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EFFECTIVE LOCAL GOVERNANCE: LARGE OR SMALL UNITS (THE ARMENIAN CASE)

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Abstract. The purpose of this research was to identify the impact of the size of local government units on the local public services, whether small or large local government units are preferable for the implementation of effective local governance. A whole complex of financial and socio-economic indicators from 465 amalgamated communities in Armenia, as well as the newly formed 52 clusters, were collected and analyzed, by creating a database and polynomial regression models to quantitatively measure the impact of the size of local government units on the provision of public services. The analysis has quantitatively proven that for certain public services it would be more favorable to have larger local government units, however, the small and medium-size consolidated clusters do not provide a significant increase in the provision of public services. Thus, for having substantial outcomes from consolidation the new local government units have to be much larger than they were before. Moreover, effective local governance requires both large and small local government units with its own powers and responsibilities. Disclosure of such relationships can be useful not only for ensuring better reforms in territorial administration and local governance but also for contributing to the theory and practice of public administration and local government.

Keywords: local governance, public administration, consolidation, enlargement, polynomial regression.

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Introduction

Historically almost all social units with any kind of public administration have sought to control larger territories, resources, and population, but in recent decades a movement against the size of administrative units has emerged in the scholarly literature. "We must eliminate communities the size of Chicago", said Leopold Kohr, one of the pioneers of this movement, when discussing the problem of Chicago's high crime rate (Kohr, 1978, p. 35). In his famous "Small is Beautiful", although not directly referring to local self-government, Schumacher states that people who organise themselves into small units will take better care of their land or other natural resources than anonymous corporations or megalomaniacal governments (Schumacher, 1973, p. 22). But even the most enthusiastic followers of "small is beautiful" do not insist of the universality of their concept. "You do not make non-viable people viable by putting large numbers of them into one huge community, and you do not make viable people non-viable by splitting a large municipalities into a number of smaller, more intimate, more coherent and more manageable groups" (Schumacher, 1973, p. 50). Thus, it is necessary to explore all the advantages and disadvantages of consolidation (and fragmentation) of communities and to take into account the characteristics when solving the scale problem. The experience with administrative reforms in different countries also shows that defining an optimal size of communities is a serious challenge and many factors should be taken into account The consolidation process must be based on a study of the characteristics and needs of each settlement or neighborhood, and only after such an in-depth study it could be concluded whether or not consolidation will add value to the settlement

Certainly, there are several arguments in favor of consolidation of local government units, and these arguments seem to be logically well-grounded. In his study on the size of local governments in Central and Eastern Europe, Pawel Swianiewicz has pointed out the following advantages of consolidation:

– There are economies of scale in many local services. The marginal cost of providing services is lower when the total amount of services provided is larger; Small local governments incur costs associated with spillover effects. Many large cities and their suburbs, which have separate local governments, provide a good example of such a phenomenon. Citizens living in suburbs pay their taxes locally, but they still benefit from many services delivered in the center of the city. The spillover effect can never be eliminated, but it can be reduced if local government system is territorially consolidated;
– Large local governments can provide more functions, which may lead to more public interest and participation in local politics;

– Territorial consolidation provides more space for interest groups representing a pluralistic society. In big communities, it is easier to avoid nepotism or other forms of political clienteles. It helps citizens influence local politics between the election periods. One potential danger is related to the presence of dominant pressure groups. Such a danger is smaller in large territorial units;
– In large local governments, there is a greater opportunity for a strong civil society. There is a greater chance that a dense network of voluntary organizations will develop;
– Large local governments enable the promotion of local economic development. This is the case because a larger scale enables complex, coherent planning and also makes it easier to finance expensive infrastructure investment projects, crucial for promoting economic development (Swianiewicz, 2002, pp. 8–10).

At the same time, several important factors argue for the existence of small communities:

– Contact between council members and citizens is much closer and politicians are more accountable to their local communities;
– In small units, citizens can "vote with their feet", i.e. choose their preferred ratio of local taxes vs. to publicly provided services;
– Small local communities are more homogeneous, and it is easier to implement policies that meet the preferences of a large proportion of citizenry;
– There are more incentives for citizen participation in small communities as an individual's voice carries more weight (although effective citizen participation is also possible in large local government units, depending on several factors (Hayrapetyan, 2019));
– Small local governments are less bureaucratic;
– The economies of scale argument is irrelevant since it is possible to separate responsibility for service from actual delivery. Many services can be outsourced to the private sector and, in such a situation, economy of scale depends on the size of the private company;
– Fragmentation supports competition among local governments in attracting capital to those places where it will be more productive;
– Fragmentation supports experimentation and innovation (Swianiewicz, 2002, pp. 10–11).

