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Economic Performance of NUTS 3 Regions in the Slovak Republic

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Abstract

Evaluation and self-evaluation of public administration in the conditions of the Slovak Republic has been currently applied only in limited extent. Selected aspects of public administration operation are evaluated through evaluation of the system of its particular levels but attempts for evaluation of its performance are absent in many cases. Regional self-government performance evaluation has not been made at all. Success of regional self-government in provision for economic and social development of the governed region refers to one of such levels. The presented article provides for a complex view on the regional self-government performance in assurance of economic and social development through selected indicators.

Key words

Regional self-government; higher territorial unit; effectiveness; economic performance

JEL Codes: H70, R12, R58

1. Introduction

The state and its authorities make efforts to maintain optimum operation of all-important functions of the public sector. Efficient support of quality development of the society and assurance of social- economic balance highlights properly functioning and effective public sector. Both state and regional governments are forced to seek and adopt measures supporting the increase of all performed activities´ effectiveness. Every governmental level should strive for effectiveness in all main areas of interest, i.e. to perform mainly as an effective regulator, protector of external economic and political interests, an effective creator of public policy, guarantor of social certainties, and effective provider of public services (Nemec, 2011). It was proved by continuously increasing public sector scale: while it shared with 30% on GDP in 1961, currently it is 45 % in average. Tendencies leading to inefficiency are very profound in the public sector. Efforts for effective assurance of public property represent one of the key problems of public economy and finances. Public sector efficiency has been mainly influenced by external indicators and it is determined by complex society structure and functioning of its economy. Decentralization rate and associated decision making on the funding extent, structure and method represent a key factor affecting the public and civil control level.

Huge attention has been paid to evaluation of the public administration performance as a part of public sector during the last two decades, and the whole range of well-developed countries is dealing with it, as resulted from the efforts to increase the public administration effectiveness and strengthen its democratic control by the public. To establish and ensure efficiency of such control, it must be expressed and measured. A competent authority that would monitor the public administration quality and performance is absent in Slovakia. It would initiate the changes resulting from current system deficiencies, respond to the calls of multinational EC authorities and regional boards, related to the cohesion policy, as well as the strategy Europe 2020, addressed to the public administration territorial authorities. (Nižňanský *et al.,* 2014) Non-profitable or commercial organizations evaluate respective public administration organizations in the Slovak Republic, as well as research institutes that analyse various aspects of public administration organizations´ activities especially on the national level, and on the level of towns and municipalities. As we already stated, regional self-government performance evaluation is currently missing, and if made, selected aspects of its function are evaluated, e.g. qualification and satisfaction of employees, management level, or extent, quality and timeliness of provided services, and client-oriented approach.

In Slovakia, higher territorial wholes represent the regional self-government. Performance of particular higher territorial wholes when satisfying the need of citizens living in particular territory differs significantly. A question emerged, whether the differences resulted from different regional conditions or from the use of different ways of goal reaching. We don´t have enough information to provide a definite and clear answer. A serious scientific and unbiased evaluation whether the regional self-government fulfils its tasks, in what extent and if it is done in required manner, is currently unavailable.

Examination of regional self-governments´ performance in selected areas of their activities would allow for their mutual comparison, seeking common and distinguishing approaches, highlighting the positive experiences and revealing weak points, with subsequent formulation of possible solutions or at least recommendations. The performance analysis is aimed not only at measuring the performance but also applying the results in broader context – improved regional self-government performance. That means, it is necessary to do right things and to do them correctly.

2. Literature review

In general, effectiveness is a term based on the initial precondition of rational behavior of economic subjects in the conditions of sources scarcity. Expression and measurement of public sector effectiveness has been subject to long-term discussions. Specifying the term „effectiveness in public sector", we should take in account that it is a multi-dimensional category. Specifying effectiveness requires clear definition of its aspects, namely economical approach, purposefulness and productivity. Effective spending of public sources presumes spending of such public sources that will ensure the highest possible scale, quality and benefits of the goal set forth in relation to the spent sources (Peková, 2008). Public sector effectiveness in broader meaning refers to relation between the size of inputs and outputs to/ from public sector. Within public sector, effectiveness is considered a precondition of reached performance.

