 DOI: 10.22616/RRD.30.2024.025

PRIVATE PENSION FUNDS IN LATVIA: INVESTMENT STRATEGIES AND PERFORMANCE OF PENSION PLANS

***Gunita Mazure**
Latvia University of Life Sciences and Technologies
*Corresponding author's e-mail: Gunita.Mazure@lbtu.lv

Abstract
Private pension plans envisage a voluntary choice of a person to make additional savings for the retirement by joining a private pension plan and making contributions. In 2023, six open private pension funds offered twenty pension plans. Private pension funds provide three types of investment strategies: conservative, balanced and active ones. The research aim is to assess the performance of the private pension plans in Latvia. The research is based on the analysis of the statistical data on the return of assets and other performance indicators of private pension plans as well as it employs the correlation and regression analyses. The data analysis shows a steady increase (annually 6.24% on average) in the population participation in private pension plans. Active plan participants account for 51.42% on average, while the proportion of deferred participants is also large, i.e. 30.40% on average. Short-term returns of private pension plans are very fluctuating with expressive increases and decreases where the active pension plans demonstrated the most unstable return trends. The sharpest return decline was observed in 2022, when the arithmetic total average return of all private pension plans was - 14.63%. The basic reasons mentioned are the changes in investment portfolio, global downturn of stock markets and sharp growth of inflation. Long-term returns show a positive growth through the entire period analysed, i.e. 4.16% on average. This means that a short-term decline of returns does not signal of future decrease in the amount of pension, since contributions to pension plans are considered to be a long-term investment.
Key words: private pension funds, investment strategies, pension plans, performance, Latvia.

Introduction
History of private pension plans dates back to the end of the 19th century, namely, 1875 when the first private pension plan was established by the American Express Company in the USA. The requirement to join the plan included two criteria: age (60 years) and length of service (20 years) with the company (Social Security Administration, s.a.). Soon after, railway companies being the largest employers opened their own pension plans. The majority of large companies had their pension plans by 1930 (Passantino & Summers, 2005). The expansion of private pension plans started after World War II thanks to their viability during the Great Depression and war time as well as workers dissatisfaction with the offered social guarantees. Therefore, large corporations developed private pension funds to attract skilled labour. Cristea & Thalassinos (2016) in their superficial study state that the majority of the EU Member States have developed the pension system consistent with the three-pillar classification recommended by the World Bank where Pillar III encompasses private contributions. In Latvia, the three-pillar pension system started to operate in 1996, and it is the oldest one in the Baltic States (Mazure, 2023). Several Lithuanian researchers suggest not to choose a pension plan consistent with the determined investment strategy, since a long-term and continuous risk and return assessment are most essential factors for the decision to make contributions (Kabašinskas *et al.*, 2017). Analysing the necessity of voluntary pension plans in Poland, Chorkowy & Bobrowska (2021) have concluded that the capital accumulated in these plans may help reduce the gap between the amount of salary received before the retirement and the amount of pension benefit. Concerns made by pension plan participants are studied by Rajevska (2018), while Mavlutova, Titova, & Fomins (2016) have based their research on pension system in changing economic situation. In recent years, pension plan participants have been worried about the return of their accumulated capital. Such an uncertainty was caused by several political and economic factors; thus, leading to the necessity for the study of performance of private pension plans. ***Hypothesis:*** private pension plans are profitable in the long-term, while the short-term return is very fluctuating. The research ***aim*** is to assess the performance of the private pension plans in Latvia. The following ***tasks*** are advanced to achieve the research aim: 1) to study investment strategies of private pension plans; 2) to analyse the performance and return indicators of private pension plans.

Materials and Methods
The research is based on the analysis of the statistical data on the return of assets and other performance indicators of private pension plans as well as it employs the correlation and regression analyses. The information for the analysis is taken from the data of the Bank of Latvia, the Finance Latvia Association provided by Manapensija.lv and private pension funds. Scientific publications are employed for the theoretical discussion by means of monographic descriptive method. The calculation of arithmetic average values is used when it was impossible to obtain data for long-term returns due to the merging or liquidation of some pension plans or change of the plan strategy. The data are shown at the end of a particular year, except for 2023 when the information is provided at the end of Q3 as no more recent information was available at the moment of the data analysis.

