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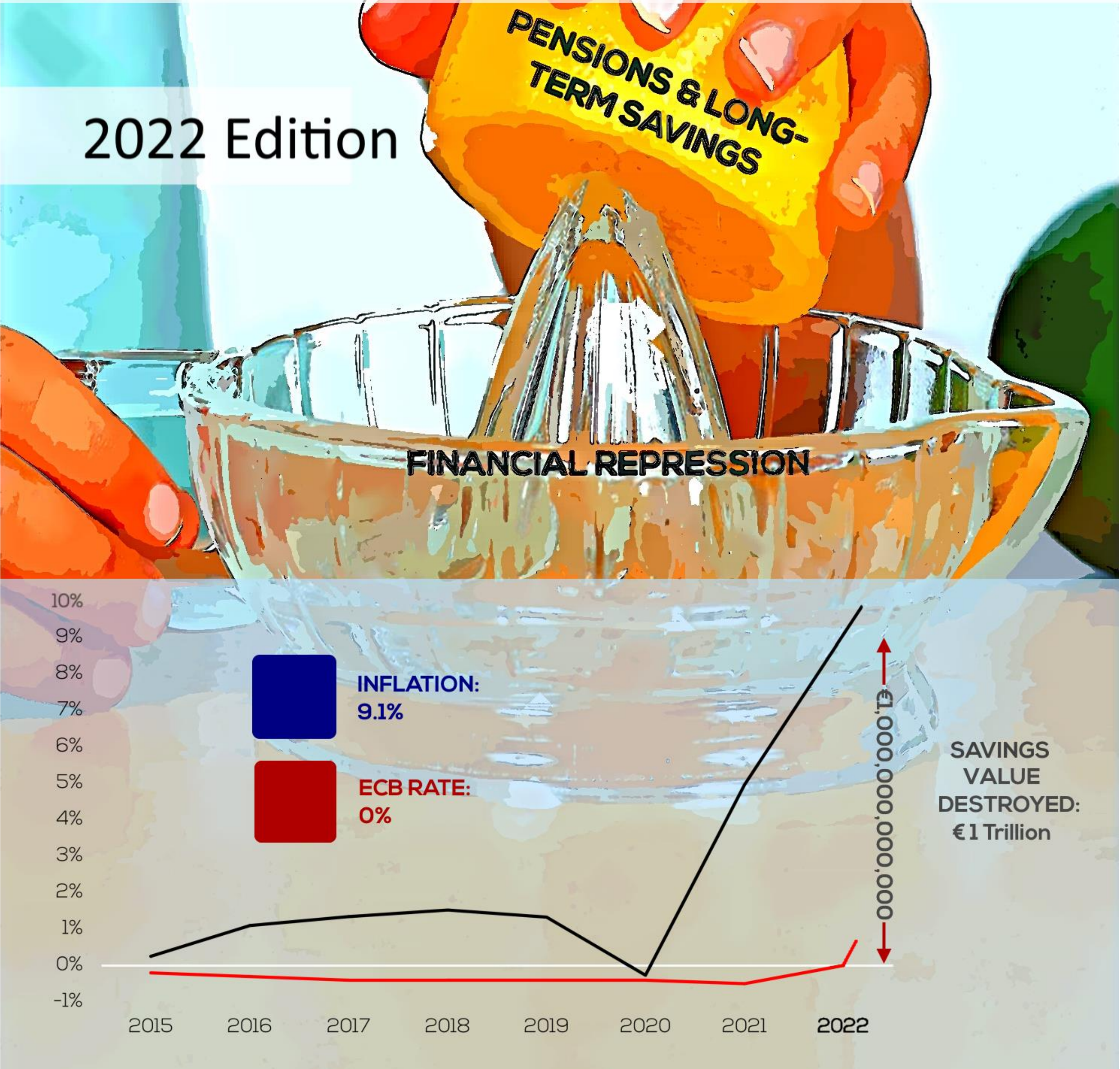
Long-Term & Pension Savings | The Real Return

2022 Edition



Pension Savings: The Real Return

2022 Edition

A Research Report by BETTER FINANCE

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Pension Savings: The Real Return

2022 Edition

Executive Summary

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

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

How much did pension savers earn on average?

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

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

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

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

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

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

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

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

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

Pension Savings: The Real Return

2022 Edition

General Report

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

I. INTRODUCTION

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

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

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

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

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

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

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

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

Source: BETTER FINANCE own research

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

What is pension adequacy?

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

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

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

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

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

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

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

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

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

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

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

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

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

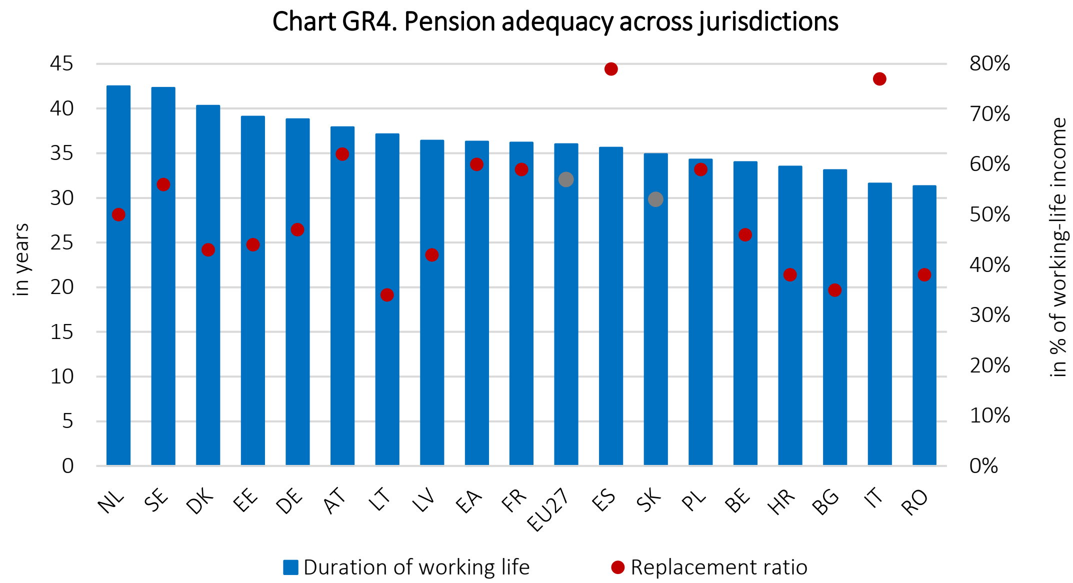
Currently, the aggregate replacement rate (mostly State pension) is very low across the countries in scope of our report: fourteen out of seventeen jurisdictions provide a replacement rate lower than 60% for over more than 30 years of working life.

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

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

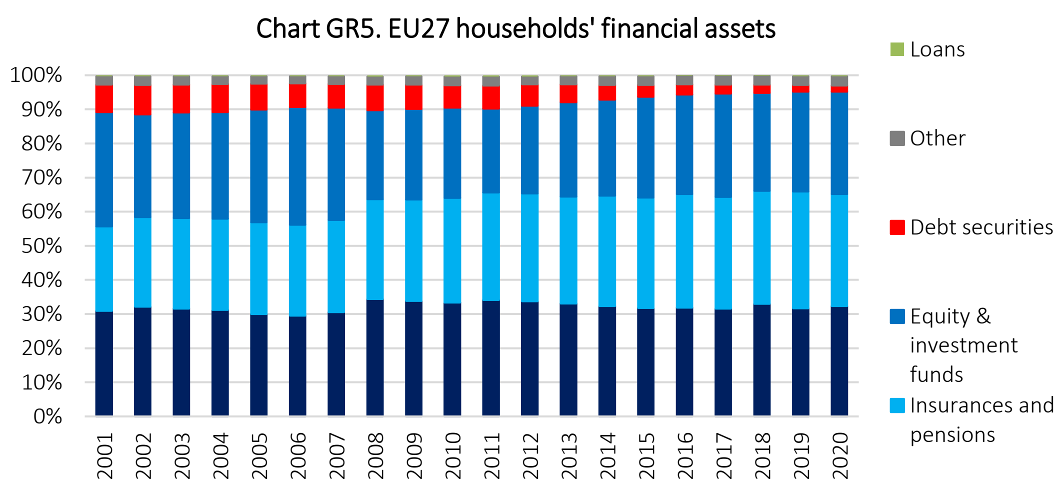
[20] Art. 67, Schedule to Part XI, of the European Code of Social Security, available at: https://rm.coe.int/168006b65e.