Performance represents the proportion of results reached by individuals and organizations. It expresses the ability of an organization to capitalize the investments in activities as successfully as possible, as well as transformation from inputs to outputs. Criterions of economical approach, effectiveness and purposefulness represent the determining criterions at public sector performance evaluation. Performance, productivity and purposefulness are causally correlated, and their extent depends on the definition of the terms. Measurement and evaluation of public sector performance has been enforced since the 1980-s in relation to application of so called New Public Management principles. Fundamental part of this approach refers to explicitly determined performance standards and measures resulting from well-defined and quantifiable goals. However, a uniform and complex system of performance measurement and evaluation in the public administration doesn´t exist. If any, it would enable effective public administration performance and increase of value for beneficiaries of public-provided property and services.

Theory of economy states that an organization performance is conditioned with transformation process where inputs are transformed to outputs especially in measurable units (Stiglitz, 1997). In the most general meaning, performance represents characteristics that describe the process of performing certain activity by a subject according to similarity to the reference activity performance method. Interpretation of such characteristics presumes the ability to compare examined and reference activity in the terms of determined criterion scale (Wagner, 2009). Nenadál (2001) stated that performance represents characteristics expressing the extent of results reached by individuals, groups, organizations and processes. If we want to measure the performance, we have to do it comparing it to defined, so called target value of result. Performance refers to a multi-dimensional concept with certain units, and relations between the units represent dimensions of performance. Performance measurement represents an activity aimed at allocating values to particular dimensions and units of examined object performance in order to identify actually reached goals. The whole range of empirically oriented publications deal with public administration performance measurement issue focused on mutual comparison of various governments´ performances. Theses of Savage (1978), Barrileaux, Feiock, Crew, (1992), Hendrick (2004) are an exception. Their authors analysed and explained the difference identified in the governmental performance, applying the whole range of independent variables that describe all possible potential explaining factors (economic and social-economic environment, political culture, etc.). In the stated literature, common conclusion can be found that the public sector performance can be evaluated from various points of view and it is a multi-dimensional concept. Halligan *et al.* (2010) state the four views: performance as production, performance as a good result, performance as legibility and performance as a sustainable result. Allen and Tomassi (2001) distinguish 5 dimensions of performance: effectiveness, purposefulness, economical approach, harmony and quality. Performance management and measurement represent an important and complicated task. We can choose various approaches thereto, but such ones should be chosen that lead towards the institution mission and goals fulfilment. Unity of goals, functions and objectives of the state are expressed in the public administration in correlation with big, extensive and various powers, legal, organizational and material/ financial means available to the state through the public administration system in order to ensure its fulfilment of task and mission in the society. One of the most discussed problems is the tendency of low efficiency which leads to excessive waste of public resources. This is also affected by an insufficient, or non-existing, system for efficiency evaluation which should be a standard measure used in the management of every organization (Daňková *et al.*, 2017). The problem is even more profound since non-effectiveness trends prevail in the public administration. Organizations of public administration are not sufficiently motivated and encouraged to perform economically and save cost in relation to performance improvement (Štangová *et al.*, 2007).

Performance measurement in the public administration allows for evaluation of the ability of process or product to satisfy the clients´ requirements in the terms of cost, quality, and time. Performance can be measured using output indicators or indicators of particular processes. Information on the goal reaching level also represent the core of analyses prepared within the performance comparison (fulfilment of due task, satisfaction of customers and employees, and economical approach (Arndt and Oman, 2006). Public administration performs well within long-term horizon only when fulfilling the set forth goals defined in its strategies determining the self-government direction. Regional self-government performance can be understood on various levels. Regional self-government success rate related to provision for economic and social development of controlled territory represents one of such levels. Provision of the Regional Self-Government Act refers to the basis of such understanding, defining its goals in the area of economic and social development. In this case, performance criterion could refer to economic performance of the region, population life standard, human capital and environment quality. Since it is the effort to ensure economic and social development of the higher territorial whole, performance could be understood as reaching results or effects of regional self-government effects on the development of regions. Indicators allowing measurement of external performance include regional GDP per capita, average available equivalent income per a household, employment rate in the regions, net available annuity per a household, economic activity rate, and number of entrepreneurs – physical entities.

