ORIGINAL PAPER

CC BY 4.0

DOI: 10.26794/2587-5671-2025-29-2-208-227
UDC 336.5,338.2(045)
JEL H5, O40, E6

Assessment of the Impact of Republic of Armenia State Budget Expenditures on Economic Growth

E.M. Sandoyan, M.H. Voskanyan, A.H. Galstyan
Russian-Armenian University, Yerevan, Armenia

ABSTRACT

The current article is devoted to analysing the state budget expenditures of the Republic of Armenia regarding its impact on economic growth rates. The object of the study is the expenditures of the state budget of the Republic of Armenia. The study **aims** to analyze and assess the impact of the state budget expenditures on the economic growth rate in the country. The main **hypothesis** of the study is that inefficient spending of budgetary funds not only does not stimulate but, in many ways, is a significant factor of the slowdown in economic growth in Armenia. The methodological bases of the study are the provisions of modern economic theory regarding the impact of government spending on economic growth rates. The study used **methods** of qualitative, statistical and econometric analysis of indicators, followed by the identification of cause-and-effect relationships and impact assessment. Data on the expenditures of the state budget of Armenia was taken as the informative basis of the study. The study of the scientific literature allowed to identify key theoretical approaches regarding the impact of the state budget expenditures on the economic growth rates in the country. The study examined in detail the expenditure articles of the state budget of Armenia, highlighting positive and negative factors influencing economic growth. In this regard, a vector autoregression model was built to identify the impact of spending on economic growth in the country. The **result** of the study was the conclusion that the impact of the state budget expenditures on the economic growth rates has a long-term negative nature in Armenia. The analysis of both the structure of state budget expenditures and the constructed vector autoregression model proves that the lack of an expenditure policy regarding the development of human capital, infrastructure and other components of public spending is one of the significant factors of the slowdown in economic growth in Armenia.

Keywords: public spending; economic growth; economic development; fiscal policy; economy of the Republic of Armenia

For citation: **Sandoyan E.M., Voskanyan M.H., Galstyan A.H. Assessment of the impact of Republic of Armenia state budget expenditures on economic growth. *Finance: Theory and Practice*. 2025;29(2):208-227. DOI: 10.26794/2587-5671-2025-29-2-208-227**

INTRODUCTION

The expansion of government spending in times of crisis leads to an increase in aggregate demand, and this tool is used by most countries. However, in the scientific literature considering the specific experience of countries, one can find quite contradictory conclusions [1–5].

Since the problem of ensuring sustainable and long-term economic growth in developing countries is very acute, the relevance of using fiscal methods in solving this problem comes to the fore. At the same time, the spending policies of developing countries are aimed at ensuring primary objectives and often ignore strategic and long-term goals to achieve a high level of well-being of the population. In this regard, it is relevant to consider Armenia's experience in the field of the expenditure policy of the country's state budget in order to analyze and assess its impact on economic growth.

The key objective of the study was to determine the impact of the expenditure side of the state budget on the pace of economic growth in the country.

LITERATURE REVIEW

Considering the impact of spending policy on the economy, it is impossible to single out unambiguous conclusions that certain authors come to [6]. Some studies have shown positive effects [7–9], while others have shown negative effects [10–12]. There are also some studies that conclude that government spending does not have a significant impact on economic growth [13–15]. Slemrod et al. Using data from advanced economies as an example [16], they concluded that there is no convincing evidence that government spending has either a positive or negative impact on growth due to the

© Sandoyan E.M., Voskanyan M.H., Galstyan A.H., 2025

shortcomings of the assessment models used in these studies.

Berg and Hankerson [17] explain the contradictory results of their research by the difference in the structures of the state budget in different countries, as well as the structures of the economies themselves. On the other hand, Wu, Tang, and Lin [18] found that government spending contributed to economic growth even with varying degrees of economic development in the countries studied. The exception is low-income countries, which, according to the authors, is most likely due to poor institutions and high levels of corruption.

Boz et al. [19] found in their work that the size of government capital expenditures in relation to GDP has a significant positive correlation with economic growth, but this does not apply to current government budget expenditures. The authors also found a strong positive relationship between investment and spending on education and economic growth. Islam and Nazemzade [20] in their work examined the US state budget and its impact on economic growth and came to the conclusion that the volume of the state budget is of great importance.

The same relationship was discovered by Alam et al. [21], who proved in their work that an increase in social spending on education, healthcare, and social security increases productivity, thereby contributing to economic growth.

Devarajan et al. [22], on the contrary, found a positive relationship between the share of current expenditures and per capita income growth in developing countries and a negative relationship between capital government spending and growth. According to this work, there are certain conditions under which changes in the cost structure lead to higher sustainable growth. This includes the productivity of the various expenditure components and the level of initial shares in the total revenue structure of the State budget.

On the other hand, Hakro [23] found that for a group of Asian countries, investments in physical capital positively correlate with GDP growth per capita. The results of the Landau study [24] also revealed a negative relationship between the growth rate of real GDP per capita and the share of government spending on consumption in GDP.

In addition to the direct impact of various government budget expenditures on economic growth, research can be found in the scientific literature that focuses more on the impact of changes in the structure of government spending or the redistribution of spending on long-term economic growth and on determining which elements of government spending have the most significant impact on economic growth and development [25–28]. Many authors point out the importance of redistributing funds to education [29–31] and infrastructure [32–34] for long-term growth. Taiwo [35] also identified a positive relationship between GDP and current and capital expenditures by analyzing data on Nigeria. Saes et al. [36] have identified a positive relationship between government spending and economic growth by analyzing the experience of 15 Euro area countries. On the other hand, Romero-Avila and Strauch [37], studying the same region, came to the conclusion that the size of the budget in terms of its expenditure side has a negative impact on the growth rate of per capita income in 15 European countries. These conclusions are consistent with the theory of endogenous growth, according to which the main factors of cross-country differences in the level of development and growth are investments in human capital, physical capital and infrastructure, as well as the development of the education and science system [38–40].

Thus, the effect of increased government spending can only be estimated in the long term. Even the direct expansion of government budget expenditures in times of crisis only serves as an anticyclical measure, but it cannot ensure sustainable economic growth in the long term. In other words, expanding demand through expanding spending on social needs cannot ensure sustainable economic growth, while spending on education, science, human capital, and infrastructure will ensure growth only in the long term.

RESEARCH METHODOLOGY

The theoretical and methodological basis of the research was classical and modern approaches

in the field of studying government budget expenditures and their impact on economic growth rates.

The information base of the study was the databases of the Ministry of Finance of the Republic of Armenia and the World Bank, materials from periodicals and news agencies, including those distributed via the global Internet, as well as calculations obtained by the authors themselves during the research.

Methods of comparative and systematic analysis, deduction and induction, graphical method, mechanisms of econometric and statistical analysis and other methods of information collection and processing were used in the work. The ToolPak Ms Excel 2016 application package and the EViews 10 econometric package were used as modern information technologies.

The key objective of the study was to assess the impact of the expenditure side of the Armenian state budget on the country's economic growth in the medium and long term. In this regard, the article examines the structure and direction of government spending in Armenia, through the analysis and evaluation of key items of the expenditure side of the state budget, and the impact of the expenditure side of the state budget on the pace of economic growth in the country.

STATE BUDGET EXPENDITURES IN ARMENIA

The economic classification divides the state budget into current and other expenditures, which are shown in *Fig. 1*. As we can see, government budget expenditures have been steadily increasing over the past fourteen years. At the same time, current expenditures occupy a dominant position in the total budget expenditures. The actual execution of both current and other expenses differs slightly from the annual plan. On the other hand, during periods of recession and stagnation of the country's GDP, there is no stimulation of economic activity through spending policies. The exception is the period 2020–2021, which can be explained by a sharp increase in health and defense spending.

From the point of view of the impact on economic growth rates, it is not the dynamics of government budget expenditures themselves that is of greater interest, but its structure. As it was shown in the theoretical review of scientific literature, stimulating economic growth through government spending is possible both in terms of demand and supply.

The current expenditures of the RA state budget by their structure indicate the dominant role of the state budget in stimulating consumer demand (*Fig. 2*). The largest share in the cost structure is formed by social benefits and pensions, as well as by wages. At the same time, the largest growth is observed in both items compared to other items of current expenses. On average, current social spending has increased 3–4 times since 2008, and labor costs have increased 4–5 times. The latter is reflected in the dynamics of final consumption expenditures, especially in times of crisis. Interest expenses are also showing a large increase, and the share of these expenses is also showing a significant increase, which is due to both the build-up of government debt and the increasing debt payments over time.

While the share of social spending in current expenses has increased by about 10% over 13 years, the share of labor costs has increased by only about five percent (*Fig. 3*). The share of interest payments has increased by about 7–8 times over the past five to six years.

It is interesting to note a noticeable reduction in the cost of purchasing goods and services since 2015, which indicates a significant reduction in public procurement, which, as a rule, is a good incentive for expanding supply and developing the real sector in certain sectors of the economy. Along with this, there is an increase in subsidies both in absolute terms and as a share of current expenses. The analysis of the structure of current expenditures makes it possible to characterize the spending policy of the state budget as stimulating economic growth along the demand line.

