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Second pillar of old-age pension savings in the Slovak Republic in 2024 as a tool for preventing poverty in old age

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ABSTRACT

This study examines the performance of the second pillar of old-age pension savings in the Slovak Republic in 2024, assessing its potential to reduce the risk of poverty in old age. The research is based on secondary analysis of statistical data from official state institutions and private pension management companies, using methods of inferential statistics. The findings indicate that in 2024, the capitalization-based second pillar achieved above-average returns, especially in progressive non-guaranteed funds. The structure of investment also changed significantly: savers allocated up to 64% of their pension savings to progressive index funds, and a total of 72% to all non-guaranteed funds combined, compared with only 28% placed in conservative bond funds. The analysis further revealed statistically significant differences in fund performance across pension management companies. Overall, the results suggest that in 2024, consistent with long-term trends since 2005, the second pillar remains one of the most effective economic, social, and political tools for preventing old-age poverty in the Slovak Republic, despite ongoing economic, political, demographic, and social risks.

1. Introduction

In all politically developed, democratic societies of today's globalized world—where the rule of law prevails—old-age pension systems are a critical instrument for preventing poverty and supporting sustainable economic and social development. As an important social, political, and economic mechanism, the pension system directly contributes to one of the goals of the 2030 Agenda for Sustainable Development: No Poverty. It concerns the well-being of one of the most vulnerable groups in society—older people who rely on pensions (Caminada et al., 2025).

Currently, each country applies its own systemic model, or a combination of models, to address this social challenge. The structure and effectiveness of these systems depend heavily on the political leadership in power, whose values and priorities shape their design. As a result, the old-age pension system becomes a tool that can significantly influence the quality of life of this target population (Grünewald, 2022).

2. Theoretical framework

According to World Bank statistics, nearly 700 million people currently live in poverty worldwide, representing about 8.5% of the global population. These individuals earn less than USD 2.15 (EUR 1.89) per day. In addition, approximately 3.5 billion people—around 44% of the world's population—live on less than USD 6.85 (EUR 6.03) per day. Due to population growth, the number of people living below this poverty threshold has remained largely unchanged since the 1990s. In 2024, almost 67% of the global population lived in extreme poverty (WBG, 2024).

From the perspective of the European Union, the definition of poverty differs from those in other parts of the world. Therefore, the policy measures introduced to combat poverty in European Union countries differ from those adopted in other countries. Poverty is measured in relation to the distribution of income in each Member State using relative income values. The poverty rate in relation to relative incomes in the European Union is compiled by Eurostat, which is responsible, inter

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alia, for coordinating, collecting, and disseminating statistics of the Member States through the European Union Survey on Incomes and Living Conditions (Dvorak, 2015).

According to Eurostat (2025), in 2024, 17.1% of the population in the Eurozone aged 65 years plus were living in poverty. With respect to the Slovak Republic as a Member State of the European Union, according to the OECD (2024, 2025) report on the population of persons over the age of 66, the Slovak Republic is a country in which the challenges of addressing poverty still remain a high priority. As regards retirement age for the old-age pension, at present this is fixed for those insured persons born before 1967. This change took place in 2025. For an insured person born on or after the year 1967, the retirement age increase has been linked to the average life expectancy. The legislation concerning the reduction of the retirement age by six months for each child, up to a maximum of 18 months, remains unchanged. Addressing poverty in the Slovak Republic is included in the implementation of the 2030 Agenda, which is represented by the document entitled "The Start Line for the Implementation of Agenda 2030 for Sustainable Development," approved by the Resolution of the Government of the Slovak Republic No. 95/2016, which is implemented in all public policies.

One of the fundamental tools for combating poverty in old age is the old-age pension system. As the basic subsystem of social security measures, and also of the pension system of the state, it is an integral part of the social policy of a developed social state. The social policy is inextricably linked to economic policy, from where it draws its resources, without which it cannot implement specific solutions to individual social events, such as poverty, disease, old age, or disability etc. The problem of the old-age pension system, poverty and sustainable development in the given area has been addressed by a number of authors in their poly-paradigmatic research in the Slovak Republic and abroad, such as Geffert and Rovenská (2022, 2024), Košta (2017), Narayana (2019), Hirose (2011), Bačová and Kostovičová (2018), Lesay (2006), Oksanen (2002), Schokkaert and van Parijs (2003), Walker (2003), Ponthière (2020), Marier and Mayer (2007), and others.