Another possible level of regional self-government performance understanding refers to its perception as a volume, structure and quality of efforts that regional self-governments make in order to fulfil their competences (Kostelecký, 2007). Criterion of such understood performance doesn´t represent the effects of regional self-government performance on the development of the regions, but various parameters of their activities within independent and transferred competences, thus regional self-government outputs as of an institution. We should presume that institutional outputs of regional self-governments are actually reflected in the regional decisions. Such understood performance is named the "institutional" one. Regional self-government performance can be understood also from the relation between sources spent by the regional self-government for fulfilment of its goals and tasks, and results as an outcome of such spent sources. Effectiveness of spent sources in the area they had to influence is evaluated. Such performance understanding is important in the terms of monitoring and evaluation of economic and organizational functioning of the institutions and it is interesting especially for the public administration. Performance measurement in the public administration allows for evaluation of the ability of process or product to satisfy clients´ requirements laid on cost, quality and time. Performance can be measured through output indicators or particular process indicators´ measurement. Goal level reaching data represent the essence of the analysis prepared within the performance comparison (fulfilment of due task, satisfaction of customers and employees, and economical approach) (Kostelecký, 2007).

Gradual public power decentralization represents one of initial attributes of EU and EU member countries´ policy development in local conditions. We understand the regions as higher territorial wholes – the only territorial units between the municipalities and the state with their own political institutions. Their task is to control the public matters in the public interest since they are obliged to do it pursuant to the law. In relation to indicated region understanding, regional self-government understanding as a formal institution has been put ahead. In the Slovak conditions, 8 self-governing regions provide for regional self-government; established pursuant to Act No. 302/2001 Coll. on Higher Territorial Wholes Self-Government as amended. Their task is to control the public matters in the public interest since they are obliged to do it pursuant to the law. One of the regional self-government tasks is to create conditions for complex development of the region especially in economic, social and cultural area. A serious analysis of these tasks fulfilment by the higher territorial wholes (whether and to what extent) doesn´t exist.

Higher territorial whole as an independent territorial self-governing whole should ensure complex development of the territory and satisfy the local citizens´ needs. Self-governing regions ensure the whole range of public services of regional public property nature within their self-governing competences, and rather broad tasks within transferred competences (Peková, 2011). Within given territory, regional self-government represents a community of citizens, their interests, needs and preferences, and is responsible for assurance of huge range of public properties and services. Draft EU chart of regional self-government defines the higher territorial whole as a general territorial unit specified by law, which has a legal subject status and capability to control the assigned territory through the elected bodies on its own responsibility and in favour of citizens living in the specified territory. As a legal entity, it is allowed to independently manage its property. Such status quo was preceded by historical development – establishment of regional self-government in the Slovak Republic, accompanied by the process of fiscal decentralization. In 1990, fiscal decentralization represented a part of the public administration reform process in Slovakia. The Slovak National Council Act No. 369/1990 Coll. on Municipal Establishment was adopted in the same year and laid the grounds of self-government performance and function in Slovakia. The years after were typical with many changes related to various territorial and legal structures of Slovakia. The reform was

associated with reconstruction of territorial structure corresponding to the new public administration concept, its structure, competences and institutions. The last action referred to creation of legal and economic preconditions of territorial self-government on local and regional level. Vision of effective spending of sources that respects local requirements and preferences of citizens, binging public matters administration closer to particular territory citizens, creation of preconditions for establishment of regional governments and transfer of competences and responsibilities for economic and social development of territory referred to major impulses that conditioned the regional self-government establishment. A few hundreds of competences and related assets were transferred to territorial/ regional self-government through the fiscal decentralization process, as well as financial and personnel sources. Transfer of competences occurred for example in the area of regional education, social matters, healthcare, and administrative – legal matters, etc.

Act No. 416/2001 on Transfer of Some Competences from the State Administration Authorities to Municipalities and Higher Territorial Wholes determines the way of funding territorial self-government competences. Pursuant to paragraph 4 clause 1 "Municipality and self-governing region shall ensure fulfilment of their tasks (original competences) from own budgets. Regarding the transferred public administration performance, they receive the funds from the State Budget pursuant to special regulation". The special regulation refers to Act No. 583/2004 Coll. on Territorial Self-Government Budgetary Principles. Act No. 564/204 Coll. on Budgetary Determination of Income Tax Revenue and it determines the tax share on total revenue for higher territorial wholes´ budget. Accordingly, municipalities have been entitled to 70% of revenue in a fiscal year since 2016, and higher territorial wholes are entitled to 30% share. However, funds sharing by particular self-governments varied in particular years. Based on the Slovak legislation in effect, income from share taxes and local taxes are intended for funding the original competences.

