

## Mechanisms to Control the Effective Management of Demographic Problems in Georgia

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Socio-economic living conditions have a certain influence on the structure and development of the population. Structure change and demographic problems are directly related to the ongoing economic processes in the country. Although the solution to demographic problems is influenced by such factors as promotion of regional development, creation of favorable conditions for investment and business development, promotion of agriculture, development of tourism infrastructure, and so on, no less important is the purposeful, rational, productive and efficient use of existing resources. Local self-government units and the resources at their disposal have a special role in the implementation of socially developed and consistently implemented regional policies, which directly or indirectly affect the living conditions, socio-economic and demographic situation of the population living in the region. Targeted, economical and productive management of resources by local self-government units is possible through an effective internal control system. The internal control system is one of the main levers for identifying risks, assessing them and bringing them to an acceptable level. The role of internal control in the effective management of socio-economic and demographic problems are discussed and justified in the present paper on the example of local self-governments. The situation existing in the regions of the country during the last few years is also analyzed taking into consideration budget management and the effectiveness of the internal control system. Based on the method of regression analysis, the impact of unutilized budget funds and free balances on solving the socio-demographic problems of the population of the same self-governing unit is studied and calculated. © 2021 Bull. Georg. Natl. Acad. Sci.

Demographics, demographic problems, social policy, population welfare, internal control, government programs, risks

Demographic problem is our greatest national concern today [1:9]. One of the provocative reasons is Georgia's involvement in international migration processes, which is strengthening every single day. The role of migration is becoming increasingly

important in the context of the socio-economic, cultural, political and demographic development of the country. The demographic threat is mentioned among the five biggest threats (war, economic,

energy, environmental and demographic threat itself) [2:115].

From the early twentieth century to the beginning of this century, the demographic situation in Georgia critically deteriorated, and the negative regime of population reproduction was formed, which reduced the population by almost 30% compared to 1990 [3:129].

As of January 1, 2019, in Georgia 58.7% of the population lived in the cities and 41.3% in rural areas. Based on the analysis of statistical data, it is clear that the rural population is declining by 0.3-0.4% annually [4].

At present, 23.1% of the rural population lives below the absolute poverty line, while almost 75% are self-employed, mostly in agriculture, forestry and fisheries. The average annual number of employees in this sector is only 1.7%, while the share of this sector in GDP (GDP) is 14.8%.

According to the studies conducted in the municipalities of Georgia, the main problem of the current socio-economic development is the

shortage of human resources (exodus of young people abroad, the decline in the working-age population, inadequacy of staff resources, etc.), lack of financial and material resources in local self-government. In addition, in the lack of the factors for economic growth (land, capital, labor force and knowledge) the out-migration of workers and a shortage of skilled labor have been identified as the primary problem [5].

We would like to note that in our country to solve the social and demographic problems it is planned to introduce effective internal control system as a part of the public financial management reform, which in turn is a mechanism for maximizing the financial efficiency of the public sector and is essential for the economic success of the country. Results-oriented planning and full implementation of the system of internal financial management and control, in turn, implies the introduction of an effective system of internal financial management and control in institutions spending financial resources, which ensures

**Table 1. Untapped balances and free funds, population size and the population growth (decline) rate in municipalities**

