



**RUSSIAN-ARMENIAN
UNIVERSITY**

**“CENTER FOR THE PROMOTION
OF ECONOMIC EDUCATION AND
RESEARCH” FOUNDATION**



***Implementation of Fiscal and Industrial
Policies to Overcome the Economic Crisis
and Ensure Sustainable Economic
Growth in Armenia***

PART 2

Authors`

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**IMPLEMENTATION OF FISCAL AND
INDUSTRIAL POLICIES TO OVERCOME THE
ECONOMIC CRISIS AND ENSURE
SUSTAINABLE ECONOMIC GROWTH IN
ARMENIA. PART 2**

**YEREVAN
RAU PUBLISHING HOUSE
2023**

UDC 338.2:330.3

*Published by decision of the Academic and Editorial Boards of the
Russian-Armenian University*

Sandoyan E., Yeghiazaryan A., Voskanyan M., Galstyan A.

Implementation of Fiscal and Industrial Policies to Overcome the Economic Crisis and Ensure Sustainable Economic Growth in Armenia. Part 2 / Sandoyan E., Yeghiazaryan A., Voskanyan M., Galstyan A. – Yer.: PH RAU RA, 2023. – 94p.

The monograph is devoted to the analysis of fiscal policy, capital market, pension system and investments in the Republic of Armenia, taking into account international experience, as well as theoretical studies on the topic under discussion. Based on a retrospective analysis of the Armenian economy the authors highlight the issues of the fiscal policy, and capital market and pension system give recommendations for its improvement.

The book will be of interest to researchers, policy-makers, teachers, undergraduate, graduate, and postgraduate students whose studies are focused on the issues of government regulation, industrial policy and economic growth.

The work reflects the results of a study implemented with financial support from the “Center for the promotion of economic education and research” foundation. The content of the study reflects the views of the authors.

ISBN 978-9939-67-308-0

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1. Fiscal Policy

Whether changes in fiscal policy, both in taxation and expenditure, can affect economic growth has been widely discussed in the scientific literature. Fiscal policy plays a significant role in ensuring economic growth in the country. In the short term, a countercyclical fiscal policy helps support aggregate demand and ensure growth during cyclical downturns. Conversely, budget cuts help cool the economy during periods of unsustainable growth and the risk of overheating. In particular, advanced economies have a long history of using taxes and government spending to smooth the business cycle. At the same time, fiscal policy can also majorly impact medium and long-term economic growth. It is especially true for developing countries where the real sector is relatively weak and underdeveloped. So, for example, government spending on infrastructure (roads, ports, power plants, etc.) makes it possible

in many ways to intensify business activity in the economy.

On the other hand, public spending on education contributes to the development of human capital, a vital component of long-term growth. At the same time, budget taxes can cause significant damage to economic growth since certain taxes distort the behaviour of business entities to some extent. Endogenous growth models¹ prove that fiscal policy can have both temporary and permanent effects on economic growth rates. However, empirical research shows ambiguous results on whether taxation or government spending promotes economic growth.

In this regard, we will analyze the impact of taxes and government spending on economic growth rates separately.

1.1. Taxes and Economic Growth

1.1.1. Literature Review

The scientific literature provides numerous studies devoted to the issue of the relationship between taxes and economic growth showing a weak or unreliable relationship, for example, studies by Easterly and Rebelo (1993)²; and Agell, Lindh, and Ohlsson (1997)³; and studies showing strong interconnections, e.g. Skinner (1987)⁴; Arnold et al. (2011)⁵ and Gemmell, Kneller, and Sanz (2011)⁶. For example, Skinner argues that the

increase in the tax burden in countries south of the Sahara led to a significant reduction in output growth, despite the expansion of government spending in the same period. At the same time, comparing the impact of certain taxes on economic growth rates, he found that personal income and corporate tax rates had a negative direct effect on production growth, trade taxes had an insignificant direct impact, and turnover taxes and excises were neutral. King and Rebelo

¹ Barro, R. 1990. Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy*. 98 (5). pp. S103–S125.

² Easterly, W. and S. Rebelo. 1993. Fiscal Policy and Economic Growth: An Empirical Investigation. NBER Working Paper No. 4499. Cambridge, MA: National Bureau of Economic Research.

³ Agell, J., T. Lindh, and H. Ohlsson. 1997. Growth and the Public Sector: A Critical Review Essay. *European Journal of Political Economy*. 13 (1). pp. 33–52.

⁴ Agell, J., T. Lindh, and H. Ohlsson. 1997. Growth and the Public Sector: A Critical Review Essay. *European Journal of Political Economy*. 13 (1). pp. 33–52.

⁵ Arnold, J. M., B. Brys, C. Heady, A. Johansson, C. Schwellnus, and L. Vartia. 2011. Tax Policy for Economic Recovery and Growth. *The Economic Journal*. 121 (February). pp. F59–F80.

⁶ Gemmell, N., R. Kneller, and I. Sanz. 2011. The Timing and Persistence of Fiscal Policy Impacts on Growth: Evidence from OECD Countries. *Economic Journal*. 121 (550). F33–F58.

(1990)⁷ found that tax policy can significantly impact long-term growth. Government policy can significantly impact economic growth rates by affecting private incentives to accumulate physical and human capital. Even relatively small changes in tax rates can lead countries to stagnation or recession if these policies remove incentives for growth.

Easterly and Rebelo (1993)⁸ show a weak relationship between tax policy and economic growth. They also put forward the thesis that empirically proving taxation's effect on economic growth rates is challenging. Agell, Lindh, and Ohlsson (1997)⁹ also did not find strong evidence of the relationship between growth and tax burden.

Kneller and Misch (2011)¹⁰ have studied the impact of taxation on economic growth rates and the available scientific literature, thus distinguishing long-term and short-term periods of impact. According to their study, the long-term effect of taxes on economic growth can be predicted reliably, and in general, this relationship is in line with theoretical assumptions. So, in the long run, a reduction in the tax burden has a positive effect on economic growth, and vice versa; its increase reduces the volume of aggregate demand. As for the short-term impact, its definition seems somewhat ambiguous.

Recent studies focusing on the long-term impact on economic growth include Arnold et al. (2011)¹¹; Gemmell, N., Kneller, B., & Sanz, I. (2011)¹²; Acosta-Ormaechea, S. and J. Yoo. 2012¹³. The key feature of these studies was the thesis that tax changes are fairly income-neutral since an increase in revenue from one type of tax leads to a reduction in revenue from other types of taxes. In particular, Acosta-Ormaechea and Yoo (2012)¹⁴ found that lowering income tax while raising consumption taxes (e.g. value-added tax and turnover tax) can boost economic growth. Arnold et al. (2011)¹⁵ argue that property taxes are the most neutral to economic growth, while consumption tax, income or profit tax significantly impact economic growth rates. The same conclusions are reached by Gemmell et al. (2011), who put forward the thesis about the stable impact of various types of taxes on economic growth rates. However, such an effect was found only in the short term.

Thus, the literature review proves that it is difficult to judge the unambiguous impact of the state budget tax revenues, or certain types of taxes, on economic growth rates. However, we can say that tax policy affects economic growth rates in the long run and can become an incentive for sustainable growth.

⁷ King R.G., Rebelo S. Public policy and economic growth: developing neoclassical implications. *Journal of political Economy*. 1990;98(5, Part 2):S126-50.

⁸ Easterly, W. and S. Rebelo. 1993. *Fiscal Policy and Economic Growth: An Empirical Investigation*. NBER Working Paper No. 4499. Cambridge, MA: National Bureau of Economic Research.

⁹ Agell, J., T. Lindh, and H. Ohlsson. 1997. *Growth and the Public Sector: A Critical Review Essay*. *European Journal of Political Economy*. 13 (1). pp. 33–52.

¹⁰ Kneller, R. and F. Misch. 2011. *What Does Ex-post Evidence Tell Us about the Output Effects of Future Tax Reforms?* Mannheim: Centre for European Economic Research.

¹¹ Arnold, J. M., B. Brys, C. Heady, A. Johansson, C. Schweltnus, and L. Vartia. 2011. *Tax Policy for Economic Recovery and Growth*. *The Economic Journal*. 121 (February). pp. F59–F80.

¹² Gemmell, N., Kneller, B., & Sanz, I. (2011). *The Timing and Persistence of Fiscal Policy Impacts on Growth: Evidence from OECD Countries*. *The Economic Journal*, 121 (550), F33-F58. Retrieved from <http://www.jstor.org/stable/41057700>

¹³ Acosta-Ormaechea, S. and J. Yoo. 2012. *Tax Composition and Growth: A Broad Cross-country Perspective*. IMF Working Paper 12/257. Washington, DC: International Monetary Fund.

¹⁴ Acosta-Ormaechea, S. and J. Yoo. 2012. *Tax Composition and Growth: A Broad Cross-country Perspective*. IMF Working Paper 12/257. Washington, DC: International Monetary Fund.

¹⁵ Arnold, J. M., B. Brys, C. Heady, A. Johansson, C. Schweltnus, and L. Vartia. 2011. *Tax Policy for Economic Recovery and Growth*. *The Economic Journal*. 121 (February). pp. F59–F80.

1.1.2. Tax revenues of the state budget in Armenia

The taxation system in the Republic of Armenia is regulated by the Constitution of the Republic of Armenia, ratified international treaties of the Republic of Armenia, the Law of the Republic of Armenia “On taxes”, the Law on “Personal accounting of income tax, profit tax and social contribution”. To ensure the enforcement of the abovementioned laws and various by-laws have been adopted.

The Republic of Armenia has a two-tier tax system, which includes state and local taxes. State taxes include value added tax (VAT), excise tax, income tax, profit tax, environmental tax, road tax, turnover tax, and license tax¹⁶. Local taxes include real estate tax and property tax for vehicles¹⁷. In addition to tax payments, fixed payments are applied as prescribed by the RA legislation.

Armenia also has general and special tax regimes¹⁸. Under the general tax regime, companies are subject to VAT and profit tax. But there are special tax regimes that, under certain

conditions, allow taxation by turnover and license tax.

In the case of special taxation systems: 1) under the turnover tax system, organizations, individual entrepreneurs, and notaries are subject, in particular, to turnover tax, which replaces VAT and profit tax; 2) within the framework of the license tax system, organizations and individual entrepreneurs are subject, in particular, to license tax, which replaces VAT and (or) profit tax; 3) within the framework of the family business system, organizations and individual entrepreneurs, in the cases specified in Chapter 56 of the Tax Code, are exempted, in particular, from VAT and (or) profit tax, as well as turnover tax.

Since the key task of the research is to determine the impact of the tax policy of Armenia on economic growth, we have considered the dynamics of the key indicators of the tax policy in general, as well as individual taxes in particular.

Figure 1.1 presents the dynamics of the annual plan of tax revenues of the state budget is presented.

¹⁶ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

¹⁷ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

¹⁸ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

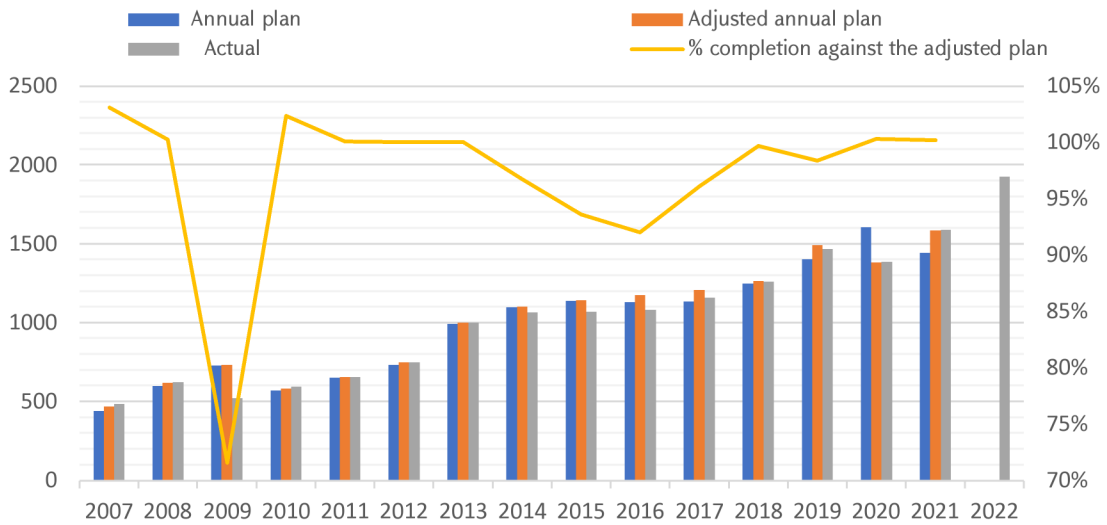


Figure 1.1. Tax revenues and state duty, billion AMD

Source: the database of the Ministry of Finance of the Republic of Armenia – www.minfin.am

As we can see, during crisis periods, the annual plan and actual execution differ significantly. However, after 2014, we observe a chronic failure to fulfil the annual plan. The latter may indicate the inefficiency of tax administration in the first place. However, the dynamics of tax revenues (Figure 1.2) and the tax burden in relation to aggregate demand

The general dynamics of tax revenues of the State Budget of the Republic of Armenia

demonstrate constant growth, both in absolute terms and to the country's GDP (Figure 1.2). The dynamics of tax revenues during crisis periods are also interesting. In 2009 the volume and share of tax revenues to GDP declined, while during the crisis of 2014, we can observe an increase in this indicator. Thus, we can conclude that the tax policy was mainly restraining after the global financial crisis, regardless of the economy's cyclical nature.

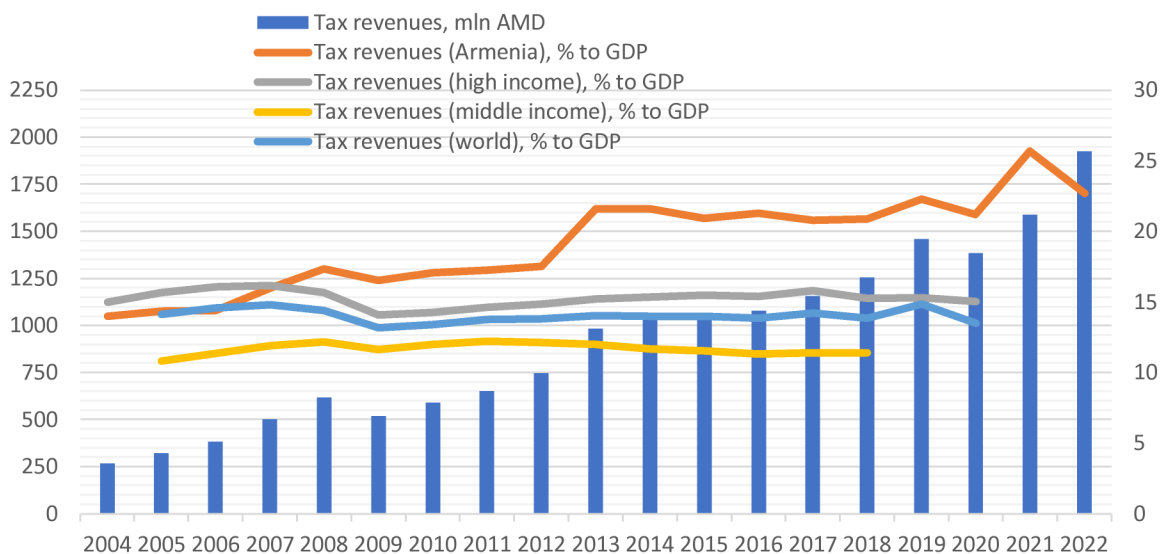


Figure 1.2. Tax revenues, billion AMD and % to GDP

Source: RA Tax Service database and World Bank database – www.petekamutner.am, www.databank.worldbank.org/home.aspx

Moreover, comparing the figures for Armenia with data for the world or with middle or high-income country groups, we can notice that the share of the tax burden on the economy in Armenia is much higher than in other countries. At the same time, we should note not only the much higher figures in Armenia but also the very nature of the dynamics. As we stated above, in general, the tax policy has been restraining in Armenia, while in the world, especially in middle-income countries, we see a reduction in the tax burden on the economy against the backdrop of noticeable economic growth. Between 2009 and 2019, the tax burden increased by 1% in high-income countries, and we can observe here an economic recession. In Armenia, during the same period, the

share of tax revenues to GDP increased by 5-6%, and an economic slowdown is also occurring. This fact only indirectly indicates the impact of tax revenues on economic growth rates, but the dynamics indicate the restrictive nature of the tax policy in Armenia.

The structure of tax revenues is also of interest in terms of economic growth. We can distinguish three stages in the structural dynamics of tax revenues in Armenia. The first stage (until 2009) is characterized by a reduction in the inflow of tax revenues, mainly through VAT. The period from 2010 to 2012 is characterized by a sharp increase in tax revenues, mainly from the VAT, but an increase in revenues from other taxes can also be observed.

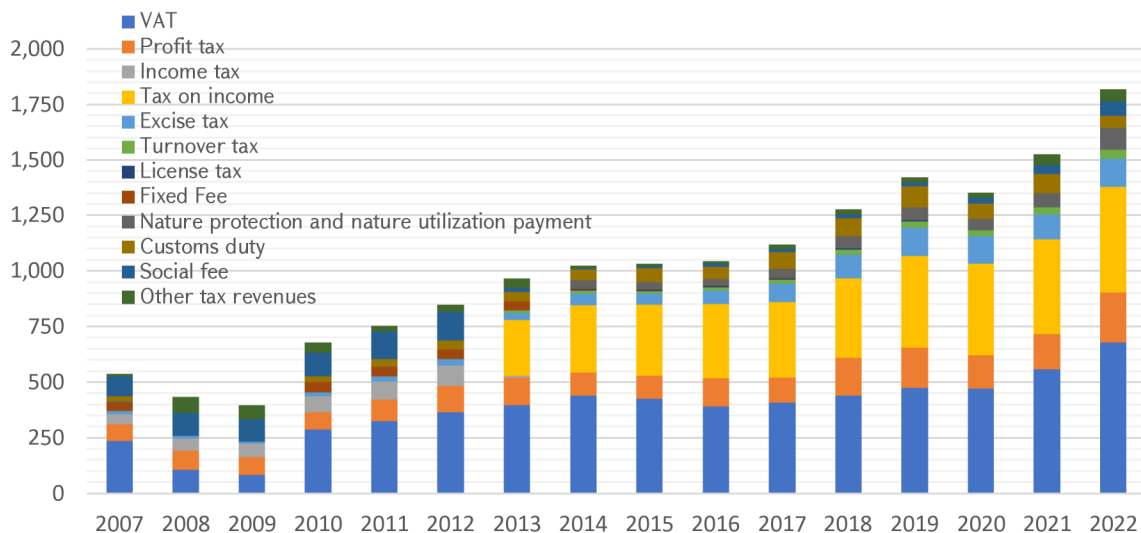


Figure 1.3. Structure of tax revenues, billion AMD

Source: RA Tax Service database – www.petekamutner.am

Finally, in the last period, from 2013 to the present, we are seeing an increase in total tax revenues and a noticeable increase in income tax. Such a dynamic is due to the tax reform, which combined the social deductions from employers for each employee and the salary, which ultimately increased the tax base for the income tax by almost three times, thus allowing a significant increase in gross wages. This reform, in

particular, made it possible to significantly increase income from the accumulated pension system, solving the problem of increasing domestic public debt.

However, the tax reform directly and quite positively affected the taxation process. As shown in Figure 1.4, the number of tax payments and the time spent on preparation and payment have significantly decreased.

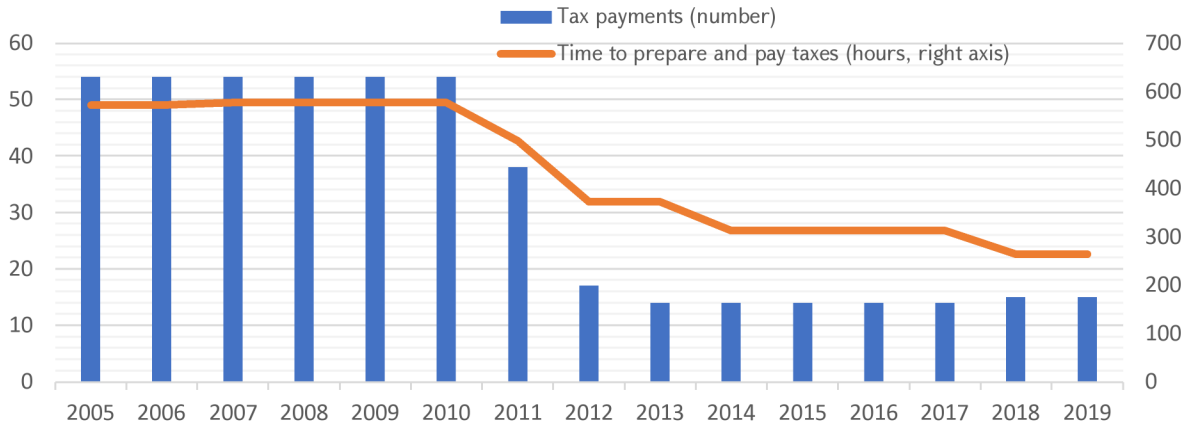


Figure 1.4. Tax payments (number) and Time to prepare and pay taxes (hours)

Source: World Bank database – <https://databank.worldbank.org/home.aspx>

We can observe positive trends from the point of view of the favourable impact on the business environment. However, the lack of noticeable economic growth during this period allows us to conclude that, at least in the medium term, these positive changes did not impact the pace of economic growth. We should note that the business environment is a complex institutional component that cannot be improved

thanks to only one of the indicators. Thus, the positive impact of tax reforms on the business environment should be viewed comprehensively. And from this point of view, as shown above, we observe an increase in the tax burden, which to a certain extent neutralizes the positive impact of simplifying tax procedures on the economic development.

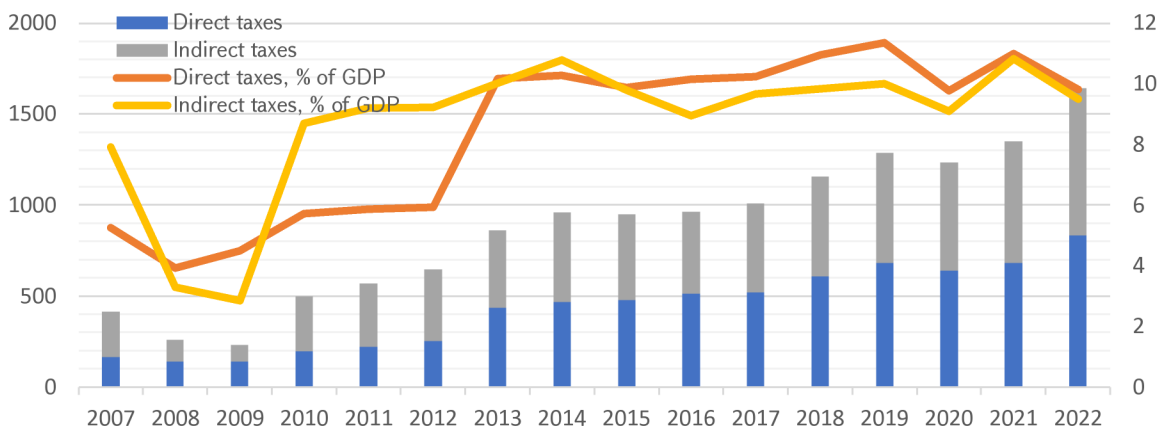


Figure 1.5. Direct and indirect taxes in RA, ratio

Source: calculated by the authors based on the RA Tax Service and Statistical Committee database – www.armstat.am, www.petekamutner.am

One of the essential factors in the tax system efficiency from the point of view of economic growth is the distribution of indirect and direct taxes in the general structure of taxes. First of all, from the point of view of well-being, indirect taxation must not be dominant. On the other

hand, the structure and ratio of direct taxes are essential for economic development. In Armenia, we can observe the prevalence of indirect taxes in almost the entire period under consideration. However, since 2013 (again, after the income tax reform), it is possible to note the equalization of

the ratio of indirect and direct taxes in the structure of tax revenues of the state budget of Armenia.

Along with this, we should highlight the increase in the share of direct taxes in the country's GDP. The trend for both categories of taxes is dismantling the growth, which allows us to conclude that the increase in the tax burden in

the economy was due to both indirect and direct taxes. However, due to the complexity of tax systems, it is impossible to judge tax policy's positive or negative impact on economic growth based solely on general trends in tax revenues. In this regard, we see it appropriate to consider the dynamics of each tax separately, which will allow us to draw more precise conclusions.

1.1.2.1. Indirect Taxes

The indirect taxes in Armenia include VAT, excises, and turnover tax. The value-added tax occupies the largest weight among these taxes. According to the RA Tax Code¹⁹, the value-added tax rate is 20 percent of the taxable turnover of goods and services. The amount of value-added tax in the payment for goods and services at the total cost (including the rate of 20 percent) is determined at the estimated rate of 16.67 percent. Figure 1.6 shows the dynamics of VAT over the past fifteen years. As we can see, the period from 2007 to 2009 is characterized by a sharp reduction in VAT in the structure of tax revenues. In 2009, the share of VAT in GDP was 2.7%, and the share in tax revenues was 16.1%. Since 2010, we can see an increase in both the volume of VAT and the share in GDP and in tax revenues of the state budget.

Since 2012, we have observed a significant reduction in the share of VAT in tax revenues (41.6% in 2012 and 32.4% in 2019). At the same time, the share in GDP remains almost at the same position, apart from some growth in 2021-2022.

We should also note that VAT in Armenia also includes goods imported from the EAEU countries since 2014, and revenues from VAT collected by customs authorities have been allocated as a separate category since 2020. At the same time, the entry of Armenia into the EAEU is accompanied by a noticeable increase in state budget revenues through VAT. The dynamics of VAT show some reduction only in 2020, which the pandemic and the reduction in trade turnover worldwide can explain.

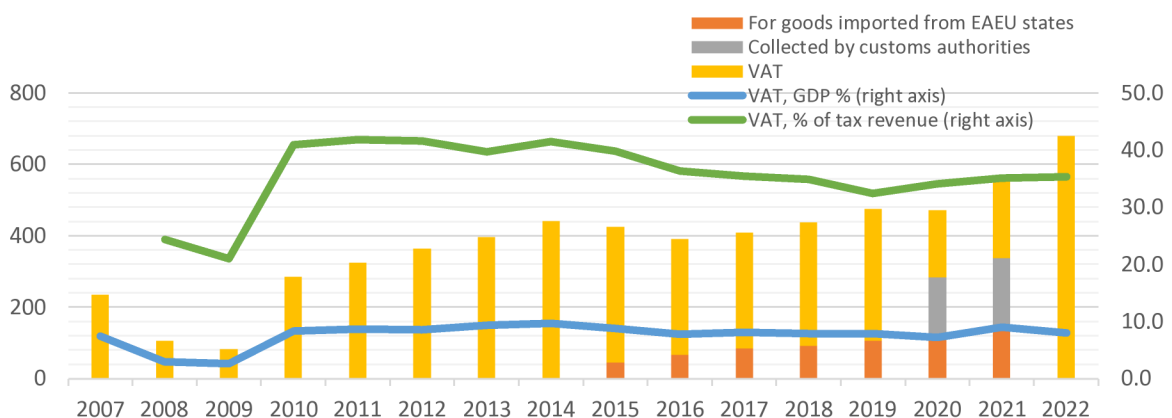


Figure 1.6. VAT, billion AMD, % of GDP and % of tax revenues

Source: RA Tax Service database – www.petekamutner.am

¹⁹ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

The implementation of excise tax in Armenia is regulated by the Tax Code of the Republic of Armenia²⁰, according to which the goods subject to excise tax include beer, grape and other wines, alcohol and spirits, industrial tobacco substitutes,

cigars, cigarillos and cigarettes made from tobacco or its substitutes, gasoline, crude oil and oil products, diesel fuel, petroleum gases and other gaseous hydrocarbons (excluding natural gas).

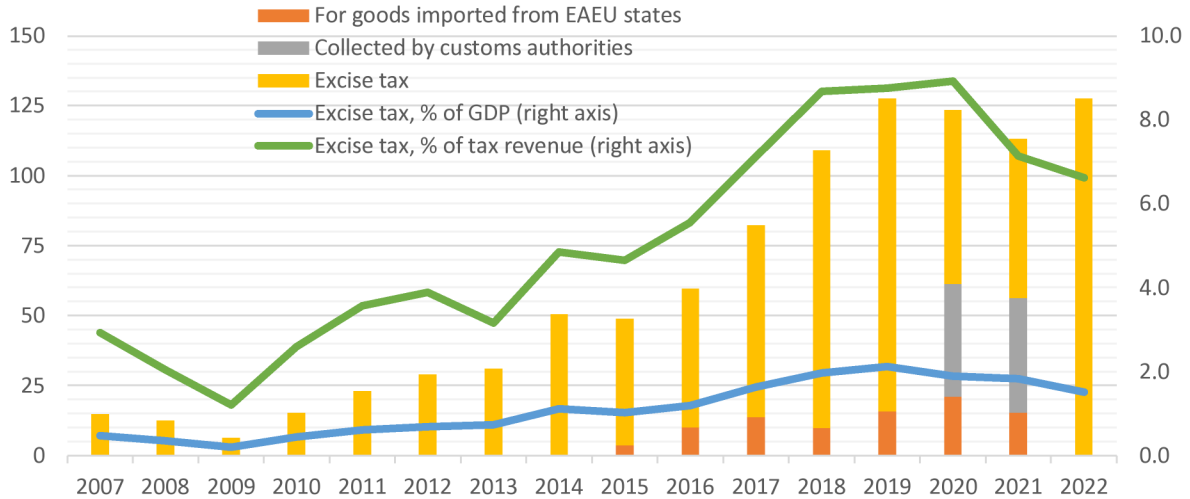


Figure 1.7. Excise tax, billion AMD, GDP % and % of tax revenues

Source: RA Tax Service database – www.petekamutner.am

Figure 1.7 presents the dynamics of the excise tax volume and its share in the total tax revenues and GDP. We observe the growth of excise revenues since 2014 and the significant growth of these revenues since 2017. Also, the reduction in volumes is observed during the COVID-19 pandemic.

The share of excise taxes in GDP is relatively insignificant and is less than 2%. Therefore, this tax cannot directly impact economic activity through a significant tax burden. As for the share in total tax revenues, it was 7.7% as of 2019. However, we should highlight the noticeable growth dynamics of the excise tax share in the tax revenues in the considered period, which is also due to the growth of the absolute value of the volume of excise tax in the last ten years. As of 2022, the share of the latter in GDP is 6.6%.

As for the turnover tax, according to the Tax Code of the Republic of Armenia²¹, the turnover tax is a state tax that replaces VAT and (or) profit tax for resident commercial organizations. In the turnover tax, the calculated value of profit tax is 40 percent, and the calculated value of VAT is 60 percent. For individual entrepreneurs and notaries, turnover tax replaces VAT.

The dynamics of turnover tax volumes are shown in Figure 1.8. We are seeing a noticeable increase in absolute terms and as a share of GDP or a share of tax revenues of the state budget. The share of turnover tax in GDP was 0.5%, and the share in tax revenues was 2.1% in 2022. Thus, the amount of turnover tax revenues is insignificant and cannot be a significant factor in terms of economic growth.

²⁰ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

²¹ RA Tax Code - http://www.parliament.am/law_docs5/011116HO165_rus.pdf

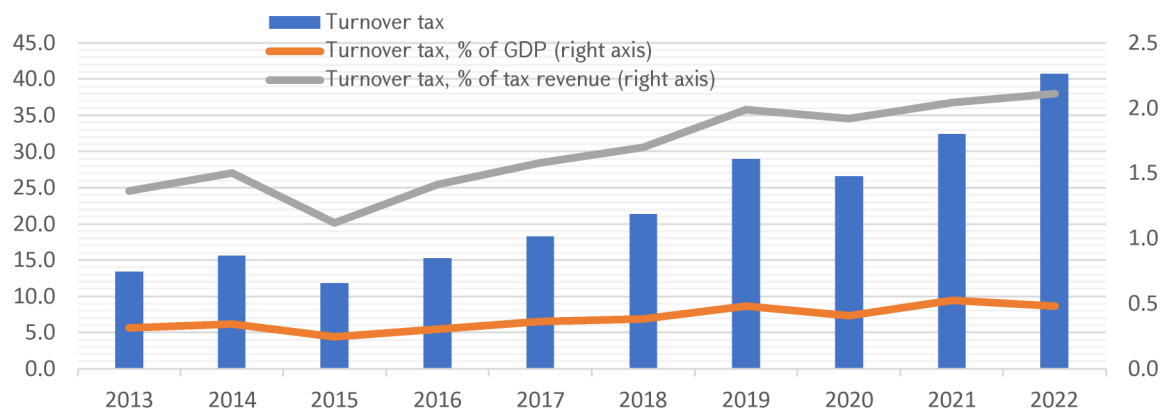


Figure 1.8. Turnover tax, billion AMD, GDP % and % of tax revenues

Source: RA Tax Service database – www.petekamutner.am

However, summarizing the analysis of indirect taxes in Armenia, it is possible to conclude that the dynamics of revenues from VAT, excise and turnover tax are characterized by significant growth. Such a dynamic, in turn, indicates a restraining policy aimed at replenishing the state budget and reducing aggregate demand and, first

of all, private consumption. We should highlight that the share of consumption in total GDP is not characterized by noticeable growth in the last 15 years. Thus, even if indirect taxation in Armenia does not lead to reduced consumption, it is not a source of its growth either.

1.1.2.2. Direct Taxes

Direct taxes are more important for the real sector because they directly affect the producer. On the other hand, the dynamics of direct taxes are more sensitive to changes in economic activity. In this sense, direct taxes and real sector activity are more directly interdependent.

The profit tax is among the most important taxes in terms of economic activity. Figure 1.9 shows the dynamics of profit tax collection volumes, the profit tax share in GDP and total tax revenues. In contrast to almost all types of

indirect taxes, the dynamics of profit tax are quite ambiguous and much more sensitive to crisis periods. At the same time, the share of profit tax in GDP is not very significant and is 2.6% as of 2022. However, the general trend in the share of profit tax in GDP indicates a slight increase, which also characterizes the restrictive nature of the tax policy in Armenia. However, we should highlight the reduction in the share of profit tax in the total tax revenues of the state budget. As of 2022, this share was 11.6%, against 15% in 2007.

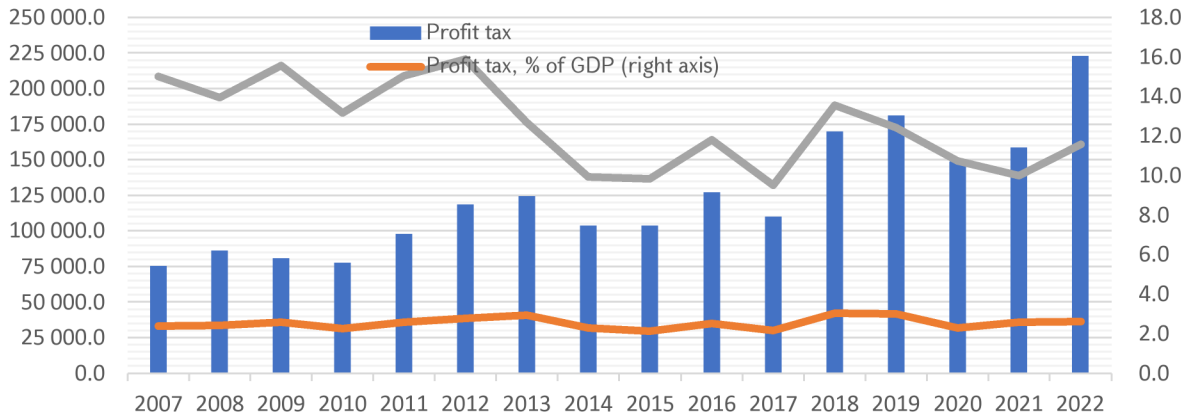


Figure 1.9. Profit tax, billion AMD, GDP % and % of tax revenue

Source: RA Tax Service database – www.petekamutner.am

Regarding dynamics, income tax (tax on income) is of more interest (Figure 1.10). The tax reform of 2012 significantly increased both the volume of income tax and the share in tax revenues of the budget and the share in GDP. We can observe an increase of almost three times in

absolute and relative terms. At the same time, the general trend before and after the tax reform is accompanied by an increase in the tax burden. For comparison, if the share of income tax to GDP in 2007 was 1.5%, then in 2012 it was already 2.1%, in 2013 6%, and in 2022 it reached 5.6%.

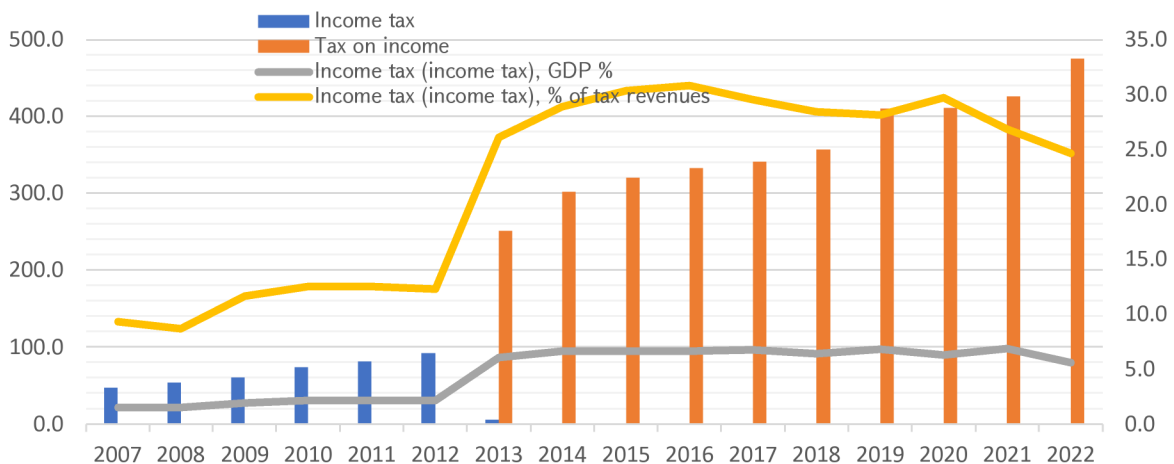


Figure 1.10. Income tax/Tax on income, billion AMD, GDP % and % of tax revenue

Source: RA Tax Service database – www.petekamutner.am

Considering the recession in the Armenian economy since 2009, we can judge the significant increase in tax revenues from the income tax to the state budget. This thesis is also confirmed by Figure 1.11, which reflects the dynamics of income, profit and capital growth taxes. As of

2020, this figure as a percentage of total revenue was 36.2%, while in 2012, it was 21.1%, and in 2004 it was 14.5%. Thus, throughout the entire period, we observe a restrictive tax policy in line with almost all taxes with a significant share in tax revenues.