3. External performance

Process of regional self-governments formation started in Slovakia as late as in 2001. To date, discussion has been held on the major attributes of their performance and measurement. What should be a subject of regional self-government evaluation? Our understanding of regional self-government performance highlights its following components: effectiveness, quality and citizens´ satisfaction. Regional self-government performs well if it contains balanced values of all stated components. One of regional self-government tasks is to create conditions for complex development of the region especially in economic, social and cultural area. Human life has been and will be significantly influenced by conditions of the area they live and work in. Significant differences in life conditions, their causes, consequences and expected development exist between particular countries but also within one country regions. There are many different views on the regional differences, their causes, consequences and expected development. It had been considered proper for a long time that regional differences within a single country with functioning market economy should be gradually removed. Especially in relation to ongoing industrialization and town planning processes, they should result in elimination of traditional cultural and social differences within the regions. Despite of all theoretical preconditions, it seems that regional differences tend to persist within time passing. Major regional differences don´t relate only to social or economic structures, but also to the area of political behavior, political culture, social capital, development of civil society, and performance of regional institutions. It will probably take more time to mitigate the differences in life conditions of citizens living in various regions of the country.

While the Slovak Republic is relatively small with its area, it is rather well spatially integrated and nationally homogenous, as the study of various aspects of inter-regional differences confirmed currently present significant differences among the regions. There are differences in the area of economic development, social- economic characteristics of the regions, political behavior, political culture, development of civil society, and performance of regional institutions. It seems that there is rather extensive literature focused on examination of particular regional unevenness' aspects and their current development in Slovakia, contrary to almost non-existing theses in the literature that would try to seek mutual relations and bonds between regional unevenness in various monitored areas (economy, social structure, political behavior and institutional conduct). Accordingly, performance cannot be examined separately since its complex nature moves ahead, whose development results from effects of various factors.

Measurement of external performance, i.e. regional self-government success at assurance of economic and social development of the controlled territory encounters a whole range of problems. Results of regional self-government reached in the area of economic and social development don´t depend only on the regional self-government activities. Regional self-government is not the only or decisive denominator affecting the situation and development of the region. Regional self-government development is influenced by the activities of municipalities, national government, business subjects, schools, research organizations, non-profitable organizations and many other circumstances, along with objective conditions – geographical location, size, natural resources, recent development, etc. Nevertheless, it represents one of the possibilities of performance measurement and the following part is dedicated thereto.

4. Indicators of economic performance evaluation

Evaluating the region performance, we refer to its economic and social situation and citizens´ life standard is deduced therefrom. Cultural and knowledge level and technical and social infrastructure depends on the economic situation of the region. On the contrary, economic situation of the region depends on cultural and knowledge level of the region, and on its road, technical, technology and information infrastructure. Economic level of region indirectly determines social development of the region. Relation between economic level of the region on one side and knowledge, cultural and infrastructure development on the other side is mutually influential. Higher economical level of the region means opportunities of higher educational and cultural level and infrastructure equipment. Higher level of the latter creates precondition and sources for higher economic growth and higher life quality of citizens. Social aspect of the region is of decisive importance. Therefore, social reasons are important for regional economic policy of the country, instead of economic reasons. Economic advancement isn´t of primary importance for the region; it is only a primary condition for fulfilment of social aspects of citizens´ life in the region. Taking this fact in account, the efforts for elimination of economic differences among particular regions in fact refer to the efforts for getting people closer to one another in their social life.

Basic indicator serving for comparison of regional self-government social – economic level represents regional GDP. Regional GDP is an expression of final value of production of the goods and services created during regular economic year in particular region. It is one of fundamental indicators serving for expression of utilization of sources and economic potential of the region. The indicators have many deficiencies resulting from non-homogeneity of the Slovak regions. The regions were established as administrative but economic units. Accordingly, application of this indicator is of low importance in economic – social comparison with other regions. Regional GDP per capita is better indicator. Regional GDP per capita represents a proportion of two indicators – regional GDP (with applied criterion of calculation based on workplace location) and average headcount of population with permanent address in particular region (indicator based on the residence principle). Comparing of the two indicators based on different principles doesn´t cause problems in most regions. The indicator is overestimated in case of regions with people frequently traveling to work from the surrounding regions. These are mostly capital cities´ regions. In Eurostat, the ways of the indicator narrative value solution have been sought within academic discussions and research projects, or the ways of replacing the indicator "average headcount of population with permanent address" with another indicator.

