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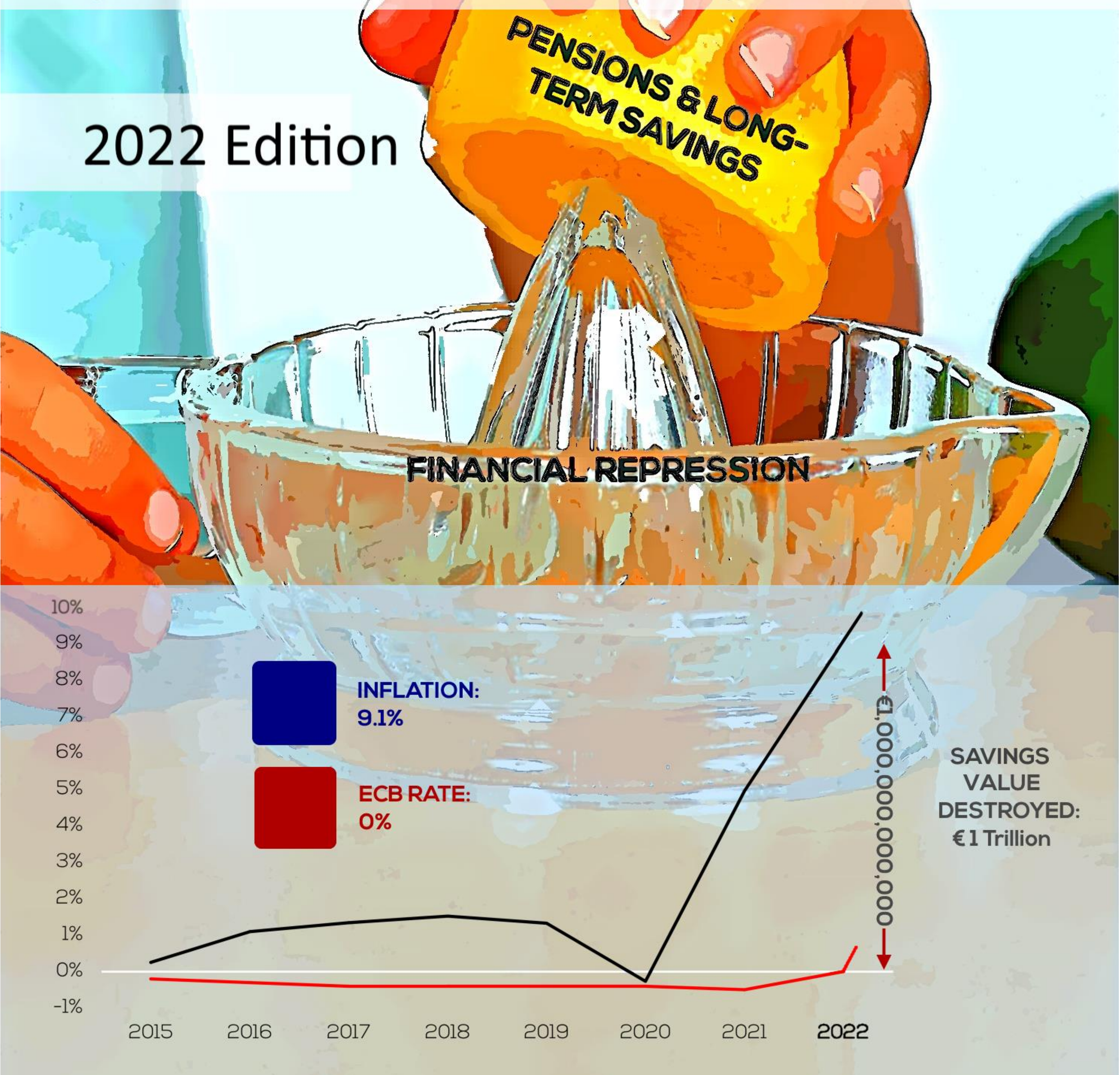
Long-Term & Pension Savings | The Real Return

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%

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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.

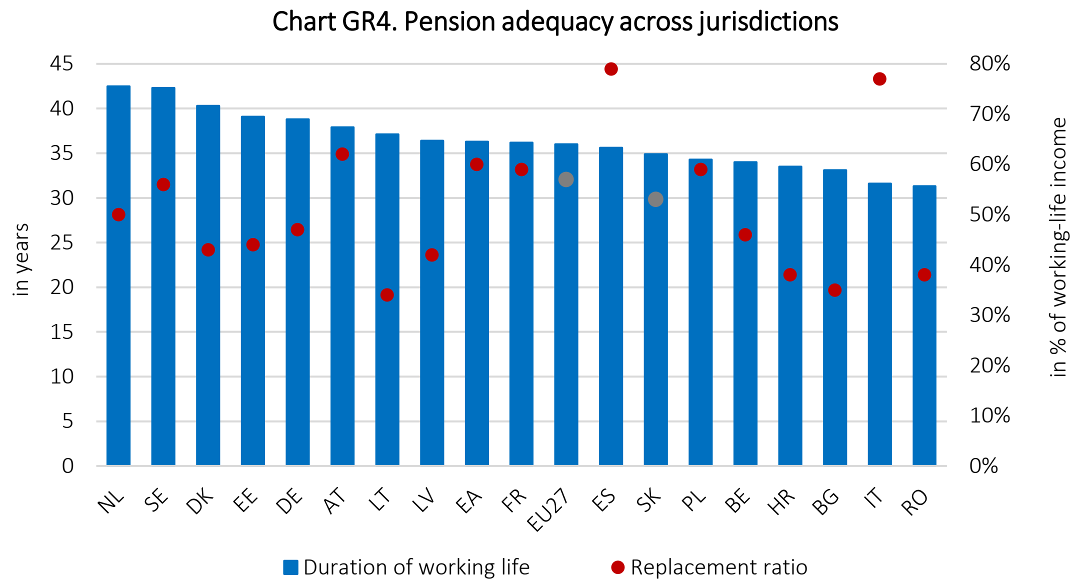
Currently, the aggregate replacement rate (mostly State pension) is very low across the countries in scope of our report: fourteen out of seventeen jurisdictions provide a replacement rate lower than 60% for over more than 30 years of working life.

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%.

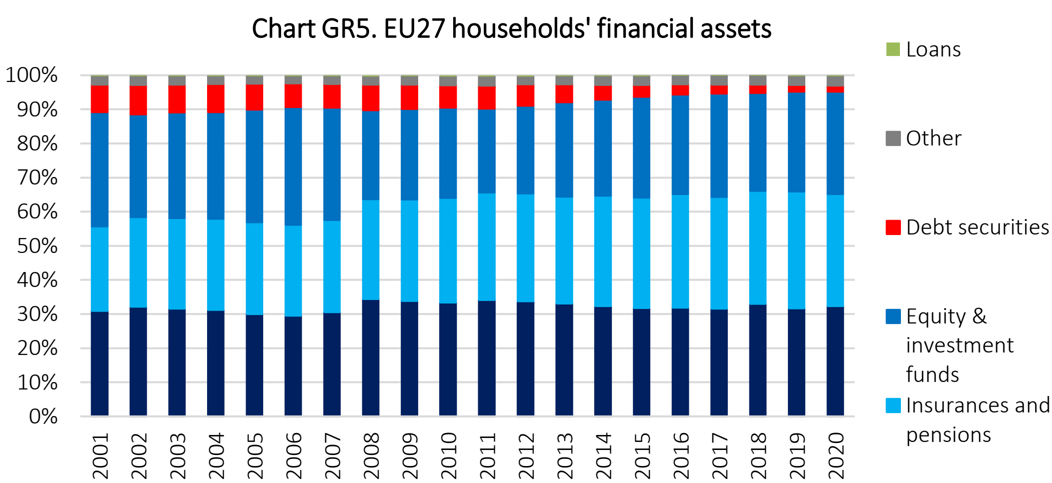
[20] Art. 67, Schedule to Part XI, of the European Code of Social Security, available at: https://rm.coe.int/168006b65e.

[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.

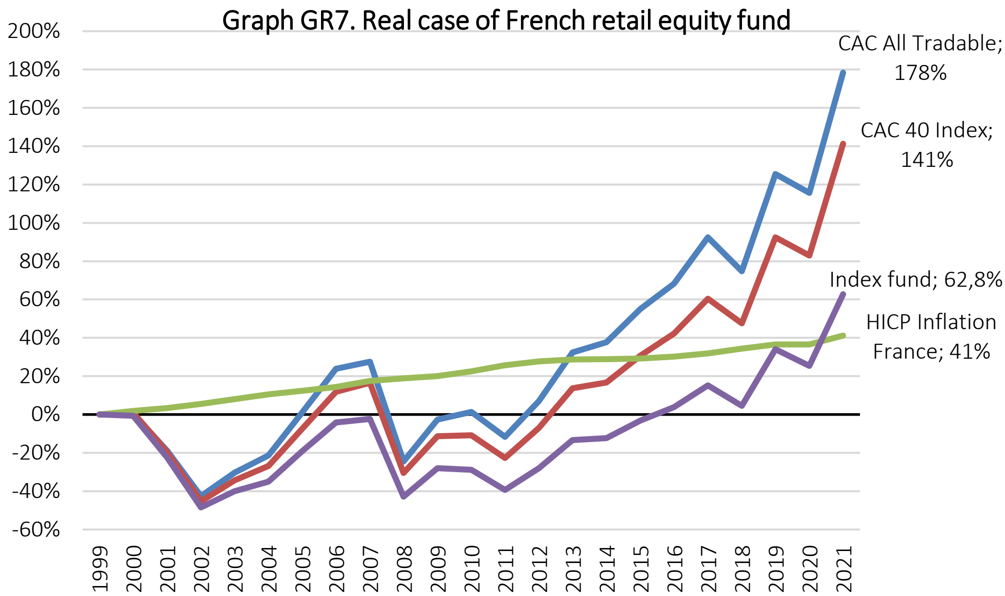
Table GR3 and Graph GR4 below show two striking – but unfortunately not uncommon – real examples of this largely ignored reality: capital market performance is not a valid proxy for retail investment performance and the main reasons for this are the fees and commissions charged directly or indirectly 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.



