BETTER FINANCE

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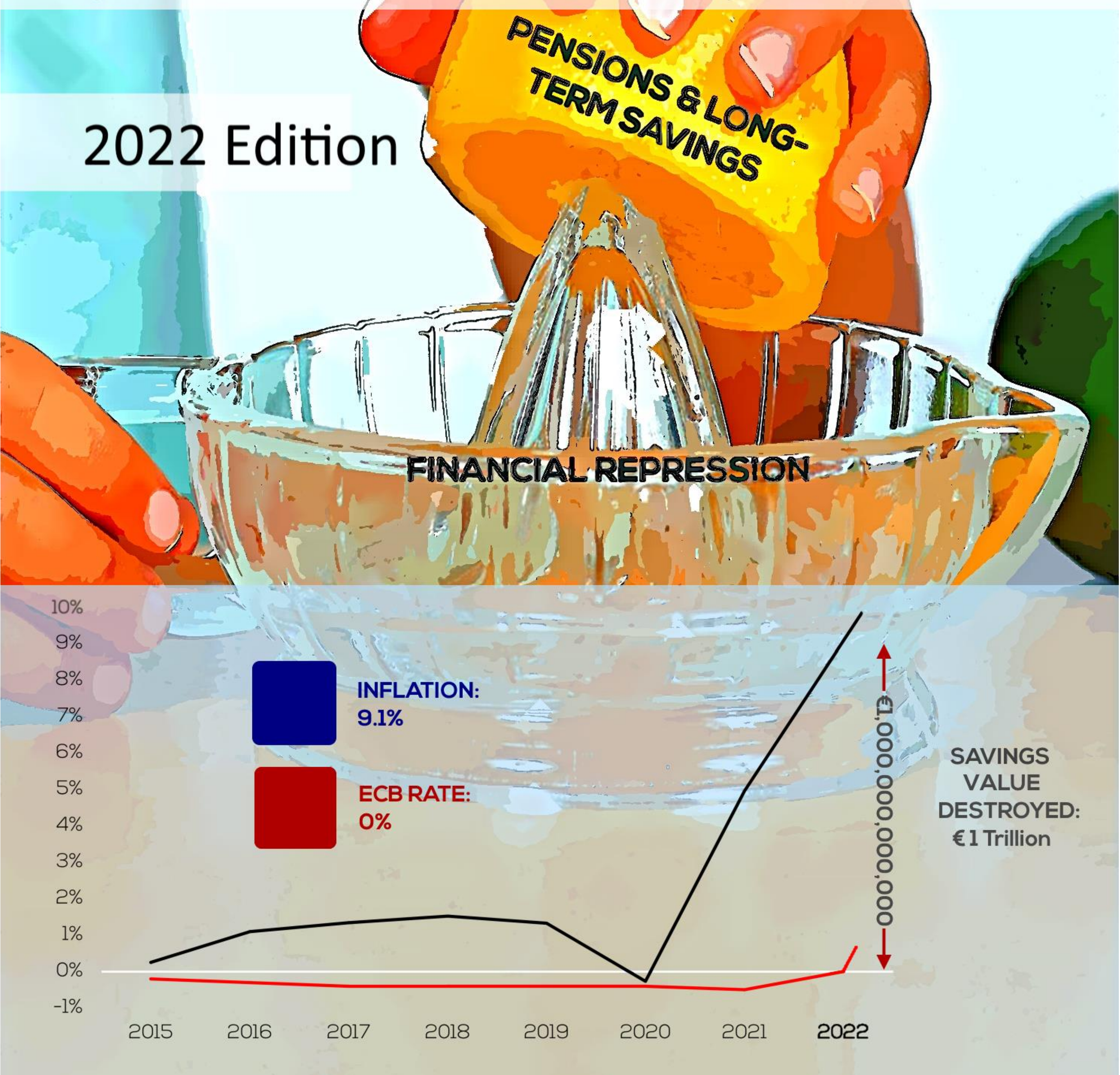
Long-Term & Pension Savings | The Real Return

2022 Edition



Pension Savings:
The Real Return
2022 Edition

A Research Report by BETTER FINANCE

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Pension Savings: The Real Return

2022 Edition

Executive Summary

> *"With the two of three worst financial meltdowns of the past hundred years occurring in the past 12 years, can our societies rely on financial markets to deliver decent retirement outcomes for millions around the world?"*[1]

Strong equity returns in 2021 slowed down by inflation, which is here to stay

How much did pension savers earn on average?

In this report, we aim to provide pension comparisons on every front possible. The aggregate summary return tables compare the annual average rates of returns between occupational/collective (Pillar II) pension schemes and between voluntary/individual ones (Pillar III) on 5 periods: 1, 3, 7, 10 years. These standardised periods eliminate inception and market timing biases, allowing to "purely" compare performances between different pension schemes. For information purposes, we also show the average return since data is available (last column).

Aggregate summary return table	Pillar II								
	1 year		3 years		7 years		10 years		max. available*
	2021	2020	2019-2021	2018-2020	2015-2021	2014-2020	2012-2021	2011-2020	
Austria***	3.08%	1.40%	4.12%	1.23%	1.92%	2.35%	2.68%	1.79%	1.56%
Belgium	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Croatia	2.55%	8.06%	3.38%	2.81%	4.76%	4.99%	4.82%	4.10%	3.25%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	1.30%	7.97%	4.60%	2.10%	1.61%	2.13%	2.35%	1.31%	0.75%
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	3.53%	n.a.	2.23%	n.a.	2.63%	n.a.	2.46%	2.35%
Italy	1.44%	7.30%	3.96%	1.85%	1.97%	2.81%	3.30%	2.66%	0.86%
Latvia	2.21%	8.43%	4.22%	1.12%	1.15%	1.54%	2.30%	1.45%	0.05%
Lithuania	5.97%	14.92%	8.60%	4.72%	3.95%	4.07%	4.60%	3.52%	1.95%
Netherlands	0.85%	6.23%	6.58%	5.01%	3.84%	5.79%	5.00%	5.26%	2.80%
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	-2,58%	2,59%	1,64%	1,81%	1,23%	2,68%	2,83%	2,95%	2,04%
Slovakia	3.38%	5.37%	3.13%	0.70%	1.59%	1.50%	1.43%	0.79%	0.21%
Spain	1.52%	2.10%	2.25%	2.40%	3.02%	3.86%	2.56%	2.86%	0.86%
Sweden	13.50%	6.45%	17.44%	8.23%	n.a.	n.a.	n.a.	n.a.	10.59%
UK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

*Source: BETTER FINANCE own composition; *whole reporting period differs between countries; **UPF data used as proxy for Pillar II; ***Pension funds used as proxy for Pillar II, 2021 data is estimated; data for Netherlands Pillar II is only occupational pension funds*

[1] Amin Rajan (Crate Research), 'Coronavirus Crisis Inflicts a Double Blow to Pensions' (FT.com, 15 April 2020) available at: https://www.ft.com/content/bd878891-4f20-46c3-ab23-939162a85d9c.

Voluntary pension products vary in market share based on the jurisdiction: in some cases, insurance-based products are more prevalent, whereas in some countries pension funds are preferred. The table below shows the average real net returns for supplementary pensions by standardised holding periods.

Aggregate summary return table	Pillar III								
	1 year		3 years		7 years		10 years		whole reporting period*
	2021	2020	2019-2021	2018-2020	2015-2021	2014-2020	2012-2021	2011-2020	
Austria*	0.44%	1.27%	0.96%	2.65%	1.29%	3.09%	1.50%	3.30%	1.95%
Belgium	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Croatia	2.00%	-1.41%	2.97%	2.13%	3.48%	4.57%	4.41%	3.75%	3.51%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	6.30%	4.51%	8.14%	2.37%	3.04%	3.19%	4.00%	2.04%	1.78%
France*	0.37%	1.13%	1.55%	0.65%	1.07%	1.43%	1.63%	1.47%	1.47%
Germany**	-3.72%	2.68%	-0.16%	1.30%	0.64%	1.62%	1.11%	1.64%	1.20%
Italy	1.92%	0.03%	3.04%	1.18%	2.18%	2.58%	3.18%	2.49%	1.91%
Latvia	-1.01%	2.14%	3.18%	0.82%	0.59%	1.75%	2.17%	1.58%	1.34%
Lithuania	0.54%	4.83%	4.65%	2.29%	2.17%	2.85%	3.37%	1.98%	1.03%
Netherlands	-2.29%	1.83%	-0.04%	1.39%	1.19%	1.14%	0.33%	0.27%	0.02%
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	-3,07%	0,99%	0,60%	0,35%	0,22%	1,53%	1,90%	1,91%	-1,00%
Slovakia	1.92%	1.30%	3.03%	0.08%	0.92%	1.00%	1.39%	0.44%	0.71%
Spain	2.10%	0.86%	1.58%	1.33%	2.20%	3.08%	2.26%	1.60%	0.35%
Sweden	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
UK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

*Source: BETTER FINANCE own composition; *whole reporting period differs between countries; ** Riester pension insurances contracts. Acquisition charges are included and spread over 5 years*

Unfortunately, due to unavailability of data breakdowns, for some country cases (UK, Belgium, Denmark, Poland) we were not able to calculate the annual real average returns by Pillar. Nevertheless, the results by retirement provision vehicle are available in Graphs 19 and Table 20 in the *General Report* and on an annual basis (nominal, net and real net return) in each country case).

Note: For a few pension systems analysed in the report, the data available on retirement provision vehicles clearly distinguishes between Pillar II and Pillar III (such as Romania or Slovakia). In other countries, where pension savings products may be used for both Pillars, the categorisation is more difficult since return data is not separated as such. However, for reasons of simplicity and comparability, the authors of the report have put in all the necessary efforts to correctly assign each product according to the pillar it is, or should be, used for.

Pension Savings: The Real Return

2022 Edition

General Report

One can supervise only what one can measure:
Why is this long-term savings performance report (unfortunately) unique?

I. INTRODUCTION

2022 marks the anniversary edition of BETTER FINANCE's Long-Term and Pension Savings Report. For 10 years, BETTER FINANCE aggregated and updated data and information on pension systems' structure, characteristics, charges, tax, and real net returns in a unique publication in this field.

Our report grew from the initial three country cases (Denmark, France, and Spain) covered in the 2013 report ("Private Pensions: The Real Return"[11]) to reach 18 jurisdictions and true long-term reporting horizons: where available, 22 years of gross, net, and real net returns of private occupational and voluntary retirement provision vehicles.

Today, BETTER FINANCE's research on the real returns of long-term and private pension savings comprises:

- this report (full version);
- the summary booklet;
- the *pensions dashboard*, an interactive tool on BETTER FINANCE's website to view and compare returns between private retirement provision vehicles.

1.1. The actual performance of this market is generally unknown to clients and to public supervisors

This report was built to respond to one of the big problems for the pensions market in the EU: lack of comprehensive and comparable data on real net performances. So far, two other publications also aim to provide transparency on the topic, but have a limited scope and are too general to be useful for the average pension saver:

[11] Link for the print version available here: http://www.betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_Study_EN_website.pdf.

Table GR1. Comparison BETTER FINANCE report with EIOPA/OECD		
	EIOPA	OECD
Private pension products	Only insurance-based pension products (unit-linked and profit-participation) based on surveys (68 providers/17 EU Member States/200 products)	Only pension funds (20 EU jurisdictions)
Distinction between pillars (occupational vs voluntary)	No	No
Time horizon	5 years	15 years max.
Data/information on public pension systems	No	Yes
Pension system description (structure, conditions, costs, taxes)	No	Yes
Asset allocation	No	Yes
Gross returns	No	No
Nominal net returns	Yes	Yes
Real net returns	Yes	Yes
Real net returns, after tax	No	No

Source: BETTER FINANCE own research

Our report closes this informational gap for pension savers in 17 EU Member States. This is in line with the European Commission's "Action" to improve the transparency of performance and fees in this area (as part of its Capital Markets Union – CMU - Action Plan) and it corresponds with the current tasks of EIOPA in the area of personal pension products with respect to past performance and costs comparison.[12]

It is the ambition and challenge of this research initiated by BETTER FINANCE and its partners to collect, analyse and report on the actual past performance of **all** long-term and pension savings products.

Reporting the real net return[13] of pension saving products should be:

- the long-term return (at least covering two full economic and stock market cycles, since even long-term returns are very sensitive to entry and exit dates);
- net of all fees, commissions and charges borne directly or indirectly by the customer;

[12] The European Supervisory Authorities (ESAs) have a legal duty to collect, analyse and report data on "consumer trends" in their respective fields (Article 9(1) of the European Regulations establishing the three ESAs).

[13] A limitation of the present report is that it does not take into account real estate as an asset for retirement. The proportion of households owning their residences varies greatly from one country to another. For example, it is especially low in Germany, where a majority of households rent their residences and where home loan and savings contracts have consequently been introduced as the most recent state-subsidised pension savings scheme. For the time being, returns on pension savings are all the more important since a majority of retirees cannot rely on their residential property to ensure a decent minimum standard of life. However, residential property is not necessarily the best asset for retirement: indeed, it is an illiquid asset, and it often does not fit the needs of the elderly in the absence of a broad use of reverse mortgages. The house might become too large or unsuitable in case of dependency. In that case, financial assets might be preferable, on the condition that they provide a good performance.

- net of inflation (since for long-term products only the real return matters; that is the right approach taken by OECD as mentioned above);
- when possible, net of taxes borne by the customer (in the USA it has been mandatory for decades to disclose the past performance of mutual funds after tax in the summary of the prospectus).

Table GR2. BETTER FINANCE report structure and scope	
Structure	1. Executive summary 2. General report (overview of data and findings) 3. Individual country cases (Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Lithuania, Poland, the Netherlands, Romania, Slovakia, Spain, Sweden, UK until 2019), representing 87% of EU27 population
Time horizons	22 years (December 1999 – December 2021) or maximum available
Products covered	1. Occupational pension pillar (pension funds, insurance-based pension products, other defined-benefit/contribution vehicles) 2. Voluntary pension pillar (pension funds, insurance-based pension products)
Public pensions	Structure, coverage, funding type, entry/pay-out conditions
Occupational pensions	Architecture (types of products offered), coverage, assets and/or asset allocation, costs, applicable tax regime(s)
Voluntary (individual pensions)	Architecture (types of products offered), coverage, assets and/or asset allocation, costs, applicable tax regime(s)
Returns	1. Gross returns (before costs, tax, and inflation – where available) 2. Nominal net returns (before tax and inflation – where available) 3. Real net returns, before tax, inflation deducted 4. Real net returns, after tax (where available)
Data sources	Publicly available data and information sources

We have chosen a period starting from 31 December 1999 because pension savings returns should be measured over a long-term horizon, and because it includes two market upturns (2003-2006 and 2009-2019) and two downturns (post dot com bubble of 2001-2003 and the 2008 financial crisis).

