not guarantee the sufficient level of professional performance and adequate perspective of specialization.

<sup>22</sup> The work schedules of this court are published in the website <https://www.justice.cz/documents/16809/2152870/RP+2020.pdf/8d7eb560-f3f7-4694-aa4c-766e794971c0>, 14 April 2020.

## 4 Discussion

Opinions for establishing a separate system of administrative justice vary. Although, most of the experts from theory and praxis emphasize that administrative justice should consist of professionals working in adequate conditions.

We agree that efficient and productive performance of administrative justice anticipates excellent personnel including not only judges, but also ancillary staff. The variety of cases need well-educated professionals with a lot of skill.

The situation is also complicated by the fact that public administration also encompasses a lot of experts participating in legislative processes, as well as specialists from the application practice. Their performance is also subject to judicial control. Consequently, the professionals operating within administrative justice should enjoy a higher standard of expertise as the legal experts within public administration. If the administration justice is accepted, it should be at least one level over the public administration.

It is closely connected also with specialization. It is hard to imagine that one judge can be an expert in social security law, tax law, land register law, competition law, the law of self-government, environmental law, etc., moreover, in the system, where at least the state administrative bodies are strictly specialized. Therefore, the specialization within the courts seems to be logical and necessary.

Of course, this goal cannot be achieved by judges alone. They must have excellent support in the form of adequate staff, necessary information, appropriate working conditions, and professional supervision.

The supporting staff does not involve only administrative personnel. The judges, especially in the higher courts, should have the opportunity to cooperate with legal assistants, analysts, external advisors, translators, etc. The necessary information concerns mainly the current legal regulation (including the Law of the European Union and Council of Europe), case law of the domestic and European courts, scientific works. The available technologies should also contribute to constitution of appropriate working conditions and ensure a pleasant environment not only for judges but also for their supporting staff. Under professional supervision we understand mainly the guidance through higher courts, which should represent the moral and expert authority for the courts of lower instances.

We admit that these requirements can also be met within the system of general courts; however, we believe that the separate system of administrative courts would be more effective in reaching the same.

The administrative justice, as part of the structure of general courts, also has to observe the requests of the other parts. The needs of every part are connected with some compromises reached among particular divisions. This is related to the support from the management of the courts. If it would prefer other divisions, this could have a terrible impact on the performance of administrative justice.

The position of the particular divisions is conditioned especially by the preferences of presidents of the courts. If they understand the principles of administrative justice, they could properly react to its needs. If they do not have enough knowledge, they could prefer other parts of the courts.

Choosing proper judges for hearing the agenda of administrative justice represents another complicating factor. In the conditions of the Slovak Republic, the regional courts usually choose judges from the lower district courts. Nevertheless, judges in these courts are not empowered to exercise administrative justice, with certain exceptions mentioned above. It means that these judges are usually not professionals in administrative law and public administration. They have to learn during their practicum in regional courts.

We believe that the separate system should concentrate on these problems. It should select and educate suitable candidates to meet pertinent needs. Of course, it is not enough to focus on judges only, it is also essential to train and educate assistants, court clerks, and other staff. The strictly specialized supporting team of experts should create the basis for the selection of new administrative judges.

Furthermore, it is crucial to maintain relations with other administrative courts abroad, as well as with domestic experts. The separate administrative courts may cooperate independently in compliance with their needs without any influence from the other judges. This is mainly the case of general courts where presidents are experts in different branches of law. It is important to emphasize that every cooperation also has a financial aspect. Within the general courts, there is a risk that the demands of small administrative divisions could be pushed somewhere to the back.

The current system is in conflict with the requirement of specialism. In the regional courts of the Slovak Republic there exist two departments focusing on administrative and commercial agenda. It is also obvious that the administrative departments in most of the regional courts are rather tiny. This fact underlines their smaller say within the whole system of courts.

The bigger units allow for the broader space for exchange of opinions, professional discussions, and better specialization. This is the reason why the administrative courts should be built as reliable and strong parts of the judicial system. They should not represent only a small fragment of regional courts historically developed from civil law, commercial law, and criminal law cases.

The fact that all Czech regional courts have separate administrative divisions can be considered an advantage in comparison with the Slovak system. However, our research shows that some of these departments are also very small. This could represent a problem in view of specialism within the particular courts.

## **Conclusion**

In our view, there is no doubt that in theory and praxis in Europe administrative justice represents a crucial part of the whole judicial system. It enjoys significant power to change the principal acts of the central government bodies with an impact on the entire society. The administrative justice does not control the private persons. Its main aim is to protect individual rights against the breach from public authorities. All the above mentioned facts should be taken into account in the search for a suitable position of administrative justice within the system of judiciary.

There exist different views as to the further development of administrative justice. We admit that one of them sees the performance of administrative justice within the framework of the system of general courts. Nevertheless, we prefer to separate the administrative justice from the system of general courts.

The administrative judges represent only a small part of the staff of general courts where, due to historical reasons, the civil, commercial and criminal cases prevail. Consequently, their ability to participate in the management, and to push through their own needs is and will be limited. For administrative justice to be built on a highly professional basis, it is fundamental to provide it with instruments for its own decision-making in the selection of suitable persons for the role of a judge or ancillary staff.

We are persuaded that the aim of administrative justice, in comparison with other parts of the judiciary, is different. Through their decisions, the courts exert significant control over public administration. This specific purpose sets forth unique requirements for experts and the working environment. The administrative justice should decide on its needs on its own. It

should not be dependent on the good will of their colleagues, who perform justice in other branches of law.