Source: 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).

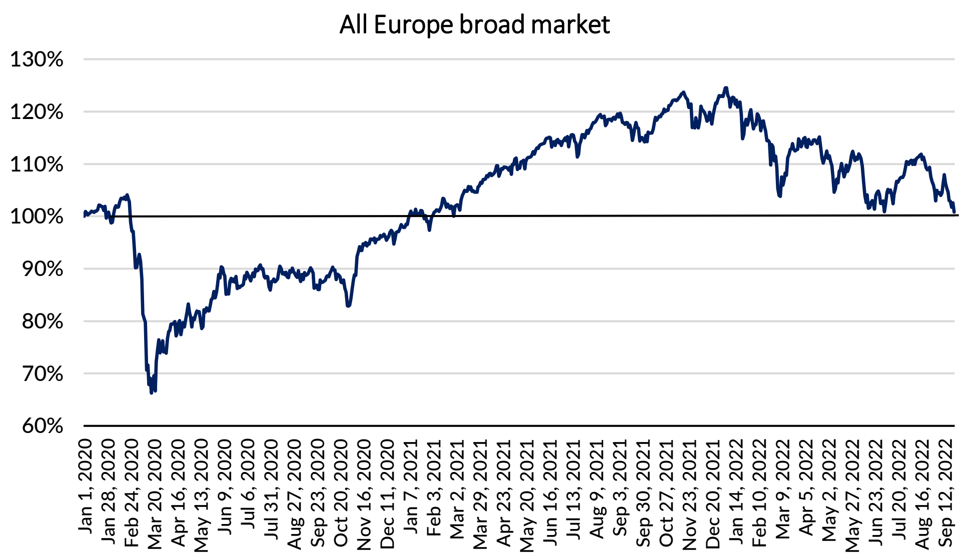
At the time of writing, the overall mid-term outlook for the adequacy of European pension savings is worrying when one analyses it for each of these main return drivers:

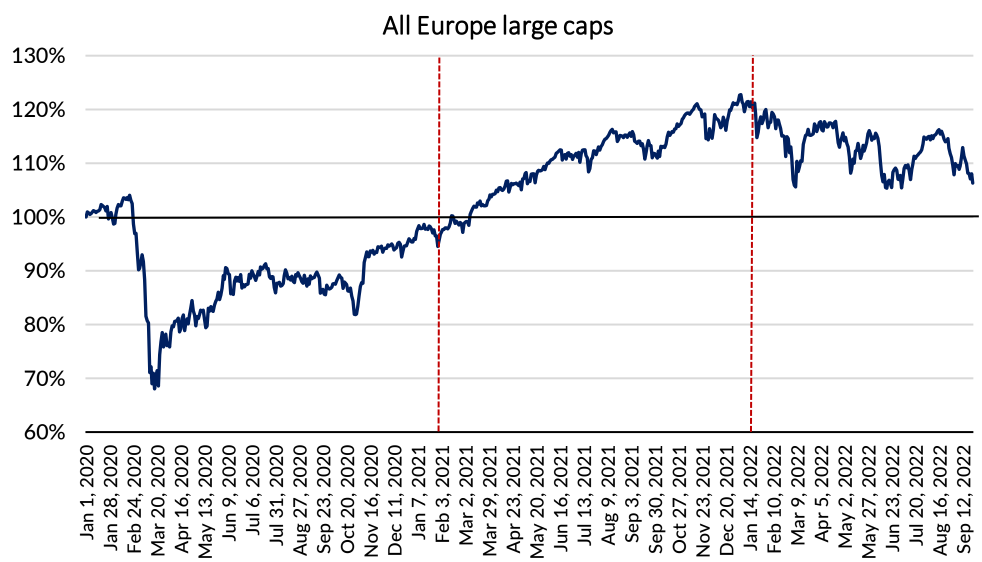
a) it is unlikely that the European bond markets will come any closer to the extraordinary returns of the period ended in 2020 for bonds due to the continuous

[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;

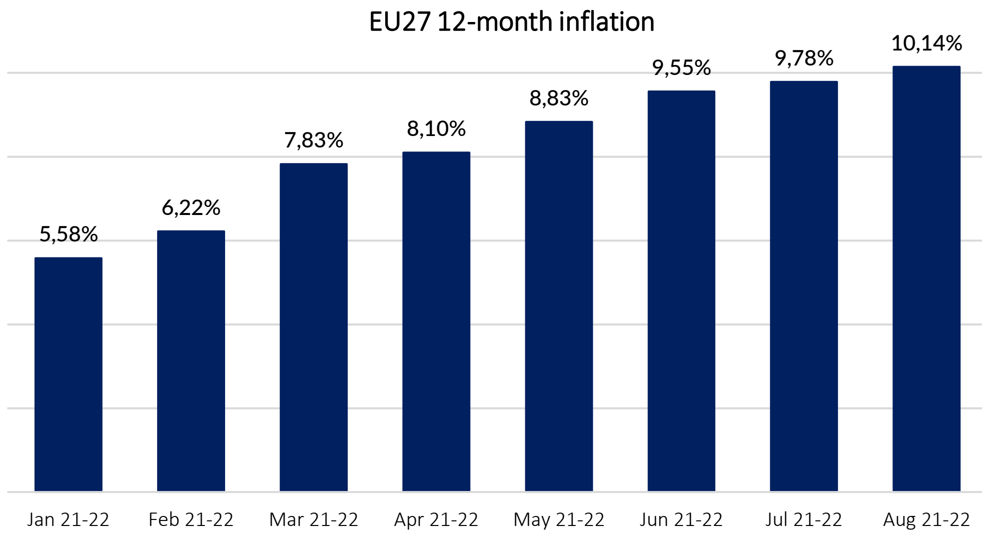


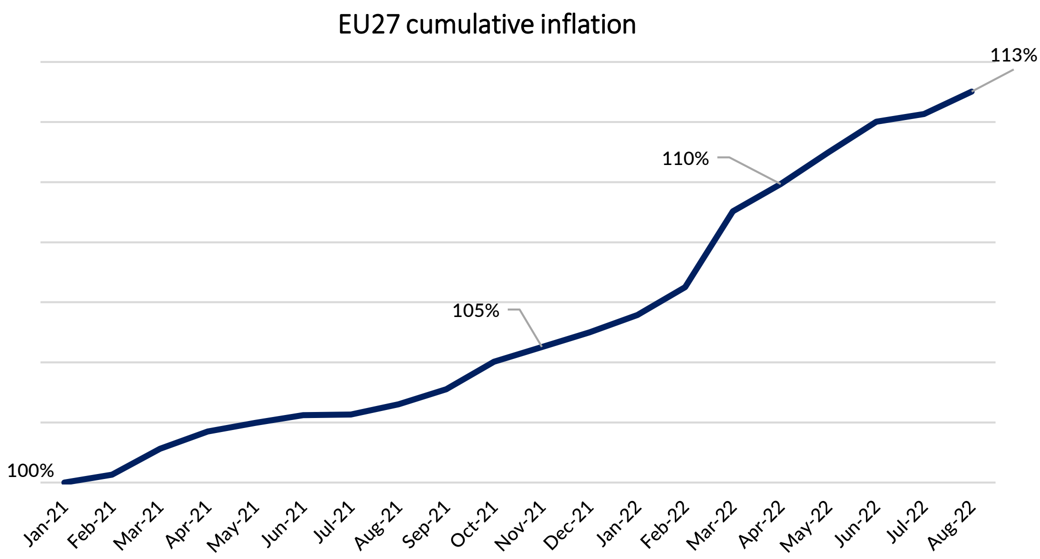


Source: Own composition based on MSCI data

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: Poland

Streszczenie

Dodatkowy system emerytalny w Polsce, który został wprowadzony w 1999 roku, a następnie był kilkukrotnie reformowany (główne zmiany w 2004, 2012 oraz 2018 roku), składa się aktualnie z czterech elementów:

- pracowniczych programów emerytalnych (PPE),
- indywidualnych kont emerytalnych (IKE),
- indywidualnych kont zabezpieczenia emerytalnego (IKZE) oraz
- pracowniczych planów kapitałowych (PPK funkcjonujących od 1 lipca 2019 r.).

Poziom uczestnictwa w wymienionych grupowych i indywidualnych planach oszczędzania na starość (odpowiednio 3,82%, 4,75%, 2,76% i 15,18%) wskazuje, że bardzo nieliczna część Polaków zdecydowała się na oszczędzanie w oferowanych zinstytucjonalizowanych formach gromadzenia kapitału na starość.

PPE mogą być prowadzone w czterech formach: umowy z funduszem inwestycyjnym; umowy z zakładem ubezpieczeń na życie (grupowe ubezpieczenie na życie z ubezpieczeniowym funduszem kapitałowym); pracowniczego funduszu emerytalnego (PFE) lub zarzadzania zewnętrznego. Na koniec 2021 roku w PPE zgromadzono 18,929 mld zł (4,12 mld €).

PPK mogą być oferowane w formie funduszu inwestycyjnego, funduszu emerytalnego i ubezpieczeniowego funduszu kapitałowego (UFK). Ta forma dodatkowych planów emerytalnych została dopiero wprowadzona, tj. funkcjonuje od 1 lipca 2019 r. Aktywa PPK miały wartość 7,67 mld zł (1,67 mld €) na koniec 2021 roku.