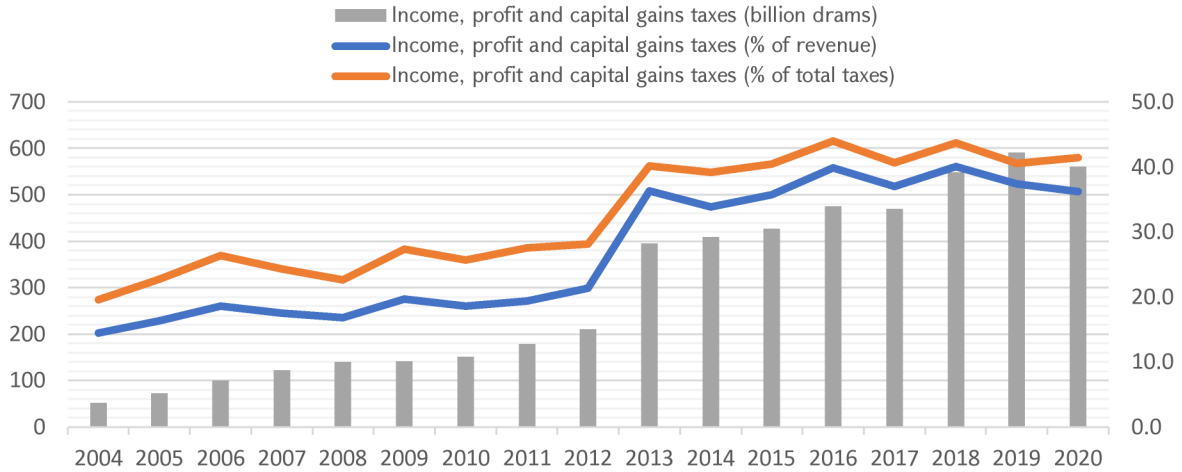


Figure 1.11. Income, profit and capital gains taxes

Source: RA Tax Service database – www.petekamutner.am

Even in the line of the nature protection and nature utilization payment, which is insignificant in terms of share in GDP, we observe growth in

absolute terms and in terms of share in GDP and share in tax revenues of the state budget (Figure 1.12).

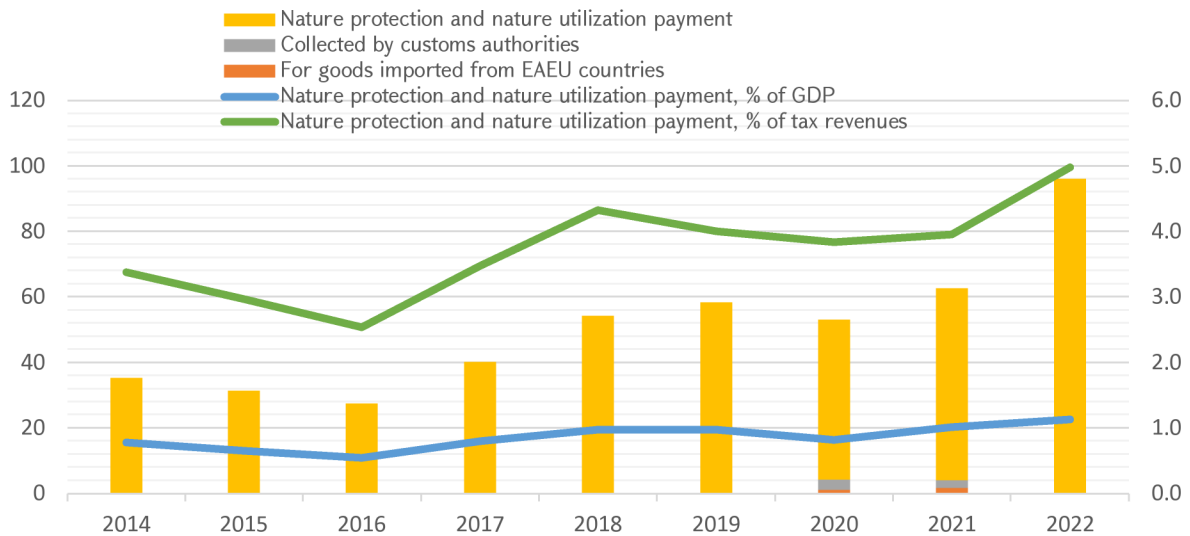


Figure 1.12. Nature protection and nature utilization payments, billion AMD, GDP % and % of tax revenue

Source: RA Tax Service database – www.petekamutner.am

The only exception is the dynamics of the license tax, which demonstrates a decline, the most noticeable in 2019. The same applies to the share of license tax in GDP and tax revenues to the

state budget. However, since this share is less than 1%, license tax revenues do not significantly impact tax revenues.

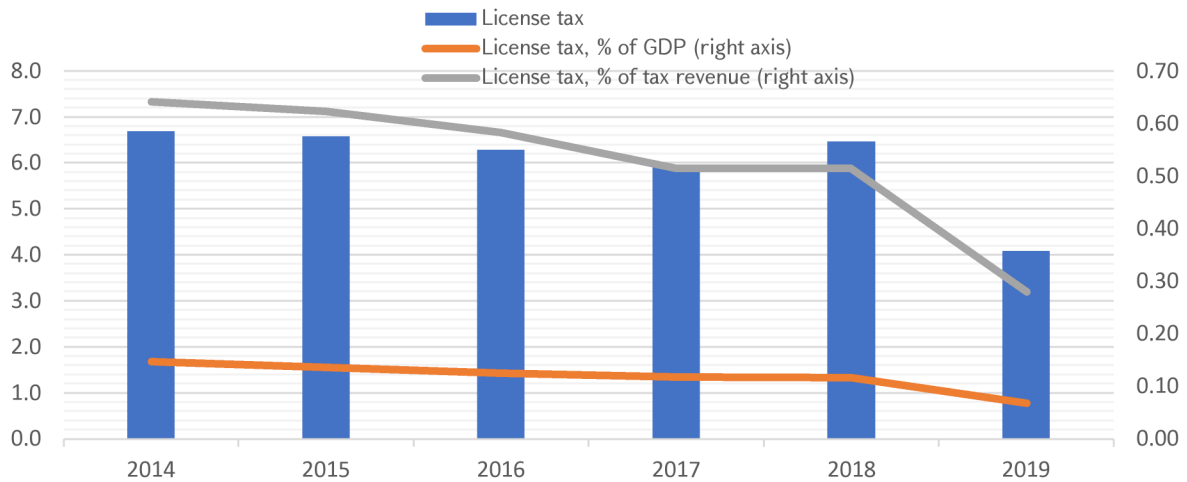


Figure 1.13. License tax, billion AMD, GDP % and % of tax revenue

Source: RA Tax Service database – www.petekamutner.am

However, since the license taxation system provides for a special tax incentive regime for individual entrepreneurs, in which, instead of paying taxes and filing a tax return, the entrepreneur pays only a fixed amount, which is calculated based on the type and place of business, this regime concerns mainly the SMEs. In this case, the reduction in tax revenues from the license tax leads to ambiguous conclusions. Either such a reduction is due to SMEs increasing their turnover and gradually becoming large businesses according to the classification, or such companies cannot survive in a not very favourable competitive environment. The second seems

obvious, given the high level of market concentration and the not very favourable business environment in the economy.

In addition to the direct taxes listed above, the group of direct taxation also includes local taxes: property tax and land tax. As shown in Figure 1.14, the property tax dynamics are characterized by a constant increase, while the land tax is decreasing annually, except for 2021, due to the property tax and land tax reform. At the same time, the property tax revenues approximately tripled in absolute terms. There is also an increase in the land tax as a share of tax revenues.

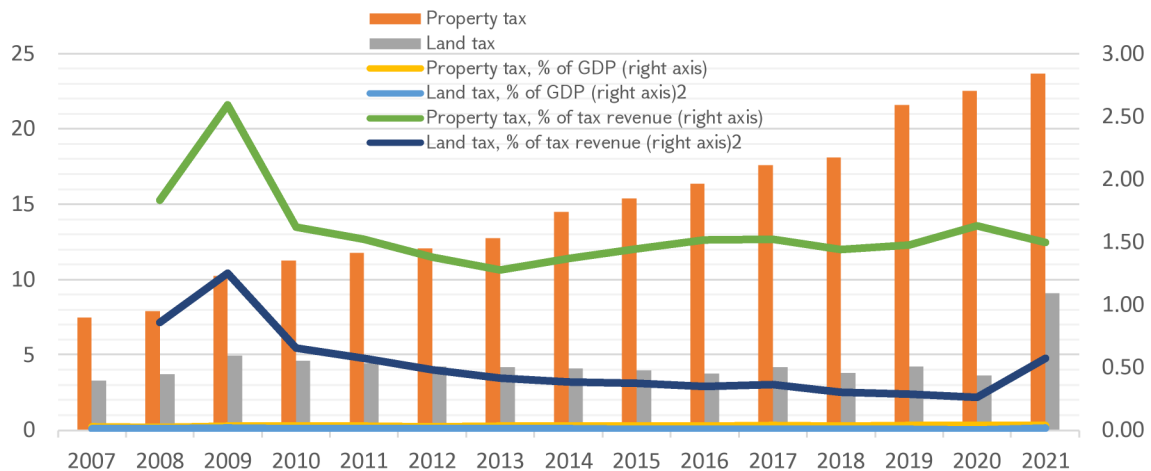


Figure 1.14. Property and land tax, billion AMD, GDP % and % of tax revenue

Source: RA Ministry of Territorial Administration and Infrastructure database - www.mtad.am

However, considering the share of property tax and land tax in GDP, we can see the insignificant values, which in terms of impact on economic growth, will also not have a significant effect. The regional structure of property tax

revenues indicates a considerable increase in revenues from this tax to the state budget and the dominant role of Yerevan in the overall structure. However, proportionate growth is observed in all regions.

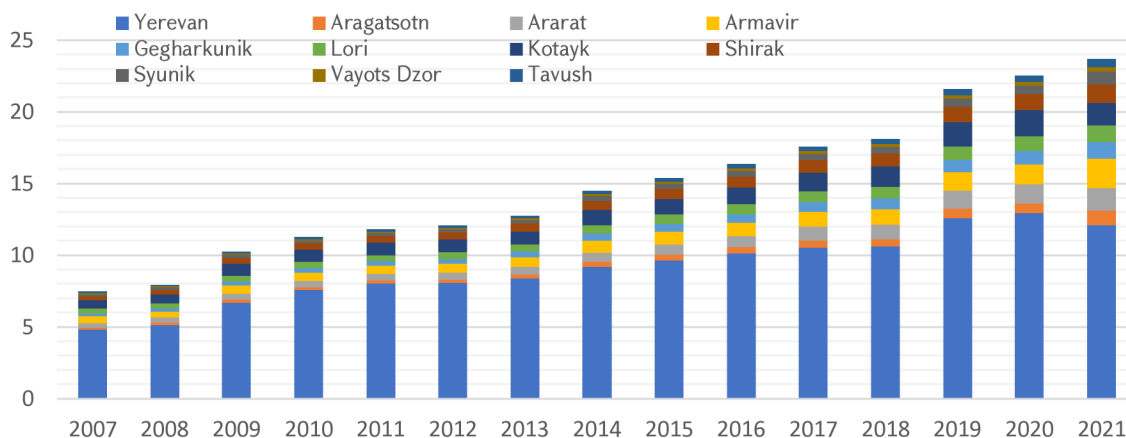


Figure 1.15. Property tax, billion AMD

Source: RA Ministry of Territorial Administration and Infrastructure database - www.mtad.am

The dynamics of revenues from the land tax are significantly different from those from the property tax (Figure 1.16). The share of revenues from Yerevan did not dominate and occupied one of the last places from 2007 to 2020. At the same time, the 2020 tax reform has significantly changed the picture of land tax revenues. About

70% of land tax revenues now fall on Yerevan; Kotayk occupies the second place. Thus, the reform led to a significant increase in land tax revenues. However, it is currently difficult to determine its significance for economic growth in the long term.

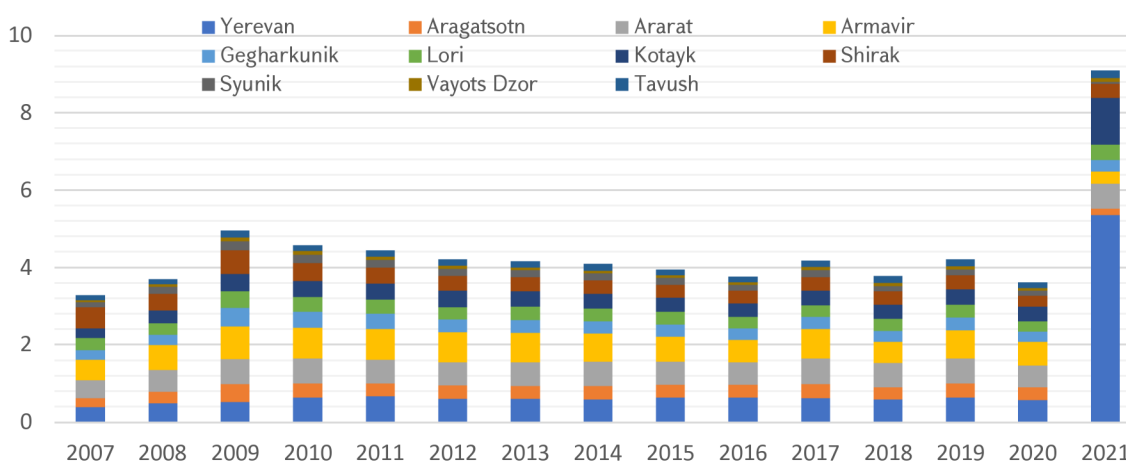


Figure 1.16. Land tax, billion AMD

Source: RA Ministry of Territorial Administration and Infrastructure database - www.mtad.am

Summarizing the tax policy analysis, we should note that the last 15 years have been unequivocally restraining. In addition, the tax reform of 2012 led to an equalization of the ratio

of indirect and direct taxes. Before that, the share of indirect taxes was significantly higher. At the same time, the greatest burden falls on the consumer (or household), which, in the absence

of a noticeable increase in economic activity and income of the population, leads to increased income inequality and an increase in poverty in the country.

Nevertheless, in general, there is a need to assess the role of tax revenues and tax policy in ensuring economic growth rates, which will be considered in the next section of the study.

1.1.3. Taxes and economic growth in Armenia (econometric model)

As shown above, the analysis of the dynamics of budget tax revenues allows to draw a conclusion about the restraining tax policy in the period considered. Based on this, we hypothesised that the restraining tax policy led to a slowdown in economic growth. In this regard, it is necessary to assess the impact of tax policy on economic growth rates.

One of the most common methods for analyzing the impact of tax policy on economic growth is the estimation of impact coefficients using a vector autoregression model (VAR). We have developed a VAR model to estimate the impact of state budget tax revenues on Armenia's GDP. During the study, we used quarterly data on Armenia's GDP and quarterly tax data from 2008 to 2022. The data source is the database of the Tax Service of the Republic of Armenia and the Statistical Committee of the Republic of Armenia.

We have selected the following variables as endogenous factors influencing economic growth:

- Value added tax (VAT), million AMD, 2008Q1 - 2022Q1;
- Profit tax (Profit_t), million AMD, 2008Q1 - 2022Q1;
- Income tax and tax on income (Income_t), million AMD, 2008Q1 – 2022Q1;
- Excise tax (Excise_t), million AMD, 2008Q1 - 2022Q1;
- Turnover tax (Turnover_t), million AMD, 2013Q1 - 2022Q1.

The analysis of long-term income tax series becomes problematic due to the tax reform of 2012. To make the time series of tax on the income until 2013 comparable with income tax (since 2013, there has been a unified tax that also includes mandatory social payments), we considered the sum of mandatory social payments and income tax.

It is customary to include the GDP of the largest trading partner as an exogenous variable in the model for assessing the impact of tax policy. In this regard, we have chosen the GDP of the Russian Federation (GDP_RF). Private remittance inflow (REM) is also included in the model as a factor reflecting external shocks.

All time series were adjusted for seasonality using the Census X-13 procedure, which made it possible to clean the seasonality from the time series while preserving the dynamics' structure. To obtain stationary time series, we applied the following standard procedure: logarithm of the time series with natural base (e), calculation of first differences to the corresponding quarter of the previous year. For the final time series, tests of stationarity (ADF unit root test) and normal distribution (Histogram and Jarque-Bera test) were performed. Descriptive statistics of the variables are presented in Table 1.1. As a result of the primary statistical data processing, stationary time series with a normal distribution were obtained from 2009Q1 to 2022Q1 (in the case of turnover tax, from 2014Q1 to 2022Q1).

Table 1.1. Descriptive statistics of variables

	GDP	Profit_t	Income_t	VAT	Excise_t	Turnover_t	GDP_RF
Mean	0.0583	0.0481	0.0726	0.0847	0.1538	0.1204	0.0915
Median	0.06486	0.0432	0.0618	0.0628	0.1704	0.1676	0.0769
Maximum	0.2107	0.6835	0.2434	0.5033	1.1595	0.7178	0.2754
Minimum	-0.1339	-0.5635	-0.1765	-0.4058	-0.9066	-0.4383	-0.1172
Std. Dev.	0.0679	0.2852	0.0804	0.1985	0.4001	0.2607	0.0928
Skewness	-0.5752	0.0758	0.0177	0.0507	0.0644	-0.3179	0.1057
Kurtosis	3.5748	2.6447	4.0308	3.2651	4.4671	2.9071	2.9874
Jarque-Bera	3.6527	0.3295	2.3492	0.1779	4.7899	0.5679	0.099
Probability	0.161	0.8481	0.3089	0.9149	0.0912	0.7528	0.9517
Observations	53	53	53	53	53	33	53

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

Considering that the turnover tax time series starts from 2013, its impact on GDP was considered separately. As a result of the analysis, we found that the excise tax is not a significant variable for the GDP of Armenia, and it was

dropped from the model. Table 1.2 shows the results of the first vector autoregression model. We selected a 3-lag model based on model quality analysis according to Akaike's and Schwarz's criteria.

Table 1.2. The results of VAR (3) model for tax policy

Variable	Coeff.	St.Dev.	P-value	t-statistics
GDP (-1)	0.200600	0.1479	0.1773	1.35628
GDP (-2)	0.108847	0.14772	0.4625	0.73686
GDP (-3)	0.226013	0.15438	0.1455	1.46398
Income_t (-1)	0.283552	0.10351	0.007	2.7395
Income_t (-2)	0.000369	0.09312	0.9968	0.00397
Income_t (-3)	-0.220898	0.10214	0.0323	-2.16266
Profit_t (-1)	-0.06064	0.02479	0.0157	-2.44635
Profit_t (-2)	-0.009534	0.02343	0.6847	-0.4069
Profit_t (-3)	-0.02094	0.02541	0.4113	-0.82407
VAT (-1)	-0.113832	0.05489	0.04	-2.07379
VAT (-2)	-0.017517	0.06773	0.7963	-0.25862
VAT (-3)	-0.007524	0.05506	0.8915	-0.13665
GDP_RF	0.425471	0.13246	0.0016	3.21204
REM	0.094507	0.04186	0.0256	2.25752
C	0.003897	0.01708	0.8198	0.22821
R-square	0.686594			
R-square adj.	0.557545			
F-statistic	5.320393			
Akaike AIC	-3.348198			
Schwarz SC	-2.769069			
Durbin-Watson stat	1.990072			

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

We performed all necessary tests to verify the robustness of the coefficient estimation results with the VAR(3) model. Table 1.2 shows that according to the Darbin-Watson statistic, there is no problem with the autocorrelation of the residuals in the regression model. We also

tested for heteroscedasticity and normal distribution of residuals (Table 1.3). The results show that the random errors of the model are homoscedastic, and the residuals are normally distributed.

Table 1.3. Test for heteroscedasticity and normal distribution

Model	Test	Chi-sq / Jarque-Bera	df	Prob.
VAR (3)	Heteroscedasticity	719.217	756	0.8276
	Normal distribution (Cholesky of covariance)	11.47399	12	0.4888
VAR (4)	Heteroscedasticity	59.32584	60	0.5003
	Normal distribution (Cholesky of covariance)	2.803403	4	0.5912

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

Below is the VAR(3) model with estimated coefficients.

$$\begin{aligned} \text{GDP} = & 0.2 * \text{GDP}(-1) + 0.109 * \text{GDP}(-2) + 0.23 * \text{GDP}(-3) + 0.28 * \text{INCOME_T2}(-1) - 0.0004 \\ & * \text{INCOME_T2}(-2) - 0.22 * \text{INCOME_T2}(-3) - 0.06 * \text{PROFIT_T}(-1) - 0.01 \\ & * \text{PROFIT_T}(-2) - 0.02 * \text{PROFIT_T}(-3) - 0.11 * \text{VAT}(-1) - 0.017 * \text{VAT}(-2) - 0.01 \\ & * \text{VAT}(-3) + 0.42 * \text{GDP_RF} + 0.09 * \text{REM} + 0.003 \end{aligned}$$

A similar model with 4 lags was built to estimate the impact of turnover tax on GDP. The results of the VAR(4) model are presented in Table 1.4. The results of tests for heteroscedasticity and

normal distribution of residuals (Table 1.3) show that the random errors of the model are homoscedastic, and the distribution of residuals is normal. There is no autocorrelation in the model.

Table 1.4. The results of VAR (4) model for tax policy

Variable	Coeff.	St.Dev.	P-value	t-statistics
GDP (-1)	0.327043	0.16574	0.0566	1.97326
GDP (-2)	0.19558	0.19936	0.3335	0.98109
GDP (-3)	-0.002659	0.28608	0.9926	-0.00929
GDP (-4)	-0.064281	0.2539	0.8017	-0.25317
Turnover_t (-1)	-0.057548	0.08091	0.4818	-0.71126
Turnover_t (-2)	0.169985	0.11848	0.1605	1.43467
Turnover_t (-3)	-0.213114	0.10973	0.0604	-1.94217
Turnover_t (-4)	0.101439	0.05825	0.0906	1.74152

GDP_RF	0.351128	0.18767	0.07	1.87098
REM	0.113897	0.0629	0.079	1.81081
C	0.006323	0.01761	0.7218	0.006323
R-square	0.799569			
R-square adj.	0.681669			
F-statistic	6.781743			
Akaike AIC	-3.334312			
Schwarz SC	-2.810945			
Durbin-Watson stat	1.680729			

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

Below is the VAR(4) model with estimated coefficients.

$$\begin{aligned} \text{GDP} = & 0.33 * \text{GDP}(-1) + 0.19 * \text{GDP}(-2) - 0.003 * \text{GDP}(-3) - 0.06 * \text{GDP}(-4) - 0.06 \\ & * \text{TURNOVER_T}(-1) + 0.17 * \text{TURNOVER_T}(-2) - 0.21 * \text{TURNOVER_T}(-3) + 0.1 \\ & * \text{TURNOVER_T}(-4) + 0.35 * \text{GDP_RF} + 0.11 * \text{REM} + 0.006 \end{aligned}$$

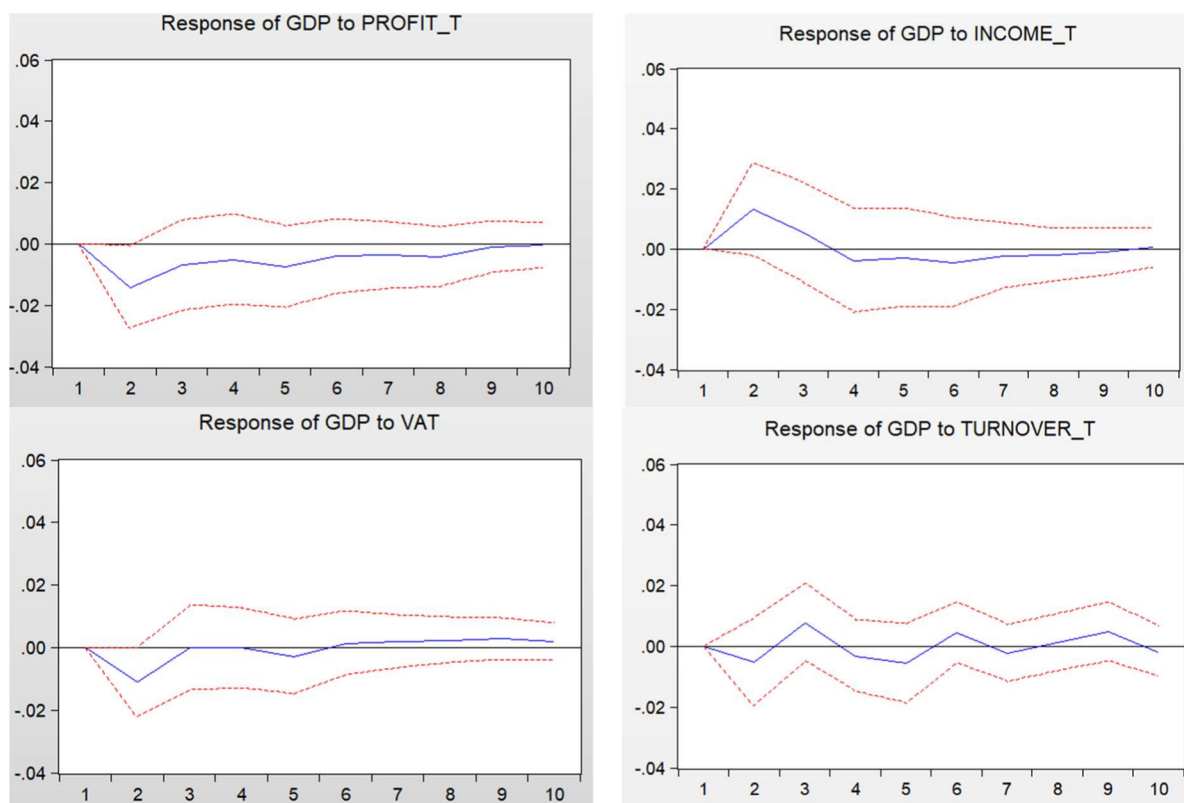


Figure 1.17. GDP Impulse Responses to Tax Shocks

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

The results of the conducted econometric analysis show as follows:

- The excise tax does not affect the GDP of Armenia.

- Income tax has a significant impact on the GDP of Armenia at the 5% significance level. A 1% increase in state budget revenues from income tax leads to a 0.28% GDP growth in the first quarter following the shock and a 0.22% decline already in the 3rd quarter.

- Profit tax significantly impacts Armenia's GDP at the 5% significance level. A 1% increase in state budget revenues from profit tax leads to a 0.06% decline in GDP in the first quarter following the shock.

- Value-added tax significantly impacts Armenia's GDP at the 5% significance level. A 1% increase in state budget revenues from VAT leads

to a 0.11% drop in GDP in the first quarter after the shock.

- Turnover tax significantly impacts Armenia's GDP at the 10% significance level. A 1% increase in state budget revenue from turnover tax leads to a 0.21% drop in GDP in the third quarter following the shock and a 0.1% increase in the 4th quarter.

Running a stress test on the constructed models shows the impact of individual variables on GDP over the ten quarters after the shock (Figure 1.17). As we can see, the increase in the profit tax has the most significant cumulative negative impact on the GDP, which directly affects the business environment in the country.

1.1.4. Modern tax policy of RA

The modern tax policy in Armenia implies a new stage of reforms planned to be implemented from 2022 to 2025. The key elements of current reforms are reflected in the document approved by the Government of the Republic of Armenia, "Tax Revenue Management Program for 2022-2025."²² The main idea of the document is that the tax policy should contribute to the competitiveness of the business environment and ensure the tax revenues determined by the state budget. At the same time, the program assumes an increase in the tax burden on GDP, which generally continues the logic of the previous 30 years of tax policy discussed above. The policy of tax incentives (expenditure) is also maintained, which to a greater extent, are losses for the budget, and at the same time, do not contribute to economic growth.

The main goals of these reforms are:

- improving tax administration and, as a result, the consistency of tax payment requirements,
- expanding tax bases, including through the reduction of certain privileges,

- increasing the tax burden on specific tax rates or certain types of activities,

- revision (increase or decrease) of the amount of taxes or mandatory payments.

As for individual types of taxes, the tax policy approaches are supposed to be quite diverse. As mentioned above, VAT occupies the most significant weight in tax revenues to the budget amounting to 30-40%. At the same time, the reform does not imply a change in the 20% rate, which has not changed since its implementation. However, such a rate is the highest not only in the territory of the post-Soviet space or among the EAEU countries but also by international standards.

At the same time, the program notes that to mitigate competitive inequality (the annual turnover of most agricultural producers does not exceed the threshold established to be considered a VAT payer of 115 million AMD per year, in connection with which they do not pay VAT), it is planned to discuss the issue of establishing a reduced VAT rate of 10% exclusively for transactions related to the sale of a very narrow range of locally produced agricultural products. At

²² See <https://minfin.am>

the same time, it is planned to discuss the possibility of a VAT offset for the buyer in the amount of 3% of the transaction amount if goods are supplied to VAT payers by agricultural producers that are not recognized as VAT payers.

Concerning VAT benefits in education and healthcare, preferences will remain. A proposal is in the development process to impose VAT on financial services, specific sectors of the healthcare system, gambling and other areas of economic activity in Armenia.

Concerning income tax, it ranks second in the structure of tax revenues. Here, too, no noticeable changes are expected, except for a revision of the preferential tax regime for the income of employees of microenterprises; namely, the calculation of their income tax will be carried out following the established general procedure. However, one of the essential elements of the reform can be considered the introduction of a declaration of income system, which implies an increase in the targeting and efficiency of the state's spending policy. During the program, the profit tax rate is planned to be 18%, and no increase is expected.

The profit tax reform is based on the problems of maintaining the profit tax base. It is expected to improve the toolkit for combating transfer pricing trends through more efficient tax administration.

Excise rates are set in AMD at fixed rates. In some cases, the law establishes a schedule for rate increases (tobacco products, alcoholic beverages), and in other instances, indexation factors to the base rates (2020 is considered the base year). Accordingly, new rates will be

established and implemented to ensure a gradual increase in the excise component of the price of excise goods.

Revising the rules applicable to microenterprises will not affect the tax base of other types of taxes. It is planned to eliminate the use of the turnover tax system. In this case, it is intended to calculate the VAT based on the data of the system served by the SRC and to replace the profit tax with the distributed profit tax, placing an administrative burden on the tax authority.

It is also assumed that a fundamental review of the realization of royalties in the tax system of Armenia is expected. In 2021, state budget revenues from royalties amounted to 52.6 billion AMD or 3.3% of tax revenues. However, if we also consider that there was also 24.6 billion AMD of government payments of the same nature, then their sum will be 77.2 billion AMD or 4.5%. The royalty rate has been revised from January 1, 2023. In the new system, the currently established state export duty is replaced by a third royalty component, the size of which depends on the amount of profit exceeding the 15% revenue threshold. Accordingly, in the conditions of high market prices, an additional royalty will be paid out of such profit, and in the case of low prices - only the first component of the royalty or also the second one. Finally, there is a revision of approaches to state duties.

We should note that since the implementation of the new reform involves some changes in tax policy, there will be a corresponding impact on economic growth rates. However, at this stage, assessing the extent or nature of such an impact is impossible.

1.1.5. Conclusions and Recommendations

Summarizing, we can argue that both theory and practice indicate a somewhat ambiguous nature of the impact of tax policy on economic growth rates. The literature review showed that the effects of tax policy in general, or individual

taxes, on economic growth rates are highly dependent on the structure of the economy, the degree of its development, the degree of development of the institutional environment, the presence of market distortions, government

regulation, and many other factors. At the same time, developed and developing countries are quite different in terms of the impact of tax policy on economic growth rates. In general, the theoretical review allows us to put forward the thesis that tax policy cannot directly affect the economic growth and development of the country. However, the tax policy makes it possible to create an appropriate business environment for the activities of the real sector, which allows for sustainable economic growth in the long term.

Concerning the case of Armenia, the critical conclusion about the nature of tax policy is that tax regulation in general and the dynamics of individual taxes are restrictive. In our opinion,

such a restrictive policy has led to a slowdown in economic growth over the past decades. Moreover, Armenia's tax policy is restrictive during periods of economic growth and periods of recession and crisis. Thus, Armenia's tax policy can be characterised as restrictive and pro-cyclical when, regardless of economic cycles, the state chooses either restrictive or stimulating regulation. In this regard, as a key recommendation from the point of view of the overall tax policy of Armenia, we propose to pursue a counter-cyclical policy, which would allow the market to cope with both external and domestic shocks more effectively.

1.2. Government Spending and Economic Growth

1.2.1. Literature Review

In contrast to the tax part of the state budget, according to the theory, the expenditure side should logically have a much more pronounced effect on expanding aggregate demand. Expansion of public spending during periods of crisis always leads to an increase in aggregate demand, and most countries use this tool. However, in the scientific literature, considering the specific experience of countries, we can come across somewhat contradictory conclusions. Considering the impact of the expenditure part of the state budget, it is also impossible to single out unambiguous conclusions that specific authors come to. Thus, in his study, consisting mainly of cross-country data for advanced economies,

Slemrod (1995)²³ concluded that there is no convincing evidence that government spending has either a positive or negative effect on growth due to model limitations.

However, some authors have found a significant and positive relationship between government spending and economic growth (e.g. Ram, 1986²⁴; Wu, Tang, and Lin, 2010²⁵). Others have found a negative relationship (e.g., Landau, 1983²⁶, Alfonso and Furceri, 2010²⁷). In addition, some studies have found no association between government spending and economic growth rates (e.g. Durevall and Henrekson, 2011²⁸). Bergh and Henkerson (2011)²⁹ explain the contradictory

²³ Slemrod, J. 1995. What Do Cross-country Studies Teach about Government Involvement, Prosperity, and Economic Growth? *Brookings Papers on Economic Activity*. 2. pp. 373–431.

²⁴ Ram, R. 1986. Government Size and Economic Growth: A New Framework and some Evidence from Cross-section and Time-series Data. *American Economic Review*. 76 (1). pp. 191–203

²⁵ Wu, S.-Y., J.-H. Tang, and E. Lin. 2010. The Impact of Government Expenditure on Economic Growth: How Sensitive to the Level of Development. *Journal of Policy Modeling*. 32 (6). pp. 804–817.

²⁶ Landau, D. 1983. Government Expenditure and Economic Growth: A Cross-country Study. *Southern Economic Journal*. 49 (3). pp. 783–792.

²⁷ Alfonso, A. and D. Furceri. 2010. Government Size, Composition, Volatility, and Economic Growth. *European Journal of Political Economy*. 26 (4). pp. 517–532.

²⁸ Durevall, D. and M. Henrekson. 2011. The Futile Quest for a Grand Explanation of Long-run Government Expenditure. *Journal of Public Economics*. 95 (7–8). pp. 708–722.

²⁹ Bergh, A. and M. Henkerson. 2011. Government Size and Growth: A Survey and Interpretation of the Evidence. *Journal of Economic Surveys*. 25 (5). pp. 872–897.

results of their study by the difference in the state budget structures in various countries and the structures of the economies themselves. For example, Tang and Lin (2010)³⁰ argue that government spending contributed to economic growth even under different levels of development. The exception was low-income countries, which, according to the authors, is most likely due to generally poor institutions and high levels of corruption. Bose et al. (2007)³¹ found that the size of government capital spending to GDP is positively and significantly correlated with economic growth, but this is not the case for government current spending. They also found a strong positive relationship between investment and spending on education, and economic growth. A similar relationship was found by Alam et al. (2010)³², who argue that increasing social spending on education, healthcare, and social security raises productivity, thereby boosting economic growth.

In contrast, Devarajan et al. (1996)³³ found a positive relationship between current spending and per capita income growth in developing countries but a negative relationship between public capital spending and growth. According to these authors, there are certain conditions under which a change in spending patterns leads to higher sustainable growth. It includes the performance of the various components of expenditure and the level of initial shares in the overall structure of state budget revenues.

In addition to the direct impact of various types of government spending on economic growth, we can find studies in the literature that are more focused on the effect of changing the structure of government spending or reallocation of expenditures for long-term economic growth and on determining which elements of government spending have the most significant impact on economic growth and development. Many authors emphasise the importance of reallocating funds to education and infrastructure for long-term growth (e.g. Gemmell, Kneller, and Sanz, 2012³⁴; Baffes and Shah, 1998³⁵; Acosta-Ormaechea and Morozumi, 2013³⁶). These findings are consistent with endogenous growth theory, in which the main factors of cross-country differences in development and growth are an investment in human capital, physical capital and infrastructure, and the development of education and science. In line with this, the work of Barro (1990)³⁷ shows that an increase in "utility-enhancing" final consumption while reducing "production-increasing" government spending will lead to lower growth regardless of the level of total spending. Agenor (2010)³⁸ showed that reallocating spending from "unproductive" government spending to spending on infrastructure would lead to higher sustainable growth.

Thus, as in the case of tax policy and its impact on economic growth rates, the effect of

³⁰ Wu, S.-Y., J.-H. Tang, and E. Lin. 2010. The Impact of Government Expenditure on Economic Growth: How Sensitive to the Level of Development. *Journal of Policy Modeling*. 32 (6). pp. 804–817.

³¹ Bose, N., H. M. Emranul, and D. R. Osborn. 2007. Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries. *The Manchester School*. 75 (5). pp. 533–556.

³² Alam, S., A. Sultana, and M. Butt. 2010. Does Social Expenditure Promote Economic Growth? A Multivariate Panel Cointegration Analysis for Asian Countries. *European Journal of Social Sciences*. 14 (1). pp. 44–54.

³³ Devarajan, S., V. Swaroop, and H. Zou. 1996. The Composition of Public Expenditure and Economic Growth. *Journal of Monetary Economics*. 37 (2). pp. 313–344.

³⁴ Gemmell, N. and J. Au. 2012. Government Size, Fiscal Policy and the Level and Growth of Output: A Review of Recent

Evidence. Working Paper in Public Finance 10/12. Wellington: Victoria Business School.

³⁵ Baffes, J. and A. Shah. 1998. Productivity of Public Spending, Sectoral Allocation Choices and Economic Growth. *Economic Development and Cultural Change*. 46 (2). pp. 291–303.

³⁶ Acosta-Ormaechea, S. and A. Morozumi. 2013. Can a Government Enhance Long-Run Growth by Changing the Composition of Public Expenditure? IMF Working Paper 13/162. Washington, DC: International Monetary Fund.

³⁷ Barro, R. 1990. Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy*. 98 (5). pp. S103–S125.

³⁸ Agenor, P.-R. 2010. A Theory of Infrastructure-led Development. *Journal of Economic Dynamics & Control*. 34 (5). pp. 932–950.

government spending can only be assessed in the long term. Even the direct expansion of state budget expenditures during periods of crisis only serves as a counter-cyclical measure. Still, it cannot ensure sustainable economic growth rates in the long run. In other words, expanding

demand through spending on social needs cannot ensure sustainable economic growth. In contrast, spending on education, science, human capital, and infrastructure will ensure growth in the long term.

1.2.2. The structure of state budget expenditures in Armenia

Considering the state budget of Armenia, its expenditure part is of great importance. Within the framework of this study, budget expenditures were considered based on two classifications – functional and economic.

The economic classification divides the state budget into current and other expenditures, presented in Figure 1.18. As we can see, the state

budget expenditures have steadily grown over the past fourteen years. At the same time, current expenditures make up the dominant position in the total budget expenditures. At the same time, the actual execution of current and other expenses slightly differs from the annual plan. The exception is from 2020 to 2021 due to a sharp increase in healthcare and defence spending.