However, against the background of a restrictive tax policy that reduces consumption, the effect of expanding demand for current spending offsets the positive impact on economic growth. At the same time, there is no incentive in terms of supply expansion either in the tax or in the spending

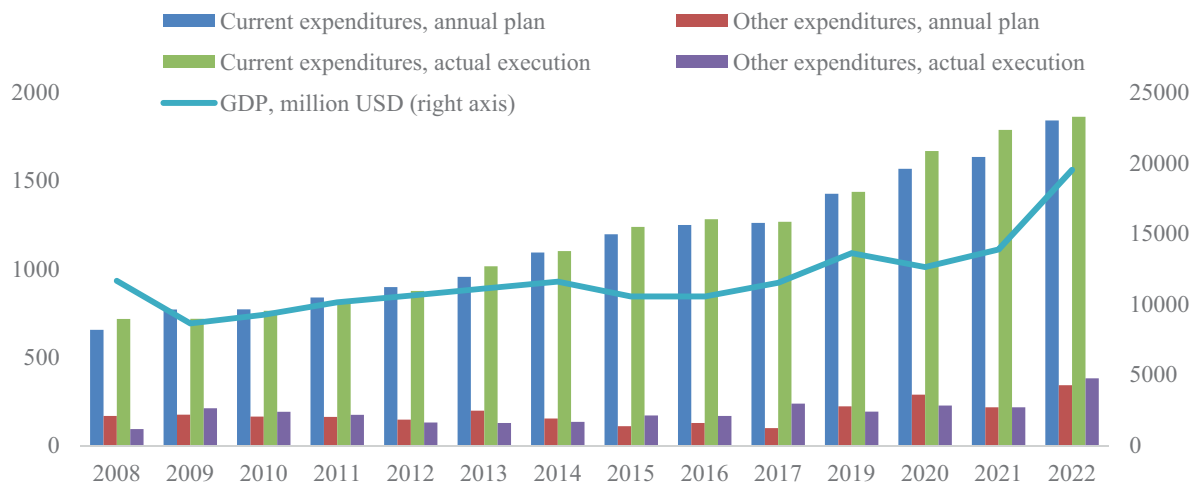

Fig. 1. **Расходы государственного бюджета РА, млрд драмов РА / RA State Budget Expenditures, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 15.01.2024).

policy of the state budget. The latter is reflected in the dynamics of the country's GDP (*Fig. 1*). After the global financial crisis, the Armenian economy stagnated for 10 years and regained its pre-crisis GDP level only in 2019.

The functional classification of state budget expenditures is of greater interest in terms of its impact on economic growth (*Fig. 4)*. Social protection, general public services and defense account for the largest share of expenditures, which are also leading in terms of growth rates. The rest of the expenditure items of the state budget as a whole show a fairly stable picture, with the exception of healthcare in 2020–2021, due to the costs associated with the COVID-19 pandemic. Considering the structure of expenditures in shares, it can be noted that most of the budget items retained their shares in the total expenditures of the state budget (*Fig. 5)*.

From the point of view of the impact of the expenditure side of the state budget on the formation of economic growth, the share of expenditures in GDP, as well as the growth rate of expenditures, is of great importance (*Fig. 6*). The share of state budget expenditures in GDP shows a slight increase. As of 2022, this figure was 26.4% of GDP, and in 2007 it was 20.2%. It should be noted that a moderate increase in spending was observed during the global financial crisis, when the Armenian economy experienced a recession of 14.4%, which required drastic injections into the economy from the state.

The first place in the overall structure of expenditures of the state budget of Armenia is occupied by expenditures on social needs (see *Fig. 7*). About 75% of these expenses are related to pension provision. Over the past two years, there has been an increase in expenses that are not related to social protection. This is primarily due to various social programs of the Government of the Republic of Armenia related to the COVID-19 pandemic and the Second Artsakh War in 2020.

It should also be noted that government spending on social needs has increased over the past 15 years. However, a key share of this growth is accounted for by pension provision, which, in particular, is due to the aging process of the population in Armenia, which has been observed in recent years. As for the impact on economic growth, in the case of social expenditures of the state budget, such an impact occurs through increased consumption, which in this case is expressed in pension costs. Given that social spending has only tripled over the past 15 years, and taking into account the average rate of inflation, the impact on

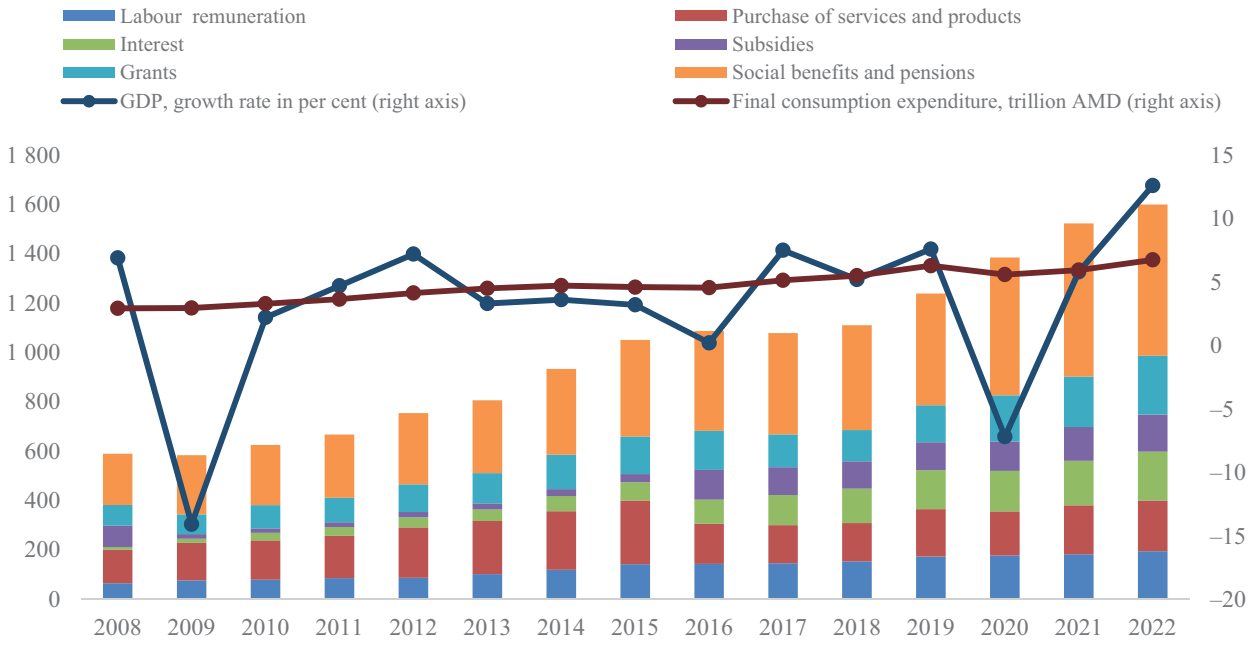

Fig. 2. **Current Expenditures, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 15.01.2024).

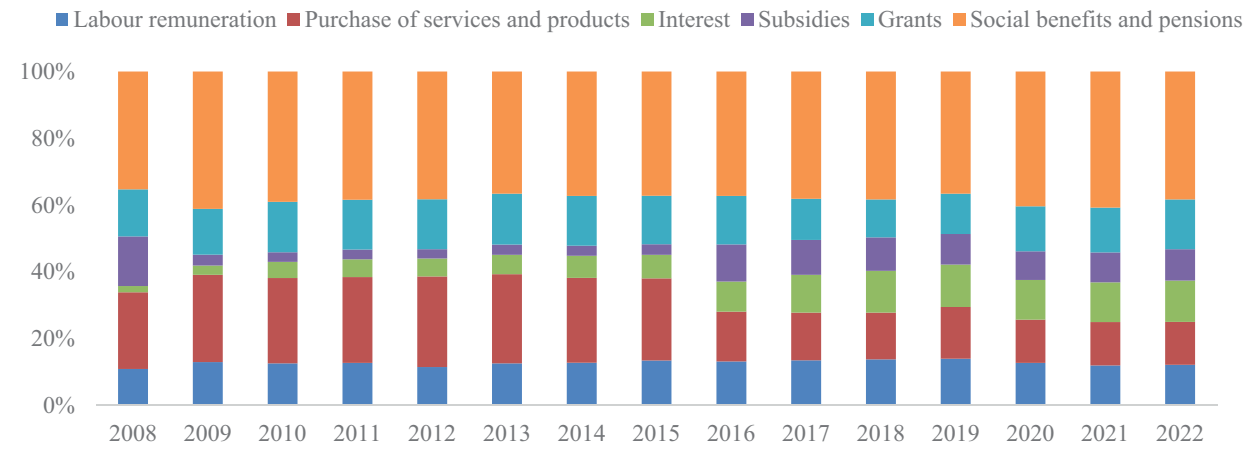

Fig. 3. **Current Expenditures, Structure, %**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 15.01.2024).

economic growth under this expenditure item may be significant.

This thesis is also confirmed by the share of social expenditures in GDP, which as of 2022 amounted to 7.2% and remained almost unchanged on average over the period under review (*Fig. 8*). The share of social expenditures in total government budget expenditures has also not changed. If in 2007 it was 9.9%, and during the crisis of 2008–2009 it increased to 26.2%, then in 2022 it amounted to 27.4%. The average growth rate of social spending is about 7.5%.

The second place in state budget expenditures is for general public services (*Fig. 9*). As we can see, the dynamics of expenditures on public services shows a significant increase. At the same time, the key expenditure item in this block is operations on government debt, the costs of which have increased more than twenty times since 2007. This fact is due to a significant increase in Armenia's

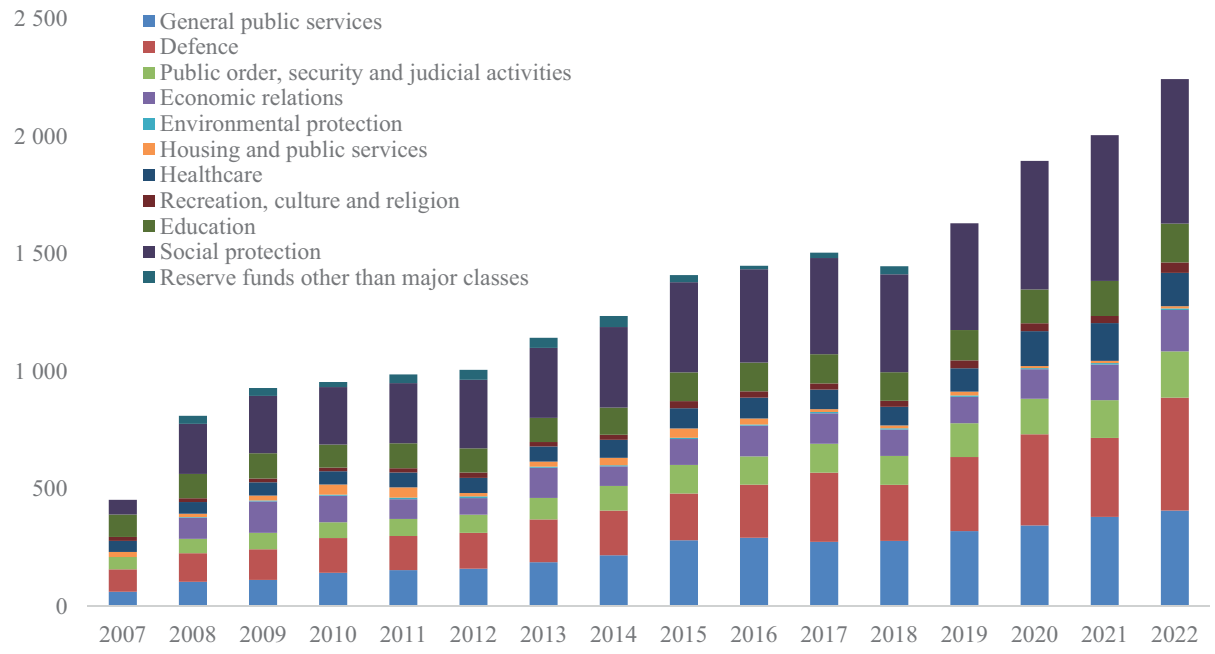

Fig. 4. **RA State Budget Expenditures, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 15.01.2024).