Many estimates have been made to measure the optimal size of local government based on cost efficiency (Pevcin, 2014, pp. 4–7), ease of entrepreneurship (Harasym et al., 2017, pp. 15–25) and other factors, and some authors have obtained important outcomes, but overall it is extremely difficult to determine the optimal size and number of municipalities, because estimation procedures affect the results (Pevcin, 2014, p. 8).

It is worth mentioning that in addition to Central and Eastern European countries, which encountered a challenge of building entirely renovated systems of local self-government, the issue of the optimal size of local government units is widely discussed in the academic societies of countries with relatively new cultural and social diversity, such as Canada or Australia, and it is important

that the methodology of assessing the size of local government in much under focus. The main criteria discussed for evaluation are economic efficiency or financial performance, effective delivery of preferred local services effective local democracy and social capital, and the ability to cooperate with state governments (Abelson, 2016, p. 44).

Evaluating optimal size is complicated not only because of the multiple criteria to be assessed but also because of the variety of services provided by local governments. If considering only one service, the application of several well-known approaches, such as data envelopment analysis to estimate scale efficiency, would be appropriate. "However, when dealing with decision-making units, such as local councils, which provide more than one service or produce more than one output, it becomes more difficult to evaluate the optimal scale for each service" (Marques et al., 2015, p. 2). To overcome this, Marques et al. estimated partial efficiencies and cost shares of each service in their study (Marques et al., 2015, pp. 7–14).

It becomes obvious, that both large and small communities have their advantages, and no government would be willing to sacrifice these attributes. For small rural communities in particular, both internal and external administrations are needed (Warner, 2012, pp. 29–30).

To save all the benefits of consolidation and avoid its drawbacks, a multi-tiered system has recently been frequently discussed as an alternative to singular size optimization efforts. Having studied a multi-tiered system of Australia, Abelson concludes, that the functions typically allocated to lower tier local governments are relatively insignificant in financial terms, but not in terms of quality-of-life impacts.

For this reason, lower-level councils require primarily strategic, but not financial capacity. The larger councils of upper tier, on the other hand, usually do not bring financial savings, but might have more capacity for providing vision on territorial development (Abelson, 2016, pp. 14–15). "Multi-level cooperation tends to be more effective when there is firm political leadership at the municipal level.

In the case of infrastructure project approval and federal ownership, this is particularly notable" (Young, 2013, p. 6). Robert Young concludes the observation of Canadian multilevel system of governance with the idea, that there are many factors that make some municipal governments more successful than others – size, electoral significance, resources, and so on – but it is clear that those with a comprehensive focus are more likely to try to succeed in the arenas of multilevel governance (Young, 2013, p. 15). In other words, just having both small and large units at different tiers of local government is not enough for benefiting from their advantages. A well-developed system of communication and cooperation between tiers can be vital for the efficiency of the entire local government.

Based on the previous experience with local government in Armenia and the preliminary results of the literature review it was hypothesized that:

– *For certain public services large units are preferable, as they would provide considerable economies of scale and thus more effective local governance.*

- *For certain public services small units are preferable, because large units would not provide significant economies of scale but would tend to alienate local government from the population for those services which require fast reflection and more participation.*
- *More than one level is needed for effective delivery of public services at the local level*

Methodology

A whole set of financial and socio-economic indicators from 465 amalgamated communities, as well as the newly formed 52 clusters were collected and analyzed, by creating a new database. The indicators were as follows:

- Relative share of taxes and fees in total budget revenues,
- Relative shares of government grants in total budget revenues,
- Relative shares of capital expenditures in total budget expenditures,
- Relative shares of general administrative expenditures in total budget expenditures,
- Relative shares of expenditures in various functional areas in total budget expenditures,
- The number of positions in municipalities, municipal non-profit organizations and budget institutions.

These indicators were selected in accordance with the corresponding budget sections of the municipalities reflecting revenues and expenditures before and after the consolidation. The last indicator was included to reveal whether the consolidation has led to the desired optimization effect of (the explicit goal stated by the government to support the process).

The database, in turn, was used to evaluate the effectiveness of local governance before and after the enlargement process through the analysis of the financial and economic indicators. In addition, the database was used to build polynomial non-linear regression models to reveal the impact of local government unit size on public service delivery.