Results and Discussion
Investment strategies of private pension funds
In Latvia, Pillar III voluntary private pension scheme started its operation in July, 1998. According to

Punculs (1999), private pension funds are both an instrument for social protection of population and a financial instrument that ensures additional opportunities for financial investment in the national economy. Private Pension Funds Law of the Republic of Latvia prescribes that a private pension fund is 1) a capital company registered in the Commercial Register of the Republic of Latvia and 2) it has received a licence issued by the Bank of Latvia for the operation of a pension fund (Privāto pensiju fondu .., 2020). There are two types of private pension funds in Latvia: open and closed. Participants of the closed pension fund may be only the employees of the companies or organisations that have founded the mentioned fund, while any individual can become a member of an open pension fund either directly or indirectly through an employer. The characteristic features of private pension funds include possibilities: 1) to receive the accumulated supplementary pension capital already at the age of 55; 2) to receive the accumulated capital in parts or all at once; 3) the accumulated capital can be inherited and 4) the PIT relief may be obtained for the contributions made (considering the limits set by the law). Another positive aspect is that the PIT rate is applied to the profit as a result of the fund management at the moment of capital payout and no additional payments to the state budget are required to be made by a private pension plan participant him/herself.

There are six open pension funds (AS 'Swedbank Atklātais Pensiju Fonds', AS 'CBL Atklātais Pensiju Fonds' AS 'Indexo Atklātais Pensiju Fonds', AS 'INVL Atklātais Pensiju Fonds', AS 'Luminor Atklātais Pensiju Fonds', AS 'SEB Atklātais Pensiju Fonds') and one closed pension fund (AS 'Pirmais Slēgtais Pensiju Fonds') in Latvia. The first closed pension fund was established in 1999 by SIA "Lattelecom" (SIA Tet from 2019). The shareholders of the fund that make contributions are companies of the leading industrial sectors: Tet Group (SIA 'Tet', SIA 'Citrus Solutions', SIA 'Lattelecom', SIA 'Helio Media', SIA 'Baltijas Datoru akadēmija', SIA 'Data experts'), Latvenergo Group (AS 'Latvenergo', AS 'Sadales tīkls', AS 'Enerģijas publiskais tirgotājs') and AST (AS 'Augstsprieguma tīkls'). The pension fund has one pension plan (the First Pension Plan) and consistent with the investment strategy it is a balanced one. An annual average short-term return of the closed fund has been quite moderate (1.17%), while long-term return exceeds 5%, especially high being for 2013-2017 (above 7%). The main activity of the fund is to accumulate and invest contributions made for the benefit of the pension plan participants in the plan so to ensure additional pension capital thereto.

In 2023, six open private pension funds offered twenty pension plans. Private pension funds provide three types of investment strategies: conservative, balanced and active ones. In general, all investment plans are aimed at a long-term increase of the accumulated capital. Conservative pension plans are more suitable for persons at or shortly before the retirement age. Investment safety is the determining factor for the operation of these plans; hence, contributions made by plan participants are invested in secure fixed income securities. The capital may also be invested in deposits and qualitative short-term capital market instruments to ensure liquidity. In Latvia, INDEXO Bond Index plan started its operation in 2021, while INVL Conservative 58+ plan operated from 2015 to 2019 when it was joined to the pension plan INVL Comfort 53+ and stopped its operation (INVL, s.a.).

Balanced pension plans are more suitable for persons whose retirement is less than 10 years ahead. These pension plans ensure low risk and a steady increase of contributions made and at least 75% of contributions are invested in fixed income securities (bonds). In Latvia, there are four balanced pension plans: CBL Balanced, Luminor Balanced, SEB Balanced and Swedbank Stability +25.

Active investment strategy may be classified into three groups: active plans 50%, active plans 75% and active plans 100%. The choice between active plans depend on the age of a plan participant and readiness to undertake risk. Active100% plans are suitable for persons who are up to 40 years of age and want to invest in high risk financial instruments; thus, earning higher profit. The most stable private pension plans during the analysed period have been CBL Active, CBL Active USD, SEB Active (Active 50%), Luminor Progressive and Swedbank Dynamics+60 (Active 75%), Swedbank Dynamics Index and Swedbank Dynamics+100 (Active 100%). Active plans focus on maximum long-term returns; hence, they are actively managed through buying assets at lower prices and increasing returns.

Performance of private pension plans

Performance of private pension plans depends on various factors: participants, value of assets, contributions made by plan participants, etc. 'Figure 1' presents the number of plan participants broken down by active, deferred and retired persons.

