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# BUDGET PAYMENTS AND ECONOMIC GROWTH

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**Abstract.** The study of the relationship between fiscal policy and economic growth has received a great deal of attention in both developed and developing countries. An effective fiscal policy contributes to the economic growth and stabilization of the country. Determining the optimal level of budget expenditures is an important prerequisite for forming an effective budget. Separate science papers suggest that fiscal policy may affect economic growth in different degrees and forms, although the results vary from country to country. The article presents the optimal size of government for Georgia calculated as a result of the research.

**KEYWORDS:** PUBLIC EXPENDITURE, ECONOMIC GROWTH, SIZE OF GOVERNMENT, FISCAL POLICY.

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## INTRODUCTION

Promoting economic growth is one of the most important goals of the state at the present stage of Georgia's development. Fiscal policy is the main mechanism by which the government can influence economic growth. An effective fiscal policy contributes to stabilization of the economy. The topicality of the issue is determined by the effective usage of budget expenditures during budget formulation process.

The efficiency of spending budget funds has a significant impact on the budgetary process and is a key determinant of the successful budget system. Optimal distribution of budget allocations simplifies state programs development, adoption and monitoring processes, as well as improves the quality of financial management and control procedure over spending of budgetary funds. Budget project prioritization during the strategic planning and the budget preparation process helps to increase the effectiveness of the budget allocations. In order to use budget funds rationally, a unified systematic approach to evaluating efficiency parameters is advisable.

### **Analysis of the results for the optimal size of the government research on the example of Georgia**

Fiscal decisions serve different purposes for states at different stages of economic development. Fiscal policy in Georgia is one of the preconditions for the transition to a market economy and achieving economic stability, it plays a crucial role in regulating the economic development of the country. Fiscal instruments can be used to ensure economic stability and growth, especially by expanding aggregate demand during recessions.

By using fiscal policy, the state must efficiently allocate

resources, regulate markets, stabilize the economy and ensure social harmony in order to achieve the ultimate goal of promoting economic growth.

Examining the relationship between fiscal policy and economic growth in developed countries, in both short and long term, some scientists have concluded that fiscal policy may affect economic growth in different ways and means. Therefore, the impact of public spending on economic growth is a subject of active interest.

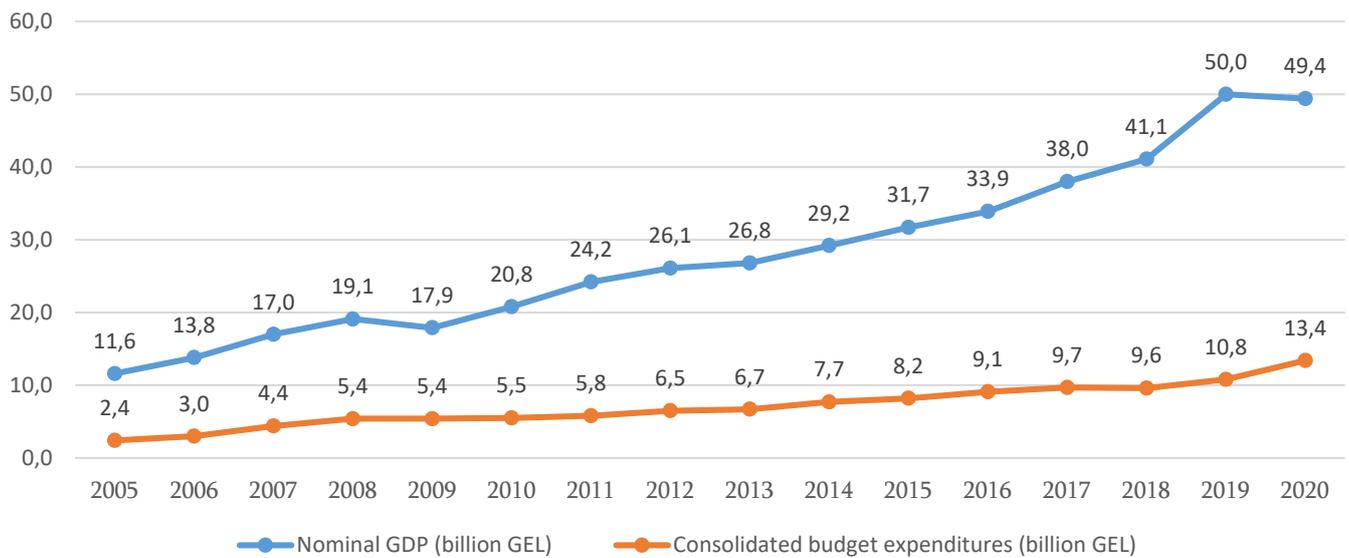
Studies on the example of EU countries that have determined the nature of economic growth have viewed fiscal policy as a tool for stimulating economic growth. There is empirical evidence about reducing public spending, in particular the public sector wages, being main driving force of economic growth.