The process of large-scale municipal consolidation in Armenia started in 2011, when the government adopted a new concept paper on "Formation of Inter-municipal Unions and Enlargement of Communities" (the single-tier local government units in Armenia are called municipalities).

On February 14, 2016, local government elections were held in three regions, as a result of which the local authorities of the first three enlarged clusters were formed. These clusters included 22 former municipalities. Afterwards, the process of municipal consolidation continued, as a result of which 15 new municipalities were established through the unification of 118 communities.

On June 9, 2017, the National Assembly laid the foundation for the start of the third phase of enlargement. With this, 325 communities from a number of regions were united, as a result of which 34 new enlarged communities were formed. Thus, at the end of the third and currently the last phase, a total of 465 communities were amalgamated in Armenia, forming 52 new municipalities or clusters (Tab. 1).

Table 1

The three stages of municipal consolidation in Armenia

Province	Newly established municipality	Number of former municipalities	Number of settlements
First stage (pilot program)			
Lori	Tumanyan	7	8
Syunik	Tatev	8	8
Tavush	Dilijan	7	9
Total: first stage	***3***	***22***	***25***
Second stage			
Ararat	Urtsadzor	3	3
Shirak	Amasia	9	10
	Ashotsk	11	11
	Arpi	9	15
	Sarapat	15	15
Syunik	Goris	10	13
	Meghri	13	15
	Gorayk	4	4
	Tegh	7	7
Vayots Dzor	Jermuk	4	5
	Vayk	5	6
	Zaritap	9	12
Tavush	Ayrum	8	8
	Noyemberyan	9	9
	Koghb	2	2
Total: second stage	***15***	***118***	***135***
Third stage			
Aragatsotn	Aparan	21	21
	Alagyaz	11	11
	Aragatsavan	4	4
	Tsaghkahovit	10	10
Gegharkunik	Tchambarak	11	13
	Vardenis	4	4
	Geghamasar	18	19
	Shoghakat	6	6

Province	Newly established municipality	Number of former municipalities	Number of settlements
Lori	Alaverdi	6	7
	Akhtala	5	9
	Stepanavan	3	4
	Tashir	9	12
	Gyulagarak	7	7
	Lori Berd	9	9
	Metsvan	4	4
	Shnogh	3	3
	Sarchapet	7	8
	Odzun	8	9
Kotayk	Byureghavan	3	3
	Yeghvard	6	6
	Charentsavan	6	6
	Aknunk	8	8
	Meghradzor	5	7
	Jrvezh	3	3
Shirak	Ani	17	19
	Akhuryan	8	8
	Marmashen	15	16
Syunik	Kapan	32	38
	Sisian	29	32
	Kajaran	6	21
Vayots Dzor	Areni	9	11
	Gladzor	3	3
	Yeghegis	12	16
Tavush	Berd	17	17
Total: third stage	***34***	***325***	***374***
Total: three stages	***52***	***465***	***534***

Sources: Compiled by authors (- hereinafter, unless otherwise noted).

Data analysis and key findings

The need for the municipality expansion was primarily justified by the reduction of unnecessarily excessive salaries and the saving of budgetary expenditures,

which would allow the funds saved to be used for the provision of public services to the population of the municipality.

The government also hoped to increase the relative shares of the local taxes and fees through the possible synergy and a combined local tax policy. However, the experience of the first year shows that the situation has not changed significantly after the expansion. In multi-settlement *communities considerable share of budgetary expenditures is addressed to job retention.*

The experience of already enlarged communities shows that in most cases the links ***between local authorities and the population has loosened.*** As a partial solution to this issue, the institute of the administrative governors of the settlements was introduced. In most cases, they are former village governors, however they do not completely replace municipal governors. The latter used to have clear powers, which now have almost fully been reserved for the head of the enlarged municipality, leaving rather formal and inessential powers to the administrative governors.

The chart shows that as a result of the enlargement, local tax and fee revenues in the newly formed municipal budget revenues did not change significantly as a result of the expansion, and in fact only a mathematical sum was observed, with no synergistic or similar effects.

If previously local taxes and duties formed 21.2% of the combined budget revenues of 465 merged municipalities, now the same indicator changed to 21.6% in the newly formed 52 enlarged municipalities (Fig. 1).