IKE i IKZE mogą być oferowane w formie: ubezpieczenia na życie z ubezpieczeniowym funduszem kapitałowym; funduszu inwestycyjnego; rachunku papierów wartościowych w domu maklerskim; rachunku bankowego lub dobrowolnego funduszu emerytalnego (DFE). Aktywa zgromadzone na IKE i IKZE na koniec 2021 roku wyniosły odpowiednio 13,47 mld zł (2,9 mld €) oraz 5,98 mld zł (1,3 mld €).

Pracownicze programy emerytalne (PPE), pracownicze plany kapitałowe (PPK) i indywidualne konta emerytalne (IKE) funkcjonują w reżimie podatkowym TEE (podatek pobierany jest na

etapie opłacania składki), podczas gdy w IKZE podatek pobierany jest na etapie wypłaty środków (reżim EET).

W analizowanym okresie (2002-2021) pracownicze fundusze emerytalne (PFE) wypracowały dość wysokie stopy zwrotu sięgające 17,41% w skali roku. Straty pojawiły się jednak w latach 2008, 2011, 2015 i 2018 w czasie załamania na rynkach finansowych. Realne stopy zwrotu uwzględniające opłaty osiągnięte w 15 z 20 lat są pozytywne. Średnia realna stopa zwrotu za cały analizowany okres wyniosła 3,37%.

Dobrowolne fundusze emerytalne (DFE) osiągnęły natomiast nadzwyczajne wyniki inwestycyjne w początkowym okresie funkcjonowania, głównie z uwagi na hossę na rynku akcji w pierwszym roku ich działalności. W 2013 roku najlepsze DFE wygenerowały nominalny zysk przekraczający 50%. Wyniki te nie zostały jednak powtórzone w kolejnych latach. W 2014 roku część DFE wykazała straty, które jednak zostały pokryte przez zyski w kolejnych latach. Średnia realna stopa zwrotu z uwzględnieniem opłat za lata 2013-2021 wyniosła 3.72%.

Summary

Starting in 1999, with significant changes introduced in 2004, 2012 and 2018, the Polish supplementary pension market consists of four different elements:

- employee (occupational) pension programmes (*pracownicze programy emerytalne*, PPE),
- individual retirement accounts (*indywidualne konta emerytalne*, IKE);
- individual retirement savings accounts (*indywidualne konta zabezpieczenia emerytalnego*, IKZE) and
- employee capital plans (*pracownicze plany kapitałowe*, PPK).

The coverage ratios (3.82%, 4.75%, 2.76% and 15.18% respectively), show that only a small part of Poles decided to secure their future in old age by joining the occupational pension plan or purchasing individual pension products.

PPE can be offered in four forms: a contract with an asset management company (investment fund); a contract with a life insurance company (group unit-linked life insurance); an employee pension fund run by the employer (*pracowniczy fundusz emerytalny*, PFE) or external management. PPE assets amounted to PLN 18.929 bln (€4.12 bln) at the end of 2021.

PPK can operate as investment funds, pension funds or a unit-linked life insurance. These plans have just started to collect money (introduced in July 2019). PPK assets amounted to PLN 7.67 bln (€1.67 bln) at the end of 2021.

IKE and IKZE can operate in the form of either: a unit-linked life insurance contract; an investment fund; an account in a brokerage house; a bank account (savings account) or a voluntary pension fund (*dobrowolny fundusz emerytalny*, DFE). The total amount of IKE assets amounted to PLN 13.47 bln (€2.9 bln) and IKZE assets amounted to PLN 5.98 bln (€1.3 bln) at the end of 2021.

PPE, PPK and IKE operate in TEE tax regime while IKZE is run in EET one.

During the period of 2002-2021 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative results appeared only in the years 2008, 2011, 2015 and 2018 when equity markets dropped significantly. Positive after-charges real returns were observed in 15 of 20 years and the average return over the 20-year period is highly positive as well (3.37%).

Voluntary pensions funds (DFE) have obtained extraordinary investment results from their start in 2012. The first years of their operation coincided with the Polish financial market recovery and allowed funds to maximise rates of return from the equity portfolios. The best DFEs reported more than 50% nominal return in 2013. But such returns were impossible to achieve in next years. In 2014, some of DFE even experienced slightly negative returns that were covered by returns in the following years. The average real rate of return after charges in years 2013-2021 amounted to 3.72%.

Introduction

The old-age pension system in Poland was introduced in 1999 as a multi-tier structure consisting with three main elements:

- Pillar I - a mandatory, Pay-as-You-Go (PAYG) system;
- Pillar II - a mandatory PAYG system with a partial opt-out for funded pension funds; and
- Pillar III - voluntary, occupational and individual pension plans.

Table PL 1. Multi-pillar pension system in Poland		
Pillar I	Pillar II	Pillar III
Mandatory	Mandatory[1]	Voluntary
PAYG	PAYG/Funded (opt-out)	Funded
NDC	NDC/DC (opt-out)	DC
Basic benefit	Basic benefit	Complementary benefit
Publicly managed:	Publicly/Privately managed:	Privately managed:
Social Insurance Institution (ZUS)	Social Insurance Institution (ZUS); in opt-out element: Open Pension Funds	Pension savings managed by different financial institutions, depending on the product form, organised by employer or individual

Source: own work

	Employee pension funds			Voluntary pension funds		
Holding Period	Gross returns	Net Nominal Returns	Real Net Returns	Gross returns	Net Nominal Returns	Real Net Returns
1-year	-	4.26%	3.55%	12.14%	8.69%	0.63%
3-years	-	5.34%	0.93%	8.74%	5.48%	0.66%
5-years	-	4.55%	2.37%	4.80%	1.87%	-1.45%
7-year	-	3.39%	2.03%	5.14%	2.31%	0.10%
10-years	-	4.57%	2.02%	-	-	-
Since inception	-	5.80%	3.37%	8.36%	5.48%	3.72%

The first part of the system is contributory and is based on a Non-financial Defined Contribution (NDC) formula. The total pension contribution rate amounts to 19.52% of gross wage (Pillar I + Pillar II) and the premium is financed equally by employer and employee. Out of the total pension contribution rate, 12.22 p.p. are transferred to Pillar I (underwritten on individual accounts of the insured), and 7.3 p.p. to Pillar II. If a person has not opted out for open pension funds (OFE), the total of 7.3 p.p. is recorded on a sub-account administered by the Social Insurance Institution (NDC system). If he/she has opted out for the funded element (open pension funds, OFE), 4.38 p.p. are recorded on a sub-account and 2.92 p.p. are allocated to an account in a chosen open pension fund.[210]

Pillar I is managed by the Social Insurance Institution (ZUS), which records quotas of contributions paid for every member on individual insurance accounts. The accounts are indexed every year by the rate of inflation and by the real growth of the social insurance contribution base. The balance of the account (pension rights) is switched into pension benefits when an insured person retires.

[210] Two years after the change in 2014 that made OFE's voluntary the insured could again decide about opt-out. After 2016 "the transfer window" is open every four years.

Pillar II of the Polish pension system consists of sub-accounts also administered by the Social Insurance Institution (NDC) and possible partial opt-out for open pension funds (*otwarte fundusze emerytalne*, OFE; funded system). Polish OFEs are just a mechanism of temporary investing public pension system resources in financial markets (financial vehicles for the accumulation phase). An insured person who enters the labour market has the right to choose whether to join an OFE or whether to remain solely in the PAYG system. When the insured chooses to contribute to the OFE, 2.92% of his/her gross salary will be invested on financial markets. If no such decision is taken, his/her total old-age pension contribution will automatically be transferred to Social Insurance Institution (ZUS). This default option resulted in a huge decrease in OFEs´ active participation in the year 2014.

The pension law establishes the contribution level and guarantees minimum pension benefits that are paid together from the whole basic system (pillar I + II) by the public institution (ZUS). The statutory retirement age is 60 for women and 65 for men.[211] Prior to retirement the member's assets gathered in OFE (if one opted out for funded element) are transferred to a sub-account administered by ZUS.[212] Pension benefits from the basic system are calculated in accordance with a Defined Contribution (DC) rule and are paid in a form of an annuity by Social Insurance Institution (ZUS).

The old-age pension from the basic system (Pillar I+II) depends solely on two components: 1) the insured person's total pension entitlements accumulated during his/her entire career (balance of an NDC account and a sub-account), and 2) the average life expectancy upon retirement. The gross replacement rate at retirement from the public pension system in Poland is 54.1% (projections for 2019 for an average earner).[213]

Pillar III supplements the basic, mandatory pension system and represents voluntary, additional pension savings. It consists of four different vehicles:

- employee (occupational) pension programmes (*pracownicze programy emerytalne*, PPE);
- individual retirement accounts (*indywidualne konta emerytalne*, IKE);
- individual retirement savings accounts (*indywidualne konta zabezpieczenia emerytalnego*, IKZE),
- employee capital plans (*pracownicze plany kapitałowe*, PPK).

[211] It started to increase in 2013 and was planned to reach 67 for both men and women (in 2020 for men and in 2040 for women) but this reform was cancelled three years later. Hence, since October 2017 the statutory retirement age in Poland is again 60 for women and 65 for men. It may result in a situation where the significant proportion of women will get a minimum pension when retiring at the age of 60.

[212] Money gathered on individual accounts in OFE is systematically transferred to the Social Insurance Institution (ZUS) during 10 years prior to retirement (before reaching the statutory retirement age).

[213] European Commission, *The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070)*, Luxembourg2021, p. 86, https://ec.europa.eu/info/sites/default/files/economy-finance/ip148_en.pdf.