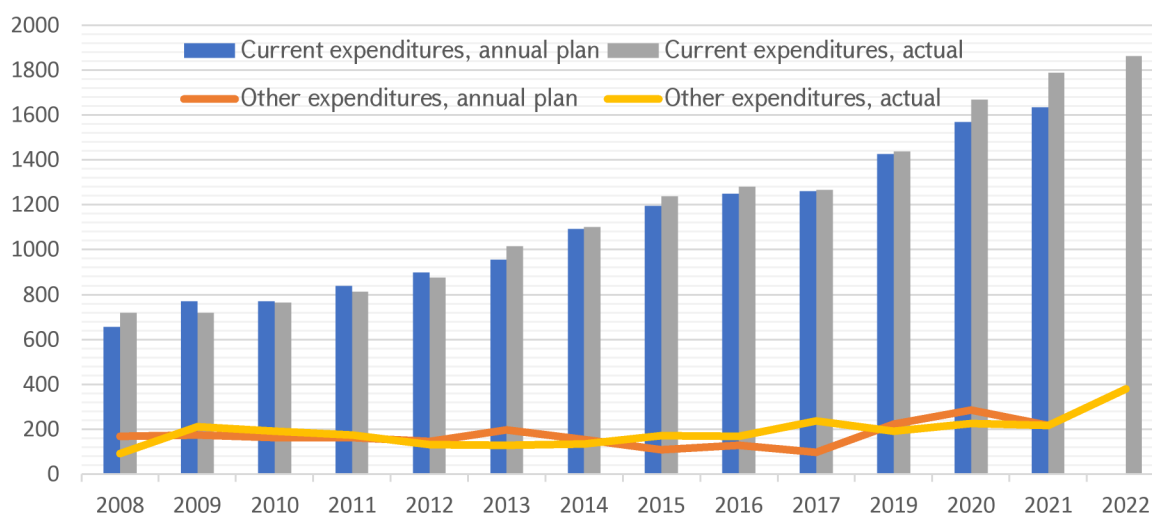


Figure 1.18. RA state budget expenditures, economic classification, billion AMD.

Source: RA Ministry of Finance database – www.minfin.am

However, from the point of view of the impact on economic growth, the dynamics of the state budget expenditures are not as interesting as its structure. As shown in the literature review, it is possible to stimulate economic growth through public spending on demand and supply. The structure of the current expenditures of the Republic of Armenia state budget indicates the state budget's dominant role in stimulating consumer demand. Thus, the largest share in the

structure of expenditures occupies social benefits, pensions, and wages. On average, current spending on social needs has increased by 3-4 times since 2008 and wages by 4-5 times. Interest expenses also show a significant increase, but the share of these expenses also indicates a significant increase, which is associated with both the growth of public debt and increasing debt payments over time.

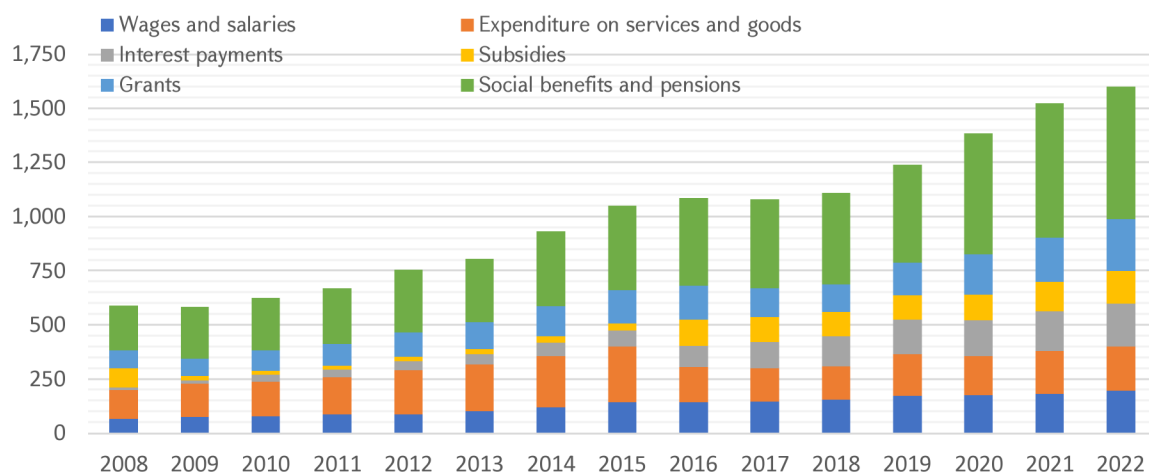


Figure 1.19. Current expenditures, the structure according to economic classification, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

The structure of current expenditures by shares allows us to draw more unambiguous conclusions (Figure 1.20). The share of social spending in current spending has grown by about 10% over 13 years, while the share of wages has increased by only about five percent. At the same time, the share of interest payments has increased over the past five or six years by about 7-8 times. Interestingly, there has been a noticeable reduction in the cost of purchasing services and goods since 2015, indicating a significant decrease in public procurement, which is usually an excellent incentive to expand supply and develop the real sector in specific economic

areas—additionally, subsidies increase, both in absolute terms and as a share of current expenditures. Thus, the aggregate analysis of the current spending structure makes it possible to characterize the expenditure policy of the state budget as stimulating the economy through demand. However, combined with a restrictive tax policy that reduces consumption, expanding demand through current spending offsets the positive impact on economic growth. At the same time, in terms of supply, stimulation does not occur either in terms of tax policy or expenditure policy of the state budget.

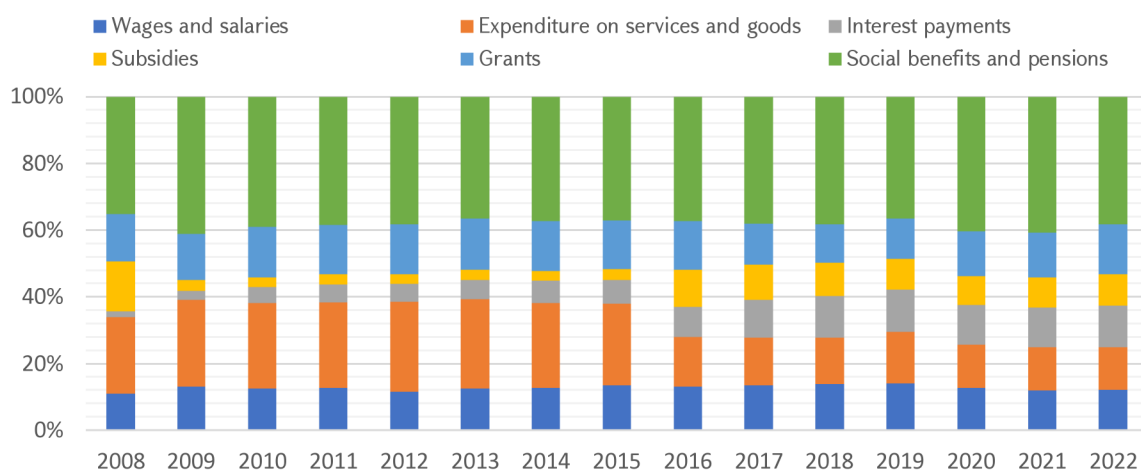


Figure 1.20. Current expenditures, the structure according to economic classification, %

Source: RA Ministry of Finance database – www.minfin.am

However, the functional classification of state budget expenditures is of greater interest from the point of view of the impact on economic growth rates. The structure of state budget expenditures of the Republic of Armenia is presented in Figure 1.21. Social protection,

general state services, and defence have the highest share and growth rates. The rest of the expenditure articles of the state budget generally demonstrate a fairly stable picture, except for the healthcare from 2020 to 2021 due to expenses related to the COVID-19 pandemic.

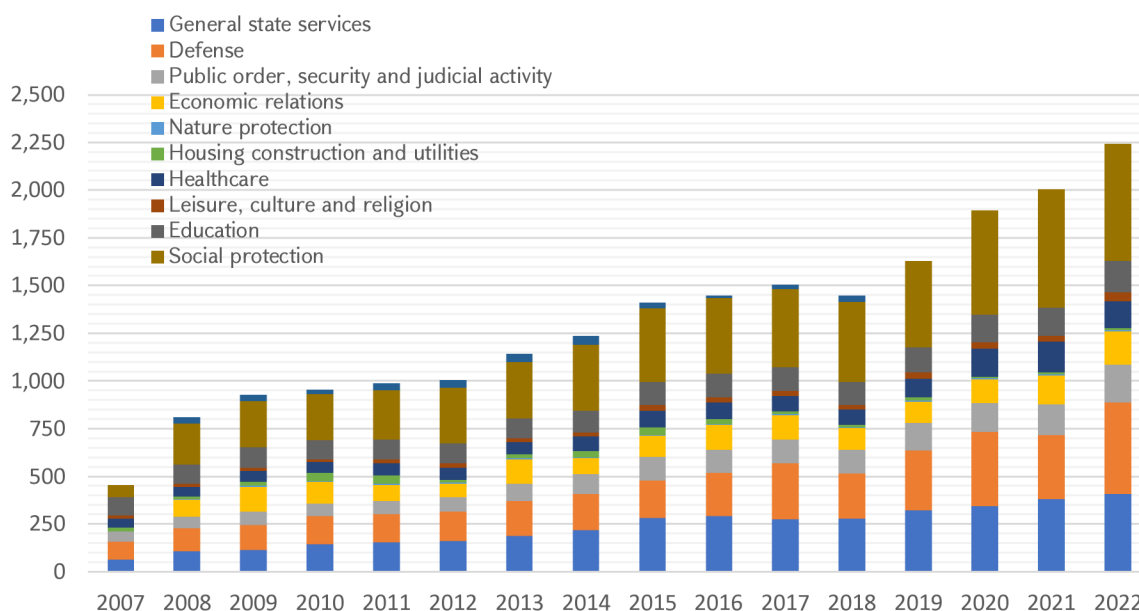


Figure 1.21. RA state budget expenditures, the structure according to Functional classification, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

On the other hand, we can see that most budget articles have retained their shares in the

total state budget expenditures (Figure 1.22) from 2007 to 2021.

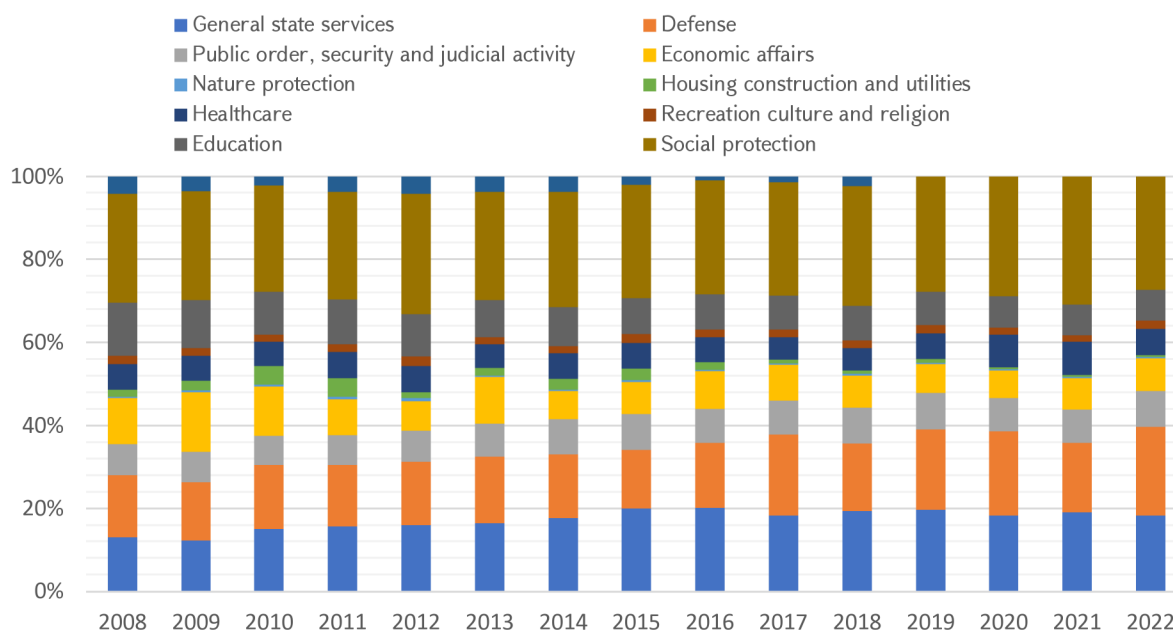


Figure 1.22. RA state budget expenditures, structure according to Functional classification, %

Source: RA Ministry of Finance database – www.minfin.am

From the point of view of the impact of state budget expenditures on economic growth, the share of spending in GDP and the growth rate of expenditures of the state budget is of great importance.

Figure 1.23 shows the dynamics of these two indicators. As we can see, the share of state budget expenditures in GDP slightly increases. As

of 2022, the latter was 26.4% of GDP, while in 2007, it was 20.2%. We should note that a sharp increase in spending was observed during the global financial crisis when the Armenian economy experienced a 14.4% GDP decline, which required cardinal injections into the economy from the state.

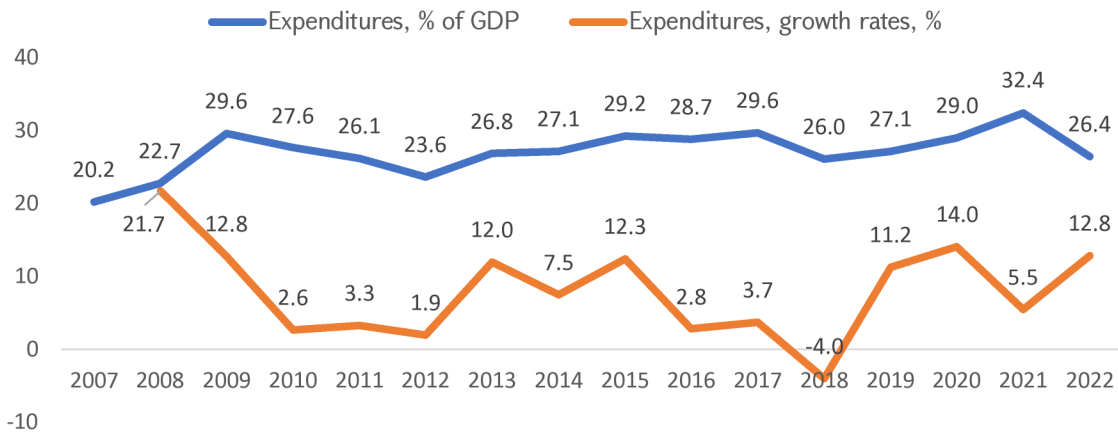


Figure 1.23. RA state budget expenditures, GDP % and growth rates

Source: RA Ministry of Finance database – www.minfin.am

At the same time, growth rates are downward. Growth was observed in 2012, 2014 and 2018. The reasons for such increases each year are quite different and will be considered as part of the analysis of each article of the state budget expenditures. At the same time, each of the articles of the state budget is of particular interest regarding its impact on economic growth rates. In this regard, within the framework of this study, we will consider all the articles of the state budget expenditure.

The first place in the overall structure of the state budget expenditures of Armenia is occupied by social protection (Figure 1.24). At the same time, about 75% of these expenses are accounted for by pensions. Over the past two years, spending n.e.c. has increased. It 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.

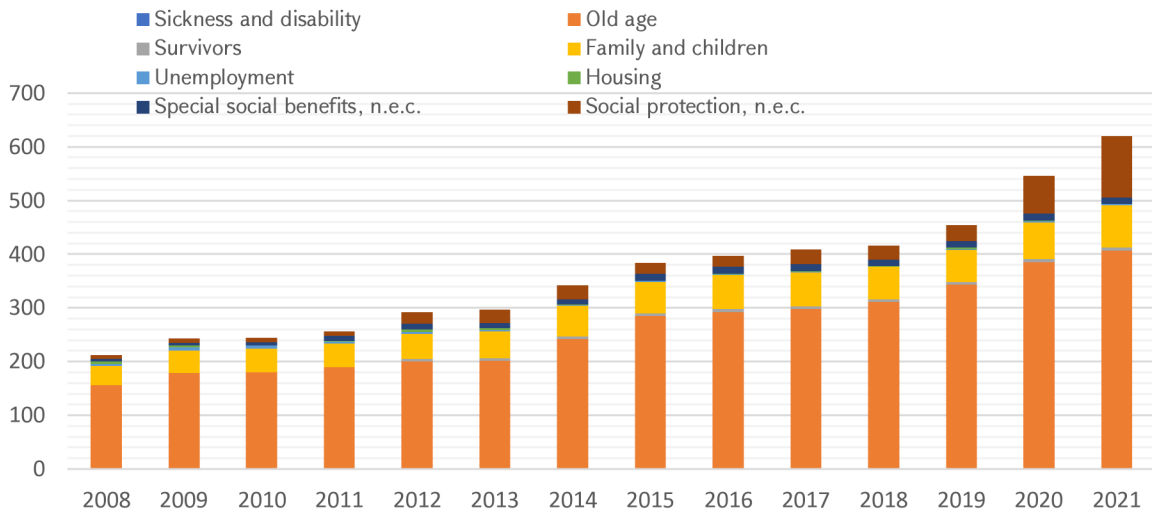


Figure 1.24. Social protection, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

We should also note that the state has increased spending on social protection over the past 15 years. However, the crucial role in this growth is the cost of pensions, mainly due to the ageing population in Armenia, which has also been observed in recent years. Concerning the impact on economic growth, in the case of social spending of the state budget, as a rule, such an impact occurs through the expansion of consumption, which in this case is expressed in the pensions cost. However, given that social spending has only tripled over the past fifteen years, and given the average inflation rate, we believe that the impact of this spending article on economic growth could be significant.

This thesis is also confirmed by the share of social spending in GDP, which, as of 2021, amounted to 10% and increased to some extent over the period under review (Figure 1.25). However, the latter decreased in 2022 accounting to 7.2%. The share of social protection in the total state budget expenditures has also increased. If in 2007 it was 9.9%, during the crisis of 2008-2009, it grew to 26.2%, in 2022, the share of social spending in total spending already amounted to 27.4%. As for the growth rate of social protection, the overall dynamics show moderate growth, except for 2008, when social spending increased by more than 70%. The average growth rate of expenditure on social protection is about 8%.

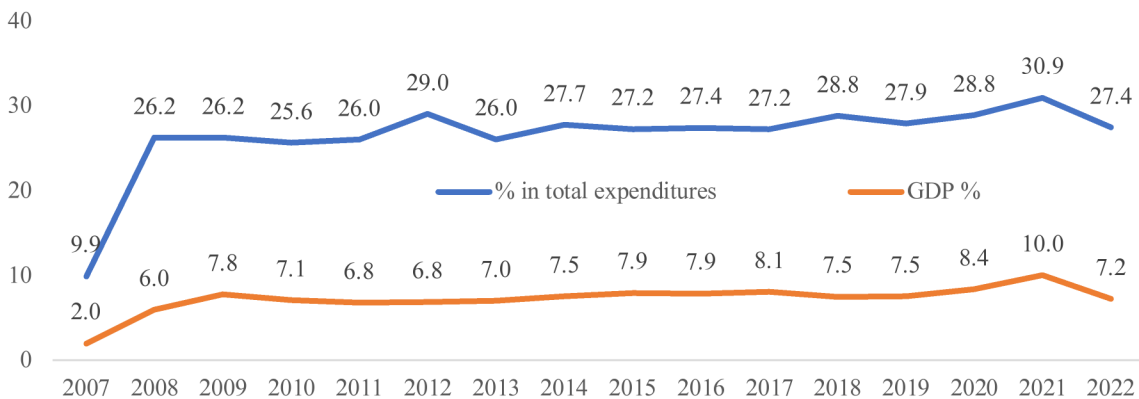


Figure 1.25. Social protection, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

The second place in the state budget expenditures falls on general public services. The structure of this expenditure article is shown in Figure 1.26. As we can see, the dynamics of spending on public services show a significant increase. At the same time, the critical spending sub-article is public debt transactions, the costs of which have increased by more than twenty times since 2007. It is due to a significant increase in the

public debt of Armenia, both in terms of external borrowings and domestic debt.

At the same time, starting from 2015, expenditures on legislative organs, etc., which occupy the first place in the structure of spending on public services, are reduced yearly and replaced by public debt expenditures. Thus, the burden of public debt actually changes the spending policy for this article.

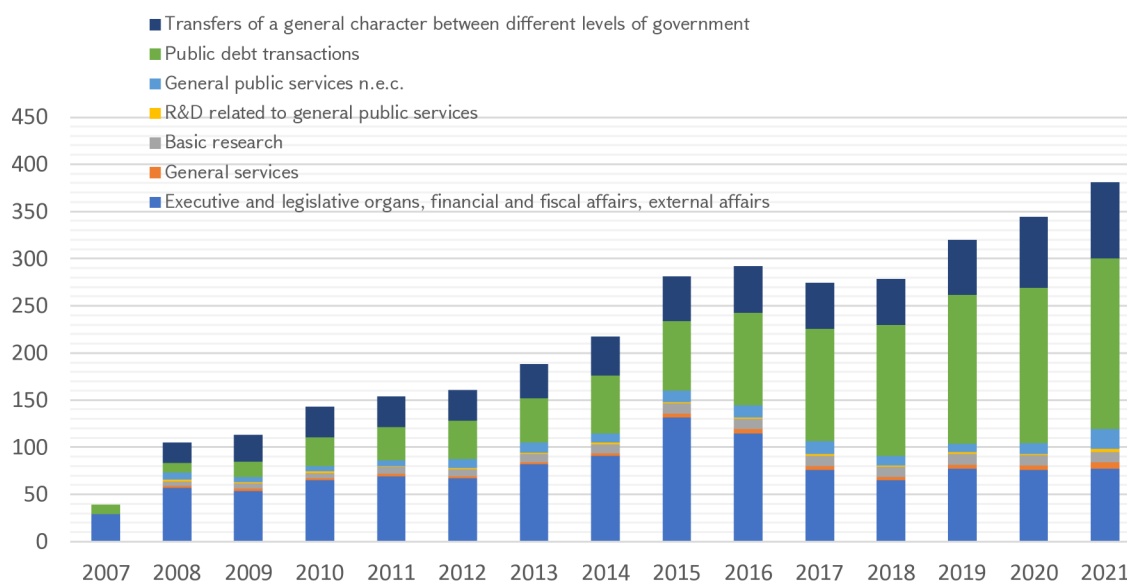


Figure 1.26. General state services, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

On the other hand, from the point of view of economic growth, expenditures on various research and development are of greater interest. To a certain extent, the latter is also represented in the spending structure on public services.

However, we should highlight the tiny amounts allocated for research and development, which in no way can positively affect economic growth in the long term.

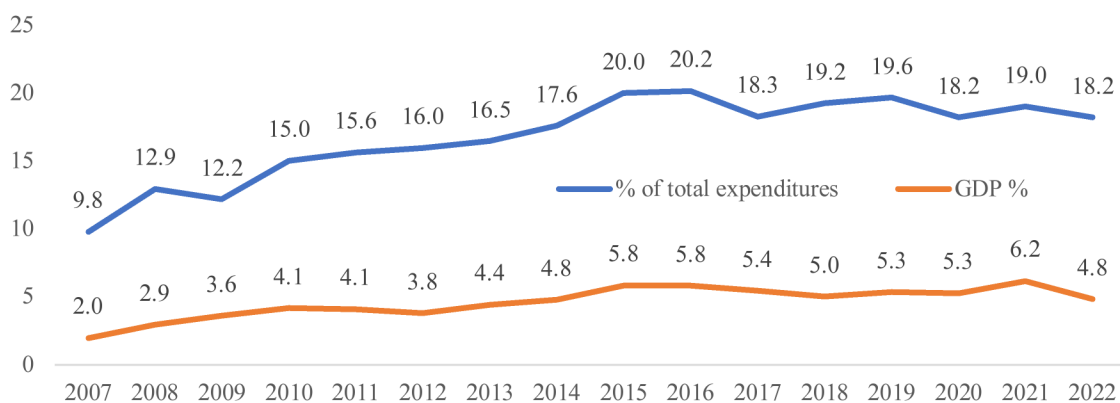


Figure 1.27. General state services, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

However, considering the share of expenditures on public services in the overall structure of state budget expenditures, we can notice a significant increase, which, as mentioned above, is primarily due to the costs the public debt servicing (Figure 1.27). If it was 9.8% in 2007, then in 2022, the total share of expenditures on general public services was 18.2%. The share of these expenditures in the country's GDP is also growing. Thus, in 2007, the share of spending on general public services in GDP was 2%, while in 2022, it had already reached 4.8%. Growth rates of spending on public services are ascending.

The defence occupies third place in the structure of the state budget expenditures of Armenia. In theory and practice, it is known that 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, defence spending is not of this nature, which means that it cannot be significant in terms of economic growth rates. The structure of defence spending is shown in Figure 1.28.

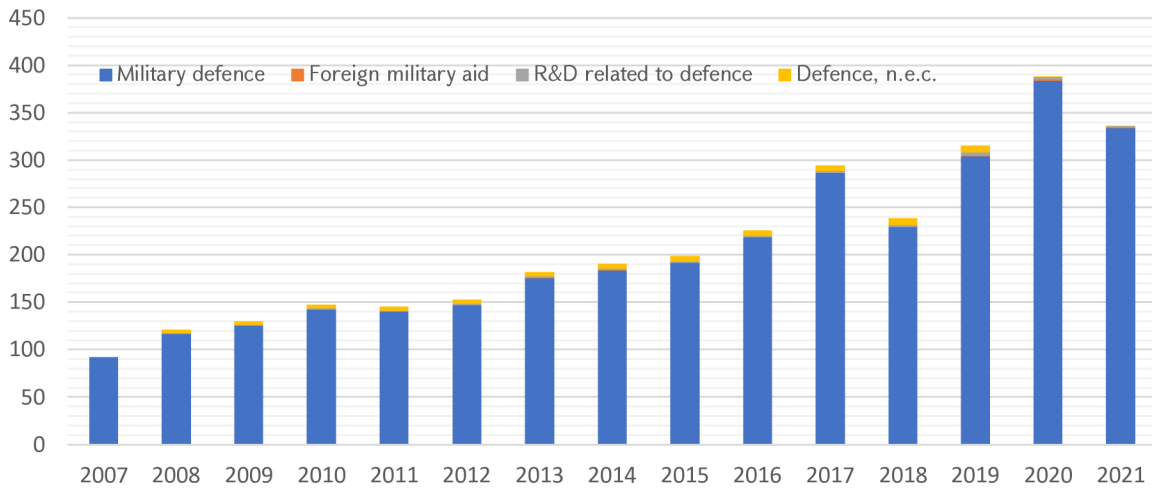


Figure 1.28. Defence, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

An increase in spending can be observed during periods of aggravation of the military conflict with Azerbaijan in 2016 and 2020. At the same time, 99% of defence spending falls on military defence, while spending on research and development in this area has an insignificant share. The share of defence spending in the total

state budget expenditures fluctuates between 15-17% and has shown a slight increase since 2016 (Figure 1.29). At the same time, the share of defence spending in the country's GDP in 2022 amounted to 5.65% and has almost doubled over the past fifteen years.



Figure 1.29. Defence, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

From a human capital development perspective, spending on healthcare and education is strategically important. At the same time, considering the dynamics and structure of healthcare spending in Armenia, we can observe only a slight increase from 2008 to 2019 (Figure 1.30). We can see a sharp rise in spending on public health services from 2020 to 2021 due to

the COVID-19 pandemic and the Second Artsakh War. At the same time, we should note an insignificant share of expenditures on medical products, appliances and equipment, which usually improves the quality of medical services and human capital. Thus, in the long run, a positive impact of health spending on economic growth cannot be expected.

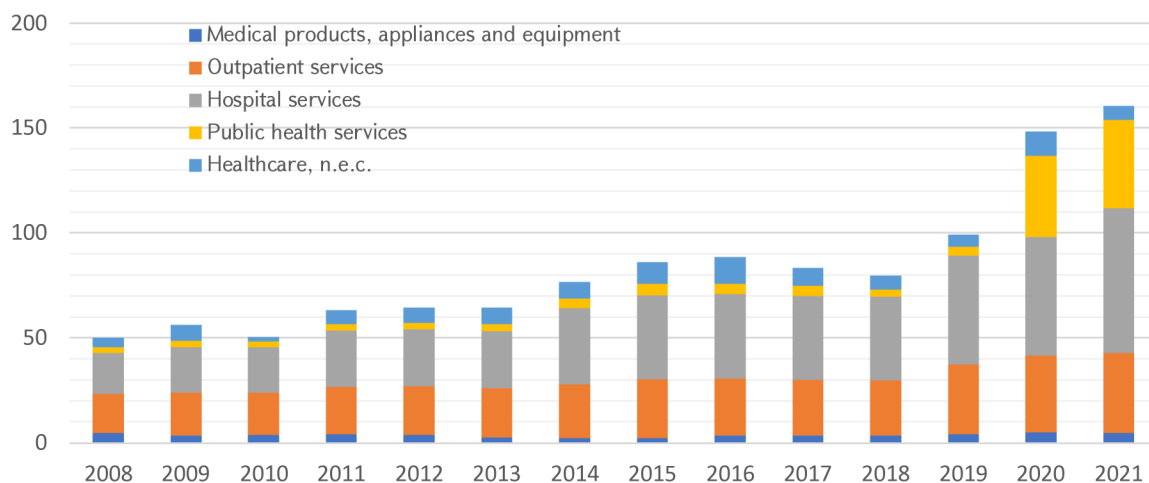


Figure 1.30. Healthcare, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

It is also evidenced by the share of healthcare spending in the country's GDP (Figure 1.31). Except for 2020-2021, this indicator has practically not increased. Thus, in 2007, the share of state budget expenditures on healthcare to GDP was 1.5%, and in precrisis 2019 and after-crisis 2022 - 1.7%. The situation is worse in the case of the

share of healthcare expenditures in total state budget spending, which is characterized by a slight decline until the start of the 2020 pandemic. However, on average, healthcare expenditures in the total state budget spending of the Republic of Armenia fluctuate around 6%.

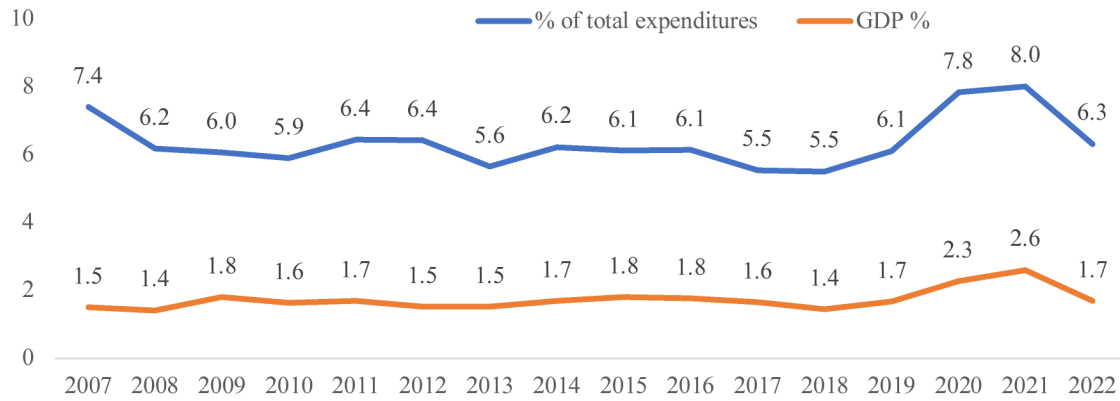


Figure 1.31. Healthcare, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

A reasonably large article in the structure of state budget expenditures occupies the public order and safety. The structure of this article is shown in Figure 1.32. Just as in the case of spending on social protection, we can observe a significant increase. Expenditures on public order and security occupy the largest share (about 70% on average), including spending on the police and domestic troops. On the other hand, a noticeably

smaller percentage is occupied by the expenditures on judicial activities, which, from the point of view of forming the institutional environment, is strategically important. And this, in turn, is one of the most necessary components of forming sustainable economic growth rates. In the dynamics and structure of spending on public order, security and judicial activities, we can note a noticeable increase from 2019 to 2022.

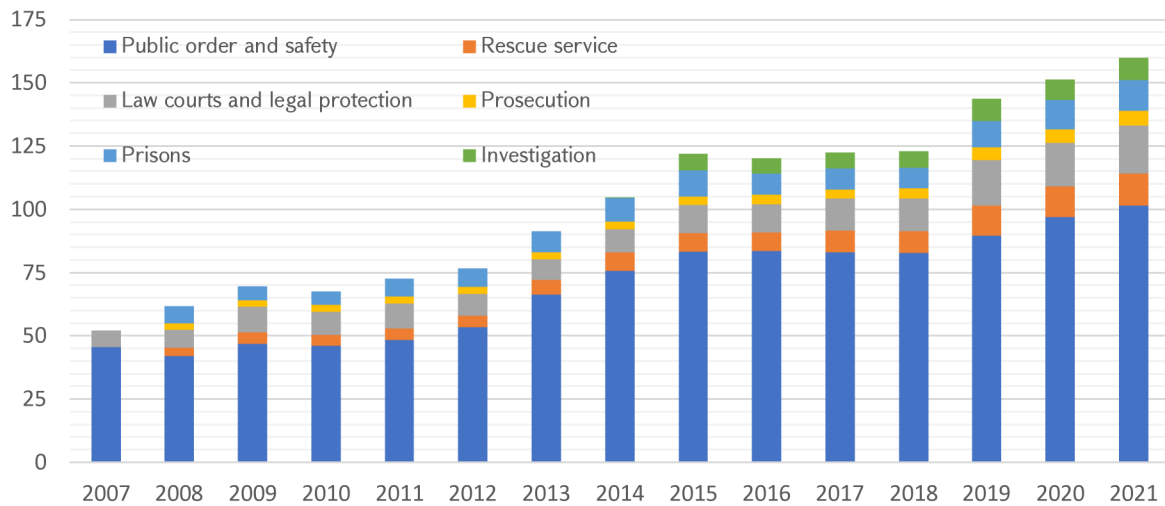


Figure 1.32. Public order and safety, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

As for the share of spending on public order, safety and judicial activities in the total spending and GDP, we should note that in the first case, the share of expenditures maintains its position throughout the entire period under review, and in

the case of the latter we observe a decrease of about 1% (Figure 1.33). As of 2022, the share of spending on public order, safety and judicial activities in the total state budget expenditures was 8.8%, and the share in GDP was 2.3%.

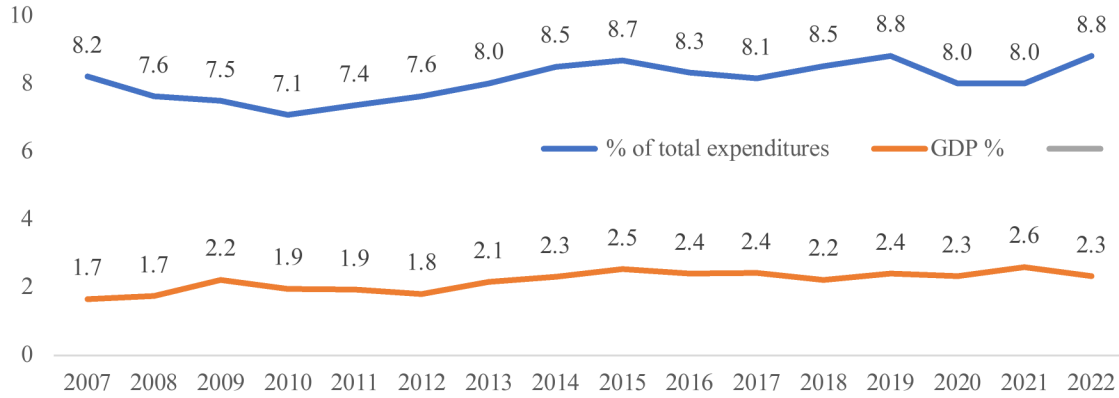


Figure 1.33. Public order and safety, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

One of the most unstable state budget expenditure articles is spending on economic affairs (Figure 1.12). In the structure of expenditures on economic affairs, the key places are occupied by spending on agriculture and transport. At the same time, spending on the latter shows the most significant growth. As in the previous articles, expenditures on research and development in this area occupy an insignificant position, amounting to much less than one percent. We can observe a sharp increase in 2020-2021 in spending on general economic, commercial and labour affairs.

It is important to note that the dynamics of expenditures on economic affairs are very

volatile, which makes it impossible to determine the significance of this group of spending on the budgetary policy of the state. We can get the impression that this article is formed more according to the residual principle, which indicates the absence of a strategy in this area, for example, in infrastructure development or agriculture.

Another interesting point is the spending on fuel and energy, which until 2009 occupied the third place in the structure of expenses on economic relations, then there was a sharp reduction, and in 2013 there was a noticeable increase.

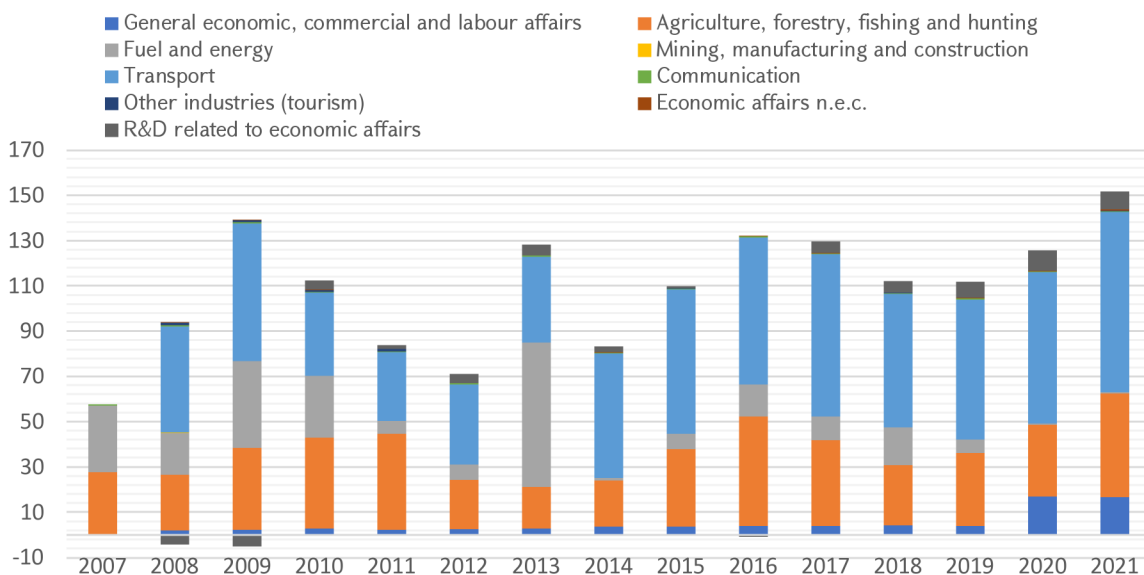


Figure 1.34. Economic affairs, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

The share of expenditures on economic affairs in the total spending of the state budget and GDP is presented in Figure 1.35. In terms of the share in the total budget spending, we can

observe a noticeable decline. In contrast, the share in GDP fluctuates within 2% on average throughout the entire period under review.

