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# **FUNDED PENSION SYSTEM OF ARMENIA: PROBLEMS, DEVELOPMENT PROSPECTS, ROLE IN ECONOMIC GROWTH**

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**Abstract:** The pension fund system, both in theory and in practice, solves many important problems from the point of view of the country's economic development. In particular, the social issue is being solved, in many respects it contributes to equalizing the incomes of the population, raising the level of the population of retirement age, and many other social and economic tasks. However, when it comes to developing markets, the funded pension system requires closer attention both from the side of supervision and from the point of view of the very mechanisms and principles for implementing the funded pension system in the country.

This study is devoted to the analysis of the funded pension system of the Republic of Armenia, in terms of the effectiveness of its investments and the impact on the country's economic growth.

**Keywords:** Armenia, funded pension system, pension funds, economic growth, developing countries.

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## Literature Review: The Role of Retirement Savings in Economic Growth

The key role of pension systems supposed to be a social function. On the one hand, the pension system makes it possible to financially provide for the elderly, and on the other hand, in most cases, it significantly reduces the level of poverty in this population group. At the same time, due to the limited budgetary funds of the state, the solution of this problem is shifted (in whole or in part) to the citizens themselves, through funded pension systems. In conditions of a stable macroeconomic environment, a developed financial system and sufficiently high incomes, the task set is being solved quite successfully. 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 funded pension system), they are of a fairly long-term nature, which, under certain conditions, can bring to the formation of “long money”, which in turn, obviously, should lead to stimulating economic growth in the country. There is little literature on the relationship between pension fund assets and economic growth. At the same time, the conclusions of the authors are also not unambiguous.

There are three types of pension systems: pay-as-you-go, partially funded and funded. The system in which the expenses of today's pensioners are paid by the contributions of today's employees and employers on the principle of generational solidarity is called a distribution system. An alternative to the pay-as-you-go approach is a funded pension. In this case, the participants' contributions are invested 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 are a combination of funded and pay-as-you-go systems. As the population ages rapidly and contribution rates are not high enough, pay-as-you-go systems have become financially unsustainable, and so many countries around the world are moving from pay-as-you-go to (partially) funded pension systems. According to Borsch-Supan et al. (2004), another reason why such a switch is beneficial is that the switch from pay-as-you-go to a (partially) funded system can lead to higher economic growth as aggregate saving rates increase. This is because pension contributions in the funded system are invested in the capital markets and are therefore part of savings (Zandberg and Spierdijk, 2010). On the other hand, Blanchard and Fischer (1989) argue that this is not necessarily the case. For example, if people are already saving a lot, their voluntary savings will simply be replaced by mandatory retirement savings, and the aggregate savings rate may remain the same,

meaning that it will not affect economic growth. On the other hand, financial capital markets will become more efficient. In addition, pension financing can also boost economic growth by reducing labor market distortions and improving corporate governance (Zandberg and Spierdijk, 2010).

In this regard, within the framework of this study, we considered two key 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 will try to determine the role of pension savings in economic growth.

Most of researches (Itiparmakov, N., & Nedeljkovic, M. (2018); Apilado, V. (1972); Bijlsma, M., Bonekamp, J., van Ewijk, C., & Haaijen, F. (2018); Holzner, M., Jestl, S., & Pichler, D. (2021); Iparraguirre, J. L. (2020); Sanusi, K. A., & Kapingura, F. M. (2021); Zandberg, E., & Spierdijk, L (2013) regarding the impact of pension fund assets on macroeconomic indicators somehow prove the positive impact of pension savings on economic growth rates, which is due to an increase in the total level of savings formed in pension assets available for investment.

Davis and Hu (2004) in their study 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 and actually leads to the conclusion that pension savings lead to an expansion of savings, which, under the condition of a developed financial system, in the long run leads to stimulating economic growth rates. The authors, in continuation of this study, published another work (Davis, E. P. and Hu, Y.-W. (2008)), which also confirms the above theses.

Holzmann (1997a,b) sufficiently confirms the results of Davis and Hu and concludes that the pension reform had a positive effect on overall labor productivity in Chile. Bayar (2017) points to a two-way causal relationship between pension fund assets and economic growth.

It should be noted that there are few studies that prove the direct impact of pension savings on economic growth rates. At the same time, most of the works consider this impact through the development of the financial system, which indirectly inevitably leads to an expansion of aggregate demand and stimulation of economic growth rates.