Employee pension programmes (*pracownicze programy emerytalne*, PPE) are plans organised by employers for their employees. PPE settlement happens after an employer agrees with the representatives of the employees on the plan's operational conditions, signs the contract on asset management with a financial institution (or decides to manage assets himself) and registers a programme with the Financial Supervisory Commission (Komisja Nadzoru Finansowego, KNF). The basic contribution (up to 7% of an employee's salary) is financed by the employer but an employee must pay personal income tax on this. Participants to the programme can pay in additional contributions deducted from their net (after-tax) salaries. There is a yearly quota limit for additional contribution amounting to 4.5 times the average wage (PLN 26,649 - €5,797.17[214] - in 2022). PPE's returns are exempt from capital gains tax. Benefits are not taxable and can be paid as a lump sum or as a programmed withdrawal after the saver reaches 60 years. PPEs cover 641.4 thousand employees which represents only 3.82%[215] of the working population in Poland.

Employee capital plans (*pracownicze plany kapitałowe*, PPK) are also organised by employers but they use auto-enrolment and matching defined contribution mechanisms. They started to operate in 2019 and their full implementation was staggered in accordance with the given below dates and depending on the company size:

- since 1 July 2019 – companies employing at least 250 people;
- since 1 January 2020 – companies with at least 50 employees,
- since 1 July 2020 – companies having at least 20 employees,
- since 1 January 2021 – remaining companies, including the entities financed from state budget.

The employee contribution amounts to 2-4% of the gross salary. The minimum matching contribution financed by employer is 1.5% of the gross salary but can be higher on a voluntary basis (up to 4%). People earning 120% or less of the average income can save less, namely minimum 0.5% of the gross salary. In order to encourage individuals to save in PPK, the state budget offers the PLN 250 kick-start payment (€ 54.38) and a regular annual state subsidy amounting to PLN 240 (€52.21). The employee and employer contributions are taxed while the state subsidies remain exempt from taxation both at accumulation and decumulation stage. PPK's returns are exempt from capital gains tax. Benefits can be paid as a lump sum (max. 25% of the accumulated capital) and programmed withdrawal when a saver reaches 60 years. Savings can be partially withdrawn (25% of the capital) in the case of the serious disease of the saver, his/her spouse or a child. The accumulated money can be also borrowed from the account (100% of the capital) to finance an individual commitment when taking a

[214] For the conversion of PLN to euros, the report uses the "Euro foreign exchange reference rates" provided by the European Central Bank (the exchange rate used for the data is the one of 31st December 2021: 1 EUR = PLN 4.5969), https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofxref-graph-pln.en.html

215 The coverage was calculated according to Statistics Poland (GUS) data on the number of employed Poles at the end of 2021 (GUS 2022).

mortgage. PPKs covered 2.55 mln employees at the end of 2021, which represents ca. 15.18% of the working population.

Individual retirement accounts (*indywidualne konta emerytalne*, IKE) were introduced in 2004, offering people the possibility to save individually for retirement. They are offered by various financial institutions such as asset management companies, life insurers, brokerage houses, banks and pension societies. An individual can only gather money on one retirement account at the time but is free to change the form and the institution during the accumulation phase. Contributions are paid from the net salary with a ceiling of 3 times the average wage (PLN 17,766 - €3,864.78 - in 2022). Returns are exempt from capital gains tax and the benefits are not subject to taxation. When a saver reaches 60 years of age (or 55 years, if he/she is entitled by law to retire early), money is paid in a form of a lump sum or a programmed withdrawal. At the end of 2021 only 796.5 thousand Polish citizens had an individual retirement account (IKE) which represents 4.75% of the working population.

Individual retirement savings accounts (*indywidualne konta zabezpieczenia emerytalnego*, IKZE) started to operate in 2012 and are offered in the same forms as individual retirement accounts (IKE) but have other contribution ceilings and offer a different form of tax relief. Premiums paid to the account can be deducted from the personal income tax base. Contributions and returns are exempt from taxation, but the benefits are subject to taxation at a reduced rate. Savings accumulated in IKZE are paid to the individual as a lump sum or as a programmed withdrawal after the saver reaches the age of 65. The limit for IKZE contributions is 120% of the average wage (PLN 7,106.40 [216]- €1,545.91 in 2022). Only about 2.76% of the Polish working population (2021) is covered by this type of supplementary old-age provision.

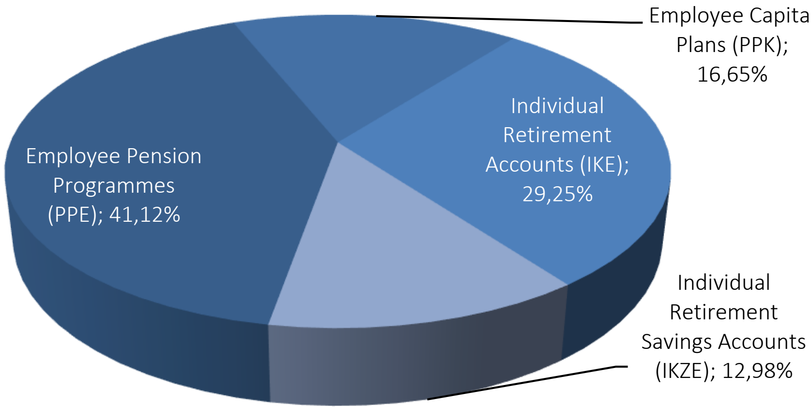
[216] Since 2021 there is also a special limit of contributions for self-employed that amounts to 180% of the average wage (PLN 10,659.60 - € 2318.87 in 2022).

Table PL 2. Architecture of voluntary pension system in Poland (pillar III) at the end of 2021

Name of the pension system element	Employee Pension Programmes (PPE)	Employee capital plans (PPK)*	Individual Retirement Accounts (IKE)	Individual Retirement Savings Accounts (IKZE)
Types of pension vehicles	· Unit-linked life insurance · Investment fund · Employee pension fund	· Unit-linked life insurance · Investment fund · Pension fund	· Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund	· Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund
Assets under management in PLN bln	18.93	7.67	13.47	5.98
(€ bln)	€ 4.12	€ 1.67	€ 2.93	€ 1.30

* This vehicle started to operate in 2019.
Source: own work based on (UKNF 2022b).

Chart PL1. Market share of Polish voluntary pension system elements by assets under management as of 31 December 2020



Source: own work based on (UKNF 2022b).

The efficiency of the supplementary old-age pension system in Poland is rather satisfactory when considering the operation of voluntary pension funds (DFE) and employee pension funds (PFE, a form of PPE). Since inception they offered a positive nominal annual rate of return amounting to 7.89% and 5.88% respectively.

Pension Vehicles

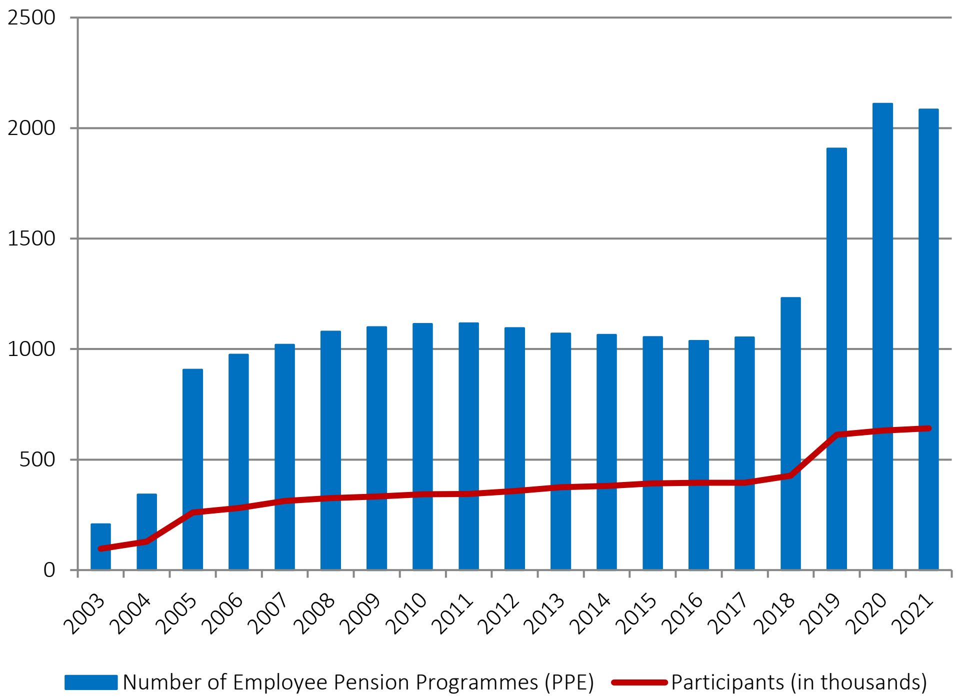
Employee pension programmes

PPEs can be offered in four forms:

- as a contract with an asset management company (an investment fund);
- as a contract with a life insurance company (a group unit-linked insurance);
- as an employee pension fund run by the employer; or
- through external management.

Employee pension programmes started to operate in 1999. The development of the market was very weak during the first five years of operation. Thereafter, due to changes in PPE law, many group life insurance contracts were transformed into PPEs at the end of 2004 and in 2005. In 2021, the number of programmes reached 2,038 (see Graph PL1 below), mainly due to significant increase in 2019 and 2020 being the direct response to the new law that allowed employers to be exempt from the obligation to create PPK when they offer PPE.

Graph PL1. Number of Employee Pension Programmes and the number of PPE participants in 1999-2021



Source: own work based on UKNF (2022b).

The most popular forms of PPE are investment funds that represent 72.7% of PPEs (see table below) and manage71% of total PPEs' assets. Their share is even higher when taking into consideration the number of participants (81.4%).