The system of separate administrative courts may also contribute to better consistency in decision-making. In comparison with bigger units, a smaller system can exchange information more effectively.

Administrative courts deciding as first instance courts bear the main responsibility for their decisions. The participation of the courts of higher instances is also essential, but protection from their side can come too late. Moreover, we do not consider the solution where one type of court has two supervisory bodies proper. This system operates in the Czech Republic, where the Supreme Court of the Czech Republic and the Supreme Administrative Court of the Czech Republic are established. If there were enough arguments for the separation of the Supreme Administrative Court of the Czech Republic from the Supreme Court of the Czech Republic, we also should have enough arguments for separation of administrative courts from the system of regional courts.

In conclusion, we emphasize that the requirements imposed on administrative justice are high and will increase. Therefore, it is necessary to create influential entities that will have a staff of high moral qualities and professional skills to protect the individual rights violated by public administration, and be accepted by the whole society, including public administration itself.

## Acknowledgment

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## References

- Babjaková, E. (2002). K niektorým aktuálnym otázkam správneho súdnictva. *Justičná revue*, Volume 52, No 8-9, pp 869 – 885.
- Bažil, Z. (1995). Nezávislé správne senáty a kolegiálny úřady se soudcovským prvkom. *Správní právo*, Volume 28, No 1, pp 1 – 16.
- Boleček, S. (2006). Správne súdnictvo – garant ľudských práv a slobôd v demokratickej spoločnosti v podmienkach Slovenskej republiky. *Notitiae Novae Facultatis Iuridicae Universitatis Matthiae Beli Neosolii*, No 10-11, pp 335 – 339.
- Gašpar, M. (1995). K teórii súdnych a mimosúdnych prostriedkov ochrany práv. *Právny obzor*, Volume 78, No 6, pp 514 – 516.
- Hanzelová, I. (2011). Aktuálne o správnom súdnictve v Slovenskej republike. In: *Správne súdnictvo a jeho rozvojové aspekty*. Bratislava: Eurounion, pp 28 – 32.
- Harabin, Š. (2002). Správne súdnictvo v Slovenskej republike. *Justičná revue*, Volume 54, No 10, pp 1084-1087.
- Chvátalová, I. (2004). Historie a současnost správního soudnictví v České republice. *Správní právo*, Volume 37, No 1-2, pp 105-113.
- Kohut, S. (2001). Správne súdnictvo – ako ďalej? *Justičná revue*, Volume 53, No 3, pp 281 – 287.
- Kováčová, E. (2001). Správne súdnictvo – aké je a aké bude. *Justičná revue*, Volume 53, No 5, pp 612 – 615.
- Kryška, D. (2012). Na pomezí správního dozoru a správního soudnictví. *Správní právo*, Volume 45, No 5 – 6, pp 298 – 309.

- Macur, J. (1992). *Správní soudnictví a jeho uplatnění v současné době*. Brno: Masarykova univerzita.
- Machajová, J. (2003). Slovenské a české správne súdnictvo po reforme v roku 2002. *Policajná teória a prax*, Volume XI., No 1/2003, pp 5 – 33.
- Mazanec, M. (1996). *Správní soudnictví*. Praha: Linde.
- Mlynek, M. (1992). Súdne preskúmanie rozhodnutia je tu. *Justičná revue*, Volume 44, No 6 – 7, pp 25 – 31.
- Pekár, B. (2011). *Kontrola vo verejnej správe v kontexte Európskeho správneho práva*. Bratislava: Univerzita Komenského v Bratislave, Právnická fakulta.
- Pomahač, R. (2002). Správní soudnictví a účinná ochrana. *Správní právo*, Volume 35, No 4, pp 193-204.
- Ryba, J., Součková, M. (1999). *Správní soudnictví v České Republice*. Praha: Orac.
- Seman, T. (2000). Zdokonaľovanie verejnej správy, správne súdnictvo (úvahy teoreticko-praktické). *Acta Facultatis Iuridicae Universitatis Comeniana*, Volue 20/2000, pp 107 – 114.
- Sládeček, V. (2012). K novele soudního řádu správního provedené zákonem č. 303/2011 Sb. In. *Aktuální otázky správního soudnictví (zejména v souvislosti s novelou soudního řáde správního provedenou zákonem č. 303/2011 Sb.* Praha: Leges, pp 8 – 18.
- Stavinohová, J. (1998). Správní soudnictví a jeho další perspektivy. *Časopis pro právní vědu a praxi*, Volume 6, No 3, pp 488 – 502.
- Škultéty, P. (2003). Správne súdnictvo (súčasný stav a perspektívy). *Acta Facultatis Iuridicae Universitatis Comeniana*, Volume 22/2003, pp 203 – 208.
- Tóthová, K. (1991). Správne súdnictvo alebo preskúmanie rozhodnutí správnych orgánov súdom? *Justičná revue*, Volume 43, No 12, pp 25 – 31.
- Vrabko, M. (2014) Návrh nového správneho súdneho poriadku. In. *Nový správny súdny poriadok. Návrh*. Bratislava: Univerzita Komenského v Bratislave, Právnická fakulta, pp 6 – 11.
- Závadská, E. (2012). Očakávania v správnom súdnictve na Slovensku. *Právnik*. Volume 5, No 5, pp 527 – 532.