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



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

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



Source: BETTER FINANCE based on Eurostat data

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

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

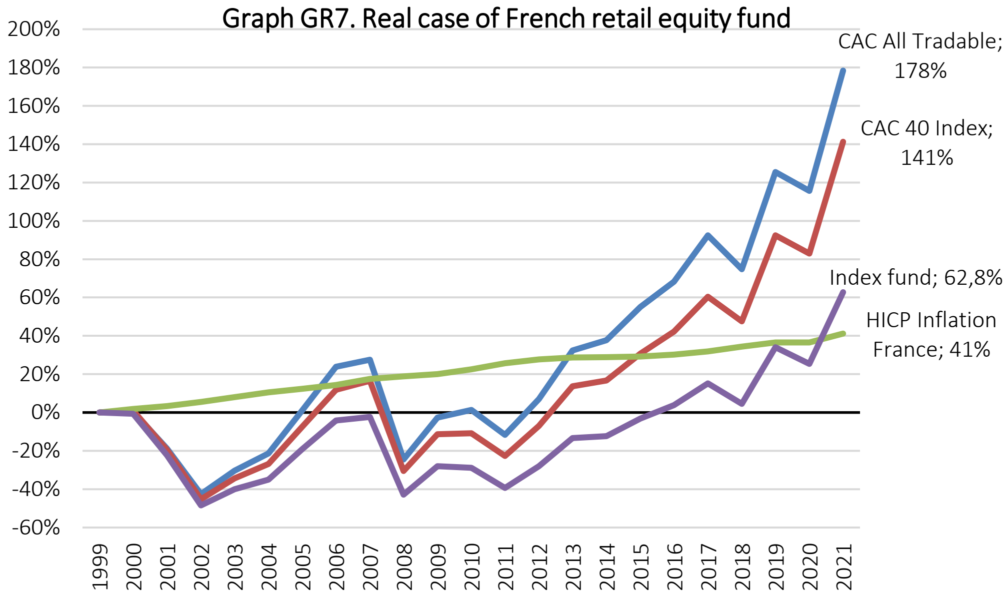
One could then argue that insurance and pension products have similar returns to a mixed portfolio of equities and bonds, since those are indeed the main underlying investment components of insurance and pension “packaged” products. However, this is not true as the share of packaged products and debt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

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

Table GR6. Real case of a Belgian life insurance (branch 23)	
Capital markets vs. Belgian individual pension insurance 2000-2021 performance	
Capital markets (benchmark index*) performance	
Nominal performance	288%
Real performance (before tax)	183%
Pension insurance performance (same benchmark)	
Nominal performance	182%
Real performance (before tax)	116%

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

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



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

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

4. European Pension returns outlook

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

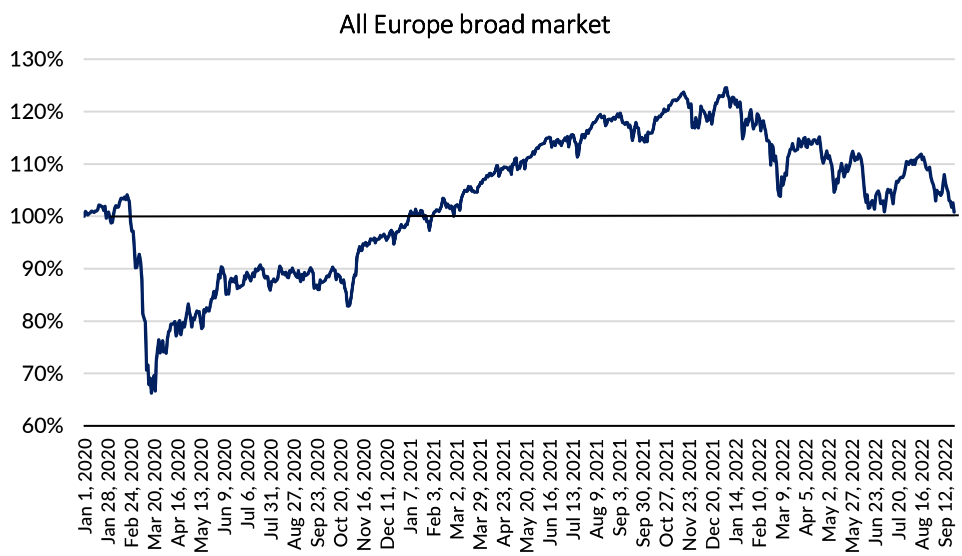
At the time of writing, the overall mid-term outlook for the adequacy of European pension savings is worrying when one analyses it for each of these main return drivers:

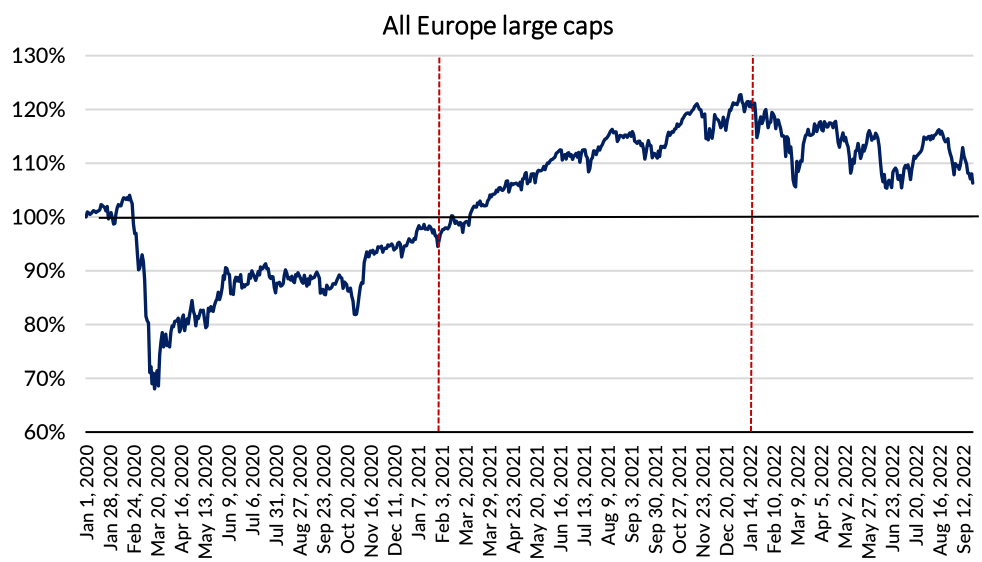
a) it is unlikely that the European bond markets will come any closer to the extraordinary returns of the period ended in 2020 for bonds due to the continuous

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

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

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

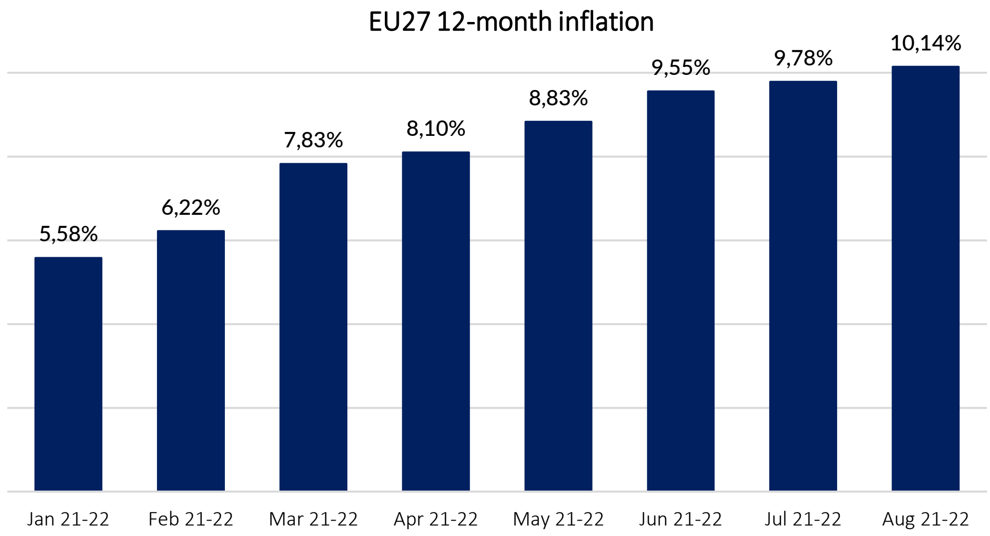


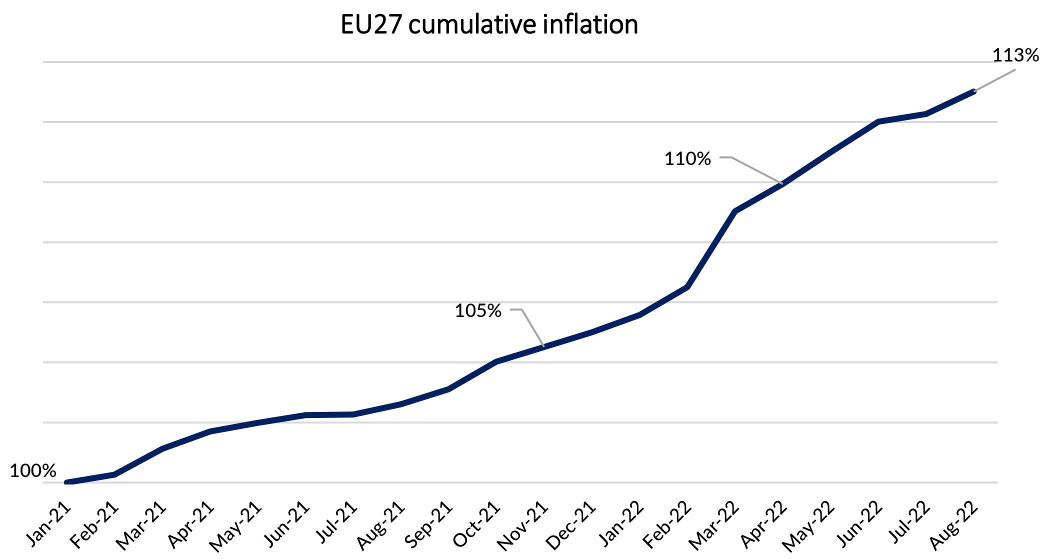


Source: Own composition based on MSCI data

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

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





Source: Own composition based on Eurostat data

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

Country Case: Denmark

Danish Summary

Det danske pensionssystem er et veludbygget 3-søjle-system. De tre søjlers betydning har gradvist ændret sig i løbet af de sidste 30 år. PAYG-systemet i søjle 1 (folkepensionen) er fortsat den væsentligste indkomstkilde for de fleste pensionister, men arbejdsmarkedspensionerne spiller en stadig større rolle. Mere end 80 pct. af arbejdsstyrken er medlem af en eller flere arbejdsmarkedspensioner. Den gennemsnitlige dækningsgrad er på et niveau omring 75%, og forventes at stige i de kommende år.

