

The Issue of Small Municipalities - The Possibility of Applying the Principles of Socially Responsible Management

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Abstract. The problem of efficient and socially responsible management of small municipalities is a discussed topic in many countries of the world. Applying the concept of social responsibility in the management of self-government strengthens the image, increases transparency and contributes to the interest of citizens in governance in self-government. The aim of the paper is to analyze the problems of small municipalities in Slovakia and abroad, and to propose partial solutions mainly in the economic and administrative area based on the principles of social responsibility, inter-municipal cooperation and possible positive impacts on management due to economies of scale. As small municipalities are unable to take advantage of the effects of economies of scale, certain activities (mainly municipal administration) are more expensive than larger ones. However, before the idea of merging municipalities is approached, it is first necessary to apply tools that will enable municipalities to perform certain activities cheaper, faster, or of better quality. The essence of these tools must be based on mutual cooperation, specialization, joint use of human, material, and financial resources and subsequent use of the effects that such cooperation brings (including marketing - improving the image of the community, improving communication channels, benchmarking, etc.).

Keywords: Social Responsibility · Management · Small Communities · Efficiency · Communication · Image · Non-Profit Marketing

1 Introduction

At present, the public pressure to prove the results of the implemented activities of individual public administration bodies and especially self-government, which is closest to their consumers in terms of the provision of public services, is growing. Individual self-governments with their activities influence three pillars - economic, social, and

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environmental. Applying the concept of social responsibility in the management of self-government strengthens its image, increases transparency and contributes to the interest of citizens in governance in self-government. The advantage of applying the concept is also the strengthening of the responsibility of local authorities towards the population. The concept of social responsibility assigns an important role to self-government. In the theory of stakeholder management, it proves to be the key entity that defines the local legislative framework, creates conditions for the performance of business and non-governmental activities, which is reflected in new job creation. The philosophy of the concept of social responsibility in the environment of self-government bodies is based on the assumption that no office exists only in economic contexts, but affects the whole environment (community, social situation of employees, civil servants, citizens). The relationship is reciprocal, as stakeholders influence the success of the office. In this respect, the concept of social responsibility also plays an important marketing role. The office's commitment in terms of the triple-bottom-line method can be demonstrated as follows: improving the quality of public services provided in self-government, improving the ability to demonstrate self-government results, active self-government approach to public interests, greater transparency of self-government decision-making, involvement of all actors affected credibility of self-government and increasing the competence of self-government employees [17]. In this context, solutions to the problems faced, in particular, by smaller municipalities need to be sought. As small municipalities do not have enough opportunities to obtain sufficient budgetary resources, the systematic development of the territory is considerably limited. A large part of the budget is spent by small municipalities on the administration itself (in some cases they reach up to 60–70%). However, it is not possible to talk about inefficiency, but rather about an economic fact, which can be influenced by appropriate solutions. At the beginning of the scientific study, the authors of the paper deal with the identification of the main problems of small municipalities and only then the authors propose solutions that could improve the conditions of their functioning in terms of the principles of corporate social responsibility.

The municipality is a local institution that produces or manages most of the public services needed to meet the requirements of a modern lifestyle, and is also the central administrator of the technical infrastructure needed to develop the local business community. Both of these general tasks create significant problems, especially for small municipalities. Good performance of these tasks requires appropriate economic strength, which small municipalities do not have [20].

For many small and underfunded municipalities, current impacts such as immigration, demographic change, and a shrinking tax base which undermines general capacity, are highly problematic. The problem of size and peripherality poses an urgent challenge and raises the question of what small municipalities can do to be active participants in regional policy and development [8].

The issue of the size of municipalities has been widely discussed for decades not only in many European countries, but also overseas (USA, Canada). It also became the subject of discussion in the states of the former "Eastern block" after the social changes in 1989. In evaluating it in terms of use of experience, it is necessary to take into account a different starting situation in the long-term democratic conditions of Western Europe

and overseas, in countries where for many decades decentralized public administration was put in place, and the situation in countries still undergoing the reform process. The issue of settlement structure and its relationship to governance is addressed by many scientific institutes. Several studies have argued in favor of consolidating the territorial structure, while others have argued in favor of maintaining a fragmented settlement. The arguments in favor of consolidating the settlement structure place particular emphasis on the efficiency of the provision of the providing services, while the arguments in favor of maintaining a fragmented settlement structure focus more on democratizing their performance. There is no clear answer to the question of which solution is better. As this is primarily a matter of a political reform and the decision-making depends on the elected representatives of the citizens at the central level, it is important what values and the degree of decentralization they prefer and what their support is among the population. From the research into the issue so far, especially in the "western" states, it has been concluded (not only by experts, but also by politicians), that the consolidated settlement structure, i.e. larger municipalities, is able to assume a greater range of powers and responsibilities; with adequate funding, of course. This view (especially from politicians) is not entirely true in the countries of Central and Eastern Europe [14].

However, this does not mean that small municipalities should be rehabilitated, as they, by their very economic nature, do not achieve the same economic results as large municipalities. As small municipalities are unable to take advantage of the effects of economies of scale, certain activities (mainly municipal administration) are more expensive than large ones. Before approaching the idea of merging municipalities (many of which often have more than 500–700 years' tradition), it is first necessary to apply tools that will allow municipalities to carry out certain activities cheaper, faster, and better. The essence of these tools must be based on mutual cooperation, specialization, joint use of human, material, and financial resources and the subsequent use of the effects that such cooperation brings.

The issue of mergers or cooperation is discussed from an economic, political, administrative point of view in almost all states. They are often put in an extreme position: either - or, where in fact, these are co-operative, non-exclusive processes, with the common goal of increasing efficiency and effectiveness. Even in the case of a merger decision, municipalities will be merged in some areas for economic, competitive or other reasons and forced to cooperate. Examples are various forms of cooperation in regions and agglomerations in Europe with a population exceeding several million (London, Stockholm, Rotterdam, Copenhagen, Berlin, Stuttgart, Zurich, …). In the case of merging municipalities, the positives include a more suitable organization, clearer structure, the possibility of greater professionalism, and unified management, and it is not necessary to reach an agreement individually with all municipalities. The risks most often contain the actual implementation of the merger and the internal resistance that can be expected from residents and local politicians [14].