Using the example of South Africa, studies by Sanusi, K. A., & Kapingura (2021) show that the impact of pension funds on economic growth and investment is negligible. 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 & Fernando Lefort, 2002, there are several conditions under which the growth of pension savings in funds will lead to the development of the financial sector. First, it is necessary to have financial instruments in which pension funds could invest their savings. At the same time, it is important that these instruments are reliable and risk-free. Secondly, the availability of pension savings invested in various financial assets will improve the quality of human capital in this area, since it will require more efforts to ensure the reliability of investments and manage large volumes of financial assets on a long-term basis, which means more knowledge and skills. The third argument of the author is the thesis that the growth of pension savings leads, as a rule, to the growth of financial innovations. All this together determines economic growth, since one way or another stimulates it through various channels of influence. Thus, the authors concluded that an increase in the assets of pension funds has a positive effect on transparency, integrity and improves the distribution of funds in the financial system, which in itself can lead to permanent positive changes in growth and welfare in the economy.

Hoffmann et al. (2020) emphasize that pension fund assets are important 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) and Levine and Zervos (1998) also agree that the development of the financial system stimulates economic growth, and it is the development of the stock market that has the greatest positive impact. At the same time, pension savings, 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 shares contributes to the development of the stock market (Alda, 2017; Alda & Sanjuan, 2017), and the development of the stock market, in turn, affects the investment of pension funds in equities (Babalos & tavroyiannis, 2019).

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

Thomas & Spataro, 2016 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), considering developing countries, argue that the introduction of a funded pension system causes the growth of the stock and corporate bond market. Stewart et al. (2017) 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 asset returns.

The presence of a fairly large number of studies arguing the positive impact of pension savings on economic growth rates, both directly and through a developed financial market, in the scientific literature, one can also find the works of authors who prove that the noted relationship may not exist.

One of the latest works by Zandberg and Spierdijk (2010), 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 work on this topic (Apilado, V. (1972)), shows that the positive impact of pension savings on investment growth is limited to a reduction in savings in other forms, in particular in the form of household deposits.

At the same time, Altiparmakov and Nedeljkovic (2018) 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, M., Jestl, S., & Pichler, D. (2021) argue that an increased role for private pension funds could increase financial stability risks. A significant impact of pension assets on the growth of sectors of the economy is noted by Bijlsma et al. (2018). However, given the high share of outward investment from pension funds, this positive impact actually occurs in the countries that attract this investment. In this sense, the positive impact of pension savings on economic growth rates in national economies is called into question. Daradkah and Al-Hamdoun (2020), studying the relationship between pension funds and capital market development in Jordan over the period 1980–2017, did not find a statistically significant relationship between pension funds and capital market development in the short term, but showed a statistically significant long-term balance between pension funds and the development of the capital market (both in terms of market depth and liquidity).

Summarizing the above, we can conclude that pension savings can positively affect the rate of economic growth, subject to a sufficient degree of development of financial intermediation institutions in the country, including the capital market. At the same time, even the presence of a well-developed financial market does not guarantee a positive impact of pension savings on economic growth rates, since, in fact, 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 has a negative impact on the rate of economic growth in the country, since, in fact, pension funds unwittingly 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, invest in the medium term, constantly redirecting and redistributing their assets into the most risk-free and at the same time profitable investments. This, in turn, to a certain extent, levels out the thesis about the positive impact of pension savings in the long term.

### **Pension system of Armenia: key principles, general characteristics**

The law on the reform of the pension system in Armenia, adopted in 2010, implied a transition from a system funded and managed exclusively by the state (single-tier, pay-as-you-go (PAYG))<sup>1</sup> 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 a number of changes in stages until it takes its final form by 2021.

The tiered pension system in Armenia is based on the World Bank model (Holzmann, R., and Hinz, R. (2005)), which assumes the following levels of the pension system:

➤ Zero level, providing for the payment of old-age, disability and survivor's pensions to those who do not have insurance coverage. The benefits are financed from the state budget and are equal to the minimum food basket allowance.

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

➤ The second level provides for the payment of a pension to those who were under 40 in 2014 and to those who contribute to their mandatory individual accounts. Pension payments are self-financed and funded by the government at a contribution rate of 3.5% from individuals and 6.5% from the government<sup>2</sup>,

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<sup>1</sup> 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>

<sup>2</sup> Law of the Republic of Armenia on the Pension System.

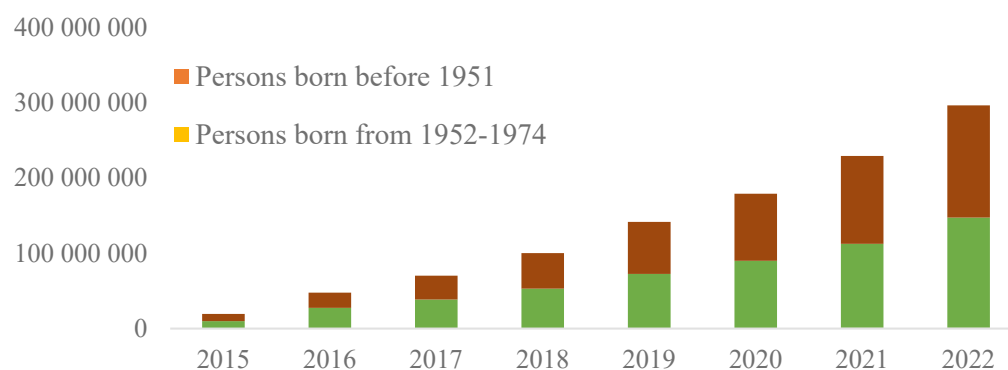
and depend on the amount of funds accumulated at retirement and the return on investment, net of management fees.