The population interest to participate in private pension plans has steadily grown throughout the analysed period with an average annual increase of 6.24%. In 2022, the number of pension plan participants grew by 27374 persons or 5.76%; thus, reaching more than 384 thou. participants. The increase continued also in 2023 and demonstrated an increase of 19584 persons or 5.10%. Moreover, this increase rate reports the data at the end of Q3 2023 and they are almost equal to the growth data in 2022 compared with 2021. This means that the number of private pension plan participants could reach at least 415 thou. participants at the end of 2023. Active plan members account for 51.42% on average, while the proportion of deferred participants is also large, i.e. 30.40% on average. Deferred participants are pension plan members who have not made contributions during the previous 12 months but they have not reached the age specified in the pension plan for the retirement.

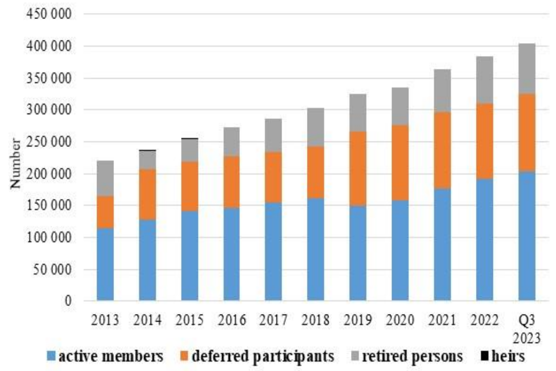

Figure 1. Number of private pension plan participants in Latvia for 2013-2023.
Source: author's construction based on the Bank of Latvia data (s.a.).

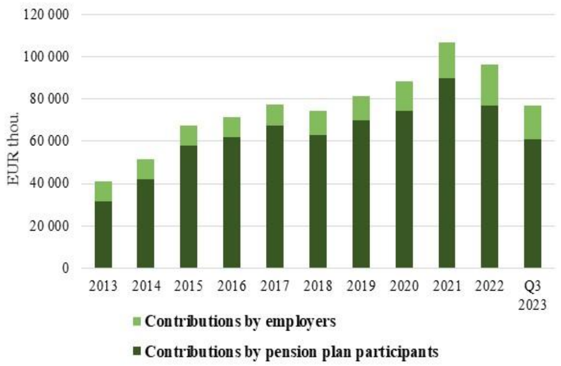

Figure 2. Contributions made to private pension funds by pension plan participants in Latvia for 2013-2023.
Source: author's construction based on the Bank of Latvia data (s.a.).

The number of deferred members started to increase at a more rapid speed from 2019 when it increased by 33185 persons or 40.51% compared with the year before. The number of retired persons is slightly fluctuating; yet, it is annually around 60 thou. persons or 18.15% of total plan participants. Retired persons are pension plan members who have reached the age of retirement, they have left the pension plan and received the accumulated pension capital. The number of retired persons has started to grow from 2020 and reached 79348 persons at the end of Q3 2023. Only in 2014 and 2015, heirs have received the inherited pension capital (5 and 3 persons, respectively).

Contributions to private pension plans can be made not only by individuals as participants of the pension plans but also by employers 'Figure 2'. According to the law 'On Personal Income Tax' (PIT) if contributions to private pension plans are made by an individual person, it is possible to recover 20% of the PIT from the state, since the contributions are considered as eligible expenses. The recovery is possible every year for the previous calendar year and the amount of contributions may not exceed 10% of a person's gross income. Another condition is the limit of contributions – up to EUR 4000 per year (Par iedzīvotāju ienākuma…, 1993). Though, if the contributions exceed the set limits, the excess amount is included in the person's annual taxable income and the tax is calculated for this amount. If the contributions to the private pension plans are made by an employer, they are recognised as expenses related to the economic activity; thus, they are not a taxable object under the CIT (Uzņēmumu ienākuma nodokļa…, 2018). The law does not impose limits for the contributions but the employer shall make contributions for all its employees without any exceptions. The average amount of contributions made by an employer is EUR 65 per employee. There are companies that ensure combined contributions, i.e. these are contributions made by an employer together with a requirement that employees themselves make contributions to private pension plans.