| Self-government unit | 01.01.2019        |            |                 |                                  | 01.01.2020        |            |                 |                                  |
|----------------------|-------------------|------------|-----------------|----------------------------------|-------------------|------------|-----------------|----------------------------------|
|                      | untapped balances | free funds | Population size | Population growth (decline) rate | untapped balances | free funds | Population size | Population growth (decline) rate |
| Kazbegi              | 7,243.4           | 4,687.7    | 3,8             | -0,3                             | 4,550.8           | 2,487.2    | 3,8             | 0.0                              |
| Khashuri             | 1,838.1           | 104.6      | 51,7            | -0,3                             | 2,239.7           | 787.9      | 51,3            | -0,8                             |
| Vani                 | 3,628.4           | 136.6      | 22,2            | -2,4                             | 1,342.2           | 334.7      | 21,6            | -2,7                             |
| Zestafoni            | 2,789.5           | 780.9      | 56.0            | -0,9                             | 4,074.2           | 949.7      | 55.5            | -1,0                             |
| Martvili             | 2,199.1           | 1,394.3    | 32,2            | -1,2                             | 2,244.6           | 1,507.0    | 31,8            | -1,3                             |
| Adigeni              | 2,329.9           | 1,596.4    | 16,2            | -0,3                             | 2,839.4           | 1,787.4    | 16,1            | -0,7                             |
| Akhaltzikhe          | 5,562.1           | 602.2      | 39,4            | 0.0                              | 3,476.4           | 440.1      | 39,4            | 0,0                              |
| Borjomi              | 7,390.2           | 5,360.7    | 25,1            | -0,4                             | 6,978.0           | 6,227.5    | 25,0            | -0,6                             |
| Ninotsminda          | 2,230.9           | 1,342.4    | 20,6            | -4,4                             | 2,572.6           | 1,816.8    | 19, 6           | -4,7                             |
| Gurjaani             | 2,848.7           | 1,125.6    | 52,6            | -0,9                             | 1,874.9           | 969.7      | 52,1            | -0,9                             |
| Dedoplistskaro       | 2,647.0           | 2,015.1    | 23,5            | -0,8                             | 2,904.1           | 1,698.9    | 23,1            | -0,7                             |
| Telavi               | 5,820.4           | 3,131.8    | 56,0            | -1,2                             | 8,080.0           | 4,800.0    | 55,3            | -1,3                             |
| Gardabani            | 13,366.3          | 2,809.3    | 80.8            | -0,6                             | 9,380.3           | 3,866.4    | 80,4            | -0,5                             |
| Dmanisi              | 5,236.1           | 1,634.4    | 20,4            | 0,8                              | 7,550.9           | 2,095.3    | 20,6            | 1,1                              |

Reports of the State Audit Office on "Compliance audits of programs spending and executing municipal budgets implemented in 2018-2019; <https://sao.ge/ka/>

National Statistics Office, URL: <https://www.geostat.ge> (.2020).

efficient management of public finances and refinement of results-oriented approaches [6].

A prerequisite for EU candidate countries is a well-organized system of internal control in budgetary institutions. The adequacy of the state internal financial control system has become a kind of indicator to assess the effective functioning of institution. The development of this system is one of the priorities for all EU member states and candidate countries [7:14].

The existence of a comprehensive internal control mechanism is especially important for a developing country such as Georgia. The internal control system is a system of the managerial, financial and other control mechanisms of institution, which includes the organizational structure, methods, procedures, and the internal audit function, which is formed to encourage the institution to achieve its goals and implement its activity legally, transparently, economically, efficiently and productively. It aims to ensure the economical, efficient and productive use of funds and resources [8].

Based on the selective principle, we have studied and analyzed unutilized funds from the budget of 14 municipalities, the balance of free funds, the number of population and the population growth (decline) rate (see Table 1) during 2018-2019.

**Table 2. Population size and the sum of untapped balances and free funds in Dedoplistskaro**

| Dedoplistskaro municipality |   |                     |                  |
|-----------------------------|---|---------------------|------------------|
| Years                       | i | Y (thousand people) | X (thousand GEL) |
| 2016                        | 1 | 24.90               | 0.00             |
| 2017                        | 2 | 24.40               | 0.00             |
| 2018                        | 3 | 24.00               | 2,898.90         |
| 2019                        | 4 | 23.50               | 2,647.00         |
| 2020                        | 5 | 23.10               | 2,904.10         |

Based on the regression analysis, let us determine whether the use of untapped balances and free funds has an impact on the demographic

situation, for example in Dedoplistskaro municipality (see Table 2).

The population size is considered to be the response variable, while the sum of untapped balances and free funds is considered to be the factor variable.