➤ The third level involves voluntary contributions to accumulative pension funds.

➤ The fourth level involves mandatory contributions to accumulative pension funds.

It should also be noted that the last two levels are additions to the second level. At the moment, participation in the funded system is mandatory for persons born after January 1, 1974. Participants can be employees, notaries, as well as individual entrepreneurs. In total, today 736,823 people participate in the funded pension system. In terms of gender breakdown, the participation of men and women in the program is approximately equal.

As we can see on the graph 1, the number of shares of different age groups in the funded 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, that is, the most able-bodied population of the country. At the same time, it should be noted that it is this part of the population that forms the main share in the country's total consumer spending. Thus, we can conclude that the volume of payments to the accumulative pension fund is directly reflected in the reduction in consumer spending.



**Source:** Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

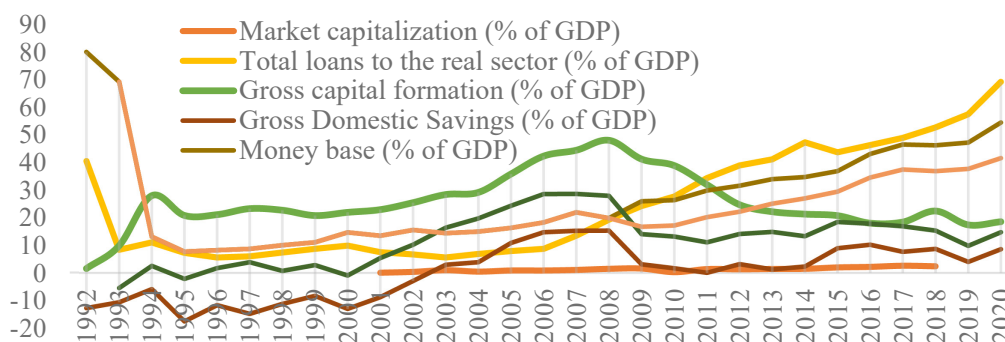
**Graph 1. Number of shares of participants in pension funds, by age**

Along with this, 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:

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

According to the Law of the Republic of Armenia on the Accumulative Pension System, 60% of pension savings must be invested in national assets, and 40% in foreign financial assets. At the same time, half of investments in national financial assets are channeled into government bonds and thus contribute to the expansion of the country's domestic debt. The other half of national financial assets can be invested in stocks, bonds or bank deposits.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

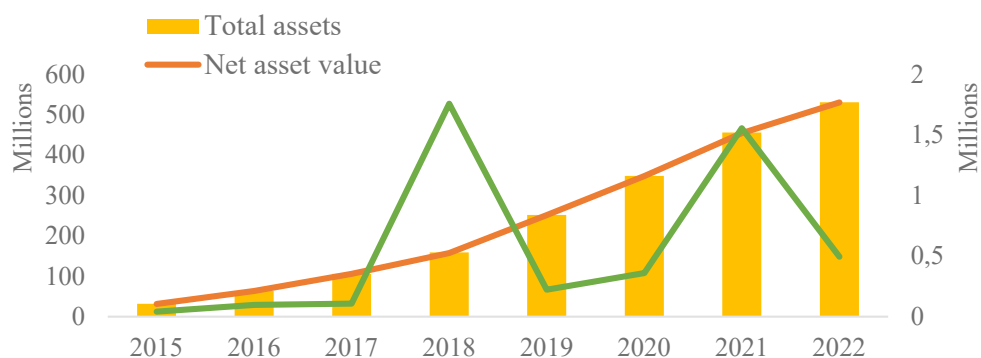
*Graph 2. Financial Sector Development Indicators in Armenia*

Considering the key indicators characterizing the financial system of Armenia, one can note, first of all, a completely undeveloped capital market. A noticeable increase in total loans to the real sector is largely provided by the banking sector. At the same time, gross savings and gross savings as a whole show a downward trend, which significantly limits the possibilities of pension funds in terms of long-term investments within the country.

Assets and liabilities of Armenian pension funds are shown in the graph. As we can see, over the period of existence of the funds, total assets, as well as the value of net assets, demonstrate a noticeable increase. At the same time, the



dynamics of total liabilities is rather unstable and demonstrates a high degree of volatility.