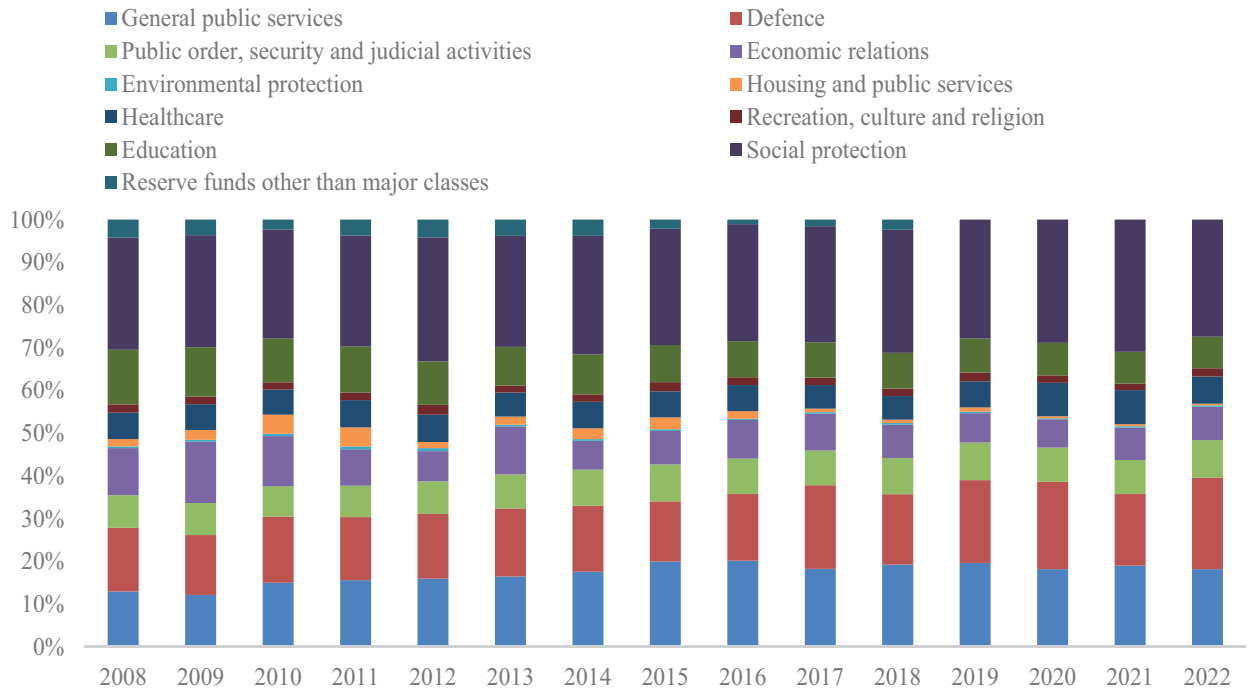

Fig. 5. **RA State Budget Expenditures, Structure, %**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

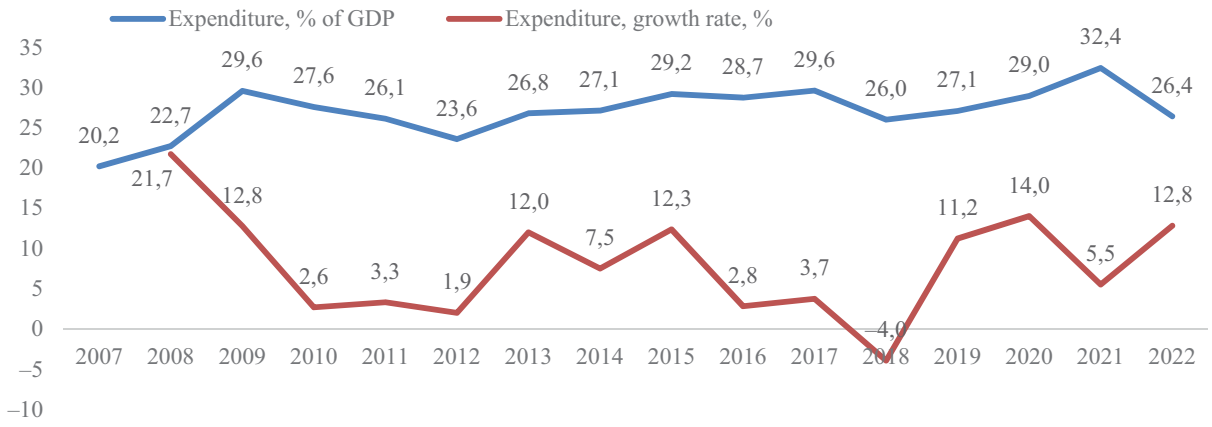

Fig. 6. **RA State Budget Expenditures, GDP % and Growth Rates**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

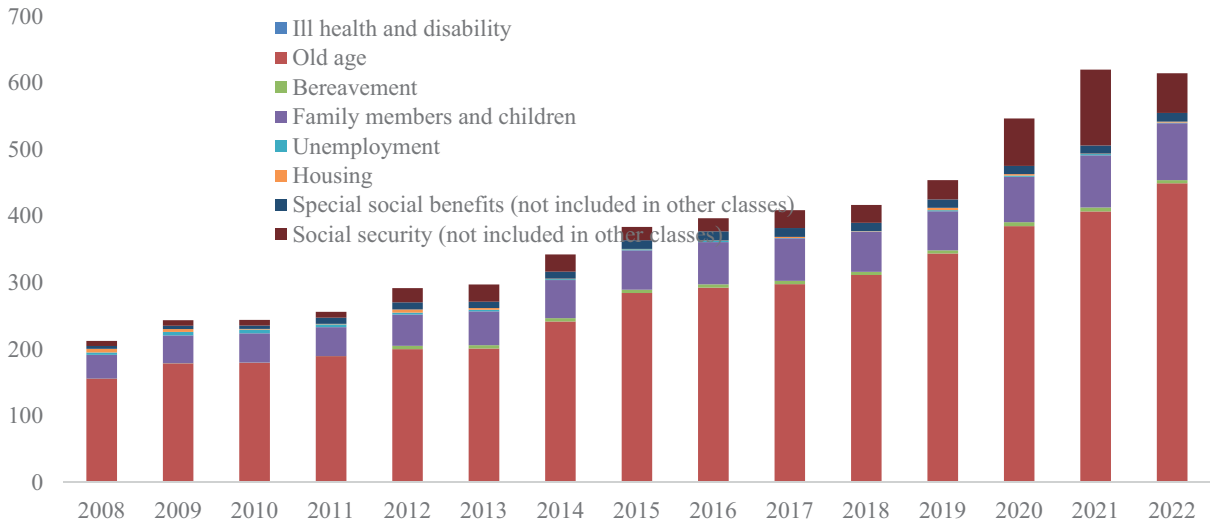

Fig. 7. **Social Protection, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

public debt on both external borrowings and domestic debts.

It can be noted that, starting in 2015, expenditures on legislative bodies, etc., which occupy the first place in the structure of expenditures on public services, are decreasing every year and are replaced by expenditures on public debt. The burden of public debt actually changes the spending policy for this item.

On the other hand, from the point of view of economic growth, expenditures on various scientific and research developments are of greater interest, which are also represented to a certain extent in the structure of expenditures on public services. However, it should be noted here that the extremely small amounts allocated through research and development cannot positively affect the pace of economic growth in the long term.

Nevertheless, considering the share of expenditures on public services in the total structure of state budget expenditures, one can see a significant increase, which is due to the costs of servicing Armenia's public debt (*Fig. 10*). If in 2007 this figure was 9.8%, then in 2022 it will be 18.2%. The share of these expenditures in the

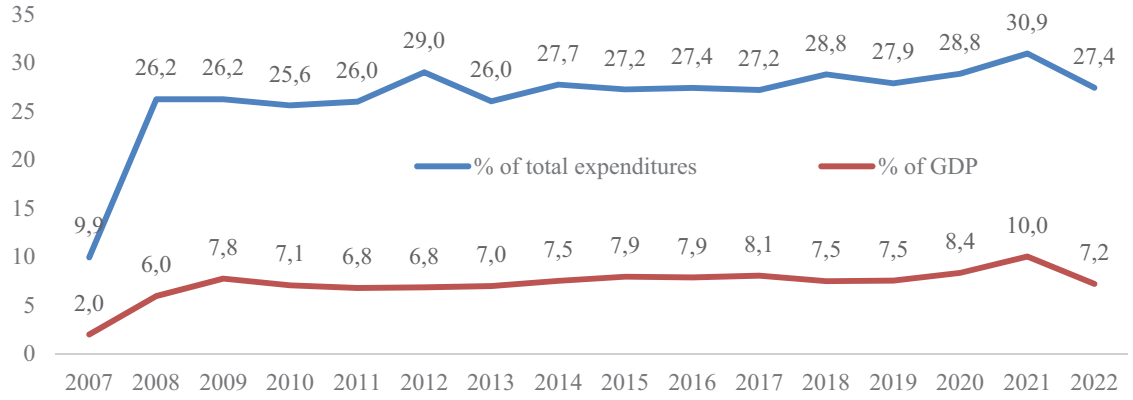

Fig. 8. **Social Protection, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