GDP per capita considers economic power of the region, taking in account population headcount. Higher territorial wholes compared pursuant to this indicator confirmed the Bratislava Self-Governing Region dominant position. Region Bratislava as the best performing region in the area of Slovak economy shares with approx. 30% on the Slovak GDP generation. On the other end, there is Prešov and Banská Bystrica Self-Governing Region. GDP per capita in the region Bratislava exceeded GDP per capita in the region Prešov almost four times in 2017. GDP in Bratislava region exceeded the average GDP within EU member countries as the only EU region (188 %), while in Prešov region, GDP per capita reached only 46% of EU average GDP. Prešov region contributes to the Slovak-wide GDP generation and added value with the smallest percentage. Industry in this region is very variable without specific orientation to production area. Industrial branches represented in the region Prešov: chemistry, machinery, electro-technique, alimentation, wood processing, textile and garment industry. The Banská Bystrica region ranked on the last but one position in the terms of share on national GDP per capita, reaching only 8.7% in average. This region is mainly focused on the development of regions through the offer of quality projects within EU, built industrial parks, developing infrastructure and modern transportation. In the future, we can await prosperity through accession of investors and thereby growing employment rate, as well as improvement of life quality also in this region of Slovakia.

Table 1. Regional gross domestic product per capita (at current prices)

	2012	2013	2014	2015	2016	2017
BSK	32 603	33 803	33 977	35 352	35 790	36 705
TTSK	15 041	15 072	15 728	15 551	16 298	16 946
TSK	11 866	11 901	12 170	12 590	12 803	12 931
NSK	12 037	12 012	12 188	12 308	12 924	13 645
ZSK	11 588	11 671	12 106	12 575	12 889	13 316
BBSK	9 550	9 925	9 985	10 520	10 917	11 509
PSK	7 976	8 042	8 305	8 631	9 070	9 938
KSK	10 513	10 694	11 026	11 646	11 754	12 974

Economic position of the regions is determined also by the process of allocation and this furthermore affects the wages of regional employees. Average monthly wage in the region and generation of regional GDP depends on the structure of

industrial branches performing in the region, work productivity and added value in the region. Average gross nominal monthly wage in the Slovak self-governing regions is one of a few indicators characterizing economic performance of the regions. Household income represents a significant indicator for evaluation of social-economic security of regional population. Net income is calculated from gross income reduced by income tax and due personal insurance levies. Total available income of a household refers to gross household income reduced by regular property tax, regular transfers between households, income tax and social insurance levy. Total equivalent available income of a household refers to the available household income divided by equivalent size of the household[1]. In relation to average net income of households during monitored period of years 2012-2017, we reported variable trend in all self-governing regions of Slovakia. Equivalent household income in 2017 varied from € 561.32 in the region Prešov up to € 806.58 in the region Bratislava.

Table 2. Average disposable equivalised household income (EUR per month)

	2012	2013	2014	2015	2016	2017
BSK	778,2	734,4	805,3	714,2	786,8	806,58
TTSK	637,7	607,4	637,5	625,1	611,2	647,74
TSK	674,0	632,3	660,3	632,8	621,7	626,79
NSK	600,7	572,0	600,0	593,3	598,0	617,67
ZSK	636,8	626,5	607,0	594,7	601,9	597,87
BBSK	592,2	585,3	585,7	581,7	583,0	593,77
PSK	555,9	535,3	561,3	563,2	551,6	561,32
KSK	603,1	583,9	575,3	584,4	599,5	577,07

Business environment structure also contributes to the economic performance of regions. Number of entrepreneurs – physical entities represents the ratio of private entrepreneurs´ economic activity. Creation of business environment affects a few functions of territorial self-governments. Decentralization resulted in their rather high flexibility in regulation of activities affecting business environment, and in coordination of local economy development with further development policies. Territorial self-governments can apply various tools for influencing local business environment. They apply financial tools but are also able to provide for premises for business activities, professional support and information for entrepreneurs, support the infrastructure development and marketing activities. Therefore we monitored also this indicator development.