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# DECENTRALIZATION VERSUS CENTRALIZATION AND FINANCING OF SLOVAK MUNICIPALITIES

Elena Žárska

**Abstract:** *The aim of the public administration reform of the Slovak Republic was to create an efficient and effective system of territorial self-government (local and regional) and to bring its operation closer to the citizens. The given process was implemented by decentralization, which on one hand resulted in strong municipalities (local self-government) in terms of their competences, but on the other hand, their financing shows many signs of centralism. The method and creation of the financing mechanism has been largely retained by the state. Municipalities have limited options to influence their revenue generation, since the majority of revenue of municipalities is generated through this mechanism. The paper confirms this observation by using several indicators of measuring the "dependence" of municipal financing on the state.*

**Keywords:** *decentralization, municipalities, financing*

**JEL Classification:** *G38, H79, H83*

## Introduction

Decentralization is defined as "a way of constituting public administration, where a significant part of powers and responsibilities is transferred from the central level to the levels of local government, or to other, quasi-independent, governmental organizations, or the private sector" [4, p. 71]. It is most often defined and implemented in four parts as political, financial, market and in terms of competences [5]. The emphasis on decentralization in decision-making and management is justified by the requirement for higher efficiency of public administration and the need to increase economic effectiveness of the state and its lower territorial administrative units [4, p. 15]. Decentralization encompasses the transfer of part of the competences from state administration bodies to local self-government, through the transfer of material resources (movable and immovable property) and financial powers. This means that with the transfer of competences, it is necessary to implement a method of financing local governments, which will create the conditions for more efficient, transparent and fair financing and represents a significant shift to strengthen and stabilize the position of local government in the public administration system [3, p. 81]. The way or mechanism for financing the competences of lower levels of government (territorial self-government) is an important aspect of decentralization. Decentralization of competences can be implemented by a "decentralistic" or "centralistic" model of financing. With a centralistic approach, municipalities have limited options to influence this model, and thus their revenue generation. This is also how arguably the Slovak model can be viewed.

## 1 Formulation of the issue

Fiscal decentralization has two forms: the first is the distribution of revenue and expenditure responsibilities between government levels, and the second is the degree of freedom given to regional and local government levels in determining revenue and expenditure [4, p. 43]. Thus, fiscal decentralization fulfills the allocation function [1, p. 97] - securing and financing public goods at lower levels of government. This can be implemented in relation to local self-



government by several financial flows (own taxes, redistribution of the revenue of centrally (i.e. nationally) collected taxes, subsidies, fees). Fiscal decentralization should ensure the financial self-sufficiency of local government authorities. However, it should also give the possibility or freedom to determine revenue and expenses [2, p. 47]. These two interconnected issues are the subject of research in this paper.

## **2 Methods**

The analysis of the problem is based on the discussion of three values of the financial capacity of municipalities - tax strength, self-sufficiency rate 1 and self-sufficiency rate 2. The tax strength of a municipality is the ratio: local taxes + shared tax per capita. Self-sufficiency rate 1 is the ratio: own income to total revenue of the municipality. Self-sufficiency rate 2 is the ratio: own income + subsidies to the total revenue of the municipality. The municipality's own income is composed of: tax revenues (local taxes + shared tax) and non-tax revenues (property ownership revenues + revenues from the municipality's activities + fees + sanctions, fines, gifts + revenues from extra-budgetary funds). Subsidies represent the volume of funds for financing the transferred competences. The total revenue of the municipality is the sum of its own income and other income (subsidies + transfers from grants + loans).

Several methods and techniques were used to discuss the issue. Excel spreadsheets with the values of relevant revenues were used to calculate selected indicators of municipalities in Slovakia. The values for selected financial indicators are data from the economic classification available on the website of the Ministry of Finance of the Slovak Republic. The analysis was performed for 2010 (impact of the financial crisis) and 2015 (economic growth). The object of the survey was 2600 municipalities out of the total number of 2927 municipalities, because not all data for analysis were available for the remaining 327 municipalities. The results are displayed by graphical methods using maps created using QGIS 2.18.16 (Las Palmas).

## **3 Analysis**

In the years 2002 to 2004, there was a significant decentralization of competences from local state administration to municipalities. Two types of competences were entrusted to municipalities: original competences and competences of the delegated exercise of state administration. Within the delegated competences of the state administration, the local self-government (i.e. municipality) is bound by the Constitution, laws and generally binding legal regulations (i.e. municipal by-laws). These principles are set out in Art. 71 of the Constitution of the Slovak Republic, which stipulates that the delegated exercise of state administration is financed and supervised by the central government. "Local self-government shall not perform the delegated exercise of state administration if the competence has not been delegated by law or if the municipality has not received the necessary financial and material resources." [7, §7]. These competences were and are financed by subsidies from the state budget. This includes competences in the field of education, construction management, population records and registers, nature and landscape protection, registry activities and water management.

In order to secure original competences, a new financing model was adopted in 2005, by which the method of distributing the share of taxes collected by the government changed. The new financing system made the revenue collected from the personal income tax (DPFO) as the only tax that is distributed to lower levels of government (until 2005, three taxes were distributed between municipalities and the central government - from natural persons, legal entities and road tax). The municipality itself decides on the use of this tax, but it cannot influence the tax base or the tax rate, because it is collected and administered by the central government. Although the central government guarantees the transfer of revenue from the tax

to the municipal budget based on a percentage share, the transfer is carried out on the basis of a central government regulation. Since 2005, the aforementioned changes have been regulated by Act no. 564/2004 Coll. on the Budgetary Determination of Tax Revenue, Act no. 583/2004 Coll. on Budgetary Rules of Territorial Self-government, and the Regulation of the Government of the Slovak Republic no. 668/2004 Coll. on the Distribution of Income Tax Revenue to Territorial Self-government. The share of revenue has varied: municipalities received 70.3% from 2005 to 2014, 68.5% in 2016, and 70% since 2016.

