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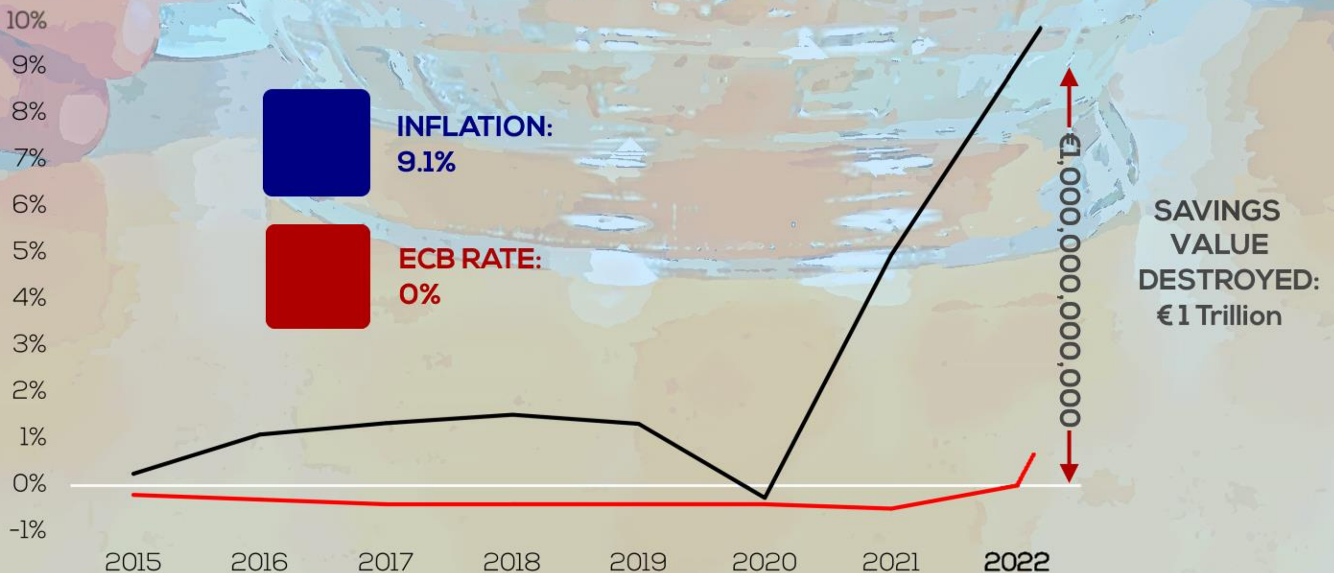
Long-Term & Pension Savings | The Real Return

2022 Edition

PENSIONS & LONG-TERM SAVINGS

FINANCIAL REPRESSION



Pension Savings: The Real Return

2022 Edition

A Research Report by BETTER FINANCE

COORDINATORS

Aleksandra Mączyńska
Ján Šebo
Ştefan Voicu

CONTRIBUTORS

Torben M. Andersen
Daniela Danková
Laetitia Gabaut
Johannes Hagen
José Antonio Herce
Arnaud Houdmont
Matis Joab
Gregoire Naacke
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url

REVIEWERS

Ján Šebo
Daniela Danková
Aleksandra Mączyńska
Ştefan Voicu

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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%

© BETTER FINANCE, 2018

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

What is pension adequacy?

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

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

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

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

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

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

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

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

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

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

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

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

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

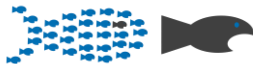
Currently, the aggregate replacement rate (mostly State pension) is very low across the countries in scope of our report: fourteen out of seventeen jurisdictions provide a replacement rate lower than 60% for over more than 30 years of working life.

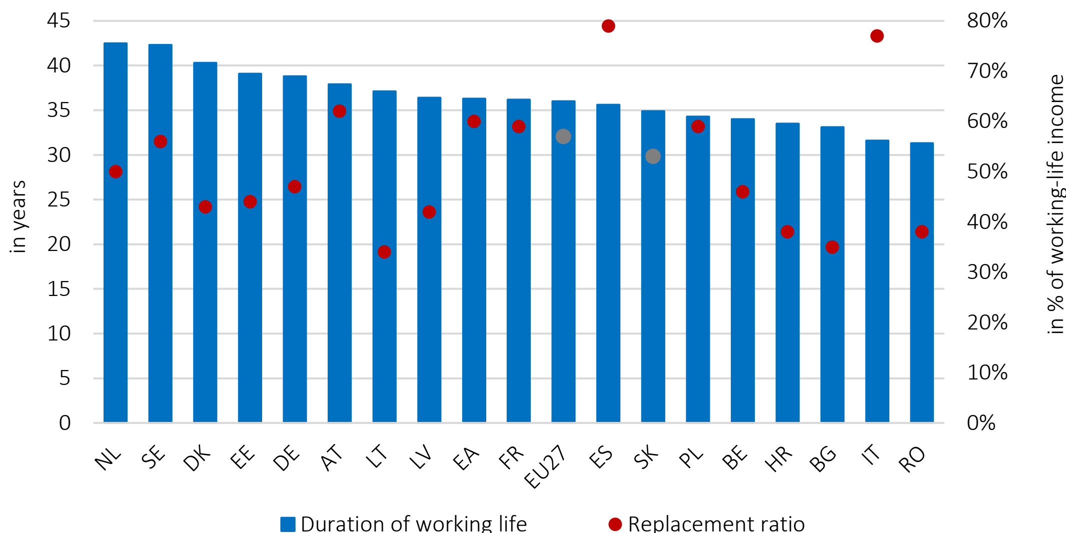
The indicator is based on the EU-SILC (statistics on income, social inclusion and living conditions) – See Eurostat, *Aggregate Replacement Ratio for Pensions (excluding other social benefits) by sex*, available at: https://ec.europa.eu/eurostat/databrowser/view/tespn070/default/table?lang=en.