**Source:** Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

**Graph 3. Total assets and liabilities of compulsory insurance pension funds**

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

✓ *Fund with a stable income.*

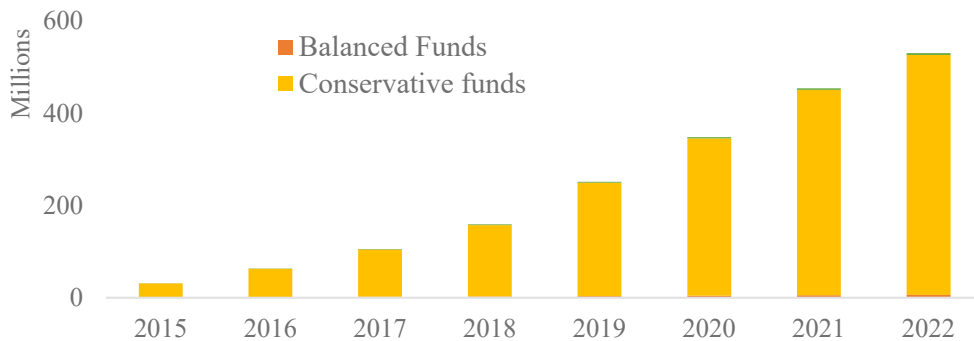
Assumes relatively low risk and stable low income. The fund's assets are 100% fully invested in stable financial instruments with a low level of risk (eg deposits, bonds, etc.).

✓ *Conservative Fund*

Assumes medium risk and can provide relatively high returns. The Fund's assets, in addition to financial instruments that provide a stable income, are invested to a certain extent (up to 25%) in relatively risky financial instruments - shares.

✓ *Balanced fund*

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

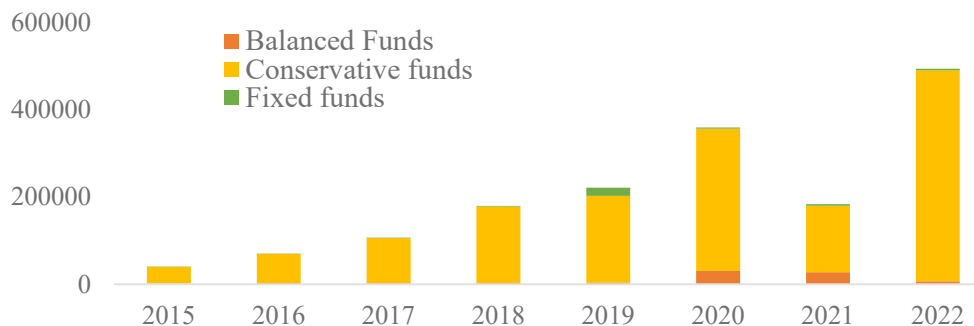


**Source:** Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

**Graph 4. Total assets of compulsory insurance pension funds**

The dynamics of the total assets of compulsory insurance pension funds is shown in the graph. As you can see from the chart, 99% of assets are invested in conservative funds.

The dynamics of pension fund liabilities is quite volatile (see chart). Here we can also note the dominant role of the obligation through the line of conservative funds. At the same time, in 2019 there is some increase in liabilities under the line of fixed funds, and in 2020-2021. growth of liabilities under the line of balanced funds.

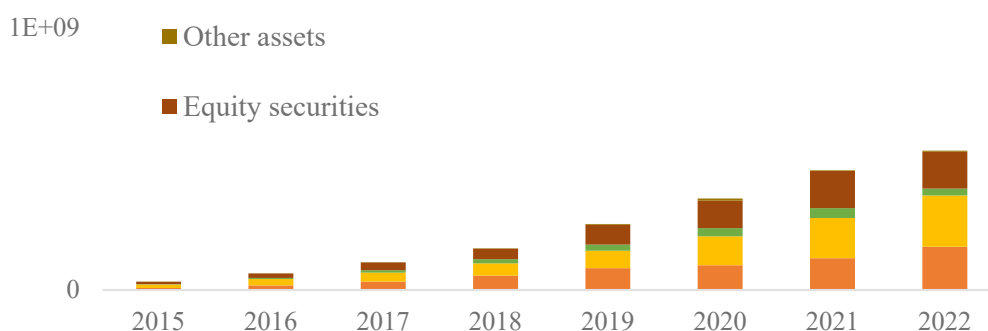


**Source:** Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

**Graph 5. Total liabilities of compulsory insurance pension funds**

The most interesting for us is the dynamics of investments of pension funds of Armenia in various types of financial assets, the structure and dynamics of which is shown in the graph. 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 assets of Armenian pension funds are investments in government bonds. The second place in the share of assets is occupied by