According to the aforementioned regulation of the government of the Slovak Republic, the revenue for municipalities from this tax (i. e. shared tax) is redistributed on the basis of four criteria:

- 23% according to the number of inhabitants of the municipality with permanent residence in the municipality on 1 January of the previous calendar year, of which 57% is recalculated by the municipality's altitude coefficient. This percentage has been the only significant change which occurred under this regulation since its introduction;
- 32% according to the number of inhabitants with permanent residence in the municipality on 1 January of the previous calendar year recalculated by a coefficient depending on the classification of the municipality into the size category. In this case, it should be noted that Bratislava and Košice have special coefficients;
- 40% according to the number of students in schools and school facilities determined by data collection according to a special regulation and recalculated by the relevant coefficient;
- 5% according to the number of inhabitants of the municipality who have reached the age of 62, with permanent residence in the municipality as of 1 January of the previous calendar year.

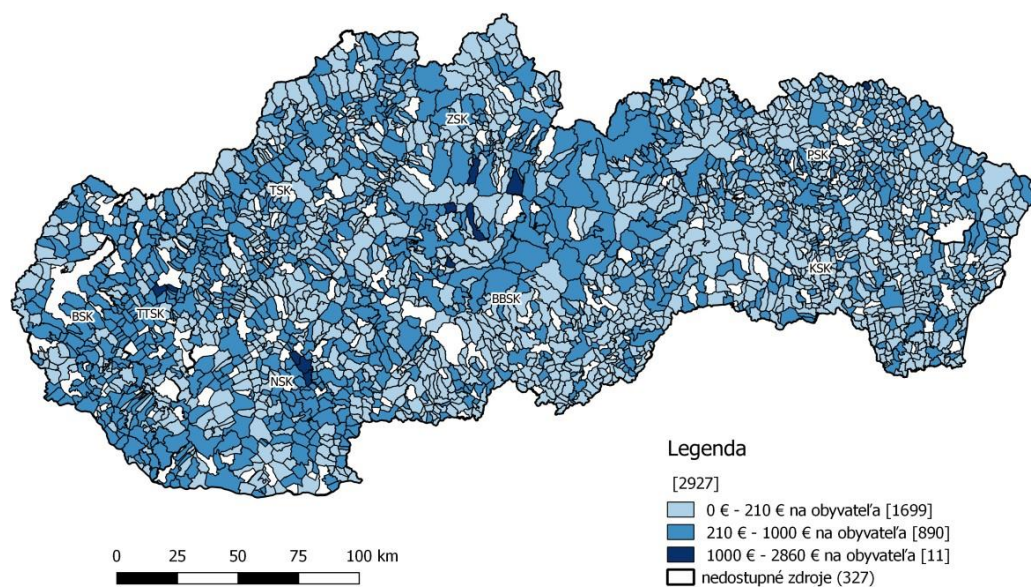
Revenue from DPFO is the major income of municipalities and is part of tax revenues (local and shared tax), which in terms of per capita represent the tax strength. Local taxes are generated in the amount of about 10-12% of overall municipal income, but revenue from DPFO is about 42-44% of the municipal budget. Comparisons of 2010 and 2015 document that the tax strength of municipalities significantly increased. Because the local tax legislation in force has not changed since 2005 and the municipalities have not increased them either, the increase in tax strength has been caused by the DPFO growth. Data show that the number of municipalities in the lowest zone below € 210 has been significantly reduced, and the upper limit of the highest zone also significantly rose from € 2860 to € 3754 per capita (Figures 1 and 2).

Tax and non-tax revenues form own income of municipalities with the share of tax revenues being crucial. The ratio of own income and total revenue is a measure of self-sufficiency 1. It represents the share of revenue that municipalities generate on their own. The value of up to 1 indicates the share of other income (subsidies, loans). Figures 3 and 4 show that the self-sufficiency rate 1 increased in 2015 compared to 2010. The number of municipalities in the lowest zone decreased in 2015 and the number of municipalities in the second and third zone increased significantly (by about 300 municipalities in each zone). This situation was clearly caused by an increase in DPFO, of which the percentage of revenue to the municipal budget as well as the criteria for redistribution were determined by the central government.

The Slovak financing system has the specificity that municipalities also exercise competences delegated from the central government. These are financed by the central government through subsidies given to municipalities. The amount of subsidies is determined in the Act on the State Budget, which is adopted annually. Thus, these subsidies must be given to municipalities and are obligatory income of the municipal budget from the central government. It could be argued whether their amount is sufficient for the purpose of exercising