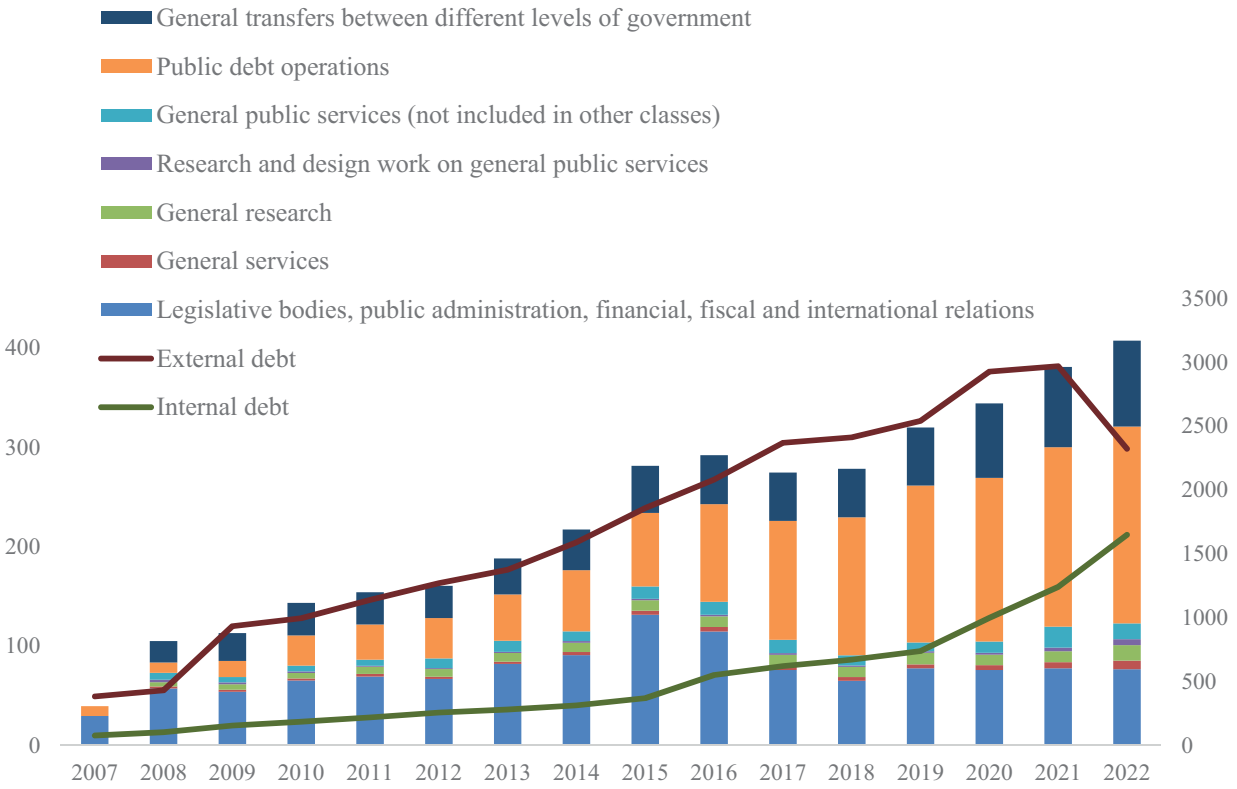

Fig. 9. **General State Services, Structure and Government Debt (Right Axis), Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

country's GDP is also growing. In 2007, the share of expenditures on general public services in GDP was 2%, compared with 4.8% in 2022. The growth rate of spending on public services is upward.

Defense expenditures occupy the third place in the structure of expenditures of the Armenian state budget (*Fig. 11*). Spending on the military-industrial sector can affect the expansion of GDP if this block is focused on the production of weapons and various types of military goods, including research and development. However, in the case of Armenia, defense spending is not of this nature,

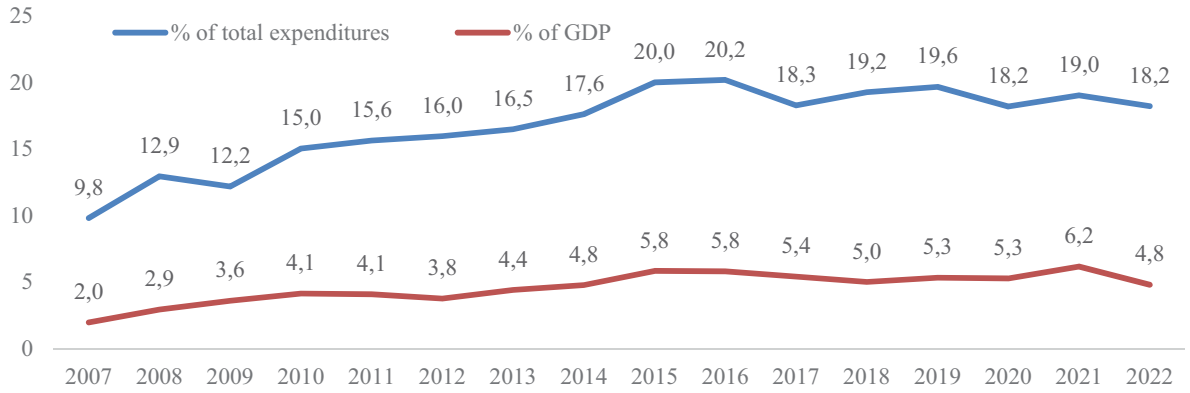

Fig. 10. **General State Services, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

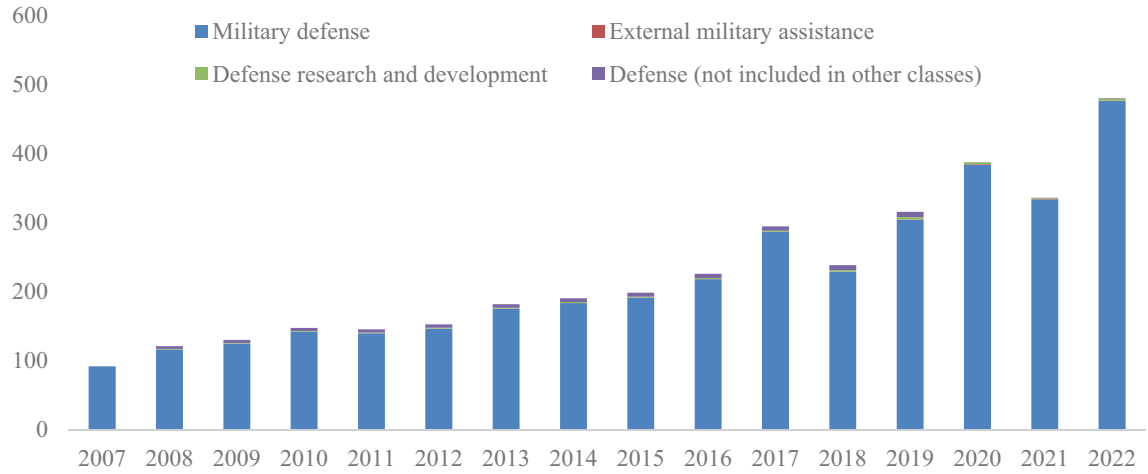

Fig. 11. **Defence, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

which means that it cannot be significant in terms of economic growth.

The increase in expenses can be observed during the periods of escalation of the military conflict with Azerbaijan in 2016 and 2020. At the same time, 99% of defense spending is on military defense, while spending on research and development in this area accounts for a negligible share. As for the share of defense expenditures in total government budget expenditures, it ranges from 15–17% and has shown a slight increase since 2016 (*Fig. 12*). The share of defense spending in the country's GDP in 2022 was 5.7% and has almost doubled over the past fifteen years.

From the point of view of human capital development, spending on healthcare and education is of strategic importance. At the same time, considering the dynamics and structure of healthcare costs in Armenia, we can see only a slight increase in the period 2008–2019 (*Fig. 13*). A sharp increase in spending on public health services can be observed in 2020–2021, which was caused by the COVID-19 pandemic, as well as the Second Artsakh War. Already in 2022, there is a decrease in the level of expenses for this item.

It should be noted that there is an insignificant share of expenses on medical products, devices and equipment, which could improve the quality of medical services provided and, as a result,

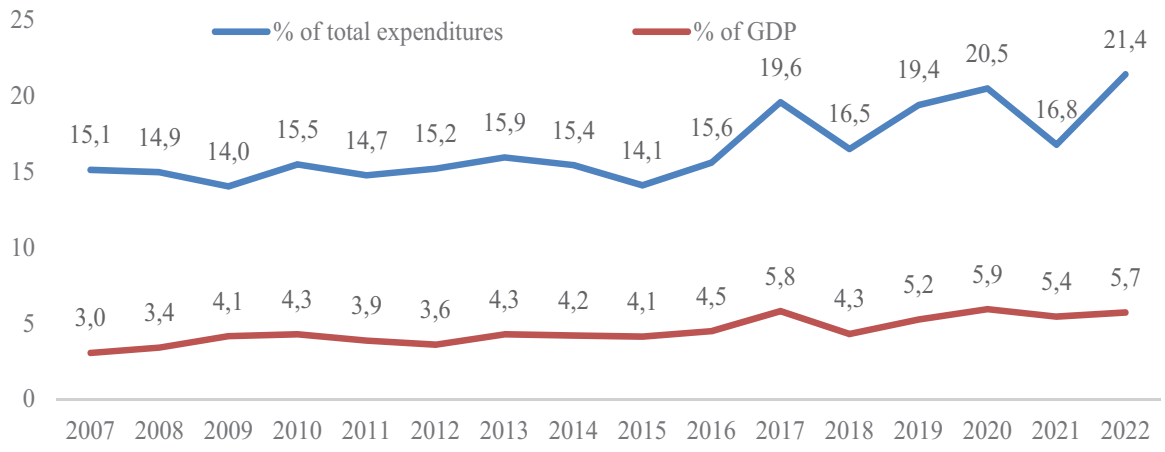

Fig. 12. **Defence, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

improve the quality of human capital. Thus, in the long term, one cannot expect a positive impact of healthcare spending on economic growth. This is also evidenced by the share of healthcare expenditures in the country's GDP (*Fig. 14*). With the exception of 2020–2021, this indicator has hardly increased. In 2007 the share of state budget expenditures on healthcare in GDP was 1.5%, and in 2022–1.7%. On average, healthcare expenditures in the total expenditures of the RA state budget range from about 6%.