The primary focus of the article is the optimal size of government and economic growth. Theories of budgetary policy are noteworthy and mutually exclusive. On the one hand, the effective fiscal policy implemented by the government strikes a balance between social and private interests, also public investment can become a precondition for economic growth in Georgia. Their impact on the region's economy depends on specific characteristics such as technical efficiency, organizational capabilities, and manufacturing specialization. On the other hand, a government size larger than optimal leads to a reduction in the productivity of public goods.

According to the theory of American economist Robert J. Barro, public spending stimulates economic growth by maximizing private sector efficiency at an earlier stage of economic growth. However, after reaching a certain level, the increase in public spending worsens the efficiency of the private sector.

The views of different scientists on the optimal size of government vary. According to some economists, if govern-

**Figure 1. Nominal GDP and consolidated budget expenditures in 2005-2020 (billion GEL)**



Source: Ministry of Finance of Georgia

ment current expenditures are less than 15% of nominal GDP, relationship between government size and economic growth is positive. In this regard, monitoring practices of developed countries is interesting, for example, the size of the government of the US, according to the World Bank, in 2020 was 14.7%. However, this Indicator is different for developed European countries. For example, in 2020, government spending in the UK as a share of GDP was 22.4%, in France - 25.1%, in Italy - 20.1%, and in Sweden - 26.8%.

Evidently, if a change in the size of government spending leads to a change in the production growth rate, the size of government is a factor of potential importance for explanation of long-term growth rate. Empirical evidence presented in certain studies of this issue confirms the impact of government spending on economic growth, although the nature of the relationship between the variables differs across countries, according to their national characteristics and evaluation periods. However, in the research process, a problem related to the size of the public sector or data availability obstacles may occur.

The government can promote economic growth through various methods: efficient provision of public goods, infrastructure development, social services and targeted intervention in the economy.

The present article discusses the effect of government size on economic growth. In this empirical analysis, the economic growth rate is the real GDP growth rate. Regression analysis based on time series was performed to determine the relationship between the variables. The study examines the possibility of rapid economic growth in Georgia. It is known that the optimal size of government varies across countries and depends on their characteristics. The figure below demonstrates the consolidated budget expenditures

as well as the nominal GDP of Georgia between the years of 2005 to 2020.

The figure shows that the size of consolidated budget expenditures and nominal GDP was increasing annually and amounted to 49.4 billion GEL and 13.4 billion GEL in 2020 respectively. The government size calculated based on these data are presented in the table below.

From 2005 to 2020, the lowest government size (consolidated budget expenditures/nominal GDP) was observed in 2005 at 20.9%. This indicator reached the highest mark during periods of economic recession, respectively, in 2009 and 2020. In order to make an impact on slowdown in economic activity in these years, the government used more fiscal incentives, accordingly, the relative size of the budget expenditures increased.

Low economic growth in Georgia in recent years has provoked interest in the appropriate level of government intervention in the economy. The issue of the size of the public sector has been subject of the economic and political debates for years.

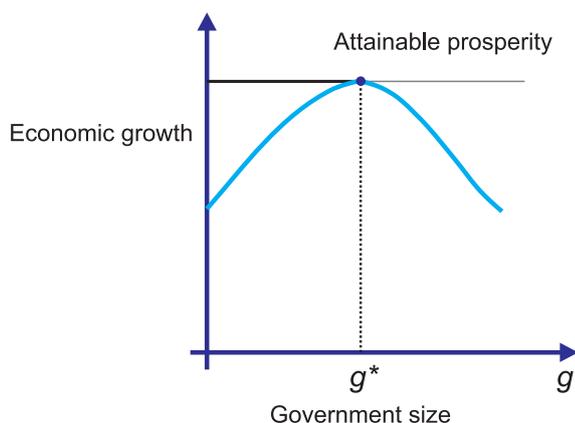
The question is, is there an optimal level of government spending that will maximize economic growth? The present study aims to determine the impact of government spending on economic growth and to identify the level of government spending that will maximize the economy. This is important in the government policy-making process.

As it turns out, causes of low economic growth in Georgia are multifaceted. One of the important indicators of economic growth is the amount of payments made by the government. If the amount of budget allocations is chosen on the basis of scientific justification, it can become important factor contributing to economic growth. When additional

**Table 1. Government size in 2005-2020 (%)**

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Government size (%)	20.9	21.6	25.8	28.3	30.2	26.3	23.9	24.9	25.1	26.5	25.8	26.9	25.4	23.4	21.7	27.1

**Figure 2. Relationship Between Government Size and Economic Growth (Armey curve)**



government expenditures negatively affect the GDP growth rate, they exceed the optimal level, which allows us to conclude, that reducing them, other things being equal, will lead to an improvement in economic conditions in the country. However, a reduction in government expenditure would not automatically indicate the existence of favorable conditions for economic growth. For economic growth in the country it is important not only to choose the optimal size of government, but also to properly manage budget expenditures and use them efficiently.