1.2. Information on the returns of long term and pension savings is deteriorating

This report shows that it is not an impossible, but a very challenging task for an independent expert centre such as BETTER FINANCE to collect the data necessary for this report since quite a lot of data are simply not available at an aggregate and country level, especially for earlier years. The complexity of the taxation of pension savings in EU countries makes it also extremely difficult to compute after tax returns.

Once more, for 2021, we find that information on long-term and pension savings returns is actually not improving but on the contrary deteriorating:

- ***Insufficient information***: for example the Belgian insurance trade organisation Assuralia no longer reports the returns of insurance-regulated « Branch 21 » occupational and personal pension products since 2014, and the national supervisor FSMA does not do it either; in Bulgaria, the necessary data for Professional Pension Funds (pillar II and III) is no longer available since 2018 and the transfers to Pillar I (data from NSSI) are not disclosed; in the UK, the survey conducted by the Department for Statistics has been discontinued and information on British pension funds stopped at 2017;
- ***Late information***: at the time of printing, still a lot of 2021 return data have not been released by the national trade organisations or other providers. OECD has published preliminary data for December 2021, but on a limited number of jurisdictions and only for pension funds; moreover, considering that, in many countries, pension funds are not the most popular vehicle, this constitutes a large information gap.
- ***Unchecked information***: the principal source remains the national trade organisations, their methodology is most often not disclosed, return data do not seem to be checked or audited by any independent party, and sometimes they are only based on sample surveys covering just a portion of the products.

Moreover, savvy retail savers and EU public authorities must rely on private databases (and divergent methodologies) to learn some of the costs and performances of "retail" saving products. This is because the PRIIPs Key Information Document (KID) eliminated pre-contractual disclosure of past performance and actual costs for UCITS and requires return and cost estimations instead for all "retail" investment products, including pension products. This severe setback in transparency and comparability is completely inconsistent with the CMU initiative. Four high-level initiatives have struggled to repair this situation, without success: the NextCMU Report, the High-Level Forum Final Report, the ECON CMU Report and the ESAs' draft RTS on PRIIPs Level 2. BETTER FINANCE continues to deplore the content of the PRIIPs KID.

2. Value for Money: how to achieve pension adequacy?

Public pension authorities typically stress two requisites to achieve "pension adequacy":

a) the need to start saving as early as possible;
b) the need to save a significant portion of one's income before retirement activity income: "*to support a reasonable level of income in retirement, 10% - 15% of an average annual salary needs to be saved*".[14]

BETTER FINANCE continues to disagree: saving earlier and more is not enough. A third and even more important factor is the need to deliver positive and decent long-term **real net** return (i.e., net of inflation and fees). A simple example will illustrate why:

[14] World Economic Forum White Paper: 'We'll live to 100 – How can we afford it?' May 2017

Assuming no inflation and saving 10% of activity income for 30 years,[15] the table below shows that **unless long-term net returns are significantly positive** (in the upper single digits), **saving early and significantly will not provide a decent pension.**

Annual net return	Replacement income
negative 1%	10%
Zero	12%
2%	17%
8%	49%

Moreover, in light of the special analysis undertaken in this report on *financial repression*, savers must also be aware and take into account the effects of ***inflation***, particularly since currently it reaches historical records.

What is pension adequacy?

This question ultimately revolves around the level of retirement income (pension) compared to the pre-retirement income. The EU defines *pension adequacy* indirectly through three objectives that a pension system should achieve:

1) **income replacement**: ensure a minimum standard of living at retirement,
2) **sustainability**: ensure that the public pension system is sustainable; and
3) **transparency**: inform workers about the need to plan for their retirement.[16]

On income replacement, the EU's Open Method of Coordination on Social Protection and Social Inclusion[17] further specifies that pensions should:

- *in general*, be at a certain level so that the standards of living pre-retirement are maintained, to "*the greatest possible extent*", after retirement;
- *for special cases*, ensure a minimum standard of living at retirement so as to avoid pension poverty.

To measure the two above objectives, two indicators are generally used: the *aggregate replacement ratio*,[18] showing how big the gross pension is compared to the salary, and the

[15] As recommended by Public Authorities assuming 25-year life expectancy at retirement, gross of fees and taxes.
[16] Directorate-General for Employment, Social Affairs and Inclusion of the European Commission and the Social Protection Committee, *Pension Adequacy in the European Union 2010-2050* (May 2021) European Commission, available at: file:///C:/Users/Stefan/Downloads/pension%20adequacy%20in%20the%20european%20union%202010-2050-KE3012757ENN.pdf.
[17] See Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - "*A renewed commitment to social Europe: Reinforcing the Open Method of Coordination for Social Protection and Social Inclusion*" {SEC(2008) 2153} {SEC(2008) 2169} {SEC(2008) 2170} {SEC(2008) 2179}, available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52008DC0418.
[18] According to Eurostat, the *aggregate replacement ratio* is the ratio of the median individual gross pensions of 65-74 age category relative to median individual gross earnings of 50-59 age category, excluding other social benefits.

theoretical replacement rate, showing the instant change (drop/increase) in income when retiring from active life:

$$Aggregate\ replacement\ ratio = \frac{gross\ median\ pension\ (pop.aged\ 65-74\ yo)}{gross\ median\ income\ (pop.aged\ 50-59\ yo)}$$

$$Theoretical\ replacement\ ratio = \frac{pension\ in\ the\ first\ year\ of\ retirement}{income\ in\ the\ last\ year\ of\ work}$$

The International Labour Organisation obliges parties to the Treaty to guarantee a minimum 40% of the previous earnings (prior to retirement) after 30 years of contributions;[19] the same threshold is used by the European Code of Social Security.[20] However, an actual threshold for pension adequacy was never agreed, although EU Member States agree on its objectives (to prevent old-age poverty, to replace income at a rate to *maintain* the standard of living, to be sustainable).

The reality is that pension adequacy[21] comprises two additional components, besides the actual *pension vs salary* ratio:

- the time spent to earn the pension vs the time spent receiving it;
- the amount of contributions to pension provision, namely mandatory (State) schemes and voluntary (occupational/individual) ones; put simply, *pension savings*.

To achieve *pension adequacy*, retirement benefits altogether (State and private pensions) should amount to at least 70%-80% of late working life gross salary.

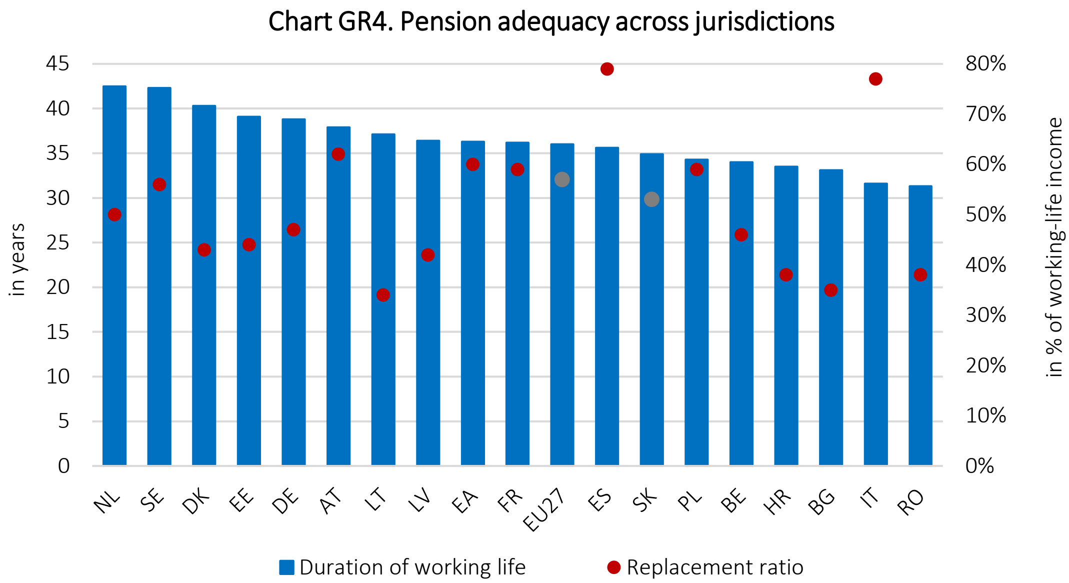
Currently, the aggregate replacement rate (mostly State pension) is very low across the countries in scope of our report: fourteen out of seventeen jurisdictions provide a replacement rate lower than 60% for over more than 30 years of working life.

The indicator is based on the EU-SILC (statistics on income, social inclusion and living conditions) – See Eurostat, *Aggregate Replacement Ratio for Pensions (excluding other social benefits) by sex*, available at: https://ec.europa.eu/eurostat/databrowser/view/tespn070/default/table?lang=en.

[19] Art. 67 of Convention C102 on Social Security (Minimum Standards) of the International Labour Organisation, available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C102; Art. 29 of the later adopted Convention C128 on Invalidity, Old-Age and Survivors' Benefits Convention of the International Labour Organisation (available here: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:CON,en,C128,/Document) required a higher threshold, i.e. 45%.

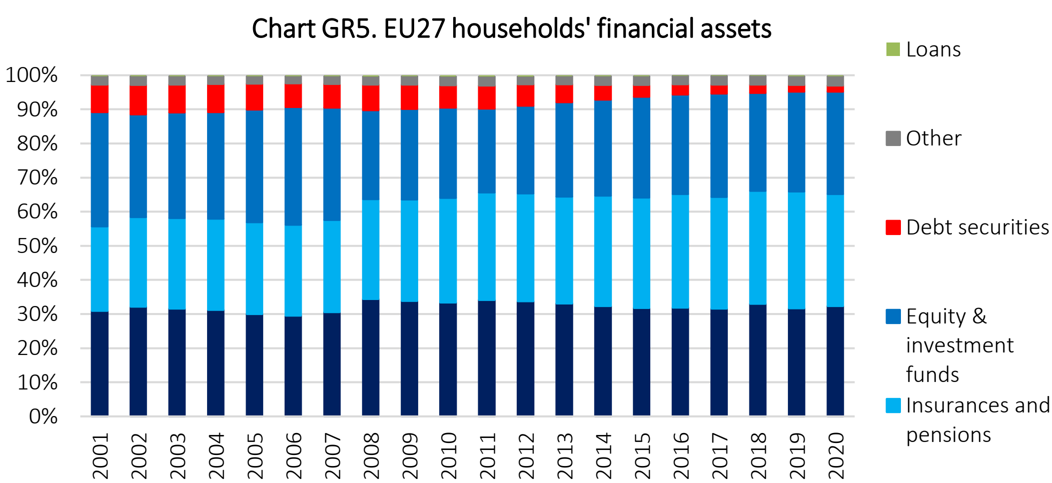
[20] Art. 67, Schedule to Part XI, of the European Code of Social Security, available at: https://rm.coe.int/168006b65e.

[21] Here we take only the financial point of view, but there are several other factors (non-financial) that contribute to "*maintaining the standard of life at retirement*", such as home ownership, sources of income, employment opportunities and access to non-financial benefits – see European Commission, *European Semester Thematic Factsheet: Adequacy and Sustainability of Pensions* (2017) European Commission, p. 3, available at: https://ec.europa.eu/info/sites/default/files/file_import/european-semester_thematic-factsheet_adequacy-sustainability-pensions_en_0.pdf.



Source: own composition based on Eurostar data; *EU27 replacement ratio corresponds to 2019; Slovakia replacement ratio corresponds to 2020

There has been a shift from the full reliance on the public scheme of redistribution (tax-funded defined-benefit) to a more capital markets reliant system, where the main pension income stream should come from private pension products. Pension performances are subject to inflation and to tax, which eat into the retirement pot.



Source: BETTER FINANCE based on Eurostat data

Our findings clearly confirm that capital market performances have unfortunately very little to do with the performances of the actual savings products distributed to EU citizens. This is particularly true for long-term and pension savings. The main reason is the fact that most EU citizens do not invest the majority of their savings directly into capital market products (such as equities and bonds), but into "packaged products" (such as investment funds, life insurance contracts and pension products).

3. Performance: capital markets are not a proxy for retail investments

One could then argue that insurance and pension products have similar returns to a mixed portfolio of equities and bonds, since those are indeed the main underlying investment components of insurance and pension "packaged" products. However, this is not true as the share of packaged products and debt instruments are dominant in most pension portfolios. Realities such as fees and commissions, portfolio turnover rates, manager's risks, etc., invalidate this approach.

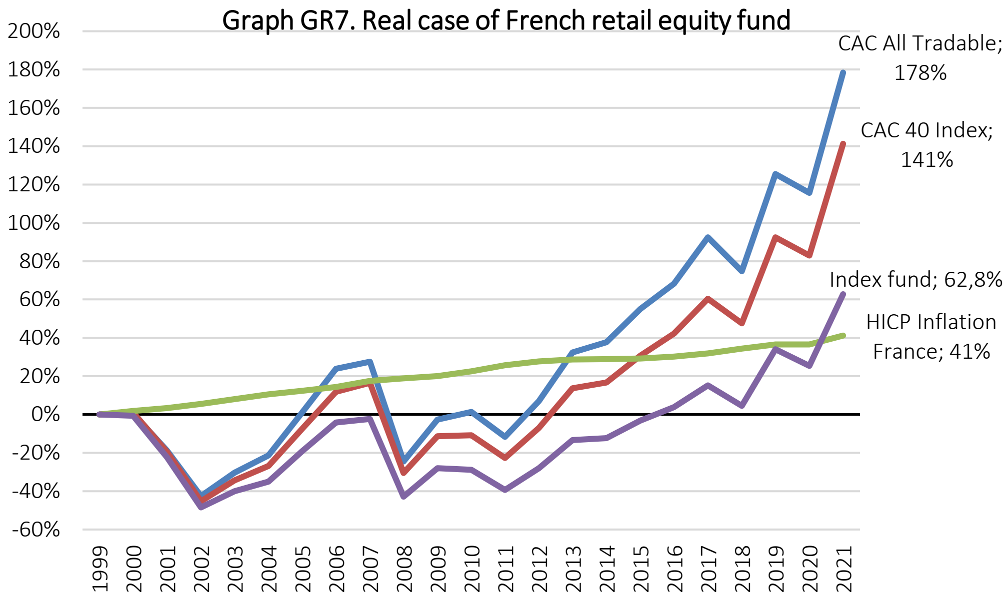
Table GR3 and Graph GR4 below show two striking – but unfortunately not uncommon – real examples of this largely ignored reality: capital market performance is not a valid proxy for retail investment performance and the main reasons for this are the fees and commissions charged directly or indirectly to retail customers. The European Commission itself publicly stressed this fact (see footnote 2 above).