Indicator "number of entrepreneurs – physical entities" reported downfall within the monitored period 2012-2017 in each self-governing region of Slovakia. The biggest drop compared to year 2012 was reported in the Bratislava region (by 12.8 %). Number of active entrepreneurs – physical entities in Slovakia in 2017 referred to 348,327 € with the highest count in the region Žilina (53,767) and the lowest count in the self-governing region Košice (35,185).

Table 3. Natural persons- entrepreneurs

	2012	2013	2014	2015	2016	2017
BSK	59 336	58 676	56 478	49 797	51 436	51 754
TTSK	41 521	40 136	38 925	35 992	36 968	37 256
TSK	42 548	41 353	39 410	36 519	37 022	37 065
NSK	48 679	47 948	46 779	43 488	45 141	45 578
ZSK	57 345	57 061	56 475	52 287	53 771	53 767
BBSK	41 802	41 742	40 314	36 883	37 298	36 991
PSK	56 367	55 453	53 081	49 093	50 362	50 731
KSK	39 854	39 844	38 052	34 408	34 993	35 185

Number, structure and quality of human capital have been continuously and naturally changing. The area of human resources and demographics refers to one of critical factors of the Slovak regions´ sustainable development. Population growth has been lately slowed down and the ageing process continues. This trend requires the change at family and household support policy in order to eliminate lack of labor force in long-term time. Human resources in Slovakia correspond to approx. 2.7 million of economic-active citizens. Improvement of human capital quality is influenced by the employment policy, education support, healthcare, social security, and indirectly also by investments in environment and transportation.

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[1] So called modified OECD scale has been used for equivalent household size calculation in EU SILC survey. Based on the scale, every first adult member of the household is allocated with coefficient 1; every second and further adult member of the household, and 14-years and older persons are allocated with coefficient 0.5 and every child younger than 14 years of age is allocated with coefficient 0.3. Such calculated available income of a household is subsequently allocated to each person within a household.

Table 4. Employment rate (in percent)

	2012	2013	2014	2015	2016	2017
BSK	71,6	70,6	70,9	71,5	74,9	75,2
TTSK	64,5	64,5	64,7	67,0	70,1	70,1
TSK	61,6	61,1	63,1	64,4	67,0	69,3
NSK	60,1	60,3	62,1	63,0	65,3	67,5
ZSK	57,7	58,3	59,0	62,4	64,5	65,7
BBSK	58,4	58,0	58,6	61,8	63,1	64,5
PSK	54,4	55,6	56,5	57,1	59,4	61,2
KSK	53,6	54,3	56,4	58,2	58,8	59,8

Employment rate, i.e. share of employed population in productive age, is considered a key social indicator serving for analytic purposes when analyzing the labor market development. Employment rate is calculated as total population of Slovakia of age group 15 – 64 divided by the headcount of employed persons of the same age group. It is important to distinguish between the term "employment" and "unemployment". Properly understood difference has significant consequences on the public policy. The lowest employment rate has been reported for a long time by Prešov and Košice self-governing regions. Average headcount of economic-active persons during 2012-2017 increased by 1.8 % to 2,754.7 thsd. persons. Headcount of working people increased in all regions but the highest increase was reported in the region Žilina (by 10.1 %), where the highest increase of employment rate was also reported (by 6.8 % points).

Responsible social policy should be aimed at increasing the employment rate rather than decreasing the unemployment rate; since the latter could decrease on the basis of increasing employment. The state should strive for having as many as possible people working and paying taxes to the state, instead of having optically the lowest possible headcount of active jobseekers. Unemployment remains one of major challenges of the Slovak economy since Slovakia ranks among EU member countries with the highest long-term unemployment rate and unemployment of young people.