2 The Issue of Small Municipalities

Internal and cross border working migration causing outflow of population [14], the overburdening of small communities and insufficient staff capacity create management problems and demands for tougher prioritization (Reingewertz, 2012; Slack - Bird, 2013). Further studies in this area are needed to provide convincing arguments for each of the options - merger or cooperation. The approach of this cooperation may in some respects have the potential to achieve similar results as a merger, but maintains the territorial structure of local autonomy and retains a voluntary and flexible choice of territorial and functional context for joint efforts. In Sweden, an alternative in terms of asymmetric division of responsibilities between municipalities has also been generally discussed [16]. However, the conclusions presented in the Statskontoret report are that such a distinction between responsibilities between municipalities is not appropriate to address their problems and challenges [23].

In some respects, small and large communities do not differ much from each other. Both need a comprehensive, integrated approach and need to use their existing assets. However, a small village does not mean small problems, and compared to large areas, the problems of the small are surprisingly complex. From challenges in the field of economic development and analytical needs to complex issues of land use and transport. They also often suffer from chronic unemployment. Another problem is the lack of resources and expertise to support and implement change. Successful small communities have developed a number of alternative approaches through the use of limited resources and cooperation with surrounding communities, as well as the creation of non-profit associations, business networks, programs for cyclists and consortia, and economic development organizations [15].

Most often, the size of municipalities is related to the economic aspects of their activities: the efficiency of administration (which is extremely difficult to measure in the municipal environment), the need to provide increasingly differentiated demand for services, creating optimal conditions for local development, or state-building aspects associated with the gradual liquidation of the foundations of the administrative, centralist type of state and its transformation into a state of multilevel democratic governance. In this context, less is said about the need to respond to global change, reflected in transnational cohesion policy documents, and the resulting responsibility of local and regional politicians to respond to them [14].

In any effort to increase efficiency through mergers (so far unproven), various concerns arise within the groups involved. On one hand, there is a concern about the loss of the identity of the municipality and the position of the leader deciding on the development of the municipality, and about the lack of understanding of the need for mergers by citizens and the associated complexity of working with the inhabitants of the municipality. There is also a lack of a factual and financial motive that would convince the municipality and citizens of the benefits of the merger process and open government support for such a form of consolidation, which would initiate discussion in professional circles and the general public [1].

Abroad, the carried out research focuses mainly on strong centers and their economic results. Research in the US typically focuses on cities such as Vancouver, BC, Portland, OR, New York, or Charleston, SC. However, a lot can also be learned by looking at the functioning of local governments on a smaller scale. The authors [15] focused on small municipalities. Experience in small municipalities has clearly confirmed that two basic and broad principles of revitalization are equally applicable to small communities and large ones: the need for a comprehensive approach to revitalization and the need to focus on using existing assets. However, there is a need to focus on three other topics that demonstrate these principles and deserve attention: comprehensive economic development is a challenge for many small communities, and job creation, especially in rural areas, which is a chronic and seemingly unsolvable problem. Small communities often lack the resources and wide range of experts to initiate and manage large-scale economic change [15].

In the Nordic countries, the issue of small municipalities was solved by merging. This process had its greatest impact especially in the 1970s. The restructuring of self-government has become topical again in countries such as Denmark, Norway, Sweden, Iceland, and the Faroe Islands. Even the largest municipalities within these countries would be considered small in other parts of Scandinavia (with the exception of the Icelandic capital Reykjavik). Municipalities are subject to common development trends, such as decentralization, outsourcing, privatization, etc. The problems of smaller municipalities in these countries are usually exacerbated by problematic geographical structures - high mountains and sometimes greater distances in Iceland, the decentralized island structure of the Faroe Islands. In addition, smaller municipalities find it difficult to compete with larger, typically more centrally located municipalities. This is due to the problem of "poorer infrastructure" and specific "backward" developments in the primary sphere of industry or commerce. The smaller the municipality, the more problematic it is to resist negative exogenous influences and cope with their consequences [8].

The results of small municipalities' perception of their problems are summarized in the following tables. From the point of view of the size of municipalities, the most intense perception of problems are in municipalities with less than 250 inhabitants in the area of demography, insufficient income of the municipality, and insufficient coverage in the quality of the road network (Table 1).

In the case of municipalities with a population of more than 10,000, problems were observed in the area of income and communications. The lack of income was most intensively perceived in municipalities in the size group from 2000 to 10000 inhabitants.

Table 1. Perception of problems by local government leaders according to the size of local governments

	Less than 250 inh	250–999	1000–1999	2000–10000	More than 10000
Demographic development	52	34	31	30	
Insufficient income of the municipality	34	53	42	68	49
Road communications	31	36		21	44
Economic development	23	33	27		22
Lack of entrepreneurial spirit	21	16	18		
Rental housing market			28	21	
Overview of population preferences				22	
Pre - primary and primary education					25
Air Transport					22
Senior care					22

3 Socially Responsible Management - An Integrated Approach to Cooperation

New governance innovations demonstrate the overcoming of traditional public organizations and the creation of collaborative production systems that build on new sources of funding, materials, and human energy and redistribute the right to define and assess the values of what is produced [14].

The main task of new forms of cooperation between municipalities must be to provide highly professional, quality service for self-governments, which are part of it. Along with increasing the quality of processes and decision documents, it is subsequently possible to achieve the desired savings (analyzed in another section - economies of scale). To achieve this goal, it is necessary to provide a qualified workforce that will systematically work on its improvement and increase its own professional, communicative, and economic as well as managerial competencies.

In addition to its mission, each (small and large) municipality should introduce responsible behavior in order to contribute to sustainable development in its own economic, social, and environmental factors that affect local, national, and international society. This may include the organization's approach and involvement in quality of life, environmental protection, protection of global resources, equal employment opportunities, ethical behavior, involvement in societal development and local development. The main role of social responsibility explains the will of the municipality to integrate social and environmental aspects into the consideration of its own decisions, but also the ability to respond to the effects of its own decisions and activities on society and the environment. Social responsibility should be an integral part of the municipality's strategy. Strategic objectives should be verified from the point of view of social responsibility in order to avoid unintended consequences.

The municipality, which works on its own social responsibility, strives to improve its own reputation and image towards all citizens as a whole, improve its own ability to attract and retain its employees, and maintain motivation and commitment of its employees and improve its relations with companies, other public organizations, media, suppliers, citizens/customers and the company in which it operates [25]. The table shows the main purpose of each of the public sector tasks (Table 2).