A fairly large item in the structure of state budget expenditures is the expenditure item on public order, security and judicial activities (*Fig. 15*). The largest share (about 70% on average) is spent on public order and security, that is, on the police and internal troops. A noticeably smaller share is spent on judicial activities, which are of strategic importance from the point of view of the formation of the institutional environment. This, in turn, is one of the most necessary components for the formation of sustainable economic growth rates.

As for the share of these expenditures in total expenditures and in the country's GDP, it should be noted that it maintains its position throughout the period under review (*Fig. 16*). As of 2022, the share of these expenditures amounted to 8.8% of the total expenditures of the state budget, and the share in Armenia's GDP was 2.3%.

One of the unstable items of expenditure of the state budget from the point of view of dynamics is expenditure on economic relations (*Fig. 17*). In their structure, the key places are occupied by expenditures on agriculture and transport. It is important to note that the dynamics of spending on economic relations is very volatile. There is a feeling that this article is formed more according to the residual principle, which indicates the lack of a strategy in this area.

From the point of view of the share in total budget expenditures, we can observe a noticeable decline, while the share in GDP fluctuates on average within 2% (*Fig. 18*).

One of the most significant budget items, which have a direct impact on the economic development of the country in the long term, is the item of expenditure on education (*Fig. 19*).

The first thing to note is the lack of significant growth in absolute indicators in this block throughout the period under review. In total, over the past 13 years, the volume of education expenditures in the state budget has increased by about 20%. General secondary education occupies a dominant position in the structure of education costs, with preschool and primary education taking the second place. Higher education accounts for about 7%. It should be noted that there is a slight increase in expenditures on primary vocational (craft) and secondary vocational education, which generates human capital with secondary specialized education. However, most of these educational institutions

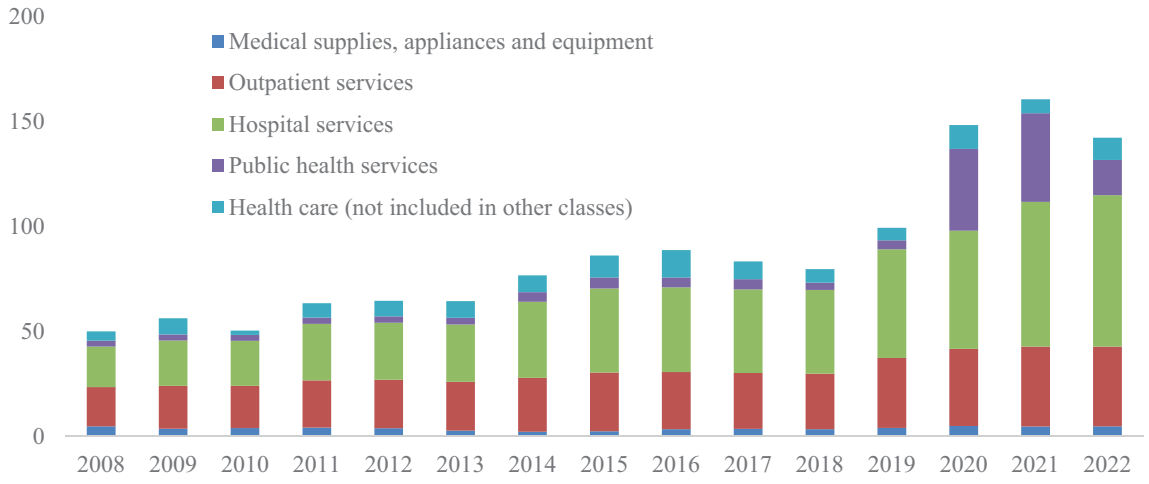

Fig. 13. **Healthcare, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. (accessed on 17.01.2024).

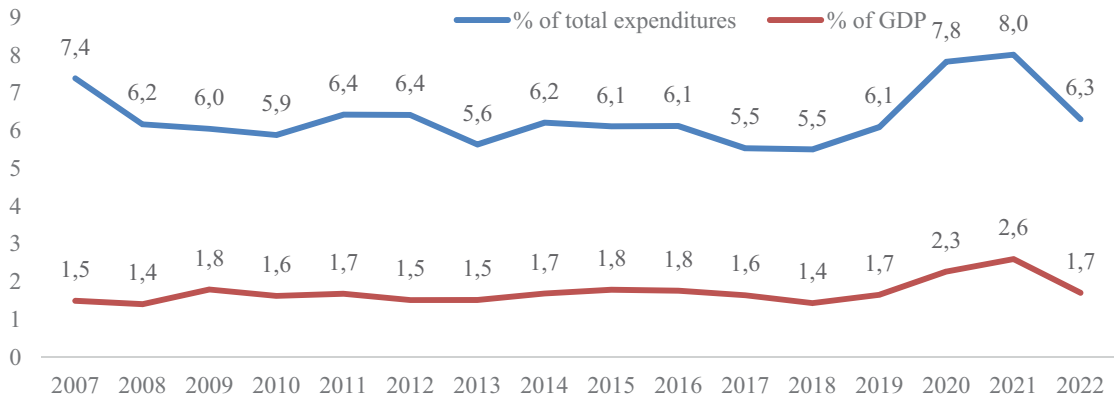

Fig. 14. **Healthcare, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

focus on the same specialties as higher education, and functionally the task of building up a workforce with a highly focused education is not fulfilled.

In the period 2007–2022, the share of education expenditures in the State budget decreased by almost half and amounted to 7.4%. The share of education expenditures in GDP also decreased and amounted to 1.9%.

Thus, summarizing the above analysis of the structure of state budget expenditures, it can be concluded that among the priority areas of expenditures, there were no significant government investments in industries that affect economic growth in the long term (education, science, infrastructure, institutional environment). In this sense, the analysis of statistics did not reveal any significant impact of government budget expenditures on maintaining or ensuring aggregate demand. However, this thesis can be shown more reasonably on the basis of an econometric analysis.

GOVERNMENT BUDGET EXPENDITURES IN ARMENIA AND ECONOMIC GROWTH (MODEL)

One of the most popular methods for analyzing the impact of spending policies on economic growth is the estimation of impact coefficients using a vector autoregressive model (VAR). In

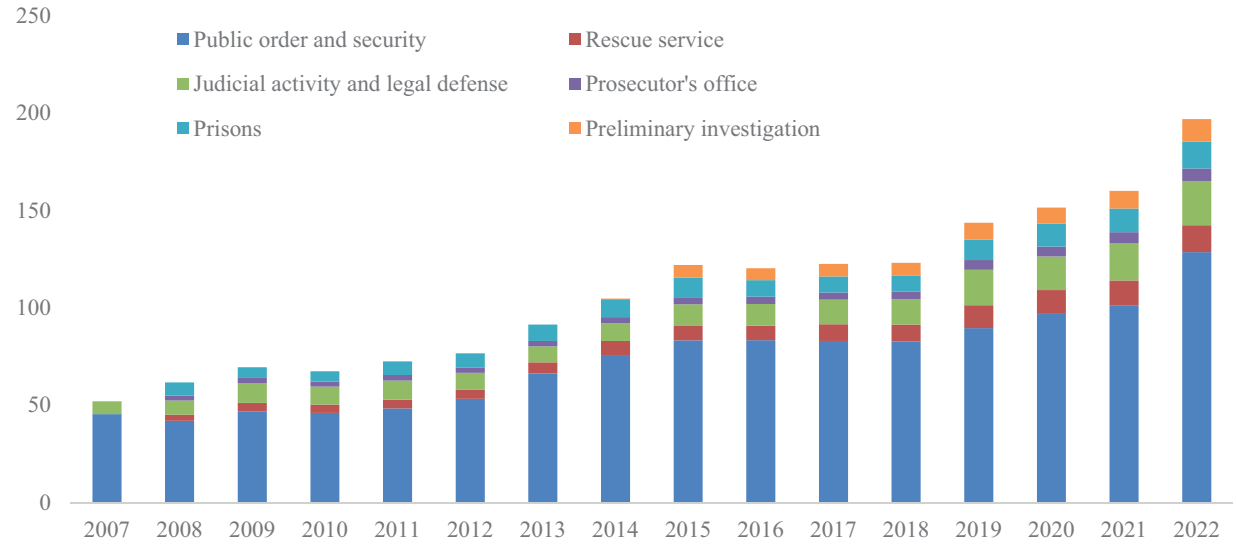

Fig. 15. **Public Order and Safety, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

this regard, a vector autoregression model was developed to identify the impact of spending policy on Armenia's economic growth. The study used quarterly data on Armenia's GDP and data on all types of expenditures from 2008 to 2018. The source of expenditure data is the Database of the Ministry of Finance of the Republic of Armenia and the National Statistical Service of the Republic of Armenia. Starting in 2019, the Ministry of Finance does not publish quarterly expenditure statistics on functional classification.

The following variables were used as endogenous factors influencing economic growth:

- Education expenses (EDU), million drams, 2008Q1–2018Q4;
- Expenses on economic relations (ER), million drams, 2008Q1–2018Q4;
- Healthcare costs (HC), million drams, 2008Q1–2018Q4;
- Expenses for public order, security and judicial activities (SEC), million drams, 2008Q1–2018Q4;
- Defense expenditures (DEF), million drams, 2008Q1–2018Q4;
- Expenses for general public services (PS), million drams, 2008Q1–2018Q4.

As an exogenous variable, it is customary to include the largest trading partner in the GDP model, which makes it possible to display external shocks to the country's economy. According to statistics, Russia is Armenia's largest trading partner (*Fig. 21*). In this regard, we have selected the GDP of the Russian Federation (GDP_RF) as an exogenous factor. We also included the inflow of cash transfers (REM) in the model as a factor reflecting external shocks.

All time series were adjusted for seasonality using the Census X-13 procedure, which allowed the time series to be cleared of seasonality while maintaining the dynamics structure. To obtain stationary time series, the following standard procedure was applied: logarithmization of time series using the natural logarithm (e), calculation of the first differences relative to the corresponding quarter of the previous year. The final time series were tested for stationarity (ADF unit root test) and distribution normality (Histogram and Jarque-Bera test). Descriptive statistics of variables are presented in *Table 1*.