Table GR6. Real case of a Belgian life insurance (branch 23)

Capital markets vs. Belgian individual pension insurance 2000-2021 performance	
Capital markets (benchmark index*) performance	
Nominal performance	288%
Real performance (before tax)	183%
Pension insurance performance (same benchmark)	
Nominal performance	182%
Real performance (before tax)	116%

*Source: Sources: BETTER FINANCE own computations based on Morningstar public website; *Benchmark is composed of 50% bonds (LP06TREU) and 50% STOXX All Europe Total Market Return*

The real case above illustrates a unit-linked life insurance product (Pillar III in Belgium). The pension product's nominal return amounted to less than two thirds of its corresponding capital market benchmark's return.



<u>Source</u>: Own elaboration based on Graph FR3 in the French chapter

The real case above illustrates an investment fund domiciled in France, a so-called retail CAC 40 "index" fund.[22] The fund actually underperformed the relevant equity index by 78.5 p.p. after 22 years of existence (1.85% per year), with the performance gap fully attributable to fees. The fund has also massively destroyed the real value of its clients' savings, as inflation has been almost twice as high as its nominal performance. It is quite surprising that with such a huge return gap vis-à-vis its benchmark, this fund is still allowed to portray itself as an "index-tracking" one, and that no warning is to be found on the Key Information Document (KIID) of the fund.

4. European Pension returns outlook

Our research findings show that most long-term and pension savings products did not, on average, overperform a broad capital markets index (balanced 50% equity – 50% bond), and in one too many cases even destroying the real value for European pension savers (i.e., provided a negative return after inflation). Based on our calculations and available data, 37 out of the 41 retirement provision vehicles analysed underperformed European capital markets by an average 1.93% per year. Moreover, three out of these 37 even delivered real negative performances over long-term periods (between 15 and 22 years).

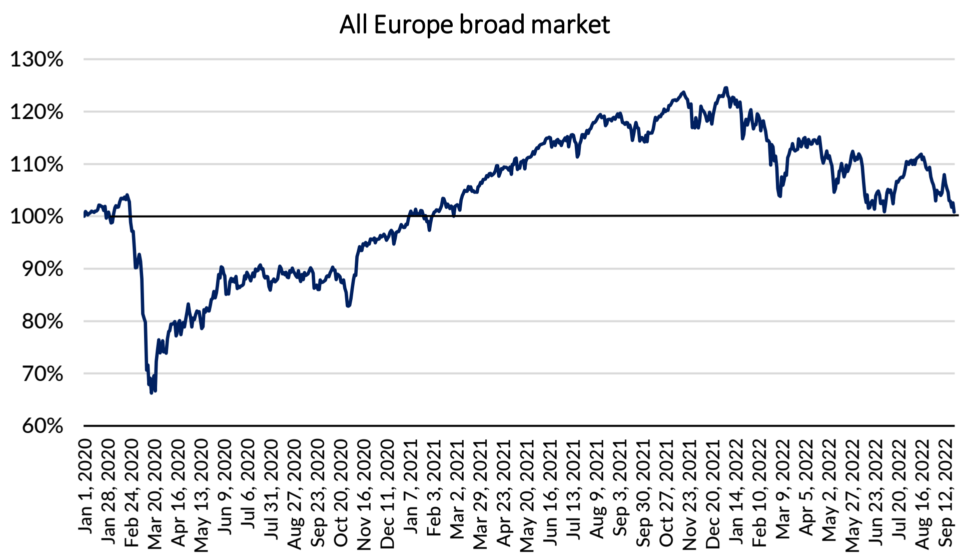
At the time of writing, the overall mid-term outlook for the adequacy of European pension savings is worrying when one analyses it for each of these main return drivers:

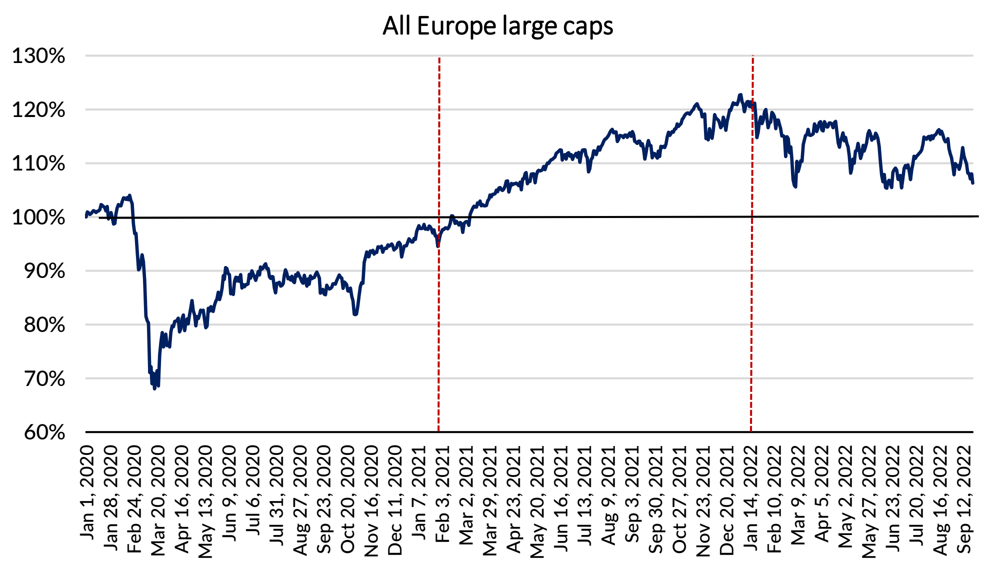
a) it is unlikely that the European bond markets will come any closer to the extraordinary returns of the period ended in 2020 for bonds due to the continuous

[22] Wrapped in an insurance contract as suggested by the distributor.

fall of interest rates, currently at rock-bottom levels; moreover, the reversal of quantitative easing programmes of Eurozone central banks will further affect the returns on sovereign bonds; the negative impact of this foreseeable trend in bond returns on pensions' returns will be reinforced by a higher proportion of bonds in pension products' portfolios in recent years; this is all the more relevant due to monetary policy response to the health-generated recession;

b) the strong growth of equities in 2020 and 2021 is already reverting, with the European all country broad equity index reaching pre-2020 levels and the large caps market also close by;

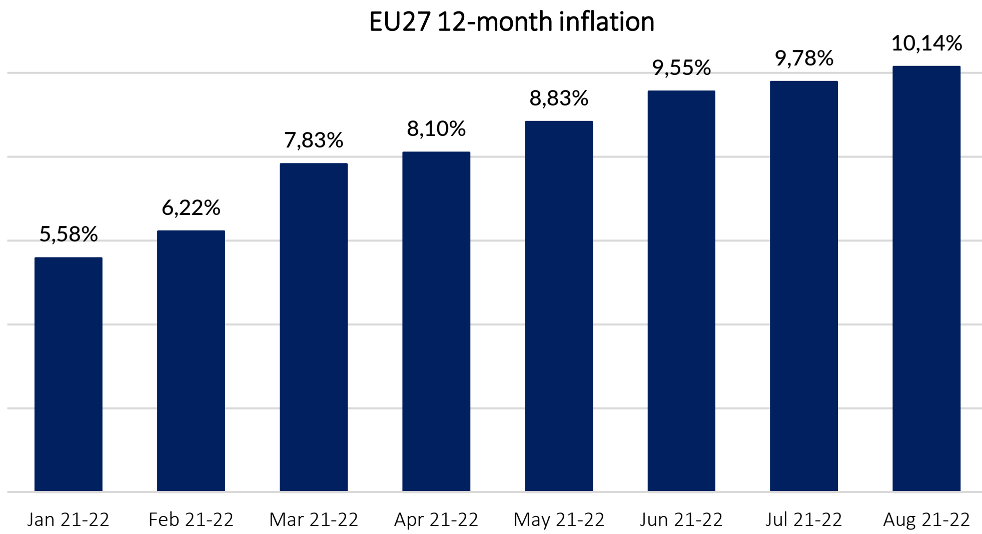


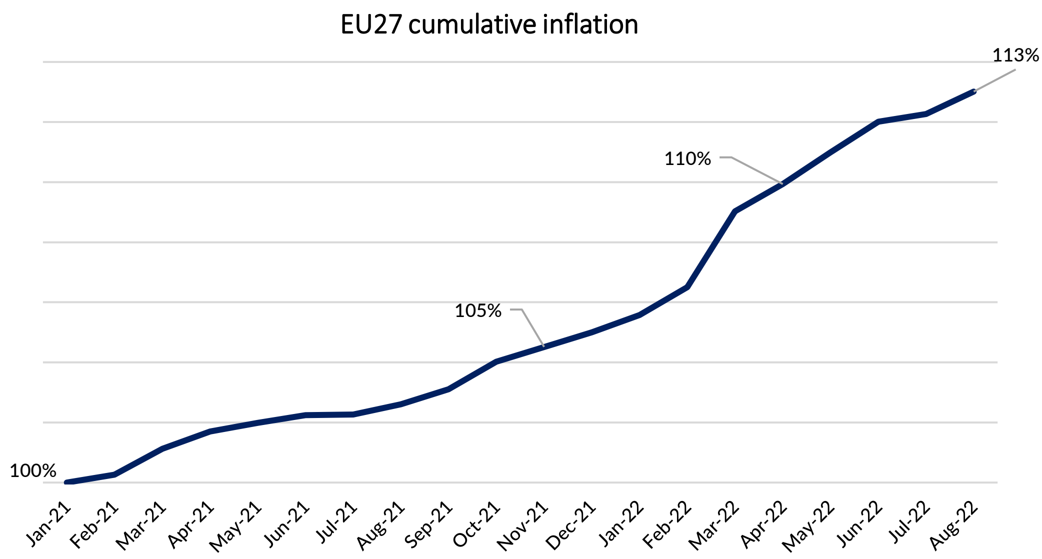


Source: Own composition based on MSCI data

c) costs and charges, as far as our data indicates, are not significantly improving;

d) inflation already took a heavy toll on pension returns in 2021 and it will be much, much stronger in 2022 due to record rates;





Source: Own composition based on Eurostat data

e) Taxes on long-term and pension savings do not show any significant downward trend either.

Pension Savings: The Real Return

2022 Edition

Country Case: Lithuania

Santrauka

Lietuva priėmė tipišką Pasaulio banko daugiapakopę sistemą, kurioje PAYG pakopa (valstybinė pensija, I pakopa) vis dar atlieka dominuojantį vaidmenį užtikrinant senatvės pensininkų pajamas. Nuo 2019 m. II pakopos santaupų kaupimas vyksta gyvenimo ciklo pensijų fonduose, kurie patys keičia investavimo riziką pagal dalyvių amžių. Nuo 2019 m. palaipsniui mažinamas valdymo mokestis už kaupimą II pakopos gyvenimo ciklo fonduose. 2019 m. jis sudarė 0,8 proc. ir 2020 m. tapo 0,65 proc. Nuo 2021 m. metinis turto valdymo mokestis dar labiau sumažintas iki 0,5 proc. Turto išsaugojimo fondui turto valdymo mokestis sudarys tik 0,2 proc.

Apskritai 2021 m. abiejų pakopų pensijų fondų veiklos rezultatai visose turto klasėse buvo gražiai teigiami, tačiau pensijų fondų, kurių rizikos ir grąžos profiliai buvo skirtingi, grąža gerokai skyrėsi.

Summary

Lithuania adopted the typical World-Bank multi-pillar system, where the PAYG pillar (state pension, Pillar I) still plays the dominant role in ensuring the income for old-age pensioners. As of 2019, accumulating savings in Pillar II takes place in life-cycle pension funds, which change investment risk themselves on the basis of participants' age. Since 2019, management fee for accumulating in Pillar II life-cycle funds is being gradually reduced. In 2019 it was 0.8 per cent and in became 0.65 per cent in 2020. From the year 2021 the annual asset management fee was further decreased to 0.5 per cent. For the asset preservation fund, the management fee will be just 0.2 per cent.

Overall, pension funds' performance in both pillars were nicely positive in 2021 across all asset classes, however there were significant differences among the pension funds´ returns with different risk-return profiles.

Introduction

Lithuania has undertaken a pension reform in 2004, which was renewed in 2013. This was the reason to establish private pension funds. Currently, the Lithuanian pension system provides three distinct sources of accumulation for retirement funds – so-called pension pillars:[209]

- **1st pillar (Pillar I)** – State social insurance funds organized as a PAYG pension scheme. State social pension is financed from social insurance contributions paid by people who are currently working.
- **2nd pension pillar (Pillar II)** – funded pension scheme mandatory for all economically active citizens under the age 40 with opt-out operated by the private pension accumulation companies offering life-cycle pension funds in form of personal savings scheme. The part of State social insurance fund is redirected from PAYG scheme (until 2019). On top of social insurance contributions, savers are obliged to co-finance the individual retirement accounts with additional contributions tied to their salary.
- **3rd pension pillar (Pillar III)** – voluntary private funded pension scheme. Accumulation can be managed by private funds or life-insurance companies.

Lithuania's statutory social insurance pension system is financed at a general rate of 39.5% (without Social insurance for accidents at work and occupational diseases insurance), while 25.3 percentage points (22.3 p.p. + 3 p.p. employee) is paid towards the Social insurance for pensions (Pillar I).