The largest amount of contributions made both by individuals and employers was achieved in 2021 when it accounted for EUR 106.51 mln of which EUR 16.61 mln or 15.60% were contributions made by employers. The increase might be explained by a slight recovery from the Covid-19 pandemic and pension plans participants growing awareness of the necessity to ensure future capital. Unfortunately, the next year marked a decrease in total contributions by EUR 10.29 mln or 9.66%. In 2022, the contributions made by individuals decreased (by EUR 12.84 mln or 14.28%), while contributions made by employers increased (by EUR 2.54 mln or 15.31%) compared with the year before. Geopolitical factors and growing inflation might serve as the main positive reasons for the change in participants habits. If previously private pension plan participants made rarer and larger contributions, then there are more regular and smaller contributions from 2022; thus, levelling out the market fluctuations (Citadele, 2023). The results for Q3 2023 also show a deteriorating trend. Although, as these are only data for three quarters, it is quite unlikely that the amount of contributions could exceed the results of 2022. The present analysis excludes pension fund contributions and other contributions as well as transfers from other pension funds and plans.

If the amount of contributions shows almost a linear growing trend up to 2021 followed by a decrease, then the amount of payments from the private pension plans demonstrates a quite fluctuating trend from 2017 'Figure 3'. The amount of payments includes additional pension capital paid out, pension payments in case of retirement and disablement and payments to heirs in case of death of pension plan members. The present research excludes transfers to pension plans, other pension plans and funds.

The ratio between contributions to and payments from the private pension plans has been steadily even up to 2017; yet, it was still positive till 2019. Afterwards the trend demonstrates expressive ups and downs. Hence, in 2019, payments from the private pension funds increased by 47.75%.

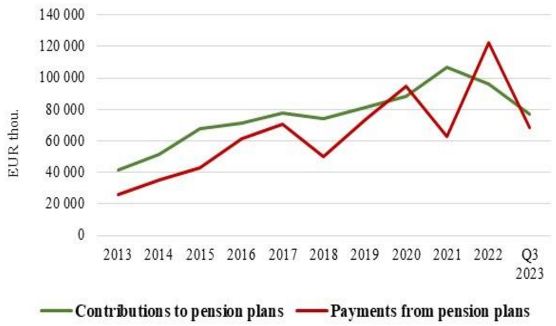

Figure 3. Contributions to and payments from the private pension plans in Latvia for 2013-2023.
Source: author's construction based on the Bank of Latvia data (s.a.).

The increase was almost equal for the two basic positions: additional pension capital paid out and payments in case of retirement (by 47.75% and 50.95%, respectively). The increase may not be associated with the increase in the number of retired pensions, as this number has decreased in 2019. This aspect could be reservedly attributed to the situation in 2021 when the amount of payments decreased by 33.50%; however, the number of retired persons dropped only by 1.81%. This means that mostly the changes in income and expenses of pension funds are associated with the changes in financial markets and habits of pension plan participants.
Geopolitical risks and high inflation followed by the reaction of financial markets in the world could be the reason for the growth of payments from pension plans by 94.80% and decrease of contributions by 9.66% in 2022 compared with the previous year. A decline was observed also in 2023. The proportion of additional pension capital paid out is 50% throughout the analysed period. Additional pension capital is a part of pension that is formed from savings of a pension plan participant in the pension funds.
The value of net assets of pension funds with a different speed grew up to 2021 followed by a decrease in 2002 and an increase again in 2023. Net assets value increased by 16.54% on average from 2013 to 2018 when a growth rate declined. In 2018, the situation in financial markets was unstable. Central banks in the world stopped the implementation of the expansive monetary policy (reduction of interest rates, redemption of financial instruments, etc.). Political crisis in Italy and devaluation of Turkish lira, uncertainty related to the trade market between the USA and China, fluctuations in financial markets of the developing countries, decrease in the bond rates in Germany (Luminor, 2019) served as factors impacting also the value of net assets of private pension funds.
Contributions made by private pension plans participants are invested in various financial instruments to diversify the risks and ensure the best way for the management of accumulated contributions 'Figure 4'. Moreover, the diversification of investments into capital and debt securities allows to mitigate fluctuations in the value of assets and increase the security of investments.