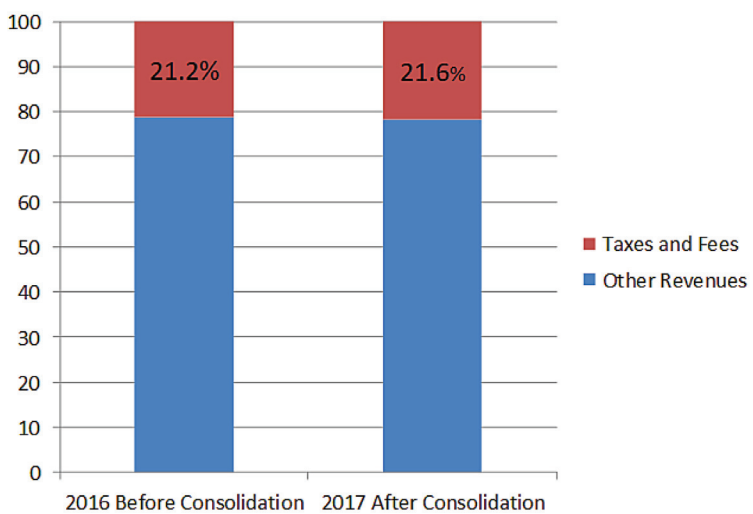

Figure 1: **Relative share of taxes and fees in total budget revenues of 465 municipalities before and after consolidation in 52 clusters**

Sources: compiled by the authors according to their own calculations, based on data from the Ministry of Territorial Administration and Infrastructure of Armenia (- hereinafter unless otherwise stated).

Consolidation has resulted in only minor changes in the relative shares official state transfers in the total revenues of the communities' budgets. Before the consolidation the relative share of the state transfers was 65% of total revenues, which changed to 61.9% after the consolidation. However, this decrease is not due

to the growth of own revenue sources, but rather due to the decrease in subventions, which are the targeted transfers for certain projects (Fig. 2).

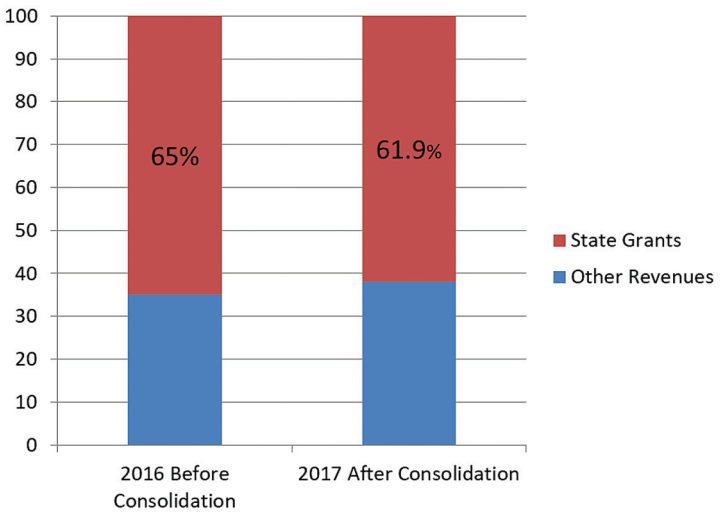

Figure 2: **Relative shares of government grants in total budget revenues of 465 municipalities before and after consolidation in 52 clusters**

Since one of the main official justifications for the municipalities' enlargement policy was the possible growth of capital projects in the newly formed large clusters ensuring better opportunities for the sustainable development of municipalities, it would be noteworthy to compare and reveal the actual changes that the consolidation process has brought about in the volumes of capital expenditures of local budgets. Symbolically, the chart shows that after the consolidation the relative share of capital expenditures in total budget expenditures remained exactly the same – 12.1% (Fig. 3).

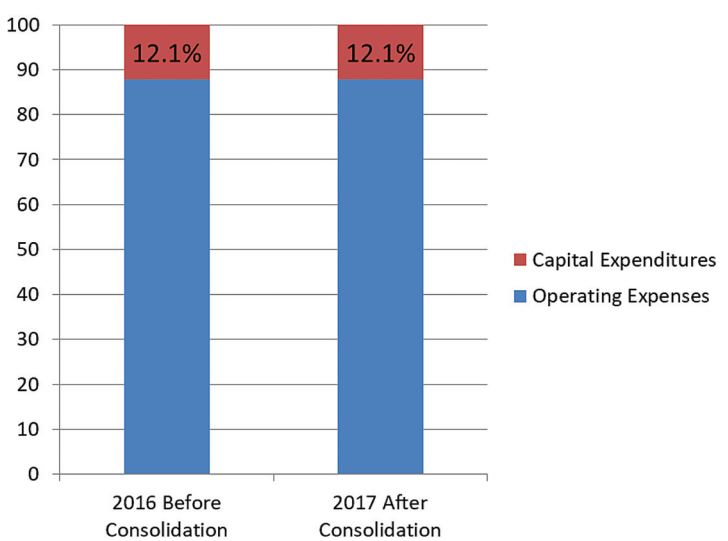

Figure 3: **Relative shares of capital expenditures in total budget expenditures of 465 municipalities before and after consolidation into 52 clusters**

Meanwhile, the enlargement of communities has resulted in a significant reduction in general administrative expenditures as a share of total budget expenditures – from 46.9% to 39%. This type of expenditure essentially reflects the municipalities' staff maintenance costs. It can be argued that some significant increase in the efficiency is observed due to the reduction of municipalities' staff.