The State social insurance pension system was reformed in 1995 introducing the insurance principle, extending the requirement for contributory years, abolishing early retirement provisions and increasing the retirement age. However, Pillar II was introduced by law in 2002 and started functioning effectively in 2004 when the first contributions of participating individuals started to flow into the pension funds.

Supplementary voluntary pension provision (Pillar III) is possible through either pension insurance or special voluntary pension funds (these started operating in 2004, although the law was adopted in 1999). The voluntary pillar can take two different forms: defined-contribution (DC), if supplemental contributions are invested into pension funds or unit-linked life insurance or defined-benefit (DB) when purchasing a classic life insurance product. Contributions to the system may be made by the individual or his employer.

Basic data on the pension system set-up in Lithuania is presented in the table below.

[209] BITINAS, A. (2011). Modern pension system reforms in Lithuania: Impact of crisis and ageing. Jurisprudence, 18(3), 1055–1080.

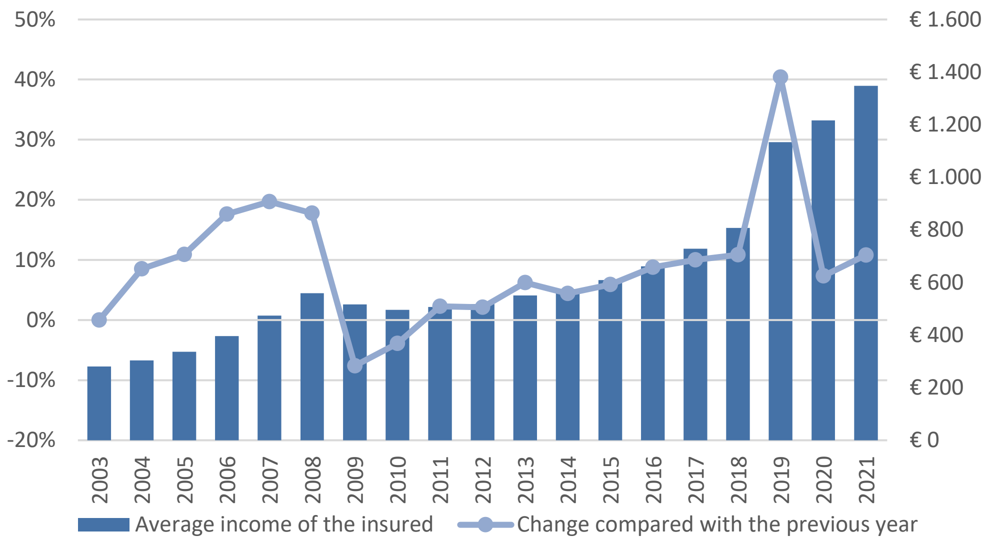
Table LT 1: Multi-pillar pension system in Lithuania		
PILLAR I	PILLAR II	PILLAR III
State Pension	Funded pension	Voluntary pension
Law on State Social Insurance Pensions	Law on the Reform of the Pension System; Law on Pension Accumulation	Law on the Supplementary Voluntary Pension Accumulation
State Social Insurance Fund institutions	Pension accumulation companies	Pension accumulation companies
Mandatory	Quasi/Mandatory	Voluntary
Publicly managed	Privately managed pension funds	Privately managed pension funds
PAYG	Funded	Funded
PS (Pointing System - Defined benefit scheme based on salary)	DC (Defined Contribution scheme)	
	Individual personal pension accounts	
Quick facts		
Number of old-age pensioners: 607,200	Administrators: 5	Administrators: 4
Average old-age pension: € 413.77	Funds: 40	Funds: 15
Average income (gross): € 1,566	AuM: € 5,909.61 mil.	AuM: € 220.27 mil.
Average replacement ratio: 26.44%	Participants: 1,387,923	Participants: 79,197
Number of insured persons: 1,455,000	Coverage ratio: 95.39%	Coverage ratio: 5.44%

Source: Own calculation based on SODRA data (http://atvira.sodra.lt/en-eur/) and Official Statistics Porta (https://osp.stat.gov.lt/en/pagrindiniai-salies-rodikliai), 2022.

The overall coverage of Pillar II, measured as a ratio between the number of participants and the economically active population (number of insured persons in Pillar I), was more than 95% in 2021, while Pillar III covered a little more than 5% of the economically active population. Thus, we can expect that future pension income stream will be influenced mostly by Pillar II pensions, while Pillar III will generate an insignificant part of individuals' income during retirement.

Regarding the income level, Lithuania´s citizens have experienced relatively high rates of income increase during the last 15 years (9.62% annually).

Graph LT1. Average income and annual changes in income of insured persons



Source: Own calculation (http://atvira.sodra.lt/en-eur/), 2022

Pillar I – State Pensions

The first pillar of the Lithuanian pension system is organized on the pay-as-you-go (PAYG) principle of redistribution, being funded on an ongoing basis, functioning on the pointing system, and taking into account the duration of the vesting period and the level of salary (insurable income) from which the contributions are paid.

The old-age pension is the main type of state social security in old age. Individuals who meet the requirements for age and for the pension social insurance record are entitled to the old-age pension, i.e.:

1) the person has reached the established old-age pension age (64 years and 4 months for men and 63 years and 8 months for women in 2021). Since 2012, the retirement age has been rising gradually by 2 months a year for men and 4 months a year for women until reaching the statutory retirement age of 65 for both men and women by 2026;
2) has the minimum record of pension social insurance established for old-age pension (has paid the pension social insurance contributions for at least 15 years).

The pension social insurance record is the period in which the obligatory pension social insurance payments are made or must be made either by the person themselves or on his/her behalf. Starting from 2018, the obligatory pension social insurance record requirement increased. In 2021, the mandatory record is at least 32 years and will be increased by 6 months every subsequent year until it reaches 35 years in 2027.

A new version of the Law on Social Insurance Pensions came into force on 1 January 2018. The pension system was reformed by changing the pension calculation structure, introducing pension points and setting the indexation rules. A social insurance pension will consist of the general (GP) and individual parts (IP). The old-age pension is equal to the sum of the general and the individual parts of pension.

The general part (GP) of the old-age pension takes into account only the duration of insured period. The general part (GP) of pension is calculated according to the formula:

$$GP = \beta \times B$$

where:

β represents the ratio of the insurance record of the person and the obligatory insurance record effective in the year of the pension entitlement (for example, if the obligatory insurance record at year of retirement is 35 years and the person´s insurance record is 40 years, then the value of β is 40/35 = 1.1429); and

B represents the basic pension (in euros).

The individual part of pension is based on pension point system. Pension points system for the determination of the individual part of pension was introduced on 1 January 2018. Each insured person will receive a certain number of pension points for the amount of pension social insurance contributions paid during the year. If the amount of pension social insurance contributions deducted from the person's income during the year for the individual part of pension is equal to the amount of the annual pension contribution determined on the basis of the average pay (salary) during the year, the person will acquire one pension point. A larger or a smaller amount paid will result, accordingly, in a larger or smaller number of pension points. However, the total number of pension points acquired for one year may not exceed 5. The pension points acquired will be summed up and multiplied by the pension point value. The individual part of pension is calculated according to the formula:

$$IP = V \times p$$

where:

V is the number of pension points accumulated by the person during the entire working career;

p is the pension point value (in euros).

For example, if a person´s salary during the whole career (40 years) was equal to the average salary in the economy (1 point), then the person can acquire 40 x 1 point = 40 points. If the value of one pension point at moment of retirement is, for example, €10, then the individual part of old-age pension is: 40 x 10 = 400 Eur.

Old-age pensions are indexed every year. Starting from 1 January every year, the values of the basic pension, the value of pension points and the basic amount of widows'/widowers' pensions, used for the granting and determining social insurance pensions, will be indexed based on the average 7-year wage fund growth rate.

The indexing coefficient (*IC*) is calculated on the basis of the change in the wage fund during the past three years, the year for which the *IC* is being calculated, and three prospective years. The IC is applied provided that, upon its application, the pension social insurance costs in the year of indexation do not exceed social insurance revenues and the projected pension social insurance costs for the next year do not start exceeding the social insurance revenues projected. If, without indexation, the pension social insurance revenues in the year of indexation exceed the pension social insurance costs, the *IC* is calculated in such a way that the pension social insurance expenses for pension indexing would not exceed 75% of the pension social insurance contribution surplus planned for the year of indexation in case if no indexation is performed.

Indexation of pensions will not be performed if the determined *IC* is smaller than 1.01 and/or if the change in the gross domestic product at comparative prices and/or in the wage funds, expressed in percentage terms, is negative in the year for which the *IC* is being calculated and/or for next calendar year. If no indexation is performed, the values of December of previous year are applied.

In general, we can say that the Pillar I pensions will be subject to the automatic adjustment mechanism ensuring the balance of the State Social Insurance fund over the longer period.

SoDra has launched the indicative retirement calculator, where an individual can assess his projected old-age pension including the expected (projected) Pillar II savings. The calculator web site (in Lithuanian language):
http://www.sodra.lt/lt/skaiciuokles/prognozuojamos_pensijos_skaiciuokle

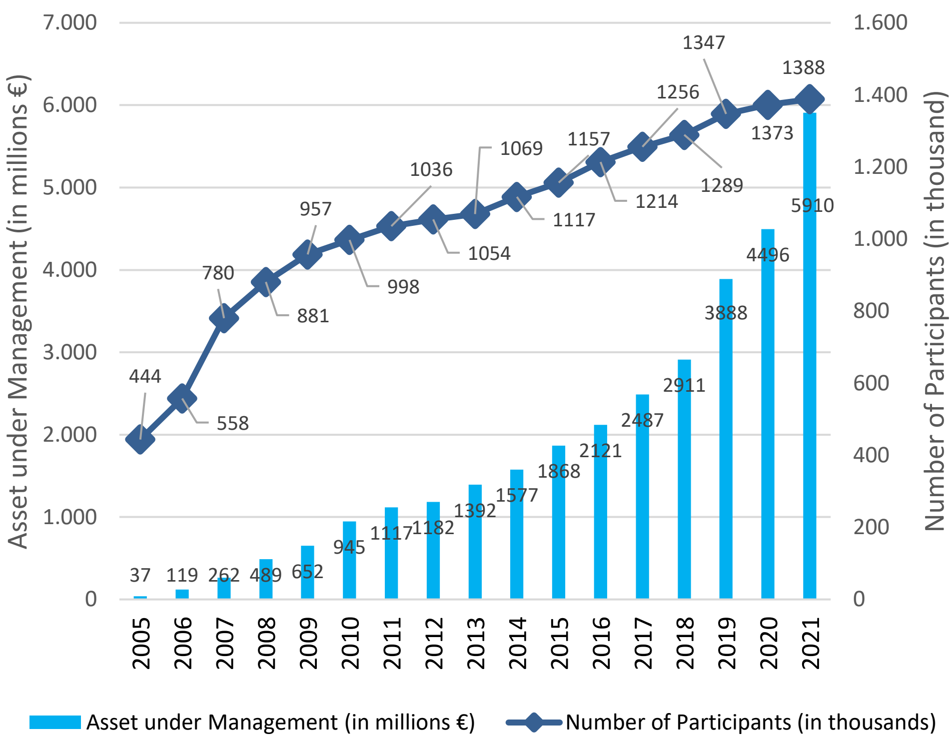
Pillar II – Funded pensions

Lithuania´s private pensions system (Pillar II) is based on the World Bank's multi-pillar model. Pillar II pension scheme can be characterized as an accumulation of a redirected part of social insurance contributions towards individual retirement accounts managed by private pension accumulation companies offering and managing private pension funds. All persons with income, from which state social insurance contributions are calculated on a mandatory basis to receive pension, and yet to reach retirement age may become fund participants. The contribution to Pillar II pension funds consists of three parts: a social-security contribution (currently paid to SoDra), salary contribution and an additional pension contribution from the State Budget.

Pillar II can be characterized as a fully funded scheme, with quasi-mandatory participation, distinct and private management of funds, based on personal accounts and on the defined contribution (DC) philosophy with no minimum return guarantees.

Since 2004, when the Pillar II was effectively launched, the number of participants as well as AuM has grown rapidly and currently, more almost 97% of working population is covered by the scheme and almost 6 billion € are managed by 5 PACs (see graph below).

Graph LT2. Pillar II – Number of participants and Assets under Management

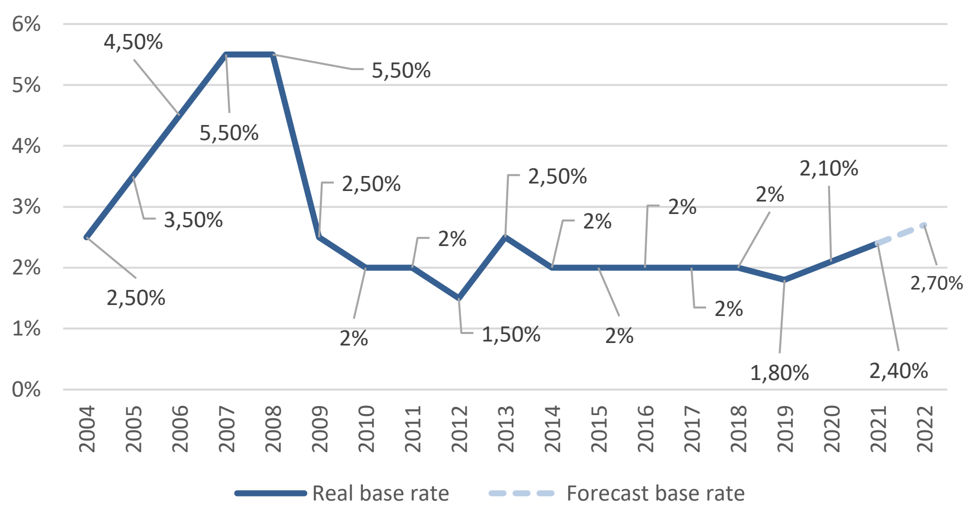


Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022.