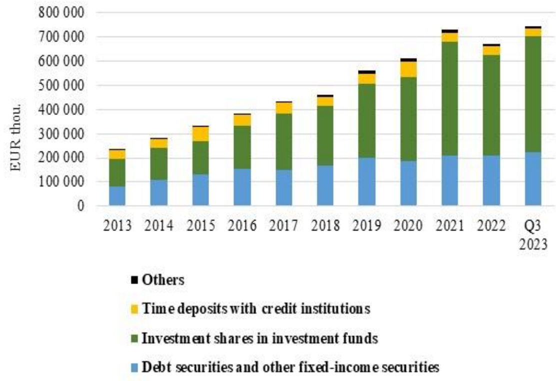

Figure 4. Investment portfolio of private pension funds in Latvia for 2013-2023.
Source: author's construction based on the Bank of Latvia data (s.a.).

Investment shares in investment funds compose the largest amount and proportion of the investment portfolio, i.e. 53.98% on average. The proportion of investment shares in investment funds has slightly fluctuated during the analysed period, reaching the highest proportion of 64.67% at the end of Q3 2023 and the largest amount of investments equalling to EUR 481.86 mln. Debt securities and other fixed-income securities compose the next largest segment of investments, i.e. 34.52% on average and accounting for EUR 223.08 mln at the end of Q3 2023. Investments in time deposits and other assets form minor proportions, i.e. 10% and 1.5%, respectively. Investments in other assets include shares and other variable-yield securities, investments in risk capital market, derivatives and investments in land and buildings. The diversification of investment portfolio, e.g., investment in real estate and other properties, help reduce the risk of fluctuations.
Geographical location of investments 'Figure 5' plays an essential role for proper placement of investment portfolio to ensure a profit of invested resources.

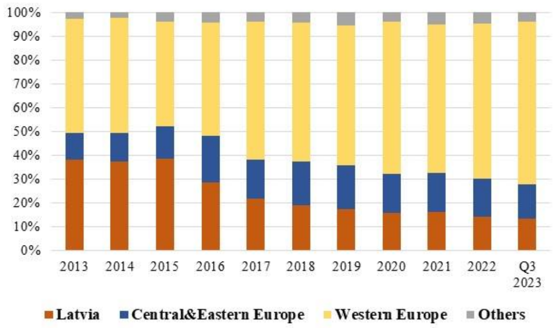

Figure 5. Geographical breakdown of pension plan investments for 2013-2023.
Source: author's construction based on the Bank of Latvia data (s.a.).

Geographical breakdown of pension plan investments demonstrates that the majority of investments are made in the markets of the Western Europe. At the end of Q3 2023, the amount of investment in the Western Europe equalled to EUR 509 mln. The largest markets for investments are Ireland and Luxembourg (50% and 30% on average) in 2022 and 2023. At the end of Q3 2023, investments in these countries accounted for EUR 270.39 mln and EUR 161.05 mln, respectively. Estonia and Lithuania are the leaders for investments from the Central and Eastern Europe. The proportion of investment in Latvia has decreased from 38.37% in 2015 to 13.25% at the end of Q3 2023. Regardless of the proportional decline, the amount of investments has been stable – EUR 100 mln on average and at the end of 2023 it is expected to exceed the figure of 2022. Practically no investments have been made in financial markets of Russia from 2017 with the exception of 2021 when EUR 18 mln were invested there. Other markets include the USA, Canada, Asia and developing countries and investments in international financial institutions (in 2022 and 2023). Mexico, the USA and Bulgaria are relative leaders in this segment accounting for EUR 5-6 mln. Almost one-off investments have been made in the financial markets of Brazil (2015-2017), Peru (2019), Austria (2016), Slovenia (2013-2016), Switzerland (2016, 2022) and some other countries. Israel, Cyprus, Türkiye, Greece and Italy are among those countries where investments in financial instruments have not been made for the last three-five years.

The economic situation, the structure of investment portfolio and geographical location of investments are some of the factors impacting the performance of private pension plans. The improvement of the economic situation promotes interest of population to make savings in various financial instruments including contributions to private pension plans. Therefore, enlarging the value of assets to be invested in financial markets, while an appropriate placement of investments determines the return of pension plans 'Figure 6'. Moreover, the historical return of pension plans does not guarantee similar results in the future. The Finance Latvia Association calculates the return as a weighted average return based on the data of individual pension plans and the value of assets of these plans at the end of the period (manapensija.lv, s.a.). In other sources, the same association reports that the return is calculated as a compound result taking into account individual months of the period from the gross profit of the same period deducting commissions of asset managers and custodian banks but excluding commissions of private pension funds (Finance Latvia Association, 2021). The private pension funds calculate the return as the ratio of a pension plan's operating result to the arithmetic average value of assets for each month divided by the number of months per year. Hence, the return results may slightly differ depending on the data availability.