5. Methodology of research

In the following part of the article, we would like to determine the position of particular Slovak regions on basis of indicators chosen by us. We had monitored the regions during period of years 2012-2017. In this article, we would like to rank the regions according to features that cannot be expressed through a single variable. We consider the features as multi-criterion when each criterion is expressed by a different indicator. Initial matrix of statistical units and allocated signs represents a joint denominator of all multi-criterion evaluation methods. All methods of such evaluation are aimed at transforming and unifying various indicators in a single, so called integral indicator representing a complex level of particular examined objects within the system. Comparing the variability, we can encounter a problem of different measurement units and different level of values in statistical systems. Method of particular indicators´ weights determination could represent a potential problem of the methods application. Determining the weight of indicators chosen by us (regional GDP, employment rate, average available equivalent income, headcount of entrepreneurs – physical entities), we use the variation coefficient applied mainly to comparison of the variability of a few statistical signs, expressing relative variability rate. It is calculated as division of standard deviation and the mean. We presume that the variable with the biggest variability is the most informative one. Weights of particular indicators shall be determined from the following expression:

$$v_j = \frac{v_j}{\sum_{j=1}^{k} v_j} \quad \text{pre } j = 1, 2, \dots k \tag{1}$$

Where:

v_j - weight of j-th variable, j=1,2,....k,

V_j - variation coefficient of jth variable, j=1,2,....k.

In order to further process the analyzed data, it was necessary to convert various indicators´ values to comparable form – so called "standardized variable". Method that we used is called "method of standardized variable". Using the method, we proceeded as follows:

a) We calculated arithmetical means ($\overline{x_j}$) and standard deviations (s_{xj}) for particular indicators,

b) We converted the original indicators´ values (x_{ij}) to so called standardized form (z_{ij}):

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{s_{xj}}$$

(2)

c) We expressed integral indicator, calculated as weighted arithmetical mean value of standardized values,

$$d_{3i} = \frac{1}{k} \sum_{j=1}^{k} z_{ij} * v_j$$

(3)

d) We determined the order of regions according to the mean value of standardized values. Generally, the higher value, the better position is reached by a region within evaluation.

Method of standardized variable takes in account relative variability of examined indicators. To rank on a good position, a region must reach favorable results in all chosen indicators, not only in one or a few of them. The following table contains the weights of particular indicators calculated according to the method chosen. We applied MS Excel 2016 table processor environment to the collected data processing.

Table 5. Weights of particular indicators for each observed season

	Reg. GDP	Employ. rate	Income	Entrepreneurs
2012	0,6029	0,1033	0,1145	0,1793
2013	0,6207	0,0929	0,1041	0,1823
2014	0,5991	0,0841	0,1314	0,1854
2015	0,6389	0,0820	0,0870	0,1921
2016	0,5987	0,0880	0,1230	0,1904
2017	0,5376	0,0750	0,1225	0,2649

Original indicator x could reach values (-∞,+∞), but standardized indicator z could reach values within standard range from -1 to +1 (for 68% of the objects in set), values from -2 to +2 for 95% of objects, and values from -3 to +3 for 99.9% of objects.

Table 6. Weighted arithmetical mean value of standardized values for regions

	2012	2013	2014	2015	2016	2017
BSK	0,5310	0,5338	0,5317	0,5317	0,5212	0,5016
TTSK	0,0040	-0,0077	-0,0002	-0,0002	-0,0064	0,0194
TSK	-0,0494	-0,0560	-0,0470	-0,0470	-0,0404	-0,0558
NSK	-0,0490	-0,0651	-0,0599	-0,0599	-0,0756	-0,0016
ZSK	-0,0056	0,0037	-0,0034	-0,0034	0,0108	0,0301
BBSK	-0,1293	-0,1261	-0,1224	-0,1224	-0,1201	-0,1097
PSK	-0,1553	-0,1478	-0,1532	-0,1532	-0,1498	-0,2616
KSK	-0,1463	-0,1347	-0,1455	-0,1455	-0,1397	-0,1224

The following graph illustrates comparison of particular self-governing regions during the monitored period 2012-2017 within all above chosen indicators of economic performance of the regions. Based on results of performed analysis, we can state that Bratislava Self-Governing Region (BSK) ranked on the 1st position amongst all evaluated regions within the whole monitored period. Position of the worst evaluated region had not changed during entire time of monitoring and Prešov Self-Governing Region ranked on this position (PSK). Further regions that demonstrated lower economic performance were: Košice Self-Governing Region (KSK) and Banská Bystrica Self-Governing Region (BBSK). Žilina Self-Governing Region (ZSK) demonstrated variable trend with position that changed every year within the monitored period.