Table 2. The role of public administration in the field of CSR

The role of the public sector	Main purpose
Self-government organizations as a user of social responsibility activities implemented by the private sector	- Self-government organizations as one of the target groups to which the activities - Self-government organizations assist a private entity with the definition of public services to which it should direct its CSR activities. Established visions and strategies for the use of the concept of CSR
Self-government as a supporter and disseminator of the concept of social responsibility	- Promotion of the concept of CSR to various target groups - Recognition and appreciation of socially responsible companies and their partners in the field of CSR - Strengthening the transparency and credibility of the CSR concept - Adoption of a standard for CSR - Cooperation with other countries in the field of CSR - Support for research and education in the field of CSR - Support CSR initiatives and deepen dialogue between all stakeholders
Self-government organizations as an entity actively applying the concept of social responsibility	- The elf-government organization accepts and declares its social responsibility, is aware of the impact of its activities on the local, national and global level

The main goal of the social responsibility of self-government is to ensure long-term sustainable development of the territory in which it operates. The public sector is one of the largest sectors in any country. Its policy significantly influences the development of the territory. Greater efficiency, accountability and transparency are just as important as in the private sector, and therefore the public sector must be reliable [11].

At present, the public pressure to prove the results of implemented public administration activities is growing. Outside the business environment, the area of public administration is an important one. The concept of socially responsible conduct is also applied in public administration. Public authorities influence three pillars - economic, social and environmental. The application of the concept of social responsibility in public administration strengthens the image of public administration, increases transparency, and contributes to the interest of citizens in governance in public administration. The advantage of applying the concept is also the strengthening of the responsibility of public administration bodies towards the population [17].

The issue of sustainable development of local governments and their responsibility was addressed at Local Governments for Sustainability (ICLEI). They identified the introduction of new tools and mechanisms supporting the principles of sustainable development based on the four pillars of sustainable development (economic, environmental, social and security) as a starting point. One of the possibilities is the very concept of social responsibility, which integrates the aforementioned areas. In the conditions of local governments, it must be based on the principle of cooperation. In Australia, ICLEI has launched a program to explore the Triple-bottom-line issues in local government. They have developed a range of support services for building local capacity in reporting, planning, and decision-making. The program has later expanded to Canada. The use of the Triple-bottom-line method enables the development of local governments in terms of sustainability [14].

Effective cooperation of municipalities on the principle of the concept of social responsibility in the territory leads to synergetic effects. It is an effect of joint action (synergy) of several elements, which is usually greater or qualitatively better than a simple sum of effects from the separate action of individual elements. Only cooperation that is not an end in itself and that leads to improvements in a number of related areas leads to synergy effects. It is necessary to distinguish between the fulfillment of quantitative goals (length of built roads, construction of accommodation capacities, creation of new jobs, economic savings) and fulfillment of qualitative goals (improvement of conditions for tourism - improvement of provided services, provision of necessary tourism infrastructure, etc.). The development of qualitative characteristics (intensive development) of the municipality usually brings a greater synergistic effect than the development of quantitative characteristics (extensive development) of the territory [14].

Economic effects (falling under the economic pillar of the concept) are usually the main (but not the only) aspect to start cooperation. In particular, it is appropriate to promote the projects for which it is found that their implementation could achieve a higher economic benefit compared to other commonly used procedures. When joining forces with other entities, the cooperating entities will achieve the so-called economies of scale if this method of securing public goods would lead to higher economic efficiency. Economies of scale are effects that entities achieve internally, e.g. production technology

or thanks to the simultaneous work on several similar projects. The premise is that each of the subjects will do what they do best. “Activities requiring specific expertise should be carried out by entities that are able to perform them as efficiently as possible” [6].

In terms of specific expertise, higher efficiency can be achieved thanks to the management and organizational techniques of the private sector. In addition to this ability, subjects must be motivated to behave correctly, i.e. in the case of an entrepreneur, not seeking to increase their profitability excessively at the expense of public budgets. For example, in particular, the system of fixed payments from the municipal budget to the business entity providing public services contributes to the fact that the operator tries to achieve savings, tries to prevent losses, etc. [5].

Collaboration can generate spatial overlap. In other words, it can have unintended consequences for nearby communities. This basically means that other municipalities are inspired to start similar cooperation or join the current grouping. A closely related term is a political overlap. It refers to the phenomenon in which political leaders change their expectations and political activities in order to address new challenges and opportunities they face. As a result, political leaders may be more supportive of further integration [24].

There are three perspectives at each level of the cooperation concept:

a) better cost-effectiveness in self-government;
b) safer services for the population; and;
c) the introduction of service innovations.

More cost-effective and reliable public service delivery is important for sustainable development and for meeting the goals of the concept of social responsibility. It is a challenge to seek the efforts of partnerships with neighboring municipalities to share costs, services, and capabilities. The basic premise is that there is closeness between potential partners in other dimensions as well. In addition, in order to be able to use the full support capacity of the public sector above the level of the original municipality, adaptation to the sector as well as to regional policies at national and EU level needs to be addressed. Traditionally, the strongest support instruments operate at the national level in the form of laws, rules, and a system of redistribution of tax collection. Instruments at EU level are important, where the Structural Funds are available for regional development projects and the EU Leader for Rural Development. These resources provide opportunities to take initiatives leading to both - the development and strengthening of different types of infrastructure [24].

4 Economies of Scale – A Possible Path to a Socially Responsible Management of Small Municipalities

The analytical part of the scientific study focuses on exploring the possibilities of achieving better economic results of small municipalities through cooperation and joint sharing of resources between them. According to research results, effective cooperation can bring economies of scale and a more socially responsible approach to the use of public resources. We conducted primary and secondary research on a representative set of local governments in Slovakia, which in terms of the number of employees, fall under small

to medium-sized organizations. Municipalities and cities were both represented in the sample. The sample was determined on the basis of two criteria, which are size, determined on the basis of the number of inhabitants, and the location, determined on the basis of the spatial distribution within the regions of the Slovak Republic. The authors of the paper determined the sample for the needs of research into possible effects of cooperation through quota selection. The percentage of local governments in the sample does not fully correspond to the percentage of size categories and the spatial distribution of local governments in the population. For this reason, the authors verified the representativeness of the sample using the $\chi 2$ quadrant of the wellness offit test.