The pension contributions towards the Pillar II are part of the participant's state social insurance contribution rate. Originally, the level of contributions ("base rate") was set at final level of 5.5% of insurable income. This level should have been reached in 2007. The base rate in 2004 was 2.5%, in 2005 - 3.5%, in 2006 it was 4.5%, and since 2007 - 5.5% of the participants' income, from which the state social insurance contributions are calculated. However, it should be noted that there have been significant changes to the Pillar II set-up because of the financial crisis and the following public finance deficits. As a result, the mechanism and level of paid contributions have changed. Since 2014, the level of contributions has remained stable, while participants have been required to match redirected contributions from the social insurance with additional individual contributions and the state must match the individual contributions of savers from the state budget. Under the new system, the “base rate” for Pillar II contributions is 2%, and existing savers can make a further 1% in contributions, matched by a state subsidy of 1% of gross average wages. These both additional contribution rates rose to 2% a piece since 2016. Under Lithuania’s current “maximum accumulation” scenario, Pillar II savings during the years of 2016 till 2019 are funded by the so-called “2+2+2” system: 2% of social security system contributions, with an additional 2% of additional payment from a salary of a saver, matched by a state contribution based on the previous year’s average state wages.

Since 2019 reform, the new contribution system has been established. The formula for Pillar II pension accumulation in pension funds has changed. As of 2023, all Pillar II participants will accumulate according to the formula “3% + 1.5%” (a contribution by the participant of 3 per cent of their gross wage plus a contribution by the state of 1.5 per cent of the average wage in the country the year before last). Those who accumulated maximally will move to the new formula as of 2019 automatically, while those who accumulated minimally will in 2021 accumulate according to the formula “1.8% + 0.3%” (a participant contribution of 1.8 per cent of one’s gross wage plus a state contribution of 0.3% of the average wage in the country the year before last) and then their contributions will increase gradually, by 0.3 percentage points each year, until their accumulation formula reaches “3% + 1.5%”.

Graph LT3. Pillar II – Level of “base rate” contributions



Source: Own elaboration based on the Law on Reform of the Pension System, 2022.

The contributions to Pillar II are recorded on individual personal pension account at selected providers (Pension Accumulation Companies). Contributions and accumulated savings are invested by the companies into managed pension funds. Pension Accumulation Companies

(PACs) can manage multiple pension fund based on a "life-cycle" approach. PAC must obtain licenses from market regulator and supervisory body, which is the Bank of Lithuania.

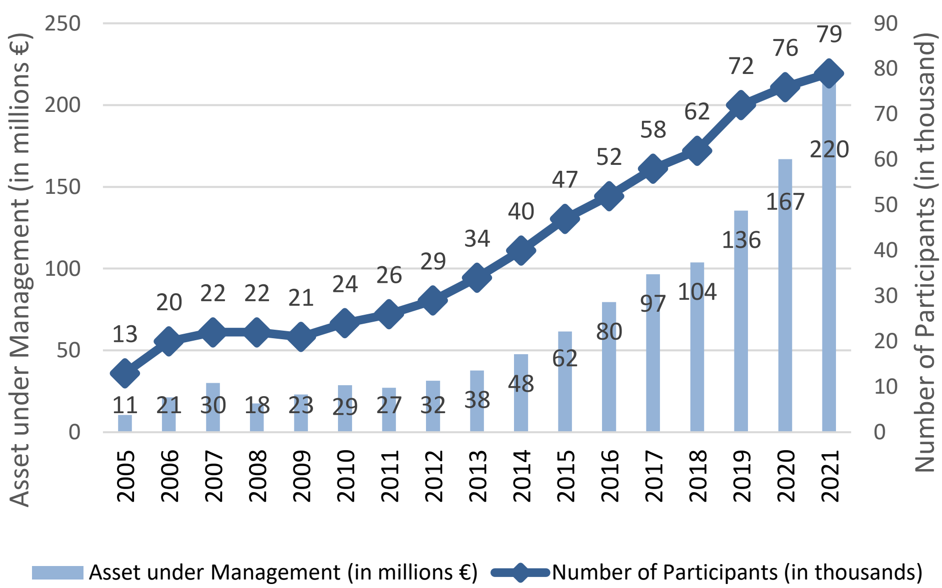
Pillar III – Voluntary private pension

Lithuania's voluntary supplementary private pensions system (Pillar III) is also based on the World Bank's multi-pillar model and effectively started in 2005. It is also a fully funded system, based on personal accounts and on the defined contribution (DC) philosophy. Pillar III pension funds refer to supplementary voluntary pension accumulation. Funds are transferred by participants themselves or by their employers.

Even if the set-up of the pillar is very similar to the Pillar II set-up, the attractiveness of the financial products offered by supplementary pension asset managers is very low.

Number of participants (savers) and assets under management in Pillar III providers are presented in the graph below.

Graph LT4. Pillar III – Number of participants and Assets under Management



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022.

Pillar III is organized in a way that pension providers (Voluntary Supplementary Pension Accumulation Management Companies) offer pension funds on a basis of typical mutual funds. At the end of 2020, 16 supplementary voluntary pension accumulation funds operated in Lithuania were managed by 4 managing companies as Swedbank has entered the market in 2019 by offering 3 new supplementary voluntary pension funds (2 mixed and 1 equity based) and SEB introduced one mixed fund (SEB pensija 50+) in 2020. In 2021, assets managed by funds grew by 32% and amounted to €220 million driven by positive market returns. Number of participants accumulating their pension in Pillar III pension funds amounted to 79,000. The average value of savings per member was almost €2,785 in 2021.

Pension Vehicles

Pillar II – Funded pensions

As indicated above, each provider (PAC) has to offer 7 life-cycle funds and 1 capital preservation fund. Currently, 40 pension funds are offered by 5 management companies.

Table LT2. List of Pillar II pension Funds after reform in 2020

Investment style of the pension plan since 2019	Pension Fund Name	Inception day
Life-cycle pension funds, 1996-2002	Luminor 1996–2002 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1996–2002	2.1.2019
	SEB 1996–2002 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1996–2002	1.3.2018
	Aviva Y3 1996–2002 tikslinės grupės pensijų fondas	2.1.2019
Life-cycle pension funds, 1989-1995	Luminor 1989–1995 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1989–1995	2.1.2019
	SEB 1989–1995 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1989–1995	1.3.2018
	Aviva Y2 1989–1995 tikslinės grupės pensijų fondas	2.1.2019
Life-cycle pension funds, 1982-1988	Luminor 1982–1988 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1982–1988	2.1.2019
	SEB 1982–1988 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1982–1988	1.3.2018
	Aviva Y1 1982–1988 tikslinės grupės pensijų fondas	2.1.2019
Life-cycle pension funds, 1975-1981	Luminor 1975–1981 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1975–1981	2.1.2019
	SEB 1975–1981 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1975–1981	1.3.2018
	Aviva X3 1975–1981 tikslinės grupės pensijų fondas	2.1.2019
Life-cycle pension funds, 1968-1974	Luminor 1968–1974 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1968–1974	2.1.2019
	SEB 1968–1974 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1968–1974	1.3.2018
	Aviva X2 1968–1974 tikslinės grupės pensijų fondas	2.1.2019
Life-cycle pension funds, 1961-1967	Luminor 1961–1967 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1961–1967	2.1.2019
	SEB 1961–1967 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1961–1967	1.3.2018
	Aviva X1 1961–1967 tikslinės grupės pensijų fondas	2.1.2019

Life-cycle pension funds, 1954-1960	Luminor 1954–1960 tikslinės grupės pensijų fondas	2.1.2019
	INVL pensija 1954–1960	2.1.2019
	SEB 1954–1960 metų tikslinės grupės pensijų kaupimo fondas	28.12.2018
	Swedbank pensija 1954–1960	1.3.2018
	Aviva B 1954–1960 tikslinės grupės pensijų fondas	2.1.2019
Asset preservation pension funds	Luminor turto išsaugojimo fondas	2.1.2019
	INVL pensijų turto išsaugojimo fondas	2.1.2019
	SEB turto išsaugojimo pensijų kaupimo fondas	28.12.2018
	Swedbank turto išsaugojimo pensijų fondas	1.3.2018
	Aviva S turto išsaugojimo pensijų fondas	2.1.2019

Source: Own elaboration (https://www.lb.lt/en/fs-pension-funds), 2020.

The structure of savers, assets under management and market share of four group of pension funds according to their investment strategy is presented in a table below.

Table LT3. Pillar II Market share based on AuM and Number of participants

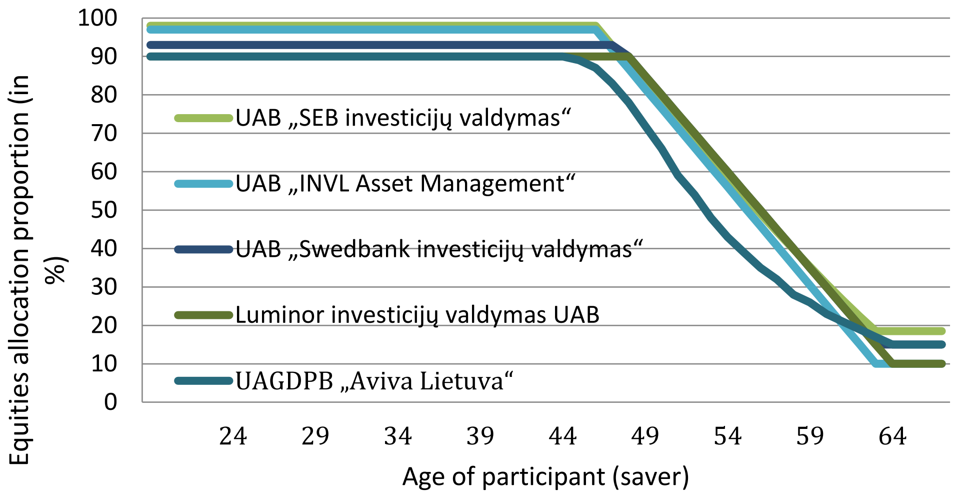
Investment strategy	AuM	Market share	Number of Participants	Market share
Life-cycle pension funds, 1996-2002	107,622,403.11 €	1.82%	100,988	7.28%
Life-cycle pension funds, 1989-1995	554,766,087.13 €	9.39%	219,324	15.80%
Life-cycle pension funds, 1982-1988	1,065,148,664.68 €	18.02%	295,262	21.27%
Life-cycle pension funds, 1975-1981	1,370,412,758.75 €	23.19%	248,713	17.92%
Life-cycle pension funds, 1968-1974	1,347,254,067.18 €	22.80%	231,964	16.71%
Life-cycle pension funds, 1961-1967	1,061,056,767.15 €	17.95%	206,655	14.89
Life-cycle pension funds, 1954-1960	326,363,579.70 €	5.52%	67,863	4.89%
Asset preservation pension funds	76,983,925.05 €	1.30%	17,154	1.24%
TOTAL	**5,909,608,252.76 €**	**100.00%**	**1,387,923**	**100.00%**

Source: Own elaboration based on Bank of Lithuania data, 2022

There are no strict quantitative limitations on financial instruments. However, the management company has to ensure risk management principles and avoid concentration risk.

Introduction of life-cycle pension funds since 2019 was accompanied by the presentation of asset allocation that follows the age of participants. Almost all pension asset management companies have introduced the same life-cycle investment strategy (see the graph below).

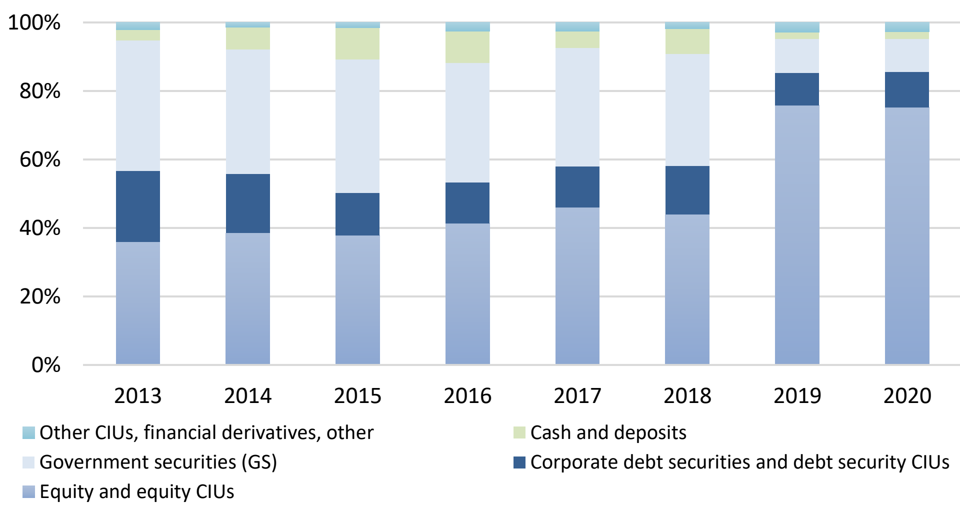
Graph LT5. Life-cycle investment strategy of Pillar II pension funds



Source: Own elaboration based on Bank of Lithuania data, 2022

The portfolio structure (data available since 2013 until 2020) of Pillar II pension funds is presented in the graph below. The reform in 2019 delivered significant increase of equities in pension fund portfolios due to the introduction of "life-cycle" strategies via target-date funds.

Graph LT6. Pillar II Portfolio structure



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2021.

It can be seen that dominant financial instruments in Pillar II pension funds' portfolios are the equity UCITS funds (CIUs) and government bonds. The 2019 reform aimed at balancing the remaining saving horizon with the asset allocation has brought significant rise in equity-based allocations (from 44% to 77% of all assets) and this adjusted portfolio structure should preserve rather large portion of equities in pension fund portfolios.

Pillar III – Voluntary private pensions

The Lithuanian Pillar III allows licensed asset management companies (licensing process similar to typical UCITS funds providers) to offer as many voluntary pension funds as they prefer. At its inception, there were only 5 pension funds offered by 3 providers. Currently (at the end of 2019), there are 5 providers offering 15 voluntary pension funds. The list of Pillar III pension funds is presented below.