It results from the presented article that Slovakia is typical with huge regional differences. Such major regional unevenness depends on many factors and development level, be it geographical, historical, cultural or economic one. It is also impacted upon external cultural effects, intentional state interventions in the regions, town-planning and industrialization level. There are big differences also in the population distribution. For example, northern and eastern Slovakia is typical with high population dynamics, while the south and west of the country shows lower population dynamics.
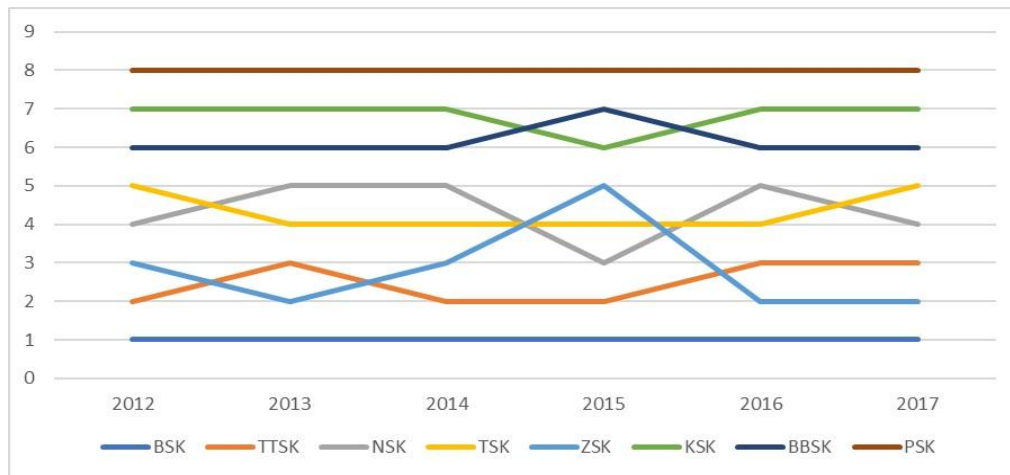
Figure 1. Order of regions according to indicators chosen

Big differences were reported in the education level, economic performance, and in social area. Accordingly, we can consider the amendment of Act on Least Developed Districts Support, prepared by the Governmental Office and introducing progressive changes, a positive outlook in the future. Expansion of the range of entitled regional contribution beneficiaries by entrepreneurs – physical entities can be considered the most significant change that should accelerate the contribution utilization for improvement in the area of economic and social development´, but especially for increase of the employment.

6. Conclusions

Performance of regional self-government can be understood from various aspects. One of them is regional self-government success in assurance of economic and social development of the controlled territory. With regard to political reasonability of regional self-government, we can consider its external performance – success in assurance of controlled territory development the most important indicator. The public evaluates the regional self-government from this perspective as well. In the article, we used regional GDP per capita, average available equivalent income of a household, number of entrepreneurs – physical entities and employment rate as indicators of external performance measurement. Based on applied indicators and methods, we can state that Bratislava Self-Governing Region shows the most favorable results in external performance evaluation; vs the worst results reached by Prešov Self-Governing Region. Similar, low external performance was showed by Self-Governing Regions Košice and Banská Bystrica. Žilina Self-Governing Region demonstrated big variations in the performance. Each of evaluated higher territorial wholes distinguished from the other ones with its specific characteristics as expressed in the evaluation. To our opinion, the rank of the regions expressed the demanding nature of tasks the regions face in the near future. Members of every society used to think about their governments´ performance, trying to evaluate the results reached. Reliable information on governmental performance has special importance in the democratic societies where the governments account for their activity to the citizens. Knowledge acquired can serve as a feedback for the governments and their members, and they are very important for scientists and analysts in relation to understanding of relations between the government functioning and events in the society. High quality processed information is useful from citizens´ point of view as well since they can take it in account when deciding on voting in elections.

Regional self-government has a long-term tradition in the democratic society, and it is a significant factor in the economy and the whole community. Discussions have been held since the regional self-governments establishment to date on their reasonability and the way of reached results evaluation. In our article, we highlighted the effectiveness, quality and satisfaction of citizens. Regional self-government works properly if balanced results are reached in all the above stated indicators. In relation to the regional election in 2017, discussions have been renewed on the reasonability of eight self-governing regions existence. The questions can be answered only when we will be able to measure results reached by the self-governing regions. Absence of relevant and quality statistical data only prolongs these discussions.

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