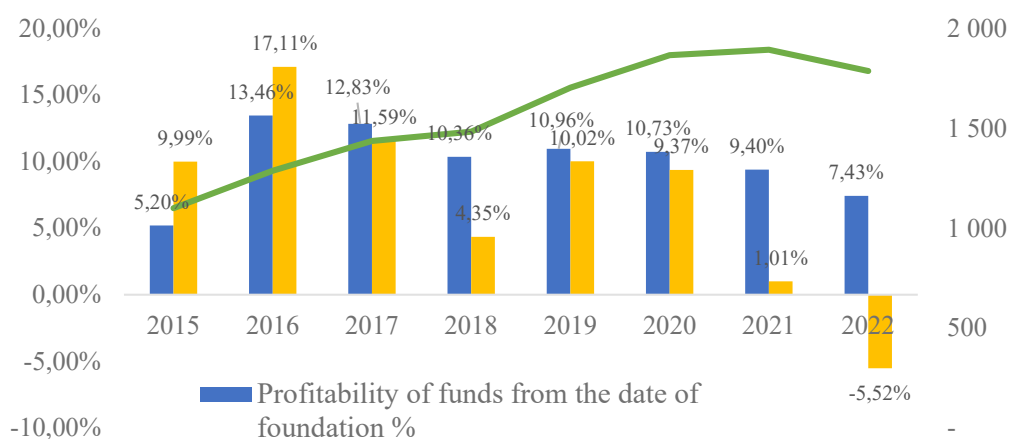
investments in cash and deposits, in other words, in the banking system. Here we can also observe fairly high growth rates, which in turn largely explains the noticeable growth in deposits of the banking system in recent years. Finally, the third largest item in the assets of pension funds is investments in equity securities. However, as is known, the share market in Armenia is practically not developed, which allows us to conclude that these investments are invested in the foreign securities market.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

Graph 6. *Aggregate investments of pension funds of obligatory insurance*

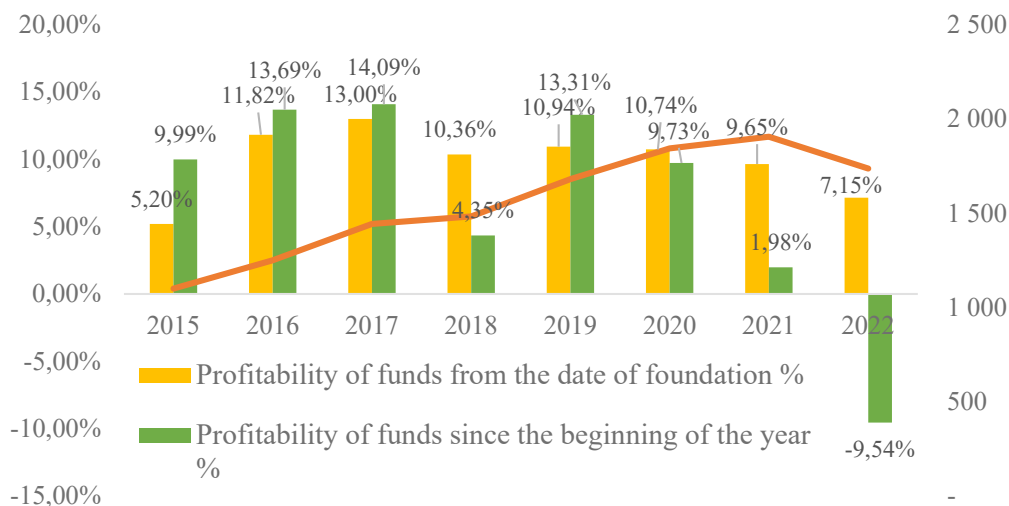
In this regard, no less interest is the return on investment of pension funds. Since the database of the Central Bank of the Republic of Armenia provides information on profitability only based on the type of investment, our analysis will also be carried out based on this classification. The general trend of profitability of all types of funds is downward.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

Graph 7. *Profitability of investments of fixed funds*

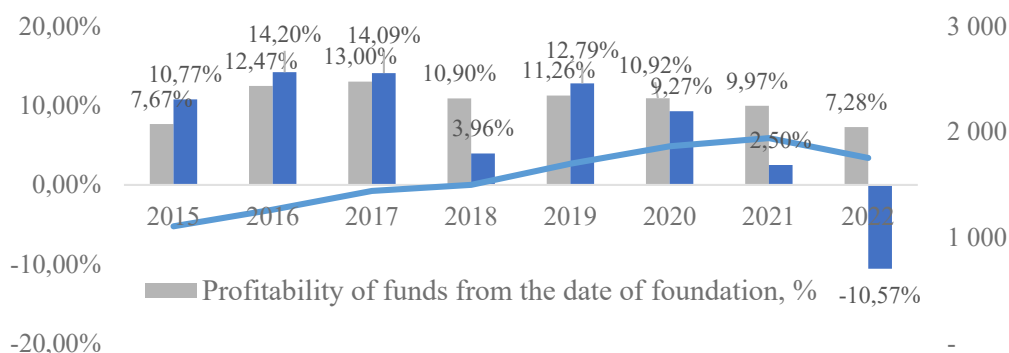
Inception fixed funds have averaged about 10% returns, and YTD returns averaged 7.24% over the last eight years (see graph). The highest rate of return was observed in 2016. Over the past two years, profitability has declined substantially. In 2022, there is a negative return on fixed funds in the amount of 5.52%.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

Graph 8. Return on investments of conservative funds

The yield 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 funds. At the same time, there is also a drop in profitability every year. In 2022, the yield of conservative funds since the beginning of the year was -9.54%.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

Graph 9. Return on investments of balanced funds

Finally, the performance of balanced funds does not differ from the dynamics of the previous types of funds and also show a decline. In 2022, the return on balanced funds was -10.57%.