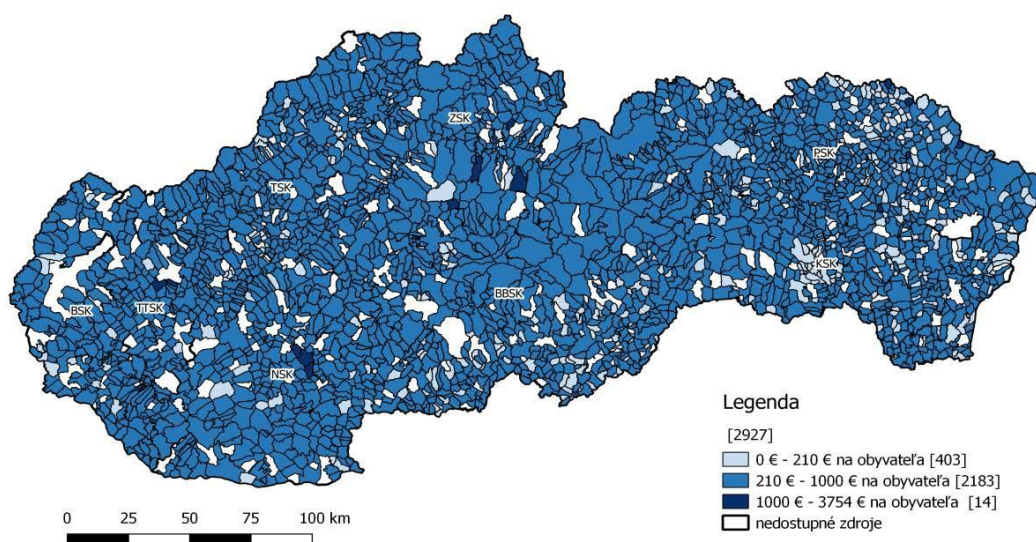
delegated competences. If the value of these subsidies is added to own income; it represents the self-sufficiency rate 2 in relation to total revenue. Based on Figures 5 and 6, which illustrate that the increase in self-sufficiency rate 2 was not as significant when subsidies were added, as in self-sufficiency rate 1 which represents an increase in the number of about 100 municipalities in individual zones in 2015 compared to 2010. Transfers between the zones were not so numerous, but the impact of subsidies is evident. Municipalities have practically only a small share of other income, which includes grants for projects, loans, and other types of subsidies (e.g. development subsidies). The high level of self-sufficiency rate 2 in 2015 at a level above 0.96 is an indicator of the fact that municipalities were much more cautious in accepting loans after the financial crisis and instead relied on their own income and subsidies from the central government to finance their needs. The rest was supplemented by funds from EU grants and grant schemes of individual ministries. However, a high level of self-sufficiency rate 2 may also result in municipalities not being motivated to obtain additional resources and instead relying on their own income, mainly tax revenue and subsidies from the central government for transferred competences.

**Fig. 1: Tax strength of Slovak municipalities in 2010**



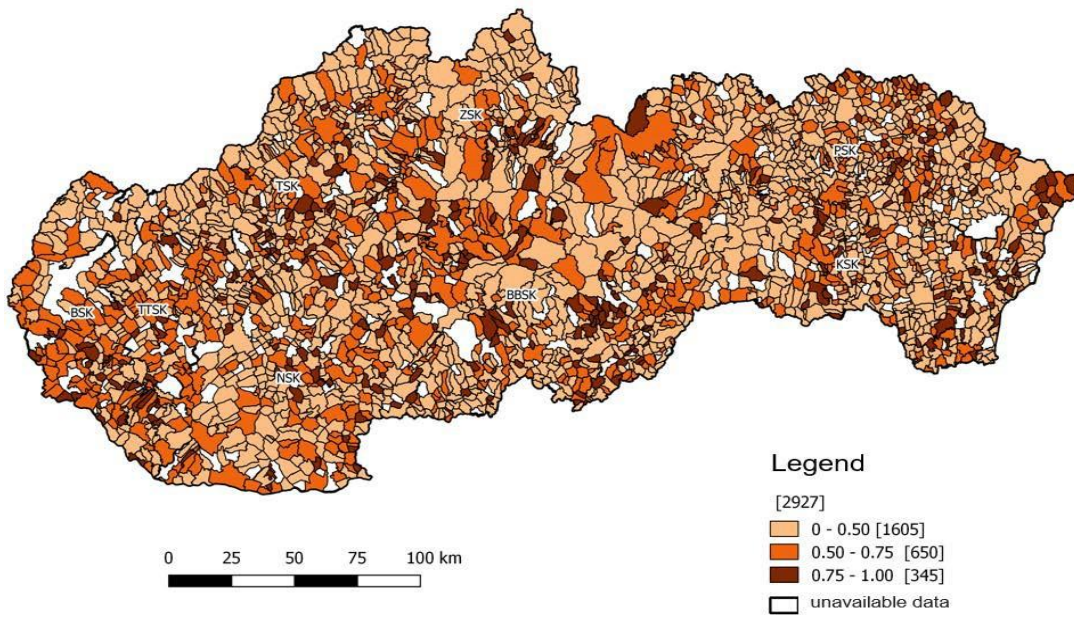
Source: (Halienová, 2018)