As demonstrated by Figure 6, short-term returns of private pension plans are very fluctuating with expressive increases and decreases. The correlation analysis determines the impact of inflation on returns of private pension plans. The calculated correlation coefficients report a negative moderate correlation between the analysed variables.

Figure 6. Total average annual returns of private pension plans and average inflation rates in Latvia for 2013-2023.

Source: author's construction based on the data from the Bank of Latvia (s.a.), manapensija.lv (s.a.), CBL (s.a.), INVL (s.a.), Luminor (s.a.), SEB (s.a.), Swedbank (s.a.).

The correlation between a long-term return and inflation is r = -0.6292, while it is r = -0.5138 between a short-term return and inflation. The coefficients of determination (R^2=0.40 and R^2=0.26) mean that the regression model explains only 40% and 26% of the variability. Therefore, it might be assumed that inflation has been a minor factor affecting the returns of private pension plans. Negative values of short-term return were reported in 2018 and 2022. In 2018, the decline in stock markets, turmoil related to Brexit and difficulties in trade markets mostly explain the fall of returns in short-term to a negative value, namely, -4.96%. Swedbank analysists report that the decline was experienced due to the imposition of tariffs on the goods from the EU and China, thus causing the so-called trade wars. The US Federal Reserve Bank continued to raise the base interest rate for USD and the ECB decided to slow down the injection of money into the economy (Swedbank, 2019). In contrast, the banks unexpectedly started a stimulating economic regime in 2019 which promoted price increase in stock markets and stabilisation of the economy.

The sharpest return decline was observed in 2022, when the arithmetic total average return of all private pension plans was -14.63%. Financial specialists and asset managers indicate that the decline had started already at the very beginning of 2022 even before the war in Ukraine, and it is explained by cyclical trends experienced in financial markets. The situation changed after 2021 which was a very successful year in financial markets basically thanks to the economic recovery from the recession caused by the Covid-19 pandemic. The year 2021 was especially successful for IT companies. Yet, in January-February 2022, investments were shifted from the IT sector to other sectors of the economy. Other reasons for the decline of return were the global downturn of stock markets and sharp growth of inflation (SEB, s.a). In 2023, the short-term return reached 11.03% in many aspects thanks to the decline of inflation. The falling inflation stimulated the activities of financial markets, since borrowing became cheaper and economic growth more active. In turn, this was reflected in higher prices of bonds and shares. Yet, population tends to invest in pension plans when they are the most profitable and withdraw the accumulated capital when the growth of pension plan return slows down. Therefore, short-term return is more subject to various financial shocks.

Opposite to expressive ups and downs in short-term returns, long-term returns show a positive growth through the entire period analysed, i.e. 4.16% on average. The lowest increase of long-term return was in 2022 (2.68%) due to the previously mentioned reasons. This means that a short-term decline of returns does not signal of future decrease in the amount of pension, since contributions to pension plans are considered to be a long-term investment.

The analysis of returns broken down by investment strategies of private pension plans demonstrate similar tendencies 'Figure 7', since the return highly depends on the situation and activities in the world financial markets.

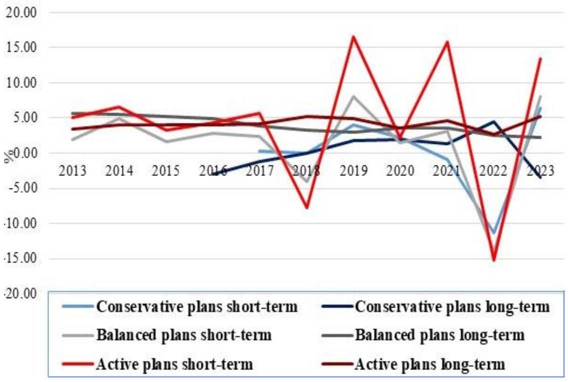

Figure 7. Average annual returns of private pension plans in Latvia by investment strategies for 2013-2023.
Source: author's construction based on the data from the Bank of Latvia (s.a.), manapensija.lv (s.a.), CBL (s.a.), INVL (s.a.), Luminor (s.a.), SEB (s.a.), Swedbank (s.a.).