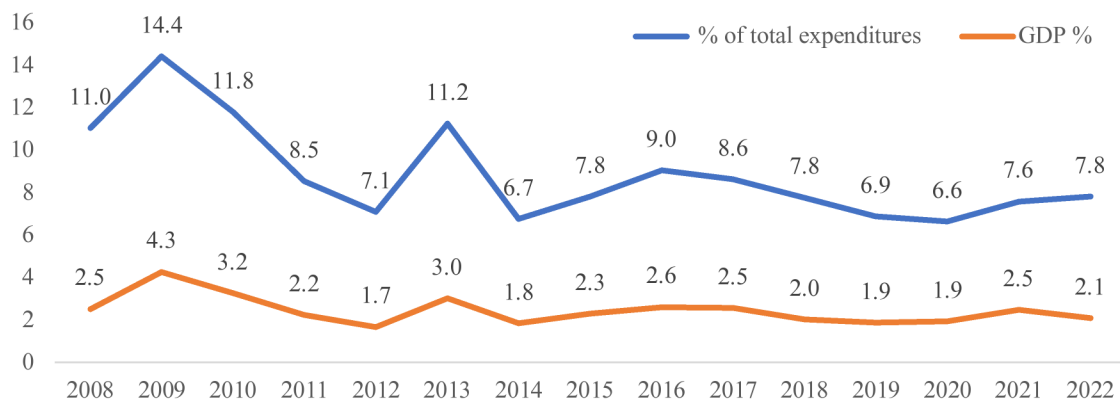


Figure 1.35. Economic affairs, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

One of the most significant budget articles, which, as a rule, directly impacts the country's economic development in the long term, is the

spending on education. The dynamics and structure of the state budget expenditures of Armenia on education are shown in Figure 1.36.

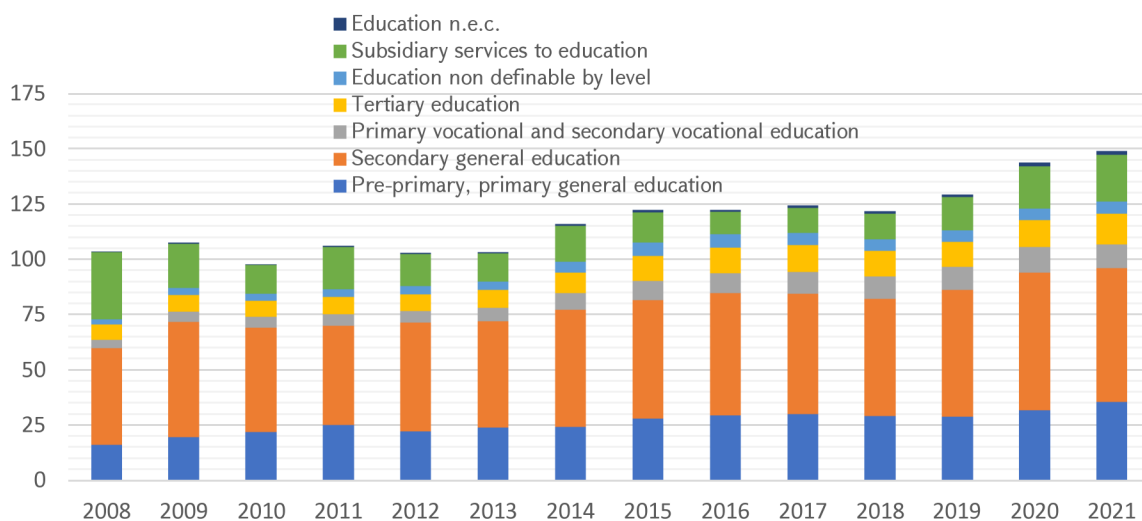


Figure 1.36. Education, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

The first thing to note is the absence of a significant increase in absolute indicators in this article throughout the entire period under review. Over 13 years, the volume of expenditures on education in the state budget has increased by about 20%, while expenditures for many other

articles show an increase of two to three times. The dominant position in the structure of expenditures on education is occupied by secondary general education; expenditures on pre-school and primary education occupy the second place. Higher education occupies about

7% of all education expenditures from the state budget. A slight increase in spending on primary and secondary vocational education should be noted, generating human capital with secondary education. However, given that most of these

educational institutions concentrate on the same specialities as higher education, the task of increasing the workforce with a narrowly focused education is not accomplished.

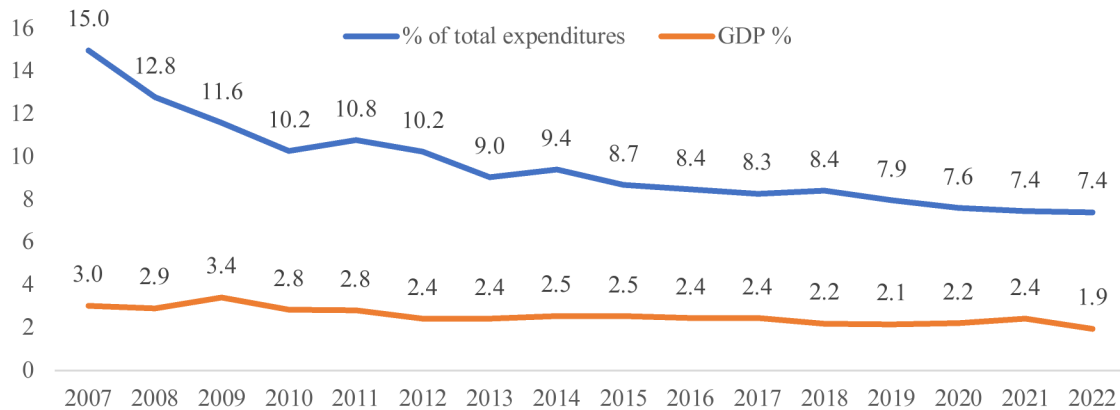


Figure 1.37. Education, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

As for the share of expenditures on education in the total state budget spending and GDP, we observe an exclusively declining nature of the dynamics. Thus, from 2007 to 2022, the share of expenditures on education in the state budget almost halved and amounted to 7.4% against 15% at the beginning of the period under review. The share of spending on education in GDP also decreased and amounted to 1.9% at the end of 2022.

position. However, from the point of view of state functions, they are of no minor importance.

Expenditures on recreation, culture and religion are presented in Figure 1.38. Among the dominant sub-articles in this block are spending on cultural services and broadcasting and publishing services. In general, spending dynamics in this article are characterized by a slight increase, primarily in spending on cultural services.

The following articles in the structure of state budget expenditures occupy a very insignificant

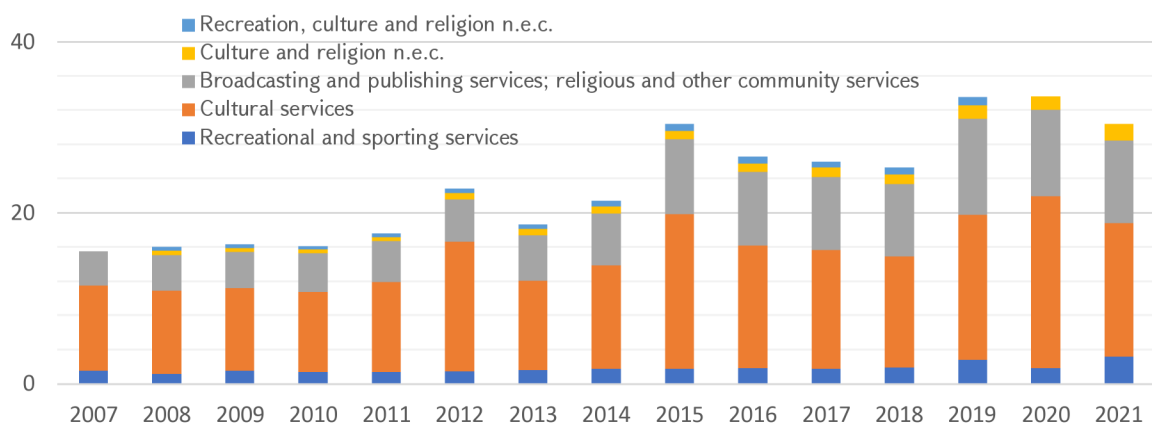


Figure 1.38. Recreation, culture and religion, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

As for the share of expenditures on recreation, culture and religion in the total state budget spending, we can observe a decrease in the period under review; as of 2022, it amounted

to 2% (Figure 1.39). The share in GDP, however, amounted to 0.5% and was stable throughout the period under review.

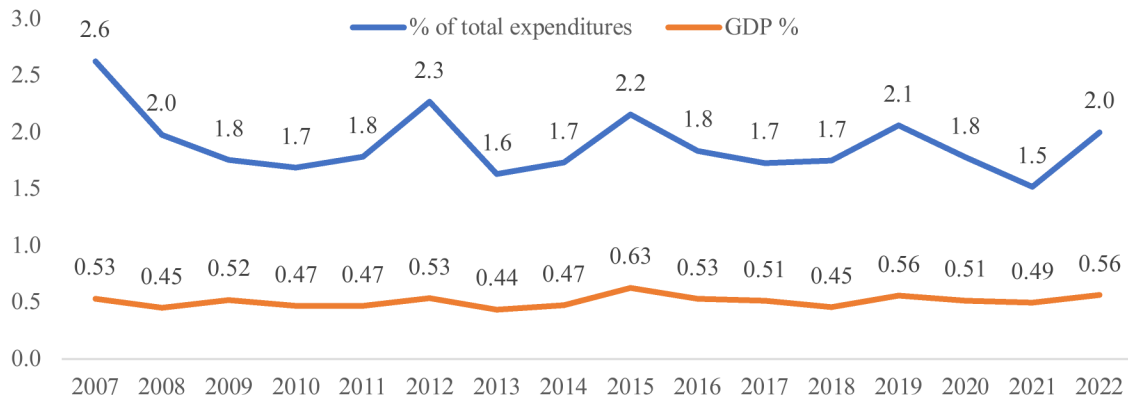


Figure 1.39. Recreation, culture and religion, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

Expenditure on housing and community amenities is somewhat chaotic and unstable, among which the most significant share is

occupied by spending on water supply (Figure 1.40).

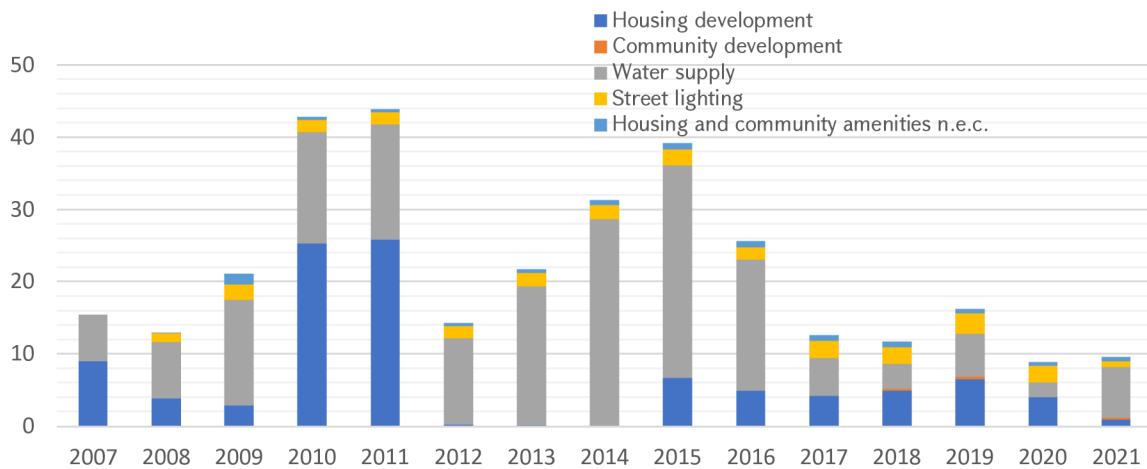


Figure 1.40. Housing and community amenities, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

The share of expenditures on housing and community amenities over the period under review decreased significantly and amounted to 0.4% in 2022 against 3.5% in 2007. Such a sharp decline has been observed since 2016. From 2010 to 2011, there was a notable increase in housing

and community amenities spending, driven by rising housing spending.

At the same time, the share of this article in GDP over the past few years has been within 0.2-0.3%, so it does not have high importance from the point of view of its impact on economic growth rates.

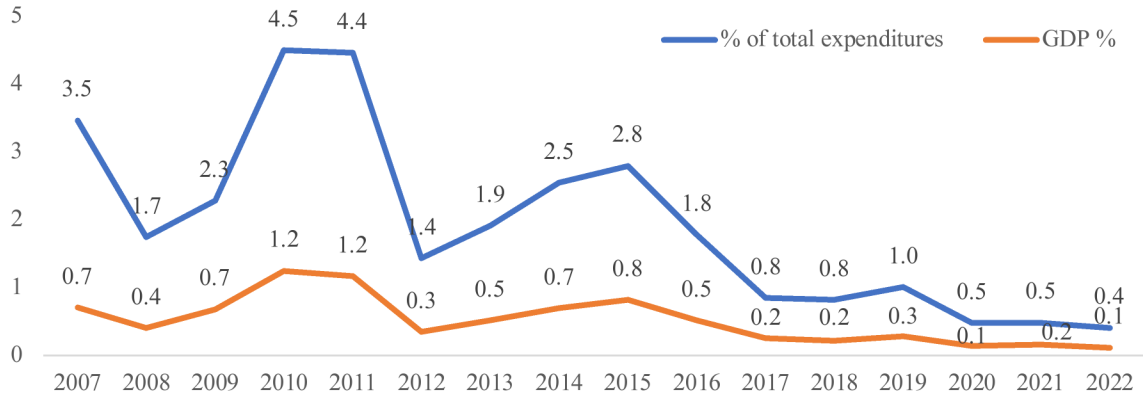


Figure 1.41. Housing and community amenities, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

From the point of view of human capital, environmental protection is essential. The dynamics of the RA state budget expenditures on environmental protection are shown in Figure

1.42. As we can see, the dynamics are also unstable and most likely formed according to the residual principle.

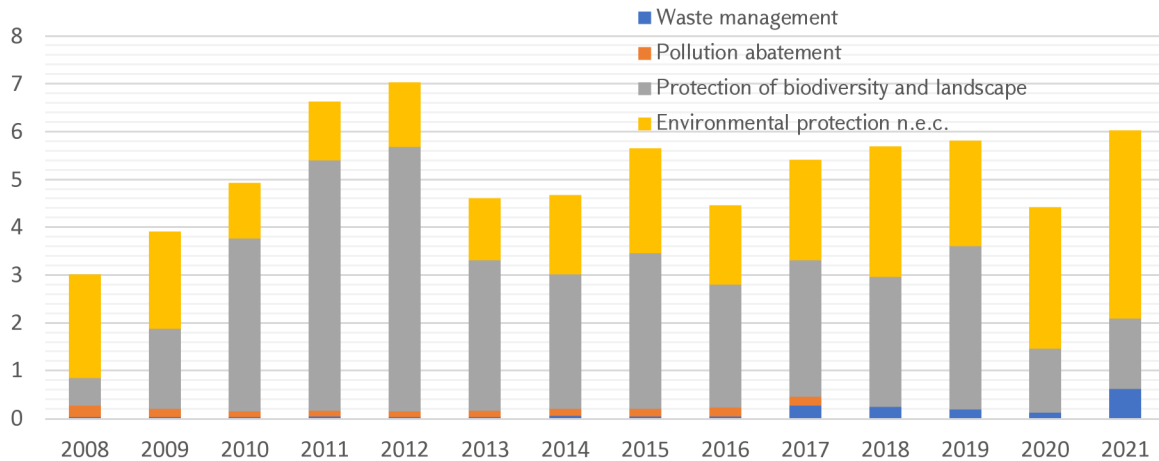


Figure 1.42. Environmental protection, structure, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

The share in total expenditures of this article is within 0.3-0.4%, and the share in GDP is about

0.1%, and therefore cannot significantly impact economic growth rates.

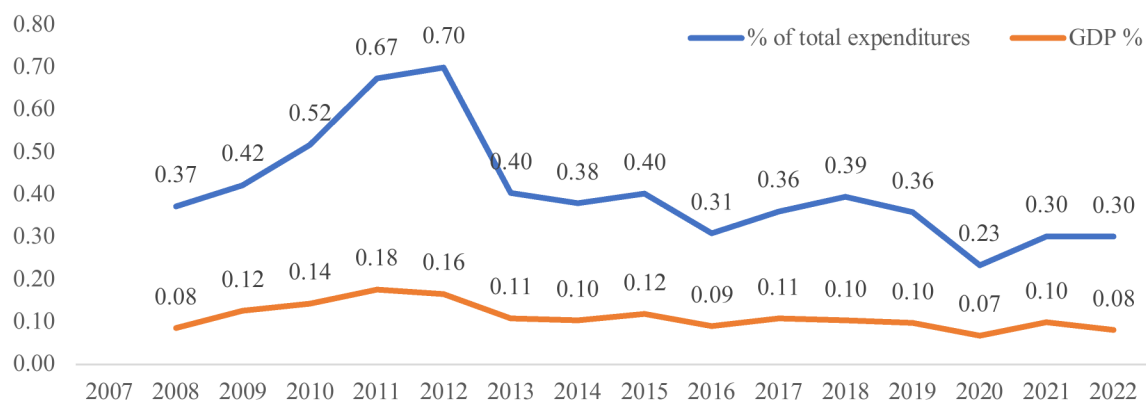


Figure 1.43. Environmental protection, % of GDP, and % of total expenditures

Source: RA Ministry of Finance database – www.minfin.am

Thus, summarizing the above analysis of the structure of state budget expenditures, we can conclude that among the priority spending areas, there were no significant injections from the state in sectors that affect economic growth in the long term (education, science, infrastructure, institutional environment). In this sense, the statistical analysis did not reveal any significant

impact of state budget expenditures on maintaining or ensuring aggregate demand. Even those articles that indirectly or directly affect consumption do not positively impact economic growth rates.

However, this thesis can be tested based on econometric analysis in the next section of the study.

1.2.3. State budget expenditures and economic growth in Armenia (econometric model)

Following a similar principle as described in the section on tax policy, a vector autoregression model was developed to identify the impact of the government spending policy on Armenia's economic growth. The study used quarterly GDP data in Armenia and data on all types of expenditure from 2008 to 2018. The data source is the Ministry of Finance of the Republic of Armenia and the National Statistical Service of the Republic of Armenia. Starting from 2019, the Ministry of Finance does not publish quarterly expenditure statistics by functional classification.

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

- Expenditure on education (EDU), million AMD, 2008Q1 – 2018Q4;
- Expenditure on economic affairs (ER), million AMD, 2008Q1 – 2018Q4;

- Healthcare expenditures (HC), million AMD, 2008Q1 – 2018Q4;

- Expenditure on public order, safety and judicial activities (SEC), million AMD, 2008Q1 – 2018Q4;

- Expenditure on defence (DEF), million AMD, 2008Q1 – 2018Q4;

- Expenditure on general public services (PS), million AMD, 2008Q1 – 2018Q4.

As exogenous variables, the GDP of the Russian Federation (GDP_RF) and the inflow of private remittances to the Republic of Armenia (REM) were included in the model.

All time series were adjusted for seasonality using the Census X-13 procedure, which made it possible to clean the seasonality from the time series while preserving the dynamics' structure. To obtain stationary time series, we applied the

following standard procedure: logarithm of the time series with natural base (e), calculation of first differences to the corresponding quarter of the previous year. For the final time series, tests of stationarity (ADF unit root test) and normal distribution (Histogram and Jarque-Bera test)

were performed. Descriptive statistics of the variables are presented in Table 1.5. As a result of the primary statistical data processing, stationary time series with a normal distribution were obtained from 2009Q1 to 2018Q4.

Table 1.5. Descriptive statistics of 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

As a result of the analysis, it turned out that spending on defence and general public services are not significant variables for Armenia's GDP and were excluded from the model. Table 1.6

presents the results of the vector autoregression model. We have chosen a model with 4 lags based on the analysis of the model's quality according to Akaike and Schwartz's criteria.

Table 1.6. The results of VAR (4) model for expenditure policy

Փոփոխական	Գործակից	Ստանդարտ շեղում	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
Economic affairs	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 and safety	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
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

We have carried out all the necessary tests to verify the reliability of the coefficient estimation results using the VAR(4) model. Table 1.6 shows that according to Durbin-Watson statistics, there is no problem with the autocorrelation of the regression model residuals in the model. We also

carried out a test for heteroscedasticity and normality of the distribution of residues (

Table 1.7). The results show that the random errors of the model are homoscedastic, and the distribution of the residuals is normal.

Table 1.7. Heteroskedasticity and normal distribution test

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

Below is the VAR(4) model with estimated coefficients:

$$\begin{aligned}
 \text{GDP} = & -0.1757 * \text{GDP}(-1) + 0.0019 * \text{GDP}(-2) - 0.3344 * \text{GDP}(-3) - 0.2614 * \text{GDP}(-4) - 0.0564 \\
 & * \text{EDU}(-1) - 0.3986 * \text{EDU}(-2) + 0.2161 * \text{EDU}(-3) - 0.0459 * \text{EDU}(-4) - 0.0223 \\
 & * \text{ER}(-1) - 0.0917 * \text{ER}(-2) + 0.0164 * \text{ER}(-3) - 0.0713 * \text{ER}(-4) + 0.1705 * \text{HC}(-1) \\
 & - 0.2665 * \text{HC}(-2) - 0.1852 * \text{HC}(-3) - 0.2426 * \text{HC}(-4) + 0.1037 * \text{SEC}(-1) - 0.0598 \\
 & * \text{SEC}(-2) + 0.2938 * \text{SEC}(-3) + 0.0604 * \text{SEC}(-4) + 0.1538 * \text{GDP_RF} - 0.044 * \text{REM} \\
 & + 0.114
 \end{aligned}$$

The results of the econometric analysis show a negative impact on the GDP for almost all spending articles, except for the expenditures related to public order, safety and judicial

activities. Such results contradict the theory, while a review of empirical research shows that many authors find a negative relationship between government spending and economic growth. The

reasons for such results are underdeveloped institutions, corruption, and inefficient distribution of expenditures since expenditures on education, science, human capital, and

infrastructure, which can ensure sustainable economic growth, have a too small share in the total state budget spending.

1.2.4. Contemporary expenditure policy of the RA state budget

According to the state budget plan of the Republic of Armenia, the expenditure part of the state budget for 2023, compared to the approved figure for the previous year, will increase by about 406.1 billion AMD - up to 2,590.1 billion AMD (27.8% of GDP), against the expected 2,246.7 billion AMD (27.1% of GDP) at the end of 2022 and actual 2,004.3 billion AMD (28.7% of GDP) for 2021. 78.9% or 2,042.5 billion AMD of the total spending falls on current expenditures (21.9% of GDP), instead of 1,857.0 billion AMD expected by the end of 2022 (22.4% of GDP) and 1,788.0 billion AMD in 2021 (25.6% of GDP).

The key article for which there is an increase in spending is the social protection of the population, which will amount to slightly more than 40% of the total state budget expenditures. Thus, in terms of spending on social protection, the Government will continue the policy of the previous years.

In 2023, expenditures will amount to 648,476.2 million AMD, which will first be directed to support the elderly and the disabled, as well as the payment of unemployment benefits, special social benefits, housing, family benefits and other social services. In addition, financing of the social sphere will be directed to stimulate the birth rate and provide state support to large families.

Spending on education will increase by about 19 billion AMD - up to 212.1 billion AMD (8.8% of expenses), from 193 billion AMD in 2022 and 149.1 billion AMD in 2021. The funds will be used to finance certain types of education: preschool, primary, secondary, vocational, higher, and postgraduate education, as well as support services provided in the field.

Financing of the healthcare sector will increase by 26.7 billion AMD - up to 149.1 billion AMD (5.8% of expenses) against 122.4 billion AMD (5.6% of expenses) in 2022 and 160.5 billion AMD (8%) in 2021. Taking into account the global challenges of the healthcare system caused by the pandemic, financing will primarily be directed to implementing measures to combat the latter, provide the population with vaccines, and quickly and adequately respond to the risks of the healthcare system. They will also be used to improve regional healthcare organisations' construction and material and technical condition.

Recreation, culture and religion will receive allocations of 36.2 billion AMD against 32.7 billion AMD in 2022 and 30.4 billion AMD in 2021.

21.9% of all state budget expenditures or 567.7 billion AMD (69.3 billion AMD more) will fall on general public services and the sphere of reserve funds, against 22.8% and 498.4 billion AMD in 2022, 19% and 380.9 billion AMD in 2021.

Spending on defence, public order, safety and judicial activities will increase by about 190 billion AMD - up to 708.6 billion AMD (27.3% of total expenditures), against 518.6 billion AMD or 23.7% in 2022 and around 496 billion AMD and 24.7% in 2021.

10.3% of government spending - 267.7 billion AMD, against 10% or 237.3 billion AMD in 2022, 8.3% or 167.3 billion AMD in 2021 for the last year will be allocated to ensure activities in the economic affairs. In particular, the sphere of economic affairs will receive 240.9 billion AMD. The allocations for environmental protection will be reduced to 8.9 billion AMD against 9.7 billion AMD in 2022 and 6 billion AMD in 2021. Financing

for housing and community amenities will increase from 16 billion AMD in 2022 to 17.8 billion AMD in 2021 (9.5 billion AMD in 2021).

Summarizing, we can conclude that the government spending policy for 2023 does not imply conceptual changes in priority articles, which means the continuation of the policy of

previous years. Thus, the impact of such a policy on economic growth rates can only be assessed in the long term. However, given the lack of change in the direction of government spending policy, it can be assumed that there will be no positive impact on economic growth rates.

1.2.5. Conclusions and Recommendations

Unlike tax policy, Armenia's spending policy is ambiguous. Literature review showed that government spending usually does not affect economic growth positively. The effectiveness of the state budget expenditures' impact depends on the budget's capabilities and the structure of the spending, not to mention the economy itself, the degree of its development and many other factors described in detail above.

At the same time, when considering the expenditure policy of Armenia, we should note the social nature of the state budget expenditure structure. One way or another, most of the spending solves various social problems, whether it is spending on social protection or increasing spending on the state apparatus. All this together makes it possible to maintain, but not in any way increase consumption in the structure of GDP, and along with this, does not have a positive impact on economic growth rates. At the same time, from

the point of view of a long-term positive effect on the economy, it is necessary to increase spending on infrastructure and the institutional environment, as well as on all areas that affect the development of technologies and innovations in the economy (education, science, etc.). In this sense, in the structure of the state budget of Armenia, expenditures on education are annually reduced in absolute terms, in relation to GDP and total state budget expenditures. At the same time, spending on science and scientific and technical development, in general, is less than 0.2% of GDP, which by all standards is negligible. We believe this article should be radically revised along with the expenditures directly affecting consumption (social spending, spending on various government agencies, etc.). Optimizing the expenditure side of the state budget would free up additional funding for essential budget articles to ensure sustainable economic growth.

1.3. Public Debt and Economic Growth

1.3.1. Literature Review

Among the first authors who raised the issue of public debt should be noted Barro³⁹, who, based on the results of his research, determined the optimal ratio of public debt to GDP in the range of 30-70%. In subsequent work⁴⁰, he turns to the relationship between government debt and economic growth, concluding that raising taxes to

achieve debt sustainability will ultimately reduce the potential level of output.

At the same time, most of the subsequent scientific research on the relationship between public debt and economic growth considers debt an exogenous factor. In this regard, all research is focused on the impact of external debt on

³⁹ Barro, R. J. (1974): Are government bonds net wealth? The Journal of Political Economy, 82, 1095-1117.

⁴⁰ Barro, R. J. (1979): On the determination of public debt. The Journal of Political Economy, 85, 940-971.

economic growth. However, domestic debt also affects economic growth, which studies in various countries have proved. In this regard, we will

consider the impact of public debt on economic growth, both in terms of external borrowing and domestic debt.

1.3.1.1. External Public Debt and Economic Growth

At first glance, an obvious conclusion regarding the nature of the impact of external debt on economic growth rates can be the thesis that the higher the debt, the weaker the economic growth rates. However, as the experience of many countries shows, it is not so certain. For example, Krugman (1988)⁴¹ notes that countries whose solvency levels are lower than debt stocks will experience a slowdown in economic growth in the medium and long term.

Other authors (Cohen, 1997⁴²; Elbadavi et al., 1997⁴³) conclude that there is a non-linear relationship between external debt and economic growth. However, Elbadavi et al. (1997)⁴⁴ identify a particular threshold value of external debt to GDP (above 97% of GDP), above which the impact of external government borrowing is negative. At the same time, Pattillo et al. (2002)⁴⁵ note the threshold value of external debt for developing countries at around 70% of GDP. Clements et al. (2003)⁴⁶, considering the experience of low-income countries, allocate 30-37% of GDP to an external debt threshold that is neutral for economic growth rates.

Schclarek (2004)⁴⁷, considering the experience of both developed and developing countries, notes the negative impact of external debt on economic growth rates but does not conclude about a single debt-to-GDP threshold. The sample of countries can generally explain this. Calderón and Fuentes (2013)⁴⁸, studying the case of Latin America, found a strong relationship between the level of external debt and economic growth rates. Tchereni et al. (2013)⁴⁹, based on the experience of African countries, also conclude that there is a close relationship between external debt and economic growth rates and note precisely the harmful nature of such an impact. Panth et al. (2006)⁵⁰, Akram (2011)⁵¹, Rais and Anwar (2012)⁵² and Iyoha (1996)⁵³ found an inverse relationship between external debt and economic growth in countries due to the crowding out effect.

As for the direct factors of the external debt impact on economic growth rates, there is also no unanimous opinion in the scientific literature.

⁴¹ Krugman, P. (1988): Financing vs. forgiving a debt overhang, NBER Working Paper Series.

⁴² Cohen, D. (1997): Growth and external debt: a new perspective on the African and Latin American tragedies, Centre for Economic Policy Research discussion Paper, 1753.

⁴³ Elbadawi, I., B. Ndulu and N. Ndung'u (1997): Debt overhang and economic growth in Sub-Saharan Africa, in Iqbal, Zubair and Ravi Kanbur (eds.), External Finance for Low Income Countries, IMF Institute, Washington DC.

⁴⁴ Elbadawi, I., B. Ndulu and N. Ndung'u (1997): Debt overhang and economic growth in Sub-Saharan Africa, in Iqbal, Zubair and Ravi Kanbur (eds.), External Finance for Low Income Countries, IMF Institute, Washington DC.

⁴⁵ Pattillo, C., H. Poirson and L. RICCI (2002): External debt and growth, IMF Working Paper.

⁴⁶ Clements, B., R. Bhattacharya and T. Q. Nguyen (2003): External debt, public investment, and growth in low-income countries, IMF Working Paper

⁴⁷ Schclarek, A. (2004): Debt and economic growth in developing and industrial countries, Lund University

⁴⁸ Calderón, C., and Fuentes, J. R. Government debt and economic growth. Inter American Development Bank 2013.

⁴⁹ Tchereni, B. H. M., Sekhampu, T. J., and Ndovi, R. F. The impact of foreign debt on economic growth in Malawi. African Development Review, 25(1) (2013): 85-90.

⁵⁰ Panth, S., R. Blavy, G. Kwon, R. Romeu, L. McFarlane, W. Robinson & M. Morgan (2006), Jamaica: Selected Issues, International Monetary Fund, Country. Report No. 06/157, Washington, DC. Retrieved January 2011 from: www.imf.org/external/pubs/ft/scr/2006/cr06157.pdf

⁵¹ Akram, N. Impact of Public Debt on the economic growth of Pakistan. The Pakistan Development Review, (2011): 599-615

⁵² Rais, S. I., & Anwar, T. Public debt and economic growth in Pakistan: A time series analysis from 1972 to 2010. Academic research international, 2(1) (2012): 535.

⁵³ Iyoha, M. A. (1996), 'External Debt and Economic Growth in Sub-Saharan African Countries: An Econometric Study', paper presented at AERC workshop in Nairobi, Kenya, March, 1999.

Calvo (1998)⁵⁴, for example, notes that high levels of external debt distort the tax burden and lower the rate of return on capital, leading to lower investment and economic growth. On the other hand, Chenery and Strout (1966)⁵⁵ point out that the main reason developing and emerging market economies accumulate external debt is the lack of savings and investment. Thus, it is difficult to say what comes first, external debt or lack of investment. Undersaving countries use the debt market to stimulate consumption and sustain economic growth. In addition⁵⁶, low government

revenues, low investment, and balanced budget deficits are additional reasons developing countries turn to the debt market. Presbitero (2012)⁵⁷ concludes that industrialized countries use external borrowing more efficiently than developing countries. At the same time, he notes the effectiveness of debt management among the key factors. If developed countries use such borrowings to invest in infrastructure and development of the institutional environment, then developing countries, as a rule, need them for social needs or to cover the budget deficit.

1.3.1.2. Domestic public debt and economic growth

Much less scientific work has been devoted to the impact of domestic debt on economic growth rates. However, some studies are of particular interest. Abbas and Christensen (2007)⁵⁸, following the example of the impact of external debt on aggregate demand, concluded that everything depends on the threshold value of this indicator. Particularly for emerging markets, the domestic debt must range between 35-65% for growth to be positive. Blavy (2006)⁵⁹ came to

the same results. At the same time, Rogo and Reinhart (2010)⁶⁰, considering developed countries, note the threshold value of the level of the domestic debt at 90% of GDP.

Thus, the unambiguous impact of public debt on economic growth rates cannot be determined either. Everything depends on the development and structure of the economy, its institutional environment, the structure of public debt, and many other factors.

1.3.2. The Structure of the Public Debt of Armenia

Like any developing country, Armenia is characterized by a high level of public debt, including the Government of the Republic of Armenia and the Central Bank of the Republic of Armenia. The dynamics and structure of the public debt of Armenia are shown in Figure 1.44. As we

can see, since 2009, there has been a sharp increase in the country's external and domestic debt due to the global financial crisis of 2007-2008 and the need to mitigate its consequences for the Armenian economy. Starting from this period, the dynamics of public debt have been ascending,

⁵⁴ Calvo, G. A. (1998): Growth, debt and economic transformation: the capital right problem, in Coricelli, Fabrizio, Massimo di Matteo, and Frank Hahn (eds.), *New Theories in Growth and Development*, St. Martin's Press, New York.

⁵⁵ Chenery, H. B., and Strout, A. M. Foreign assistance and economic development. *The American Economic Review*, (1966): 679-733.

⁵⁶ Gohar, M., and Butt, F. The Impact of External Debt Servicing on the growth of Low Income Countries, Sukkur Institute of Business Administration. In *Proceedings of 2nd International Conference on Business Management* (2012).

⁵⁷ Presbitero, A. F. Total public debt and growth in developing countries. *The European Journal of Development Research*, 24(4) (2012): 606-626.

⁵⁸ Abbas, S. M. A. and J. E. Christensen (2007): *The role of domestic debt markets in economic growth: an empirical investigation for low income countries and emerging markets*, IMF Working Paper

⁵⁹ Blavy, R. (2006): *Public debt and productivity: the difficult quest for growth in Jamaica*, IMF Working Paper

⁶⁰ Reinhart, C. M. and K. S. Rogoff (2010): *Growth in a time of debt*, NBER Working Paper Series.

with a relatively high rate of volume increase. The debt of the Government occupies the dominant

share in the public debt of the Republic of Armenia.

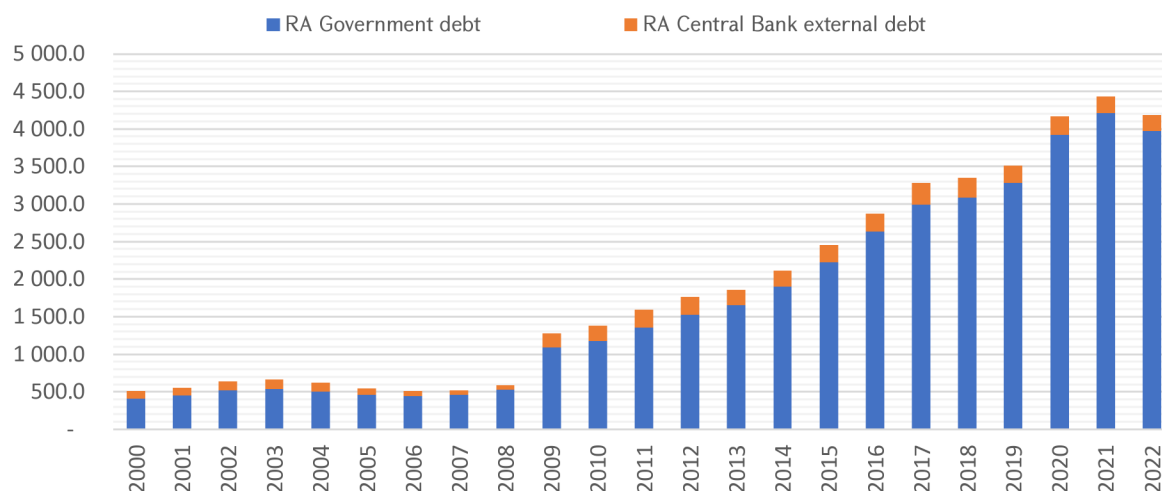


Figure 1.44. RA public debt, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

At the same time, the Government to GDP share is also quite large and picked at 63.5% of GDP at the end of 2020, reaching 60.3% in 2021 (Figure 1.45). This ratio decreased significantly in 2022 accounting to 46.7%. The periods of the

most significant build-up of debt are observed in 2009 and 2020, which can be explained primarily by severe external shocks and economic crises during these years.

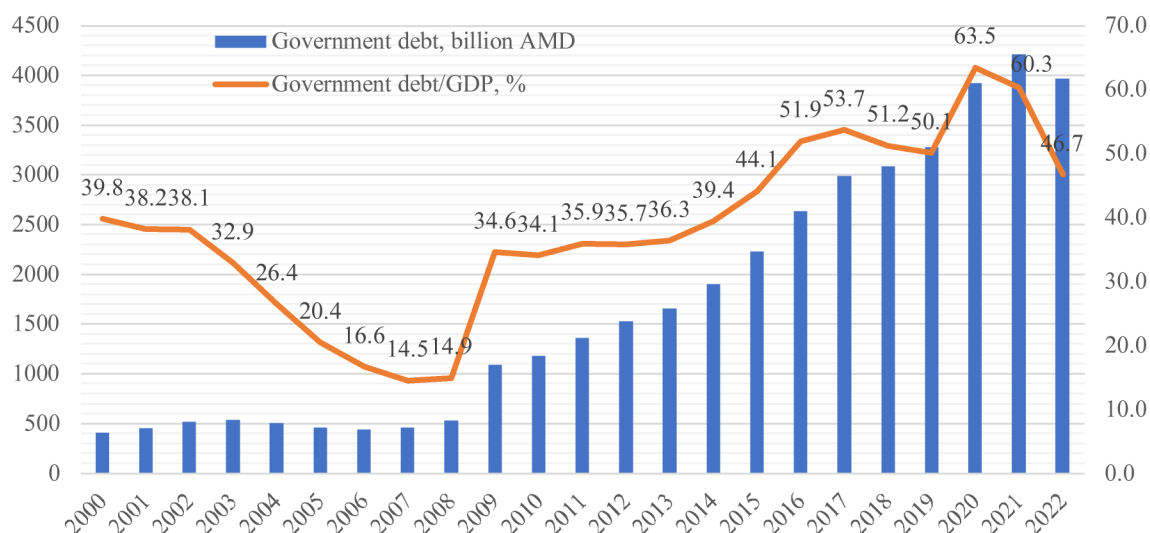


Figure 1.45. RA government debt

Source: RA Ministry of Finance database – www.minfin.am

As for the structure of public debt, in Armenia, as in most developing countries, external debt prevails (Figure 1.46). At the same time, debt build-up occurs through external and

domestic borrowings. However, a significant increase in domestic debt can be observed after 2015.