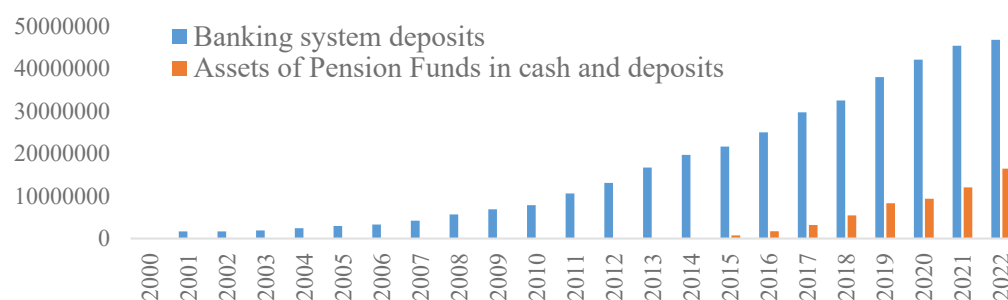
Thus, it is possible to summarize all of the above with the key thesis that today the Pension Funds of Armenia are at a rather risky stage of development in terms of profitability, as well as the safety of savings of participants in the pension system in the medium term.

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 of the assets of pension funds are either invested in government bonds or invested in securities on foreign stock markets.

### The role of pension savings in the economic growth of Armenia

Finally, at the last stage of this part of the research, one should turn to the question of the role of investments in the pension savings system in Armenia in ensuring or stimulating economic growth rates. However, due to the too short time series, it is quite difficult to draw any conclusions in this regard. Therefore, it seems inappropriate to make any predictions based on seven years of experience.

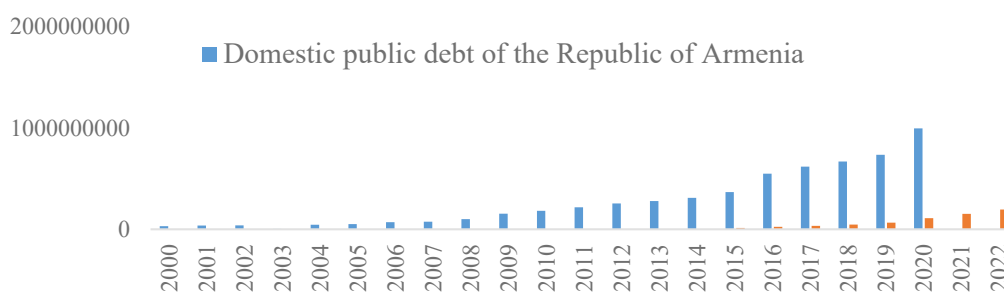
In this regard, it seems possible for us to consider the role of pension investments in the financial system of Armenia, which will also play a role in ensuring economic growth in the long term. Since the structure of pension funds' investments in national assets is mostly represented by investments in cash and deposits, as well as in government bonds, it seems appropriate to compare the growth dynamics of deposits of the banking system of the Republic of Armenia and domestic public debt in order to assess the share of pension investments in the growth of these two indicators.



Source: Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am)

*Graph 10. Deposits of the banking system of the Republic of Armenia and assets of pension funds invested in deposits and cash*

Chart 10 shows the deposits of the banking system of Armenia and the assets of pension funds invested in deposits and cash. As we can see, over the past 7 years we have seen a noticeable increase in both the deposits of the banking system of Armenia and the assets invested in the banking system by pension funds. In this regard, it can be argued that investments from pension funds play an important role in the growth of deposits in the banking system of Armenia. However, knowing the structure of lending to the banking system, it can be argued that investments in the economy are either short-term or medium-term, and therefore there is no need to observe a positive impact in the long term.