Table PL 3. Number and assets of Employee Pension Programmes (PPE) by form of the programme in 2021						
	Number of PPE	Market share (as % of PPE number)	Number of participants (thousand)	Market share (as % of participants)	Assets (PLN million)	Market share (as % of PPE assets)
Unit-linked life insurance	542	26.0%	89.1	13.9%	3,363.9	17.8%
Investment fund	1514	72.7%	521.8	81.4%	13,443.9	71.0%
Employee Pension Fund	27	1.3%	30.5	4.8%	2,121.5	11.2%
Total	2,083		641.4		18,929.3	

Source: own work based on (UKNF 2022b).

PPE assets amounted to PLN 18.93 bln (€4.12 bln) and the average account balance equalled PLN 29,512 (€ 6,420) at the end of 2021. No data is available on the average percentage level of contributions paid to the programmes. The highest balance was observed in employee pension funds while the lowest in investment funds.

Employee capital plans (PPK)

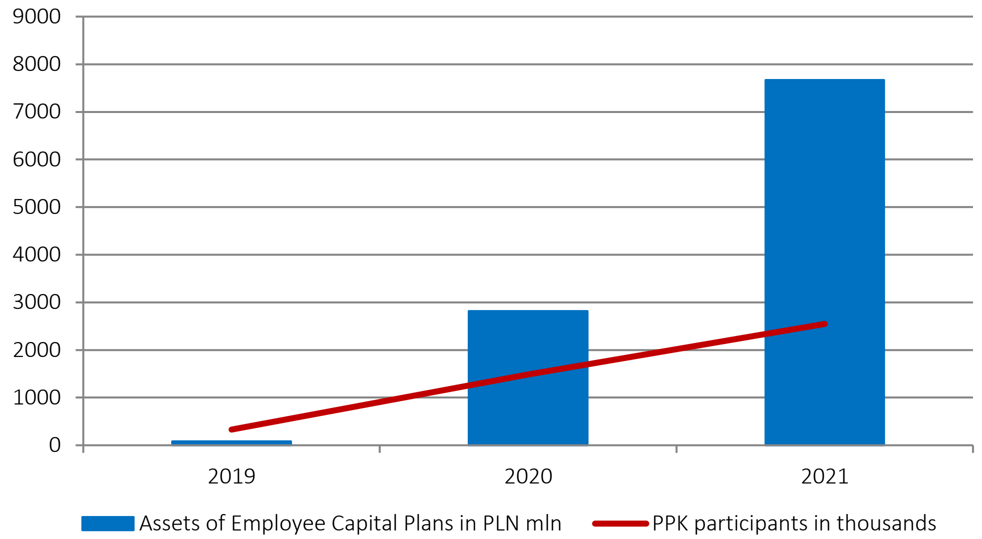
Employee capital plans (*pracownicze plany kapitałowe*, PPK) can be offered by life insurance companies, investment companies (asset management companies, *towarzystwa funduszy inwestycyjnych*, TFIs), general pension societies (*powszechne towarzystwa emerytalne*, PTEs) and Employee Pension Societies (*pracownicze towarzystwa emerytalne*, PrTEs) in a form of target-date funds (TDF, life cycle funds). All employees ages 18-55 are automatically enrolled in a plan but can opt out by signing a declaration.

A plan member should be assigned, and his/her contributions should be allocated to the fund with a date that is the nearest to the date when he/she reaches 60. Every provider has to offer many TDFs with target dates every 5 years. The limits of portfolio structure depend on a target date and are as follows:

- the target date is since setting up till 20 years prior the age of 60: 60-80% shares and 20-40% bonds,
- 10-20 years prior the age of 60: 40-70% shares and 30-60% bonds,
- 5-10 years before 60: 25-50% shares and 50-75% bonds,
- 0-5 years before reaching 60: 10-30% shares, 70-90% bonds,
- since reaching 60: 0-15% shares and 85-100% bonds.

At the end of 2021 there were 19 financial institutions (16 asset management companies, 2 general pension societies and 1 insurance company) offering PPK funds on the market. At the end of 2021 2.55 mln participants gathered PLN 7.67 bln (€1.67 bln) in PPK.

Graph PL2. Assets of Employee Capital Plans and number of PPK participants in 2019-2021



Source: own work based on: UKNF 2021e & 2022a.

Table PL 4. Employee Capital Plans (PPK) in 2021				
	Number of participants (thousands)	Market share (as % of participants)	Assets (PLN million)	Market share (as % of assets)
Life insurers	44.2	1.7%	82.8	1.1%
Asset management companies	2144.8	84.2%	6,526.4	85.1%
General Pension Societies	359.0	14.1%	1,056.7	13.8%
Total	2548.0		7665.9	

Source: UKNF 2022b.

Individual Retirement Accounts (IKE)

According to the Polish pensions law (the Individual Pension Accounts Act of 20 April 2004), individual retirement accounts (Indywidualne Konta Emerytalne, IKE) can operate in a form of:

- a unit-linked life insurance contract;
- an investment fund;
- an account in a brokerage house;
- a bank account (savings account); or
- a voluntary pension fund.

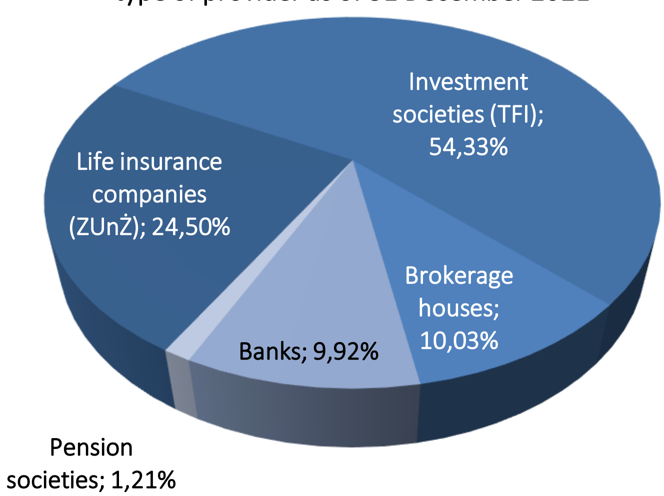
Pension accounts are offered by life insurance companies, investment companies (asset management companies), brokerage houses, banks and pension societies. The most recent pension vehicles are voluntary pension funds that were introduced in 2012 at a time of significant changes in the statutory old-age pension system.

A voluntary pension fund is an entity established with the sole aim of gathering savings of IKE (or IKZE) holders. Pension assets are managed by a pension society (powszechne towarzystwo emerytalne, PTE) that also manages one of the open pension funds (OFE under Pillar II) in Poland. Assets of the funds are separated to guarantee the safety of the system, as well as due to stricter OFEs' investment regulations.

The design of IKE products usually does not vary significantly from the standard offer on financial markets. The difference relates to the tax treatment of capital gains (exclusion from capital gains tax) and contribution limits. Moreover, financial institutions cannot charge any cancellation fee when an individual transfers money or resigns after a year from opening an account.

The most popular IKE products take the form of investment funds and life insurance contracts (unit-linked life insurance). According to official data (UKNF 2022c), these two forms of plans represent 79% of all IKE accounts.

Chart PL2. Structure of IKE market by number of accounts and type of provider as of 31 December 2021



Source: UKNF 2022c.

Table PL 4. Number of Individual Retirement Accounts (IKE) by type of the product (2004-2020)

	Unit-linked life insurance	Investment fund	Account in the brokerage house	Bank account	Voluntary pension fund	Total
2004	110.728	50.899	6.279	7.570		175.476
2005	267.529	103.624	7.492	49.220		427.865
2006	634.577	144.322	8.156	53.208		840.263
2007	671.984	192.206	8.782	42.520		915.492
2008	633.665	173.776	9.985	36.406		853.832
2009	592.973	172.532	11.732	31.982		809.219
2010	579.090	168.664	14.564	30.148		792.466
2011	568.085	200.244	17.025	29.095		814.449
2012	557.595	188.102	20.079	47.037	479	813.292
2013	562.289	182.807	21.712	49.370	1.473	817.651
2014	573.515	174.515	22.884	51.625	1.946	824.485
2015	573.092	201.989	25.220	53.371	2.548	852.220
2016	571.111	236.278	27.615	64.031	3.580	902.615
2017	568.518	275.796	30.418	71.922	4.922	951.576
2018	562.476	316.996	32.584	78.288	5.307	995.651
2019	462.171	355.031	39.030	88.460	6.075	950.767
2020	199.929	393.010	55.821	85.678	7.188	741.626
2021	195.179	432.756	79.906	79.002	9.646	796.489

Source: Own work based on: UKNUiFE 2005; UKNF 2007, 2012b, 2014b, 2016b, 2017b, 2018c, 2019a, 2020b, 2021c & 2022c.

IKE holders do not fully use the contribution limit. The average contribution paid from 2004 to 2021 remains permanently below the statutory limit (3 times the average wage). The total amount of IKE assets amounted to PLN 13.47 bln (€2.93 bln) as of 31 December 2021. There were PLN 16,907 (€ 3,678) gathered on an IKE account on average.

Note: Data on the asset allocation of pension vehicles in Poland is not available at the moment of publication.

Table PL 6. Limits on contributions and average contributions paid into IKE in 2006-2021 (in PLN)		
	Contribution limit	Average contribution paid
2006	3,521	2,199
2007	3,697	1,719
2008	4,055	1,561
2009	9,579	1 85
2010	9,579	1,971
2011	10,077	1,982
2012	10,578	2,584
2013	11,139	3,130
2014	11,238	3,440
2015	11,788	3,511
2016	12,165	3,738
2017	12,789	3,843
2018	13,329	4,179
2019	14,295	4,557
2020	15,681	4,833
2021	15,777	5,203

Source: Own work based on: UKNUiFE 2005; UKNF 2007, 2012b, 2014b, 2016b, 2017b, 2018c, 2019a, 2020b, 2021c & 2022c.