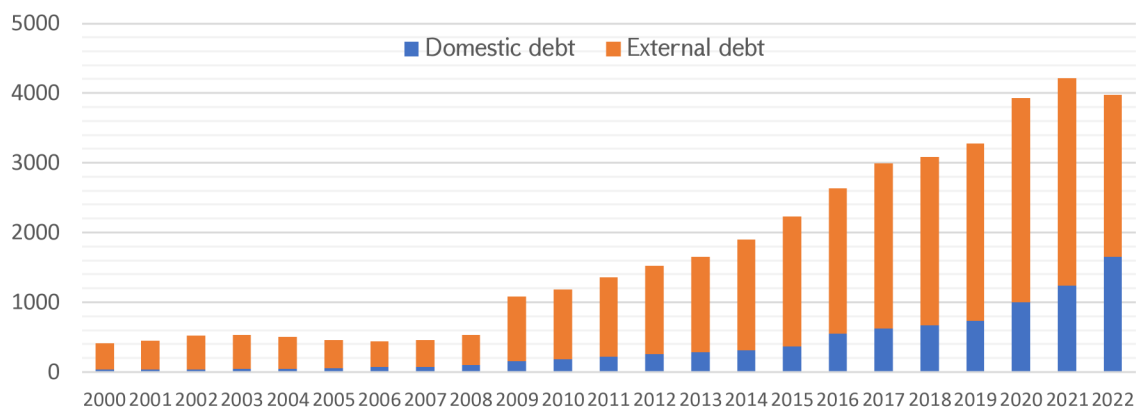


Figure 1.46. The structure of the RA public debt, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

At the same time, the structure of the RA government debt by instruments indicates the dominance of credits and loans and, as mentioned

above, a significant increase in government treasury bonds over the past 5-6 years, including those issued in foreign currency (Figure 1.47).

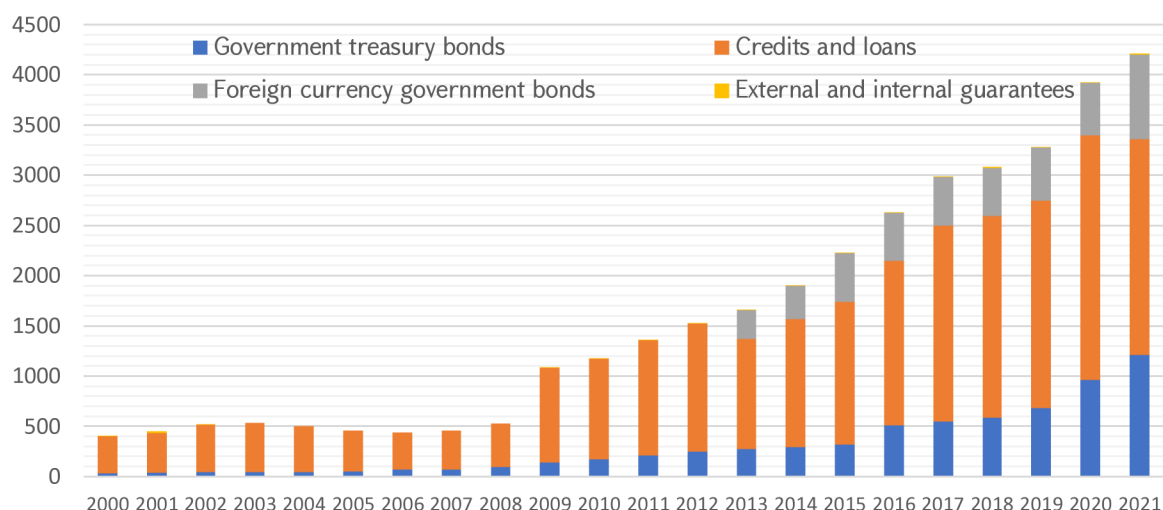


Figure 1.47. The structure of the RA public debt by instruments, billion AMD

Source: RA Ministry of Finance database – www.minfin.am

As for the structure of domestic debt denominated in government bonds, commercial

banks are the key borrowers, especially after 2015 (Figure 1.48).

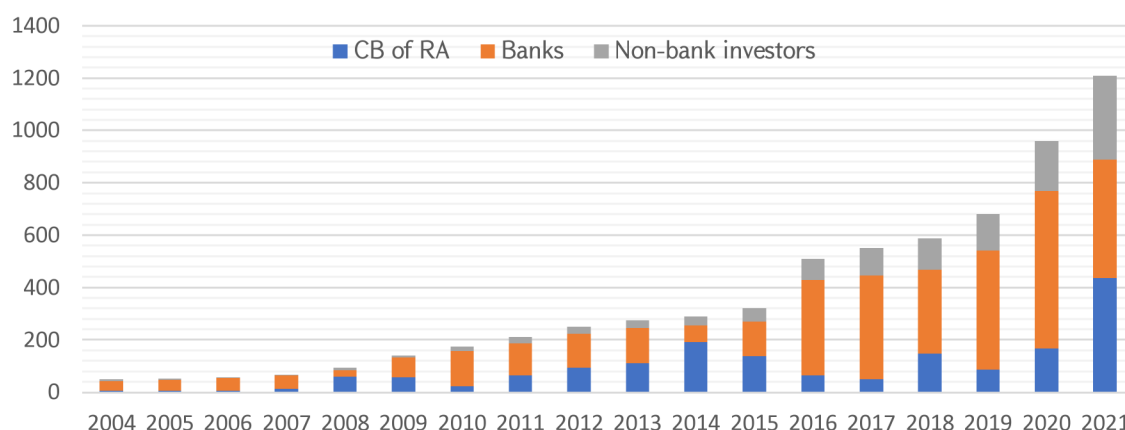


Figure 1.48. Structure of government treasury bonds by investors

Source: RA Ministry of Finance database – www.minfin.am

The RA public debt by currency structure is relatively well diversified (Figure 1.49). The US dollar occupies the first place, then come the special drawing rights and the national currency (Armenian dram). On the other hand, since the US

dollar also occupies more than 40% of the SDR, Armenia's public debt is significantly dependent on exchange rate fluctuations against the US dollar.

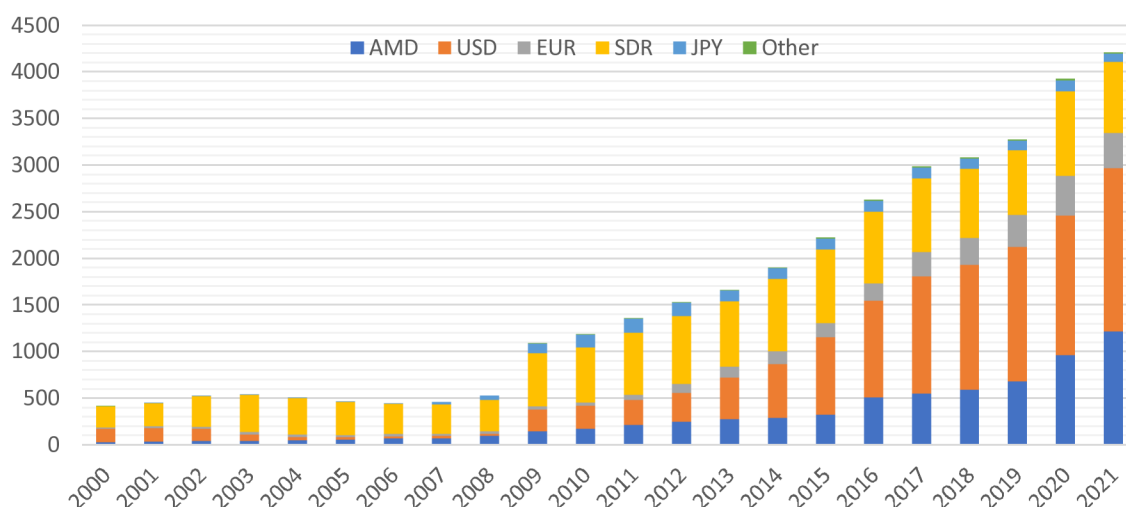


Figure 1.49. Currency structure of RA government debt

Source: RA Ministry of Finance database – www.minfin.am

Concerning payments on public debt, it will be interesting to consider the percentage of payments on external debt relative to exports and the country's GDP (Figure 1.50). Payments on external public debt make up a fairly high percentage, both on average and during periods of principal payments. In the literature review, we found that in international practice, it is customary to set limits on the volume of public

debt to GDP, and this share can vary quite a lot by country. At the same time, in our opinion, it would be more efficient to set limits on payments on public debt relative to the country's GDP and export volumes. Such an approach will make public debt servicing more efficient and help mitigate all the risks associated with the inability to service public debt in developing countries.

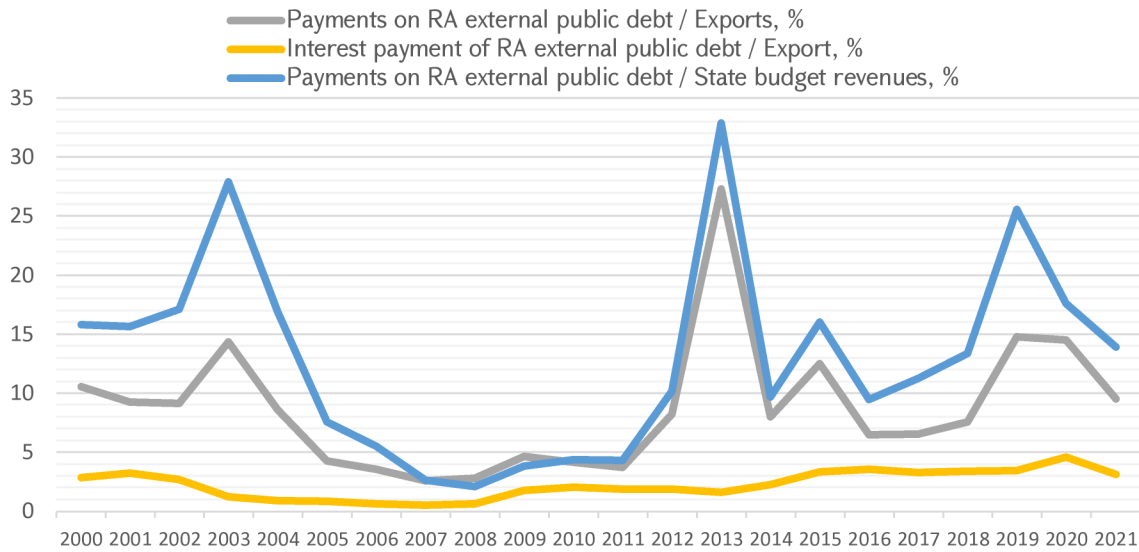


Figure 1.50. Indicators of RA public debt

Source: RA Ministry of Finance database – www.minfin.am

The general dynamics of receipt, repayment, and interest on the RA public debt are shown in Figure 1.51. As we can see, the buildup of public debt has been taking place since 2009 and generally has an increasing character. The

repayment of the principal amount of RA's external public debt was the highest in 2013 and has continued gradually since 2018. Interest payments also increase incrementally.

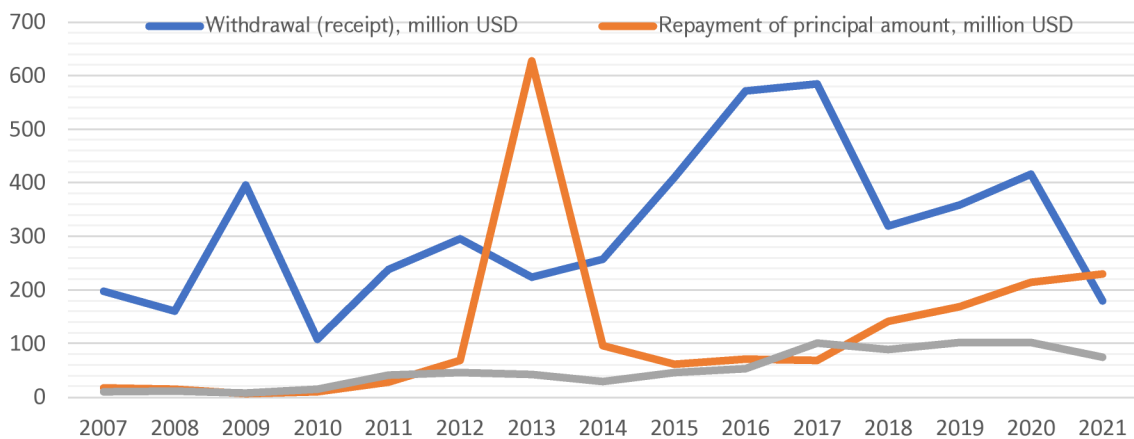


Figure 1.51. RA government debt service, million USD

Source: RA Ministry of Finance database – www.minfin.am

Armenia's key creditors include international organizations and specific countries (Figure 1.52). The participation of commercial banks is minimal.

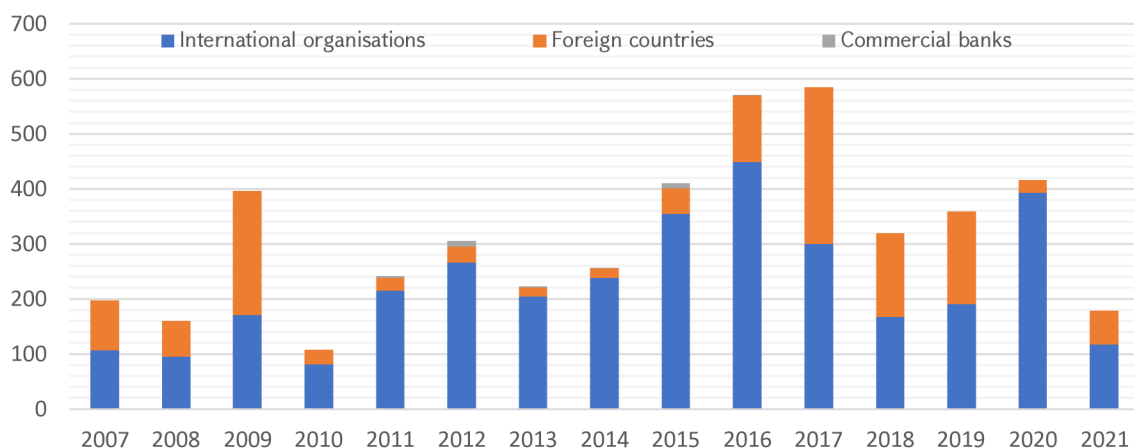


Figure 1.52. RA government debt service, structure

Source: RA Ministry of Finance database – www.minfin.am

The international organizations that provide loans to Armenia are the International Monetary Fund, the International Bank for Development and

Reconstruction, the Asian Development Bank, and the Eurasian Development Bank (Figure 1.53).

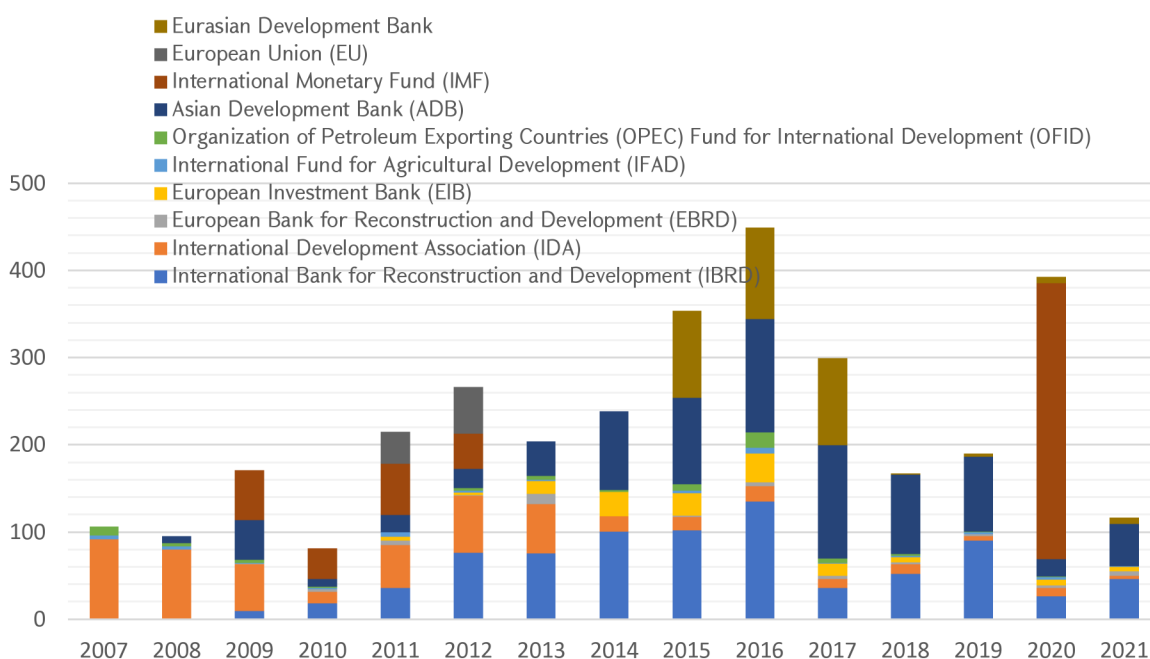


Figure 1.53. RA government debt by organizations, million USD

Source: RA Ministry of Finance database – www.minfin.am

Among the key creditor countries of Armenia, we should note Russia, Germany, as well as Japan, and France in the past (Figure 1.54).

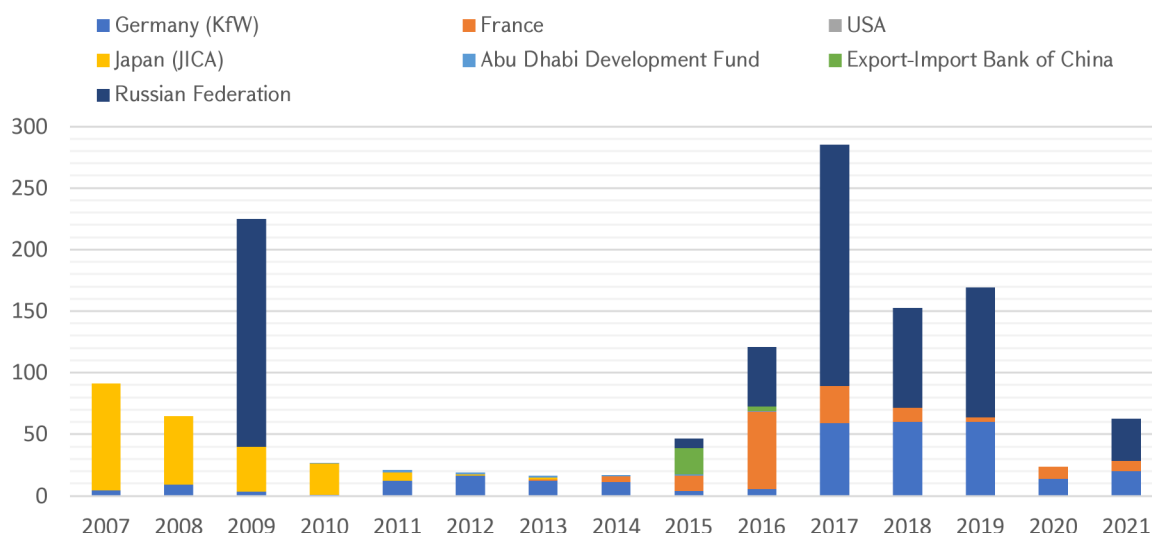


Figure 1.54. RA government debt by countries, million USD

Source: RA Ministry of Finance database – www.minfin.am

Finally, considering the external borrowings of the Central Bank of Armenia, we should also note the increasing nature of the dynamics until

2018, when we can observe a reduction in borrowings (Figure 1.55).

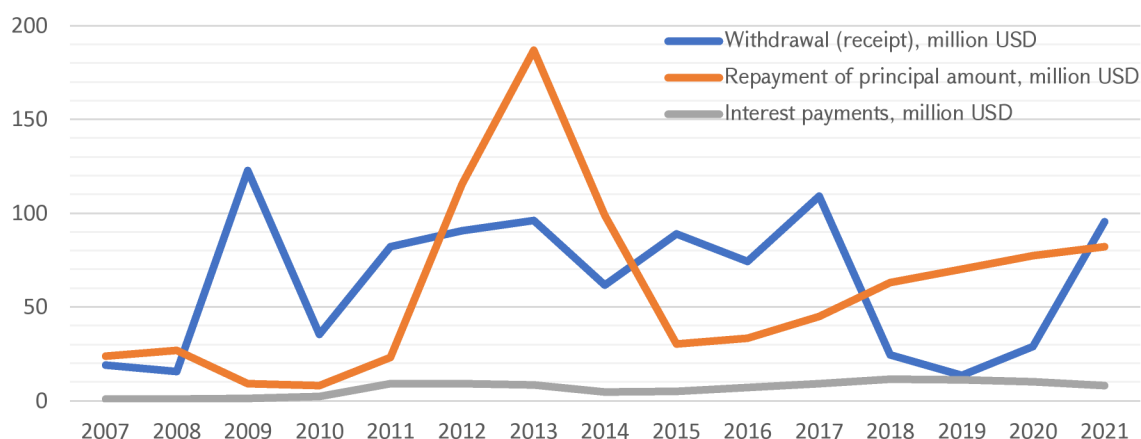


Figure 1.55. Debt servicing of the Central Bank of Armenia, million USD

Source: RA Ministry of Finance database – www.minfin.am

The International Monetary Fund and the European Development Bank are the key creditors of the Central Bank of RA (Figure 1.56). It is important to note that for the last three years, we

have seen a significant reduction in foreign borrowings by the Central Bank of RA, which indicates a positive trend in the country's international reserves.

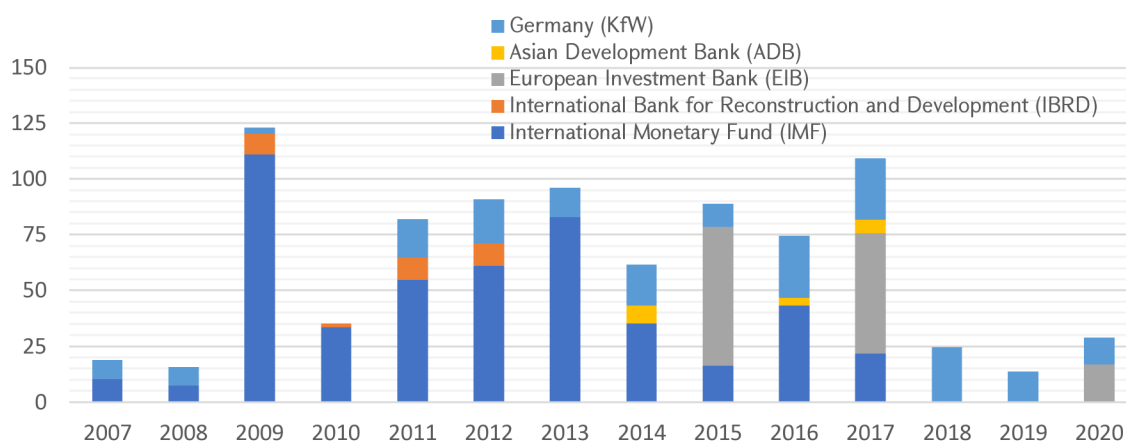


Figure 1.56. RA CB borrowings structure

Source: RA Ministry of Finance database – www.minfin.am

1.3.3. Conclusions and Recommendations

Summarizing the analysis of the RA public debt, we can conclude that the debt burden on the economy and the state budget is relatively high. The Government bears the most significant debt burden. Theory and practice prove that the debt burden in the case of a developing economy causes considerable harm to economic growth in the long run. At the same time, the structure and quality of public debt are of great importance regarding the impact on economic growth rates.

In the case of Armenia, the volumes of public debt already exceed the indicators set as the maximum value of the public debt to the country's GDP. Of course, many countries also violate these

limits. However, we believe that consideration of public debt in terms of its impact on economic growth rates should be individual in the case of different countries.

It is also essential to revise approaches to restrictions on budgetary borrowings. The accepted practice of limiting the level of public debt to GDP in the modern world is practically no longer working. It is necessary to establish limits on payments, to the country's GDP. This will allow the Government to borrow more prudently and directly take into account the possibilities of the state budget in terms of covering future debt.

2. The pension system of Armenia: issues, development prospects, role in investment inflow and economic growth

In theory and practice, the accumulative pension system solves many essential problems regarding the country's economic development. In particular, it solves the social issue, and in many respects, it contributes to equalizing the incomes of the population, improving the living standards of the population of retirement age, and many

other social and economic tasks. However, regarding developing markets, the pension insurance system requires closer attention from = supervision and the mechanisms and principles for implementing the accumulative pension system in the country.

2.1. Literature review: The role of pension savings in investment and economic growth

The key task of pension systems is a social function. On the one hand, the pension system makes providing for older people financially possible. On the other hand, in most cases, it significantly reduces the poverty level in this population group. At the same time, due to the limited state budgetary funds, the solution to this issue is shifted (in whole or in part) to the citizens themselves through accumulative pension systems. The task set is successfully solved in a stable macroeconomic environment, a developed financial system, and sufficiently high incomes. On the other hand, in the conditions of developing countries, achieving such a goal is much more difficult.

At the same time, within the framework of our study, another aspect of the role of pension systems in the economy is of more interest. Taking into account the specifics of pension savings (under the conditions of the accumulative pension system), they are of a reasonably long-term nature, which, under certain conditions, can allow the formation of “long money”, which in turn should lead to stimulating economic growth in the country. Little literature on the relationship between pension fund assets and economic

growth exists. At the same time, the authors' conclusions are also ambiguous.

There are three types of pension systems: distributive, partially accumulative and accumulative. The system in which the expenses of today's pensioners are paid by the contributions of today's employees and employers based on generational solidarity is called a distributive system. An alternative to the distributive approach is an accumulative pension. In this case, the participants make contributions as long as they are in the working-age population. When employees retire, pension benefits are paid out of this fund.

In many countries, pension systems combine accumulative and distributive systems. Distributive systems have become financially unsustainable as the population ages rapidly and contribution rates are not high enough. So many countries worldwide are moving from distributive to (partially) accumulative pension systems. According to Borsch-Supan et al. (2004), such a switch is beneficial because switching from a distributive to a (partly) accumulative system can lead to higher economic growth as aggregate

saving rates increase⁶¹. The reason is that pension contributions in the accumulative system are invested in the capital markets and are, therefore, part of savings (Zandberg and Spierdijk, 2010)⁶².

On the other hand, Blanchard and Fischer (1989)⁶³ argue that this is not necessarily the case. For example, suppose people are already saving a lot. In that case, mandatory retirement savings will replace their voluntary savings, and the aggregate savings rate may remain the same and will not affect economic growth. However, financial capital markets will become more efficient. In addition, pension financing can also boost economic growth by reducing labour market distortions and improving corporate governance (Zandberg and Spierdijk, 2010)⁶⁴.

In this regard, within the framework of the current study, we considered two critical positions of the scientific community on this issue: (1) pension savings stimulate economic growth in the long term, and (2) pension savings do not affect the country's economic growth in any way. Thus, we attempt to determine the role of pension savings in economic growth.

Most of the scientific research⁶⁵ on the impact of pension fund assets on macroeconomic indicators proves the positive impact of pension savings on economic growth rates due to an increase in the total savings formed in pension assets available for investment.

Davis and Hu (2004)⁶⁶ mention three aspects of the relationship between pension fund assets and economic growth: (1) the relationship between financing and savings, (2) the positive impact of financing on economic growth through positive externalities, and (3) the direct impact. At the same time, most of the research primarily proves the first two theses. It leads to the conclusion that pension savings lead to an expansion of savings, which, under the condition of a developed financial system, leads to stimulating economic growth rates in the long run. Continuing this study, the authors published another work, confirming the abovementioned theses⁶⁷.

Holzmann (1997a,b)⁶⁸ confirms the results of Davis and Hu concluding that the pension reform positively affected overall labour productivity in Chile. Bayar (2017)⁶⁹ points to a two-way causal

⁶¹ Borsch-Supan, A., Koke, J., and Winter, J. (2004). Pension reform, savings behavior and capital market performance. MEA discussion paper series 04053, Munich Center for the Economics of Aging (MEA) at the Max Planck Institute for Social Law and Social Policy.

⁶² Zandberg, E. and Spierdijk, L. (2010). Funding of pensions and economic growth: Are they really related. Netspar Discussion Paper 12/2010-082.

⁶³ Blanchard, O. J. and Fischer, S. (1989). Lectures on macroeconomics. MIT Press.

⁶⁴ Zandberg, E. and Spierdijk, L. (2010). Funding of pensions and economic growth: Are they really related. Netspar Discussion Paper 12/2010-082.

⁶⁵ See - Itiparmakov, N., & Nedeljkovic, M. (2018). Does pension privatization increase economic growth? Evidence from Latin America and Eastern Europe. *Journal of Pension Economics and Finance*, 17, 46-84. <https://doi.org/10.1017/S1474747216000160>; Apilado, V. (1972). Pension Funds, Personal Savings, and Economic Growth. *The Journal of Risk and Insurance*, 39(3), 397-404. <https://doi.org/10.2307/251830>; Bijlsma, M., Bonekamp, J., van Ewijk, C., & Haaijen, F. (2018). Funded Pensions and Economic Growth. *De Economist*, 166, 337-362. <https://doi.org/10.1007/s10645-018-9325-z>; Holzner, M., Jestl, S., & Pichler, D. (2021). Public and private pension systems and macroeconomic volatility in OECD countries. *Scottish Journal of Political Economy*, 1-38. <https://doi.org/10.1111/sjpe.12278>;

Iparraguirre, J.L. (2020). Macroeconomic Aspects. In *Economics and Ageing* (pp. 283-321). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-29019-1_5; Sanusi, K. A., & Kapingura, F. M. (2021). Pension funds as fuel for overall investment level and economic growth: An empirical insight from South African economy. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1935661>; Zandberg, E., & Spierdijk, L. (2013). Funding of pensions and economic growth: Are they really related? *Journal of Pension Economics and Finance*, 12(2), 151-167. <https://doi.org/10.1017/S1474747212000224>.

⁶⁶ Davis, E. P. and Hu, Y. (2004). Is there a link between pension-fund assets and economic growth? - a cross-country study. Public Policy Discussion Papers 04-23, Economics and Finance Section, School of Social Sciences, Brunel University.

⁶⁷ Davis, E. P. and Hu, Y.-W. (2008). Does funding of pensions stimulate economic growth? *Journal of Pension Economics and Finance*, 7(02):221-249.

⁶⁸ Holzmann, R. (1997a). On economic benefits and fiscal requirements of moving from unfunded to funded pensions. *European Economy Reports and Studies*, 4:121-166; Holzmann, R. (1997b). Pension reform, financial market development, and economic growth: Preliminary evidence from Chile. *IMF Staff Papers*, 44(2):149-178

⁶⁹ Bayar, Y. (2017). Pension Funds, Financial Development and Economic Growth in Emerging Market Economies: A

relationship between pension fund assets and economic growth.

We should note that few studies prove the direct impact of pension savings on economic growth rates. At the same time, most papers consider this impact through the financial system's development, which inevitably leads to an expansion of aggregate demand and stimulates economic growth rates.

In the example of South Africa, Sanusi & Kapingura (2021)⁷⁰ show that the impact of pension funds on economic growth and investment is small. In this regard, the authors emphasize the need to develop those institutions of financial intermediation that would not only redirect pension savings into investments that ensure economic growth but also guarantee the safety of pension fund assets in the long term.

According to Walker and Lefort⁷¹, there are several conditions under which the growth of pension savings will lead to the development of the financial sector. First, it is necessary to have financial instruments for pension funds to invest their savings. At the same time, these instruments must be reliable and risk-free. Secondly, the availability of pension savings invested in various financial assets will improve the quality of human capital in the financial sector since it will require more efforts to ensure the reliability of investments and manage large volumes of financial assets on a long-term basis; therefore, there is need for more knowledge and skills. The

third thesis of the author is that the growth of pension savings leads, as a rule, to the growth of financial innovations. All this together determines and stimulates economic growth through various channels of influence. Thus, the authors concluded that an increase in the pension funds assets positively affects transparency and integrity and improves the distribution of funds in the financial system, which can lead to permanent positive changes in growth and welfare in the economy.

Hoffmann et al. (2020)⁷² emphasize that pension fund assets are essential for environmental, social and governance investments because they combine financial profitability with public goods without losing financial income. Other authors, Demirgüç-Kunt and Levine (1996)⁷³ and Levine and Zervos (1998)⁷⁴, also agree that the development of the financial system stimulates economic growth, and the development of the stock market has the most significant positive impact. At the same time, pension savings and investment in various financial instruments on the national stock market in the long run lead to economic growth. Many other studies show that investing pension savings in equity contributes to the development of the stock market (see Alda, 2017⁷⁵; Alda & Sanjuan, 2017⁷⁶), which, in turn, affects the investment of pension funds in equities (Babalos & Stavroyiannis, 2019⁷⁷).

Panel Causality Analysis. *Journal of BRSA Banking and Financial Markets, Banking Regulation and Supervision Agency*, 11(1), 51-64.

⁷⁰ Sanusi, K. A., & Kapingura, F. M. (2021). Pension funds as fuel for overall investment level and economic growth: An empirical insight from South African economy. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1935661>

⁷¹ Eduardo Walker & Fernando Lefort, 2002. "Pension Reform And Capital Markets: Are There Any (Hard) Links?," *Abante, Escuela de Administracion. Pontificia Universidad Católica de Chile.*, vol. 5(2), pages 77-149.

⁷² Hoffmann, B., Jubert, T. A., & Parrado, E. (2020). The business case for ESG investing for pension and sovereign wealth funds (Policy brief IDB-PB-338). InterAmerican Development Bank.

⁷³ Demirgüç-Kunt, A. and Levine, R. (1996). Stock market development and financial intermediaries: Stylized facts. *The World Bank Economic Review*, 10(2):291–321.

⁷⁴ Levine, R. and Zervos, S. (1998). Stock markets, growth and economic development. *American Economic Reviews*, 88.

⁷⁵ Alda, M. (2017). The relationship between pension funds and the stock market: Does the aging population of Europe affect it? *International Review of Financial Analysis*, 49, 83-97. <https://doi.org/10.1016/j.irfa.2016.12.008>

⁷⁶ Alda, G. M., & Sanjuan, M. I. (2017). The importance of domestic equity pension funds on stock market. *Spanish Journal of Finance and Accounting*, 46(2), 227-248. <https://doi.org/10.1080/02102412.2016.1265709>

⁷⁷ Babalos, V., & Stavroyiannis, S. (2020). Pension funds and stock market development in OECD countries: Novel evidence from a panel VAR. *Finance Research Letters*, 34, 101247. <https://doi.org/10.1016/j.frl.2019.07.020>

Achkasova and Urum (2019)⁷⁸ and Oliynyk et al. (2017)⁷⁹ also conclude that pension savings increase investment within the country, ultimately stimulating economic growth and, therefore, in the long term, increasing the level and quality of life in the country. Tropina et al. (2021)⁸⁰ prove that private pension funds are a source of significant investment in the economy. Sun and Hu (2014)⁸¹ note that the accumulative pension system contributes to developing the country's financial system and economic growth. Based on an empirical analysis of 55 countries, the authors conclude that a 1% increase in pension fund assets can increase capital market value by 0.15–0.23%.

Thomas & Spataro (2016)⁸² indicate that the effective development of financial intermediation institutions, driven by investments from pension funds, is possible in an underdeveloped banking system. Niggemann and Rocholl (2010)⁸³, examining developing countries, argue that introducing an accumulative pension system causes the growth of the stock and corporate bond market. Stewart et al. (2017)⁸⁴ do not deny the positive impact of pension assets on the capital market but note the limitations of its effectiveness due to the tendency to invest in

short-term assets (bank deposits and short-term government bonds), which in turn leads to a reduction in returns on assets.

Despite a relatively large number of studies confirming the positive impact of pension savings on economic growth rates, both directly and through a developed financial market, in the scientific literature, we can also find papers that prove that the noted relationship may not exist.

One of the latest works by Zandberg and Spierdijk (2010)⁸⁵, based on a sample of developed and developing countries, casts doubt on the relationship between pension savings and economic growth rates in the country. Other papers show that the positive impact of pension savings on investment growth is limited to a reduction in savings in other forms, particularly in household deposits.

At the same time, Altiparmakov and Nedeljkovic (2018)⁸⁶ analyze the transition to private pension funds in Latin America and Eastern Europe and identify the limited impact of pension savings on total savings. Holzner et al. (2021)⁸⁷ argue that the increased role of private pension funds could increase financial stability risks. Bijlsma et al. (2018)⁸⁸ note a significant impact of pension assets on the growth of

⁷⁸ Achkasova, S., & Urum, A. (2019). Investing assets of nonstate pension funds in bonds. *Development Management*, 17(1), 1-14. [https://doi.org/10.21511/dm.5\(1\).2019.01](https://doi.org/10.21511/dm.5(1).2019.01)

⁷⁹ Oliynyk V., Zhuravka F., Bolgar T., & Yevtushenko O. (2017). Optimal control of continuous life insurance model. *Investment Management and Financial Innovations*, 14(4), 21-29. [https://doi.org/10.21511/imfi.14\(4\).2017.03](https://doi.org/10.21511/imfi.14(4).2017.03)

⁸⁰ Tropina, V., Melnyk, V., Rippa, M., Yevtushenko, N., & Rybakova, T. (2021). Investment potential of non-state pension funds in Ukraine. *Investment Management and Financial Innovations*, 18(2), 79-90. [https://doi.org/10.21511/imfi.18\(2\).2021.07](https://doi.org/10.21511/imfi.18(2).2021.07)

⁸¹ Sun, S., & Hu, J. (2014). The impact of pension systems on financial development: an empirical study. *Risk Governance & Control: Financial Markets & Institutions*, 4(3), 120-131. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2481749

⁸² Thomas, A., & Spataro, L. (2016). The effects of pension funds on markets performance: A review. *Journal of Economic Surveys*, 30, 1-33. <https://doi.org/10.1111/joes.12085>

⁸³ Niggemann, T., & Rocholl, J. (2010). Pension funding and capital market development. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1571126>

⁸⁴ Stewart, F., Despalins, R., & Remizova, I. (2017). Pension Funds, Capital Markets, and the Power of Diversification (Policy Research Working Paper No. 8136). World Bank, Washington, DC.

⁸⁵ Zandberg, E. and Spierdijk, L. (2010). Funding of pensions and economic growth: Are they really related. *Netspar Discussion Paper 12/2010-082*.