**Source:** Database of the Central Bank of the Republic of Armenia - [www.cba.am](http://www.cba.am); Database of the RA Ministry of Finance – [www.minfin.am](http://www.minfin.am)

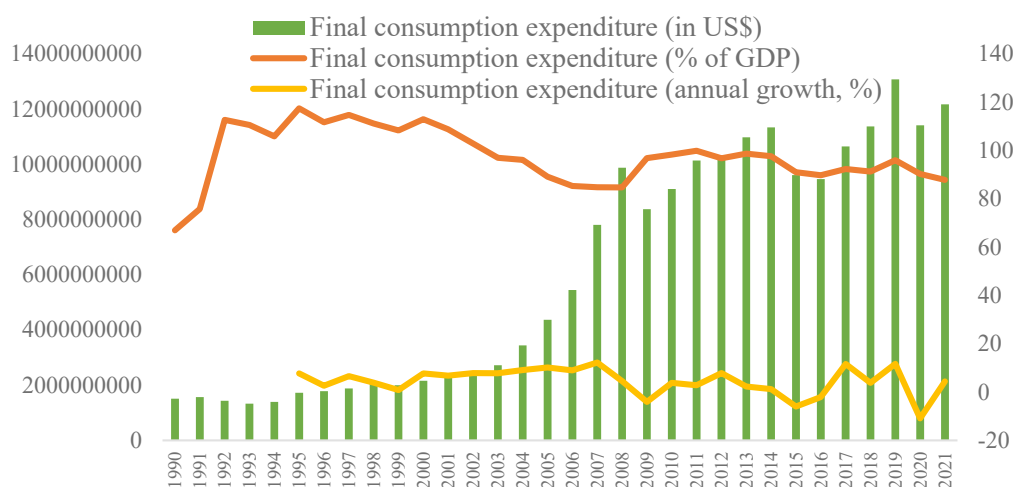
**Graph 11. Domestic public debt of the Republic of Armenia and investments of Pension Funds in government bonds**

As for the investments of pension funds in government bonds, as shown in Chart 11 over the past 5-7 years, there has been a noticeable increase in both the mentioned investments and the internal state debt of Armenia itself. In this sense, it can also be noted that pension funds, to a certain extent, contribute to the buildup of the country's domestic debt. 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 value.

Since the influence of Armenia's pension savings through the financial system at the moment cannot have a positive impact on economic growth rates due to the underdevelopment of financial intermediary institutions, a possible negative impact on the economy should be assessed.

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 this condition, the funded pension system to a certain extent reduces the consumption of the population, which directly affects the rate of economic growth.

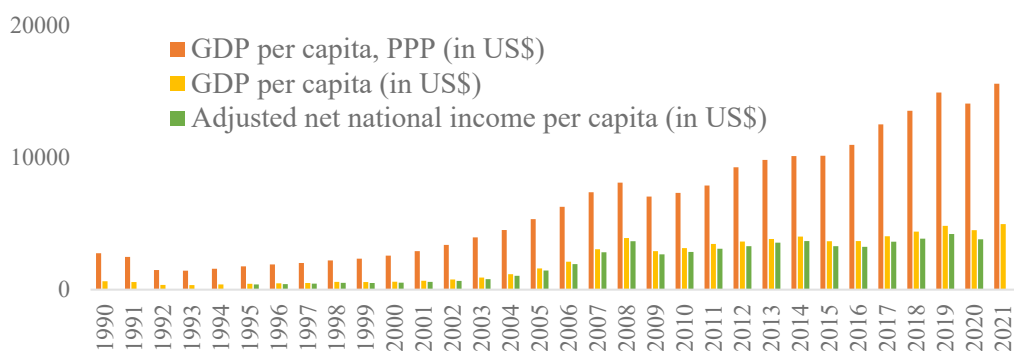
As we can see in Chart 12, since 2009, consumer spending in Armenia has not shown any significant growth, but, on the contrary, until 2018, consumption remained at the same level. Undoubtedly, the reason for this state of affairs is the stagnation in the economy, the negative consequences of the global financial crisis and the local crisis of 2014-2015. In Russia, as well as many other economic and institutional reasons. However, one cannot deny the certain role of the introduction of the funded pension system in reducing the income of the population, and hence consumer spending.



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

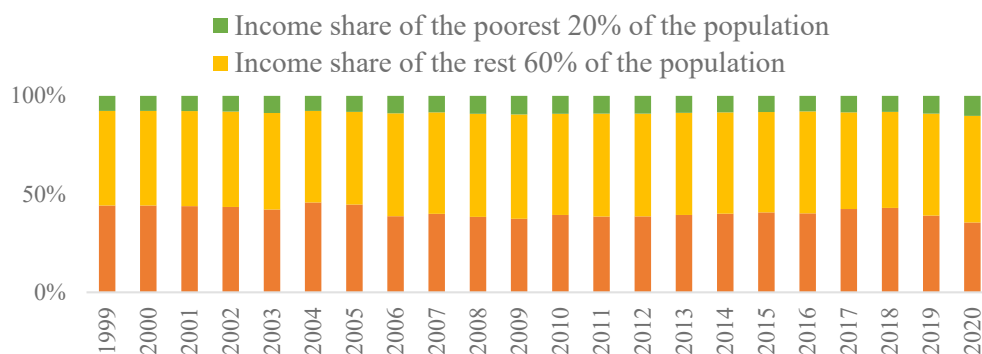
*Graph 12. Consumer expenditures in Armenia*

Chart 13 shows the level of per capita income in Armenia, as well as adjusted net national income per capita. As we can see, all three indicators of per capita income presented in the graph indicate an obvious slowdown in the growth of household incomes in the period 2008-2018, which undoubtedly affected the level of well-being and consumption by the population. Under such conditions, the introduction of a mandatory funded 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 the consumer spending channel.