However, the experience of the first years after consolidation has shown that municipal staff members who were unemployed as a result of the unification of municipalities and the elimination of unnecessary positions, were artificially transferred to the municipal non-profit organizations or, the so called, budgetary institutions in many cases without even a slight professional relevance to their new positions.

The latter process was launched by an informal political decision not to raise tensions rise against the state authorities that initiated the administrative-territorial reforms (Fig. 4).

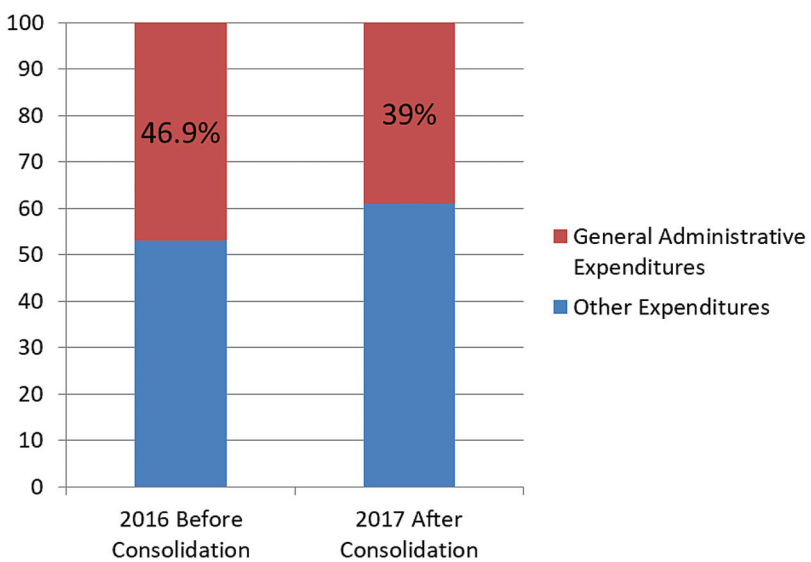

Figure 4: **Relative shares of general administrative expenditures in total budget expenditures of 465 municipalities before and after consolidation into 52 clusters**

The chart below clearly shows that after consolidation of 307 local government units into 38 enlarged clusters the number of positions in municipalities has been reduced, but instead new positions have been added to the municipal non-profit organizations and budgetary institutions from 4269 to 4614. However, the total number of positions decreased from 6729 to 6528 (Fig. 5).

When evaluating the impact of the enlargement of local government units on the effectiveness of local governance, it is important to analyze how certain public services, provided by local governments to the population have changed. For this purpose, the relative shares of budgetary expenditures in to-

tal expenditures through several key functional spheres before and after the consolidation have been analyzed (Fig. 6).