⁸⁶ Altiparmakov, N., & Nedeljkovic, M. (2018). Does pension privatization increase economic growth? Evidence from Latin America and Eastern Europe. *Journal of Pension Economics and Finance*, 17, 46-84. <https://doi.org/10.1017/S1474747216000160>

⁸⁷ Holzner, M., Jestl, S., & Pichler, D. (2021). Public and private pension systems and macroeconomic volatility in OECD countries. *Scottish Journal of Political Economy*, 1-38. <https://doi.org/10.1111/sjpe.12278>

⁸⁸ Bijlsma, M., Bonekamp, J., van Ewijk, C., & Haaijen, F. (2018). Funded Pensions and Economic Growth. *De Economist*, 166, 337-362. <https://doi.org/10.1007/s10645-018-9325-z>

economic sectors. However, given the high share of outward investment from pension funds, this positive impact occurs in the countries that attract these investments. In this sense, the positive impact of pension savings on economic growth rates in national economies is ambiguous. Daradkah and Al-Hamdoun (2020)⁸⁹, examining the relationship between pension funds and

capital market development in Jordan from 1980 to 2017, found no statistically significant relationship in the short term but showed a statistically significant long-term relationship between pension funds and the development of the capital market (both in terms of market depth and liquidity).

Conclusions

Summarizing the above, we can conclude that pension savings can positively affect the economic growth rate in the case of a sufficient degree of financial intermediation institutions development in the country, including the capital market. At the same time, even a well-developed financial market does not guarantee a positive impact of pension savings on economic growth rates since it redistributes household financial resources from one type of investment to another. In addition, as international experience shows, most of the investments of pension funds, as a rule, are invested in foreign assets. And in the

conditions of emerging markets, this circumstance only harms the country's economic growth since pension funds contribute to the outflow of capital from the country.

Finally, speaking of long-term investments, again, the experience of most countries proves that pension funds, as a rule, make medium-term investments, constantly redirecting and redistributing their assets into the most risk-free and, at the same time, profitable investments. The latter, in turn, to a certain extent, neutralises the thesis about the positive impact of pension savings in the long term.

2.2. Accumulative pension funds: international experience

The theory and empirical studies of various countries prove that pension investments positively affect economic growth rates when the economy is characterized by a high degree of financial systems development. In this sense, it is rather challenging to draw any general conclusions about the impact of pension funds on the economy since the individual experience of each country is crucial in this matter. At the same time, we can argue that, in general, the development of pension funds largely depends on the development of the economy itself and the level of well-being of the population. Therefore, the presence of pension investments and their

positive impact is more characteristic of developed countries simply because of well-developed institutions of financial intermediation. On the other hand, emerging market economies that do not meet these requirements involuntarily contribute to a certain outflow of capital from the country by introducing accumulative pension funds. In the long run, the latter not only does not stimulate economic growth rates, but, on the contrary, leads to its containment and slowdown, including from the point of view of a decrease in the level of well-being.

Global indicators of financial systems development show a noticeable increase (Figure

⁸⁹ Daradkah, D., & Al-Hamdoun, N. (2021). Pension funds, capital market development, and macroeconomic variables:

Evidence from Jordan. *Journal of Public Affairs*, 21(2). <https://doi.org/10.1002/pa.2215>

2.1). At the same time, as shown in Figure 2.1, the world's stock market and banking system are more developed. At the same time, the first one is relatively volatile.

As for the assets of pension funds, the global average at the end of 2019 was 29.8% of GDP. At the same time, if examining the dynamics since 1990, the average indicator fluctuates within these limits.

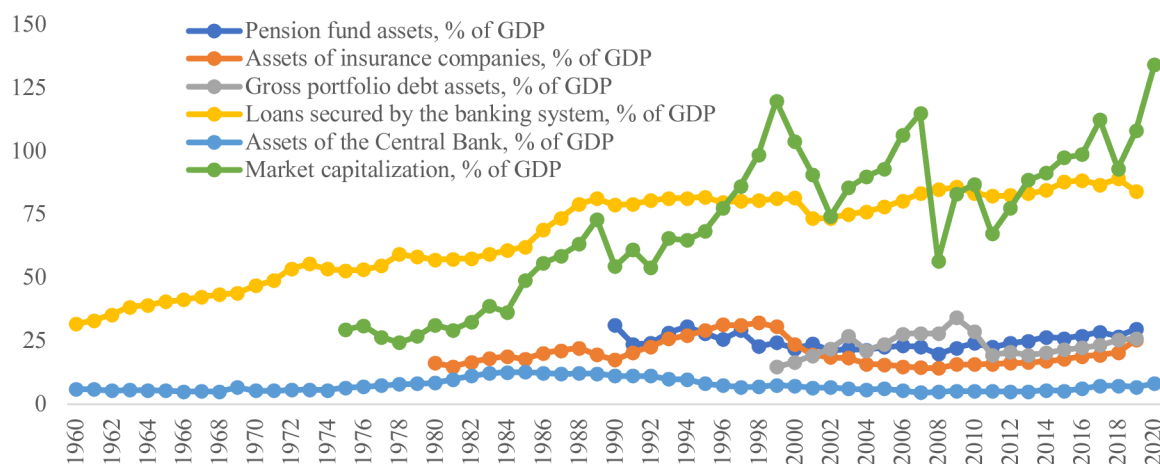


Figure 2.1. Financial intermediation institutions, % of GDP

Source: World Bank database – www.dataworldbank.org

At the same time, the pension funds assets in developed countries are substantially higher than in middle-income countries (Figure 2.2). If it

accounted for 45.3% of GDP in high-income countries in 2020, then in middle-income countries, pension fund assets were 17.5%.

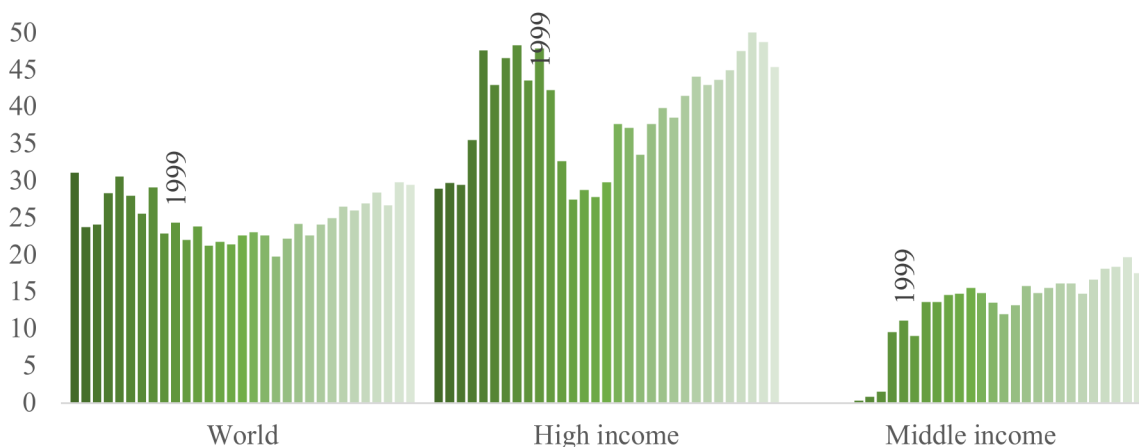


Figure 2.2. Pension fund assets, % of GDP (1990-2020)

Source: World Bank database – www.dataworldbank.org

The top 10 countries in terms of the share of pension investments to GDP are presented in Figure 2.3. As we can see, developed and developing countries can be observed among the top ten countries. At the same time, in all countries, we observe an increase in the assets of

pension funds to the country's GDP. On the other hand, we should highlight the noticeable sensitivity of pension funds' assets to a crisis in the financial markets, which calls into question the sufficient reliability of these investments.

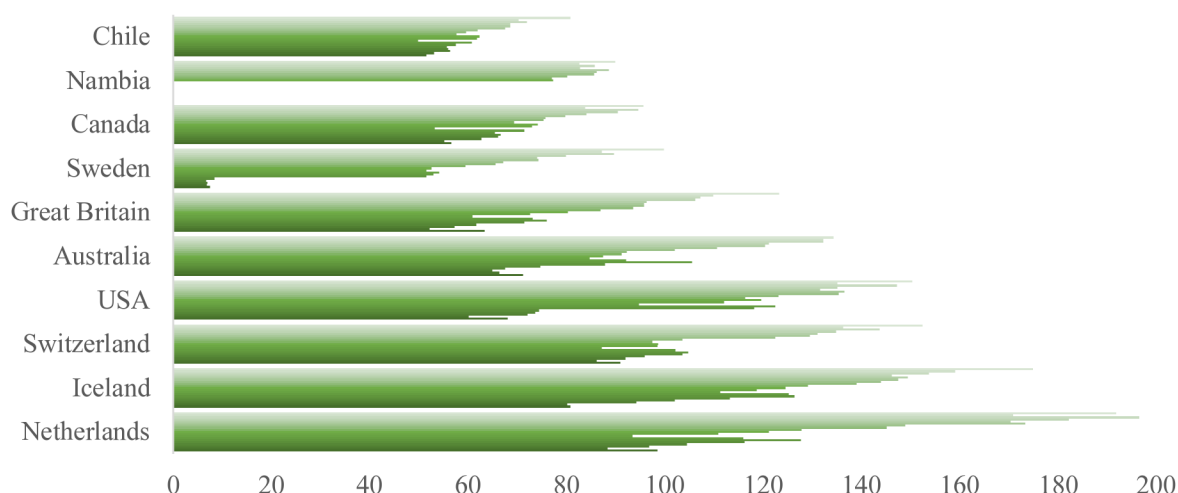


Figure 2.3. Pension fund assets (top 10 countries), GDP % (2001-2019)

Source: World Bank database – www.dataworldbank.org

Comparing the data on the accumulative pension funds assets to GDP in the OECD countries with a ten-year lag, we can argue that, in most cases, we observe an increase in investments of about 20% (Figure 2.4). We should highlight a large gap in the share of pension fund assets to GDP between the countries of Western Europe and the USA and the rest of the OECD countries. If the first group of countries shows an average of two to three times higher than the asset-to-GDP ratio, this indicator is ten or more times lower in most other countries. Thus, we can argue that

pension funds in the OECD countries are developed quite unevenly and are more represented in the developed part of this association. At the same time, the thesis about the positive impact of pension savings on economic growth rates necessitates a reverse trend. However, as we have seen from the literature review and the statistics presented above, a high level of pension fund assets to GDP is more characteristic of developed countries, where stimulating economic growth is not a primary task.

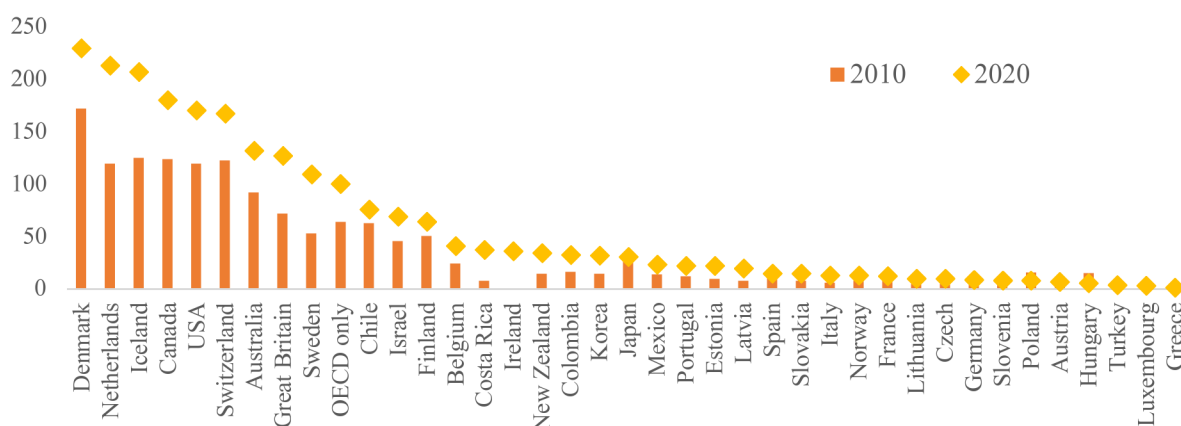


Figure 2.4. Total assets with accumulative and private pension contracts in OECD countries in 2010 and 2020, GDP %

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

The dynamics of total assets under accumulative and private pension agreements to GDP ratio in non-OECD countries in 2010 and 2020

also prove the abovementioned thesis. The average figures are two times lower than in OECD countries. However, in the group of countries

outside the OECD area, there is also a significant gap in this indicator between countries. And the logic of developed pension funds in high-income countries also holds here. In the rest of the countries, the indicators are quite low and,

apparently, insufficient in terms of a long-term positive impact on the economic growth rates in the country. This figure did not exceed 9% of GDP in most countries in 2020.

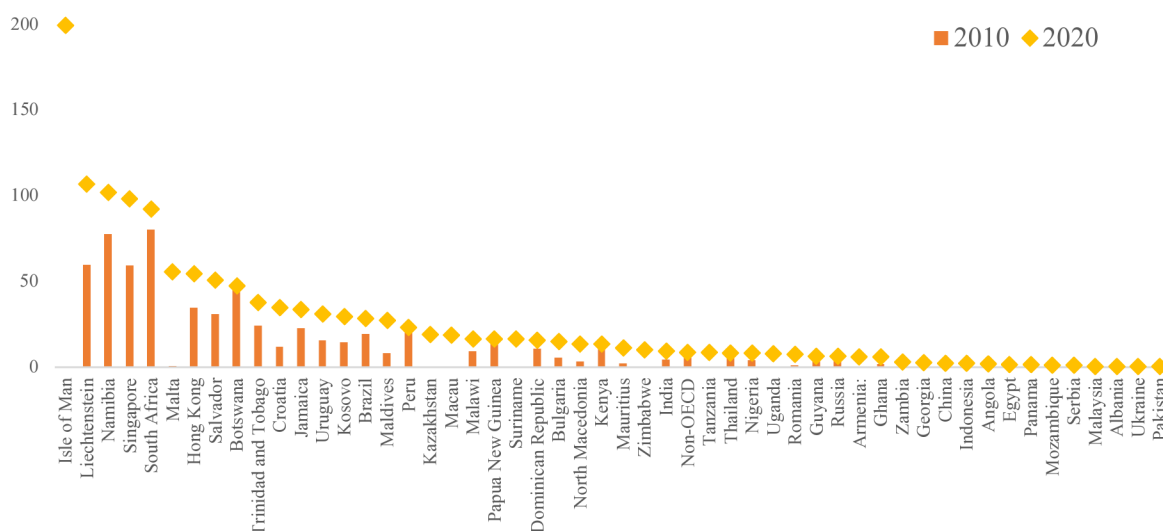


Figure 2.5. Total assets under accumulative and private pension contracts in non-OECD countries in 2010 and 2020, % of GDP

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

In the total assets of pension savings, the dominant position is occupied by the OECD countries, that is, countries with a high level of income and wealth (Figure 2.6). At the same time,

over the past few years, we can observe a certain increase in pension assets both in OECD countries and outside.

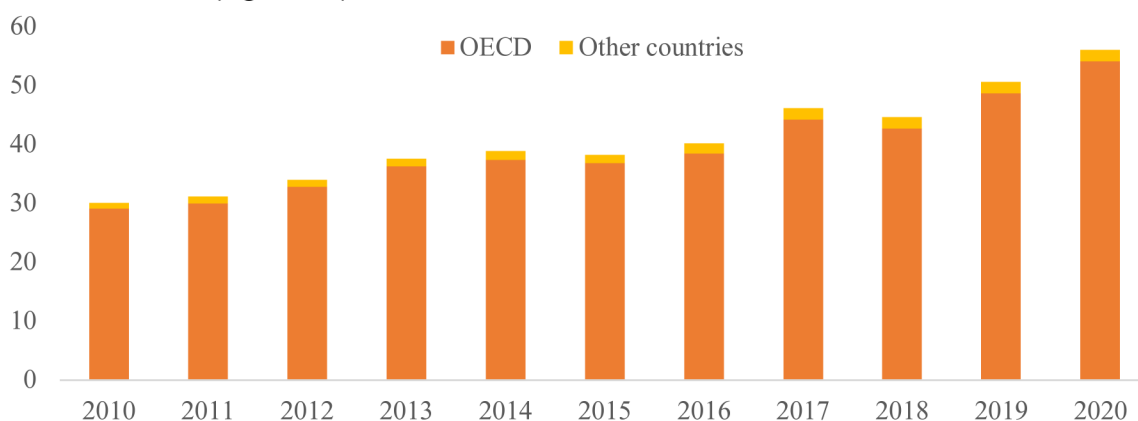


Figure 2.6. Total assets of pension savings plans in OECD and other countries, 2010-2020

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

The volume of pension funds in the global market is impressive. Figure 2.7 shows the size of selected public pension reserve funds at the end of 2020 or the latest available date. As we can see, we observe the most significant volumes of

pension fund assets to GDP in the USA. Thus, in terms of volume, the US OASI Trust Fund is much larger than all other countries presented in the graph. The second place is occupied by the Japanese GPIF, and the third by the Korean NPF.

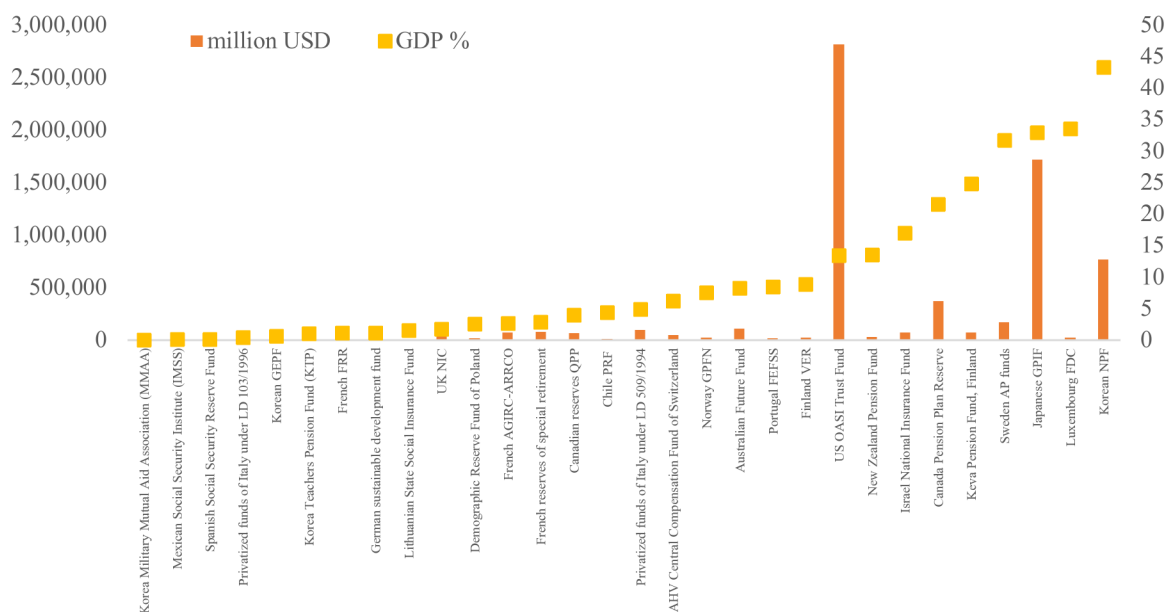


Figure 2.7. Size of individual public pension reserve funds at the end of 2020 (or latest available)

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

However, the picture regarding the pension fund assets to GDP ratio is somewhat different. The top five are the following pension funds: Korean NPF - 43.3%, Luxembourg FDC - 33.6%, Japanese GPIF - 33%, Swedish AP Funds - 31.8%, Keva Pension Fund, Finland - 24.8%. At the same time, the US OASI Trust Fund assets are 13.4% of GDP. However, we must not forget that at the same time, the US is the world's first economy in terms of GDP and accounts for about a quarter of total global output, which makes the share of the US OASI Trust Fund globally much more significant than the volume of pension funds in other countries.

At the same time, here, we can also note that the volume of pension fund assets depends on the

degree of economic development and the level of income and well-being in the country. Thus, reaching high volumes of pension fund assets in a developing economy is challenging, making it difficult to influence economic growth rates positively. The latter holds, especially considering the thesis that in conditions of limited financial resources, there is only a redistribution of these resources from one institution of financial intermediation (the banking system in the first place) to pension funds. In a low-income environment, there is also a reduction in final consumption, which in the short term leads to a slowdown in economic growth in the country.

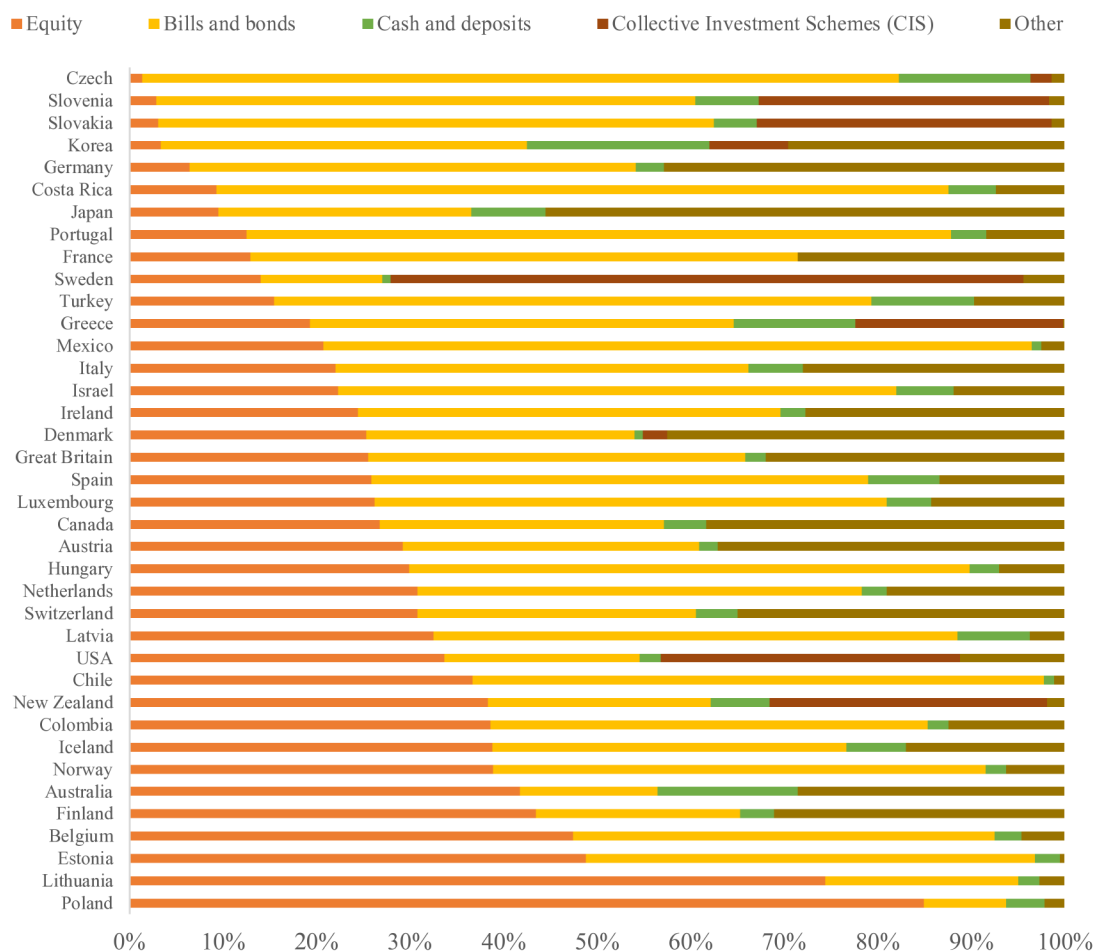


Figure 2.8. Asset allocation in pension plans by selected asset classes and investment instruments in OECD countries at the end of 2020 or latest available

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

In this perspective, where exactly pension savings are invested becomes a priority. Considering the case of OECD countries (Figure 2.8) and other countries (Figure 2.9), we can draw the following main conclusion: most pension fund assets are invested in the stock market, either in shares or bonds. It is important to note that in most cases, investments in the banking system as deposits are minimal. An exception is the experience of Georgia, where 100% of the assets of pension funds are invested in the banking system.

At the same time, it is evident that there is a well-developed stock market in most countries

where assets are invested in shares and bonds. On the other hand, in middle-income countries with underdeveloped stock markets, pension fund assets are invested in the banking system.

Thus, from the point of view of the impact on economic growth, it is obvious and proven by many scientific studies and the experience of many countries that developed stock markets stimulate economic growth in the long term. At the same time, the banking system primarily contributes to the accumulation and preservation of national savings in the country and only indirectly stimulates the economic growth rate.

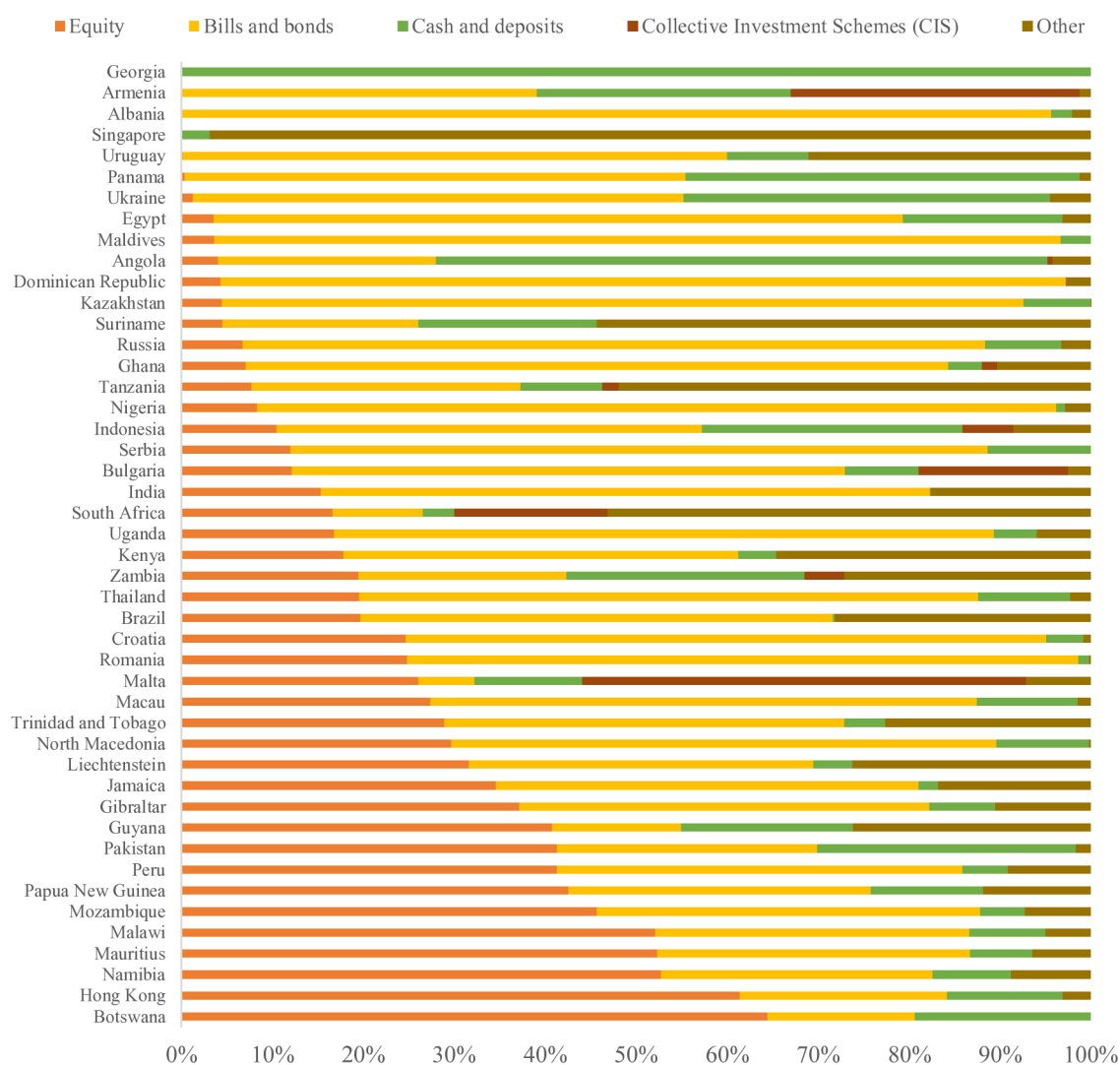


Figure 2.9. Asset allocation in pension plans by selected asset classes and investment instruments in non-OECD countries at the end of 2020 or latest available year.

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

It is also important to note that equity investments have a more positive effect on economic growth rates since the bond market, in most cases, is represented by short-term or medium-term instruments or government bonds, while the equity market directly affects the expansion of fixed capital, and directly leads to the expansion of the country's GDP.

From this point of view, we see equity investment in high-income countries and investment in bonds in middle-income countries. At the same time, as a rule, the bond market is represented to a greater extent by government debt obligations, which is a good source of increasing domestic debt but not a source of expanding the gross output.

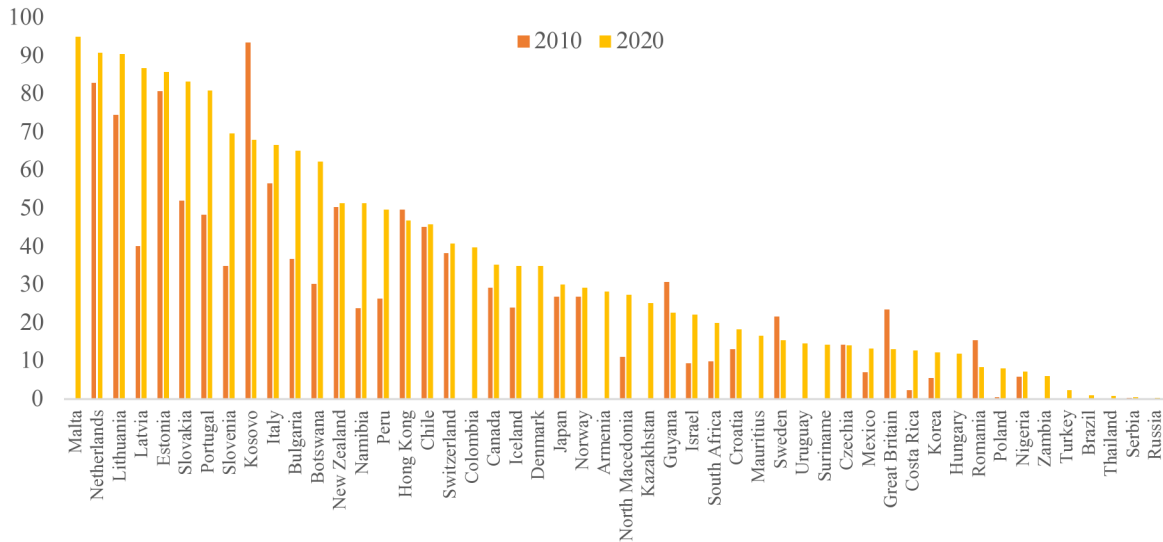


Figure 2.10. Share of pension assets invested abroad in 2010 (or first available year) and 2020 (or latest available year).

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

Another issue of pension funds investments is the large share of capital outflow in the context of the low development of financial intermediation institutions. Given the limited instruments for investment, pension funds tend to invest in foreign financial assets (mostly in developed economies). It minimizes the risks and also allows for a wider choice of tools. But along with this, such an outflow of capital leads to a reduction in financial resources within the country, leading to a slowdown in economic growth.

This thesis is well confirmed by Figure 2.10. We can observe that there are countries where

almost 100% of pension fund assets are invested in foreign assets. Among the countries where this share is more than 50%, about half are countries with a middle level of well-being, even though they are included in the high per capita income group. Among such countries, we can note the countries of Eastern Europe and the Baltic states.

The exception to the general trend is Russia, where the investment of pension funds in foreign assets is 0%, and all the assets of the accumulative pension system are invested within the country.

Armenian pension fund investments in foreign financial assets are 28% as of 2020, almost a third of pension savings.

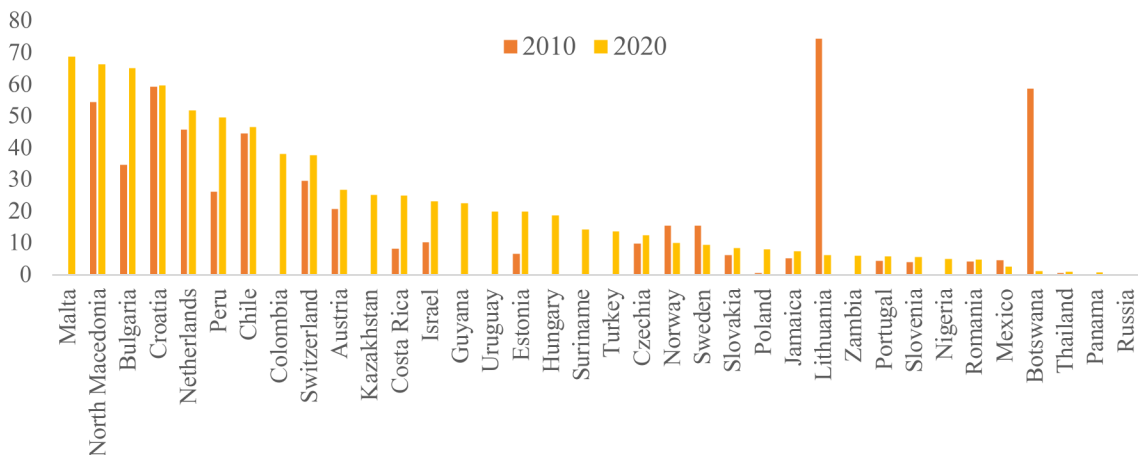


Figure 2.11. Pension assets invested in foreign currency, 2010 (or first available), 2020 (or last available).

Source: Organization for Economic Cooperation and Development (OECD) database- <https://www.oecd.org>

As for the share of pension assets invested in foreign currency in 2010 and 2020, as seen in Figure 2.11, only a few countries invest more than

30-40% of pension investments in foreign currency. In most cases, this figure is less than 20%.

Conclusions

Summarizing the brief review of international experience in investing pension funds savings confirms the thesis voiced in the literature review. Considering the impact of accumulative pension funds on economic growth rates, we concluded that, in general, the development of accumulative pension systems depends on the degree of development of the economy. In other words, a precondition for a positive impact of accumulative pension funds on the economic growth rate is the population's high level of income and well-being.

Pension funds do not determine high incomes in the economy in the long term. Still, the high income level of the population makes it possible to effectively use the possibilities of pension funds in terms of stimulating economic growth rates.

The second necessary condition for the positive impact of pension savings on economic growth is the presence of a well-developed financial system, and financial intermediary institutions that would allow efficient investment in the real sector of the economy.

2.3. The accumulative pension system of Armenia: basic principles, general characteristics

The law on the reform of the pension system in Armenia, adopted in 2010, implied a transition from a state funded and managed system (single-tier, pay-as-you-go (PAYG)⁹⁰) to a multi-tier system that would finance pension payments both from the state budget and from private

sources. Since July 2014, the reform of the Armenian pension system has been put into practice and has undergone several changes until 2021. The levels of the pension system of the Republic of Armenia are presented in Table 2.1.

Table 2.1. The levels of the pension system of RA.

Tier 0	Tier 1	Tier 2	Tier 3
Distributive system (PAYG)		Accumulative system	

Source: compiled by the authors

The multi-tiered pension system of Armenia is based on the World Bank model⁹¹, which assumes the following levels of the pension system:

- *Zero tier*, providing payment of old-age, disability and survivor's pensions to those who do not have insurance coverage. The allowances are

financed from the state budget and are equal to the minimum allowance for a food basket.

- *The first tier* involves providing old-age, disability and survivors' pensions to those who had insurance coverage and were over 40 years of age in 2014, replacing their lost income. At the same time, payments are financed from the state budget and depend on personal income.

⁹⁰ National Assembly of the Republic of Armenia. (2002). Law of the Republic of Armenia on State Pensions. <https://www.arlis.am/DocumentView.aspx?DocID=61580>

⁹¹ Holzmann, R., and Hinz, R. (2005). Old-age income support in the 21st century: An international perspective on pension systems and reform. Washington, D.C.: The World Bank.

- The second tier involves the payment of a pension to those under 40 in 2014 and those who contribute to their mandatory individual accounts. Pension payments are self-financed and funded by the government at a contribution rate of 5% from individuals and 5% from the government, and depend on the volume of funds accumulated at retirement and the return on investment, net of management fees.

- The third tier involves voluntary contributions to accumulative pension funds.
 - The fourth tier involves mandatory contributions to accumulative pension funds.

We should also note that the last two tiers are additions to the second level. Figure 2.12 shows the accumulative pension scheme in Armenia today.

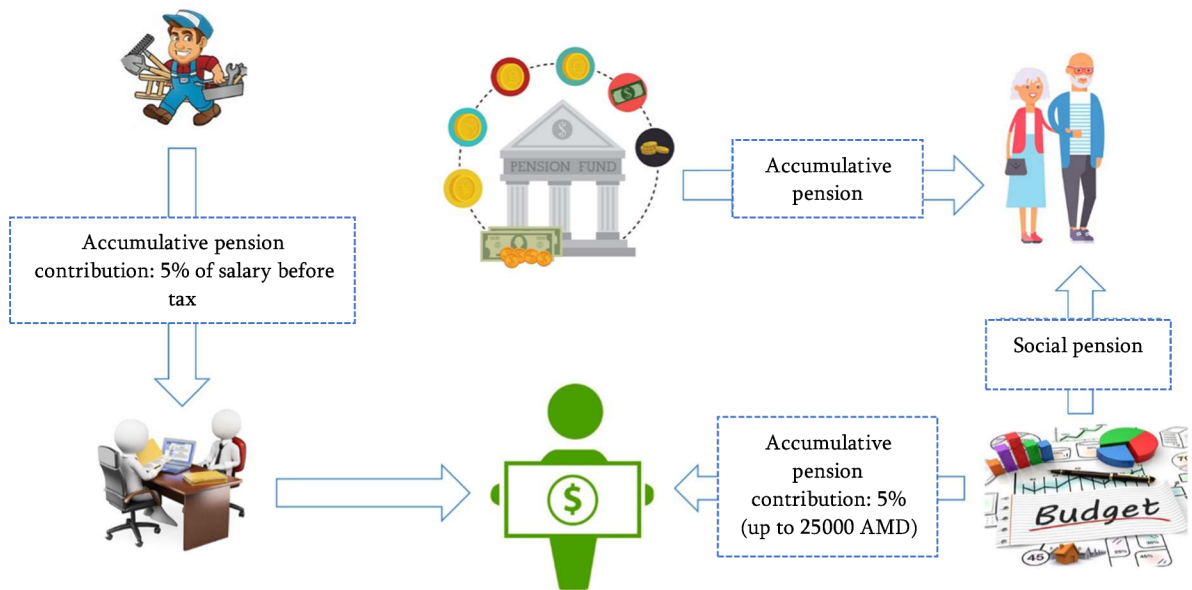


Figure 2.12. Accumulative pension scheme in Armenia

Source: compiled by the authors

Currently, participation in the accumulative pension system is mandatory for people born after January 1, 1974. Participants can be employees, notaries, as well as individual entrepreneurs. Today, 736,823 people participate

in the accumulative pension system (Figure 2.13). Regarding gender breakdown, the participation of men and women in the program is approximately equal.