Global politics and economy, demographic development, population ageing (Table 1 and Table 2), life expectancy growth, quality of life, requirements for living standards, and especially the growth of poverty are reasons for all the countries of today's globalized world to undertake fundamental changes in the area of pension welfare. This should result, ex ante, in sustainable social and economic development with improvements in the living standards of citizens as recipients of that social policy in the long term.

Currently, objective relative poverty as a negative social phenomenon significantly affects the lives of old-age pensioners. According to data from the Statistical Office of the Slovak Republic and the Social Insurance Agency, the income poverty threshold for a single-person household is set at €509. In 2024, more than 980,000 people were at risk of poverty and social exclusion (the total population in 2023 was 5,423,000), representing almost one-fifth of the Slovak population. Among them, 298,550 older people were living at or below the poverty line (Table 3).

In 2024, the Statistical Office reported that 14.5% of the population—about 776,000 citizens—were in income poverty. These figures clearly demonstrate the seriousness of the situation and the urgent need for responsible action by the state, as the main actor in social policy, and by citizens who are affected by it. Cooperation at the transnational level is also necessary, as the global economic environment increasingly shapes national economies and pension systems around the world.

One of the key instruments for addressing poverty in old age—both ex ante and ex post—is the old-age pension. Through this mechanism, individuals can meet their basic needs and maintain a certain standard of living in later life. These considerations also motivated policymakers in the Slovak Republic to introduce reforms to the old-age pension system after 2003.

Since 2005, the old-age pension system in the Slovak Republic has been structured around three separate pillars. The first pillar, compulsory pension insurance, is a pay-as-you-go system managed by the state Social Insurance Agency (Sociálna poisťovňa, A.S.). Its legal framework is established by Act No. 461/2003 Z.z. on social insurance, as amended. The second pillar, old-age pension savings, is a contribution-based, capitalisation-funded scheme administered by private pension management companies. It is governed by Act No. 43/2004 Z.z. on old-age pension savings. The third pillar, voluntary supplementary pension savings, is also capitalisation-funded and managed by supplementary pension management companies. Its legal basis is Act No. 650/2004 Z.z. on supplementary pension savings (Geffert and Rovenská, 2022).

This contribution primarily focuses on the second, capitalization pillar of the old-age pension savings scheme. In the medium and long term, this pillar enables an increase in the savings of future pensioners by allowing pension management companies to invest their accumulated funds efficiently. Through these investments, it is expected that the living standards of older people can be improved in the future.

The second pillar of old-age pension savings in the Slovak Republic was formally introduced into national law on 20 January 2004, when the National Council of the Slovak Republic adopted Act No. 43/2004 Z.z. on old-age pension savings. This act, which took effect on 1 January 2005, established the basis for the compulsory, capitalization-funded second pillar of the pension system. The reform, which introduced the second pillar, was supported externally by international institutions, in particular by the World Bank. Its main objective was to compare the advantages and disadvantages of the systems in order to maximize the benefit for the citizens in the long run. As the author further notes, a dangerous precedent for long-term systems is the lack of broad political consensus and willingness to assume responsibility for long-term ex ante decisions. One of the main reasons for the introduction of the second pillar in the old-age pension system was the weakening of political influence on the value of pensions and the linking of the system to international market mechanisms.

Table 1: History of development of the number of newly admitted pensioners

Year	No.	%	Year	No.	%	Year	No.	%
2005	2,834	9.90	2012	3,064	16.90	2019	2,822	6.78
2006	2,514	19.00	2013	1,574	11.40	2020	2,031	6.28
2007	4,235	20.20	2014	2,341	6.90	2021	2,689	6.27
2008	2,830	15.10	2015	1,957	6.70	2022	2,955	6.98
2009	2,539	14.50	2016	2,322	6.30	2023	2,821	7.70
2010	3,153	16.00	2017	2,389	6.60	2024	3,394	9.62
2011	2,287	16.90	2018	1,805	6.77			