Conservative plans are analysed from 2017, because one of the plans for which the data are available started the operation in 2015, while the other one only from 2021. Another reason for incomplete information on conservative pension plans is structural changes among pension plans provided by INVL pension fund by renaming and merging pension plans, and gradual transfer from conservative to balanced strategies. Similar changes were observed also in the segment of active 50% strategy plans. Merging and take-over processes of pension plans increase net assets value of the new plans and tend to offer more profitable return to pension plan participants. However, the data analysis of 'Figure 7' demonstrates moderate short-term return development performed in all private pension plan strategies until 2017.

The most fluctuating return trends are demonstrated by the active pension plans in short-term, i.e. from -7.75% in 2018 to 16.52% in 2019 and from 15.77% in 2021 to -15.14% in 2022 and 13.46% again in 2023. Similar return trends are demonstrated also by balanced and conservative plans in short-term; though to a smaller extent. In long-term, balanced and active plans have maintained a positive return trend – the return of these pension plans has grown by 3.96% and 4.17% on average, respectively. Return of conservative plans has steadily grown from 2016 to 2020 (from -2.99% to 1.87%) and a sharp decrease was observed in 2023 (from 4.52% in 2022 to -3.39% in 2023). Conservative plans were the only plans which ended 2023 with a negative return; INDEXO Bond Index conservative plan due to its passive investment strategy may explain such a result.

Conclusions

1. The data analysis shows a steady increase (annually 6.24% on average) in the population participation in private pension plans. Active plan participants account for 51.42% on average, while the proportion of deferred participants is also large, i.e. 30.40% on average.
2. The economic situation, the structure of investment portfolio and geographical location of investments are among the factors impacting the performance of private pension plans. The majority of investments are made in the markets of the Western Europe.
   Contributions made by private pension plans participants are invested in various financial instruments to diversify the risks and ensure the best way for the management of accumulated contributions.
3. Short-term returns of private pension plans are very fluctuating with expressive increases and decreases where the most fluctuating return trends are demonstrated by the active pension plans. The sharpest return decline was observed in 2022, when the arithmetic total average return of all private pension plans was -14.63%. The basic reasons mentioned are the changes in investment portfolio, global downturn of stock markets and sharp growth of inflation.
4. Long-term returns show a positive growth through the entire period analysed, i.e. 4.16% on average. This means that a short-term decline of returns does not signal of future decrease in the amount of pension, since contributions to pension plans are considered to be a long-term investment.

References

Bank of Latvia (s.a.). *Operation of private pension funds*. Retrieved February 10, 2024 from https://uzraudziba.bank.lv/en/statistics/pension-funds/private-pension-funds/.

CBL (s.a.). *Pensiju 3.līmeņa plānu darbības rezultāti, noteikumi un citi dokumenti* (Performance results, regulations and other documents of pension level 3 plans). Retrieved February 12, 2024, from https://www.citadele.lv/lv/private/3rd-pension/plans/. (in Latvian).

Chorkowy, B. & Bobrowska, A. (2021). Influence of Pillar 3 of pension system on retirement pensions level in Poland: will voluntary part of system enable decent life in old age? *European Research Studies Journal*, 24 (1), 975-988. DOI:10.35808/ersj/2083.

Citadele. (2023). *Par Jūsu pensiju 3. līmeņa uzkrājumu un AS "CBL Atklātais pensiju fonds" darbības rezultātiem 2022. gadā* (About your pension level 3 savings and the performance of AS 'CBL Atklātais pensiju fonds' in 2022). Retrieved February 22, 2024, from https://www.citadele.lv/files/pension/pazinojums_dalibniekiem_2022.pdf. (in Latvian).

Cristea, M. & Thalassinos, E. (2016). Private pension plans: an important component of the financial market. *International Journal of Economics & Business Administration*, 4(1), 110-115. DOI: 10.35808/ijeba/95.

Finance Latvia Association. (2021). *Pensiju 3. līmeņa pensiju plānu statistika 2021. gada 3. ceturksnī* (Statistics of pension level 3 pension plans in the 3rd quarter of 2021). Retrieved February 22, 2024, from https://www.financelatvia.eu/wp-content/uploads/2021/11/Pensiju-3.-li%CC%84men%CC%A7a-kope%CC%84jo-statistikas-datu-apkopojums-30.09.2021.pdf. (in Latvian).