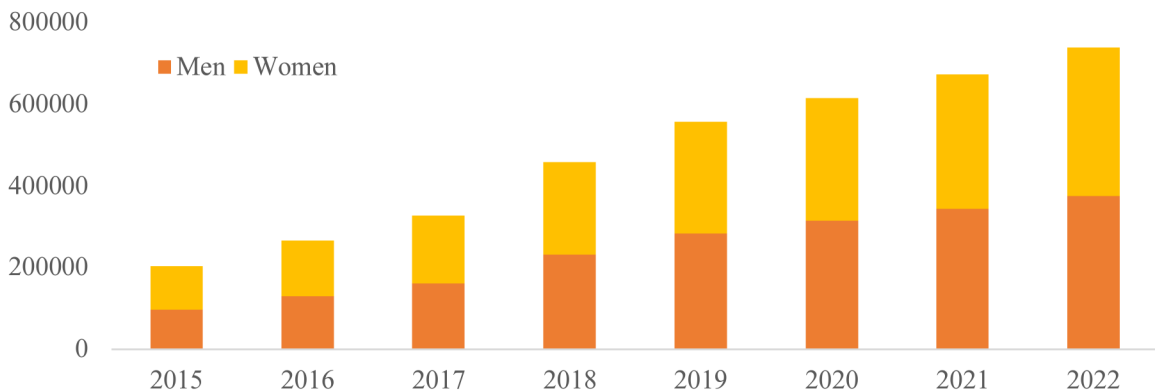


Figure 2.13. The number of people included in the cumulative pension system

Source: CB of RA database – www.cba.am

As shown in Figure 2.14, the number of shares of different age groups in the accumulative pension system has increased significantly since its implementation. At the same time, the key participants in the pension system, primarily from a financial point of view, are people born after 1975, the most able-bodied population of the

country. At the same time, we should note that it is this population group that forms the leading share of the country's total private consumption. We can conclude that the volume of payments to the accumulative pension fund is directly reflected in the reduction in consumer spending.

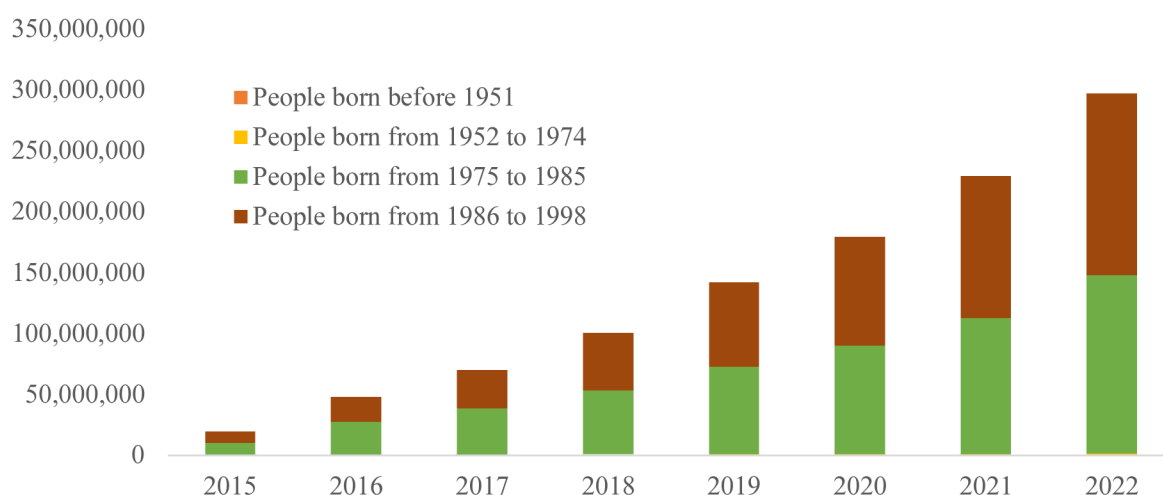


Figure 2.14. The number of shares of pension fund participants by age.

Source: CB of RA database – www.cba.am

The investments themselves from pension funds and their role in the country's economic growth in the long term are of the greatest interest. Today, two key pension funds operate in Armenia, to which trust management of accumulated funds has been transferred: C-Quadrat Ampega Asset Management and Amundi-ACBA Asset Management.

The law restricts the investment activities of pension funds, which makes it possible to secure savings to a certain extent. Thus, in particular, the assets of pension funds cannot be invested in:

- securities issued by the manager of the pension fund, as well as their affiliates;

- securities issued by the manager or auditor of the pension fund;
- securities issued by people providing consulting services to the manager of the pension fund;
- derivative financial instruments, except for hedged investments;
- assets, the disposal of which is prohibited or restricted;
- real estate or other material assets (works of art, commemorative coins, icons, antiques, expensive cars, etc.).

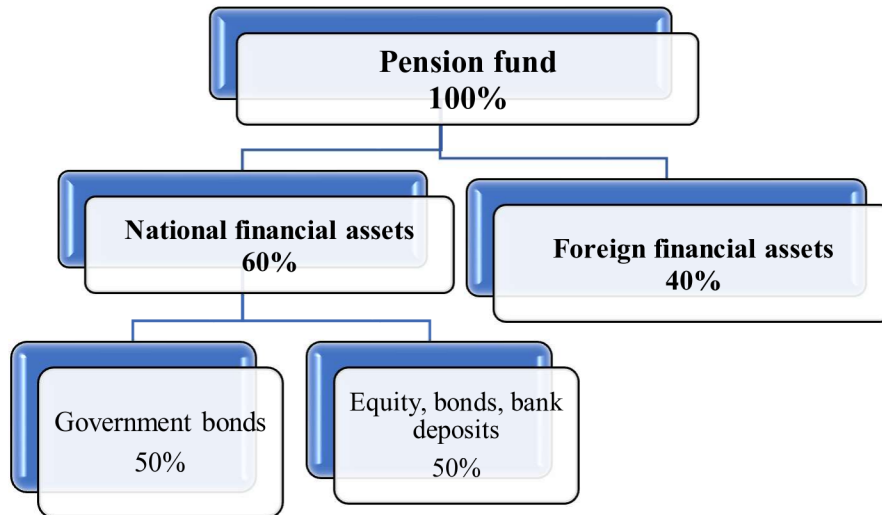


Figure 2.15. Investments of accumulative pension funds in Armenia.

Source: compiled by the authors

Figure 2.15 schematically shows in which assets pension funds have the right to invest participants' savings. In particular, 60% of savings should be invested in national assets and 40% in foreign financial assets. At the same time, half of

the investments in national financial assets are channelled into government bonds, thus contributing to expanding the country's domestic debt. The other half of national financial assets can be invested in equity, bonds or bank deposits.

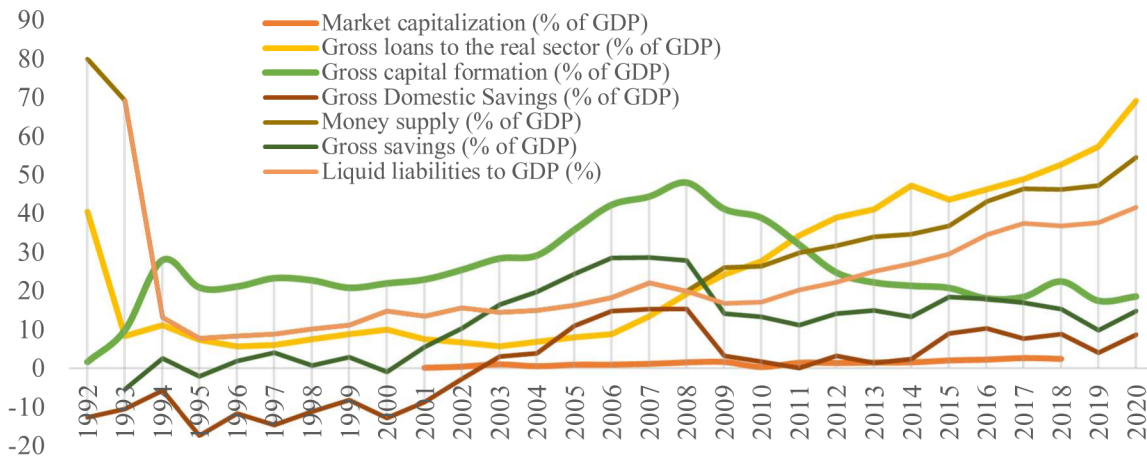


Figure 2.16. Development indicators of the financial sector of Armenia

Source: World Bank database – www.dataworldbank.org

Considering the key indicators characterizing the Armenian financial system, we can first note a completely underdeveloped capital market. The banking sector largely provides a noticeable increase in total loans to the real sector. At the same time, gross savings show a downward trend, which significantly limits the possibilities of pension funds in terms of long-term investments within the country.

The assets and liabilities of Armenian pension funds are shown in Figure 2.16. As we can see, since implementation, gross assets and the value of net assets of the pension funds have demonstrated a noticeable increase. At the same time, the dynamics of total liabilities are relatively unstable and demonstrate high volatility.

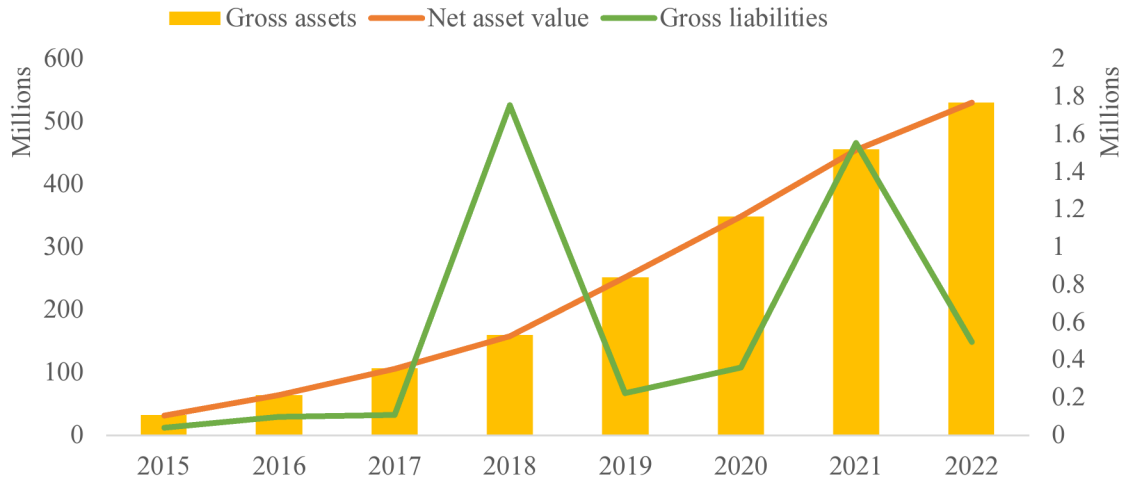


Figure 2.17. Total assets and liabilities of mandatory accumulative pension funds

Source: CB of RA database – www.cba.am

At the same time, the savings of participants in the pension system of levels 3 and 4 can be invested in three types of funds:

➤ *Fixed income scheme*

Assumes relatively low risk and stable low income. The fund's assets are 100% invested in stable financial instruments with a low level of risk (e.g. deposits, bonds, etc.).

➤ *Conservative scheme*

Assumes medium risk and can provide relatively high returns. In addition to financial instruments that provide a stable income, the

Fund's assets are invested (up to 25%) in relatively risky financial instruments - equity.

➤ *Balanced scheme*

Assumes relatively high risks and can provide higher returns. In addition to financial instruments that provide a stable income, the fund's assets can be invested up to 50% in risky financial instruments.

The dynamics of the total assets of mandatory accumulative pension funds are shown in Figure 2.18. As shown, 99% of the assets are invested in a conservative scheme.

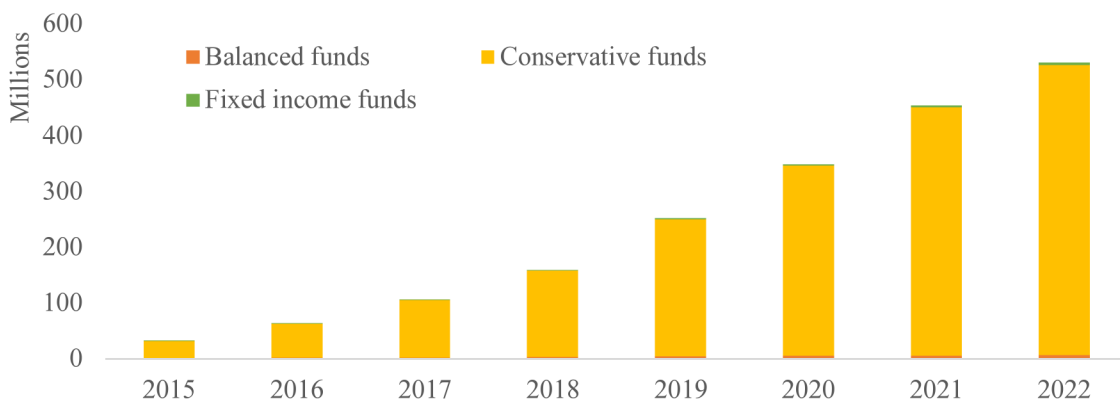


Figure 2.18. Total assets of mandatory accumulative pension funds

Source: CB of RA database – www.cba.am

The dynamics of pension fund liabilities are quite volatile (Figure 2.19). Here we can also note the dominant role of the bonds through the conservative funds. At the same time, in 2019,

there was some increase in liabilities of fixed income funds, and in 2020-2021 growth of liabilities of balanced funds.

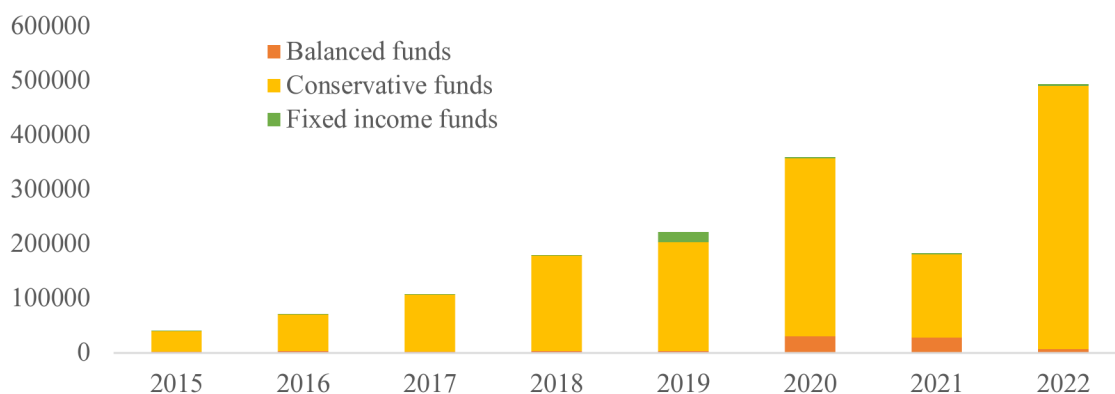


Figure 2.19. Total liabilities of mandatory accumulative pension funds

Source: CB of RA database – www.cba.am

The most interesting here is the investment dynamics of pension funds of Armenia in various types of financial assets, the structure and dynamics of which are shown in Figure 2.20. First of all, it is worth noting the unprecedented growth in investments in government bonds, which largely explains the same growth in domestic public debt presented earlier in the study. As of the end of 2022, one-third of the Armenian pension funds assets are invested in government bonds. Investments in cash and deposits,

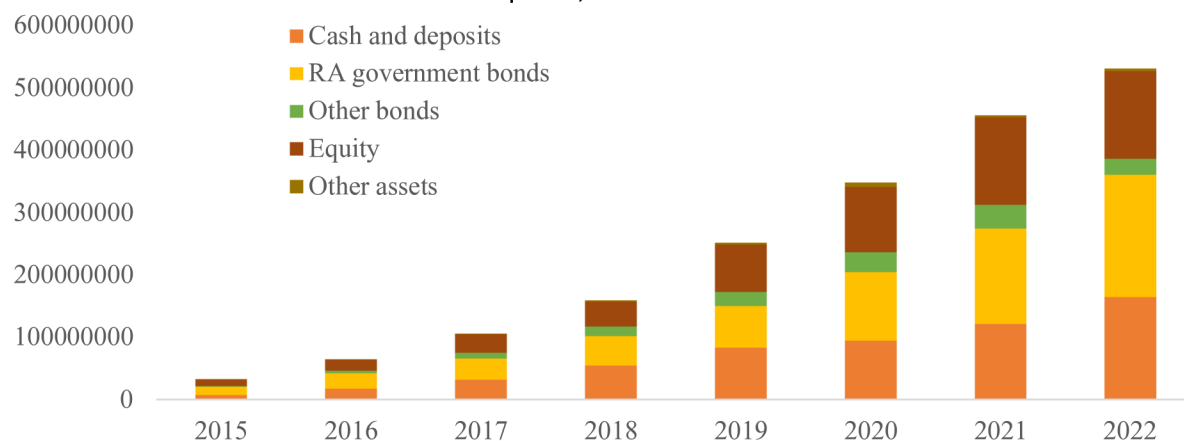


Figure 2.20. Total contributions of mandatory accumulative pension funds

Source: CB of RA database – www.cba.am

In this regard, the return on investment of pension funds is also interesting. Since the Central Bank of the Republic of Armenia database provides information on fund performance only

therefore, in the banking system, occupy the second place in assets. Here we can also observe fairly high growth rates, which largely explains the noticeable growth in deposits in the banking system in recent years. Finally, equity securities occupy the third place in pension fund assets. However, as is known, the stock market in Armenia is practically not developed, which allows us to conclude that these investments are made in the foreign securities market.

based on the type of investment, our analysis will also be carried out based on this classification. The general trend of profitability of all types of funds is downward.

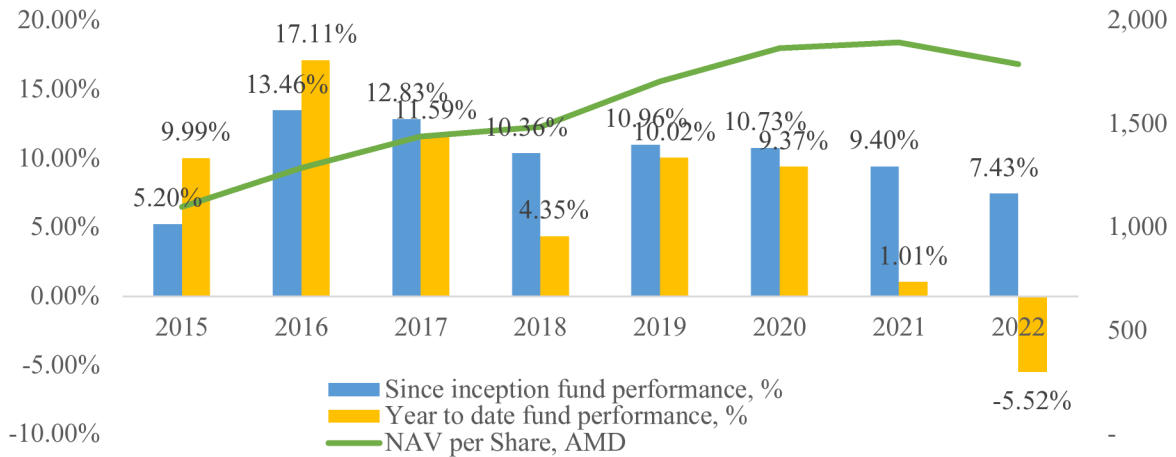


Figure 2.21. Fixed income fund performance

Source: CB of RA database – www.cba.am

Fixed income funds performance has averaged about 10% returns since inception, and Year-to-date (YTD) fund performance averaged 7.24% over the past eight years. The highest rate

of return was observed in 2016. Over the past two years, profitability has declined substantially. In 2022, there is a negative return on fixed-income funds equaling -5.52%.

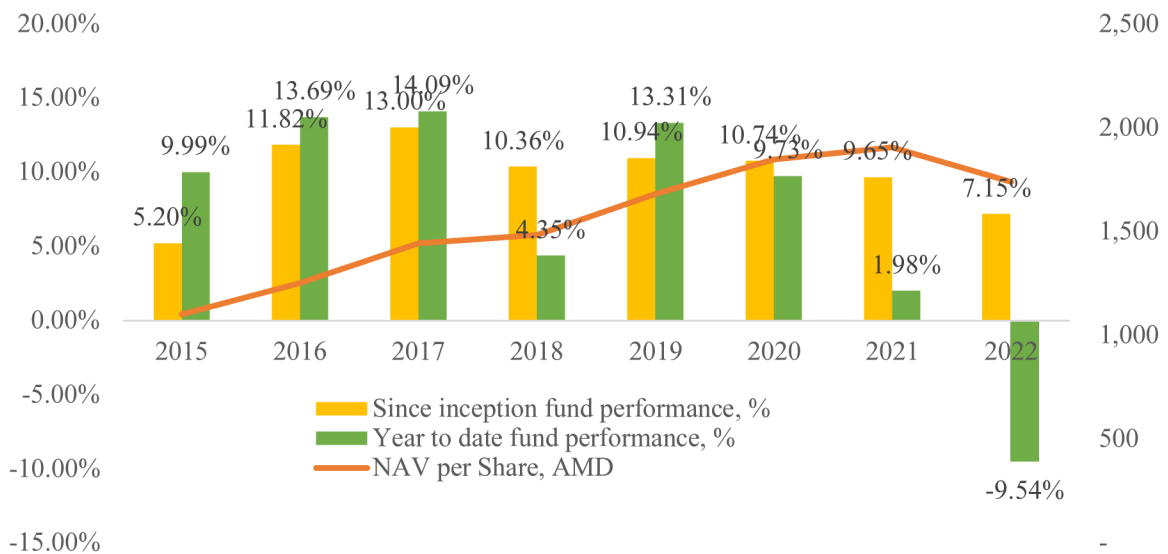


Figure 2.22. Conservative fund performance

Source: CB of RA database – www.cba.am

The performance of conservative funds seems to be the most important since, as mentioned above, 99% of investments are determined there. The yield of conservative funds

is lower than fixed-income funds. At the same time, there is also a drop in profitability yearly. In 2022, the conservative funds' performance since the beginning of the year was -9.54%.

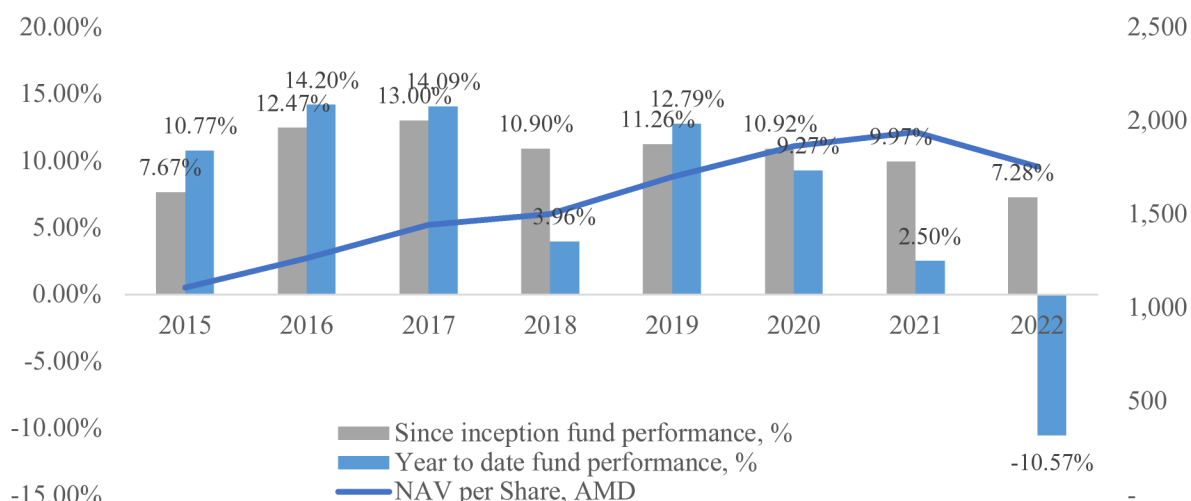


Figure 2.23. Balanced fund performance

Source: CB of RA database – www.cba.am

Finally, the performance of balanced funds does not differ from the dynamics of the previous

types of funds. In 2022, the return on balanced funds was -10.57%.

Conclusions

Summarizing, we can argue that today the Pension Funds of Armenia are at a somewhat risky stage of development in terms of profitability, as well as the safety of savings of participants in the pension system in the medium term.

On the other hand, due to the low degree of development of the Armenian financial system, the effectiveness of investing pension savings in terms of stimulating economic growth in the long term is doubtful. Most pension fund assets are either invested in government bonds or invested in securities on foreign stock markets.

2.4. The role of pension investments in the economic growth of Armenia

At this stage of the research, we turn to the question of the role of the pension system investments in ensuring or stimulating economic growth rates in Armenia. However, due to the too short time series, it is rather challenging to draw any conclusions in this regard. Therefore, it seems inappropriate to make any predictions based on seven years of experience.

In this regard, it seems possible to consider the role of pension investments in the financial

system of Armenia, which will also play a role in ensuring economic growth in the long term. Since the structure of pension funds' investments in national assets is mainly represented by investments in cash and deposits and government bonds, it seems appropriate to compare the growth dynamics of the banking system deposits of the Republic of Armenia and domestic public debt to assess the share of pension investments in the growth of these two indicators.

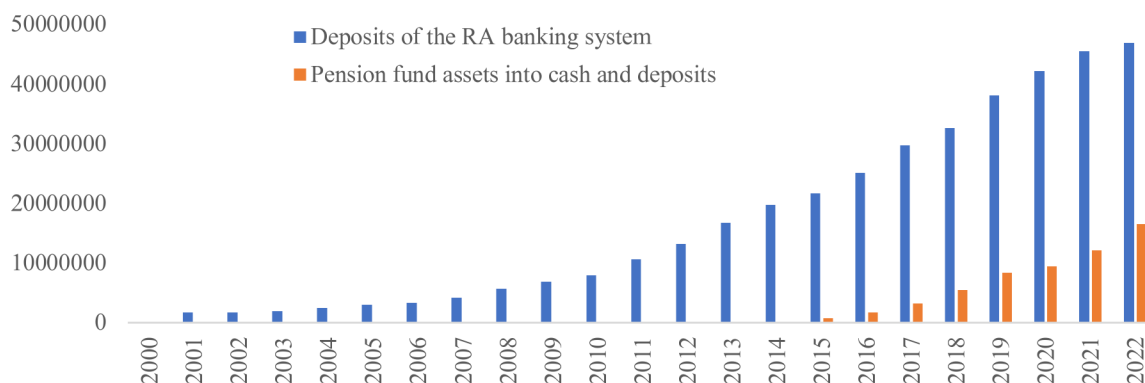


Figure 2.24. Deposits of the banking system of the Republic of Armenia and assets of pension funds invested in deposits and funds.

Source: CB of RA database – www.cba.am

Figure 2.24 shows the banking system deposits of Armenia and the pension funds assets invested in deposits and cash. As we can see, over the past 7 years, there has been a noticeable increase in the banking system deposits and the assets invested in the banking system by pension funds. In this regard, we can argue that pension

fund investments play an essential role in the growth of deposits in the banking system of Armenia. However, knowing the lending structure of the banking system, we can assume that investments in the economy are either short-term or medium-term. Therefore we will not observe a positive impact in the long term.

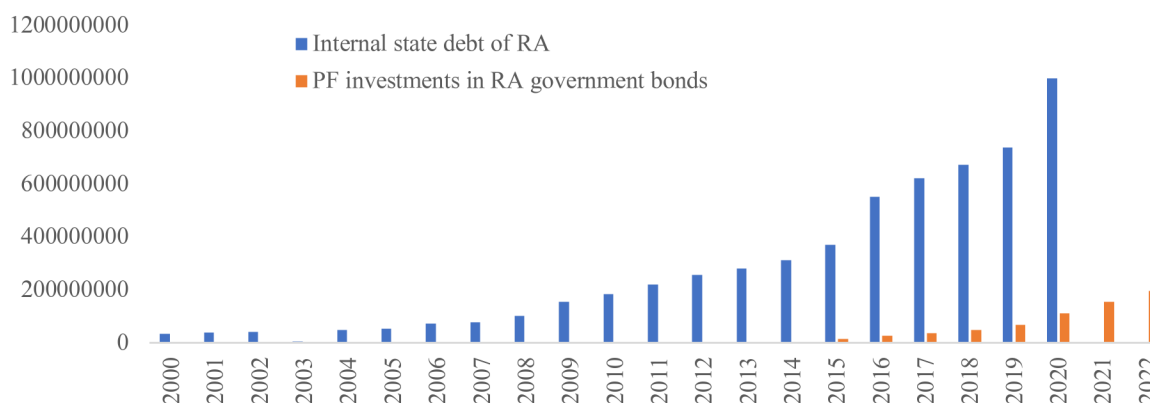


Figure 2.25. Domestic public debt of the Republic of Armenia and investments of pension funds in RA government bonds.

Source: CB of RA database – www.cba.am; База данных Министерства Финансов РА – www.minfin.am

As for the pension fund investments in government bonds, as shown in Figure 2.25, there has been a noticeable increase in the mentioned investments and the domestic public debt of Armenia over the past 5-7 years. In this sense, we should also note that pension funds contribute to the country's domestic debt buildup. At the same time, from the point of view of the role of pension funds in the country's economic growth, the

growth of domestic public debt cannot have a positive impact.

Since the influence of pension savings through the financial system in Armenia cannot positively impact economic growth rates due to the underdevelopment of financial intermediation institutions, we should regard a possible negative impact on the economy.

The principle of the positive impact of pension savings is the effective redistribution of

financial resources from consumption to long-term investments. However, this is only possible if there is a well-developed financial system. In the absence of the latter, the accumulative pension system, to a certain extent, reduces private consumption, directly affecting economic growth.

As we can see in Figure 2.26, since 2009, consumer spending in Armenia has not shown any significant growth, but, on the contrary,

consumption remained at the same level until 2018. Undoubtedly, the reason for the latter is economic stagnation, the negative consequences of the global financial crisis, the regional crisis of 2014-2015 in Russia, and many other economic and institutional reasons. However, we cannot deny the role of introducing the accumulative pension system in reducing the population's income and consumer spending.

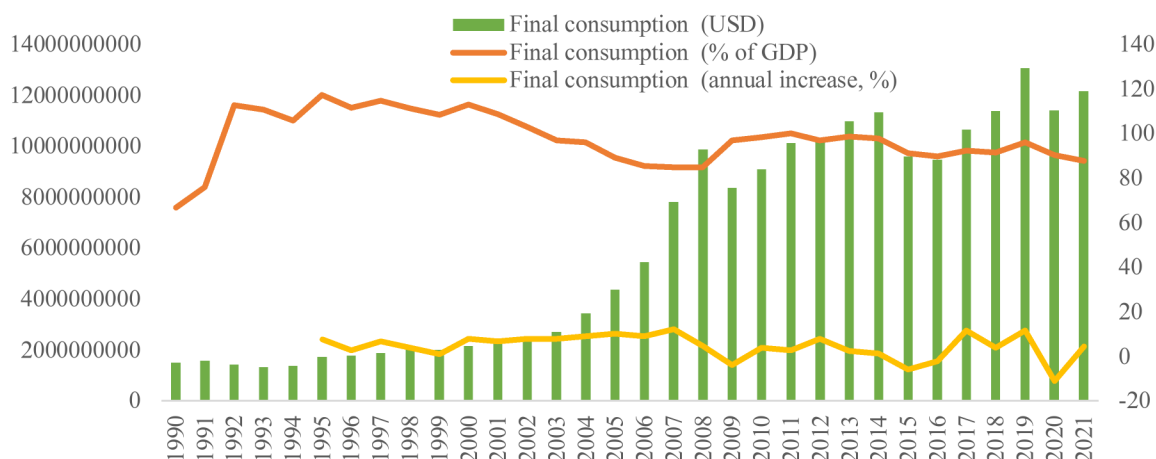


Figure 2.26. Final consumption in Armenia.

Source: World Bank database - <https://databank.worldbank.org/>

Figure 2.27 shows the level of income per capita in Armenia and the adjusted net national income per capita. As we can see, all three income per capita indicators indicate an evident slowdown in the growth of household incomes from 2008 to 2018, which undoubtedly affected the population's level of well-being and

consumption. Under such conditions, the introduction of a mandatory accumulative pension system with contributions in the amount of 5% of nominal income, of course, had a negative impact on the level of real income, which, in turn, negatively affects economic growth rates through private consumption.

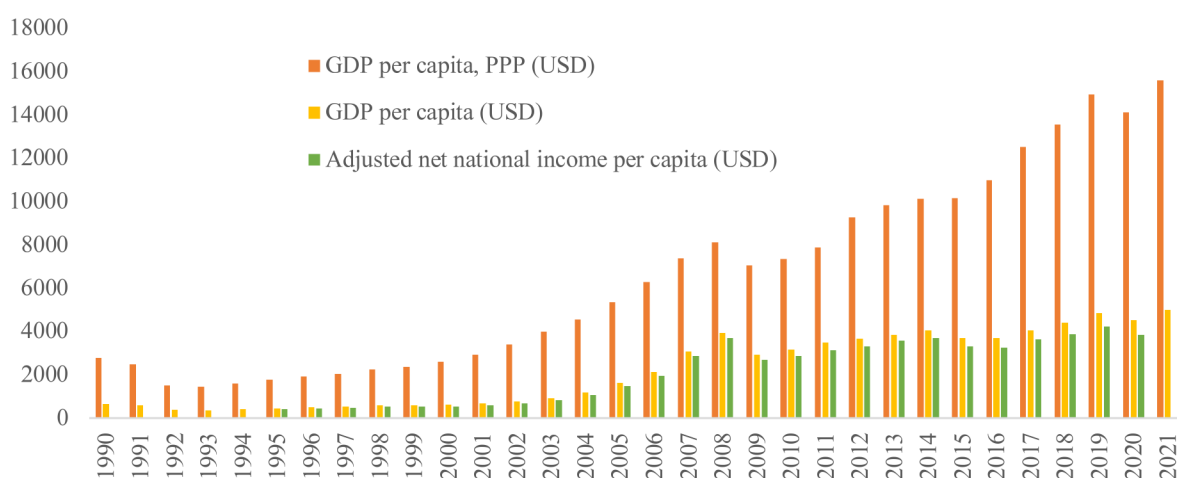


Figure 2.27. The income per capita in Armenia.

Source: World Bank database - <https://databank.worldbank.org/>

Finally, it is essential to note the relatively high income level inequality in Armenia, which is not directly related to the accumulative pension

system. Still, it indirectly is a problem for the effective and positive impact of pension investments on economic growth rates.

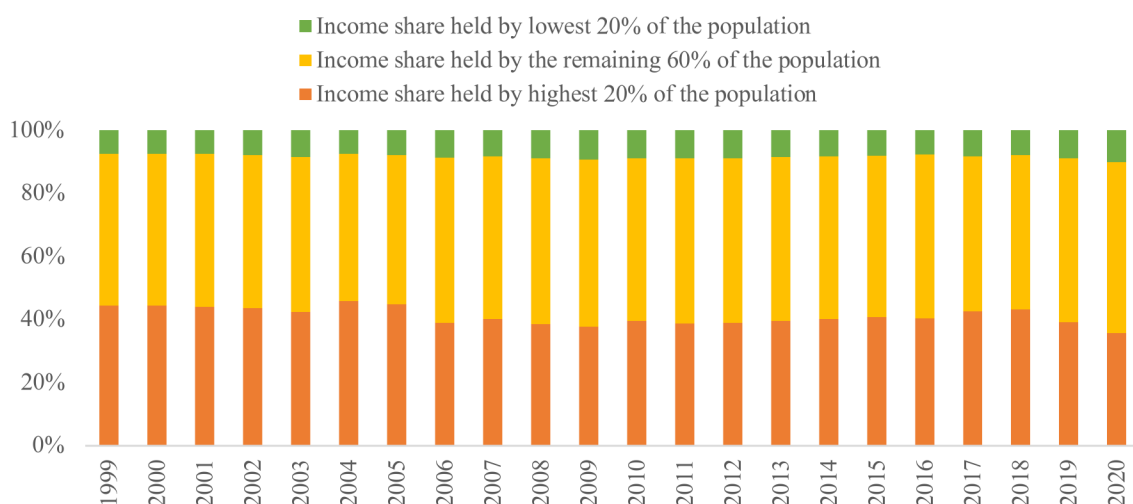


Figure 2.28. Unequal income distribution of the population in Armenia (a).

Source: World Bank database - <https://databank.worldbank.org/>

Figure 2.28 and Figure 2.29 show the distribution of income between 20% and 10% of the poorest and richest population. As we can see, despite some positive dynamics, the share of the

incomes of the poorest segments of the population remains very small (3-4%), while the share of the richest, on average, fluctuates around 20-25%.

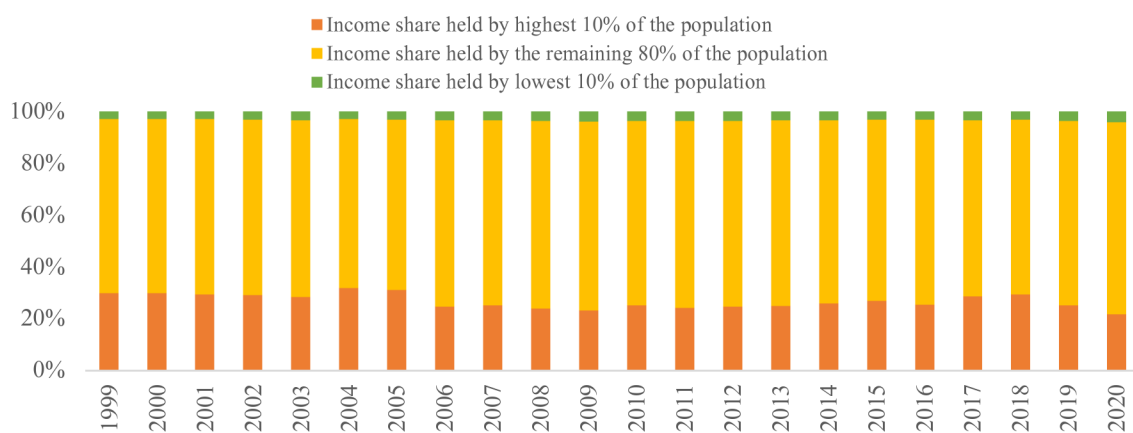


Figure 2.29. Unequal income distribution of the population in Armenia (b).

Source: World Bank database - <https://databank.worldbank.org/>

At the same time, participation in the accumulative pension system remains mandatory for all types of income, which primarily negatively affects the population with a low-income level. It,

in turn, also affects the reduction in consumption and contributes to the deepening of the poverty level, which, as you know, is a significant factor in restraining economic growth.

2.5. Proposed institutional changes for stimulating investments

The proposed elements of strengthening the position of pension savings in the Armenian economy involve the following steps:

1. Currently, pension funds are institutions of financial intermediation in the general regulation of the Armenian financial system. At the same time, creating pension funds based on self-regulation would enhance the positive impact of pension savings on economic growth rates.

2. Legislative changes are needed to introduce corporate pension funds, as well as the creation of a unified public pension fund. Functionally, both of these categories would serve the population's needs in accumulating pension savings. Corporate funds would allow the population employed in the economy's private sector to form pension savings, and the state fund would accumulate the savings of civil workers.