Table 2: An overview of the number of old-age pensions paid in 2011 - 2024

Year	Pension recipients	Year	Pension recipients	Year	Pension recipients
2005-2010	data unavailable	2015	1,032,197	2020	1,093,195
2011	975,633	2016	1,048,842	2021	1,096,225
2012	980,863	2017	1,064,393	2022	1,104,304
2013	988,277	2018	1,069,255	2023	1,118,242
2014	1,018,814	2019	1,088,300	2024	1,134,690

Table 3: An overview of old-age pensions in 2024 in the Slovak Republic

Old-age pension amount (EUR)	Number of recipients	Old-age pension amount (EUR)	Number of recipients
up to 76 EUR	1,023	515.10–605 EUR	147,493
76.10–110 EUR	857	605.10–705 EUR	139,463
110.10–200 EUR	5,565	705.10–800 EUR	99,191
200.10–305 EUR	15,213	800.10–900 EUR	74,065
305.10–415 EUR	41,043	900.10–1,000 EUR	48,650
415.10–515 EUR	161,349	over 1,000.10 EUR	92,440

Average old-age pension (2024): 683.10 EUR

A citizen of the Slovak Republic can join the second pillar by entering into a pension savings contract with a pension management company. The collection of compulsory contributions is carried out by the state Social Insurance Agency, JSC., which subsequently forwards them to the relevant pension management company selected by the saver. The pension management company will then credit these contributions, in the form of pension units, to the personal pension account of the saver. The assets of the saver kept in the personal pension account are separated from the pension management company's assets. The account records all movements of the assets-contributions, fees, and transfers. The assets in the personal pension account of the saver are managed by the pension management company with which the saver has entered into a contract. In addition to compulsory contributions, the saver can also make voluntary contributions. These are registered in the personal pension account of the saver separately from the compulsory contributions. It is always possible to determine which part of the savings comes from the compulsory contributions and which part from the voluntary contributions. It is mandatory for each pension management company to manage one guaranteed (bond) pension fund and one non-guaranteed pension fund (stock, mixed, and index). The pension management company can also create other pension funds, guaranteed or non-guaranteed, with specific investment strategies. When it comes to the distribution of savings, each saver can save their finances in two funds at a time, but one of them must be a bond guaranteed pension fund. During the long-term savings period, the pension fund can be changed (Geffert and Rovenská, 2022).

The collection of compulsory contributions is centralized and is carried out through a public institution-Social Insurance Agency, JSC., which is obliged to forward them to the saver´s pension management company, assigning them in the form of pension units to the personal pension accounts of savers in pension funds. The total amount of contributions for old-age insurance, i.e., to the first and second pillars, is 18 % of the assessment base. The contributions to the second pillar kept growing until 2022, but since 2023, the number of compulsory contributions to the old-age pension savings scheme has dropped again after several years of growth, due to the decision of the Government of the Slovak Republic in the perspective of remaining at the same level of only 4% throughout the year 2025 (Table 4).

The effective savings period for savers in the long term is 30 to 50 years. It is recommended to consider positive investment primarily in non-guaranteed funds (i.e., index, stock, mixed). Short-term losses caused by investing in riskier assets should most likely be offset by substantially higher returns achieved in the long term. For older savers, it is advisable to consider more conservative investments first and foremost. Bonds (especially state bonds) are associated with lower returns, but also with a lower risk of loss. However, this could lead to a negative impact on the amount of pension funds in the period closest to retirement. Savings in the guaranteed funds of the second pillar provide savers with protection in the form of statutory guarantees. The study aims to examine the performance rate of the second pillar of the old-age pension savings in the Slovak Republic in 2024 as a possible tool to prevent poverty in old age. A partial aim is to analyze and compare the different types of funds currently managed by pension management companies, and evaluate the potential of the second pillar as a tool for the prevention of old-age poverty, as well. Particular attention is devoted to assessing the overall performance, i.e., the yield of individual funds, in relation to the financial resources invested by savers.