Individual Retirement Savings Accounts (IKZE)

Like individual retirement accounts, the group of IKZE products consists of:

- unit-linked life insurance;
- investment funds;
- bank accounts;
- accounts in brokerage houses; and
- voluntary pension funds.

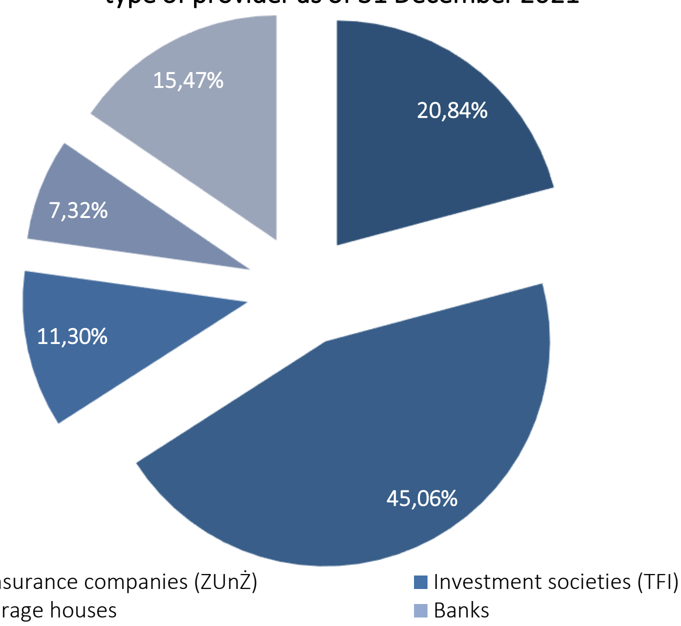
At the end of 2021 around 463 thousand Poles had individual retirement savings accounts. As shown on chart PL3, the IKZE market is dominated by asset management companies and life insurers that run 45% and 21% of the accounts respectively.

Table PL 7. Number of Individual Retirement Savings Accounts (IKZE) by type of the product (2012-2021)						
Type of the product	Unit-linked life insurance	Investment fund	Account in the brokerage house	Bank account	Voluntary pension fund	**Total**
2012	363,399	5,202	559	19	127,642	**496,821**
2013	388,699	9,565	1,012	33	97,117	**496,426**
2014	418,935	17 51	2797	8105	80,795	**528,142**
2015	442,735	54,471	4,325	13735	82,294	**597,259**
2016	446,054	87 51	6201	15585	87,762	**555,602**
2017	448,881	121,269	8,478	18114	94,252	**690,994**
2018	447,303	150,217	11172	20311	101,386	**730,389**
2019	376,839	175,029	16,838	24429	61,448	**654,583**
2020	96,410	191,691	31533	28150	59,773	**407,557**
2021	96,437	208,493	52,300	33845	71,576	**462,651**

Source: Own work based on UKNF 2014b, 2015, 2016b, 2017b, 2018c, 2019b, 2020b, 2021d & 2022d.

The savings pot of IKZE is small compared to other elements of the Polish supplementary pension system. At the end of 2021, financial institutions managed funds amounting to PLN 4.98 bln (€ 1.3 bln). It is worth noting that this capital was raised through contributions in just ten years. The rapid growth of IKZE market in terms of coverage and the asset value had been expected in the coming years but the implementation of PPK significantly reduced the interest in individual retirement plans.

Chart PL 3. Structure of IKZE market by number of accounts and type of provider as of 31 December 2021



Source: UKNF 2022d.

Table PL 8. Assets of IKZE (2012-2021, in thousands PLN)						
	Unit-linked life insurance	Investment fund	Account in the brokerage house	Bank account	Voluntary pension fund	Total
2012	36,393	7,973	1,673	40	6,803	**52,882**
2013	75,117	23,371	4,815	98	15,805	**119,206**
2014	167,737	63,559	14,638	11624	37,792	**295,350**
2015	281,946	193,099	30,268	35081	79,198	**619,592**
2016	398,589	407,884	57,045	66600	147,972	**1,078,090**
2017	545,374	719,630	93,780	106702	240,671	**1,706,157**
2018	635,146	1,083,451	119,354	156208	320,798	**2,314,957**
2019	783,627	1,608,717	197,171	224330	469,984	**3,283,829**
2020	956,179	2,257,552	392,266	306986	668,791	**4,581,774**
2021	1,099,976	2,809,972	715,151	383821	967,832	**5,976,752**

Source: Own work based on: UKNF 2022d;

Charges

The type and level of charges deducted from pension savings depend on the vehicle used and the type of programme. Lower fees are charged for collective plans organised by employers (PPE). Significant cost differences exist between various product types. Since no comprehensive data regarding the costs of all supplementary pension plans offered in Poland is collected or officially published, the information provided below reflects the costs of selected (exemplary) pension products and schemes functioning in Poland.

Employee Pension Programmes (PPE)

Data on PPE charges is hardly available. The Financial Supervisory Commission does not provide any official statistics on value or the percentage of deductions on assets of employee pension programmes. Some information can be found in the statutes of PPEs, but they describe rather the types of costs charged than the level of deductions. Employers must cover many administrative costs connected with PPE organisation (disclosure of information, collecting employees' declarations, transfer of contributions, etc.). The savings of participants are usually reduced by a management fee that varied from 0.5% p.a. to 2% p.a. of AuM and depend on the investment profile of funds chosen.

The lowest charges are applied to employee pension funds (Pracownicze Fundusze Emerytalne – PFE), which are set up by employers (in-house management of PPE) and managed by employee pension societies. For this type of pension fund, no up-front fee is deducted and a rather low management fee (0.5% - 1% p.a.) applies to assets gathered.

Since 2019 there is a cap on management fee charged by asset management companies. It could not exceed 3.5% in 2019, 3% in 2020, 2.5% in 2021 and 2% since 2022.

Employee Capital Plans (PPK)

Financial institutions offering PPK can charge management fee (max. 0.5% AuM) and success fee (max. 0.1% AuM and only if return is both positive and above the benchmark). The fee level depends on the risk profile of the fund and amounts from 0.16% to 0.49% with 0.35% being the average for the whole PPK market (Portal PFR 2021).

Table PL 14. Average rates of management fee in PPK in 2020-2021

Target date	2020	2021
2020	0.24%	0.19%
2025	0.28%	0.27%
2030	0.31%	0.31%
2035	0.33%	0.33%
2040	0.34%	0.34%
2045	0.36%	0.35%
2050	0.38%	0.37%
2055	0.39%	0.38%
2060	0.41%	0.40%
2065	0.41%	0.40%
Average for all funds	0.35%	0.35%

Source: PFR Portal 2020 & 2021.

Individual Retirement Accounts (IKE) and Individual Retirement Savings Accounts (IKZE)

The type and level of charges depend on the type of product. There is a management fee for investment funds, voluntary pension funds and unit-linked insurance. In addition, for a unit-linked life insurance, a financial institution can charge an up-front fee, use different "buy and sell" prices for investment units (spread) and deduct other administrative fees from the pension savings accounts, e.g. conversion fees and fees for changes in premium allocation in case changes occur more frequently than stipulated in the terms of the contract. Charges that are not connected with asset management and the administration of savings accounts cannot be deducted from IKZE (i.e., life insurance companies cannot deduct the cost of insurance from the retirement account). The accumulation of pension savings through direct investments (accounts in brokerage houses) is subject to fees which depend on the type of transaction and the level of activity on financial markets (trading fees and charges). Banks do not charge any fees for the IKZEs they offer (apart from a cancellation fee).

All financial institutions offering individual retirement accounts (IKE) can charge a cancellation fee (also called a transfer fee) when a member decides to transfer savings to a programme offered by another financial entity during the first year of the contract. No cancellation fee can be deducted from the account when a saver resigns from the services of a given institution after 12 months and transfers money to another plan provider.

The table below shows the level of fees charged in individual retirement accounts (IKE) and individual retirement savings accounts (IKZE) offered by life insurance companies, investment societies and pension societies.

Table PL 9. Charges in IKE nad IKZE by type of provider			
Type of financial institution	Up-front fee	Management fee (% of AuM)	Transfer fee
Life insurance companies	0-8%	0-2.0	10-50% of assets
Asset management companies	0-5.5%	0.8-2.0; success fee 0-30% of the return above the benchmark	0-PLN 500
Pension societies	0-53.4%; quota limit may be applicable	0.6-2.0; success fee 0-20.0 of the return above the benchmark	10-50% of assets; min. PLN 50

Source: own work based on Rutecka-Góra et al. 2020 and taking into account a statutory limit of management fee (max. 2% since 2022).

Taxation

Employee pension programmes (PPE)

Basic contributions financed by employers are subject to personal income tax, which is deducted from the employee's salary. Additional contributions paid by employer from the net salary are treated the same way (contributions paid from after-tax wage). Returns and benefits are not taxed (TEE regime).

Employee Capital Plans (PPK)

In PPK both employee and employer contributions are taxed. A state kick-off payment and regular annual subsidies as well as investment returns and benefits are exempt from taxation. Therefore, it is a TEE regime with a state subsidy.

Individual Retirement Accounts (IKE)

Contribution is taxed as it is paid by a saver from his/her net income. An individual can pay up to three times the average wage annually. There is a tax relief for capital gains. Benefits are not taxable (TEE regime).