Table LT4. List of Pillar III pension Funds

Investment style of the pension plan	Pension Fund Name	Inception day
BOND PENSION FUND	INVL STABILO III 58+ / INVL Stabilus	20.12.2004
	Luminor pensija 1 plius	7.10.2013
	SEB pensija 58+	27.10.2004
MIXED INVESTMENT PENSION FUNDS	Luminor pensija 2 plius	26.10.2004
	INVL Medio III 47+	24.9.2007
	INVL Apdairus	13.5.2013
	Luminor pensija darbuotojui 1 pllius	20.11.2014
	Luminor pensija darbuotojui 2 pllius	20.11.2014
	Swedbank pensijų fondas 30	2.12.2019
	Swedbank pensijų fondas 60	2.12.2019
	SEB pensija 50+	10.4.2020
EQUITY PENSION FUNDS	Luminor pensija 3 plius	1.10.2007
	INVL Drąsus	20.12.2004
	INVL Extremo III 16+	24.9.2007
	SEB pensija 18+	27.10.2004
	Swedbank pensijų fondas 100	2.12.2019

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

The market share according to the AuM and number of participants is presented in the table below.

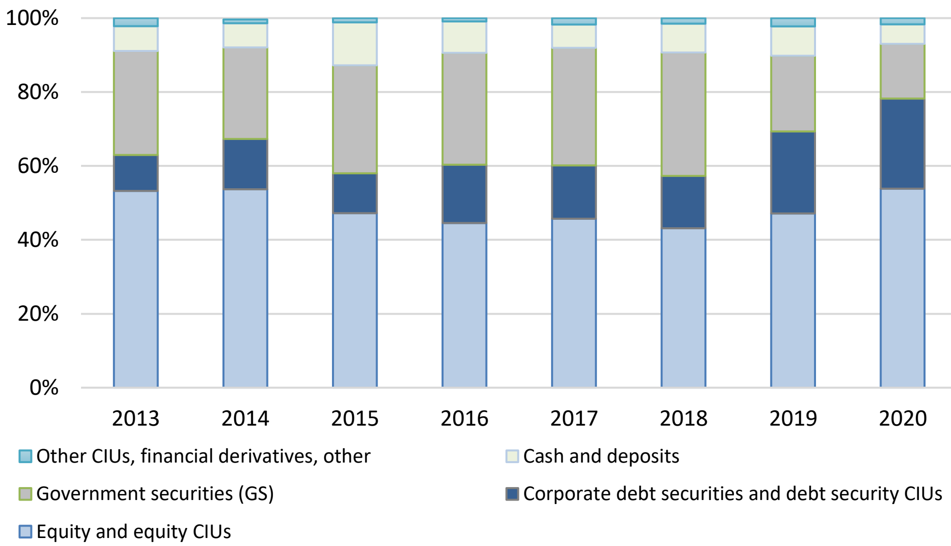
Table LT5. Pillar III Market share based on AuM and Number of participants

Investment strategy	AuM	Market share	Number of Participants	Market share
Bond Pension Fund	35,607,829.00 €	16.17%	10,168	12.84%
Mixed Investment Pension Fund	75,646,628.00 €	34.34%	34,362	45.39%
Equity Pension Fund	109,017,912.00 €	49.49%	34,667	43.77%
TOTAL	**220,272,369.00 €**	**100.00%**	**79,197**	**100.00%**

Source: Own elaboration based on Bank of Lithuania data, 2022

There are no specific quantitative limitations on financial classes or instruments. However, the investment strategy of the pension fund must include the procedure and areas for investment of pension assets, risk assessment methods, risk management principles, risk management procedures and methods used, and the strategic distribution of pension assets according to the duration and origin of the obligations relating to pension accumulation contracts. The management company must review the investment strategy of the pension fund at least every 3 years. Pillar III pension funds´ portfolio structure is presented below (data available since 2013 until 2020). Unfortunately, the Lithuanian national bank does not provide data on Pillar III pension fund portfolio structure since 2021.

Graph LT6. Pillar III Portfolio structure



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2021.

Equities and equity based UCITS account for 47% of the Pillar III pension funds´ portfolios, while the government bonds account for almost 21%. Pillar III pension funds can be therefore characterized as a fund-of-funds.

Charges

Pillar II – Funded pensions

Major reform introduced in 2018 brought significant drop in Pillar II charges. The reform introduced instant cut in fees and gradual decrease from 1% in 2018 to 0.5% in 2020. The next table compares effective charges of Pillar II pension funds in Lithuania in 2019.

Table LT6. Pillar II Pension Funds´ Categories Average Fees and Charges		
Pension Fund Category	Type of fee	Year 2021
Life-cycle pension funds, 1996-2002	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1989-1995	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1982-1988	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1975-1981	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1968-1974	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1961-1967	Total Expense Ratio (TER)	0.50%
Life-cycle pension funds, 1954-1960	Total Expense Ratio (TER)	0.50%
Asset preservation pension funds	Total Expense Ratio (TER)	0.20%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

Considering the asset management fee, it can be seen that pension funds charge the same level of asset management fee (0.5% in 2021) regardless of the investment strategy. The only difference is for the asset preservation funds, where the asset management fee is significantly lower (0.2% in 2021).

Pillar III – Voluntary private pensions

The fee structure of the Pillar III pension funds is more complex. Management companies charge various entry fees, in which case the calculation of the overall impact of fees on accumulated assets is harder to obtain. The table below compares fees of Pillar III pension funds in Lithuania.

Table LT7. Pillar III Pension Funds´ Fees and Charges		
Pension Fund	Type of fee	Year 2021
SEB pensija 58+	Total Expense Ratio (TER)	0.71%
SEB pensija 50+	Total Expense Ratio (TER)	0.90%
SEB pensija 18+	Total Expense Ratio (TER)	0.90%
INVL Drąsus	Total Expense Ratio (TER)	1.67%
INVL Apdairus	Total Expense Ratio (TER)	1.76%
INVL STABILO III 58+	Total Expense Ratio (TER)	1.11%
INVL Medio III 47+ Pension fund	Total Expense Ratio (TER)	0.97%
INVL Extremo III 16+ Pension Fund	Total Expense Ratio (TER)	0.96%
Luminor pensija 1 plius	Total Expense Ratio (TER)	0.74%
Luminor pensija 2 plius	Total Expense Ratio (TER)	1.07%
Luminor pensija 3 plius	Total Expense Ratio (TER)	1.09%
Luminor pensija darbuotojui 1 pllius	Total Expense Ratio (TER)	1.18%
Luminor pensija darbuotojui 2 plius	Total Expense Ratio (TER)	0.97%
Swedbank pensijų fondas 30	Total Expense Ratio (TER)	0.95%
Swedbank pensijų fondas 60	Total Expense Ratio (TER)	0.85%
Swedbank pensijų fondas 100	Total Expense Ratio (TER)	0.82%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

** During the first 12 months after becoming a Participant, a 30% entry fee applies to pension contributions, with the total fee not to exceed € 200 during the period. This fee applies only to new Participants whose agreements took effect after the fee's introduction was announced on the website www.invl.com, and to Participants who have switched from a pension fund managed by another management company. The entry fee does not apply to Participants who have switched from one of the Management Company's other pension funds*

In most cases, additional costs, that are charged on the pension fund´s account and not directly visible to the savers are the audit fees and custodian (depository) fees. On average, they account for 0.25%, and 0.055% respectively.

Comparing the Pillar II and Pillar III pension funds´ fees, it is obvious, that even if the management and investment strategies are very similar, the fee structure and overall level of fees in Pillar III is more than double the fees in Pillar II.

Taxation

Pillar II – Funded pensions

Lithuania applies an "EEE" regime for the taxation of Pillar II pension accounts. Employee contributions are tax-deductible even if they are higher than required (3% + 1.5%). Investment income on the level of the pension fund is tax-exempt. Pension benefits paid out during retirement are tax-exempt from a personal income tax as the old-age income is considered as a part of social system.

Pillar III – Voluntary private pensions

A similar tax regime is applied on the Pillar III savings, but there are some ceilings on contributions and withdrawals.

Regarding the contribution phase, there is a tax-refund policy, which means that the contributions of up to 25% of gross earnings, the income tax (15%) is returned. Therefore, we can conclude that the contribution phase is a “E” regime.

Positive returns on accumulated savings are tax-exempt, so the investment phase is a “E” regime.

Regarding the withdrawal (pay-out) phase, pension benefits paid from Pillar III voluntary funds can be received at any age and are levied with 15% income tax, but become tax-free if a person:

1) holds savings in a pillar III pension fund for at least 5 years and reaches the age of 55 at the time of payment of the benefit (and the pension savings agreement was concluded before 31 December 2012); or
2) holds savings in a pillar III pension fund for at least 5 years and reaches the age which is five years earlier than the threshold for the old-age pension at the time of payment of the benefit (if the pension savings agreement was concluded after 1 January 2013).

Under the optimum set-up, the “EEE” tax regime can be achieved on Pillar III savings.

Pension Returns

Pillar II – Funded pensions

Pension returns of Pillar II pension funds differ according to the life-cycle investment strategy applied. As the major changes in Pillar II do not allow for direct historical comparison of returns, we present the returns for the year 2019 only where the returns of offered life-cycle funds are compared.

Table LT8. Pillar II Pension Funds´ Categories Nominal returns			
Pension Fund Category	Year 2019	Year 2020	Year 2021
Life-cycle pension funds, 1996-2002	22.68%	23.84%	23.84%
Life-cycle pension funds, 1989-1995	22.39%	23.94%	23.94%
Life-cycle pension funds, 1982-1988	22.31%	24.00%	24.00%
Life-cycle pension funds, 1975-1981	22.86%	23.95%	23.95%
Life-cycle pension funds, 1968-1974	21.77%	20.62%	20.62%
Life-cycle pension funds, 1961-1967	14.97%	11.06%	11.06%
Life-cycle pension funds, 1954-1960	7.99%	3.24%	3.24%
Asset preservation pension funds	6.19%	2.71%	2.71%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

When inspecting particular pension funds within each group, only minor changes in performance were observed in 2019 as well as 2020. Nominal as well as real returns of Pillar II pension funds in Lithuania are presented in a summary table below.

Table LT9. Nominal and Real Returns of II. Pillar in Lithuania						
2004	Nominal return after charges, before inflation and taxes	4.71%	5.30%	Real return after charges and inflation and before taxes	1.86%	1.95%
2005		5.49%			2.50%	
2006		4.76%			0.20%	
2007		3.72%			-4.48%	
2008		-9.16%			-17.63%	
2009		8.89%			7.72%	
2010		10.19%			6.57%	
2011		-1.04%			-4.51%	
2012		8.74%			5.83%	
2013		6.24%			5.79%	
2014		6.67%			6.78%	
2015		4.92%			5.17%	
2016		4.25%			2.29%	
2017		4.01%			0.20%	
2018		-3.24%			-5.00%	
2019		17.65%			14.92%	
2020		5.09%			5.19%	
2021		16.67%			5.97%	

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

Another view on the performance is according to the holding period.

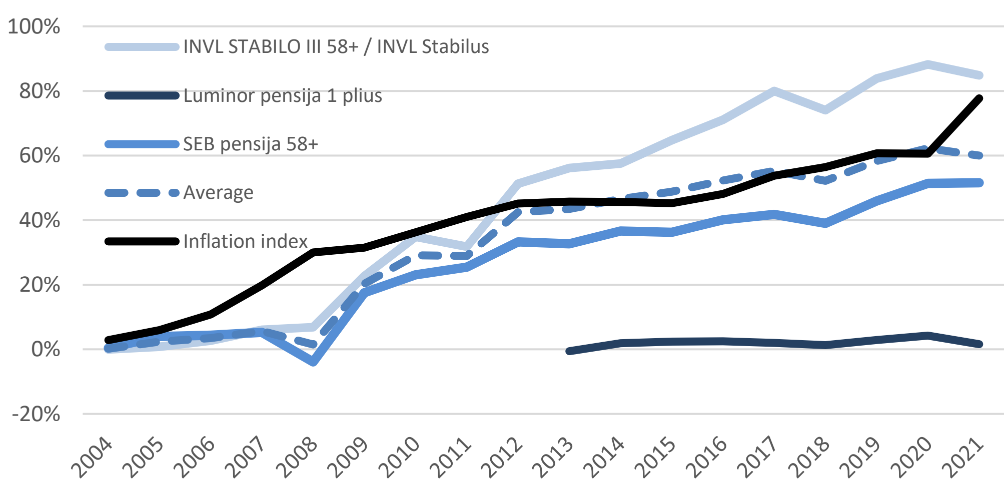
Table LT10. Performance of Pillar II Pension Funds according to the holding period		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	16.67%	5.97%
3-years	12.99%	8.60%
5-years	7.74%	4.05%
7-year	6.83%	3.95%
10-years	6.94%	4.60%
Since inception	5.30%	1.95%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

Pillar III – Voluntary private pensions

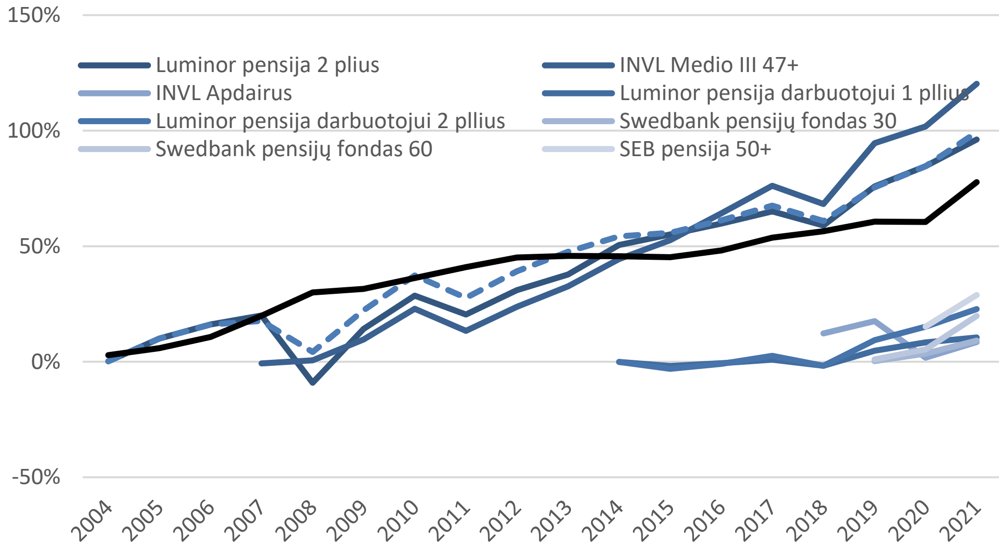
Pillar III pension funds' performance is presented according to their investment strategy, where 3 groups are formed. The graphs below present the pension funds´ performance on a nominal cumulative basis compared to inflation.