Table 4: An overview of the number of contributions to the old-age pension savings scheme in the SR in 2005-2024

Year/period	2nd pillar mandatory contribution rate (%)	1st pillar premium rate (%)	Total (1st + 2nd) (%)
2005–2012	9.00	9.00	18.00
2013–2016	4.00	14.00	18.00
2017	4.25	13.75	18.00
2018	4.50	15.50	18.00
2019	4.75	13.25	18.00
2020	5.00	13.00	18.00
2021	5.25	12.75	18.00
2022	5.50	12.50	18.00
2023	5.50	12.50	18.00
2024	4.00	14.00	18.00

On the basis of the above-formulated aim and theoretical framework, the following research questions were established:

- What was the average yield of the various types of pension funds?
- Which pension management companies achieved the best results?
- To what extent can the second pillar increase the future retirement income of the saver?
- What systemic measures could enhance the effectiveness of the second pillar in combating poverty among senior citizens?

On the basis of the above-formulated research questions, the following hypothesis was established and tested:

- There is a statistically significant difference in the yield of funds across pension management companies.

3. Method of work and research methodology

The study uses secondary analysis of statistical data obtained from (1) official state institutions—including the Social Insurance Agency, the Ministry of Labor, Social and Family Affairs of the Slovak Republic, the Statistical Office of the Slovak Republic, and Eurostat—and from (2) five major pension management companies currently operating in Slovakia: Allianz, KOOPERATIVA, NN, UNIQA, and VÚB Generali.

Microsoft Excel 2018 and IBM SPSS were used to process the secondary data. The data were analyzed and evaluated using descriptive statistics. A paired t-test and repeated measures ANOVA were applied to examine the significance of differences between paired (repeated) measurements. All methodological assumptions required for these analyses were fully observed.

The content analysis conducted in the study included both quantitative approaches (focused on counting and measurement) and qualitative approaches (focused on interpretation and understanding).

4. Results and discussion

Currently, a total of 1,968,072 future old-age pensioners are accumulating and valorizing their contributions in personal pension accounts within the second pillar scheme. The largest group of savers consists of individuals aged 36–45 years, representing 578,905 people (36.5%). The smallest group is made up of those aged over 56 years, totaling 190,042 savers, which accounts for 6.10% of all participants (Table 5).

Table 5: Number of savers in the second pillar by age (as of 31 December 2024)

Age group	Number of savers	Percentage (%)
Up to 25 years	255,962	7.30
26–35 years	453,746	27.10
36–45 years	578,905	36.50
46–55 years	489,417	23.00
Over 56 years	190,042	6.10
Total	1,968,072	100.00

As indicated in Table 6, savers can currently choose from among five pension management companies operating in the Slovak market. The largest number of citizens have invested their funds in Allianz, JSC., approx. 498 135 savers, with a market share of 26%. At the other end of the scale, the least amount of savers invests through the company KOOPERATIVA, JSC., approx. 148 135 savers, with a share of 8%. Each pension management company must manage one so-called stock non-guaranteed pension fund. As an investment strategy, this type of pension fund can also be referred to as "growth" or "aggressive," as it can invest a significant part of the savings of the second pillar savers in riskier financial market instruments (stock investments and funds traded on the stock exchange). It is intended primarily for savers who are looking at the potential of achieving high returns in the long term, at the potential cost of increased short-term volatility (risk). Currently, stock non-guaranteed pension funds have the second largest number of both the savers and the assets managed in the Slovak second pillar. From the perspective of the applied form of asset management, stock non-guaranteed pension funds rank with so-called actively managed funds.

Table 6: Number of savers in the second pillar by pension management company (as of 31 December 2024)

Pension management company (PMC)	Number of savers	Percentage (%)
Allianz, JSC.	498,135	26.00
KOOPERATIVA, JSC.	148,135	8.00
NN, JSC.	499,755	26.00
UNIQA, JSC.	390,806	20.00
VÚB Generali, JSC.	295,212	20.00
Total	1,921,605	100.00

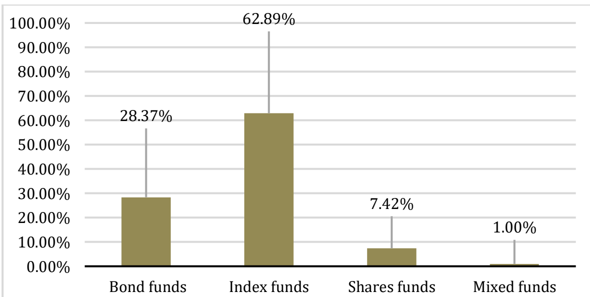
In relation to the development of the capitalization pillar in the old-age pension savings scheme, it is useful to survey the amount and evolution of the assets managed in individual pension management company funds providing investment opportunities towards the end of the calendar year 2024 (Table 7). In terms of guaranteed bond funds, the most funds were managed by Allianz, JSC., in the amount of approximately. 1,584.46 million EUR. As far as non-guaranteed funds are concerned, the highest investment from the savers was entrusted to Allianz, JSC., specifically its index fund with a total investment of approximately 2,985.40 million EUR.