Wagner's law named after the German economist Adolph Wagner, states that as countries economically develop and incomes rise, additional business development opportunities arise, the demand for social services also increases the government is given incentives and opportunities to increase budget expenditures.

On the contrary, according to the Armey curve, named after the American economist Richard K. Armey, increasing government spending above the optimal level leads to a reduction in GDP. The analysis presented below, that determines the optimal size of government, is based on the theoretical model of government size known in the field of

economics as the Armey curve (Armey, 1995). According to this concept, government spending to a certain, optimal level has a positive impact on GDP. However, above this level, the increase in government spending has a negative impact on economic growth due to ineffective regulations, as well as social assistance programs that, among other factors, discourage people's participation in the labour force.

The figure below demonstrates the relationship between government size and economic growth. The Armey curve shows that the increase in government spending to the optimal level contributes to GDP growth, at the optimal point economic growth reaches the maximum possible mark (GDP growth rate is maximum) and after this mark the increase in government spending reduces the GDP growth rate (GDP growth rate gradually decreases). The reason may be the impact of aggravating tax burden on production to finance increased government spending. However, it should be noted that the Armey curve expresses the relationships between variables within the theoretical concept. In practice, the size of government is always greater than zero, as far as the state has the need to finance the expenses necessary for its existence.

To estimate the optimal size of government spending that maximizes economic growth of the country, regression analysis was conducted, a nonlinear regression model was built with corresponding variables: the ratio of consolidated budget expenditures to GDP and real GDP growth rate). Real GDP growth rate is a dependent variable, while the explanatory variable is government spending as a share of total output. According to data used in the study, the parameters of the nonlinear regression model are calculated. Using them the optimal level of expenditures was estimated for which the GDP growth rate is maximum.

Structural transformation may cause data reliability issues, however, it should be noted that fundamental legal, political and economic institutions in Georgia has not changed significantly during the analysis period, making the timeline data reliable.

Based on the findings it is concluded, that the economic growth rate in Georgia is maximum when the size of the

The optimal size of the government of Georgia was estimated using the following formula:

$$y = a_0 + a_1g + a_2g^2 + \varepsilon \quad (1)^1$$

$y$  is the real GDP growth rate;

$g$  is the ratio of government spending to GDP;

$\varepsilon$  is random error.

The concept of the Armey curve implies that as a result of increasing government size by 1% above the optimal limit, real GDP growth less than 1%.

Using the square function above, we can determine the point on the Armey curve for which GDP reaches the maximum value. At this point the size of the government is optimal. If we denote this size by  $g^*$  then its value can be calculated by the following formula:

$$g^* = -\hat{a}_1 / 2\hat{a}_2 \quad (2)$$

Where  $\hat{a}_1$  and  $\hat{a}_2$  are the estimates of the coefficients  $a_1$  and  $a_2$ , respectively.

Based on the data in the table below, was created a regression equation expressing the relationship between government size and economic growth in Georgia.

The values of  $\hat{a}_1$  and  $\hat{a}_2$  coefficients calculated based on the data presented in the tables are 174.64 and -493.59, respectively. Based on the analysis mentioned above, applying formula 2, the estimated optimal size of the government of Georgia is presented below:

$$g^* = -174.64 / (2 * (-493.59)) \approx 0.18$$

<sup>1</sup> A positive sign of the  $a_1$  coefficient indicates that government spending stimulates economic growth, while a negative sign of the  $a_2$  coefficient indicates that government spending decreases economic growth rate after the certain level of spending - marginal utility declines. Thus, if the  $a_2$  coefficient is negative, there is evidence of the Armey curve relationship between the variables.

**Table 2. Real GDP growth rate (%)**

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Real GDP growth rate (%)	9.3	9.4	12.4	2.1	-3.9	6.4	7.2	6.1	3.2	4.8	2.8	2.7	5.0	4.7	5.1	-6.2

Source: Ministry of Finance of Georgia

government is 18%. During the period under review this indicator stood at 25% on average, which is 7% higher than the optimal size of the government. At the same time, the estimated optimal size of the government is about 9% less than it was in 2020 (27%).

**CONCLUSION**

The results of this study shows that the current size of the Georgian government is not optimal and budget expendi-

ture cut is necessary. In order to increase the effectiveness of fiscal policy in the country, changes in budget expenditures as a share of GDP and their optimal level need to be considered during budget formulation process. It is also advisable to reduce the size of the Georgian government gradually in a medium-term, in order to increase the efficiency of budget expenditures. Thus, in order to promote economic growth, it is recommended to reduce public spending by further optimizing the government.

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