Graph LT8. Pillar III Cumulative Nominal Performance of Bond Pension Funds



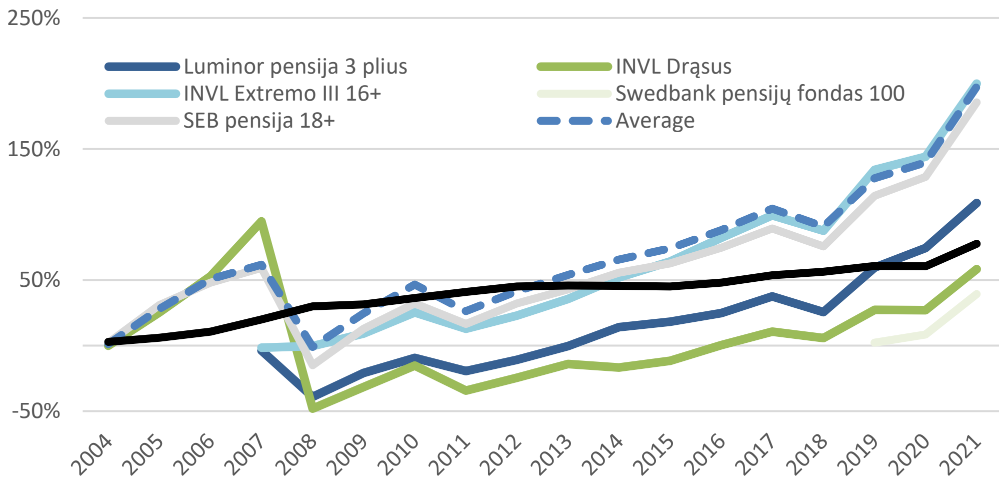
Source: Own elaboration based on Bank of Lithuania data, 2022 (https://www.lb.lt/en/pf-performance-indicators)

Graph LT9. Pillar III Cumulative Nominal Performance of Mixed Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2022 (https://www.lb.lt/en/pf-performance-indicators)

Graph LT10. Pillar III Cumulative Nominal Performance of Equity Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2022 (https://www.lb.lt/en/pf-performance-indicators)

Average annual nominal as well as real returns of Pillar III pension funds since 2011 is presented in the table below.

Table LT11. Nominal and Real Returns of III. Pillar in Lithuania						
2004	Nominal return after charges, before inflation and taxes	0.53%	4.47%	Real return after charges and inflation and before taxes	-2.31%	1.03%
2005		13.52%			10.53%	
2006		8.64%			4.08%	
2007		4.51%			-3.68%	
2008		-23.27%			-31.73%	
2009		21.94%			20.77%	
2010		13.74%			10.12%	
2011		-8.73%			-12.21%	
2012		10.86%			7.95%	
2013		5.88%			5.43%	
2014		5.19%			5.30%	
2015		2.86%			3.11%	
2016		5.09%			3.13%	
2017		5.40%			1.59%	
2018		-4.35%			-6.10%	
2019		11.45%			8.72%	
2020		4.73%			4.83%	
2021		11.24%			0.54%	

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

Again, we present the performance of Pillar III funds according to various holding period.

Table LT12. Performance of Pillar III Pension Funds according to the holding period		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	11.24%	0.54%
3-years	9.10%	4.65%
5-years	5.53%	1.80%
7-year	5.08%	2.17%
10-years	5.74%	3.37%
Since inception	18.18%	14.34%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2022

Conclusions

Considering the wider factors, it is safe to say that the decreasing labour force and the implementation of the automatic balancing mechanism within the PAYG pillar will lead to a lower replacement ratio generated from Pillar I pensions. Therefore, Lithuania can be seen as a strong advocate of private pension savings where the pillars will grow on importance.

Reforms in the area of PAYG scheme supported with the funded pension schemes that have been adopted in 2018 and effective since 2019 are started shifting the preferences of the Lithuanian savers to rely more on their private funded pension schemes.

Performance of the Pillar II as well as Pillar III pension funds can be seen as satisfactory. However, the dominance of Pillar II funds opens the question on the further changes in the Pillar III, which cannot compete to the similar and cheaper peers in Pillar II.

The latest changes in the contributory mechanism, where additional individual contributions towards Pillar II are promoted and tax deductible, puts more pressure on Pillar III fund managers due to the growing crowding-out effect.

Introduction of life-cycle investment style into the Pillar II since 2019 created significant differences between the portfolio structure of pension funds within both pillars, which leads to the conclusion that Pillar III with more conservative approach will need to find its competitiveness against promoted Pillar II funds.

Lithuania has a favourable tax treatment of private pension savings, where in both cases an "EEE" tax regime is applied.

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Acronyms

AIF	Alternative Investment Fund
AMC	Annual Management Charges
AuM	Assets under Management
BE	Belgium
BG	Bulgaria
Bln	Billion
BPETR	'Barclay's Pan-European High Yield Total Return' Index
CAC 40	'Cotation Assistée en Continu 40' Index
CMU	Capital Markets Union
DAX 30	'Deutsche Aktieindex 30' Index
DB	Defined Benefit plan
DC	Defined Contribution plan
DE	Germany
DG	Directorate General of the Commission of the European Union
DK	Denmark
DWP	United Kingdom's Governmental Agency Department for Work and Pensions
EBA	European Banking Authority
EE	Estonia
EEE	Exempt-Exempt-Exempt Regime
EET	Exempt-Exempt-Tax Regime
ETF	Exchange-Traded Fund
EIOPA	European Insurance and Occupational Pensions Authority
ES	Spain
ESAs	European Supervisory Authorities
ESMA	European Securities and Markets Authority
EU	European Union
EURIBOR	Euro InterBank Offered Rate
EX	Executive Summary
FR	France
FSMA	Financial Services and Market Authority (Belgium)
FSUG	Financial Services Users Group - European Commission's Expert Group
FTSE 100	The Financial Times Stock Exchange 100 Index
FW	Foreword
GDP	Gross Domestic Product
HICP	Harmonised Indices of Consumer Prices
IBEX 35	Índice Bursátil Español 35 Index

IKZE	'Indywidualne konto zabezpieczenia emerytalnego' – Polish specific Individual pension savings account
IRA	United States specific Individual Retirement Account
IT	Italy
JPM	J&P Morgan Indices
KIID	Key Investor Information Document
LV	Latvia
NAV	Net Asset Value
Mln	Million
MSCI	Morgan Stanley Capital International Indices
NL	Netherlands
OECD	The Organisation for Economic Co-Operation and Development
OFT	United Kingdom's Office for Fair Trading
PAYG	Pay-As-You-Go Principle
PIP	Italian specific 'Individual Investment Plan'
PL	Poland
PRIIP(s)	Packaged Retail and Insurance-Based Investment Products
RO	Romania
S&P	Standard & Poor Indexes
SE	Sweden
SK	Slovakia
SME	Small and Medium-sized Enterprise
SPIVA Scorecard	Standard & Poor Dow Jones' Indices Research Report on Active Management performances
TEE	Tax-Exempt-Exempt Regime
TCR/TER	Total Cost Ratio/ Total Expense Ratio
UCITS	Undertakings for the Collective Investment of Transferable Securities
UK	United Kingdom

Glossary of terms

Accrued benefits* – is the amount of accumulated pension benefits of a pension plan member on the basis of years of service.

Accumulated assets* – is the total value of assets accumulated in a pension fund.

Active member* – is a pension plan member who is making contributions (and/or on behalf of whom contributions are being made) and is accumulating assets.

AIF(s) – or Alternative Investment Funds are a form of collective investment funds under E.U. law that do not require authorization as a UCITS fund.[289]

Annuity* – is a form of financial contract mostly sold by life insurance companies that guarantees a fixed or variable payment of income benefit (monthly, quarterly, half-yearly, or yearly) for the life of a person(s) (the annuitant) or for a specified period of time. It is different than a life insurance contract which provides income to the beneficiary after the death of the insured. An annuity may be bought through instalments or as a single lump sum. Benefits may start immediately or at a pre-defined time in the future or at a specific age.

Annuity rate* – is the present value of a series of payments of unit value per period payable to an individual that is calculated based on factors such as the mortality of the annuitant and the possible investment returns.

Asset allocation* – is the act of investing the pension fund's assets following its investment strategy.

Asset management* – is the act of investing the pension fund's assets following its investment strategy.

Asset manager* – is(are) the individual(s) or entity(ies) endowed with the responsibility to physically invest the pension fund assets. Asset managers may also set out the investment strategy for a pension fund.

Average earnings scheme* – is a scheme where the pension benefits earned for a year depend on how much the member's earnings were for the given year.

Basic state pension* – is a non-earning related pension paid by the State to individuals with a minimum number of service years.

Basis points (bps) – represent the 100th division of 1%.

Benchmark (financial) – is a referential index for a type of security. Its aim is to show, customized for a level and geographic or sectorial focus, the general price or performance of the market for a financial instrument.

[289] See Article 4(1) of Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010, OJ L 174, 1.7.2011, p. 1–73.

Beneficiary* – is an individual who is entitled to a benefit (including the plan member and dependants).

Benefit* – is a payment made to a pension fund member (or dependants) after retirement.

Bonds – are instruments that recognize a debt. Although they deliver the same utility as bank loans, i.e., enabling the temporary transfer of capital from one person to another, with or without a price (interest) attached, bonds can also be issued by non-financial institutions (States, companies) and by financial non-banking institutions (asset management companies). In essence, bonds are considered more stable (the risk of default is lower) and in theory deliver a lower, but fixed, rate of profit. Nevertheless, Table EX2 of the Executive Summary shows that the aggregated European Bond Index highly overperformed the equity one.

Closed pension funds* – are the funds that support only pension plans that are limited to certain employees. (e.g., those of an employer or group of employers).

Collective investment schemes – are financial products characterised by the pooling of funds (money or asset contributions) of investors and investing the total into different assets (securities) and managed by a common asset manager. Under E.U. law collective investment schemes are regulated under 6 different legal forms: UCITS (see below), the most common for individual investors; AIFs (see above), European Venture Capital funds (EuVECA), European Long-Term Investment Funds (ELTIFs), European Social Entrepreneurship Funds (ESEF) or Money Market Funds.[290]

Contribution* – is a payment made to a pension plan by a plan sponsor or a plan member.

Contribution base* – is the reference salary used to calculate the contribution.

Contribution rate* – is the amount (typically expressed as a percentage of the contribution base) that is needed to be paid into the pension fund.

Contributory pension scheme* – is a pension scheme where both the employer and the members have to pay into the scheme.

Custodian* – is the entity responsible, as a minimum, for holding the pension fund assets and for ensuring their safekeeping.

Deferred member* – is a pension plan member that no longer contributes to or accrues benefits from the plan but has not yet begun to receive retirement benefits from that plan.

Deferred pension* – is a pension arrangement in which a portion of an employee's income is paid out at a date after which that income is actually earned.

Defined benefit (DB) occupational pension plans* – are occupational plans other than defined contributions plans. DB plans generally can be classified into one of three main types, "traditional", "mixed" and "hybrid" plans. These are schemes where "the pension payment is defined as a percentage of income and employment career. The employee receives a thus pre-defined pension and does not bear the risk of longevity and the risk of investment. Defined

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[290] See European Commission, 'Investment Funds' (28 August 2019) https://ec.europa.eu/info/business-economy-euro/growth-and-investment/investment-funds_en.

Benefits schemes may be part of an individual employment contract or collective agreement. Pension contributions are usually paid by the employee and the employer".[291]

"Traditional" DB plan* – is a DB plan where benefits are linked through a formula to the members' wages or salaries, length of employment, or other factors.

"Hybrid" DB plan* – is a DB plan where benefits depend on a rate of return credited to contributions, where this rate of return is either specified in the plan rules, independently of the actual return on any supporting assets (e.g. fixed, indexed to a market benchmark, tied to salary or profit growth, etc.), or is calculated with reference to the actual return of any supporting assets and a minimum return guarantee specified in the plan rules.

"Mixed" DB plan* – is a DB plans that has two separate DB and DC components, but which are treated as part of the same plan.

Defined contribution (DC) occupational pension plans* – are occupational pension plans under which the plan sponsor pays fixed contributions and has no legal or constructive obligation to pay further contributions to an ongoing plan in the event of unfavourable plan experience. These are schemes where "the pension payment depends on the level of defined pension contributions, the career and the returns on investments. The employee has to bear the risk of longevity and the risk of investment. Pension contributions can be paid by the employee and/or the employer and/or the state".[292]

Dependency ratio* – are occupational pension plans under which the plan sponsor pays fixed contributions and has no legal or constructive obligation to pay further contributions to an ongoing plan in the event of unfavourable plan experience.

Early retirement* – is a situation when an individual decides to retire earlier later and draw the pension benefits earlier than their normal retirement age.

Economic dependency ratio* – is the division between the number of inactive (dependent) population and the number of active (independent or contributing) population. It ranges from 0% to 100% and it indicates how much of the inactive population's (dependent) consumption is financed from the active population's (independent) contributions.[293] In general, the inactive (dependent) population is represented by children, retired persons and persons living on social benefits.

EET system* – is a form of taxation of pension plans, whereby contributions are exempt, investment income and capital gains of the pension fund are also exempt, and benefits are taxed from personal income taxation.

[291] Werner Eichhorst, Maarten Gerard, Michael J. Kendzia, Christine Mayrhruber, Connie Nielsen, Gerhard Runstler, Thomas Url, 'Pension Systems in the EU: Contingent Liabilities and Assets in the Public and Private Sector' EP Directorate General for Internal Policies IP/A/ECON/ST/2010-26.
[292] Ibid.
[293] For more detail on the concept, see Elke Loichinger, Bernhard Hammer, Alexia Prskawetz, Michael Freiberger, Joze Sambt, 'Economic Dependency Ratios: Present Situation and Future Scenarios' MS13 Policy Paper on Implications of Population Ageing for Transfer Systems, Working Paper no. 74, 18th December 2014, 3.

Equity (or stocks/shares) – are titles of participation to a publicly listed company's economic activity. With regards to other categorizations, an equity is also a security, a financial asset or, under E.U. law, a transferable security.[294]

ETE system* – is a form of taxation whereby contributions are exempt, investment income and capital gains of the pension fund are taxed, and benefits are also exempt from personal income taxation.