To identify economies of scale, research was carried out on a sample of 236 local governments in Slovakia, with a separate group consisting of cities from 20,000 inhabitants to 90,000 inhabitants. From the point of view of individual regions, the representation was relatively even (Table 3 and Fig. 1).

Table 3. Research sample of local governments by region

Region	number of self-governments
Banská Bystrica region	31
Bratislava region	29
Košice region	25
Nitra region	27
Prešov region	24
Trenčín region	27
Trnava region	27
Žilina region	25
Above 20000 -	21
Total	236

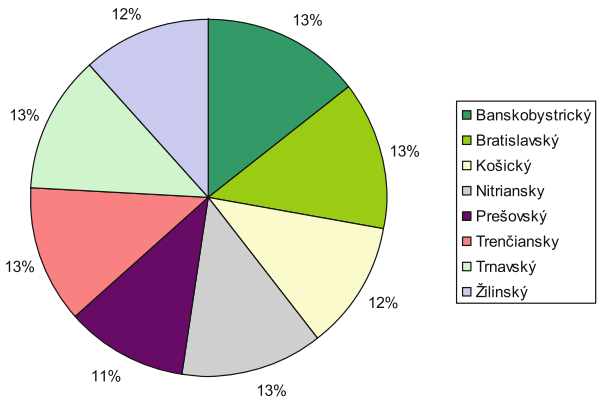

Fig. 1. Research sample by region

However, in the case of economies of scale, it is necessary to consider the optimal size of the cooperating unit. Increasing the size above a certain level will lead to an increase in average costs. These are also evidenced by surveys, where unit expenditures 01.1.1 per capita decline, especially in small municipalities, but gradually, with increasing population, the decline slows down until there is a renewed (albeit slight) growth (Fig. 2).

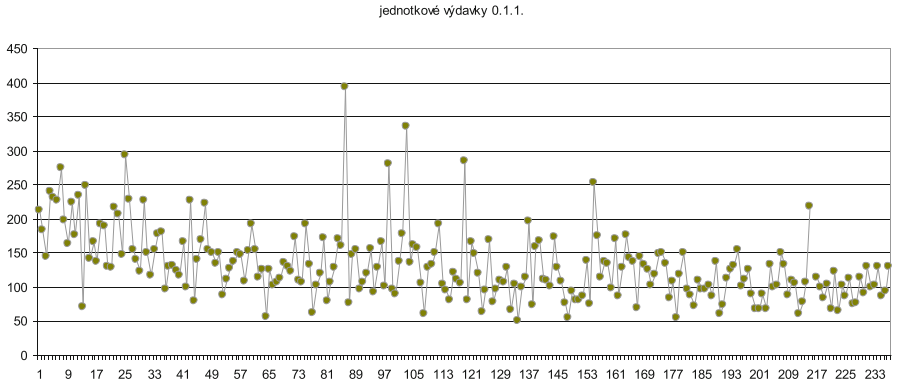

Fig. 2. Development of unit expenditures per capita of the surveyed municipalities in comparison with population growth.

This is due to the fact that as the offices grow, so does their administrative complexity. The increased number of municipalities involved in joint offices may result in discontinuous changes in management, as well as the need to recruit additional administrative staff who may not be overburdened (20.1.2020, https://corporatefinanceinstitute.com/resources/knowledge/economics/economies-of-scale/).

Correlation analysis confirmed the direct linear relationship between unit expenditures 01.1.1 per capita and the size of self-government. Stronger dependence is due to a smaller sample, where there are larger differences between the smallest and largest municipality/city. The least dependence was proved in the self-governments of the Bratislava region, on the contrary the largest in the Žilina region (Fig. 3).

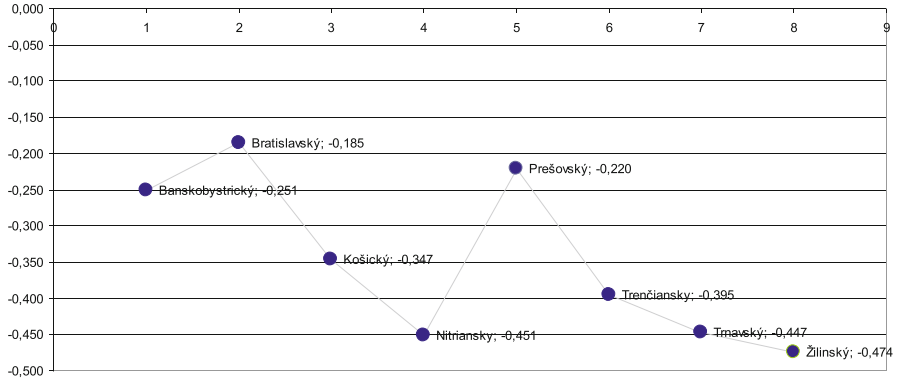

Fig. 3. Correlation coefficients of local governments by individual regions.

Economies of scale are also evidenced by an analysis of the share of expenditure 01.1.1. On the total current expenditures of local governments. The highest share was recorded in the smallest municipalities, which is natural, as the volume of implemented competencies in other areas is smaller than in larger municipalities. From a certain size of local governments (approx. 1,500 inhabitants), the expenditure ratio has stabilized. The total share stabilized in the range of 10–20%. This means that the effect of economies of scale is lost from a certain size. The appropriate size of the cooperating unit will determine when it is no longer economically advantageous to increase the number of municipalities as management costs increase, as will the complexity of the system and, last but not least, the availability of the cooperating unit for residents of participating municipalities (Fig. 4).