3. It is necessary to create a national investment fund to invest in various national projects (projects of national importance for the state and the economy as a whole). The creation of such a fund will make it possible to transfer pension savings into long-term investments and,

more importantly, leave pension savings in the country, thereby contributing to sustainable economic growth.

4. Creating a national mortgage fund that will issue mortgage-backed securities that would become a reliable asset for investments by corporate and public pension funds is necessary.

5. It is necessary to shift the burden of pension payments from the state budget to the employer. Thus, the co-financing of pension savings should be divided between the employee and the employer, freeing up budget funds and reducing the burden on state budget expenditures.

6. The state's responsibility remains to ensure a stable price level and the necessary indexation of investment losses of pension funds due to inflation. At the same time, the state acts as a guarantor of all investments in the pension system.

7. Mandatory participation in the accumulative pension system must be reduced to 15 years, as evidenced by the average world practice.

2.6. Conclusions and Recommendations

Summarizing we can note that in the conditions of a low development degree of the financial system and a low level of well-being of the population, accompanied by an uneven income distribution, the introduction of a mandatory accumulative pension system cannot positively affect the economic growth rates of Armenia in the foreseeable future.

The critical problem of this situation is that pension investments are not long-term. The main reason for this is the attempt of pension funds to minimize risks by investing savings in medium-term assets and constantly redistributing them

over 3-5 years. Thus, initially long-term money becomes medium-term for the economy.

What could be the solution in this situation?

In our opinion, the solution to the problem of creating "long money" through pension savings in Armenia and, accordingly, the subsequent positive impact on economic growth and the improvement of the country's welfare level should be complex.

We propose the following principles for institutional reform of the pension system and investment environment:

- creation of pension funds based on self-regulation,

- implementation of corporate pension funds,
- creation of a unified public pension fund,
- creation of a national investment fund,
- creation of a national mortgage fund,
- co-financing of pension investments by organizations for employees,
- indexation of investment losses of pension funds by the state due to inflation,
- the state should be the guarantor of all pension savings investments,
- reduction of mandatory participation in the accumulative pension system to 15 years.

3. Capital market in Armenia: issues, development prospects, role in investment inflow and economic growth

3.1. Literature review. The role of the capital market in stimulating investments and economic growth

Globalization of financial markets has been one of the most critical trends in global economic development in recent decades. Capital markets have an essential role and weight in modern financial systems. They stimulate economic growth, investment and savings in the country. According to Modigliani⁹², an increase in stock prices leads to a simultaneous increase in individual portfolios and, ultimately, more consumption or saving. Moreover, integrating capital markets allows companies to access more and sometimes more competitive capital markets, accelerating economic development in the country. Research on the relationship between capital market integration and economic growth has been the focus of economists' attention for the past decades.

Capital markets have a positive effect on economic growth, and the main factors through which this effect occurs are market capitalization, capital mobility, and foreign direct and portfolio investments⁹³. A well-developed capital market facilitates capital allocation to an economy that needs it for economic growth and development and provides successful entrepreneurs with the

financing needed for corporate development⁹⁴. In addition, the differentiation of market assets (diversification) creates significant profits⁹⁵. The development of capital market integration also expands the choice of investors and companies seeking financing, thus leading to higher economic growth while reducing dependence on bank loans⁹⁶.

The capital market also plays an essential role in providing liquidity to investors. Investors can buy and sell securities quickly and easily, encouraging market investment. The ability to trade securities facilitates the flow of funds between investors and businesses, allowing companies to raise capital quickly and efficiently.

Apart from being an important source of financing, the capital market also promotes corporate governance and transparency. Listed companies are required to follow strict reporting requirements and publish their financial results regularly. This promotes accountability and transparency, which is important to maintain investor confidence and attract new investment. By promoting better corporate governance, the

⁹² Modigliani, F. (1971), "Monetary Policy and Consumption: Linkages via Interest Rate and Wealth Effects in the FMP Model, Consumer Spending and Monetary Policy: The Linkages", Federal Reserve Bank of Boston Conference Series, Conference Series No. 5, June 1971.

⁹³ Dapeng, J. I. (2010), "Stock market and economic growth: The empirical study of China", 2010 2nd international Conference on Education Technology and Computer (ICETC).

⁹⁴ McGowan, C. B. (2008), "A Study of the Relationship Between Stock Market Development and Economic Growth

and Development for 1994 to 2003", International Business & Economics Research Journal, Vol. 7, No. 5, pp. 79–86.

⁹⁵ Guesmi, K., Teulon, F., Muzaffar, A. T. (2014), "The evolution of risk premium as a measure for intra-regional equity market integration", International Review of Financial Analysis, Vol. 35, pp. 13–19.

⁹⁶ Capital Market Union Report (2015), "Integration of Capital Markets in the European Union", PWC Market Research Centre, pp. 1–70.

capital market also helps reduce the risk of financial scandals and corporate failures.

The capital market encourages innovation and entrepreneurship. Companies can raise capital by issuing equity capital, which provides them with the necessary funds to invest in research and development. It, in turn, can lead to the development of new products, technologies and services, stimulating economic growth. Another way capital markets can stimulate economic growth is through international trade and investment. Companies can receive funding from investors in other countries, and investors can invest in foreign companies. The latter can help stimulate international trade and investment, leading to economic activity and growth.

Financial integration also has a substantial impact on financial stability. On the one hand, financial integration between economies contributes to their ability to absorb shocks and promote development. On the other hand, in a world endowed with high capital mobility, close financial ties can bring with them the risk of cross-border financial "contagion"⁹⁷.

Thus, the capital market is vital to economic growth and development. It provides a platform for businesses and individuals to access financing, promotes corporate governance and transparency, encourages innovation and entrepreneurship, and promotes international trade and investment. By providing businesses with the capital they need to expand and innovate, the capital market helps spur economic growth and improve living standards for individuals and societies worldwide.

The integration of financial markets is an active topic of debate, especially in developing

and transition economies. Despite the positive effects presented above, capital markets remain underdeveloped, usually due to structural constraints. On the one hand, limited revenues and the small size of the private sector lead to a shortage of investors and issuers. Capital market governance, on the other hand, entails huge initial and operational costs for both regulators and participants. This may not be possible for countries with limited capacity and small markets. Relevant authorities should create and manage regulatory legal frameworks and trading platforms, and issuers should go through certain stages for listing and conduct more thorough and transparent financial reporting afterwards. Empirical research by Eichengrin and Luengnarumitchai⁹⁸ shows that there is a minimum efficient size of the stock market because larger trading volumes and issuance are more profitable. Regional integration of capital markets can help overcome such limitations. Integrated capital markets, if properly managed, will allow for the spread of savings across the region, cost and information sharing among market participants, risk differentiation, enhanced competition and innovation, expanded choice of financial products offered to regional and foreign investors, and deeper integration into the global economy due to an increase the attractiveness of markets (See for example Irving, 2005⁹⁹; MFW4A, 2007¹⁰⁰).

Based on the literature review, we identified the following main channels of capital market influence on the economy in developing countries:

1. **Access to capital:** The capital market enables developing countries to raise capital to invest in productive sectors. Capital can be used

⁹⁷ Yu, J.-S., Kabir Hassan, M., Sanchez, B. (2012), "A re-examination of financial development, stock markets development, and economic growth", *Applied Economics*, Vol. 44, No. 27, pp. 3479–3489.

⁹⁸ Eichengreen, B., and P. Luengnarumitchai, 2004, "Why Doesn't Asia Have Bigger Bond Markets?" NBER Working Paper 10576 (Cambridge, MA: National Bureau of Economic Research).

⁹⁹ Irving, J., 2005, "Regional Integration of Stock Exchanges in Eastern and Southern Africa: Progress and Prospects," IMF Working Paper 05/122 (Washington: International Monetary Fund).

¹⁰⁰ Making Finance Work for Africa (MFW4A), 2007, "Financial Sector Integration in Two Regions of Sub-Saharan Africa".

to invest in new technologies, expand existing businesses and develop infrastructure. Access to capital can promote economic growth and stimulate job creation, leading to improved living standards for the population.

2. **Better corporate governance:** The capital market promotes better corporate governance by requiring transparency and disclosure of financial information. It boosts investor confidence and attracts more investments that can be used to finance new ventures and expand existing businesses. Improved corporate governance could also help reduce the risk of financial scandals, which could damage the country's reputation and undermine investor confidence.

3. **Innovation and entrepreneurship:** The capital market promotes innovation and entrepreneurship by financing businesses that want to invest in research and development. It can lead to the development of new products and services, stimulating economic growth and improving the country's competitiveness in the global market.

4. **Foreign investments:** The capital market can attract foreign investment to developing

countries, which can be used to finance economic growth. Foreign investors can access the capital market to invest in local companies that create jobs and stimulate economic growth. It can also help increase capital flows into the country, improving economic performance.

5. **Deepening of financial markets:** Capital markets can help deepen financial markets in developing countries by encouraging the development of new financial instruments and products. It can help improve access to financing for businesses and individuals, stimulating economic activity and growth.

6. **Improving access to credit:** The capital market can improve access to credit by providing an alternative source of financing for businesses. It can help reduce dependence on bank lending, often limited in developing countries. Improving access to credit can also help increase investments and improve economic growth.

Thus, developing countries should focus on developing their capital markets to stimulate economic growth and achieve sustainable economic development.

3.2. International experience. Capital market and investment attraction

Today, there is fierce competition between countries to attract foreign direct investment (FDI). However, the overwhelming majority of FDI

(35-40%) continues to be directed to the US and EU member states.

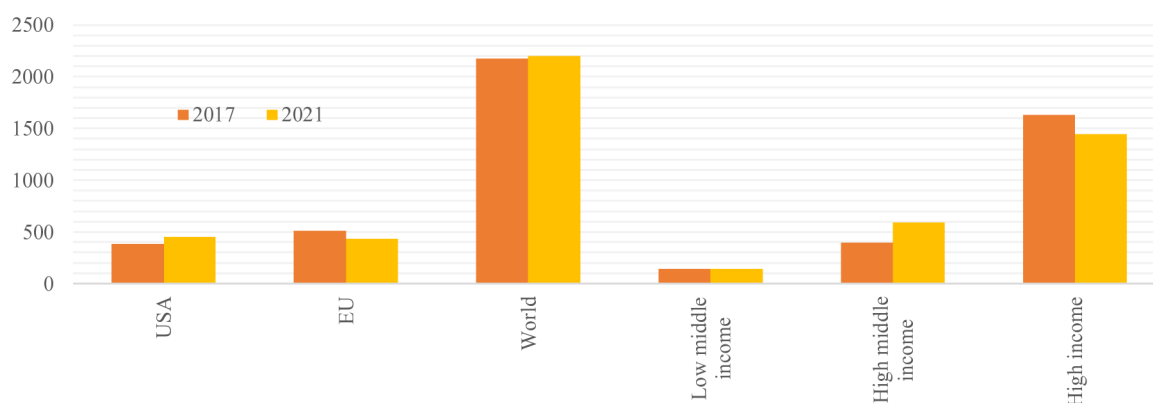


Figure 3.1. Net inflow of foreign direct investment, billion US dollars.

Source: World Bank database - <https://databank.worldbank.org/>

From this point of view, we should emphasize that several researchers, such as Levine¹⁰¹, argue that financial markets contribute to economic growth through the capital market, which facilitates the development of long-term investments, helps to reduce risk, and provides liquidity and permanent financing for organizations. In this sense, the capital market is

essential for economic growth, as it can attract funds for new investments. The more developed the capital market, the higher the flow of FDI to a given country. It is evidenced by our analysis of many countries (Figure 3.2). As we can see, a positive relationship exists between market capitalization and investment inflows.

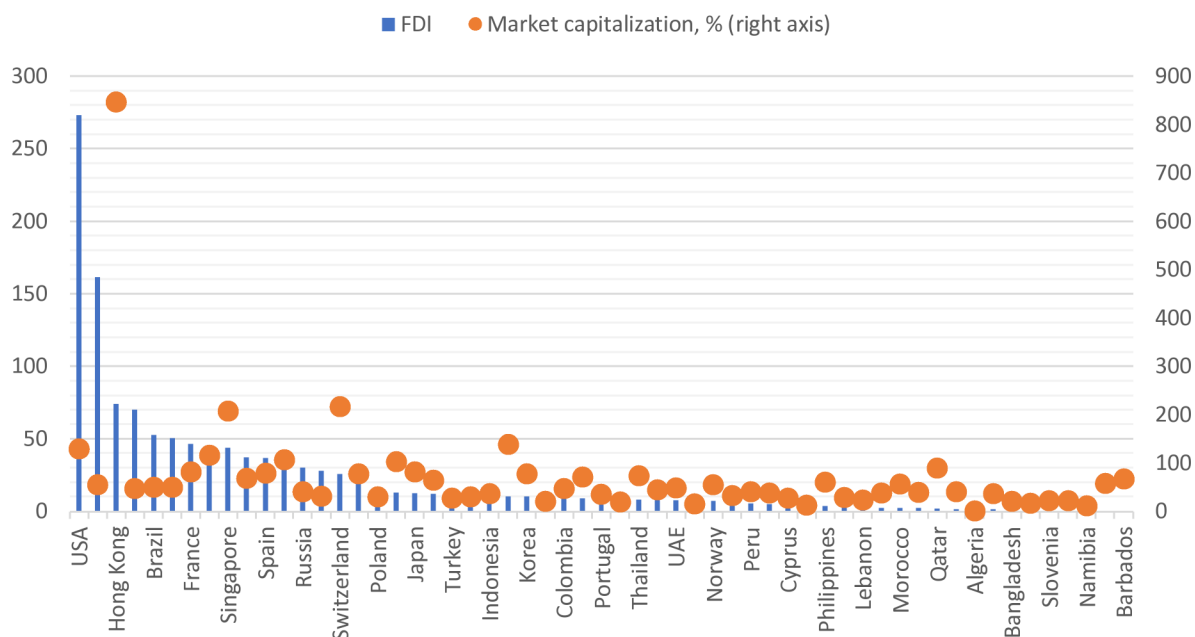


Figure 3.2. Foreign direct investments and market capitalization, 2000-2019 average

Source: World Bank database - <https://databank.worldbank.org/>

The trend of the positive influence of market capitalization on investment attraction in developing countries is most clearly seen in Figure

3.3. At the same time, this influence is much more robust in developed countries.

¹⁰¹ R. Levine. Stock market, growth and tax policy. Journal of Finance, 46 (1991), pp. 1445-1465

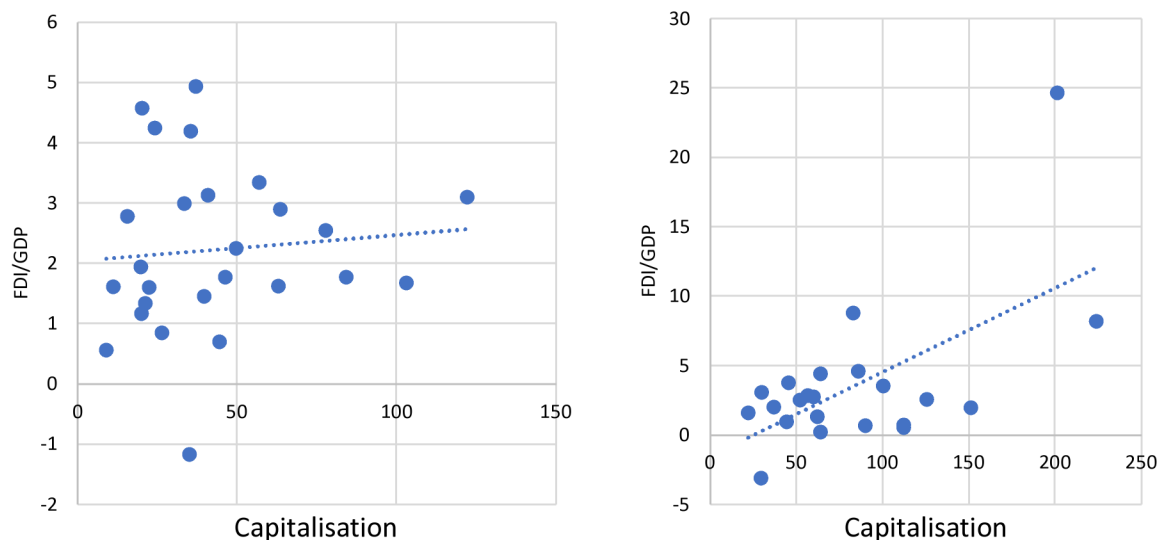


Figure 3.3. The impact of market capitalization on foreign direct investment in developing countries (left chart) and developed countries (right chart) over the past five years, 2015-2019. average

Source: World Bank database - <https://databank.worldbank.org/>

Note: the crisis year 2020 was not considered to obtain a more accurate average picture

The development and deepening of the capital market, particularly market capitalisation, significantly impact increasing investments and economic growth in developing countries, as evidenced by statistics (Figure 3.4). As we can see,

Malaysia, Thailand, India, Philippines and China, with the highest market capitalization, had the highest and most stable average economic growth rates during the last five pre-crisis years.

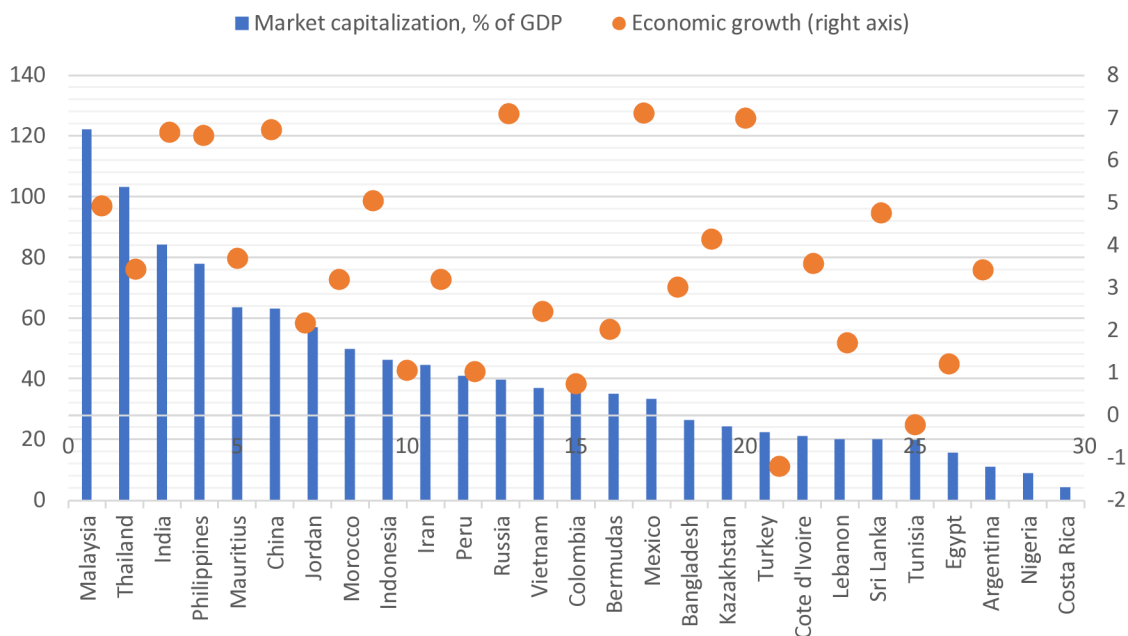


Figure 3.4. Economic growth and market capitalization in developing countries in the last five years, 2015-2019. average

Source: World Bank database - <https://databank.worldbank.org/>

Note: the crisis year 2020 was not considered in order to obtain a more accurate averaged picture

The trend of the positive influence of market capitalization on economic growth in developing countries is more clearly seen in Figure 3.5. Meanwhile, this effect is much weaker in

developed countries because relatively lower economic growth rates characterize developed countries.

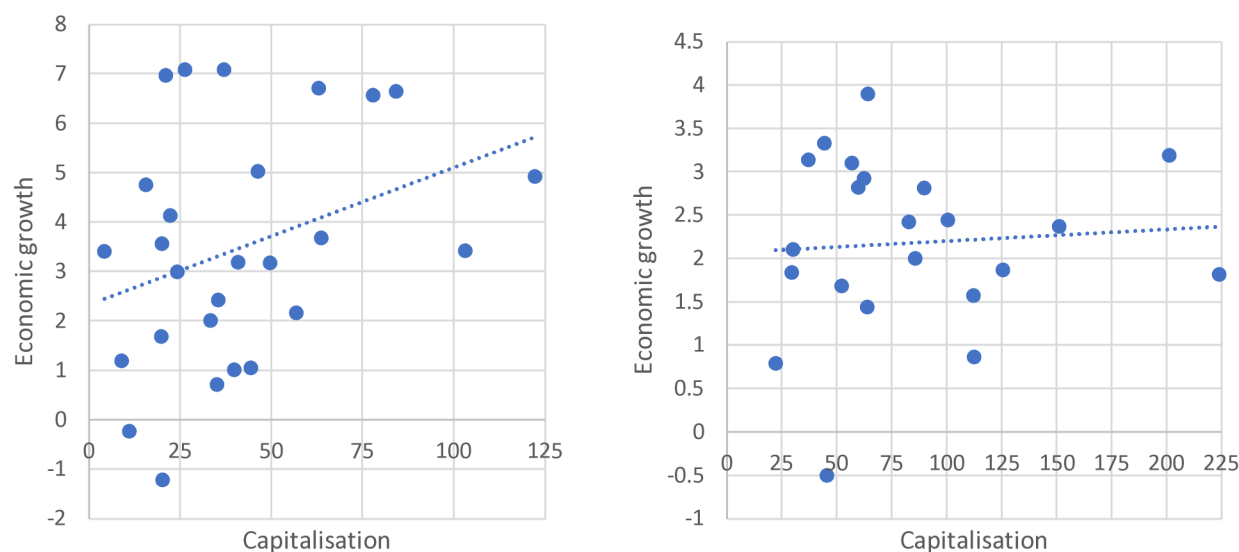


Figure 3.5. The impact of market capitalization on economic growth in developing countries (left chart) and developed countries (right chart) in the last five years, 2015-2019. average

Source: World Bank database - <https://databank.worldbank.org/>

Note: the crisis year 2020 was not considered to obtain a more accurate average picture

3.2.1. The role of the capital market in economic growth. model

Within the current research framework, we conducted a panel regression analysis to identify the impact of market capitalization on economic growth in developing countries. The sample includes data from 27 developing countries (the

list of countries is presented in Figure 3.4) from 2011 to 2019. All data underwent primary statistical processing and had a normal distribution. The regression model is as follows:

$$GDP_{it} = C + \alpha MC_{it} + u_i + \varepsilon_{it}$$

Where $i = 1, \dots, N$ represents the countries included in the model, $t = 1, \dots, T$ represents the periods used for the analysis, MC_{it} represents a vector of time-varying explanatory variables of market capitalization in the selected 27 developing countries, GDP_{it} is the model's dependent variable, ε is the model's error term. Considering that we have all available years in the data sample, the models' panels are balanced, and there are 243 observations.

There are three possible submodels for estimating the coefficients of the panel data model presented above, depending on the nature of the individual residual u_i . Possible sub-models are Pooled-OLS, Fixed effect and Random effect. Considering the results of the performed tests, we chose the Random effects sub-model for estimating the regression model coefficients. The model estimation results are presented in Table 3.1.

Table 3.1. Panel data regression results

Variable	Coeff.	t stat.	p-value
MC	0.018	3.01	0.0029
C	3.07758	9.9356	0.00
R-squared	0.068716		
F-statistic	1.910237		
Akaike info criterion	4.962653		
Schwarz criterion	5.106401		

Source: calculated by authors¹⁰²

According to the panel data analysis results, an increase in market capitalization in developing

countries by 10 percentage points can increase the annual economic growth rate by 1.8%.

3.2.2. The role of the capital market in stimulating investments. model

Within the current research framework, we also conducted a panel regression analysis to identify the impact of market capitalization on attracting investments in developing countries. The sample includes data from 27 developing

countries (the list of countries is presented in Figure 3.4) from 2011 to 2019. All data underwent primary statistical processing and had a normal distribution. The regression model is as follows:

$$FDI_{it} = C + \alpha MC_{it} + u_i + \varepsilon_{it}$$

Where $i = 1, \dots, N$ represents the countries included in the model, $t = 1, \dots, T$ represents the periods used for the analysis, MC_{it} represents a vector of time-varying explanatory variables of market capitalization in the selected 27 developing countries, FDI_{it} is the model's dependent variable, ε is the model's error term. Considering that we have all available years in the

data sample, the models' panels are balanced, and there are 243 observations.

As a result of the testing of the possible sub-models presented in the previous subsection, we chose the Fixed Random effects sub-model for estimating the regression model coefficients. The model estimation results are presented in Table 3.2.

Table 3.2. Panel data regression results

Variable	Coeff.	t stat.	p-value
MC	0.0021	2.024	0.044
C	2.3775	14.721	0.00
R-squared	0.0029		
F-statistic	1.98056		

Source: calculated by authors¹⁰³

¹⁰² Calculations were performed using the Eviews 10 econometric package.

¹⁰³ Calculations were performed using the Eviews 10 econometric package.

According to the panel data analysis results, an increase in market capitalization in developing countries by 10 percentage points can increase the inflow of foreign direct investment to GDP ratio by 0.21%.

In this context, the study of the capital market integration issue of Armenia as a developing country with a small open economy and a low level of FDI inflow is quite relevant to stimulate FDI inflow and economic growth.

3.3. Capital market, investments and economic growth in Armenia

As discussed in the previous sub-chapters, an efficient capital market is crucial for attracting investment and stimulating economic growth and development. It can also enhance financial stability and help manage risks.

Armenia's capital market is relatively small compared to other countries. The Central Bank of RA regulates the market, working to control and develop the capital market. The only operator of the stock market in Armenia is the Armenian Stock Exchange (AMX), which offers a package of exchange services: listing, trading, clearing and information services, and alternative stock exchange solutions. Stock exchange settlement of corporate securities for resident and non-resident clients is carried out by the Central Depository of Armenia, whose 100% shareholder is the Stock Exchange of Armenia. Starting in 2014, the Central Depository of Armenia is also the registrar of the participants of the accumulative pension system and the custodian of the funds' assets.

As of 2021, the capital market volume is 1,867 billion AMD, of which 26% are corporate

bonds, 9% is the stock market capitalization, and 65% are government bonds. Accumulative pension funds significantly contribute to the allocation and expansion of the latter, as already presented in the previous section. In 2021 compared to the previous year, the volume of state bonds in circulation increased by 26%. In the current research framework, the study of the stock market is of high interest.

It is necessary to mention that the government of Armenia has tried to create a preferential tax field for buying and selling securities, for which a 0% income tax has been set. Thus, the government managed to stimulate the capital market to a certain extent but did not achieve a significant change, as evidenced by the value traded and the number of deals in the stock market (Figure 3.6). Except for 2014 and 2016, the value traded in the Armenian stock market usually does not exceed 1.5 billion AMD (about 0.025% of GDP).

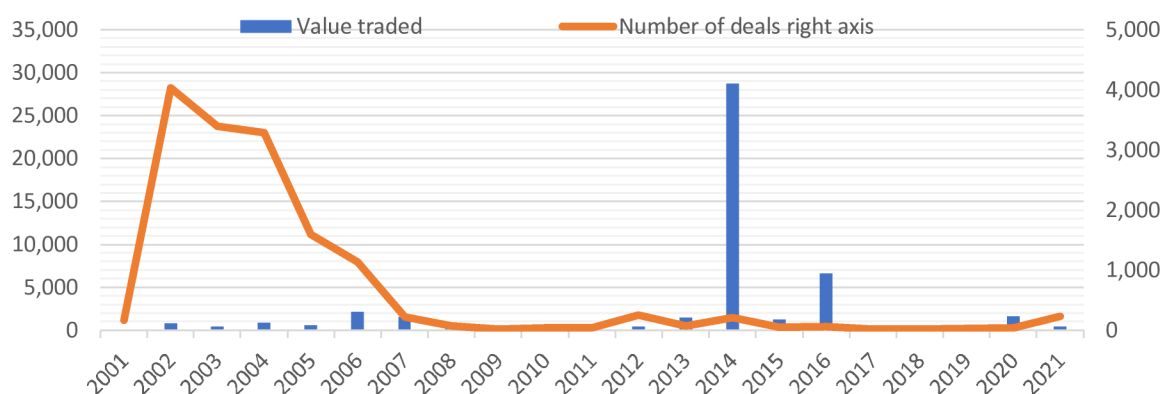


Figure 3.6. Value traded and the number of deals in the stock market in 2000-2021.

Source: Armenian Stock Exchange database

On the other hand, the main participants in the stock market are banks. Table 3.3 shows the number and volume of transactions on the stock

market in 2022. As we can see, 98% of them were done by banks.

Table 3.3. The volume of transactions in the stock market of Armenia in 2022

Organisation	Listing	Number of deals	Number of securities	Value traded
ACBA BANK	A	2683	49787	726961106
ARARATBANK OJSC	C	1	4	69600
ASCE GROUP OJSC	C	15	31522	18882896
ARMECONOMBANK OJSC	B	2	173	875000
UNIBANK OJSC	B	3	1076	296912
UNIBANK OJSC	C	10	663964	152713220

Source: Armenian Stock Exchange database

An underdeveloped capital market cannot attract larger volumes of foreign investments. As shown in Figure 3.7, the net inflow of foreign direct investments to Armenia sharply reduced in 2008 after the global financial crisis. Armenia has

not managed to restore their once high volumes. At the same time, the inflow of FDI shows a downward trend both in absolute value and in its share in GDP. Post-crisis 2021 year is an exception.

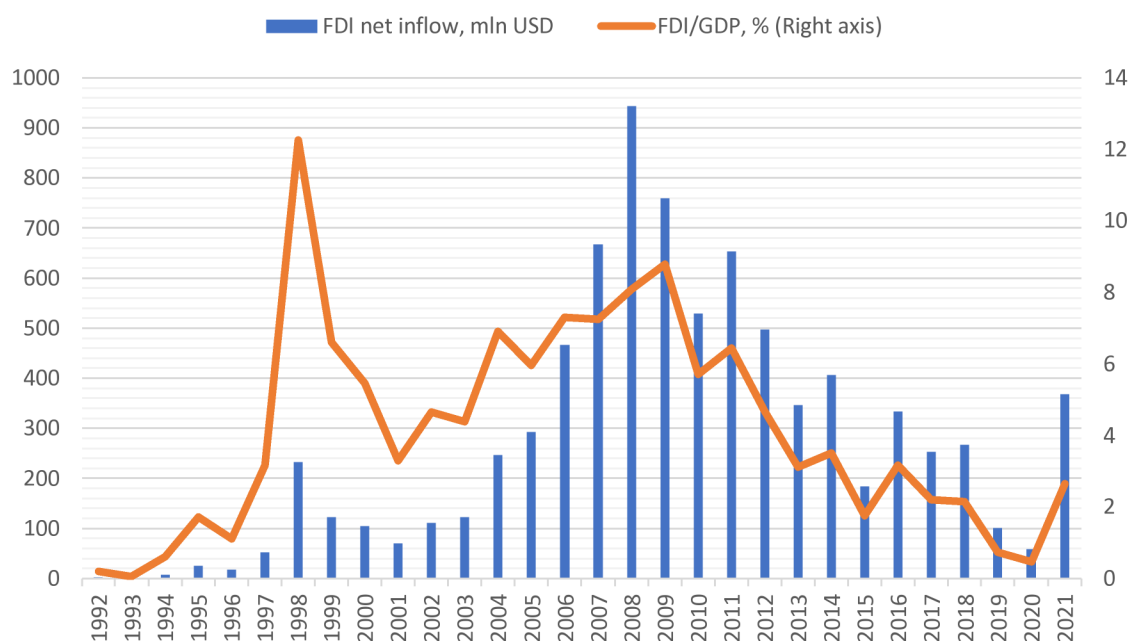


Figure 3.7. The net inflow of foreign direct investments in Armenia.

Source: World Bank database – www.data.worldbank.org

As mentioned, the inflow of FDIs to Armenia does not show a significant growth trend during the last decade. From the point of view of the attractiveness of the investment environment, market capitalization is an essential factor which has insignificant volumes in Armenia (Figure 3.8).

As we can see, Armenia reached the highest level of market capitalization in 2016 - 2.6%. There was also a tiny increase of up to 2.5% in 2021. However, market capitalization in Armenia remains at a shallow level.

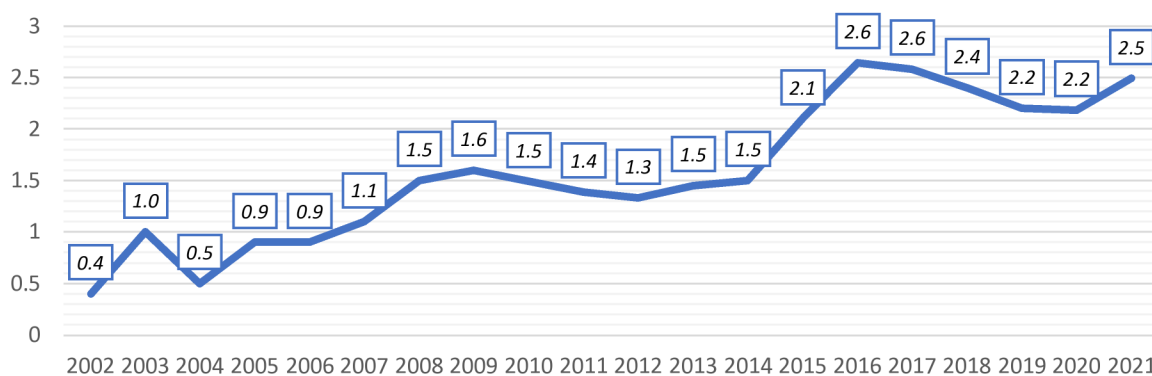


Figure 3.8. Market capitalization in Armenia, 2002-2021

Source: Armenian Stock Exchange database

The market capitalization in Armenia lags behind not only high-income and developed countries but also many middle-income and small countries. Moreover, according to this indicator, Hong Kong takes first place globally with 1777% market capitalisation. We should note that Saudi Arabia is in second place with 345%, and the Republic of South Africa is in third place with 311%. Among the developing countries, Malaysia (129%), Thailand (108%), and India (97%) can also be distinguished. At the same time, considering the model for developing countries presented in previous sub-sections, we can argue that if the market capitalization in Armenia grows by 10 percentage points per year within five years, it will be possible to reach a higher economic growth rate by about 9%.

It is necessary to integrate the Armenian capital market into larger markets to overcome the presented issues. Considering Armenia's close economic ties with Russia and its membership in EAEU, we believe that integration with the Russian capital market is the most likely option at the primary stage. On the other hand, considering that in June 2022, 65% of the shares of the Armenian Stock Exchange were sold to the Warsaw Stock Exchange, alternative options for integration into the European stock exchanges are also possible. However, certain factors can hinder financial integration, which can generally be grouped into four main groups: institutional issues, legislative issues, macroeconomic environment, and technical issues.

3.4. Proposed institutional changes aimed at capital market development and investment inflow

One of the most severe *institutional issues* of the Armenian economy is the high concentration in different economic sectors, especially the import of goods and services, which allows those with a dominant position to influence the financial market strongly. In addition, the unfavourable institutional and business environment hinders the economy's attractiveness to foreign investors. It is evidenced by the annual ratings carried out by international rating organizations. The latter can

be eliminated through some legislative changes. It is necessary to legislatively obligate that all banks (except subsidiaries of foreign banks) be open joint-stock companies. At the same time, one shareholder and affiliated persons should not have the right to own more than 4.99% of shares. The companies occupying a natural dominant position, regardless of the field of economic activity (for example, "Gazprom Armenia" CJSC, "Veola Jur" CJSC, "Electric Networks of Armenia"

CJSC, "High Voltage Electric Networks" CJSC should also be obligated to become OJSCs. Such a requirement should also apply to all organizations whose liabilities exceed their funds too much. All this will force them to reveal large amounts of information, be more transparent, and the country's population will get the opportunity to participate in the distribution of their profits. In addition, it is also necessary to normalize the shares concentrated in the hands of one person.

As for the *macroeconomic environment*, it is necessary to mention such issues as, for example, the low level of the financial market depth, the small size of the capital market, as well as the predominant share of banks in the financial market (84%).

In general, integrating capital markets is impossible without adequate *technical support*. The software must guarantee the free and fast flow of information between markets. The Armenian Stock Exchange uses the electronic trading system of the Russian RTS (RTS-Armex Plaza), thus ensuring the technical compatibility of the Armenian capital market with the Russian capital market. We should note that on February 16, 2023, the Armenian Stock Exchange officially announced the start of the implementation of the new trading system, explicitly noting that the new AMXTrader software is currently under active testing. For the first time, implementing the mentioned system will allow individuals to make deals directly on the platforms of the Stock Exchange.

The time difference between Armenia and the selected market is also an essential factor in capital market integration because too much time

difference can put Armenian investors in a disadvantageous position. From this point of view, integration with the Russian capital market and the European markets is also advisable.

And finally, regarding the *legislative issues*, to overcome them, it is necessary to sign an interstate memorandum with the Russian Federation (or another alternative market), according to which:

1. The placement of shares and debt securities listed on the Russian (or alternative market's) high-quality, highly liquid platform A in the local Armenian secondary market should be allowed.

2. Records made by the central depository of Armenia are recognized by the Russian Federation (or another alternative market) and vice versa.

Thus, RA citizens will be allowed to expand investment opportunities, participate in the distribution of profits created in Russia (or another alternative market), and will also facilitate the investment process and capital movement between countries, at the same time contributing to the formation of an investment culture among the population of Armenia, which will further invigorate national issuers. In addition, Armenia, an invisible and unrecognized market for the world with such a resource as a large diaspora, can attract investments only by integrating the capital market, leading to further economic growth.

Thus, Armenia's only way to attract foreign direct investment and stimulate economic growth is to integrate the capital market with the Russian (or European) capital market.

3.5. Conclusions and Recommendations

As the research presented above showed, the weak development level of Armenia's capital market significantly harms the investment environment and economic growth. On the one hand, the investments of the accumulative

pension system, instead of transforming into long-term investments in the country, either become medium-term investments in bonds, cash and deposits or are invested in foreign stocks, going to foreign capital markets. On the other hand, the

underdevelopment of the capital market hinders the country's investment attractiveness for foreign investors.

It is necessary to create a capital market that will be integrated with larger markets To overcome the mentioned issues. In particular, Armenia's only way to attract foreign direct investment and promote economic growth is to integrate the capital market at the primary stage with either Russian or alternative European capital markets.

A complex institutional reform of the sector is necessary To eliminate possible obstacles to financial integration in the following directions:

- Institutional issues: implementation of legislative changes to obligate banks (except subsidiaries of foreign banks) and companies with a natural dominant position to become OJSCs.

- Legislative issues: an interstate memorandum with the Russian Federation (or an alternative European market).

- Macroeconomic environment: deepening of the financial market.

- Technical issues: implementation of software to ensure a free and fast flow of information between markets.

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91. ՀՀ «Հարկային օրենսգիրք»:

ISBN 978-9939-67-308-0