As a result of the initial statistical data processing, stationary time series with a normal distribution from 2009Q1 to 2018Q4 were obtained. As a result of the analysis, it turned out that defense spending and general public services are not significant variables for Armenia's GDP and were excluded from the model. *Table 2* shows the results of the vector autoregression model. We selected a model with 4 lags based on an analysis

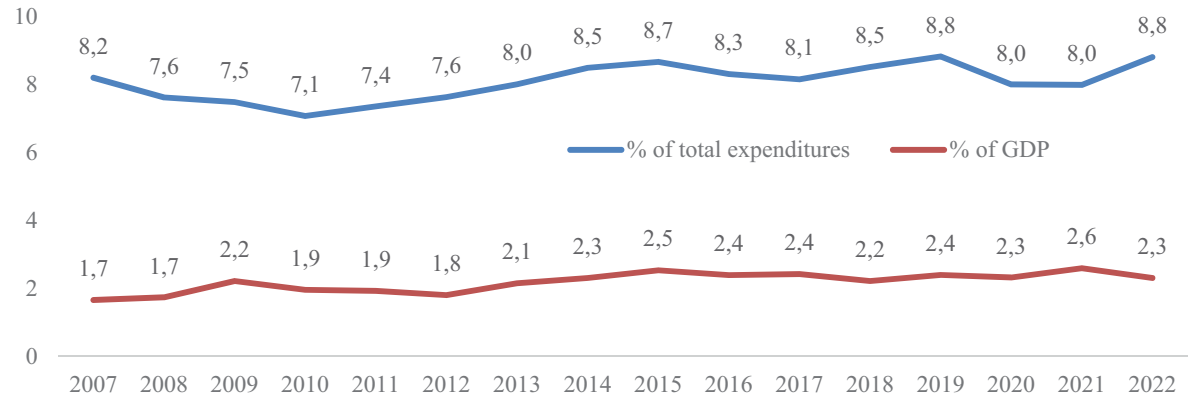

Fig. 16. **Public Order and Safety, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

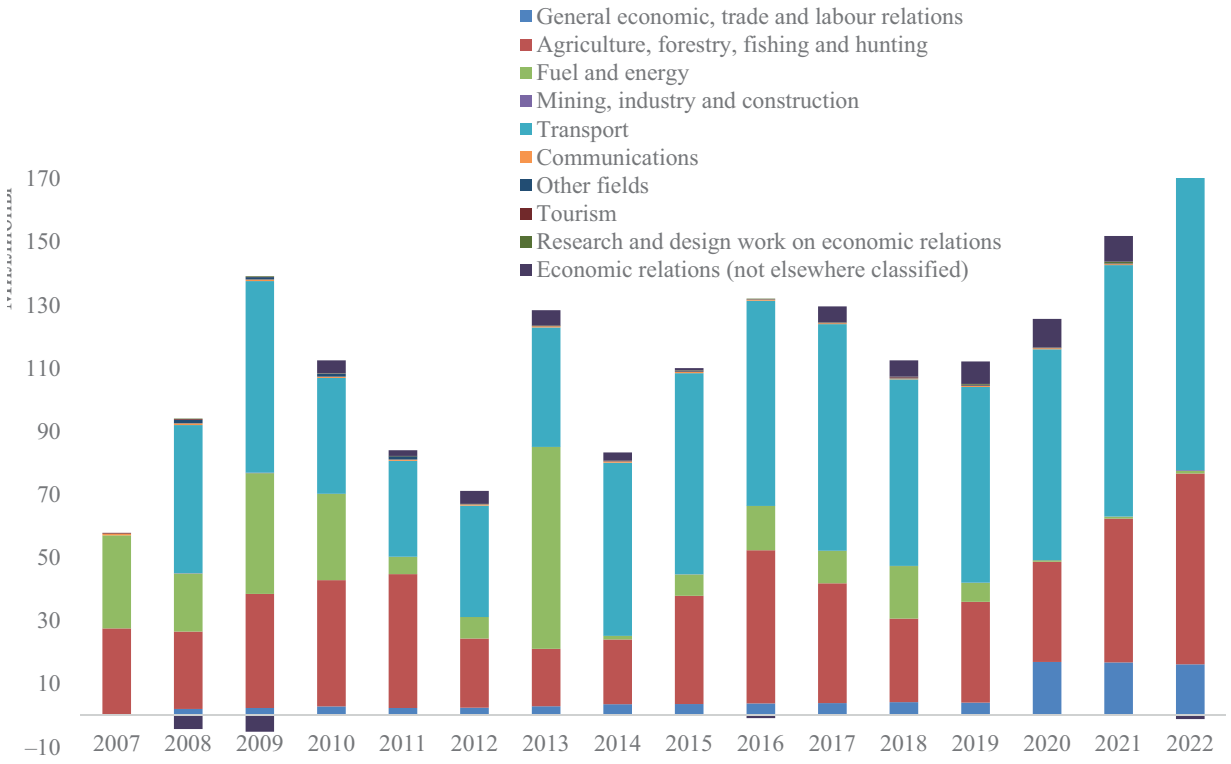

Fig. 17. **Economic Affairs, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

of the quality of the model according to the criteria of Akaike and Schwartz.

We have performed all the necessary tests to verify the reliability of the coefficient estimation results using the VAR(4) model. *Table 2* demonstrates that, according to Darbin-Watson statistics, there is no problem with the autocorrelation of the residuals of the regression model in the model. We also conducted a test for the heteroscedasticity and normality of the residue distribution (*Table 3*). The results show that the random errors of the model are homoscedastic and the residue distribution is normal.

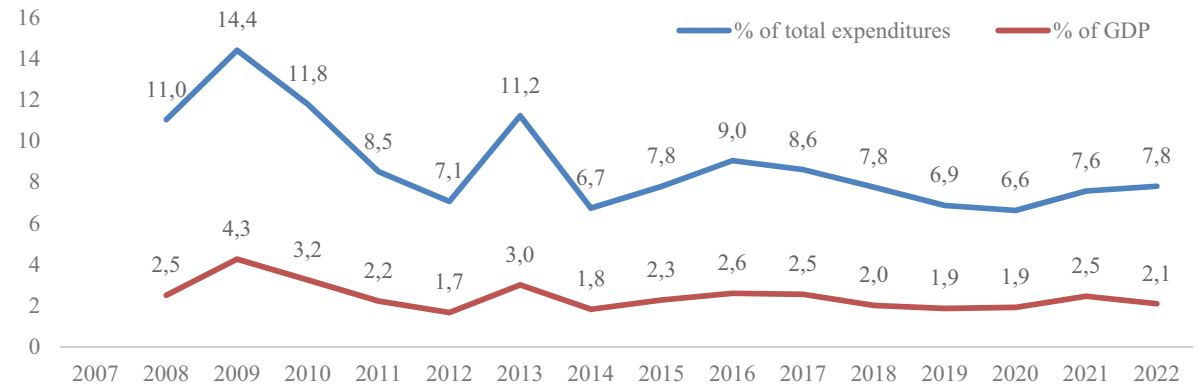

Fig. 18. **Economic Affairs, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

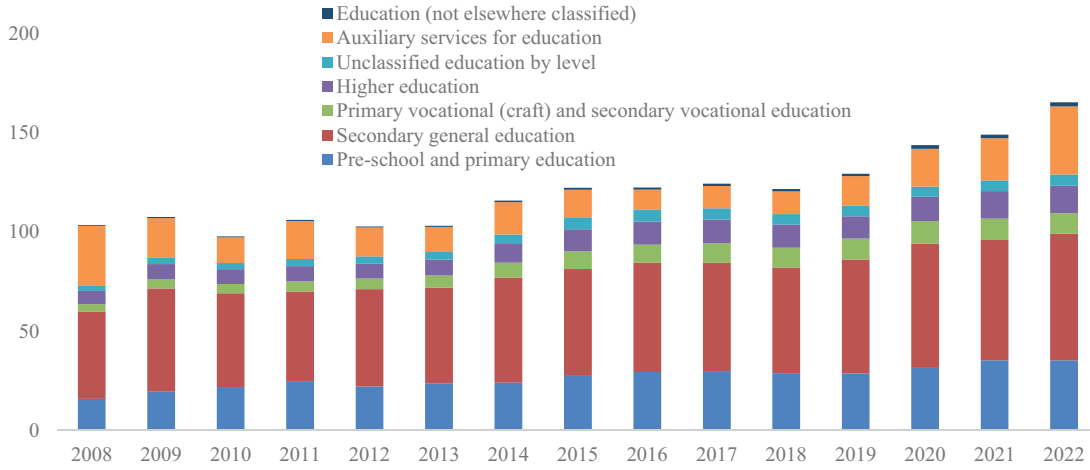

Рис. 19 / Fig. 19. **Образование, структура, млрд драмов РА / Education, Structure, Billion AMD**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

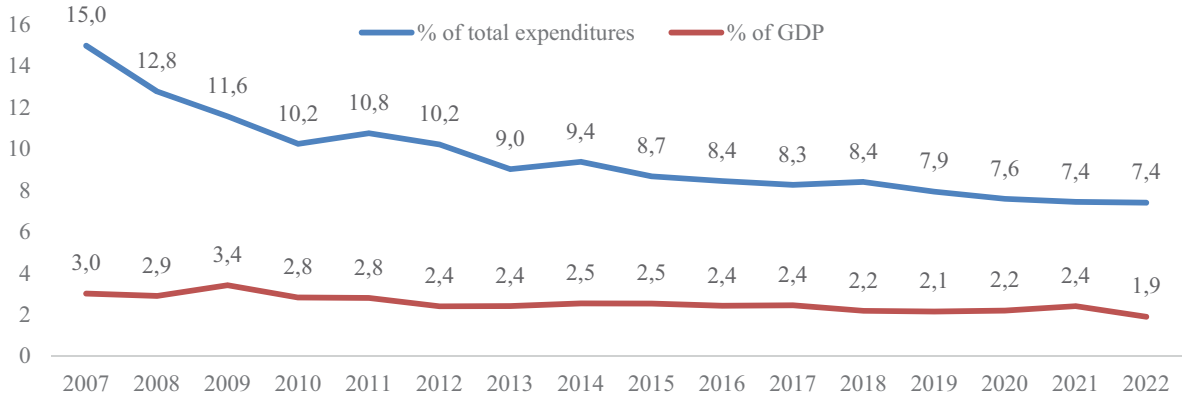

Fig. 20. **Education, % of GDP, and % of Total Expenditures**

Source: Database of the Ministry of Finance of RA. URL: https://minfin.am (accessed on 17.01.2024).