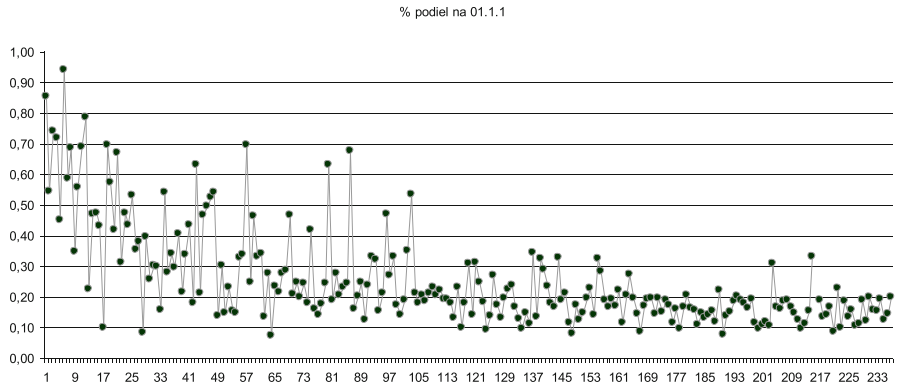

Fig. 4. Development of the share of expenditures 01.1.1. On total current expenditures by local government and population

Regression, correlation analysis, and analysis of average unit expenditures of individual size groups of local governments proved that the most suitable size with the highest economies of scale are municipalities with a size of 2000 to 5000 inhabitants and units from 10000 to 20000 inhabitants. In the group 5001 to 10000, there is even an increase in unit expenditure per capita. The following graphs present the development of expenditures (current) 01.1.1 in the monitored municipalities and the growth rate of the population in the research sample (Fig. 5).

The course of the increase has a similar shape; with the increase in the number of inhabitants, the volume of expenditures also increases 01.1.1 (COFOG). However, for local governments with more than 10,000 and more significantly over 20,000 inhabitants, the increase is quite inconsistent. The size of expenditures does not increase evenly with the growth of the population. On the other hand, expenditure growth has a more moderate trend than population growth (Fig. 6).

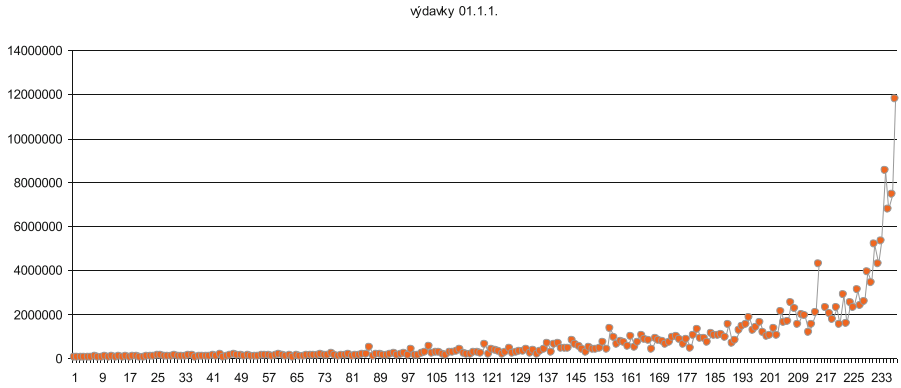

Fig. 5. Research sample by expenditure growth 01.1.1.

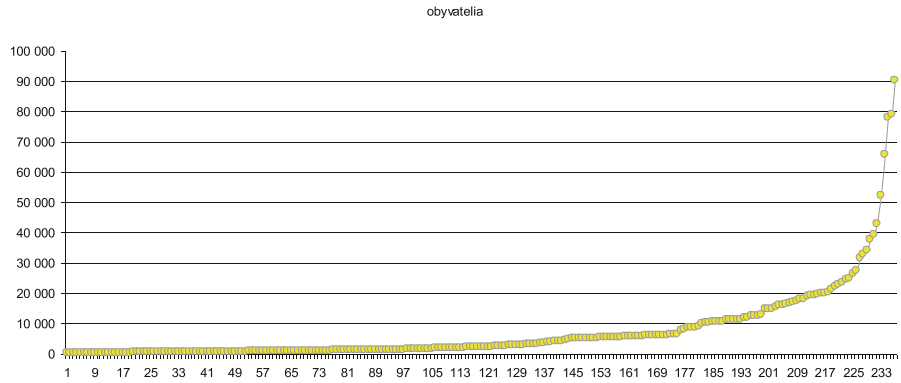

Fig. 6. Research sample by population

This also proves that the optimal size of the cooperating unit should be in the range of up to 20,000 inhabitants.

The highest savings can be achieved (not only on the basis of regression analysis) in municipalities with less than 1,000 inhabitants. The results of the analysis showed a medium-strong indirect linear dependence with a regression coefficient of −0.108, which means that when the population is increased by 1 unit, unit expenditures 01.1.1. Will be reduced by 10 cents. In the case of a municipality of 500 inhabitants, these expenses will decrease by merging within the joint office with other self-governments, e.g. with 1000 inhabitants by 50 €, which represents an annual saving of 25000 €. The p-value expresses statistical significance and its value must be less than 0.05. In this case, we can say that the regression model is statistically significant (Table 4).

Table 4. Results of the analysis for local governments up to 1000 inhabitants

Regression Statistics	
Multiple R	0,474
R Square	0,224
Adjusted R Square	0,212
Standard Error	43,109
Observations	63,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	32785,734	32785,734	17,642	9E-05
Residual	61	113361,197	1858,380		
Total	62	146146,931			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	229,793	16,516	13,913	0,00000	196,767	262,818	196,767	262,818
X Variable 1	-0,108	0,026	-4,200	0,00009	-0,160	-0,057	-0,160	-0,057

Economies of scale were also proved by a regression model in a group of municipalities with less than 2,000 inhabitants. The dependence between the variables as well as the possible economies of scale are smaller in this group. Nevertheless, a positive influence of increasing the size of the unit (joint office) can be confirmed (Table 5).

Table 5. Results of the analysis for local governments up to 2000 inhabitants

Regression Statistics	
Multiple R	0,270
R Square	0,073
Adjusted R Square	0,064
Standard Error	54,972
Observations	108,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	25196,015	25196,015	8,338	5E-03
Residual	106	320319,810	3021,885		
Total	107	345515,825			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	186,177	12,579	14,801	0,00000	161,239	211,116	161,239	211,116
Population	-0,037	0,013	-2,888	0,00471	-0,062	-0,012	-0,062	-0,012

In the group from 2001 to 5000 inhabitants, a weak indirect linear dependence was proved. Although economies of scale were proven, also other factors also affect values (per capita expenditure) (Table 6).