ETF(s) – or Exchange-Traded Funds are investment funds that are sold and bought on the market as an individual security (such as shares, bonds). ETFs are structured financial products, containing a basket of underlying assets, and are increasingly more used due to the very low management fees that they entail.

Fund member* – is an individual who is either an active (working or contributing, and hence actively accumulating assets) or passive (retired, and hence receiving benefits), or deferred (holding deferred benefits) participant in a pension plan.

Funded pension plans* – are occupational or personal pension plans that accumulate dedicated assets to cover the plan's liabilities.

Funding ratio (funding level) * – is the relative value of a scheme's assets and liabilities, usually expressed as a percentage figure.

Gross rate of return* – is the rate of return of an asset or portfolio over a specified time period, prior to discounting any fees of commissions.

Gross/net replacement rate – is the ratio between the pre-retirement gross or net income and the amount of pension received by a person after retirement. The calculation methodology may differ from source to source as the average working life monthly gross or net income can used to calculate it (divided by the amount of pension) or the past 5 year's average gross income etc. (see below **OECD net replacement rate**).

Group pension funds* – are multi-employer pension funds that pool the assets of pension plans established for related employers.

Hedging and hedge funds – while hedging is a complex financial technique (most often using derivatives) to protect or reduce exposure to risky financial positions or to financial risks (for instance, currency hedging means reducing exposure to the volatility of a certain currency), a hedge fund is an investment pool that uses complex and varying investment techniques to generate profit.

Indexation* – is the method with which pension benefits are adjusted to take into account changes in the cost of living (e.g., prices and/or earnings).

Individual pension plans* – is a pension fund that comprises the assets of a single member and his/her beneficiaries, usually in the form of an individual account.

[294] Article 4(44) of Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU, OJ L 173, p. 349–496 (MiFID II).

Industry pension funds* – are funds that pool the assets of pension plans established for unrelated employers who are involved in the same trade or businesses.

Mandatory contribution* – is the level of contribution the member (or an entity on behalf of the member) is required to pay according to scheme rules.

Mandatory occupational plans* – Participation in these plans is mandatory for employers. Employers are obliged by law to participate in a pension plan. Employers must set up (and make contributions to) occupational pension plans which employees will normally be required to join. Where employers are obliged to offer an occupational pension plan, but the employees' membership is on a voluntary basis, these plans are also considered mandatory.

Mandatory personal pension plans* - are personal plans that individuals must join, or which are eligible to receive mandatory pension contributions. Individuals may be required to make pension contributions to a pension plan of their choice normally within a certain range of choices or to a specific pension plan.

Mathematical provisions (insurances) – or *mathematical reserves* or *reserves*, are the value of liquid assets set aside by an insurance company that would be needed to cover all current liabilities (payment obligations), determined using actuarial principles.

Minimum pension* – is the minimum level of pension benefits the plan pays out in all circumstances.

Mixed indexation* – is the method with which pension benefits are adjusted taking into account changes in both wages and prices.

Money market instruments – are short-term financial products or positions (contracts) that are characterized by the very high liquidity rate, such as deposits, short-term loans, repo-agreements and so on.

MTF – multilateral trading facility, is the term used by the revised Markets in Financial Instruments Directive (MiFID II) to designate securities exchanges that are not a regulated market (such as the London Stock Exchange, for example).

Multi-employer pension funds* – are funds that pool the assets of pension plans established by various plan sponsors. There are three types of multi-employer pension funds:

a) for related employers i.e., companies that are financially connected or owned by a single holding group (group pension funds);

b) for unrelated employers who are involved in the same trade or business (industry pension funds);

c) for unrelated employers that may be in different trades or businesses (collective pension funds).

Money-Weighted Returns (MWR) - also referred to as the internal rate of return, is a measurement of performance that takes into account cash flows (contributions) when calculating returns.

NAV – Net Asset Value, or the amount to which the market capitalisation of a financial product (for this report, pension funds' or insurance funds' holdings) or a share/unit of it arises at a given point. In general, the Net Asset Value is calculated per unit or share of a collective investment scheme using the daily closing market prices for each type of security in the portfolio.

Net rate of return* – is the rate of return of an asset or portfolio over a specified time period, after discounting any fees of commissions.

Normal retirement age* – is the age from which the individual is eligible for pension benefits.

Non-contributory pension scheme* – is a pension scheme where the members do not have to pay into scheme.

Occupational pension plans* – access to such plans is linked to an employment or professional relationship between the plan member and the entity that establishes the plan (the plan sponsor). Occupational plans may be established by employers or groups of thereof (e.g., industry associations) and labour or professional associations, jointly or separately. The plan may be administrated directly by the plan sponsor or by an independent entity (a pension fund or a financial institution acting as pension provider). In the latter case, the plan sponsor may still have oversight responsibilities over the operation of the plan.

Eurostat aggregate replacement rate for pensions refers to median individual pension income of population aged 65-74 relative to median individual earnings from work of population aged 50-59, excluding other social benefits.

Old-age dependency ratio - defined as the ratio between the total number of elderly persons when they are generally economically inactive (aged 65 and above) and the number of persons of working age.[295] It is a sub-indicator of the economic dependency ratio and focuses on a country's public (state) pension system's reliance on the economically active population's pensions (or social security) contributions. It is a useful indicator to show whether a public (Pillar I) pension scheme is under pressure (when the ratio is high, or the number of retirees and the number of workers tend to be proportionate) or relaxed (when the ratio is low, or the number of retirees and the number of workers tend to be disproportionate). For example, a low old-age dependency ratio is 20%, meaning that 5 working people contribute for one retiree's pension.

Open pension funds* – are funds that support at least one plan with no restriction on membership.

Pension assets* – are all forms of investment with a value associated to a pension plan.

Pension fund administrator* – is(are) the individual(s) ultimately responsible for the operation and oversight of the pension fud.

Pension fund governance* – is the operation and oversight of a pension fund. The governing body is responsible for administration, but may employ other specialists, such as actuaries,

[295] See Eurostat definition: http://ec.europa.eu/eurostat/web/products-datasets/product?code=tsdde511.

custodians, consultants, asset managers and advisers to carry out specific operational tasks or to advise the plan administration or governing body.

Pension fund managing company* – is a type of administrator in the form of a company whose exclusive activity is the administration of pension funds.

Pension funds* – the pool of assets forming an independent legal entity that are bought with the contributions to a pension plan for the exclusive purpose of financing pension plan benefits. The plan/fund members have a legal or beneficial right or some other contractual claim against the assets of the pension fund. Pension funds take the form of either a special purpose entity with legal personality (such as a trust, foundation, or corporate entity) or a legally separated fund without legal personality managed by a dedicated provider (pension fund management company) or other financial institution on behalf of the plan/fund members.

Pension insurance contracts* – are insurance contracts that specify pension plans contributions to an insurance undertaking in exchange for which the pension plan benefits will be paid when the members reach a specified retirement age or on earlier exit of members from the plan. Most countries limit the integration of pension plans only into pension funds, as the financial vehicle of the pension plan. Other countries also consider the pension insurance contract as the financial vehicle for pension plans.

Pension plan* – is a legally binding contract having an explicit retirement objective (or – in order to satisfy tax-related conditions or contract provisions – the benefits cannot be paid at all or without a significant penalty unless the beneficiary is older than a legally defined retirement age). This contract may be part of a broader employment contract, it may be set forth in the plan rules or documents, or it may be required by law. In addition to having an explicit retirement objective, pension plans may offer additional benefits, such as disability, sickness, and survivors' benefits.

Pension plan sponsor* – is an institution (e.g., company, industry/employment association) that designs, negotiates, and normally helps to administer an occupational pension plan for its employees or members.

Pension regulator* – is a governmental authority with competence over the regulation of pension systems.

Pension supervisor* – is a governmental authority with competence over the supervision of pension systems.

Personal pension plans* - Access to these plans does not have to be linked to an employment relationship. The plans are established and administered directly by a pension fund or a financial institution acting as pension provider without any intervention of employers. Individuals independently purchase and select material aspects of the arrangements. The employer may nonetheless make contributions to personal pension plans. Some personal plans may have restricted membership.

Private pension funds* – is a pension fund that is regulated under private sector law.

Private pension plans* – is a pension plan administered by an institution other than general government. Private pension plans may be administered directly by a private sector employer acting as the plan sponsor, a private pension fund or a private sector provider. Private pension plans may complement or substitute for public pension plans. In some countries, these may include plans for public sector workers.

Public pension plans* – are pensions funds that are regulated under public sector law.

Public pension plans* – are the social security and similar statutory programmes administered by the general government (that is central, state, and local governments, as well as other public sector bodies such as social security institutions). Public pension plans have been traditionally PAYG financed, but some OECD countries have partial funding of public pension liabilities or have replaced these plans by private pension plans.

Rate of return* – is the income earned by holding an asset over a specified period.

REIT(s) or Real Estate Investment Trust(s) is the most common acronym and terminology used to designate special purpose investment vehicles (in short, companies) set up to invest and commercialise immovable goods (real estate) or derived assets. Although the term comes from the U.S. legislation, in the E.U. there are many forms of REITs, depending on the country since the REIT regime is not harmonised at E.U. level.

Replacement ratio* – is the ratio of an individual's (or a given population's) (average) pension in a given time period and the (average) income in a given time period.

Service period* – is the length of time an individual has earned rights to a pension benefit.

Single employer pension funds* – are funds that pool the assets of pension plans established by a single sponsor.

Summary Risk Reward Indicator - a measurement developed by the European Securities and Markets Authority (former CESR) to be included in the Key Investor Information Document (KIID) for UCITS (undertakings for collective investment in transferable securities) to reflect the risk profile of a certain fund.

Supervisory board* – is(are) the individual(s) responsible for monitoring the governing body of a pension entity.

System dependency ratio* – typically defined as the ratio of those receiving pension benefits to those accruing pension rights.

TEE system* – is a form of taxation of pension plans whereby contributions are taxed, investment income and capital gains of the pension fund are exempt, and benefits are also exempt from personal income taxation.

Time-Weighted Returns (TWR) - is the standard method of calculating returns (and performance) of an investment and simply represents the growth/decrease in value without incorporating the distorting effects of cash inflows and outflows (for pensions, that means contributions and

Trust* – is a legal scheme, whereby named people (termed trustees) hold property on behalf of other people (termed beneficiaries).

Trustee* – is a legal scheme, whereby named people (termed trustees) hold property on behalf of other people (termed beneficiaries).

UCITS – or Undertakings for Collective Investment in Transferable Securities, is the legal form under E.U. law for mutual investment funds that are open to pool and invest funds from any individual or institutional investor, and are subject to specific authorisation criteria, investment limits and rules. The advantage of UCITS is the general principle of home-state authorisation and mutual recognition that applies to this kind of financial products, meaning that a UCITS fund established and authorised in one E.U. Member State can be freely distributed in any other Member State without any further formalities (also called *E.U. fund passporting*).

Unfunded pension plans* – are plans that are financed directly from contributions from the plan sponsor or provider and/or the plan participant. Unfunded pension plans are said to be paid on a current disbursement method (also known as the pay as you go, PAYG, method). Unfunded plans may still have associated reserves to cover immediate expenses or smooth contributions within given time periods. Most OECD countries do not allow unfunded private pension plans.

Unprotected pension plan* – is a plan (personal pension plan or occupational defined contribution pension plan) where the pension plan/fund itself or the pension provider does not offer any investment return or benefit guarantees or promises covering the whole plan/fund.

Voluntary contribution – is an extra contribution paid in addition to the mandatory contribution a member can pay to the pension fund in order to increase the future pension benefits.

Voluntary occupational pension plans - The establishment of these plans is voluntary for employers (including those in which there is automatic enrolment as part of an employment contract or where the law requires employees to join plans set up on a voluntary basis by their employers). In some countries, employers can on a voluntary basis establish occupational plans that provide benefits that replace at least partly those of the social security system. These plans are classified as voluntary, even though employers must continue sponsoring these plans in order to be exempted (at least partly) from social security contributions.

Voluntary personal pension plans* – Participation in these plans is voluntary for individuals. By law individuals are not obliged to participate in a pension plan. They are not required to make pension contributions to a pension plan. Voluntary personal plans include those plans that individuals must join if they choose to replace part of their social security benefits with those from personal pension plans.

Wage indexation* – is the method with which pension benefits are adjusted taking into account changes in wages.

Waiting period* – is the length of time an individual must be employed by a particular employer before joining the employer’s pension scheme.

Winding-up* – is the termination of a pension scheme by either providing (deferred) annuities for all members or by moving all its assets and liabilities into another scheme.

World Bank multi-pillar model – is the recommended design, developed by the World Bank in 1994, for States that had pension systems inadequately equipped to (currently and forthcoming) sustain a post-retirement income stream for future pensioners and alleviate the old-age poverty risk. Simpler, it is a set of guidelines for States to either enact, reform or gather legislation regulating the state pension and other forms of retirement provisions in a form that would allow an increased workers' participation, enhance efficiency for pension savings products and a better allocation of resources under the principle of solidarity between generations.

The standard design of a robust pension system would rely on five pillars:

a) the non-contributory scheme (pillar 0), through which persons who do not have an income or do not earn enough would have insured a minimum pension when reaching the standard retirement age;

b) the public mandatory, Pay-As-You-Go (PAYG) scheme (**Pillar I**), gathering and redistributing pension contributions from the working population to the retirees, while accumulating pension rights (entitlements) for the future retirees;

c) the mandatory funded and (recommended) privately managed scheme (**Pillar II**), where workers' contributions are directed to their own accumulation accounts in privately managed investment products;

d) the voluntary privately managed retirement products (**Pillar III**), composed of pension savings products to which subscription is universal, contributions and investments are deregulated and tax-incentivised;

e) the non-financial alternative aid scheme (pillar IV), through which the state can offer different forms of retirement support – such as housing or family support. Albeit the abovementioned, the report focuses on the "*main pillars*", i.e., Pillar I, II and III, since they are the most significant (and present everywhere) in the countries that have adopted the multi-pillar model.

Definitions with "*" are taken from OECD's Pensions Glossary - http://www.oecd.org/daf/fin/private-pensions/38356329.pdf.

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