Det danske pensionssystem er karakteriseret ved en høj grad af forudgående opsparing og ved en klar arbejdsdeling mellem de offentlige, skattefinansierede pensioner og de private, opsparingsbaserede pensionsordninger. Den samlede pensionsopsparing udgør ved udgangen af 2020 5.500 mia. DKK svarende til det dobbelte af BNP.

I international sammenligning skille det danske pensionssystem ud ved, at der er meget få økonomiske fattige pensionister og pensionernes dækningsgrader er høj. Sytemet er finansielt sammehængene, og de offentlige finanser er holdbare i forhold til en aldrende befolkning. Der er således ingen aktutte reformbehov, den grundlæggende struktur er hensigtsmæssig. Der er imidlertid udfordringer knyttet til incitamenterne til opsparing og senere tilbagetrækning, og der er også fortsat en restruppe, der kun har en beskeden pensionsopsparing.

Arbejdsmarkedspensionerne er i de senere år ændret i retning af markedsbaserede produkter, hvor opsparene mere direkte bærer risikoen knyttet til blandt andet afkast variationer. Det har skabt mulighed for højere afkast, men rejser spørgsmål om risikoniveauer og risikodeling. Historisk har afkastene været høje, på gennemsnit tæt på et realt afkast på 5% efter skat over de sidste godt 10 år. Pensionssektoren har også kunnet håndtere store kriser som fx den finansielle krise og coronakrisen. En ny normal med lave afkast udfordrer mulighederne for at levere afkast på det samme niveau som set historisk.

Summary

The Danish pension system is a well-established 3-pillar system. The role of the pillars has changed gradually within the last 30 years. The PAYG- system of Pillar I still provides the basic income for most elderly, but occupational DC pension schemes play an increasingly important role. More than 80% of the Danish labour force is enrolled in one or more occupational schemes. The average replacement ratio is expected to increase in the years to come from today's level at around 75%.

The Danish pension system is characterized by a high degree of funding and clear roles for the tax-based public pensions of Pillar I and the privately funded pensions. The total value of funded pension schemes in 2020 is close to €740 billion DKK,[67] about twice the Danish GDP.

In international comparison the Danish pension system stands out. There are few pensioners falling below the poverty line, and replacement rates are generally high. The system is financially viable, and public finances satisfy sustainability criteria taking into account an ageing population. There is thus no urgent need for reforms, the basic structure is sound. However, there are challenges not least in ensuring sufficiently strong incentives for savings and for later retirement, and there remains a so-called residual group with low or no pension savings.

The occupational pension schemes have in recent years changed in the direction of so-called market-based products, where the saver more directly carries the risk arising e.g., due to return variations. This has created room for higher returns but raises questions on levels of risk and risk diversification. Historically returns have been high with an average after-tax real return about 5 % over the last decade. The pension sector has also handled crises, including the financial crisis and the corona crisis. A new normal with lower rates of returns challenges the possibilities of reaching returns at the levels seen in the past.

Introduction

The Danish pension system is in a transition from being largely based on defined-benefit tax financed pensions to a larger role of defined contribution, funded occupational pensions. The latter have been expanded to most of the labour market in the 1990s and will mature in two or three decades. This arrangement both serves to ensure decent pensions for all retired, and pension adequacy in terms of high replacement rates. The system is financially robust and prepared for an ageing population.

In international comparisons, the Danish pension system stands out by low poverty rates among the old and high replacement rates. The financially viability against the backdrop of large demographic shifts is ensured. This position is reflected in a consistently by ranked in the top A-tier in the Melbourne Mercer Global Pension Index.[68].

The challenges for the system include how to ensure an incentive structure supporting savings and later retirement. The sustainability of the system depends critically on retirement ages

[67] Denmark participates in ERM 2 at a central rate of 746.038 DKK per 100 euro, and this exchange rate I used to convert all numbers in DKK into euro.
[68] Melbourne Mercer Global Pension Index, https://www.mercer.com.au/our-thinking/global-pension-index.html#contactForm

increasing alongside increases in longevity. The heterogeneity in work career and health has raised debates on more flexible exit routes from the labour market. Moreover, it remains a challenge that groups are not covered by occupational pension arrangements.

Description of the pension system

- The Danish pension system is a three-pillar system: the aim of the **first pillar** (Pillar I) is to prevent poverty in old age. Pillar I provides all Danish pensioners with a minimum pension. The pension schemes of the Pillar I are compulsory and regulated by law.
- The **second pillar** (Pillar II) is based on collective agreements in the labour market or employment contract ensuring that the individual contributes to a defined contribution, funded pension scheme. Collective agreements determine the contribution rates, and the pension therefore depends on income earned throughout the work career. Pillar II aims to secure a standard of living reflecting the level of income before retirement.
- The **third pillar** (Pillar III) provides individual opportunities for supplementary saving based on individual needs both in explicit pension saving schemes with special tax treatment and in general voluntary savings.

Table DK1. Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
Base pension plus means-tested supplements, tax-financed	Occupational Pension; DC, funded schemes	Voluntary Personal Pension
Poverty prevention in old age	Ensures a standard of living reflecting the level of income before retirement	Supplementary saving based on individual needs
	More than 80% of Danish labour force is enrolled in one or more occupational schemes.	Voluntary pension savings is declining in important due to the growing role of occupational pensions
An individual entitlement (residence requirement) regulated by law	Determined by collective agreements, but contribution is mandatory for the individual	Voluntary
Quick facts		
Danish pension system has been top ranked (no 2) in the Melbourne Mercer Global Pension Index		
The average replacement ratio is about 75%		
	The total value of funded pension schemes exceeds is close to euro 740 billion, about twice the Danish GDP	
	Period 2007-2021 the average annual after-tax real rate of return for private pension schemes was close to 5%	

Source: BETTER FINANCE own composition

The occupational pension scheme is still in a build-up phase. Contribution rates have been steady at current levels since 2010, and it takes several decades for the scheme to mature in the sense of having contributed during an entire work-career and getting a pension throughout retirement based on the accumulated savings. The system with mature in two to three decades. As a consequence, occupational pensions will eventually become more important than Pillar I schemes.

Table DK2. Participation in the three pillars					
	Pillar I		Pillar II	Pillar III	Pillar II and/or III
	ATP	Folkepension			
Contributors (as % of the work force)	94%	0%	81%	25%	91%
Retirees (as % of retirees)	90%	99%			61%

Source: Forsikring Pension DK - Folkepension og ATP

The total value of funded pension schemes in Denmark in the last 20 years (2000-2019) is presented below (both in DKK and Euro).

Table DK3. Total value of funded pension schemes 2000-2020 (in bln)							
	Life insurance companies	Industry wide pension funds	Company pension funds	Banks	ATP	Total	Currency
2000	650	270	43	215	247	1.424	DKK
	87	36	6	29	33	191	€
2001	650	272	40	215	247	1.423	DKK
	87	36	5	29	33	191	€
2002	669	277	37	198	243	1.424	DKK
	90	37	5	27	33	191	€
2003	732	302	38	215	263	1.550	DKK
	98	40	5	29	35	208	€
2004	810	339	39	244	307	1.740	DKK
	109	45	5	33	41	233	€
2005	953	381	42	298	365	2.040	DKK
	128	51	6	40	49	273	€
2006	1.010	402	43	347	372	2.174	DKK
	135	54	6	47	50	291	€
2007	1.054	412	43	369	389	2.268	DKK
	141	55	6	49	52		€
2008	1.119	396	44	308	678	2.545	DKK
	150	53	6	41	91	341	€
2009	1.212	436	45	378	609	2.680	DKK
	162	58	6	51	82	359	€
2010	1.351	478	51	405	758	3.043	DKK
	181	64	7	54	102	408	€
2011	1.496	556	53	399	776	3.279	DKK
	201	75	7	53	104	440	€
2012	1.682	565	57	438	791	3.533	DKK
	225	76	8	59	106	474	€
2013	1.757	585	53	445	677	3.517	DKK
	236	78	7	60	91	471	€
2014	2.013	646	59	424	812	3.955	DKK
	270	87	8	57	109	530	€
2015	2.074	672	60	446	781	4.033	DKK
	278	90	8	60	105	541	€
2016	2.289	692	59	460	870	4.369	DKK
	307	93	8	62	117	586	€
2017	2.368	727	56	385	893	4.429	DKK
	317	97	8	52	120	594	€
2018	2.344	726	60	354	907	4.431	DKK
	314	97	8	47	122	594	€
2019	2.710	848	68	393	1.024	5.082	DKK
	363	114	9	53	137	681	€
2020	2.950	859	69	349	1,14	5.515	DKK
	395	115	9	47	0	739	€

Source: ForsikringogPension

Statutory ages in the pension system (for public pensions, for early retirement, and age limits for payment of funds from pension schemes) are established by law and thus regulated at the political level. The effective retirement age has been gradually increasing over the years, and it is currently about 66 years, see table DK4. A sequence of reforms has tightened the possibilities for early retirement and increased the statutory pension age (and early retirement age). The statutory pension age has increased in steps from 65 years to reach 67 years in 2022. Thereafter the statutory retirement age is indexed to the development in life expectancy at the age of 60 in order to target the expected pension period to 14.5 years (17.5 including early retirement) in the long run (currently about 18.5/23.5 years). There is a "speed limit" stipulating that the statutory retirement can be increased by more than one year every fifth year. In accordance with the indexation rules, parliament decided in 2015 to raise the statutory retirement to 68 years in 2030, and in 2020 it was increased to 69 years in 2035. The next decision comes up in 2025, and according to development in longevity, the statutory retirement age will increase to 70 years.