Table 6. Results of the analysis for local governments from 2001 to 5000 inhabitants

Regression Statistics	
Multiple R	0,027
R Square	0,001
Adjusted R Square	-0,029
Standard Error	46,391
Observations	36,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	55,177	55,177	0,026	9E-01
Residual	34	73171,550	2152,104		
Total	35	73226,727			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	126,969	29,655	4,282	0,00014	66,703	187,236	66,703	187,236
Population	-0,002	0,010	-0,160	0,87373	-0,022	0,018	-0,022	0,018

In the group from 5001 to 10000, similarly to the group from 2001 to 5000 inhabitants, a weak indirect linear dependence was proved. The regression coefficient reached a negative value and thus savings can be achieved by increasing the number of inhabitants (adding more municipalities) (Table 7).

Table 7. Results of the analysis for municipalities from 5001 to 10000 inhabitants

Regression Statistics	
Multiple R	0,077
R Square	0,006
Adjusted R Square	-0,023
Standard Error	39,898
Observations	37,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	328,718	328,718	0,206	7E-01
Residual	35	55715,224	1591,864		
Total	36	56043,942			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	135,639	36,027	3,765	0,00061	62,500	208,778	62,500	208,778
Population	-0,003	0,006	-0,454	0,65233	-0,014	0,009	-0,014	0,009

In the case of the two largest groups of municipalities, regression analysis showed the opposite effect. With an increasing population, COFOG 01.1.1. Unit expenditures should increase slightly. This means that the optimal size of the cooperating unit is determined somewhere within this interval (10,001 to 20,000 inhabitants) (Table 8).

Table 8. Results of the analysis for municipalities from 10001 to 20000 inhabitants

Regression Statistics	
Multiple R	0,160
R Square	0,026
Adjusted R Square	-0,005
Standard Error	32,182
Observations	34,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	871,436	871,436	0,841	4E-01
Residual	32	33140,892	1035,653		
Total	33	34012,328			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	82,131	25,257	3,252	0,00270	30,685	133,578	30,685	133,578
Population	0,002	0,002	0,917	0,36585	-0,002	0,005	-0,002	0,005

The last group of municipalities were municipalities with more than 20,000 inhabitants. According to descriptive statistics, similarly to the previous case, unit expenditure per capita should increase with increasing population. It follows that it is not economically advantageous for cities with more than 20,000 inhabitants to enter the shared system of providing administrative services, as the average expenditure per capita is increasing. On the other hand, since small municipalities have high unit expenditures, the connection with larger municipalities will be beneficial for them (Table 9).

Table 9. Results of the analysis for local governments from 20001 inhabitants

Regression Statistics	
Multiple R	0,292
R Square	0,086
Adjusted R Square	0,037
Standard Error	19,835
Observations	21,000

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	698,930	698,930	1,776	2E-01
Residual	19	7475,195	393,431		
Total	20	8174,124			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	88,970	9,117	9,758	0,00000	69,887	108,053	69,887	108,053
Population	0,00027	0,000	1,333	0,19834	0,000	0,001	0,000	0,001

The following table presents a summary of the results of the analysis. Regression coefficients point to high savings reserves, especially in the smallest municipalities, and gradually, as the theories of economies of scale present, decrease with increasing units, eventually reaching negative values (Table 10 and Fig. 7).

Table 10. Development of regression coefficients by size groups

Size of municipality	A	P - value
1000	−0,1082	0,000090
1001–2000	−0,0368	0,004710
2001–5000	−0,0016	0,873700
5001–10000	−0,0026	0,652233
10001–20000	0,0016	0,365849
20001	0,0003	0,198344

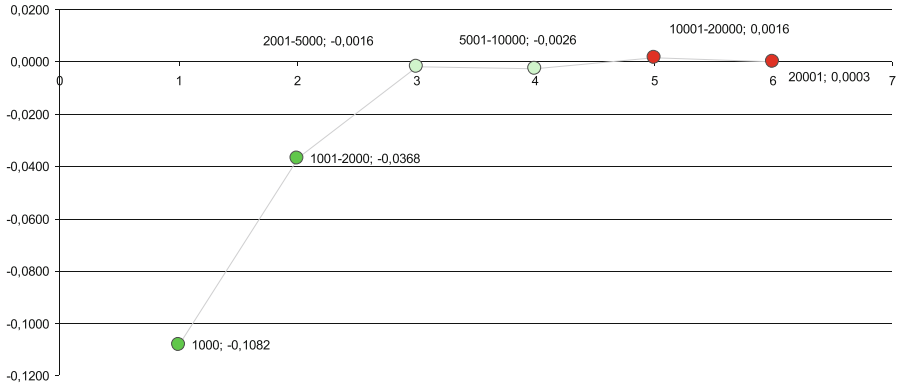

Fig. 7. Development of the regression coefficient (savings) by size groups of local governments

The following table presents the possible economies of scale for model communities and their potential growth into higher size groups (Table 11).

Table 11. Total savings/additional expenses when the population in the group increased by 1000 (impact for individual model municipalities)

Size of municipality	1000	1001–2000	2001–5000	5001–10000	10001–20000	20001
Municipality/regr. Coefficient	−0,1082	−0,0368	−0,0016	−0,0026	0,0016	0,0003
500 inhabitants	−54100	−18400	−800	−1300	800	150
1500 inhabitants		−55200	−2400	−3900	2400	450
2500 inhabitants			−4000	−6500	4000	750
6000 inhabitants				−15600	9600	1800
15000 inhabitants					24000	4500
30000 inhabitants						9000

According to the regression analysis, it would be possible to achieve economies of scale only with a joint office of up to 10,000 inhabitants. From this size on, unit expenditures would gradually increase. In this case, however, it is not the cumulative revenues from the range, only the revenues for a given size group. This means that it would still be advantageous for the smallest municipalities to be a participant in such a joint office, but they would not maximize the achievable economies of scale. Another, more realistic view of economies of scale is the weighted average unit expenditure per capita (01.1.1). The following table presents unit expenditures per capita of current expenditures 01.1.1. Average expenditures were adjusted on the basis of weights (number of inhabitants of individual municipalities) (Table 12).

Table 12. Average expenditures per capita (01.1.1). In individual size groups and their weighted average

	Up to 1000	1001–2000	2001–5000	5001–10000	10001–20000	20000–90000
Average	166,00	138,00	122,00	120,00	105,00	99,00
Weighted average	157,00	131,00	110,00	114,00	103,00	102,70

Based on the obtained data, potential savings in individual model municipalities were recalculated. The total unit expenditure would e.g. for a municipality with 500 inhabitants, which would be part of a joint office with a total size of up to 20,000 inhabitants, their current expenses 01.1.1. Would be at a height of approx. € 51,500, the total savings would be approx. 27 thousand € (Table 13).