**Fig. 2: Tax strength of Slovak municipalities in 2015**



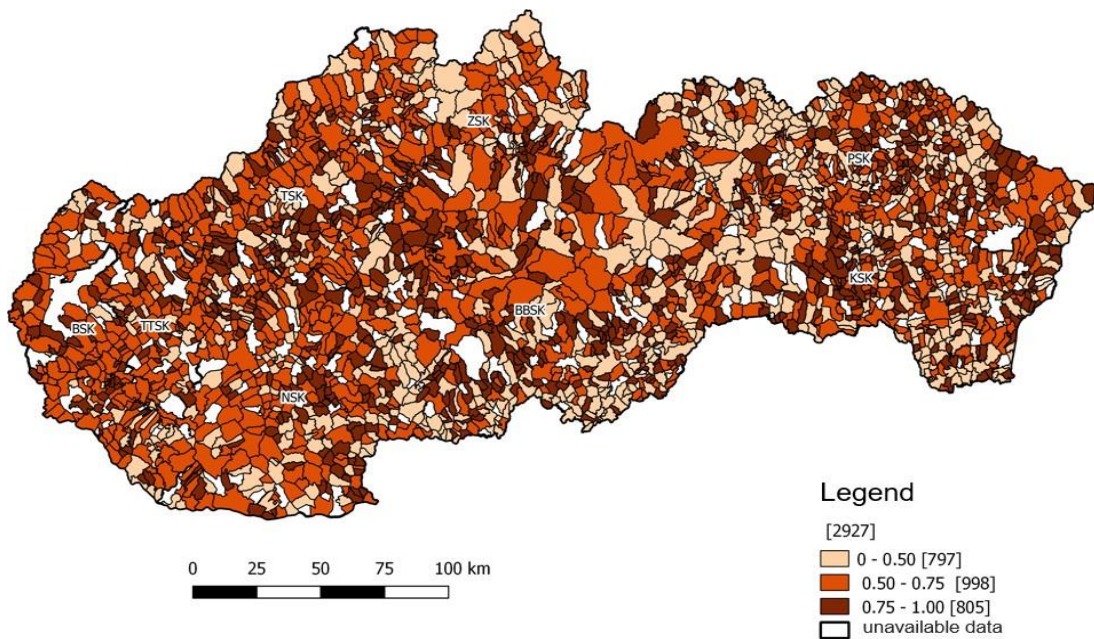
Source: (Halienová, 2018)

**Fig. 3: Self-sufficiency rate 1 of Slovak municipalities in 2010**



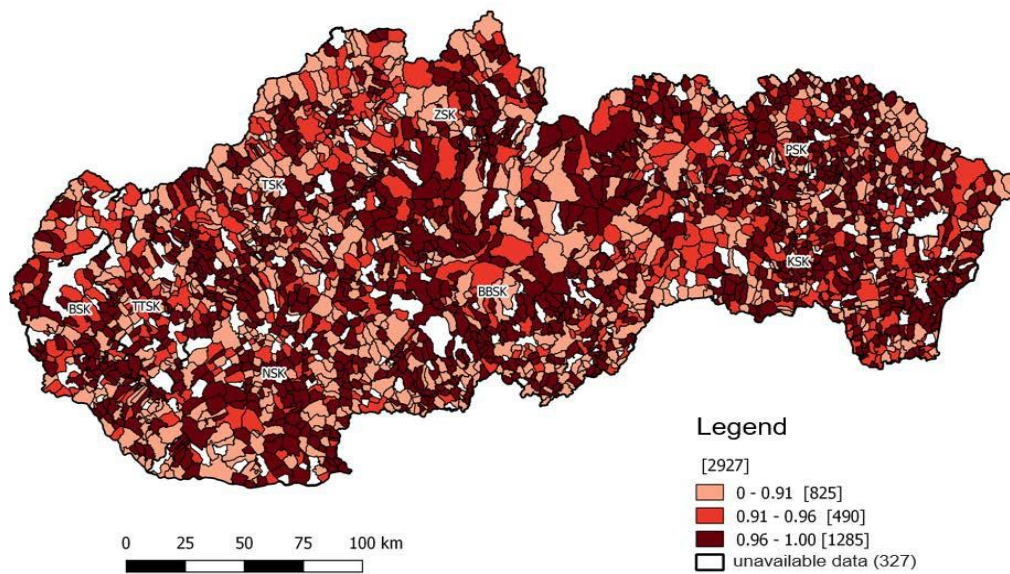
Source: (Halienová, 2018)

**Fig. 4: Self-sufficiency rate 1 of Slovak municipalities in 2015**



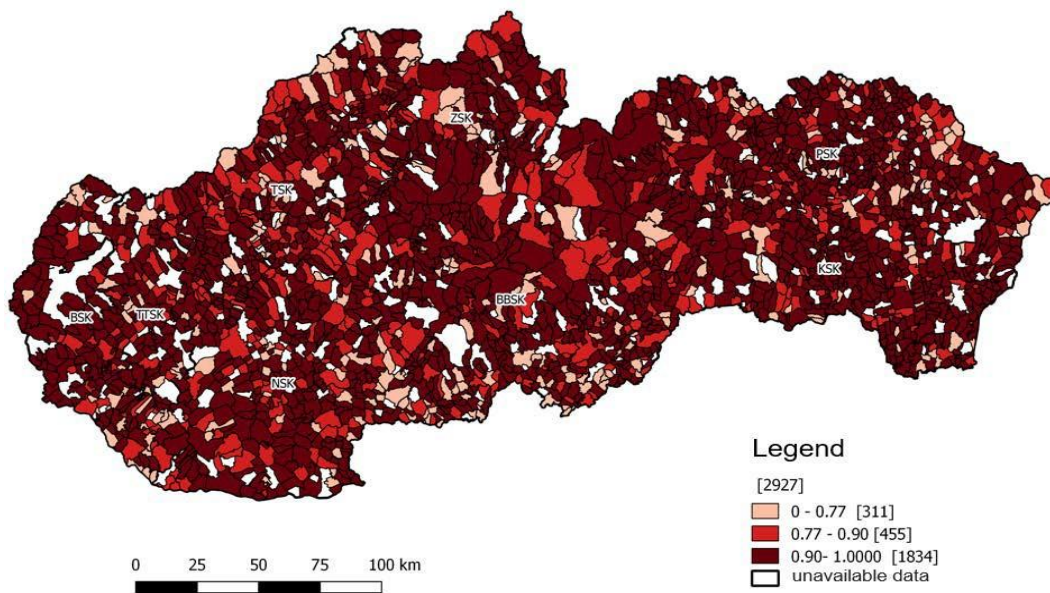
Source: (Halienová, 2018)