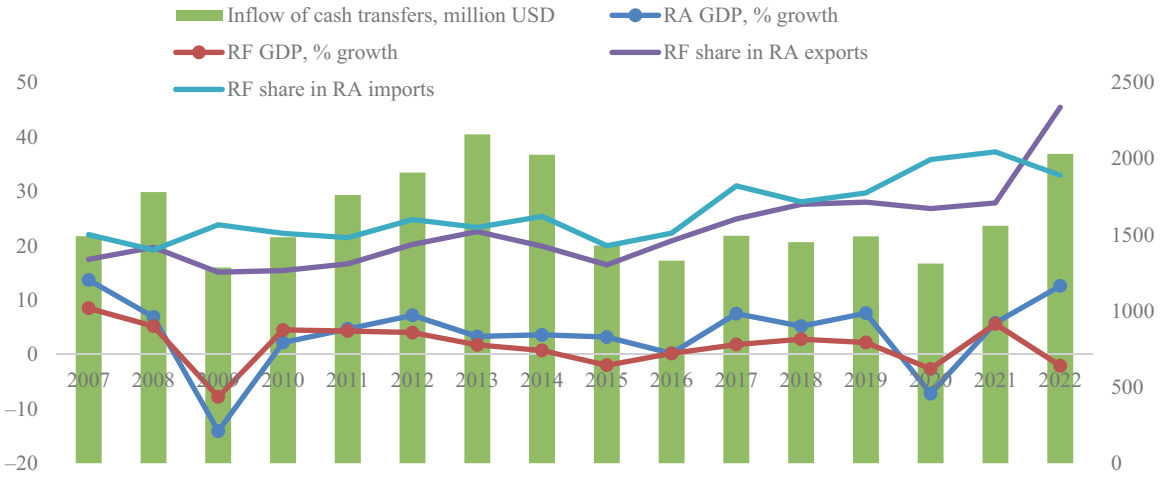

Fig. 21. **GDP of RA, GDP of RF, Inflow of Money Transfers to RA, Share of RF in the Trade Flows of RA**

Source: Database of the Statistical committee of RA and the World Bank. URL: https://armstat.am; https://data.worldbank.org/ (accessed on 12.04.2024).

The VAR(4) model with estimated coefficients is presented below:

$$
\begin{aligned}
GDP = {} & -0{,}1757 * GDP(-1) + 0{,}0019 * GDP(-2) - 0{,}3344 * GDP(-3) - \\
& -0{,}2614 * GDP(-4) - 0{,}0564 * EDU(-1) - 0{,}3986 * EDU(-2) + \\
& + 0{,}2161 * EDU(-3) - 0{,}0459 * EDU(-4) - 0{,}0223 * ER(-1) - \\
& - 0{,}0917 * ER(-2) + 0{,}0164 * ER(-3) - 0{,}0713 * ER(-4) + \\
& + 0{,}1705 * HC(-1) - 0{,}2665 * HC(-2) - 0{,}1852 * HC(-3) - \\
& - 0{,}2426 * HC(-4) + 0{,}1037 * SEC(-1) - 0{,}0598 * SEC(-2) + \\
& + 0{,}2938 * SEC(-3) + 0{,}0604 * SEC(-4) + 0{,}1538 * \\
& * GDP\_RF - 0{,}044 * REM + 0{,}114
\end{aligned}
$$

The results of the econometric analysis show a negative impact on GDP for almost all expenditures, except for expenditures on public order, security and judicial activities. The results also show that education spending affects economic growth with a time lag of 2 quarters. On the other hand, spending on economic relations affects the country's economic growth after the 2nd and 4th quarters. Healthcare costs have the longest impact, starting in the second quarter after the changes.

The negative impact of spending on economic growth contradicts theory, while a review of empirical research shows that many authors find a negative relationship between government spending and economic growth. The reasons for these results are underdeveloped institutions, corruption, and inefficient cost allocation, as spending on education, science, human capital, and infrastructure, which can ensure sustained economic growth, has too small a share.

CONCLUSIONS

The effectiveness of the impact of the expenditure side of the state budget depends both on the capabilities of the budget itself and on the cost structure of the state, not to mention the economy itself, the degree of its development and many other factors.

Table 1

Descriptive Statistics of Variables

Variables	GDP	EDU	ER	HC	SEC	DEF	PS	REM	GDP_RF
Mean	0.0594	0.0176	0.0335	0.0469	0.0694	0.062	0.09745	−0.0051	0.0923
Median	0.0636	0.0123	0.0374	0.0597	0.0685	0.0617	0.06796	0.0665	0.0775
Maximum	0.1689	0.2311	1,1167	0.3317	0.2436	0.4825	0.4133	0.2088	0.2755
Minimum	−0.097	−0.154	−0.858	−0.1629	−0.075	−0.3257	−0.1705	−0.335	−0.1022
Std. Dev.	0.0583	0.0856	0.3665	0.0981	0.084	0.1481	0.1479	0.1699	0.0862
Skewness	−0.686	0.2636	0.3323	0.1242	0.223	0.0542	0.42253	−0.7068	0.1007
Kurtosis	3.6381	3.3746	3.9846	3.5957	2.1814	3.9843	2.5565	2.0694	3.4324
Jarque–Bera	3.8199	0.6973	2.352	0.6943	1.4484	1.6344	1.5179	4.7743	0.3792
Probability	0.1481	0.7057	0.3085	0.7067	0.4847	0.4417	0.4681	0.0919	0.8273
Observations	40	40	40	40	40	40	40	40	40

Source: Calculated by the authors using the EViews 10 econometric package.

Table 2

Результаты модели VAR (4) / The Results of VAR (4) Model

Variables		Coeff.	Standard error	P-value	t-statistics
GDP	GDP(−1)	−0.175710	0.18339	0.3416	−0.95810
	GDP(−2)	0.001943	0.23538	0.9934	0.00825
	GDP(−3)	−0.334346	0.25348	0.1918	−1,31902
	GDP(−4)	−0.261385	0.18558	0.1638	−1,40849
Education	EDU(−1)	−0.056390	0.11834	0.6353	−0.47649
	EDU(−2)	−0.398578	0.17430	0.0255	−2,28675
	EDU(−3)	0.216098	0.14058	0.1291	1,53720
	EDU(−4)	−0.045892	0.14457	0.7519	−0.31744
Econonic relations	ER(−1)	−0.022273	0.02479	0.3723	−0.89847
	ER(−2)	−0.091686	0.02454	0.0004	−3,73647
	ER(−3)	0.016396	0.02847	0.5666	0.57598
	ER(−4)	−0.071313	0.03533	0.0477	−2,01842
Healthcare	HC(−1)	0.170536	0.15212	0.2664	1,12110
	HC(−2)	−0.266455	0.13119	0.0464	−2,03099
	HC(−3)	−0.185198	0.10441	0.0808	−1,77376
	HC(−4)	−0.242577	0.12945	0.0654	−1,87389
Public order, security and judicial activities	SEC(−1)	0.103698	0.13244	0.4365	0.78300
	SEC(−2)	−0.059806	0.12826	0.6426	−0.46627
	SEC(−3)	0.293819	0.15551	0.0633	1,88937
	SEC(−4)	0.060391	0.13517	0.6565	0.44679

Table 2 (continued)

Variables	Coeff.	Standard error	P-value	t-statistics
GDP_RF	0.153802	0.15035	0.3101	1,02295
REM	–0.044286	0.07079	0.5338	–0.62557
C	0.113965	0.02815	0.0001	4,04841
R-square	0.82964			
R-square adj,	0.541338			
F-statistic	2.87768			
Akaike AIC	–3.975593			
Schwarz SC	–2.9639			
Durbin-Watson stat	1.901465			

Source: Calculated by the authors using the EViews 10 econometric package.

Table 3

Heteroskedasticity and Normal Distribution Tests

Test	Chi-sq / Jarque-Bera	df	Prob.
Heteroskedasticity	521.6169	510	0.3513
Normal Distribution (Cholesky of covariance)	16.52684	10	0.0855

Source: Calculated by the authors using the EViews 10 econometric package.

The developed vector autoregression model to identify the impact of spending on economic growth showed a negative relationship in the case of Armenia. The reason for this result is undeveloped institutions, the presence of corruption, as well as inefficient cost allocation, since expenditures on education, science, human capital and infrastructure, which can ensure sustainable economic growth, have too small a share.

At the same time, considering the spending policy of Armenia, it should be noted the obviously social nature of the structure of state budget expenditures. Most of the spending solves various social problems, whether it is spending on social needs or increasing spending on the state apparatus. All this combined makes it possible to maintain, but not increase, consumption in the GDP structure, and at the same time does not have a positive impact on economic growth rates. At the same time, in terms of long-term positive effects for the economy, it is necessary to increase spending on infrastructure, the institutional environment, as well as on all areas that affect the development of technology and innovation in the economy. Optimizing the expenditure side of the state budget would free up additional financing for more important budget items in terms of ensuring sustainable economic growth.

ACKNOWLEDGMENTS

The study was carried out with the financial support of the Science Committee of the Republic of Armenia (Scientific projects No. 24SSAH-5B 004 and No. 25YR-5B 020). Russian-Armenian University, Yerevan, Armenia.