The indexation scheme has recently been debated, and it has been questioned whether it is too tough, especially when implying a statutory pension age above 70 years. The higher statutory pension age has also prompted a discussion of early exit options from the labour market for those who have a reduced work capability, but not so severely that they are eligible for a disability pension. Recently a so-called senior pension has been introduced giving an option to retire six years prior to reaching the statutory retirement age, provided work capability is reduced (unable to work at least 15 hours per week) and a sufficient strong work record. A new scheme "early pension" (tidlig pension) is available for persons who at the age of 61 have worked at least 42 years in the labour market. Finally, early retirement (efterløn) remains a possibility to retire in a window (after reforms reduced from five to three years) prior to the statutory pension age for persons who have contributed to the scheme for at least 30 years. The number of persons eligible for early retirement is decreasing.

*Source: Forsikringpension.dk, *preliminary*

Table DK4. Retirement age in Denmark 2000-2021	
Year	Average retirement age
2000	62,4
2001	62,4
2002	62,3
2003	62,2
2004	62,2
2005	62,3
2006	62,3
2007	62,5
2008	62,7
2009	62,9
2010	63,1
2011	63,3
2012	63,4
2013	63,5
2014	64,2
2015	64,5
2016	64,9
2017	65,2
2018	65,6
2019	65,9
2020	65,9
2021	66,1

Source: ForsikringogPension.dk

Pillar I

Pillar I basically consists of two pension plans: the tax financed public pension (Folkepension) and the ATP, a mandatory pension scheme compromising the larger part of the population. Both schemes are regulated by law.[69]

The state pension (Folkepension)

The public pension includes a basic amount (flat-rate pension) and means-tested supplements (I: supplementary pension ("pensionstillægget") and II: supplementary pension benefit ("ældrecheck")). In addition, there are needs-based supplement, e.g., housing, medical expenses. The supplements are means-tested on a family basis. All are entitled to the public pension when reaching the statutory retirement age provided a residence requirement is

[69] See: "Lov om sociale pensioner" (http://www.socialjura.dk/content-storage/love/love/pensionslov/) and "Lov om Arbejdsmarkedets Tillægspension" (https://www.retsinformation.dk/Forms/R0710.aspx?id=164210).

satisfied and earned income is below a certain threshold[70]. Public pensions are indexed to wages.

The state pension consists of a basic pension and a personal supplementary pension. For 2022 the base pension is DKK 78.500 a year (€10,500), and the maximum supplement (for a single) is DKK 89.600 (€12.000). The means-testing is relatively complicated depending on family situation and other sources of income. As an example, for a single the pension supplement is reduced by 30.9% of income above a lower threshold, and therefore there is no supplement for a sufficiently high income e.g., from an occupational pension scheme.

ATP

ATP (The Labour Market Supplementary Pension Scheme) is part of the Danish welfare system for old-age pensioners.

By law, all wage earners and recipients of transfer income contribute to the supplementary labour market pension (ATP). It is a funded defined contribution scheme to which all contribute the same monthly amount (depending on working hours) in 2021 DKK 3.408 (Euro 458) The contribution has been unchanged nominally since 2016. The pension benefit is a guaranteed life-annuity. If the beneficiary dies prematurely (before reaching an age equal to the statutory pension age plus five years), a lump-sum amount is paid to the heirs.

For a person with full-time employment, the pension benefit corresponds to about 1/3 of the base pension in the public pension system. About 40% of current pensioners do not have any pension beyond the public pension and the ATP. Also in the future, the ATP will constitute a significant part of the basic provision of pensioners in the Danish system

As of 2020, a mandatory pension scheme has been introduced for recipients of public transfers. The contribution rate, paid by the state, starts at 0.3% and increases in steps to 3.3% in 2030. The contributions are part of the ATP-pension.

Pillar II

Occupational pensions are an outcome of collective bargaining[71]. Before 1990, Pillar II schemes were almost exclusively for civil servants and white-collar workers in the private sector. A tripartite agreement between the government and the social partners in the late 1980s resulted in occupational pension schemes for the larger part of the labour market.

[70] To be eligible for the full amount, residence in Denmark for 40 years after the age of 15 is required, otherwise the amount is reduced proportionally to the period of residence. To be eligible for the full amount, labour income cannot exceed DKK 344,600 (2021).

[71] Collective agreements cover a large part of the labour market. There is a tradition for tripartite consultations between the Government, unions and employers' organizations, and labour market issues are generally settled by collective agreement rather than law. The establishment of occupational pensions is an example of this. An agreement of the three parties was made in 1989 and it marked the start of introduction of occupational pension schemes to more of the private labour market (most public employees were already covered).

Contribution rates were increased over a sequence of years, and they have remained constant at their current level since 2010. Contribution rates differ across groups and is 12% for blue collar workers and 15-18% for white collar workers (reflecting their longer longevity). Normally, 2/3 is paid by the employer and 1/3 by the employee.

As a result of the phasing in of the occupational pension scheme most pension funds are still in a building up phase with contributions exceeding pay-outs. Accumulated funds are thus on an increasing trajectory, and in total amounts to about two times GDP.

Total contributions to occupational pension schemes amounted to DKK 200 billion (€27 billion) in 2020, close to four times higher than the level in 2000. The total work force is around 3 million people, so the overall average contribution can be estimated to about 60,000 DKK per year (€8,000).

All private pension schemes are fully funded. The vast majority are defined contribution (DC) schemes. Even in the very few defined benefit (DB) schemes, where the employer guarantees a pension proportional to the salary, the guarantee must be funded in a pension fund or a life insurance company.

Table DK5. Number of private pension contracts 2001-2021

Year	Individual schemes	Occupational schemes	Total
2001	1.255.931	2.604.127	3.860.058
2002	1.187.110	2.837.482	4.024.592
2003	1.126.061	3.016.891	4.142.952
2004	953.925	3.055.831	4.009.756
2005	1.022.752	3.361.712	4.384.464
2006	1.095.731	3.405.394	4.501.125
2007	1.112.714	3.589.372	4.702.086
2008	1.293.226	3.771.977	5.065.203
2009	1.378.350	3.898.196	5.276.546
2010	1.142.774	3.891.501	5.034.275
2011	1.208.941	4.059.209	5.268.150
2012	1.398.422	3.997.145	5.395.567
2013	1.481.007	3.801.555	5.282.562
2014	1.431.842	4.153.361	5.585.203
2015	1.403.226	4.265.022	5.668.248
2016	1.568.273	4.028.323	5.596.596
2017	1.645.745	4.403.822	6.049.567
2018	1.666.448	4.513.366	6.179.814
2019	1.750.005	4.515.485	6.265.490
2020	1.786.682	4.620.069	6.406.751
2021	1.754.404	4.790.380	6.544.784

Source: ForsikringogPension.dk

Around 80% of all working people contribute to a Pillar II scheme within a year. However, there is a so-called residual group comprising i) persons not covered by an occupational pension, ii) persons with interrupted working careers (unemployment, sickness, parental leave etc), and thus not contributing consistently through working ages, and iii) self-employed. There are ongoing discussions on how to address this problem. The mandatory pension recently introduced (see above) is a partial solution of the problem.

Pillar II schemes are established in either life insurance companies, in pension funds (pensionskasser) or - not very commonly – in banks (around 2%). By the end of 2020, pension funds and life insurance companies had a total of about 4.6 mln. contracts concerning occupational pension. In the same year, around 2.6 mln. persons paid contributions to one or more occupational schemes, implying that some employees are enrolled in more than one occupational pension scheme.

Pillar II DB schemes

Previously, it was common for civil servants in the state and in local governments to be entitled to a tax-financed DB pension. These schemes are being phased out. Today, only about 30.000 civil servants in the state are still entitled to a pension of this type when they retire. Civil servants in local governments now enrol in a DC scheme, and the very few remaining DB schemes are typically funded in an insurance company.

A small number of private companies still offer DB schemes for some of their employees. These schemes are funded in specific pension funds – *firmapensionskasser*. Their importance has been decreasing for many years and so have their numbers, total assets and number of insured. The number of insured has fallen 1/3 from around 18,000 in 2008 to about 12,000 in 2021. Today, only four firmapensionskasser hold assets of more than DKK 1,000 million (€134 million), and they only constitute 1.1% of the total market, and most of the funds do not enrol new members anymore. About 2,000 persons made contributions in 2019, whereas benefits were paid out to around 10,000 people.

Pillar III

In principle, Pillar III pension schemes provide the same opportunities for the individual citizen as occupational schemes. Products available and tax rules are approximately identical. Individual schemes are offered by banks, insurance companies and most pension funds, but only if the saver is already enrolled through his job.