Individual Retirement Savings Accounts (IKZE)

Contributions to IKZE are deductible from the income tax base. In 2012 and 2013 there was a cap on contribution amounting to 4% of the person's annual salary in the previous year. Due to the most recent changes in the pension system, the given limit was replaced with a flat-rate limit in 2014. Every individual can pay up to 120% of the average salary into an IKZE account. Since 2021 there is a higher limit of contribution for self-employed that amounts to 180% of the average salary in the economy. Returns are not subject to taxation, but benefits are taxed with a reduced flat-rate income tax (10%). This part of the supplementary pension system is the only one that follows the EET tax regime.

Pension Returns

Asset allocation

Employee Pension Programmes (PPE)

Polish law does not impose any strict investment limits on voluntary pension savings accounts (IKE, IKZE, most forms of PPE, PPK) except for occupational pension programmes offered in the form of employees' pension fund (types of asset classes are described by law). Every financial institution that offers IKE or IKZE provides information on investment policy in the statute of the fund. Since many existing plans offer PPE participants the possibility to invest in funds from a broad group of investment funds operating in the market (not only the funds dedicated exclusively to pension savings) it's impossible to indicate what the portfolios of most PPEs look like.

The tables below present the investment portfolio of employee pension funds, which are the only types of occupational pension products with official and separate statistics on asset allocation.

Table PL 10. Portfolio of employees' pension funds (PFE) in years 2010-2020 (as % of assets)

	Shares	Gov. bonds	Investment funds units	Bank deposits	Other investments	Assets under management (in PLN mln)
2010	14.19	1.48	24.30	58.78	1.25	**1542.60**
2011	14.90	2.14	33.13	48.90	0.92	**1559.00**
2012	19.49	1.53	37.53	40.91	0.54	**1873.28**
2013	29.86	2.01	49.83	17.91	0.39	**2038.54**
2014	33.00	1.05	61.64	4.30	0.01	**1749.60**
2015	34.09	2.27	63.64	0.00	0.00	**1797.08**
2016	29.62	63.00	0	6.70	0.68	**1766.59**
2017	32.91	64.31	0	1.86	0.92	**1856.91**
2018	30.77	67.22	0	1.62	0	**1740.38**
2019	31.49	58.48	0	1.92	8.11	**1886.42**
2020	16.76	46.61	0	4.45	32.18	**2017.40**

Source: own collaboration based on: Biuletyn Kwartalny. Rynek PFE 4/2019, KNF, Warszawa 2020

PPKs are a target-date funds what means that the general asset allocation (bonds vs shares) depends on the target date of the fund as described in "Pension vehicles" section.

Individual Retirement Accounts (IKE) and Individual Retirement Savings Accounts (IKZE)

There are no available statistics that allow for the identification of the asset allocation within Individual Saving Accounts (IKE) and Individual Retirement Savings Accounts (IKZE) offered as insurance contracts, investment funds and accounts in brokerage houses. It is because an individual can buy units of many investment funds (or financial instruments) that are also offered as non-IKE and non-IKZE products. Since no separate statistics for pension and non-pension assets of a given fund are disclosed, it is impossible to indicate which funds create the portfolios of IKE and IKZE holders nor what the rates of returns obtained by this group of savers are.

The only form of IKE and IKZE that is strictly separated from other funds and is dedicated solely to pension savings is a voluntary pension fund. These vehicles started operating in 2012. The table below shows the DFE's investment portfolios in years 2014-2019.

Table PL11. Portfolio of voluntary pension funds (DFE) offered as Individual Retirement Saving Accounts (IKZE) and Individual Retirement Accounts (IKE) in 2014-2021, as % of DFE assets

Provider	Year	Shares	Gov. Bonds	Non-gov. Bonds	Other	AuM (in PLN mln)	Market share (as % of total DFEs' assets)
Allianz Polska DFE	2014	33.46%	32.43%	21.81%	12.30%	3.72	6.25%
	2015	35.12%	29.39%	28.60%	6.90%	5.6	5.28%
	2016	31.84%	22.54%	37.07%	8.54%	8.3	4.40%
	2017	53.62%	5.86%	34.17%	6.35%	11.9	3.87%
	2018	42.49%	17.33%	34.65%	5.53%	13.7	3.48%
	2019	32.92%	21.52%	38.90%	6.65%	16.9	2.92%
	2020	41.26%	17.49%	34.71%	6.53%	20.2	2.52%
	2021	51.73%	7.75%	34.08%	6.44%	21.6	2.15%
DFE Pekao*	2014	43.83%	40.45%	2.86%	12.86%	13.18	22.16%
	2015	52.90%	30.95%	1.93%	14.21%	28.5	26.89%
	2016	57.41%	32.73%	4.78%	5.08%	52.2	27.65%
	2017	50.99%	43.12%	0.19%	5.70%	82.7	26.87%
DFE Pocztylion Plus	2014	24.62%	67.55%	0.00%	7.83%	0.55	0.92%
	2015	26.26%	67.64%	6.11%	0.00%	0.8	0.75%
	2016	34.83%	59.31%	0.00%	5.86%	1.1	0.58%
	2017	35.25%	55.08%	1.70%	7.97%	1.5	0.49%
	2018	35.38%	54.83%	1.00%	8.79%	2.5	0.64%
	2019	38.48%	53.66%	1.25%	6.61%	4	0.69%
	2020	55.55%	24.49%	14.54%	5.35%	5.9	0.73%
	2021	58.77%	21.33%	16.00%	3.90%	8.5	0.70%
DFE PZU	2014	66.82%	13.94%	2.40%	16.84%	9.08	15.27%
	2015	73.26%	13.58%	1.45%	11.70%	14.8	13.96%
	2016	74.79%	17.64%	0.77%	6.80%	27	14.30%
	2017	72.84%	16.78%	0.42%	9.96%	47.8	15.53%
	2018	69.28%	9.55%	7.01%	14.16%	175.7	44.64%

	2019	60.80%	14.28%	16.31%	8.60%	262.7	45.39%
	2020	63.03%	4.01%	21.75%	11.70%	347.9	43.32%
	2021	59.92%	24.11%	10.03%	5.94%	508.8	41.92%
Nordea DFE(D)	2014	37.44%	35.32%	10.44%	16.81%	1.63	2.74%
Nationale Nederlanden DFE	2014	63.74%	0.00%	12.35%	23.92%	5.92	9.95%
	2015	57.45%	4.49%	10.50%	27.57%	15.2	14.34%
	2016	50.51%	18.75%	6.85%	23.89%	36.7	19.44%
	2017	56.36%	35.58%	0.01%	8.05%	0.3	0.10%
	2018	69.28%	9.55%	7.01%	14.16%	175.7	44.64%
	2019	52.80%	24.09%	14.52%	8.58%	169.2	29.23%
	2020	59.95%	2.84%	29.32%	7.49%	260.3	32.41%
	2021	54.73%	25.84%	10.46%	8.97%	452.7	37.30%
MetLife Amplico DFE	2014	39.46%	40.26%	0.00%	20.27%	19.11	32.13%
	2015	61.24%	32.92%	0.00%	5.84%	24.2	22.83%
	2016	59.60%	32.60%	0.00%	7.80%	28.5	15.10%
	2017	56.99%	22.13%	12.91%	7.97%	73.5	23.88%
	2018	49.69%	43.78%	0.66%	5.87%	30.8	7.83%
	2019	64.96%	29.25%	0.56%	5.23%	36	6.22%
	2020	43.92%	33.77%	0.00%	22.31%	47.3	5.89%
	2021	60.93%	30.71%	1.98%	6.38%	55.6	4.58%
PKO DFE	2014	35.29%	53.04%	0.00%	11.67%	6.29	10.57%
	2015	35.84%	51.51%	0.00%	12.65%	16.8	15.85%
	2016	26.26%	58.34%	0.00%	15.40%	34.8	18.43%
	2017	41.48%	48.64%	0.00%	9.88%	56.3	18.29%
	2018	37.75%	48.14%	1.44%	12.67%	69.8	17.73%
	2019	37.20%	44.07%	6.50%	12.23%	89.3	15.43%
	2020	50.40%	46.46%	0.00%	3.14%	120.1	14.95%
	2021	55.92%	42.64%	0.00%	1.44%	158.7	13.08%
Generali DFE	2015	37.44%	48.61%	0.00%	13.95%	0.1	0.09%
	2016	68.60%	29.87%	0.00%	1.53%	0.2	0.11%
	2017	56.36%	35.58%	0.01%	8.05%	0.3	0.10%
	2018	43.40%	48.54%	0.04%	8.02%	0.5	0.13%
	2019	56.54%	33.98%	0.00%	9.47%	0.7	0.12%
	2020	67.92%	23.70%	0.00%	8.35%	1.4	0.17%
	2021	40.57%	50.18%	0.00%	9.25%	3.2	0.26%

* Liquidated in 2018

Source: own collaboration based on analizy.pl

Pension returns

The investment efficiency of supplementary pension products is almost impossible to assess due to the lack of necessary data published by financial institutions. In Poland there in many retirement plans there is no obligation to disclose rates of return to pension accounts holders. Generally, owners of savings accounts are informed about contributions paid, the value of investment units and the balance of their accounts at the end of the reporting period. But they are not informed neither about their pension accounts real efficiency nor the total cost ratio deducted from their individual retirement accounts. No comprehensive data concerning the investment efficiency of supplementary pension products, especially individual plans, is published in official statistics.

Due to the shortage of detailed statistics the assessment of the efficiency of pension product investments is possible only for the selected vehicles, namely employee pension funds (PFE), capital pension plans (PPK) and voluntary pension funds (DFE).

As the management fee is deducted from fund assets on a regular basis and the value of a fund unit is calculated based on net assets, the nominal rates of return indicated below take into account the levels of management costs. The only fee that must be included when calculating after-charges returns is the upfront-fee deducted from contributions paid into accounts.