INVL (s.a.). *Finanšu pārskati un cita publiskojamā informācija* (Financial reports and other information to be published). Retrieved February 22, 2024, from https://invl.lv/par-invl/dokumenti/finansu-parskati/. (in Latvian).

Kabašinskas, A., Šutienė, K., Kopa, M. & Valakevičius, E. (2017). The risk-return profile of Lithuanian private pension funds. *Economic Research-Ekonomska Istraživanja*, 30(1), 1611-1630, DOI:10.1080/1331677X.2017.1383169.

Luminor. (2019). *Pensiju plāna 'Luminor sabalansētais pensiju plān' 2018. gada pārskats* (Annual report of 2018 for the pension plan 'Luminor Balanced Pension Plan'). Retrieved February 22, 2024, from https://www.luminor.lv/sites/default/files/docs/pensijas/2018_sabalansetais_pp_3pl.pdf. (in Latvian).

Luminor. (s.a.). *Pensiju 3.līmeņa gada pārskati* (Annual reports of Pillar III plans). Retrieved February 12, 2024, from https://www.luminor.lv/lv/privatpersonam/pensiju-3-limena-gada-parskati (in Latvian).

Manapensija (s.a.). *History and statistics*. Retrieved February 10, 2024, from https://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/.

Mavlutova, I., Titova, S. & Fomins, A. (2016). Pension system in changing economic environment: case of Latvia. *Procedia Economics and Finance*, 39, 219-228. DOI: 10.1016/S2212-5671(16)30316-1.

Mazure, G. (2023). State funded pension schemes in the Baltic States: assets and return analysis. *Research for Rural Development 2023*: annual 29th international scientific conference proceedings, Jelgava, 38, 116-124. DOI: 10.22616/RRD.29.2023.017.

*Par iedzīvotāju ienākuma nodokli: LR likums (*Law 'On personal income tax'). The Law of the Republic of Latvia (1993). Retrieved February 14, 2024, from https://likumi.lv/ta/id/56880-par-iedzivotaju-ienakuma-nodokli. (in Latvian).

Passantino G. & Summers A. B. (2005). The gathering pension storm: how government pension plans are breaking the bank and strategies for reform. Reason Foundation. *Policy Study*, 335. Retrieved 20 February 2024, from https://reason.org/wp-content/uploads/files/fdc15a51e854e26460feefba6c302a9c.pdf.

Privāto pensiju fondu likums (Private pension funds law). The Law of the Republic of Latvia (2019). Retrieved February 14, 2024, from https://likumi.lv/ta/id/311721-privato-pensiju-fondu-likums. (in Latvian).

Punculs, J. (1999). *Privātie pensiju fondi* (Private pension funds). Rīga: Biznesa augstskola Turība, p. 157 (in Latvian).

Rajevska, O. (2018). *Do pension funds' participants in Latvia track the profitability of their pension savings? New Challenges of Economic and Business Development: Productivity and Economic Growth*, 540-548. Retrieved from https://www.researchgate.net/publication/325995180_do_pension_funds'_participants_in_latvia_track_the_profitability_of_their_pension_savings.

SEB (s.a.). *Pensiju 3.līmeņa plānu ienesīgumi* (Returns of Pillar III pension plans). Retrieved February 10, 2024, from https://www.seb.lv/pensiju-3-limena-planu-ienesigumi. (in Latvian).

Social Security Administration (s.a.). *Chronology*. Retrieved February 10, 2024 from https://www.ssa.gov/history/1600.html.

Swedbank. (2019). *Akciju sabiedrības 'Swedbank Atklātais Pensiju Fonds' 2018. gada pārskats* (Annual report of 2018 of AS 'Swedbank Atklātais Pensiju Fonds'). Retrieved February 22, 2024, from https://www.swedbank.lv/static/pdf/private/investor/pension/pillar3/swedbank_open_pension_fund_2018_LAT.pdf. (in Latvian).

Swedbank (s.s.). *Pensiju plānu rezultāti* (Results of pension plans). Retrieved February 12, 2024, from https://www.swedbank.lv/private/pensions/pillar3/description. (in Latvian).

Uzņēmumu ienākuma nodokļa likums (Corporate income tax law). The Law of the Republic of Latvia (2017). Retrieved February 14, 2024, from https://likumi.lv/ta/id/292700-uznemumu-ienakuma-nodokla-likums. (in Latvian).