The strong growth of Pillar II schemes has, to some degree, diminished the interest for individual savings in explicit pension schemes. Also, changes in tax regulation have negatively influenced the demand for Pillar III schemes. Moreover, many households hold assets outside the pension scheme, primarily in the form of real estate.

In 2000, approximately 1 million persons contributed to an individual scheme, but this number has steadily declined until 2013, and since then increased somewhat to about 630.000 persons in 2019. The huge fall in 2013 is due to a shift in the lump sum pension from kapitalpension to alderopsparing. There may take time to get acquainted with the new scheme, and at the cap on the contributions to the periodic instalments or fixed term annuities (*ratepension*) in 2012 is also contributing to explain the decline[72].

In 2000, contributions to individual schemes amounted to DKK 16,209 mln (€2,177 mln), or around 30% of total contributions for pension schemes. The figure decreased until 2013 and has been growing slowly thereafter. In 2020, contributions to individual schemes were nominally DKK 17.195 min (€2.310 mln).

Tax rules have changed, as already mentioned, especially for periodic instalments and lump sum pensions. This may also have had an impact on the demand for Pillar III schemes. In Pillar II schemes, the change of regulations has led to growing contributions to lifelong annuities, but the same substitution has not been seen in Pillar III.

Savings in banks used to play more important role for individual schemes than for occupational schemes. Until 2013, when the tax regulation for lump sum pension was changed, individual pension saving schemes were predominantly held in banks, rather than in insurance companies and pension funds. Today, around 60% of contributions are in insurance companies or pension funds and 40% are in banks.

Replacement ratio and pension benefits

Table DK5 shows the replacement ratio for different educational groups and people not working prior to retirement. The replacement rate is calculated as the disposable income in the year after retirement relative to the year before retirement. The income is presented net of taxes.

[72] See https://www.forsikringogpension.dk/media/7019/pensionsindbetalinger-cps.pdf

Table DK6. Replacement ratio and educational background							
	Working before retirement						Not working before retirement
	Education						
	Unskilled workers	Skilled workers	Short cycle higher education	Medium cycle higher education	Long cycle higher education	All	
2004	72,2	71,2	73,9	82,9	88,2	73,5	88,5
2005	71,9	71,5	75,2	82,1	89,3	73,7	91,4
2006	69,6	69,4	72,7	79,9	84,6	71,4	95,3
2007	68,1	67,7	70,8	77,3	83,3	69,7	96
2008	67,7	67,5	70	76,8	81,1	69,4	100,5
2009	67,4	66,6	69,4	76,5	77,3	68,8	100,9
2010	70,3	69,5	73	78,2	80,1	71,5	103,2
2011	67,2	66,5	73,3	76,2	77,2	68,8	101,6
2012	67,9	66,5	70,1	74,9	77,2	68,8	101,9
2013	70,2	69,2	72,7	77	78,6	71,2	107,6
2014	72,1	71,9	74,1	80	81,9	73,8	107,4
2015	71,4	71	77,3	79,6	83,5	73,5	108
2016	73,1	72,2	78,4	79	83,6	74,4	107,1
2017	72,1	71	76,1	76,3	78,3	73,1	104,8
2018	74,5	71,8	77,5	77,6	78,5	74,3	105,5
2019	75,1	72,0	77,2	75,8	75,7	74,1	103,1
2020	73,0	69,7	72,1	74,0	73,7	71,9	100,5

Source: *Forsikfring & Pension Danmark*

The average net replacement rate was 72% in 2020, and the replacement rate is generally increasing with education reflecting higher contributions rates. The replacement is a snapshot in the transition of the pension system, and since this primarily is improving occupational pensions for groups with low- and medium-income levels[73], the average replacement rate is expected to increase in the future.

A replacement rate close to 100% for individuals not working before retirement reflects the design of the social safety net in the Danish welfare state. The benefit to non-working is close to the public pensions (including supplements) reflecting distributional concerns, and by implication the replacement rate for this group there get close to 100%.

[73] Pension schemes for lower educated people in the private sector were not established until 1990. The contribution rates grew gradually thereafter, therefore people who retired today were between 35-40 years old when they enrolled, thus their contributions were low in the first many years.

Today, the most important source of income for pensioners is Pillar I. Approximately 40% of all current pensioners have little or no other income. Pay-outs from the *folkepension* amounts to DKK 120 billion per year (€16.1 billion). The ATP pays out around DKK 17 billion per year (€2.3 billion). Total pay-outs from private pensions schemes to pensioners were around DKK 71 billion (€9.5 billion) in 2020.

For the 50% of today's pensioners with the lowest income, 90% of their income is *folkepension* (thus, from Pillar I). But this situation is changing with the growing importance of Pillar II. Today almost 60 percent of the newly retired people have made contributions to pillar II during their active years on the labour market. In 2040, private pensions are expected to exceed half of the total income for about 40% of the pensioners. Even for the lowest income groups of the retired population, about 20% of their income is expected to come from private pensions under the condition of an unchanged level for the *folkepension* (of Pillar I).[74] However, at older ages some pensioners become increasingly dependent on Pillar I pensions, since schemes with period instalment expire.

Pension Vehicles

Private pension schemes are administered by pension funds, insurance companies or in banks. This goes for Pillar II as well as for Pillar III.

In the present description, the emphasis is on Pillar II since it is the more important of the two. If Pillar III differs from Pillar II, it is mentioned in the text.

A Danish industry-wide *pensionskasse* – or pension fund – is a legal entity owned and governed by its members. A *pensionskasse* can provide the same kind of products as a life insurance company and it is subject to the same kind of regulation as a life insurance company – specifically, the Solvency II Directive.[75]

The first occupational schemes for civil servants were established in *pensionskasser,* which provided pension schemes for a specific profession, e.g., nurses. Occupational pension schemes in the private sector thus originally covered employees with different professional backgrounds working in the same company. Such schemes used a life insurance company as a vehicle. Today, the differences between the legal forms have lost importance. Many occupational pension schemes for the private sector are industry-wide and are administered by life insurance companies.

But still, a distinction is often made between industry-wide schemes and company schemes. Industry-wide schemes are often more standardized and with little freedom of choice left to

[74] See http://www.atp.dk

[75] Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (recast) http://data.europa.eu/eli/dir/2009/138/2014-05-23.

the single member. All decisions are made collectively. The pension provider is only indirectly exposed to competition since customer mobility is low. These characteristics make in general the schemes relatively cheap. Insurance companies administering company schemes are more exposed to competition. Company schemes more often change pension providers. In general, company schemes offer more individual possibilities, e.g., concerning insurance coverage and choosing between a guaranteed or none-guaranteed scheme. Therefore – as a general trend – the insurance companies have higher costs, especially related to acquisition and to individual counselling.

An occupational pension scheme normally provides coverage for old age, disability and early death. Critical illness and even health care are other insurance risks that have become typical to offer. Typically, 15%-25% of the contributions are spent on coverage for social risks other than old age.

The supply of pension products is regulated partly by tax law and partly by the general regulation for insurance and banking. The regulation is the same for Pillar II and Pillar III. This means that insurance companies and pension funds on the one hand and banks on the other hand provide competing products to the market. Products offered by life insurance companies and pension funds may accumulate savings but must also cover some kind of insurance risk – longevity, death, disability etc. – whereas banks can only act as an intermediary of insurance coverage supplementary to a saving product.

Tax regulation defines the products

Tax rules play a crucial role for pension products.

The tax regulation defines the distinctions between the 3 groups of pension products:

- Annuities (*livrente*);
- Periodic installments or fixed term annuities (*ratepension*);
- Lump sum pension (*kapitalpension/aldersopsparing*);

All kind of pension savings can be paid out in a window three to five years before reaching the statutory retirement age.

The general taxation principle is a so-called ETT-scheme, that is, contributions are tax-deductible in the current income, the return is taxed, and pension income is included in taxable income. More recently a specific scheme has been introduced which is of the TEE-type.

Annuities (*livrenter*) provide the beneficiary with a monthly pay-out from retirement to death. Regular contributions to an annuity are deductible in the income tax base without any limit. Pay-outs are taxed as personal income. The annuity-contract may have contingencies for lump-sum payments to heir in case of death.

Periodic instalments or fixed term annuities (*ratepension*) provide monthly instalments of equal amounts for a period of minimum 10 years and maximum 25 years. A *ratepension* can be life-contingent or the capital value can be paid out to the heirs in the case of death[76]. There is a cap on the contribution DKK 59.200,700 (€7.900) in 2022. Pay-outs are taxed as personal income.

Lump sum pensions (kapitalpension/aldersopsparing) provide you with a lump sum in old age. The lump sum is paid out five years before statutory retirement age at the earliest and 15 years after this age at the latest. The regulation of this product has changed a lot during the years. Today there are two products in the market: *kapitalpension* and *aldersopsparing*. For a *kapitalpension* the income tax is deferred. When paid out the accumulated savings are taxed at 40%. New contributions to a *kapitalpension* have not been allowed since 2013, and instead a new scheme, *aldersopsparing,* has been introduced. Contributions to an aldersopsparing are not deductible and the pay outs are not taxed and are not included in means testing for the public pension supplements. Hence, income tax is no longer deferred when saving in this type of product. The maximum contribution was DKK 29,600 (4,000 euros) in 2017, but the regulation has been changed, so the maximum contribution for 2022 is DKK 5,500 per year (€ 700) except for the last 5 years before retirement age, where the maximum contribution per year is DKK 54,200 (€ 7.200) (see section on taxation).