Table 7: Assets managed in pension funds (as of 31 December 2024)

Pension management company	Bond guaranteed (EUR million)	Mixed non-guaranteed	Shares non-guaranteed	Index non-guaranteed	Total (EUR million)
Allianz, JSC.	1,584.46	0	0	2,985.40	4,569.86
KOOPERATIVA, JSC.	290.11	0	0	492.14	782.25
NN, JSC.	900.30	137.25	757.80	2,336.39	4,131.74
UNIQA, JSC.	1,124.71	0	286.42	2,789.21	4,200.34
VÚB Generali, JSC.	963.56	87.90	227.83	2,177.85	3,457.14

However, in 2024, the savers' investment in the second pillar of the old-age pension savings scheme in the Slovak Republic is significantly redistributed in favor of the progressive index funds, up to 64%, in terms of the structure of investments in the funds. In the sum of all three types of non-guaranteed funds, this makes up to 72%, compared to the more conservative bond funds, which make up 28%. Particular interest would be a comparative analysis with Estonia (2nd pillar established in 2002), where a substantial share of second-pillar pension fund assets was invested in index funds, amounting to 26% in total. This trend reflects a growing preference for low-cost, diversified index funds, particularly among younger savers entering the labor market. For example, in the third quarter of 2024, second-pillar pension funds reached a total value of €5.6 billion, with index funds accounting for 26% of these assets. According to the Bank of Estonia, index funds experienced significant growth, with a quarterly increase of 7% and an annual increase of 74%. In the Slovak Republic, the annual yield of most index funds in 2024 was around 25%, while the majority of equity funds also generated returns of more than 20%. It is also necessary to take into account that in the last ten years prior to old-age retirement, a citizen can no longer invest in any funds other than bond funds (Fig. 1).

As shown in Table 8, a positive trend in investment valorization was also observed in the stock funds managed by pension management companies. In 2024, the NN "Rešpekt" fund achieved the highest valorization at 24.89 percent, and 101.26 percent for the entire period since its establishment. By contrast, the UNIQA "Akciový" fund recorded the lowest valorization at 16.61 percent, with a cumulative valorization of 73.49 percent over its full operating period.



Bond funds- 4,863,132,459.82 EUR; Index funds- 10,780,992,257.88 EUR; Shares funds- 1,272,059,462.39 EUR; Mixed funds- 225,147,373.93 EUR

Fig. 1: Asset allocation of the second pillar of the old-age pension savings by type of fund as of 31st December 2024

A descriptive comparison indicates clear differences in the performance of these stock pension funds, which led us to examine whether the differences were statistically significant. For this purpose, unit values for each stock pension fund were collected for every calendar month in 2024. The average unit values for 2024 were EUR 0.0611 for UNIQA "Akciový" (SD = 0.0021), EUR 0.0671 for

NN “Dynamika” (SD = 0.0029), EUR 0.0783 for NN “Rešpekt” (SD = 0.0047), and EUR 0.0776 for VÚB Generali “Profit” (SD = 0.0041). The repeated measures ANOVA confirmed a statistically significant difference among the funds for the factor “Stock pension fund,” $F(1.381, 15.190) = 507.615$, $p < 0.001$, indicating that the variation across the funds was not random.

The Bonferroni post hoc test further demonstrated significant differences between UNIQA “Akciový” and NN “Dynamika,” UNIQA “Akciový” and NN “Rešpekt,” UNIQA “Akciový” and VÚB Generali “Profit,” NN “Dynamika” and NN “Rešpekt,” as well as NN “Dynamika” and VÚB Generali “Profit,” all at $p < 0.001$. Based on these findings, it can be concluded that in 2024, the most profitable stock pension fund for savers was the UNIQA “Akciový” fund.