The theoretical model of pairwise linear regression has the following general form:

$$Y_i = \alpha + \beta_{x_i} + u,$$

where  $Y_i$  – population size,  $X_i$  – the sum of untapped balances and free funds,  $u$  – random component,  $i=1,2,...,n$ .

$$\hat{Y} = a + bx$$

$$a = \bar{y} - b \bar{x}$$

$$b = \frac{Cov(x, y)}{Var(x)}$$

$$\hat{Y} = 24.65 - 0.00039x$$

$$Var(x) = 1/n \sum_{i=1}^n x_i^2 - \bar{x}^2$$

Based on the data we shall obtain:

$$\bar{x} = 1,690.00; \bar{y} = 23.98; \bar{y} = 23.98;$$

$$\sum_{i=1}^n x_i y_i = 198,862.81; \sum_{i=1}^n x_i^2 = 23,844,027.02,$$

$$\bar{x}^2 = 2,856,100.00$$

$$Cov(x, y) = -753.64$$

$$Var(x) = 1,912,705.40$$

$$b = -0.00039, a = 24.65,$$

$$\hat{Y} = 24.65 - 0.00039x$$

The regression model  $\hat{Y}$  economically reflects the inverse relationship between the sum of untapped balances and free funds and the population size. If the amount of untapped balances and free funds reduce, the population will grow, and vice versa. Based on the above analysis, it has been established that it is important to maximize the use of funds in order to have a positive effect not only on the economic development of

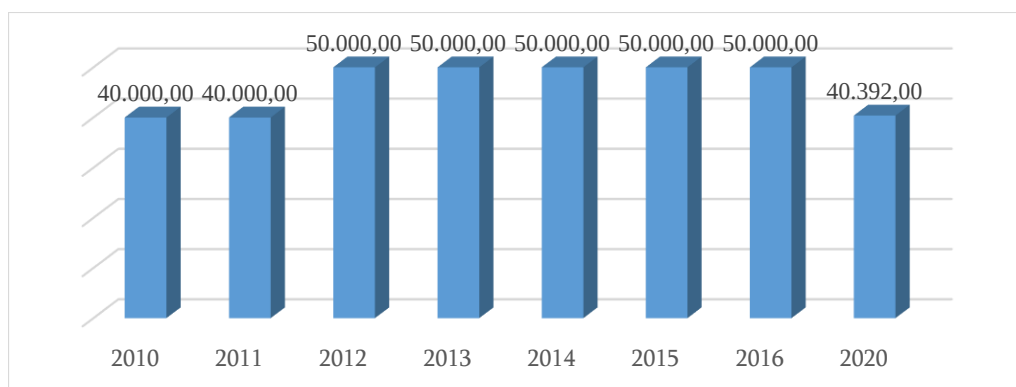
municipalities, but also to improve the demographic situation.

The study and analysis of the issues related to the internal control systems of municipalities revealed a number of thematic problems, which had a significant impact on the misuse and misappropriation of public funds. For example, various types of violations were identified in the public procurement management process, with a total value of GEL 134 million in 2014-2015 and approximately GEL 33 million in 2016-2017 [9].

In addition to the above, during the research process, we considered it important to evaluate and analyze the "Rural Support Program", within the framework of which the state budget allocations are provided for municipalities. The program has been operating since 2010, under which a total 370,392.00 thousand GEL was allocated (see Figure).

- The positive socio-economic benefit of the program(s) to be implemented should accrue to the majority of the population of the settlement;
- Work, goods and/or services purchased under the program should be aimed at improving the material, living and/or socio-economic situation of the majority of the population of the settlement;
- The population of the respective settlement(s) should be employed as much as possible to perform the work to be done.

Under this program, municipalities have exposed the systemic weaknesses, during which municipalities could not utilize allocated funds, could not complete the construction of individual facilities, resulting in an ineffective utilization of funds, while resources allocated under this program should have been used entirely for rural development and socio-economic improvement.



Resolutions of the Government of Georgia - "On Approval of the Rural Support Program" (2009-2020).

**Fig.** Funds allocated within the Rural Support Program (thousand GEL).

The program defines the purposiveness of allocated funds, within the framework of which it is first necessary to spend allocated funds under the program on construction, rehabilitation and/or improvement of local infrastructure facilities, equipping the public buildings, and/or purchasing durable equipment. Also, the measure that meets the first requirement should also meet at least one of the following criteria:

The current circumstances highlight that municipalities are unable to ensure the efficient, targeted, rational, economic and productive utilization of resources, which in turn affects the socio-economic situation of municipalities and demographic problems.