[76] https://skat.dk/skat.aspx?oid=2559

Table DK7 (A). Number of persons contributing to one or more private pension schemes, 1998-2021							
	Individual schemes						
Year	Annuities	Periodic instalment, insurance	Lump sum insurance	Periodic instalment, bank	Lump sum, bank	TTE lump sum, insurance or bank	*One or more individual schemes*
1998	259.000	82.000	267.000	45.000	744.000	-	1.146.000
1999	257.000	96.000	236.000	91.000	631.000	-	1.078.000
2000	260.000	102.000	221.000	124.000	600.000	-	1.064.000
2001	256.186	105.372	208.361	126.776	566.013	-	1.029.736
2002	252.354	109.068	198.518	137.834	545.463	-	1.010.388
2003	249.901	112.817	189.861	151.401	540.339	-	1.005.919
2004	260.574	117.470	182.494	168.181	543.297	-	1.017.806
2005	262.298	119.131	174.437	198.445	553.162	-	1.033.467
2006	255.074	119.054	166.014	221.825	561.435	-	1.038.035
2007	238.632	123.642	156.234	290.036	646.566	-	1.132.179
2008	232.590	124.325	145.194	259.241	529.316	-	1.017.452
2009	226.275	122.904	137.893	277.580	505.959	-	998.868
2010	216.788	91.110	128.657	191.101	479.363	1.700	855.465
2011	225.108	90.557	121.585	192.034	467.943	7.098	856.640
2012	214.991	93.408	118.720	177.146	457.700	6.795	812.337
2013	221.418	144.571	5.791	206.323	14.711	5.997	571.360
2014	237.274	137.031	3.681	203.616	2.012	220.648	631.716
2015	242.256	130.106	2.953	194.441	1.302	265.193	656.600
2016	253.018	126.346	2.591	185.565	933	291.129	650.869
2017	262.908	124.312	2.289	203.182	953	386.673	740.165
2018	268.336	131.673	2.009	187.622	830	327.887	674.315
2019	268.733	133.086	1.794	181.274	514	3.982	302.547
2020	268.758	134.770	1.573	191.376	501	3.760	316.578
2021	259.458	141.701	1.271	196.597	740	3.728	326.320

Source: *Forsikring & Pension Danmark*

Table DK7 (B). Number of persons contributing to one or more private pension schemes, 1998-2021							
	Occupational schemes						
	Annuities	Periodic instalment, insurance	Periodic instalment, bank	Lump sum, insurance	Lump sum, bank	TTE lump sum, insurance or bank	*One or more occupational schemes*
1998	1.513.000	130.000	26.000	742.000	269.000	-	1.721.000
1999	1.571.000	224.000	60.000	836.000	205.000	-	1.751.000
2000	1.676.000	537.000	69.000	1.115.000	196.000	-	1.855.000
2001	1.728.748	624.144	73.330	1.148.454	195.035	-	1.917.845
2002	1.755.775	678.454	67.771	1.114.154	150.613	-	1.944.128
2003	1.782.288	896.553	68.229	1.103.331	133.711	-	1.963.281
2004	1.818.140	962.244	75.532	1.126.380	118.735	-	1.995.636
2005	1.851.642	1.009.499	87.712	1.133.902	104.503	-	2.027.786
2006	1.897.567	1.099.180	106.666	1.150.081	100.874	-	2.088.547
2007	1.971.768	1.192.310	117.778	1.183.232	97.106	-	2.150.860
2008	2.081.505	1.259.956	123.282	1.184.460	93.221	-	2.270.862
2009	2.077.861	1.251.463	127.094	1.126.765	87.099	-	2.259.965
2010	2.061.011	1.240.876	100.526	1.046.102	80.423	-	2.102.855
2011	2.091.462	1.270.709	92.699	1.009.685	75.510	-	2.242.204
2012	2.123.697	1.310.147	85.834	965.023	72.376	-	2.259.603
2013	2.143.487	1.464.161	92.614	3.537	1.951	9.552	2.265.953
2014	2.174.825	1.506.361	87.255	1.989	142	10.069	2.290.884
2015	2.197.722	1.535.244	82.409	419	37	11.343	2.310.180
2016	2.242.792	1.572.731	78.058	208	12	13.363	2.344.391
2017	2.284.406	1.613.025	74.175	154	35	16.907	2.378.569
2018	2.302.287	1.605.300	72.176	123	253	559.030	2.398.171
2019	2.328.187	1.630.375	66.578	96	11	741.557	2.418.462
2020	2.335.426	1.618.870	59.043	72	12	751.526	2.437.288
2021	2.390.804	1.655.359	57.226	66	16	779.190	NA

Source: Forsikring & Pension Danmark

Table DK8. Total pension contributions to private pension schemes (2001-2021)		
Year	Amount in DKK millions	(€ millions)
2001	55.216	7.401
2002	60.187	8.068
2003	65.850	8.827
2004	69.057	9.257
2005	74.074	9.929
2006	85.032	11.398
2007	93.298	12.506
2008	103.381	13.857
2009	98.175	13.160
2010	107.088	14.354
2011	114.456	15.342
2012	120.741	16.184
2013	124.458	16.683
2014	131.663	17.648
2015	138.213	18.526
2016	147.800	19.811
2017	160.480	21.511
2018	170.634	22.872
2019	172.498	23.122
2020	183.376	24.580
2021	203.261	27.245

Source: Forsikring & Pension Danmark

Very often a pension scheme combines the three groups into a mix, i.e., a lump sum, with periodic instalments up to the maximum allowed contribution, and lifelong annuities for any payment above the maximum.

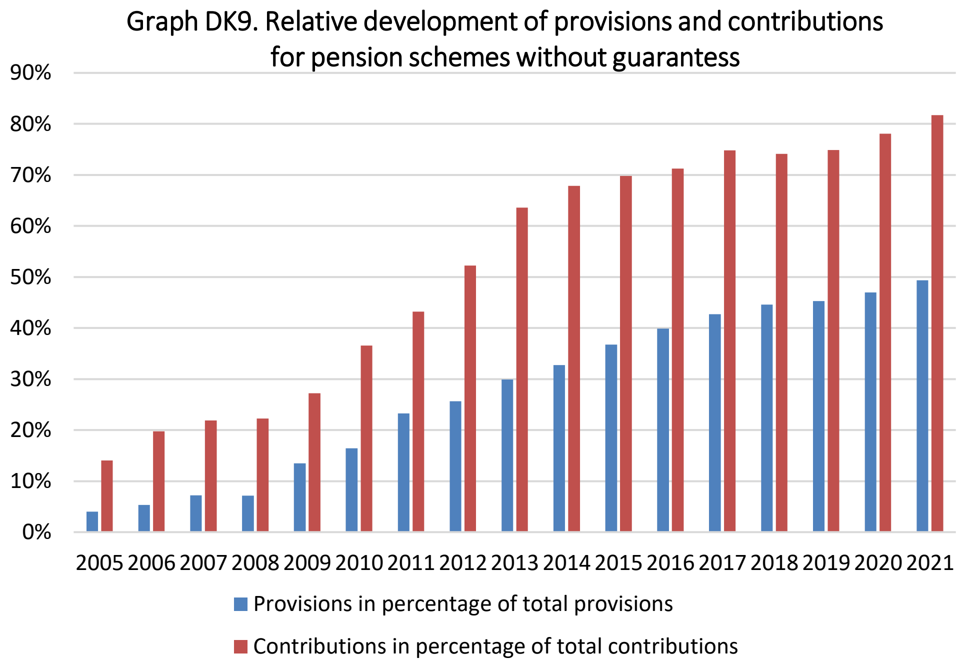
Pension savings in banks can have the form of a periodic instalment or a lump sum pay-out. There are three ways in which pension savings in banks can be invested:

- as an ordinary deposit with the interest rate offered by the bank;
- in investment funds of the customers own choice; or
- in listed equities, bonds and other financial assets owned directly by the customer.

The Danish private pension schemes are DC schemes (with a very few Pillar II exceptions). The system has gradually changed from a guarantee-based insurance approach into a market rate-based approach. Until 1994, the schemes followed a DC hybrid model. According to this model, the life insurance company or the pension fund guarantees a minimum nominal benefit, calculated on assumptions about a number of parameters such as interest rates, costs and insurance risks like longevity, death rates and disability. The guarantee is issued by the pension provider, not by the employer. The model was originally meant to have no or very little risk, since the regulatory assumptions were very cautious. Therefore, the realized result was always a surplus, and the customers were granted a bonus. But the interest rate and the longevity developments have made it increasingly difficult to meet these guarantees. Therefore, the Financial Supervisory Authority (FSA) gradually lowered the maximum allowed interest rate guarantee to 1% for new contracts and introduced new requirements for projecting longevity. At the same time, the FSA gradually raised the required provisions for existing guarantees. The guarantees are often binding for the insurance company/pension fund. However, some occupational pension schemes have been able to decide collectively to cancel the guarantees and change to a market rate-based approach. Others have offered their customers compensation if they were willing to cancel the guarantee individually. Thus, these guaranteed schemes play a much less important role today than previously with the implication that the single deposit holder carries more risk than in the past.