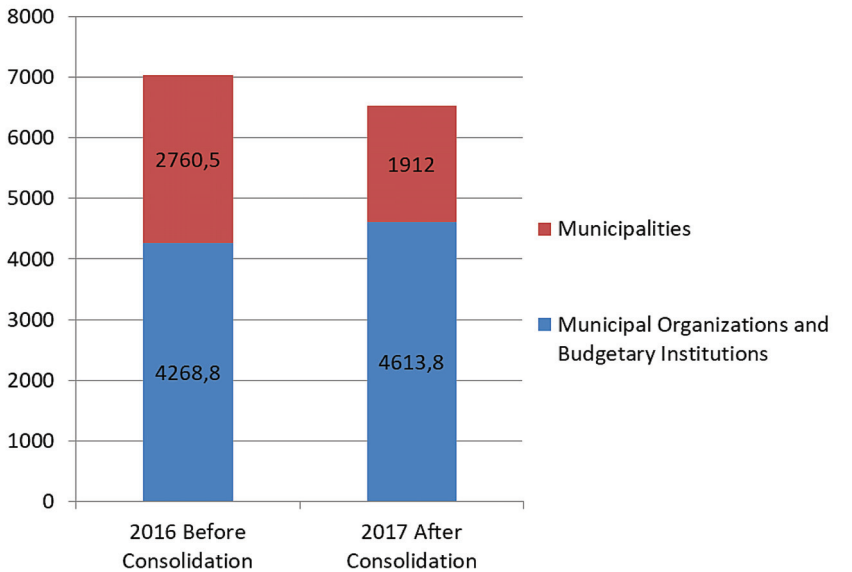

Figure 5: **The number of positions in municipalities, municipal non-profit organizations and budgetary institutions of 307 municipalities before and after consolidation into 38 clusters (*this particular data on the positions in the municipalities was available only for 307 out of 465 amalgamated communities*)**

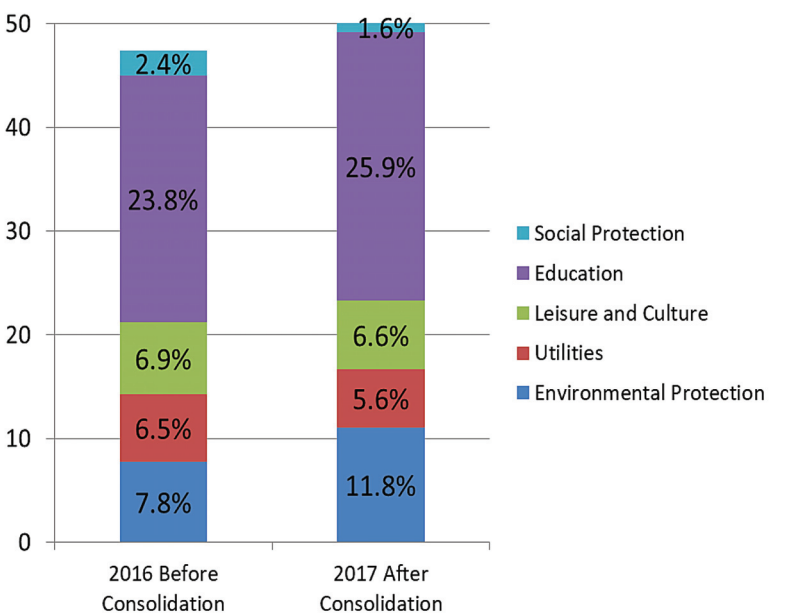

Figure 6: **Relative shares of expenditures in several functional areas in total budget expenditures of 465 municipalities before and after consolidation in 52 clusters**

Figure 6 shows that certain public services were reduced. In particular, the volume of public services in the area of social protection has significantly decreased. If before the enlargement the relative share of budgetary expenditures on social protection in total expenditures was 2.4%, after it was only 1.6%. Not only has the relative share of social protection services delivery decreased, but also the absolute value, from 455mln AMD (Armenian dram) to 323mln AMD.

A similar pattern can be observed for utilities. Consolidation has led to a decline in the relative share of spending on utilities from 6.5% to 5.6%, while the absolute value has fallen from AMD 121 million to AMD 113 million The absolute value of expenditures in leisure and culture has increased to some extent, from 130mln AMD to 132mln AMD, however the relative share in total budgetary expenditures has again decreased from 6.9% to 6.6%. It can be claimed that for this functional direction there has not been any notable change as result of the consolidation.

As mentioned above comparing financial indicators before and after the consolidation, the database was used to build polynomial non-linear regression models to reveal the impact of the size of local government units on the provision of public services. Such analyzes made it possible to determine which size of local government units is preferable for the delivery of certain public services – large or small? Apart from this, the regression models have helped to understand to what extent the size of the local government unit affects the scale of certain public services and how large the units should be to have tangible effects. The independent variable in the regression models was the population size.

The first regression model was used to evaluate the impact of the size of local government unit (population) in 465 municipalities on general administrative expenditures per capita. As mentioned earlier, the latter essentially reflect the personnel maintenance costs of the municipalities. It was quite logical for the linear regression model to show an inverse relationship between the dependent and independent variables, since larger local government units provide some economies of scale in this direction, and per capita staff maintenance costs will decrease.

This fact is reflected in the negative value of the in beta (β) coefficient, -0.203 (Tab. 2 and Tab. 3).