It follows from the above that effectively the highest savings would be achieved by local governments in cooperation with a size of 10,000 to 20,000 inhabitants, but also smaller units from 2,000 to 5,000 inhabitants. Within the scope of economies of scale according to average values, it would be economically worthwhile for local governments to increase the size above 20,000 inhabitants, but the savings would not offset the disadvantages associated with higher distribution and decision-making costs. In this case, the expenses on the part of the population associated with the availability of the office (taking over more and more remote municipalities) would also increase.

The analysis of economies of scale has shown that the appropriate tools can be used to solve, at least in part, the problems faced by small municipalities. The way is effective cooperation, which would not endanger the sovereignty of small municipalities, but would allow to take advantage of economies of scale, specialization, and the increase of the quality of services provided as a result of this cooperation. The unit, which would be created on the basis of cooperation agreements, should be an unequivocally independent legal entity, a service center without regulatory competence towards cooperating municipalities. The principles of operation of this institution must be based on the principles of the concept of social responsibility, in the context of positive PR, image, communication and non-profit marketing.

Table 13. Total cumulated unit expenditure 01.1.1 and total savings/additional expenditure for each size class

Expenses	1000	1001-2000	2001-5000	5001-10000	10001-20000	20001
Municipality / weighted averageexpenses	157,0	131,0	110,0	114,0	103,0	102,7
500 inhab.	78500	65500	55000	57000	51500	51350
1500 inhab.		196500	165000	171000	154500	154050
2500 inhab.			275000	285000	257500	256750
6000 inhab.				684000	618000	616200
15000 inhab.					1545000	1540500
30000 inhab.						3081000
Savings	1000	1001-2000	2001-5000	5001-10000	10001-20000	20001
500 inhab.		-13000	-23500	-21500	-27000	-27150
1500 inhab.			-31500	-25500	-42000	-42450
2500 inhab.				10000	-17500	-18250
6000 inhab.					-66000	-67800
15000 inhab.						-4500
30000 inhab.						

5 Conclusion

Not only in the V4 countries, but in all European countries, there are major changes in the structure of urbanization in the cities and municipalities themselves. They take place in the context of new patterns of social and economic relations. Social, economic, ecological and political problems are increasing, which results in changes in the processes of local government management. Local governments are elected by the people, but economic interests are increasingly dependent on financial organizations and industrial enterprises, which are not politically responsible for the operation and development of the government itself. Small municipalities with 2,000 to 3,000 inhabitants in Slovakia create rural settlements, and it is essential that they respond to the problems of the future, but also to opportunities by cooperating at local and regional levels. Traditional general policies and institutions appear to be ineffective and unable to achieve the goals that guide these new groupings and organizations. With the increased mobility of the population, the very relations between the population and the territory have become very dynamic.

This scientific study does not provide clear guidance for solving the problem of small communities, but provides a good orientation or direction which local governments can go when cooperating, and what possibilities they have in reducing the costs of their activities and increasing their social responsibility. The new model of cooperation should be based on the principles of the concept of social responsibility, communication, and good experience that participants have with each other. The main goal is to use all the effects that this cooperation can bring (especially in terms of socially responsible management). However, the basis for solving all problems are well-equipped human resources that can effectively use the possible synergetic effects of inter-municipal cooperation.

Inter-municipal cooperation exists in many countries, regardless of the nature of the settlement-administrative system and the extent of its fragmentation. It can be found both in countries with a large number of small municipalities and in systems that have undergone recent municipalisation (e.g. Belgium, Germany), but also in countries with large local government units (Great Britain). Of particular importance is the cooperation of municipalities in Germany, where they solved the problems of small municipalities in two ways: by introducing self-governing districts, union municipalities and local administrative units (the original municipalities remain preserved in terms of their legal personality, the most demanding administrative agendas are performed by one municipality). The second solution (a similar model is recommended for the use of the effects of economies of scale in the conditions of Slovakia) is the building of associations to perform selected, usually individual tasks that exceed the capabilities of the municipality (special purpose association, contractual community, municipal labor community and various regional associations). In France, a wide range of different forms of cooperation has emerged between local authorities, with the aim of overcoming the disadvantages of the fragmentation of the public administration system. French municipalities thus have the opportunity to join various single - and multi - purpose associations, called syndicates. In Austria, municipalities are creating so-called communities of municipalities, which do not have their own legal personality, but have a broad focus on several activities (e.g. joint municipal office, operation of a computer network, fire protection equipment, joint collection of local taxes and fees, etc.). According to the law, the federal state can also create a so-called association with compulsory participation of municipalities (e.g. for the performance of tasks under the Social Assistance Act). In addition, Austrian municipalities form associations, and the sovereignty of such associated municipalities must not be endangered by law. The sovereignty of associated municipalities is also reflected in the fact that each of these municipalities must be represented in the bodies of the association. The activities of associated municipalities are usually focused on the joint performance of only one task. Another model is introduced, for example, in Lower Saxony, where municipalities with a population of less than 400 are mandatory to merge, while in such common municipality, there can be a maximum of 10 original municipalities and its population should not exceed 7,000 inhabitants [21]. This model is not preferred, although it is possible to apply certain proven principles.

One of the ways to preserve local democratic traditions within the merged units is the so-called decentralized governance neighborhood councils with specific responsibilities. Such solutions can be found in both Sweden and Finland. Katajamäki and Mariussen [12] reported on how this concept was assessed for the merged community. However, a decision was later taken in Umeå, where these neighborhood councils were dissolved. Such "Councils" in the context of Umeå included competence issues concerning schools, young people, leisure, culture, libraries, families, the elderly and services for the disabled. Another alternative that took place in Sweden was the possibility of cooperating across city borders in the form of a federation of local government (in Swedish "Kommunalförbund") to address certain responsibilities. The task of such an organizational framework was to create a body responsible for matters mutually agreed between the municipalities. Today, we can find about 90 such organizations throughout Sweden, which indicates a weak interest in this type of cooperation solution. A similar concept ("samkommun" or joint municipal councils) exists in Finland and is much more widespread. The main reasons for the existence of these councils are that the number of small municipalities is much larger than in Sweden [24].