Table 8: Stock pension funds’ performance (%)

Stock pension fund	Profit 2024	Whole period profit	Annual profit
UNIQA – Akciový	16.61	73.49	3.67
NN – Dynamika	17.28	10.25	0.57
NN – Rešpekt	24.89	83.60	4.18
VÚB Generali – Profit	21.35	101.26	5.06
Inflation	2.90		

In the case of another group of non-guaranteed funds—mixed pension funds—the profit and loss data for 2024 show that their performance provided savers, as future old-age pensioners, with valorization rates ranging from 12.73 percent in the NN “Harmónia” fund (63.81 percent for the entire period since its establishment) to 22.22 percent in the VÚB Generali “SMART” fund (82.46 percent since its establishment), as shown in Table 9. The descriptive comparison again indicates differences in the performance of the mixed pension funds, prompting an examination of whether these differences were statistically significant. To that end, unit values for each mixed pension fund were collected for every calendar month in 2024.

The paired t-test confirmed a statistically significant difference, $t(11) = -12.310$, $p < 0.001$. The VÚB Generali “SMART” fund achieved an average unit value of EUR 0.0647 (SD = 0.0038), whereas the NN “Harmónia” fund recorded an average of EUR 0.0573 (SD = 0.0019). This indicates that, for savers in 2024, investing in the VÚB Generali “SMART” fund was more profitable.

Table 9: Mixed pension funds’ performance (%)

Mixed pension fund	Profit 2024	Whole period profit	Annual profit
VÚB Generali – SMART	22.22	82.46	4.12
NN – Harmónia	12.73	63.81	3.19
Inflation	2.90		

When examining the most successful pension management company funds, the highest investment valorization was observed in the index pension funds (Table 10). In 2024, the VÚB Generali “Index” fund achieved the strongest performance, with total valorization reaching 147.51 percent since the fund’s establishment. All index funds reported notable returns not only for 2024 but also across their entire operating periods, with cumulative yields ranging from 119.72 percent in the KOOPERATIVA “Indexový” fund to 149.61 percent in the UNIQA “Indexový” fund.

A descriptive comparison clearly indicates differences in the performance of index pension funds, prompting further investigation into whether these differences were statistically significant. For this purpose, unit values of each index pension fund were collected for every calendar month in 2024. The average unit values for the year were EUR 0.0922 for Allianz “Progres” (SD = 0.0056), EUR 0.0528 for UNIQA “Indexový” (SD = 0.0024), EUR 0.0887 for KOOPERATIVA “Indexový” (SD = 0.0049), EUR 0.1111 for NN “Index Global” (SD = 0.0068), and EUR 0.1118 for VÚB Generali “Index” (SD = 0.0070).

The repeated measures ANOVA revealed a statistically significant difference for the factor “Index pension fund,” $F(1.229, 13.524) = 1801.767$, $p < 0.001$, indicating that the variation across the funds was not random. The Bonferroni post hoc test confirmed significant differences between all pairs of funds except NN “Index Global” and VÚB Generali “Index,” for which no statistically significant difference in average unit values was found ($p = 0.121$).

Overall, the results suggest that in 2024, it was most profitable for savers to invest in either the NN “Index Global” fund or the VÚB Generali “Index” fund, as these two funds demonstrated comparable and superior performance relative to the others.

Table 10: Index pension funds’ performance (%)

Index pension fund	Profit 2024	Whole period profit	Annual profit
Allianz – Progres	25.60	124.41	6.22
UNIQA – Indexový	25.67	149.61	11.51
KOOPERATIVA – Indexový	21.86	119.72	9.21
NN – Index Global	26.27	146.90	11.30
VÚB Generali – Index	26.49	147.51	11.35
Inflation	2.90		

Bond pension funds within the old-age pension system of the Slovak Republic represent the only guaranteed investment product. They offer the lowest level of valorization and are legally mandatory for savers who are within ten years of retirement. In 2024, approximately 28 percent of savers held their assets in these funds (Fig. 1). Regarding the valorization of investments above the inflation rate, only two funds achieved minimal positive returns: the NN “Solid” fund with 3.84

percent and the VÚB Generali "Klasik" fund with 3.03 percent (Table 11).