In 2006, contributions to guaranteed schemes amounted to 83% of total contributions. In 2019, this share has decreased to 24%. Hence, today close to 70 % of all new savings are placed in DC schemes without guarantee or with a guarantee only against loss. Measured by the provisions, the guaranteed schemes have decreased from 95% in 2006 to 50% in 2020. In addition, the high-rate guarantees – above 4% in interest rate – have decreased even more, from 58% in 2005 to 10% in 2020[77].

[77] https://www.finanstilsynet.dk/~/media/Tal-og-fakta/2019/MU/Markedsudviklingsartikel_LP_2018-pdf.pdf?la=da, table A2.



Source: Forsikring & Pension Danmark

Source: Forsikring & Pension Danmark

Charges

The level of costs has received increasing attention in recent years. This is partly due to the low rate of interest in the market.

The Money and Pension Panel – a Council under the Ministry of Industry, Business and Financial Affairs – has calculated that, under realistic assumptions, an increase of costs of 50% of total savings/provisions reduces of life-time consumption by 1.2% for low-income groups and 2.3% for high-income groups. The same increase makes it necessary to postpone retirement by two years for life-time consumption to remain unchanged.

The Danish FSA has analysed the development of administration costs, including costs related to acquisitions and sales, but not including investment costs. The administration costs have declined over the last 10 years to 0,17% of total provisions in 2019. The FSA distinguishes between market-oriented insurance companies (running mainly company pension schemes) and non-market-oriented insurance companies/pension funds (running mainly industry-wide pension schemes). Since industry-wide pension schemes are typically governed by the customer representatives, and since their schemes are often very standardized, they are in general cheaper to run than company schemes.

Table DK11. Administration costs in DKK and in percentage of total provisions and contributions, 2007 -2020

	Costs/customer		Costs in percentage of	Costs in percentage of total
	in DKK	in euro	total provisions	contributions
2007	949	128	0,44	4,7
2008	895	120	0,43	4,5
2009	929	125	0,43	4,7
2010	814	109	0,34	4,0
2011	956	129	0,36	4,2
2012	882	119	0,33	3,9
2013	881	119	0,30	3,6
2014	826	111	0,28	3,3
2015	772	104	0,26	3,0
2016	769	103	0,22	NA
2017	755	101	0,19	NA
2018	762	102	0,18	NA
2019	787	106	0,22	NA
2020	756	102	0,20	NA
2021	772	104	0,18	NA

Source: Danish FSA

Transparency on costs has increased. Since 2011, life insurance companies and pension funds have agreed to inform all their customers of their total charges in DKK (ÅOK) and their total charges in percentage of the value of their pension (ÅOP) on a yearly basis. These key figures include direct and indirect administration costs, direct and indirect investment costs, charges to the company for any guarantees and other kinds of risks as well as any charges paid by the life insurance company to intermediaries. How total costs are allocated to the individual customers is decided by each insurance company or pension fund, but the key for distribution is controlled by the external auditor to ensure equivalence between the figures of the annual report and total distributed charges (ÅOK/ÅOP).

For market comparisons between life-insurance companies and pension funds, key figures for several standardized examples are published on the website www.faktaompension.dk (see below).

While higher administration costs always lead to lower pension benefits, it is difficult to evaluate investment costs. Investing in government bonds is very cheap – but it might not be the most profitable investment. Investing in foreign equities is more expensive – but might have a higher expected return. So, the relationship between investment costs, investments risks and expected investment return is not straightforward.

Furthermore, the pension companies' investment management must take their liabilities into consideration. Some investments are made to hedge the risk against, for example, changes in interest rates. When comparing investment costs, one must consider the existence of guarantees.

The website faktaompension.dk offers the opportunity to compare total charges of various pension companies and for various types of customers. All figures are calculated and reported by the pension companies and the website is run by the Danish Insurance Association.

The website www.pensionsinfo.dk gives the individual access to information on all pension entitlement – public and private – and thus essential information to assess the adequacy of pension savings. The website also includes facilities such that the consequences of the retirement age for pension benefits can be assessed. To increase transparency and facilitate comparisons, projections of future pension level are now also presented common return expectations determined by the Council for Return Expectations (https://www.afkastforventninger.dk/en/).

Table DK12 illustrates cost levels and costs structures for three typical different persons at different positions in the lifecycle, for three different pension companies.[78] Costs are relatively

[78] The companies compared are: PFA – Denmark's largest life insurance company with around 1,3 million customers in 2019 and total pension provisions of about DKK 587 billion (€79 billion); a non-profit company founded in 1918 by a number of private employer organizations which runs mostly pensions schemes for large or medium-sized Danish companies; Danica – the second-largest life-insurance company in Denmark with around 650,000 customers and pension provisions of about DKK 304 billion (€41 billion). Runs mostly pension schemes for large or medium-sized Danish companies; Pensiondanmark – founded in 1989 by the social partners to run an industry-wide pension

higher for young than older contributors, reflecting their lower level of accumulated assets. Administrative costs are relatively constant across types and hence matters relatively less, but investment costs are higher for older contributors with larger accumulated assets. Total charges are lowest in the industry-wide schemes with the highest degree of standardization and with no acquisition costs. Remaining schemes with guarantees have higher charges, as an example a person close to retirement (type III) would have costs of 1.4% and 1.1% in Danica and PFA, respectively, and payments for the guarantees constitute about half of total charges.

Table 12 Comparative examples of charges between different pension products and types

		Pension Danmark			Danica Pension			PFA		
Type		I	II	II	I	II	III	I	II	III
Costs in %		1.5	0.5	0.4	4.3	1.3	1.1	2.1	0.9	0.7
Total costs	€	57	375	1190	162	994	3077	78	708	2151
	DKK	425	2790	8854	1205	7397	22895	580	5271	16009
Of which	Administration	297	297	297	852	852	1049	345	575	920
	Investment	128	2493	8557	353	6545	21846	235	4696	15089

Note: Type I: Age below 40, annual contribution DKK 30.000, assets= 0, Type II: Age 40-55, annual contribution DKK 30-80.000, assets DKK 500.000, Type III: Age above 55, annual contribution at least DKK 80.000, Assets DKK 2. mio.
Source: www.faktaompension.dk

Taxation

Numerous changes in taxation have affected pension savings. The general trend has been to decrease marginal income taxes and broaden tax bases. The ETT scheme implies that the tax value of the deduction of a marginal increase in the contribution depends on the marginal tax rate when contributions are made, while the taxation of the resulting pension depends on the marginal tax rate when retired. With a progressive tax system, the latter marginal tax tends to be lower than the former (especially for middle-income groups), which is an implicit tax subsidy to pension savings. The tax reforms reducing the progressivity of the tax system have thus reduced this subsidy.

Taxation of the return was introduced as early as 1984. From this year, all interest earnings in pension schemes were taxed at a variable tax rate aiming to tax all real interest above 3.5%. From 1998, this real interest rate taxation was replaced by a proportional tax rate on all yields from pension assets. The tax rate is at present 15.3% and lower than the general taxation of capital income.

scheme for unskilled workers, mostly in the private sector. 750,000 customers and pension provisions of about DKK 240 billion (32 billion euros).

A difficult design issue is how to match public and private pensions. The former are means tested to target the least well-off pensioners. This distributional consideration creates a disincentive effect for individuals affected by means testing. Increasing pension savings and thus private pension will via means testing lower public pensions. This is an implicit tax which increases the effective tax beyond the tax-rates applying in the ETT-scheme, especially for contributions made close to retirement. Hence, higher savings or later retirement (implying larger contributions via occupational scheme) may result in high effective tax rates – in some cases even exceeding 100%. This is counter-productive to the aim of strengthening savings incentives and providing incentives for later retirement, and this dilemma has prompted several reforms.

Numerous changes in the tax rules for contribution to lump-sum and periodic instalment schemes have been made, especially on the cap on contributions. For individuals – e.g. self-employed – with variable income and thus scope for making pension contributions there is an argument for allowing large contributions in a single year. However, it is also a way for high-income groups to lower effective taxation. These two concerns have influenced policies in this area. As discussed above, the lump-sum pension scheme is closed for contributions (since 2013) and has been replaced by the aldersopsparing. This scheme follows a TTE principle, and pension payments are not included in means testing of public pension. This scheme was introduced primarily to reduce high effective tax rates on pension savings made close to retirement. Therefore, there is a cap on contributions depending on age relative to the statutory retirement age (see above) with a low cap for contributions made between 15 and 10 years prior to reaching the statutory retirement age, and a higher cap for contribution made 5 years or less before reaching the statutory retirement age.

In addition, age-dependent tax premia for pension contributions have been introduced, also to reduce effective taxation of pension savings involving a two-step age dependent tax rebate for pension contributions. Specifically, the rebate equals 12% for contributions made in a window of 15 to 5 years before reaching the statutory pension age, and 32% for contributions made no more than 5 years before reaching the statutory retirement age.

All these changes have added extra layers of complications to an already complex system, and imply that the taxation principles have evolved into a hybrid combining both ETT and a TTE schemes

Table DK13. Taxation of contributions, investment returns, and pension pay outs

	Contributions	Investment returns (4)	Pay outs
Annuities	E (1)	T	T
Periodic installments	E (1) (5)	T	T
Lump sum			
Kapitalpension	E (1) (2)	T	T (3)
Aldersopsopsparing	T	T	E

Source: BETTER FINANCE; Where: 1) Taxed with 8% wage tax; 2) New contributions have not been allowed since 2013; 3) Taxed at 40%; 4) All kind of returns are taxed at 15,3 %; 5) Exempted up to a maximum of DKK 53.500.