Table 2

The impact of local government unit size (population) in 465 municipalities on general administrative expenditures per capita (linear model). Model summary *(predictors: (Constant), Population)*

Model:	R:	R Square:	Adjusted R Square:	Std. Error of the Estimate:
1:	.203:	.041:	.039:	34,82240:

Table 3

The impact of local government unit size (population) in 465 communities on general administrative expenditures per capita (linear model). Coefficients *(dependent variable: AdminPerCapita)*

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
1:	(Constant)	34,469:	1,760:		19,588:	.000:
	Population:	-.002:	.001:	-.203:	-4.459:	.000:

However, in the given regression analysis, our initial hypothesis was that the relationship between the two variables is non-linear. *As the size of a local government unit increases, per capita general administrative expenditures decline at a rising, rather than equal rate. In other words, as communities become larger, municipalities' staff maintenance costs decrease more substantially. This means that small or medium-sized clusters do not produce significant savings or enhance effectiveness, thus for ensuring tangible economies of scale, local government units must be much larger than they were before consolidation.* This argument is supported by the statistically significant beta coefficients of the quartic function in our regression analysis. For this purpose, the square value of the independent variable (population size) was added to the initial linear function, afterwards the cubic value was added, and this process was continued until the independent variables yielded statistically significant beta coefficients. In the given analysis, it should be identified whether the polynomial values of the population size had a significant impact on the value of the dependent variable. It is quite common to have the null hypothesis of $\beta_n=0$ and reject it, if the probability is low enough, in particular $P<0.05$ (Maddala, 2001). This would effectively mean that the probability of the independent variable not having a statistically significant impact on the dependent variable is low enough for making justified conclusions about their relationship. Therefore, the given independent variable should be left in the model. This method of shaping the polynomial regression model helped us conclude that the quartic function best characterizes the relationship between the population size and the staff maintenance costs. Furthermore, non-linearity of the relationship between the two variables is also supported by the significant increase in the value of the adjusted R^2, when the linear function was modified to a non-linear one, from 0.039 to 0.151 (Tab. 4 and Tab. 5).

Taking social protection expenditures per capita as a dependent variable and measuring the impact of the population size on it, the regression model does not provide statistically significant beta coefficients ($P=0.385>0.05$). This means that in the observed 465 merged municipalities, the population size does not have a significant impact on the provision of social protection services.

At the same time, we have already discovered that as a result of consolidation, the provision of public social protection services has significantly decreased. This can be referred to the negative practices of local authorities, which have become distant from the local population and pay less attention to social issues (Tab. 6 and Tab. 7).

Table 4

The impact of the size of local government unit (population) in 465 communities on the general administrative expenditures per capita (polynomial model). Model summary *(predictors: (Constant), QuartPopulation, Population, SqPopulation, CubicPopulation)*

Model:	R:	R Square:	Adjusted R Square:	Std. Error of the Estimate:
1:	.398:	.158:	.151:	32,73226:

Table 5

The impact of the size of the local government unit (population) in 465 municipalities on the general administrative expenditures per capita (polynomial model). Coefficients *(dependent variable: AdminPerCapita)*

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
1:	(Constant)	48,389	2,419:		20.002:	.000:
	Population:	-026:	.003:	-2.216:	-8.041:	.000:
	SqPopulation:	3,994E-6:	.000:	10.265:	5,872	.000:
	CubicPopulation:	-1.964E-10:	.000:	-20.113:	-4.914:	.000:
	QuartPopulation:	2,735E-15:	.000:	11,773	4,497:	.000:

Table 6

The impact of the size of local government unit (population) in 465 communities on the social protection expenditures per capita (linear model). Model summary *(predictors: (Constant), Population)*

Model:	R:	R Square:	Adjusted R Square:	Std. Error of the Estimate:
1:	.040:	.002:	.000:	1.27197:

Table 7

The impact of the size of local government unit (population) in 465 communities on the social protection expenditures per capita (linear model). Coefficients *(dependent variable: SociaPerCapita)*

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
1:	(Constant)	.897:	.064:		13.954:	.000:
	Population:	-1.702E-5:	.000:	-040:	-.870:	.385:

As already shown, the population of the observed municipalities have received more public services in education and environmental protection. However, it is more important to find out how the population size can influence the provision of these services.

The regression model provides quite valuable results in the table. In particular, in both cases polynomial models better describe the relationship between the population size and the volume of the public services, than linear models. Both for education and environmental protection cubic functions provide statistically significant beta coefficients for the independent variables.

The non-linearity of the dependence is also supported by the significant increase in the adjusted R^2 value, when the linear model is modified to a cubic polynomial function. In the case of educational services, it increased from 0.165 to 0.260 (Tab. 8 and Tab. 9).