We also examined whether the differences in performance among bond pension funds were statistically significant. To do so, unit values for each fund were collected for every calendar month in 2024. The average unit values were EUR 0.0423 for Allianz "Garant" (SD = 0.0005), EUR 0.0438 for UNIQA "Dlhopisový" (SD = 0.0010), EUR 0.0472 for KOOPERATIVA "Dlhopis" (SD = 0.0008), EUR 0.0434 for NN "Solid" (SD = 0.0005), and EUR 0.0465 for VÚB Generali "Klasik" (SD = 0.0005). Repeated measures ANOVA confirmed a statistically significant difference among the funds for the factor "Bond pension fund," $F(2.600, 28.597) = 373.584$, $p < 0.001$, indicating that the variation across the funds was not random. The Bonferroni post hoc test further showed significant differences across nearly all fund pairs, including Allianz "Garant" compared with UNIQA "Dlhopisový," KOOPERATIVA "Dlhopis," NN "Solid," and VÚB Generali "Klasik," all at $p < 0.001$. Additional significant differences were observed between UNIQA "Dlhopisový" and KOOPERATIVA "Dlhopis," UNIQA "Dlhopisový" and VÚB Generali "Klasik," KOOPERATIVA "Dlhopis" and NN "Solid," KOOPERATIVA "Dlhopis" and VÚB Generali "Klasik," and NN "Solid" and VÚB Generali "Klasik."

Based on these findings, it can be concluded that the most profitable bond pension fund for savers in 2024 was the KOOPERATIVA "Dlhopis" fund.

Table 11: Bond pension funds' performance (%)

Bond pension fund	Profit 2024	Whole period profit	Annual profit
Allianz – Garant	1.85	26.01	1.30
UNIQA – Dlhopisový	1.70	22.13	1.11
KOOPERATIVA – Dlhopis	0.65	37.82	1.89
NN – Solid	3.84	27.70	1.46
VÚB Generali – Klasik	3.03	35.40	1.77
Inflation	2.90		

In 2024, the year examined in this study, the second capitalization pillar of the old-age pension savings system achieved above-average valorization of financial investments in the progressive non-guaranteed funds. The analysis showed that the highest returns were generated by the non-guaranteed index funds, with valorization ranging from 21.86 percent in the KOOPERATIVA "Indexový" fund to 26.49 percent in the VÚB Generali "Index" fund. These were followed by the stock funds, which increased the value of savers' investments from 16.61 percent in the UNIQA "Akciový" fund to 24.89 percent in the NN "Rešpekt" fund. Mixed funds ranked next, generating valorization rates between 12.73 percent in the NN "Harmónia" fund and 22.22 percent in the VÚB Generali "SMART" fund.

In contrast, the conservative bond funds performed ineffectively, as most failed to deliver real profit for investors; their valorization rates did not exceed the inflation rate of 2.9 percent. Only two funds achieved minimal positive returns, namely the NN "Solid" fund with 3.84 percent and the VÚB Generali "Klasik" fund with 3.03 percent.

5. Conclusion

The negative social event—objective relative poverty of elderly people—remains undoubtedly a global socioeconomic problem, with clear political implications, in the worldwide context. Significant differences exist in the levels of old-age pensions, which serve as the fundamental tool for addressing poverty among the elderly across the countries of Western civilization, particularly within the European Union, but also in other regions of the world. As has been shown, the Slovak Republic, as an integral part of the European Union, still faces substantial challenges related to this negative social event, despite the fact that since 2005, a three-pillar old-age pension system has been implemented in its territory, extending beyond the national framework and linking its pension system through pension management companies to global economic markets.

The aim of the study was to examine the performance rate of the second pillar of old-age pension savings in the Slovak Republic in 2024 as a possible tool for preventing poverty in old age.

Through a secondary analysis of statistical outputs from relevant institutions, it was demonstrated that the old-age pension system of the Slovak Republic, and in particular its second pillar, functions as an effective socioeconomic tool that can be used to address, ex ante, in the medium term, but especially in the long term (in connection with developments in global markets), the problem of poverty among elderly people who are recipients of old-age pensions. Subsequent analyses within the framework of inferential statistics confirmed statistically significant differences in the performance of individual funds across pension management companies. In 2024, the most profitable options for savers were the UNIQA "Akciový" fund among stock pension funds, the VÚB Generali "SMART" fund among mixed pension funds, the NN "Index Global" fund (and, comparably, the VÚB Generali "Index") among index pension funds, and the KOOPERATIVA "Dlhopis" fund among bond pension funds.