During the period of 2002-2021 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative nominal results appeared only in the years 2008, 2011, 2015 and 2018 when equity markets dropped significantly. After-charges real returns observed in 15 of 20 years and the average return in the 20-year period is highly positive as well. These satisfactory results were obtained due to proper portfolio construction, high quality of management and low costs.

Table PL 12. Nominal and real after-charges returns of Employee Pension Funds in 2002-2021 (in %)									
Employee pension fund	PFE NESTLÉ POLSKA	PFE SŁONECZNA JESIEŃ	PFE ORANGE POLSKA	PFE UNILEVER POLSKA	PFE "NOWY ŚWIAT"	PFE "DIAMENT"	Weighted nominal return after charges, before inflation	Inflation (HICP)	Weighted real return after charges and inflation
2002			11.35%		9.76%	-21.05%	7.88%	0.81%	**7.02%**
2003			10.28%		10.44%	8.71%	10.14%	1.73%	**8.26%**
2004	11.25%		12.30%	14.24%	13.64%		12.59%	4.32%	**7.93%**
2005	12.53%		14.82%	12.93%	13.81%		14.50%	0.75%	**13.65%**
2006	12.41%	10.60%	15.40%	13.41%	15.25%		14.99%	1.37%	**13.43%**
2007	5.10%	4.52%	6.10%	5.77%	6.23%		5.94%	4.30%	**1.58%**
2008	-10.10%	-11.33%	-13.54%	-6.34%	-13.86%		-13.14%	3.30%	**-15.91%**
2009	13.33%	14.83%	15.78%	12.74%	17.41%		15.85%	3.88%	**11.52%**
2010	9.98%	9.60%	10.33%	9.75%	10.52%		10.22%	2.85%	**7.16%**
2011	-5.05%	-3.10%	-4.75%	-3.59%	-5.20%		-4.51%	4.59%	**-8.70%**
2012	15.82%	13.60%	14.96%	15.01%	14.15%		14.57%	2.14%	**12.17%**
2013	5.19%	5.21%	3.45%	4.56%	5.71%		4.28%	0.60%	**3.66%**
2014	4.42%		3.91%	4.92%	2.56%		3.65%	-0.70%	**4.37%**
2015	-1.24%		-2.74%	-0.97%	-1.35%		-2.31%	-0.40%	**-1.92%**
2016			3.18%	4.88%	3.93%		3.44%	0.90%	**2.51%**
2017			8.24%	6.66%	9.19%		8.47%	1.69%	**6.67%**
2018			-1.12%		-2.69%		-1.47%	0.88%	**-2.33%**
2019			5.58%		1.57%		4.72%	3.01%	**1.66%**
2020			8.36%		1.76%		7.07%	3.39%	**3.56%**
2021			4.40%		3.67%		4.26%	8.01%	**-3.47%**
Annual average 2002-2021	**5.84%**	**5.15%**	**6.04%**	**6.51%**	**5.54%**	**-7.36%**	**5.80%**	**2.35%**	**3.37%**

Source: own work based on Eurostat (HICP) and UKNF.

Voluntary pensions funds (DFE) have obtained extraordinary investment results from their start in 2012. The first years of their operation coincided with the time of the Polish financial market recovery and allowed the funds to maximise rates of return from the equity portfolios. The best DFEs reported more than 50% nominal return in 2013. But such returns were impossible to achieve in next years. In 2014, some of DFE even experienced slightly negative returns that were covered by returns in the following years. The worst investment returns were achieved in 2018 when all DFE made losses. The average real rate of return after charges in years 2013-2021 amounted to 3.72%.

Table PL 12. Nominal and real returns of voluntary pension funds (DFE) in 2013-2020 (in %)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Annual average 2013-2021
Allianz Polska DFE	7.80%	2.03%	-0.33%	5.81%	9.33%	-8.32%	3.44%	91.00%	13.79%	**3.65%**
DFE Pekao*	16.30%	1.27%	3.26%	4.85%	6.78%					**6.37%**
DFE Pocztylion Plus	6.90%	-2.22%	2.56%	3.60%	-0.98%	-4.77%	1.04%	8.04%	19.65%	**3.54%**
DFE PZU	32.80%	3.64%	9.07%	16.19%	14.67%	-9.90%	3.39%	1.62%	12.41%	**8.75%**
NN DFE	59.10%	-0.73%	16.21%	13.26%	9.01%	-8.61%	8.91%	15.29%	10.81%	**12.48%**
MetLife DFE	56.70%	6.09%	-1.89%	3.76%	6.65%	-16.61%	9.65%	33.28%	11.53%	**10.48%**
PKO DFE	16.90%	2.54%	-0.88%	5.74%	8.63%	-8.51%	0.14%	10.97%	14.82%	**5.31%**
Weighted nominal return before charges and inflation	40.57%	3.15%	3.90%	8.14%	8.92%	-9.75%	4.87%	9.34%	12.14%	**8.36%**
Weighted nominal return after charges**, before inflation	36.94%	0.64%	1.36%	5.49%	6.18%	-12.28%	1.77%	6.09%	8.69%	**5.48%**
Inflation (HICP)	0.60%	-0.70%	-0.40%	-0.90%	1.69%	0.88%	3.01%	3.40%	8.01%	**1.70%**
Weighted real return after charges and inflation	36.12%	1.34%	1.77%	6.45%	4.42%	-13.04%	-1.21%	2.60%	0.63%	**3.72%**

Source: own elaboration based on analizy.pl, Eurostat data

Positive rates of return were also reported by employee capital plans (PPK) that stared to operate in the second half of 2019. Their investment efficiency in 2020 and 2021 is presented in the table below.

Table PL 14. Nominal and real average returns of employee capital plans (PPK) in 2020-2021 (in %)

	Target date of the funds							
	2025	2030	2035	2040	2045	2050	2055	2060
2020	7.66%	9.30%	10.75%	10.95%	12.42%	12.19%	11.90%	13.43%
2021	-0.70%	4.80%	9.68%	10.95%	14.25%	14.60%	14.43%	14.17%
Annual nominal average return 2020-2021	**3.40%**	**7.03%**	**10.21%**	**10.95%**	**13.33%**	**13.39%**	**13.16%**	**13.80%**
Annual real average return after charges and inflation 2020-2021	**-2.16%**	**1.27%**	**4.29%**	**4.99%**	**7.24%**	**7.29%**	**7.08%**	**7.68%**

Source: own work based on analizy.pl

Holding Period	Employee pension funds			Voluntary pension funds		
	Gross returns	Net Nominal Returns	Real Net Returns	Gross returns	Net Nominal Returns	Real Net Returns
1-year	-	4.26%	3.55%	12.14%	8.69%	0.63%
3-years	-	5.34%	0.93%	8.74%	5.48%	0.66%
5-years	-	4.55%	2.37%	4.80%	1.87%	-1.45%
7-year	-	3.39%	2.03%	5.14%	2.31%	0.10%
10-years	-	4.57%	2.02%	-	-	-
Since inception	-	5.80%	3.37%	8.36%	5.48%	3.72%

Conclusions

Starting in 1999, with individual supplementary elements introduced in 2004, 2012 and 2019, the Polish supplementary pension market is still in its early stage of operation. The coverage ratios (3.82%, 4.75%, 2.76% and 15.18% respectively), show that only a tiny part of Poles decided to secure their future in old age by joining the occupational pension plan or purchasing individual pension products. This could be due to low financial awareness, insufficient level of wealth or just the lack of information and low transparency of pension products.

The official information concerning supplementary pension products in Poland is limited. In the majority of pension plans financial institutions do not have any obligation to disclose rates of return, either nominal or real, nor after-charges. Published data includes the total number of programmes or accounts by types of financial institution and total assets invested in pension products. The Financial Supervisory Commission (KNF) collects additional detailed data about the market (the number of accounts and pension assets managed by every financial institution) but does not disclose the data even for research purposes.

Moreover, no comparable tables on charges, investment portfolios and rates of return are prepared or made accessible to the public on a regular basis. Certain product details must be put in the fund statutes or in the terms of a contract, but they are hardly comparable between providers. The Polish supplementary pension market is highly opaque, especially in terms of costs and returns.

Among a wide variety of pension vehicles, there are only a few products with sufficient official statistics to assess their investment efficiency: employee pension funds (PFE) managed by employees' pension societies, voluntary pension funds (DFE) managed by general pension societies (PTE) and employee capital plans (PPK). Other products are more complex due to the fact that supplementary pension savings are reported together with non-pension pots. That makes it impossible to analyse the portfolio allocations and rates of return for individual pension products separately.

After-charges returns in the "youngest" pension products offered as a form of voluntary pension fund (DFE) were extremely high in 2013, both in nominal and real terms, and offered relatively high average real rate of return amounting to 3.72% in the period 2013-2021. The second type of products analysed, namely employee pensions funds (PFE), delivered significant profits as well, with the annual average real return of 3.37%. But other pension vehicles may turn out not to be so beneficial, especially when a wide variety of fees and charges are deducted from contributions which are paid to the accounts.

To sum up, the disclosure policy in supplementary pension products in Poland is not saver oriented. Individuals are entrusting their money to the institutions, but they are not getting clear information on charges and investment returns. Keeping in mind the pure DC character of pension vehicles and the lack of any guarantees, this is a huge risk for savers. All this may lead to significant failures on the pension market in its very early stages of development. In the future, some changes in the law should be introduced, such as **imposing an obligation** on financial institutions **to disclose rates of return** to pension accounts holders. Moreover, there is **an urgent need for a full list or even ranking of supplementary pension products**, both occupational and individual ones, published by independent body. This would help individuals make well-informed decisions and avoid buying inappropriate retirement products.

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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

[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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