In the regression model describing the dependence between population size and per capita expenditures for environmental protection, the value of R^2 has increased from 0.207 to 0.308, when the linear function was modified to a polynomial cubic function (Tab. 10 and Tab. 11).

Table 8

The impact of the size of local government unit (population) in 465 municipalities on education expenditures per capita (linear and polynomial models). Model summary *(a. predictors: (Constant), Population; b. Predictors: (Constant), CubicPopulation, Population, SqPopulation)*

Model:	R:	R Square:	Adjusted R Square:	Std. Error of the Estimate:
1:	.408 [a]:	.167:	.165:	4.66728:
2:	.514 [b]:	.264:	.260:	4.39413:

Table 9

The impact of the size of local government unit (population) in 465 municipalities on education expenditures per capita (linear and polynomial models). Coefficients *(dependent variable: EducPerCapita)*

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
1:	(Constant)	1,679:	.236:		7.117:	.000:
	Population:	.001:	.000:	.408:	9,609	.000:
Model:		**Unstandardized Coefficients:**		**Standardized Coefficients:**	**t:**	**Sig.**
		B:	**Std. Error:**	**Beta:**		
2:	(Constant)	.400:	.283:		1,415:	.158:
	Population:	.002:	.000:	1,424:	9,232:	.000:
	SqPopulation:	-1.353E-7:	.000:	-2.418:	-5.389:	.000:
	CubicPopulation:	2,034E-12:	.000:	1,449:	4.305:	.000:

Table 10

The impact of local government unit size (population) in 465 municipalities on environmental protection expenditures per capita (linear and polynomial models). Model summary *(a. predictors: (Constant), Population; b. predictors: (Constant), CubicPopulation, Population, SqPopulation)*

Model:	R:	R Square:	Adjusted R Square:	Std. Error of the Estimate:
1:	.457 [a]:	.209:	.207:	4.73762:
2:	.559 [b]:	.312:	.308:	4.42570:

Table 11

The impact of the size of local government unit (population) in 465 municipalities on environmental protection expenditures per capita (linear and polynomial models). Coefficients *(dependent variable: EnvironPerCapita)*

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
1:	(Constant)	1,030:	.239:		4.304:	.000:
	Population:	.001:	.000:	.457:	11.034:	.000:

Model:		Unstandardized Coefficients:		Standardized Coefficients:	t:	Sig.
		B:	Std. Error:	Beta:		
2:	(Constant)	-.310:	.285:		-1.090:	.276:
	Population:	.003:	.000:	1,470:	9,853	.000:
	SqPopulation:	-1.367E-7:	.000:	-2.346:	-5.406:	.000:
	CubicPopulation:	2.001E-12:	.000:	1,368:	4.204:	.000:

The given regression analysis proves quantitatively that having larger local government units would be more favorable to have larger local government units. However, the small and medium-sized consolidated clusters do not provide significant increase in efficiency and provision of local public services. Thus, to achieve significant results from consolidation, the new local government units must be much larger than before. The practical implementation of a two- or even three-tier local governance system can be found in the vast majority of the developed countries in the world. These systems require considerable effort to ensure the effective distribution of local services and related funding sources among the tiers, which can be a subject for further study. The findings of the current study revealed the extent to which the local governance units should be scaled up to ensure that the above public services are delivered more effectively at the local level.

Conclusion

The analysis suggest that productive local governance requires *both large and small local government units* with their respective authorities and powers. In other words, the best solution may be the realization of two-tier local governance in Armenia. We have reached this conclusion, because of consideration of certain criteria necessary for effective local governance.

These include the ability to reflect quickly, the accessibility of the public services provided, the participation of citizens in the administration, the accountability of local authorities, as well as economies of scale. The best way of their synchronized provision is the foundation of a two-tier local government system in Armenia. In particular, the existence of the lower level will provide timely response of local authorities, accessibility of provided service, citizens' participation in governance and accountability of local authorities, while the upper level will ensue economies of scale. *Moreover, it is noteworthy to mention that such an approach is not only for the existence of large local government units and the idea of enlargement, but also the creation of the lower tier will provide an opportunity to have even larger upper units, than in the current process of enlargement, due to which it would be possible to benefit from real economies of scale regarding certain public services, at the same time, not alienating people from local authorities.*

The quantitative and qualitative ***analysis*** *of the current enlargement process let us argue that, on the one hand, communities formed with the current model, are not large enough to provide considerable economies of scale for effective local gov-*

ernance, for the local government units are still too separated to effectively provide certain public services. On the other hand, they are large enough to weaken or completely lose connection between local authorities and the population.

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