It is important for municipalities to manage available resources as efficiently, purposefully and rationally as possible by introducing and strengthening the internal control system. It is the

responsibility of the municipal self-government to properly plan rural development through subsidies and, most importantly, to create the effective tools for the economic or social activity of the community itself [10].

## Conclusion

Socio-economic and demographic problems are highly relevant and important for our country. The results of our study and analysis revealed that the local self-governments are characterized by high risks, which in turn have negative impact on the well-being of the population and, consequently, the

demographic development. The proper, effective and rational use of financial resources is one of the most important ways to solve this problem. However, this process depends on an effective internal control system, as it is a combination of managerial, financial and other types of control mechanisms. It is a leverage and tool to manage available resources as accurately, purposefully, effectively, productively and efficiently as possible. As a result, an adequate and effective internal control system creates benefits that have a direct influence on the well-being of the country and demographic development.

დემოლოგია

## დემოგრაფიული პრობლემების ეფექტიანი მართვის კონტროლის მექანიზმები საქართველოში

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(წარმოდგენილია აკადემიის წევრის ვ. ლორთქიფანიძის მიერ)

მოსახლეობის სტრუქტურასა და განვითარებაზე გარკვეულ გავლენას ახდენს ცხოვრების სოციალურ-ეკონომიკური პირობები. სტრუქტურის ცვლილება და დემოგრაფიული პრობლემები პირდაპირ კავშირშია ქვეყანაში მიმდინარე ეკონომიკურ პროცესებთან. მიუხედავად იმისა, რომ დემოგრაფიული პრობლემების მოგვარებაზე გავლენას ახდენს ისეთი ფაქტორები, როგორიცაა რეგიონული განვითარების ხელშეწყობა, ინვესტიციების მოზიდვისა და ბიზნესის განვითარებისთვის ხელსაყრელი პირობების შექმნა, სოფლის მეურნეობის ხელშეწყობა, ტურისტული ინფრასტრუქტურის განვითარება და სხვა, არანაკლებ მნიშვნელოვანია არსებული რესურსების მიზნობრივად, რაციონალურად, პროდუქტიულად და ეფექტიანად გამოყენება. სწორად შემუშავებული და თანმიმდევრულად განხორციელებადი რეგიონის სოციალური პოლიტიკის განხორციელებაში განსაკუთრებული ადგილი უჭირავს ადგილობრივ თვითმმართველ ერთეულებს და მათ განკარგულებაში არსებულ რესურსებს, რომელიც პირდაპირ ან ირიბად ახდენს გავლენას რეგიონში მცხოვრები მოსახლეობის საყოფაცხოვრებო პირობებზე, სოციალურ-ეკონომიკურ და დემოგრაფიულ მდგომარეობაზე. ადგილობრივი თვითმმართველი ერთეულების მიერ რესურსების მიზნობრივი, ეკონომიური და პროდუქტიული განკარგვა ეფექტური შიდა კონტროლის სისტემის საშუალებით არის შესაძლებელი. შიდა კონტროლის სისტემა წარმოადგენს ერთ-ერთ უმთავრეს ბერკეტს რისკების იდენტიფიცირებისთვის, მათი შეფასებისა და მისაღებ დონემდე დაყვანისათვის. სტატიაში ადგილობრივი თვითმმართველობების მაგალითზე განხილული და დასაბუთებულია შიდა კონტროლის როლი სოციალურ-ეკონომიკური და დემოგრაფიული პრობლემების ეფექტიან მართვაში, შესწავლილი და გაანალიზებულია ქვეყნის რეგიონებში არსებული ბოლო წლების მდგომარეობა. რეგრესული ანალიზის მეთოდის საფუძველზე შესწავლილი და გაანგარიშებულია თვითმმართველი ერთეულის მიერ აუთვისებელი საბიუჯეტო თანხებისა და თავისუფალი ნაშთების გავლენა ამავე თვითმმართველი ერთეულის მოსახლეობის სოციალურ-დემოგრაფიულ პრობლემების გადაწყვეტაზე.

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