The Västerbotten region and the subregion Region 8 is characterized by a large number of small municipalities. Addressing local cooperation provides incentives to develop common policy support tools and proposals for central government and the EU. Voluntary access to cooperation across regions and the flexibility of partners provide good opportunities. If the results are negative, it is relatively easy to review the cooperation (unless long-term contracts have been established). In addition to internal experience, active external search for "best practices" may be important. The cross-border dimension of such voluntary cooperation is based on identity in terms of feelings of belonging and lasting ties between the inhabitants of each municipality. According to a survey in northern Sweden, trust in local politicians depends on feelings and closeness in a broad social context [23].

Improving the management of small municipalities on the principle of social responsibility through intergovernmental cooperation provides, from the point of view of self-government, the possibility of maintaining autonomy and gradually building cooperation with other municipalities that are interested. However, the risks are a high degree of compliance required, costing problems, and price conflicts. Every change requires intensive communication and the search for consensus. Sometimes, it can be an endless process [2]. From the point of view of the state, the political identity of the municipalities is preserved in voluntary cooperation and unpopular interventions in the structure of municipalities and their autonomy are not necessary. Based on the experience of Bavaria, where in the 1970s municipalities were merged on the basis of a central decision; at present, such a decision would be difficult to implement politically. The advantage is that cooperation can take place only in selected areas and in solving selected problems [22]. However, the disadvantage is that with increasing cooperation, there is a risk (especially in connection with cooperation in many areas) that the influence of administrative staff increases and the possibility of control by elected representatives and citizens decreases [9].

All the mentioned solutions and experiences of individual states are based on the joint (shared) provision of public services. The basic and common element of all these solutions is the use of positive effects from the joint provision of services.

The problem of co-operation of municipal self-governments, connected with the creation of institutions and bodies of an inter-municipal nature, is undoubtedly a complex, multidimensional and sensitive issue concerning individual self-governing communities. This is evidenced by the experience of several European countries, where the process, which is also called municipalization, has already taken place. A municipality with 5,000 to 10,000 inhabitants was considered effective in most countries (but not in the conditions of Slovakia). However, it should be emphasized that due to the specific conditions of individual states (especially the settlement structure), it is not possible to determine the universal optimal size of the lowest level of self-government [7], which is a municipality or commune [10]. Based on theauthors' research, it has been shown that more responsible economies of scale can be achieved with a unit of 2,000 to 5,000 inhabitants and 10,000 to 20,000 inhabitants.

Increasing the size above this level can lead to an increase in average costs. Regression, correlation analysis and analysis of average unit expenditures of individual size groups of local governments proved that the most suitable size with the highest economies of scale are the aforementioned municipalities of two groups. In the group 5001 to 10000, there is even an increase in unit expenditure per capita. Joining municipalities on the basis of cooperation alone does not have to bring economic effects. Modern approaches to the management of public administration bodies and especially new forms of cooperation and the principles applied in them are reflected in 3 basic models of public service provision. The new units must be built on a combination of these three models (Table 14).

The beginning of the 21st century in the system of providing public services by municipalities brought a transition from the principle of competition between public, private and third sectors to the principle of cooperation between these sectors in order to meet public needs by providing the public with active citizen participation. The basic principles of social responsibility in the provision of public services lie in the gradual transition from traditional / internal approaches to the provision of public services to alternative approaches based on partnership and cooperation with the active participation of a group of municipalities, but also the citizen in the service process. These principles are among the basic principles of social responsibility. In this context, the tasks within the partnership between local governments are divided so that the strengths of the partners are maximized, and the risks arising from their weaknesses are eliminated in the interest of more effective provision of quality public services.

Table 14. Approaches to process control in cooperating units

	Bureaucratic approach	New Public Management	New Public Governance
Primary theoretical foundations	Political theory	Economic theory	Democratic theory
Rationality, related models of human behavior prevail	Political rationality, "administrative man"	Economic rationality "economic man", own interests	Strategic rationality, multi-rationality (political, economic, organizational)
Public interest	Politically defined and legally expressed	Expressed by grouping individual interests	The result of a dialogue on shared values
Who are civil servants responsible for?	Client and voter	Customer	Citizen
The role of government	Order (design and implementation of a policy focused on a single politically defined goal)	Manage and act as a catalyst for market power)	Serve-help (negotiate interests between citizens and community groups, create shared values)
Mechanisms for achieving goals	Through government organizations.	Through private organizations and NGOs	Forming coalitions of public, non-governmental and private agencies to meet shared needs.
Approach to responsibility	Hierarchical - administrators are accountable to democratically elected political leaders.	Market-driven - accumulation of individual interests with results for a wide group of customers	Multilateral civil servants accountable to the law, the values of society, political norms, standards and the interests of citizens.
Powers of officials	Limited powers	Broad, meet business goals	Powers limited and responsible
Assumed organizational structure	A bureaucratic organization marked by top-down management	Decentralized public institutions	Collaborative structure, external and internal cooperation
Assumed motivational basis of civil servants /	Plat, výhody	Entrepreneurial spirit, ideology of reducing government	Public service, desire to contribute to society
providers			

The basic motive for the joint and socially responsible provision of services must be the improvement of processes for the benefit of users of municipal and municipal services. This will then be reflected in areas such as: performance growth in public services - a joint cooperating unit producing public services collects payments for the production of services if the services produced meet set standards, leading to pressure to increase performance, growth in quality of public services - citizens consider the quality of services provided within the partnership to be higher than in the case of traditional approaches to the provision of services with the application of an internal form of service provision. Furthermore, it is the generation of additional revenues - in the system of alternative provision of public services, the provision of services to citizens may charge, so citizens participate in direct payments to bear the costs of service, reducing demands on public budgets, decrease operating costs (economies of scale) – it can be assumed that cooperation within a joint unit will bring a reduction in costs to a greater extent than an individual municipality, which will be reflected in reduced demands with regard to public budget expenditures. Another advantage is the growth of the quality of management in the public sector - the partnership between the created unit and individual governments, and the need for communication and cooperation within this relationship will be positively reflected in the form of knowledge transfers and "best practices" and more effective risk management - adequate distribution of risk and competencies to influence key factors among the participating partners will lead to more efficient management and contribute to better results of mutual cooperation between the created unit and individual self-governments [14].

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