**Fig. 5: Self-sufficiency rate 2 of Slovak municipalities in 2010**



Source: (Halienová, 2018)

**Fig. 6: Self-sufficiency rate 2 of Slovak municipalities in 2015**



Source: (Halienová, 2018)

## 4 Discussion

The results of the analysis show a high dependence of municipal budgets on the central government budget. DPFO as the only single redistributed tax is the most significant income of municipalities. Subsidies awarded to finance competences which had been transferred to municipalities are the second most important in terms of volume. The redistribution of only one single tax is unique in the EU. In times of crisis (financial 2009, COVID 19 2020) or when economic growth declines, this tax is reduced. Alternatively, in times of economic difficulties, central government may adjust the redistribution rules to address central government's budgetary limits, which then has a negative impact on municipal financing. Central government can take the same approach also to the second significant flow of funds for subsidies for the exercise of transferred competencies and thus influence their amount in municipal budgets. The development so far has pointed to another phenomenon in the case of subsidies, the amount of which is not sufficient for the financing of these competences and municipalities co-finance them from their own income in order to secure quality provision of transferred competences.

Based on the aforementioned facts and the current state of financing of Slovak municipalities, several conclusions can be formulated:

1. There is a high dependence of municipalities on financial flows from the central government, which cannot be influenced by municipalities (DPFO - criteria and coefficients, subsidies - volume and norms according to which they are determined, e.g. per 1 student, per 1 bed, etc.)
2. Tax revenues from DPFO as well as subsidies are often not enough to finance competences and municipalities co-finance them from other own income - especially in the field of investment expenditures (school facilities, social facilities, etc.)
3. Decentralization of competences continues from the central government and the central government transfers new competences to municipalities, which it does not cover with financial resources, e.g. maintenance of roads in municipalities not only in the municipal ownership, operation of playgrounds owned by municipalities only with a safety certificate (repairs costs and the cost of the certificate), the obligation to separate waste, etc. This fact has led many municipalities to increase the real estate tax and the local fee for municipal waste since 1 January 2020 and thus burdened their inhabitants to address and financially cover these competences.
4. However, it should also be mentioned that the growth of the economy has also been reflected in the growth of DPFO yield, which should motivate municipalities to create reserves for "bad times" in "good times". Municipalities are obliged to create a reserve fund from the current account surplus (min. 10%). The resources of the reserve fund are primarily intended for dealing with emergencies, the consequences of natural disasters, but they can also be used for investment expenditures, loan repayments and, in crises, also for current expenditures. If municipalities do not have a sufficient reserve fund for the given phenomena, they dampen investment expenditure, reduce current expenditures, which may result in poor or limited exercise of competences. Whether the municipalities were well prepared and how they managed to overcome the COVID 19 crisis will not be reflected until 2021. However, the central government gave the municipalities a helping hand in the form of the so-called repayable financial assistance, which is interest-free with repayment due 2024 for a period of 4 years. Its maximum amount is limited by the amount of DPFO loss, which was calculated for each municipality by the Ministry of Finance. But it is necessary to bear in mind that this is a loan that one day will have to be repaid.
5. Decentralization has also brought another unresolved problem of Slovak municipalities - out of the total number of 2927 municipalities, small villages of up to 1000 inhabitants

make up 68%. These are not able to provide the full range of decentralized competences. This has been temporarily resolved by the creation of joint municipal offices for the voluntary joint exercise of competences. Unless a fragmented administrative structure is addressed (each municipality is a self-governing unit), this situation, which has persisted for 18 years, represents a significant burden on the central government budget in terms of the cost of local self-government.

## Conclusion

The Slovak system of financing municipalities is based on the redistribution of the revenue of only one (direct) centrally collected tax - personal income tax. As a result, municipalities are very sensitive to changes in its yield. In addition, they cannot affect the rules for its distribution. Local taxes, as the second component of tax revenue, represent less than a quarter of total municipal tax revenue. Tax revenue is the basic source of financing the original competences of municipalities. Municipalities also ensure the exercise of competences transferred from the state. These competences are financed by the central government with subsidies from the central government budget and are the second most important income of municipalities. Municipalities have become significantly dependent on the central government budget and its development due to the personal income tax and subsidies.

The current year 2020 poses a new test for the municipalities of the Slovak Republic. Last year, many municipalities increased property taxes (i.e. local tax) and local fees due to a lack of funds for new transferred competences which the central government did not cover with sufficient financial resources. Furthermore, municipal income also fell due to the DPFO loss as a result of the COVID-19 crisis. There will also be a shortfall in rent income from municipal buildings which house facilities that were forced to close during the crisis. Municipalities had the option of not collecting the rent, as many did. The financial results will not be known until next year. Certain changes can also be expected as a result of activities of central government decision-makers and municipal bodies and their representatives. These reform proposals may bring changes in financing and increase the financial autonomy of municipalities, and thus eliminate the "centralism" of the current model of municipal financing. New approaches can also increase the responsibility of municipalities for more efficient, transparent and effective management of public resources.