The hypothesis, assuming the existence of statistically significant differences in fund performance across pension management companies, has been confirmed.

In 2024, the year examined in this study, the second capitalization pillar of the old-age pension savings achieved above-average valorization of financial investments in the progressive non-guaranteed funds. As was proved, the highest valorization was achieved by the non-guaranteed index funds, ranging from 21.86% (KOOPERATIVA "Index" fund) to 26.49% (VÚB Generali "Index" fund). These were followed by the stock funds, which increased the value of savers' investments from 16.61% (UNIQA "Akciový" fund) to 24.89% (NN "Rešpekt" fund). Next, the mixed funds of pension management companies valorized entrusted investments at rates ranging from 12.73% (NN "Harmónia" fund) to 22.22% (VÚB Generali "SMART" fund). It can also be concluded that in the conservative bond funds, the valorization was ineffective, as most of these funds did not generate real profit for their investors, with the valorization rate not exceeding the inflation rate, which was at the level of 2.9% in 2024. Only two funds achieved minimal profit, namely the NN "Solid" fund (3.84%) and the VÚB Generali "Klasik" fund (3.03%).

However, in terms of the structure of investments in funds, in 2024, savers' investments in the second pillar of the old-age pension savings scheme in the Slovak Republic shifted significantly in favor of the progressive index funds, reaching 64%. Altogether, all three types of non-guaranteed funds accounted for 72% of investments, compared with 28% in conservative bond funds. It is also necessary to consider the fact that during the last ten years before old-age retirement, a citizen–saver can no longer invest in other bond funds than those that are state-guaranteed.

Since, according to the indicators examined, the second pillar of the old-age pension system is efficient, progressive, and forward-looking, we challenge the decision to reduce the limit of personal contributions to the capitalization pillar of the old-age pension scheme. This decision was initiated by the center-left government coalition (SMER-SSD, HLAS-SD, and SNS) in 2023, resulting in contributions being reduced from 5.5% to 4% from 2024 onwards. SMER-SSD is a center-left social-democratic political party; HLAS-SD is a center-left social-democratic political party; and SNS is a center-right national political party with a strong social pillar (Geffert and Rovenská, 2022).

Based on the above facts for 2024, and while taking into account all comparative figures from the period since 2005—when the second pillar was established—and despite many economic, political, demographic, or social risks, it can be concluded that the economic-social-political instrument represented by the second pillar of the old-age pension system of the Slovak Republic is one of the most efficient instruments for preventing poverty in old age from a long-term perspective.

Based on the processed and reviewed information and findings, the following recommendations in the field of old-age pension savings may be formulated for the state: (1) progressively increase the percentage of contributions by insured persons to the second pillar; (2) enhance the awareness of future old-age pensioners regarding both the benefits and the risks of investing; and (3) consider, for example, the possibility of at least partial insurance of savings in non-guaranteed funds. Recommendations for savers include: (1) investing resources as much as possible in non-guaranteed, particularly index, funds; (2) increasing interest in the activities and financial management of pension management companies and the state with respect to their resources; and (3) considering voluntary contributions to the second pillar.

We believe that this type of study has contributed to the expansion of the political space in the field of social policy, the old-age pension system, and addressing poverty among elderly people in the Slovak Republic, as well as in the European Union and the wider globalized world. Not only does it link to findings published previously, but it also brings new and original insights for the year 2024.

At the same time, we are aware of the possible limitations of the present study. One of the limiting factors is the time perspective. The paper focused exclusively on the performance of pension management company funds in 2024, which left no scope for deeper comparative and evaluative analyses from a longitudinal perspective. Another possible limitation is the unavailability of certain individual data on savers (e.g., unpublished microdata). Pension projections depend on many uncertain factors, such as the length of saving or market developments, and the results currently obtained relate only to the Slovak Republic and may not be generalizable to other countries.

The defined limitations, however, may serve as a basis for future research, the scope of which may also be extended to include sociological and psychological aspects that potentially condition the economic, social, and political instrument represented by the second pillar of the old-age pension system of the Slovak Republic in the context of preventing poverty in old age.

Compliance with ethical standards

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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