Source: World Bank Database - <https://databank.worldbank.org/>  
**Graph 13. GDP per capita in Armenia, in USA dollars**

Finally, it is important to note the rather high level of income inequality in Armenia, which, of course, is not directly related to the funded pension system, but indirectly is a problem for the effective and positive impact of pension savings on economic growth rates.



Source: World Bank Database - <https://databank.worldbank.org/>  
**Graph 14 (a). Uneven distribution of incomes of the population in Armenia**

Graphs 14(a) and (b) show the distribution of income between the 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%.





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

*Graph 14 (6). Uneven distribution of incomes of the population in Armenia*

At the same time, participation in the mandatory funded pension system remains mandatory for all types of income, which, from the point of view of real income, primarily negatively affects the population with a low income level. This, in turn, also affects both the reduction in consumption and contributes to the deepening of the level of poverty, which, as you know, is a significant factor in restraining economic growth.

## Conclusion

So, summing up all of the above, it can be noted that in the conditions of a low degree of development of the financial system and a low level of well-being of the population, accompanied by an uneven distribution of income, the introduction of a mandatory funded pension system cannot positively affect the economic growth rates of Armenia in the foreseeable future.

The key problem of this situation is the fact that, in fact, pension savings 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 the rates of economic growth and the improvement of the welfare level in the country should be of a complex nature. The proposed elements of strengthening the position of pension savings in the Armenian economy involve the following steps:

- ✓ Today, pension funds are institutions of financial intermediation in the general system of regulation of the financial system of Armenia. At the same

time, the creation of pension funds on the basis of self-regulation would enhance the positive impact of pension savings on economic growth rates.

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

✓ It is necessary to create a national investment fund, the purpose of which would be 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.

✓ It is necessary to create a national mortgage fund that will issue mortgage-backed securities that would become a reliable asset for investments by corporate and state pension funds.

✓ It is necessary to shift the burden of pension payments from the state budget to the employer. Thus, co-financing of retirement savings should be divided between the employee and the corporation, which will free up budget funds and reduce the burden on state budget expenditures.

✓ The responsibility of the state remains to ensure a stable level of prices, as well as the necessary indexation of losses of pension funds' investments in line with inflation. At the same time, the state acts as a guarantor of all investments in pension savings.

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

### **References:**

- 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)
- 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>
- 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>

- Altıparmakov, 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>;
- 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>
- Bayar, Y. (2017). Pension Funds, Financial Development and Economic Growth in Emerging Market Economies: A Panel Causality Analysis. *Journal of BRSA Banking and Financial Markets, Banking Regulation and Supervision Agency*, 11(1), 51-64.
- 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>;
- Blanchard, O. J. and Fischer, S. (1989). *Lectures on macroeconomics*. MIT Press.
- 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.
- 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>
- 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.
- 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.
- Demirgüç-Kunt, A. and Levine, R. (1996). Stock market development and financial intermediaries: Stylized facts. *The World Bank Economic Review*, 10(2):291–321.

- 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.
- 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.
- 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
- 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.
- 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>;
- Iparraquirre, 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](https://doi.org/10.1007/978-3-030-29019-1_5);
- Levine, R. and Zervos, S. (1998). Stock markets, growth and economic development. *American Economic Reviews*, 88.
- 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>;
- 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>
- Niggemann, T., & Rocholl, J. (2010). Pension funding and capital market development. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1571126>
- 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)
- 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>;

- 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.
- 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](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2481749)
- 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>
- 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)
- Zandberg, E. and Spierdijk, L. (2010). Funding of pensions and economic growth: Are they really related. Netspar Discussion Paper 12/2010-082.
- 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>.
- Zakon Respubliki Armenia o Nakopitel'noy pensionnoy sisteme.

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YEAR LXXVI, BOOK 1 – 2023

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## ***CONTENTS***

### **Mariam Voskanyan**

Funded Pension System of Armenia: Problems, Development Prospects, Role in Economic Growth /3

### **Mariya Pavlova, Rayna Petrova**

The Emerging Changes in the Accounting Profession and the Accounting Practice Under the Influence of Technology /24

### **Cordelia Omodero**

Information Communication Technology Taxation and Tax Earnings in a Low-Income Economy /41

### **Konstantin Kolev, Maya Tsoklinova**

Economic Interventionism Under Pandemic Conditions: Similarities and Differences on EU Level /55

### **Rousalin Rousalinov**

Customer-Centric Approach for Financial and Economic Surveys of Private Security Companies /75



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