Pension Returns

In general, the investment policies are decided by the insurance company or the pension fund with the double aim to limit the risk and generate high returns. Savers can only influence the investments directly in unit-linked schemes and in bank saving schemes.

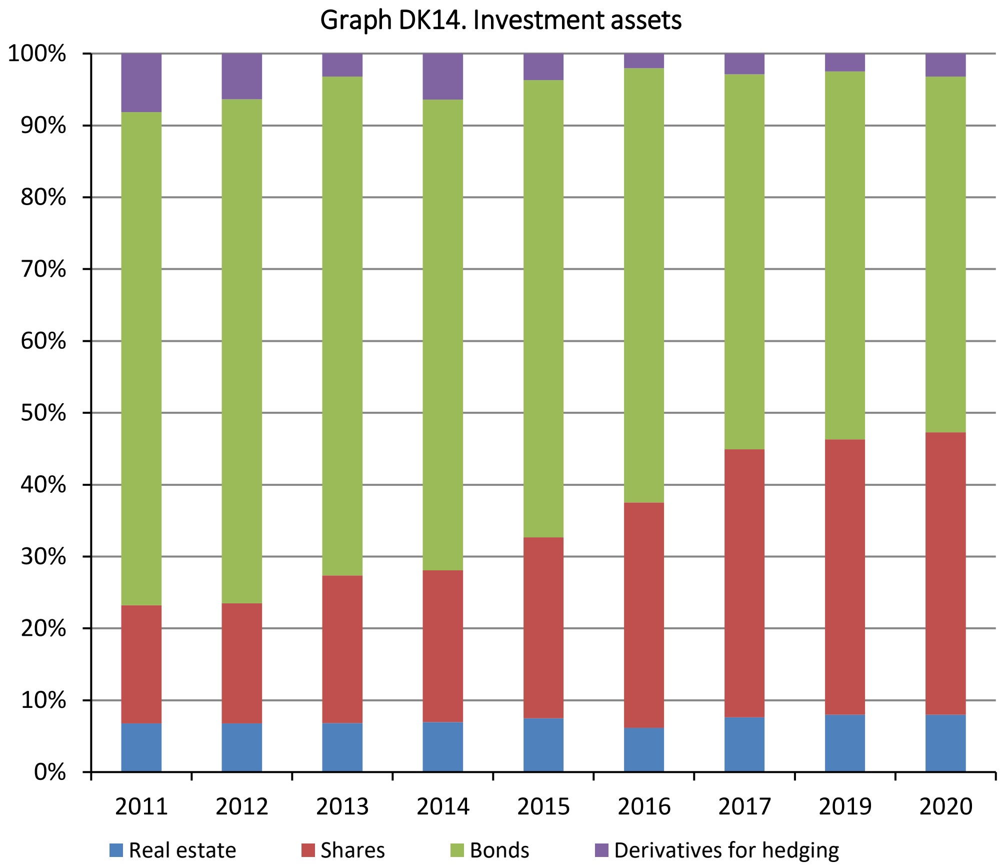
For DC schemes without guarantee, the major market-oriented insurance companies offer unit-linked products allowing the deposit holder a say on investment policies. Even customers in unit-linked schemes often let the insurance company choose investment funds based on the reported risk profile of the customer.

More common are so-called life-cycle products, especially for industry-wide schemes. The insurance company invests in two portfolios, one with high risk and one with low risk. For the young entering the scheme all contributions are invested in the high-risk portfolio. Gradually as the depositor ages, a larger and larger share of the asset holdings are invested in the low-risk portfolio to enhance predictability of the pension eventually received. In most companies the split between the two portfolios depends on age only. But some companies also offer their customers the opportunity to choose their risk profile as an additional parameter. The words "high" and "low" risk should be understood in relation to a rather high spread of these portfolios. Using the risk classification for investment funds (a scale from 1 to 7), the low as well as the high-risk portfolios are normally classified between 3.5 and 4.5.

For hybrid DC schemes with guarantees, the investment policy depends on the guaranteed interest rate and the size of accumulated reserves. The higher the rate – up to 4.5% – and the smaller the reserves, the more focus on hedging and risk minimizing.

Pension savings in banks give the individual customer the opportunity to make individual investment decisions. Savings can be invested in investment funds of the customers own choice, or even in listed stocks and bonds. No statistic data are available for these kinds of investments.

Pension schemes seek an investment return that is stable in the long run, predictable and as high as possible. Traditionally, a large part of pension savings is invested in bonds. The low interest rate environment in recent years has, therefore, been a challenge. Danish pensions are still, for a large part invested in bonds, but less so in government bonds and more in mortgage bonds. The Danish market has a long tradition for financing real estate with mortgage bonds, the mortgage bond market is large compared to the size of the country, and the credit risk is rated almost as low as for government bonds.



Source: FSA

Investments in equities have grown, and so have investments in non-listed assets and indirect investments in emerging sectors.

Lately, many pension funds have turned to alternative investments such as infrastructure investments, e.g., in green energy. As an example, a significant number of windmill parks inside and outside Denmark are financed partly by pension funds. Also, investments in emerging geographic markets, investment in forestry and other alternatives to more traditional investments have become more common, but still constitute a minor part of total investment assets.

The difference in investment policies between schemes with and without guarantees has become more outspoken in recent years. The spread in risk and return has therefore grown.

Generally, the pension sector has delivered high returns, and weathered crises like the Financial Crisis and the Corona Crises. The long-run trend to lower returns poses challenges. For some years the decline in interest rates have generated capital gains, contributing significantly to the reported returns. The after-tax return has on average been close to 5 %

since 2007 – and a bit higher for schemes without guarantees, although with substantial year-to-year variations. Looking forward, a new normal with low real rates of return will be challenging and has brought focus on the issue whether more risk should be accepted in the quest for higher returns. In an environment where the individual to a larger extent directly carries the consequences of this risk, this is a particularly important discussion.

Table DK15. Nominal and real return of private pension schemes in Denmark 2007-2020 (in %)

	Nominal return before taxes and inflation		Nominal return after taxes		Real return after taxes and inflation	
2007	0,89		0,75		0,74	
2008	-3,09		-2,62		-2,65	
2009	7,57		6,41		6,4	
2010	10,13		8,58		8,56	
2011	9,12		7,72		7,7	
2012	10,47		8,87		8,84	
2013	1,88		1,59		1,59	
2014	12,95		10,97		10,96	
2015	1,8		1,52		1,52	
	Hybrid DC with guarantee	**DC with no guarantee**	**Hybrid DC with guarantee**	**DC with no guarantee**	**Hybrid DC with guarantee**	**DC with no guarantee**
2016	7,58	6,16	6,42	5,22	6,42	5,22
2017	5,45	8,54	4,62	7,23	4,6	7,22
2018	-0,63	-3,15	-0,53	-2,67	-1,2	-3,34
2019	11,9	13,9	10,1	11,8	9,2793	10,9733
2020	5,8	6,7	4,9	5,7	4,5126	5,2749

Source: FSA

The Danish FSA started reporting the returns on investments for private pension funds as a breakdown between *hybrid defined-contribution (DC) with guarantee* and *defined-contribution (DC) with no guaranteed* pension schemes as of 2016. The key figures shown are the return-on-investment net of costs as a percentage of the market value of investment assets.

Conclusion

The Danish pension system comprises tax financed public pensions with funded occupational pensions to deliver pensions preventing poverty among pensioners and high replacement for the larger part of the population. Importantly the system is financially viable, and public finances meet requirements for fiscal sustainability even taking into account the ageing of the population.

The pension system is still maturing, and the private pensions will gain in importance relative to the public pensions, although the latter would still be significant and play an important role in preventing poverty among pensioners.

Despite the attractive track record and the projected outcomes, the system faces a number of challenges.

Combining public and private pensions addresses distributional objectives but also leaves important incentive problems. Means testing serves to target the pensions and to minimize public pension expenditures, but it creates high effective tax rates detrimental to savings incentives and later retirement. Several reforms – especially tax reforms – reduces this problem but has also considerably complicated and already complex system.

It is a strength of the occupational pension scheme that it has the support of the social planners. A drawback is the “residual” groups of individuals who do not (or not to a significant extent) contribute to an occupational pension scheme. This group is heterogeneous, but it is important to address the problem. A recently introduced mandatory pension scheme for recipients of transfer income is a step in this direction, but it is not sufficient to solve the problem.

Higher retirement ages alongside increases longevity is important not only for public finances but also for sustaining high replacement rates. Formally statutory retirement ages are indexed to longevity. This is key to the financial viability of the system, but it also raises a problem of exit routes from the labour market, since not all are capable of prolonging worklife alongside increases in longevity. Recently introduced schemes – “seniorpension” and “tidlig pension” – are addressing these issues, but it is too early to assess whether they adequately cope with the problem.

The pension system’s high degree of funding is an attractive part of the system, and in the past the returns on pension savings have been high, which has added to the support to the scheme. Looking forward to a new normal with low real rate of return, pension funds cannot deliver the same returns as seen historically, unless more risk is accepted. However, it is not clear that this is in the interest of pension savers, especially since they now more directly carry the risk.

In a system with mandatory pension contributions, governance structures are particular important to ensure that pension funds are administered in the interest of their members. This also applies in relation to charges. They have been decreasing for a long period of time and it is important to keep focus on this aspect.

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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