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## References

- [1] Peková, J., (2011). *Finance uzemní samsoprávy*. Praha: Wolters Kluwer. 587 s. ISBN 978-80-7357-614-1.
- [2] Provazníková, R. (2015). *Financovan měst, obcí a regionu teorie a praxe*. 3. aktualizované a rozšířené vydání. Pardubice : Tiskárna v Ráji, s.r.o, 288 s. ISBN 978-80-247-5608-0
- [3] Žárska, E., Kozovský, D. (2008). *Teoretické a praktické aspekty fiškálnej decentralizácie*, Bratislava: Vydavateľstvo EKONÓM, 125s, ISBN 978-80-225-2466-7
- [4] Žárska, E. a kolektív. (2016). *Verejná správa*, Bratislava: Vydavateľstvo EKONÓM, 2016, 356 s., ISBN 978-80-225-4228-9



- [5] Litvack, J., Seddon, J. (1999). *Decentralization Briefing Notes*. [online]. World Bank Institute : Working Papers, 99 p. [cit.. 2018. 02.02] Dostupné na internete: <<https://siteresources.worldbank.org/WBI/Resources/wbi37142.pdf>>.
- [6] Halienová, A. (2018). *Využitie bonity obce pre stimulovanie jej rozvoja*. Bratislava: Ekonomická univerzita. Diplomová práca. 70 s.
- [7] Zákon SNR č. 369/1990 Zb. o obecnom zriadení
- [8] Zákon NR SR č. 523/2004 Z. z. o rozpočtových pravidlách územnej samosprávy
- [9] Zákon NR SR č. 564/2004 Z. z. o rozpočtovom určení výnosu dane z príjmov územnej samosprávy
- [10] Zákon NR SR č. 582/2004 Z. z. o miestnych daniach a miestnom poplatku za komunálne odpady a drobné stavebné odpady
- [11] Zákon NR SR č. 583/2004 Z. z. o rozpočtových pravidlách verejnej správy
- [12] Nariadenie Vlády SR č. 668/2004 Z. z. o rozdeľovaní výnosu dane z príjmov územnej samosprávy.

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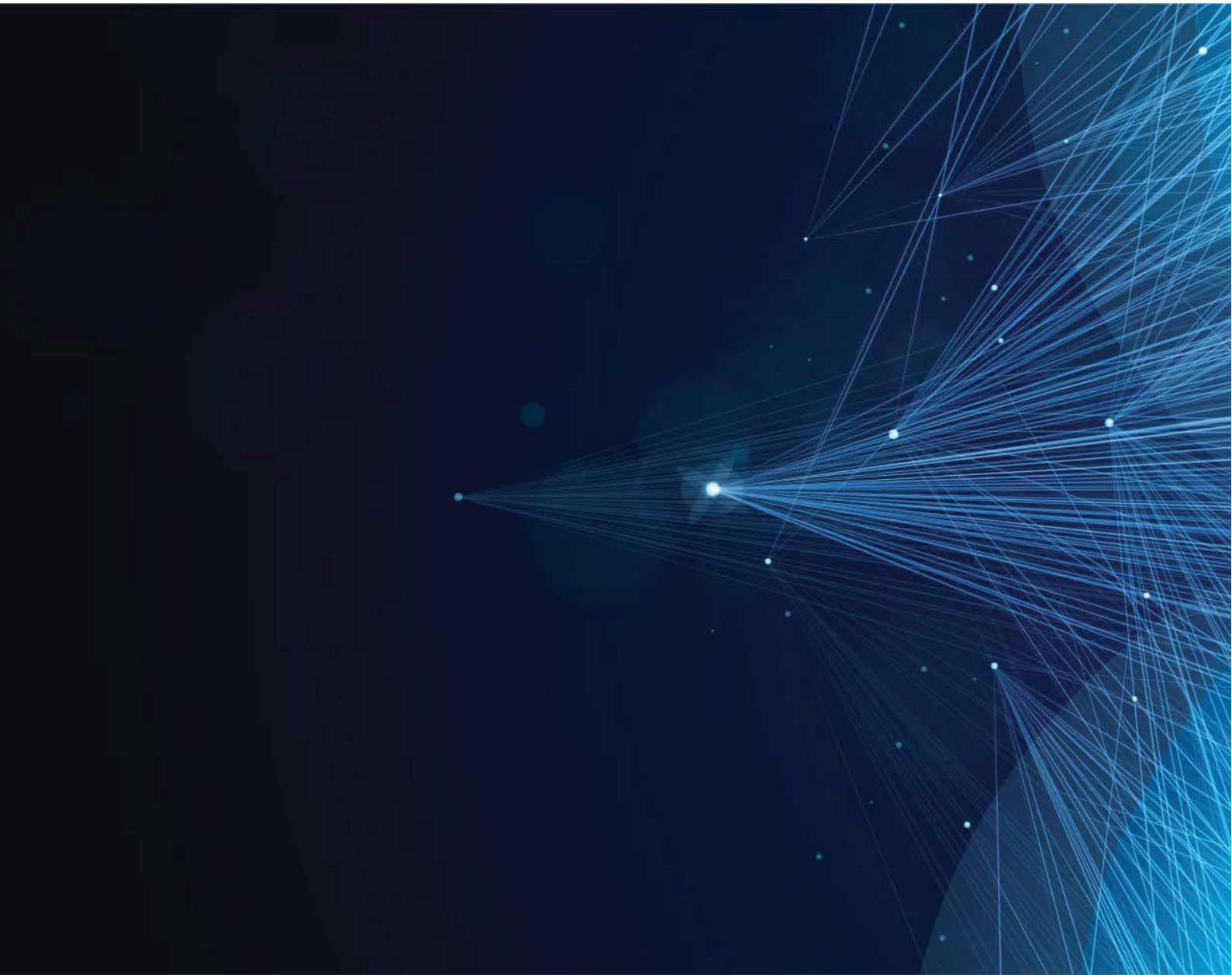
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