REFERENCES

1. Onifade ST, Çevik S, Erdoğan S, Asongu S, Bekun FV. An empirical retrospect of the impacts of government expenditures on economic growth: new evidence from the Nigerian economy. Journal of Economic Structures. 2020;9(1):1–3. https://doi.org/10.1186/s40008–020–0186–7
2. Gurdal T, Aydin M, Inal V. The relationship between tax revenue, government expenditure, and economic growth in G7 countries: new evidence from time and frequency domain approaches. Economic Change and Restructuring. 2021;54:305–37. https://doi.org/10.1007/s10644–020–09280-x
3. Ahuja D, Pandit D. Public expenditure and economic growth: Evidence from the developing countries. FIIB Business Review. 2020;9(3):228–36. https://doi.org/10.1177/2319714520938901
4. Mostafa MG. The Causal Link Between Government Expenditure And Economic Growth In Egypt Over The Period From 1952 To 2020. Systematic Reviews in Pharmacy. 2021;12(3):231–43. https://www.researchgate.net/profile/Mohammed-Galal/publication/349379861_causal_link_between_the_government_expenditure_and_economic_growth_in_egypt_over_the_period_from_1952_to_2020/links/602d73764585158939b06085/causal-link-between-the-government-expenditure-and-economic-growth-in-egypt-over-the-period-from-1952-to-2020.pdf
5. Olaoye OO, Eluwole OO, Ayesha A, Afolabi OO. Government spending and economic growth in ECOWAS: An asymmetric analysis. The Journal of Economic Asymmetries. 2020;22: e00180. https://doi.org/10.1016/j.jeca.2020.e00180
6. Nyasha S, Odhiambo NM. Government size and economic growth: A review of international literature. Sage Open. 2019 Sep;9(3):2158244019877200. https://doi.org/10.1177/2158244019877200
7. Zhang D, Mohsin M, Rasheed AK, Chang Y, Taghizadeh-Hesary F. Public spending and green economic growth in BRI region: mediating role of green finance. Energy Policy. 2021;153:112256. https://doi.org/10.1016/j.enpol.2021.112256
8. Chu TT, Hölscher J, McCarthy D. The impact of productive and non-productive government expenditure on economic growth: an empirical analysis in high-income versus low-to middle-income economies. Empirical Economics. 2020;58:2403–30. https://doi.org/10.1007/s00181–018–1616–3
9. Lin B, Zhu J. Fiscal spending and green economic growth: Evidence from China. Energy Economics. 2019;83:264–71. https://doi.org/10.1016/j.eneco.2019.07.010
10. Nyasha S, Odhiambo NM. The impact of public expenditure on economic growth: a review of international literature. Folia Oeconomica Stetinensia. 2019; 19(2):81–101. https://doi.org/10.2478/foli-2019–0015
11. Dudzevičiūtė G, Šimelytė A, Liučvaitienė A. Government expenditure and economic growth in the European Union countries. International Journal of Social Economics. 2018 Feb 12;45(2):372–86. https://doi.org/10.1108/IJSE-12–2016–0365
12. Mulugeta Emeru G. Effect of public expenditure on economic growth in the case of Ethiopia. The Scientific World Journal. 2023 Feb 1;2023. https://doi.org/10.1155/2023/9305196
13. Magdalena S, Suhatman R. The Effect of Government Expenditures, Domestic Invesment, Foreign Invesment to the Economic Growth of Primary Sector in Central Kalimantan. Budapest International Research and Critics Institute-Journal (BIRCI-Journal). 2020 Jul 29;3(3):1692–703. https://doi.org/10.33258/birci.v3i3.1101
14. Facchini F, Seghezza E. Public spending structure, minimal state and economic growth in France (1870–2010). Economic Modelling. 2018 Jun 1;72:151–64. https://doi.org/10.1016/j.econmod.2018.01.014
15. Aladejare SA. Are public spending determinants significant in per capita budget spending decisions in Nigeria?. International Journal of Finance & Economics. 2022 Jan;27(1):192–206. https://doi.org/10.1002/ijfe.2146
16. Slemrod J, Gale WG, Easterly W. What do cross-country studies teach about government involvement, prosperity, and economic growth?. Brookings papers on economic activity. 1995 Jan 1;1995(2):373–431. https://doi.org/10.2307/2534615
17. Bergh A, Henrekson M. Government size and growth: a survey and interpretation of the evidence. Journal of Economic Surveys. 2011 Dec;25(5):872–97. https://doi.org/10.1111/j.1467–6419.2011.00697.x
18. Wu SY, Tang JH, Lin ES. The impact of government expenditure on economic growth: How sensitive to the level of development?. Journal of Policy Modeling. 2010 Nov 1;32(6):804–17. https://doi.org/10.1016/j.jpolmod.2010.05.011

19. Bose N, Haque ME, Osborn DR. Public expenditure and economic growth: A disaggregated analysis for developing countries. The Manchester School. 2007 Sep;75(5):533–56. https://doi.org/10.1111/j.1467–9957.2007.01028.x
20. Islam A, Nazemzadeh A. Causal Relationship between Government Size and Economic Development: An Empirical Study of the US. Southwestern Economic Review. 2001;28:75–88. https://swer.wtamu.edu/sites/default/files/Data/SER 2001%20Islam%20Nazemadeh%2075–88.pdf
21. Alam S, Sultana A, Butt MS. Does social expenditures promote economic growth? A multivariate panel cointegration analysis for Asian countries. European Journal of Social Sciences. 2010;14(1):44–54. https://www.researchgate.net/publication/286750328_Does_social_expenditures_promote_economic_growth_a_multivariate_panel_cointegration_analysis_for_Asian_Countries
22. Devarajan S, Swaroop V, Zou HF. The composition of public expenditure and economic growth. Journal of monetary economics. 1996 Apr 1;37(2):313–44. https://doi.org/10.1016/S 0304–3932(96)90039–2
23. Hacro AN. Size of government and growth rate of per capita income in selected asian developing economics. International Research Journal of Finance and Economics", i. 2009;28:52–65. https://www.researchgate.net/publication/242734923_Size_of_Government_and_Growth_Rate_of_Per_Capita_Income_in_Selected_Asian_Developing_Economics
24. Landau D. Government expenditure and economic growth: a cross-country study. Southern economic journal. 1983 Jan 1:783–92. https://doi.org/10.2307/1058716
25. Babatunde SA. Government spending on infrastructure and economic growth in Nigeria. Economic research-Ekonomska istraživanja. 2018 Dec 3;31(1):997–1014. https://doi.org/10.1080/1331677X.2018.1436453
26. Khan SA, Zhang Y, Kumar A, Zavadskas E, Streimikiene D. Measuring the impact of renewable energy, public health expenditure, logistics, and environmental performance on sustainable economic growth. Sustainable development. 2020 Jul;28(4):833–43. https://doi.org/10.1002/sd.2034
27. Gnangoin YT, Edjoukou AJ, Kassi DD. Public spending and economic growth in Latin America countries: A panel fixed effect analysis. International Journal of Business and Economic Sciences Applied Research. 2019 Apr 1. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3502235
28. Balaev A. The structure of public spending and economic growth in Russia. Russian Journal of Economics. 2019 Jul 31;5(2):154–76. https://doi.org/10.32609/j.ruje.5.38705
29. Marquez-Ramos L, Mourelle E. Education and economic growth: an empirical analysis of nonlinearities. Applied Economic Analysis. 2019;27(79):21–45. https://doi.org/10.1108/AEA-06–2019–0005
30. Jorgenson DW, Fraumeni BM. Investment in education and US economic growth. In The US savings challenge 2020 Jan 29 (pp. 114–149). Routledge.
31. Liu D, Xu C, Yu Y, Rong K, Zhang J. Economic growth target, distortion of public expenditure and business cycle in China. China Economic Review. 2020 Oct 1;63:101373. https://doi.org/10.1016/j.chieco.2019.101373
32. Gitonga M, Mose N, Thuranira M, Owiti E. Government spending on infrastructure and private investment: A disaggregated analysis. Journal of Economics, Management and Trade. 2022 Oct 11;28(11):26–34. https://doi.org/10.1080/1331677X.2018.1436453
33. Cigu E, Agheorghiesei DT, Gavriluță AF, Toader E. Transport infrastructure development, public performance and long-run economic growth: a case study for the Eu-28 countries. Sustainability. 2018 Dec 22;11(1):67. https://doi.org/10.3390/su11010067
34. Ikubor JO, Jibir RC, Hassan AA. Impact of Government Infrastructural Expenditure on Economic Growth: Evidence from Nigeria. International Journal of Economics and Development Policy (IJEDP)/ 2021;4(1):26–39. https://www.researchgate.net/publication/358880687_Impact_of_Government_Infrastructural_Expenditure_on_Economic_Growth_Evidence_from_Nigeria
35. Muritala T, Taiwo A. Government expenditure and economic development: Empirical evidence from Nigeria. European Journal of Business and Management. 2011;3 (9):18–28. https://mpra.ub.uni-muenchen.de/37293/
36. Sáez MP, Álvarez-García S, Rodríguez DC. Government expenditure and economic growth in the European Union countries: New evidence. Bulletin of Geography. Socio-Economic Series. 2017 Apr 25(36):127–33. DOI: 10.1515/bog-2017–0020. https://doi.org/10.1515/bog-2017–0020

37. Romero-Avila D, Strauch R. Public finances and long-term growth in Europe: Evidence from a panel data analysis. European Journal of Political Economy. 2008 Mar 1;24(1):172–91. https://doi.org/10.1016/j.ejpoleco.2007.06.008
38. Jones CI. The past and future of economic growth: A semi-endogenous perspective. Annual Review of Economics. 2022 Aug 12;14:125–52. https://doi.org/10.1146/annurev-economics-080521–012458
39. Thach NN. Endogenous economic growth: The arrow-romer theory and a test on vietnamese economy. WSEAS Transactions on Business and Economics. 2020 May;17:374–86. https://doi.org/10.37394/23207.2020.17.37
40. Goczek Ł, Witkowska E, Witkowski B. How does education quality affect economic growth? Sustainability. 2021 Jun 5;13(11):6437. https://doi.org/10.3390/su13116437

ABOUT THE AUTHORS

Edward M. Sandoyan — Dr. Sci. (Econ.), Prof., Rector, Russian-Armenian University, Yerevan, Armenia
https://orcid.org/0000-0002-2848-4946
edward.sandoyan@rau.am

Mariam H. Voskanyan — Dr. Sci. (Econ.), Assoc. Prof., Head of the Department of Economics and Finance, Russian-Armenian University, Yerevan, Armenia
https://orcid.org/0000-0002-5417-6648
mariam.voskanyan@rau.am

Ani H. Galstyan — PhD (Econ.), Associate professor, Department of Economics and Finance, Russian-Armenian University, Yerevan, Armenia
https://orcid.org/0000-0002-7800-7232
Corresponding author:
ani.galstyan@rau

Authors' declared contribution:
E.M. Sandoyan — statement of the problem and scientific supervision, development of conclusions.
M.A. Voskanyan — critical analysis of literature, interpretation of research results.
A.H. Galstyan — collection of statistical data, econometric analysis.

Conflicts of Interest Statement: The authors have no conflicts of interest to declare.

The article was submitted on 07.03.2024; revised on 16.03.2024 and accepted for publication on 27.03.2024. The authors read and approved the final version of the manuscript.

Translated by N.I. Sokolova