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

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

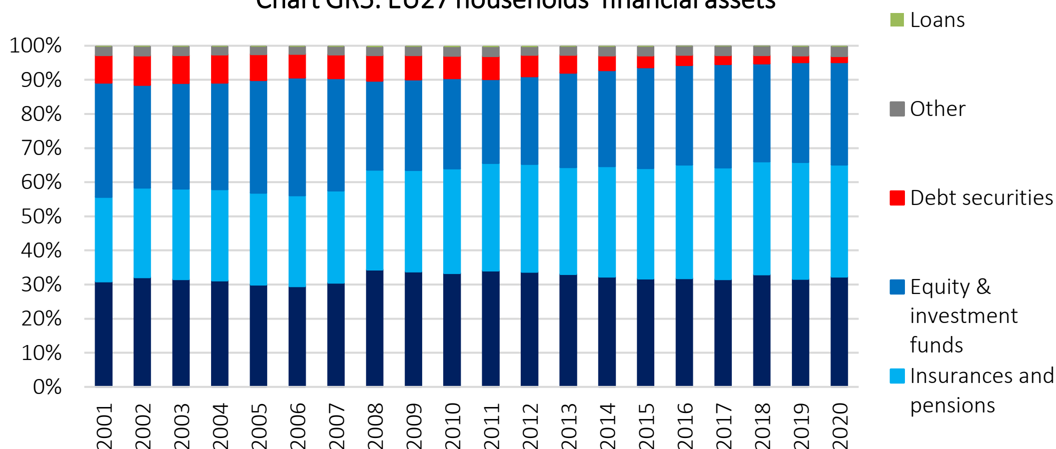
[21] Here we take only the financial point of view, but there are several other factors (non-financial) that contribute to "*maintaining the standard of life at retirement*", such as home ownership, sources of income, employment opportunities and access to non-financial benefits – see European Commission,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





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

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



Source: BETTER FINANCE based on Eurostat data

Our findings clearly confirm that capital market performances have unfortunately very little to do with the performances of the actual savings products distributed to EU citizens. This is particularly true for long-term and pension savings. The main reason is the fact that most EU citizens do not invest the majority of their savings directly into capital market products (such

as equities and bonds), but into "packaged products" (such as investment funds, life insurance contracts and pension products).

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

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

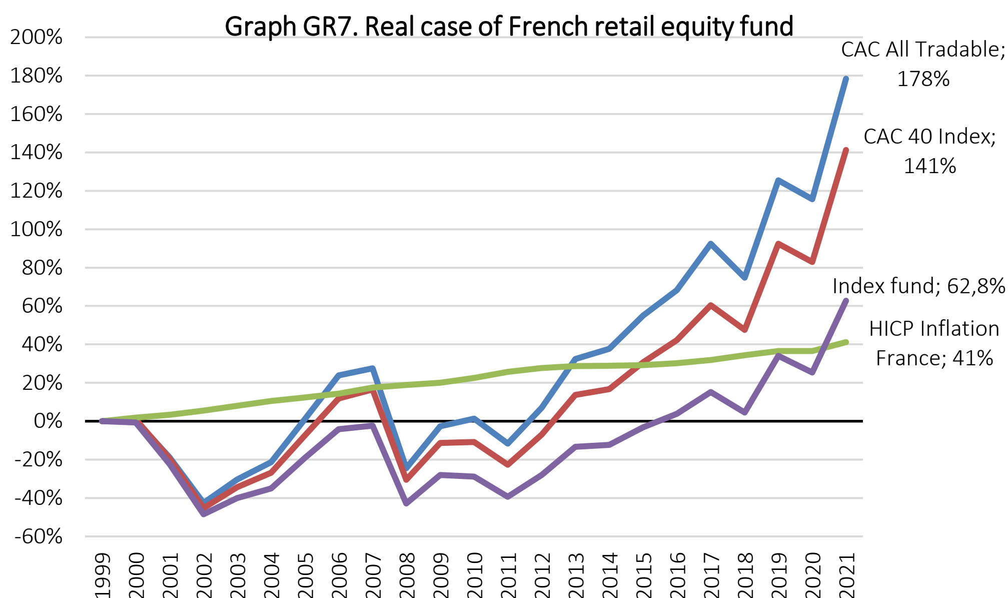
Table GR3 and Graph GR4 below show two striking – but unfortunately not uncommon – real examples of this largely ignored reality: capital market performance is not a valid proxy for retail investment performance and the main reasons for this are the fees and commissions charged directly or indirectly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

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

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

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

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



Source: Own elaboration based on Graph FR3 in the French chapter

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

4. European Pension returns outlook

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

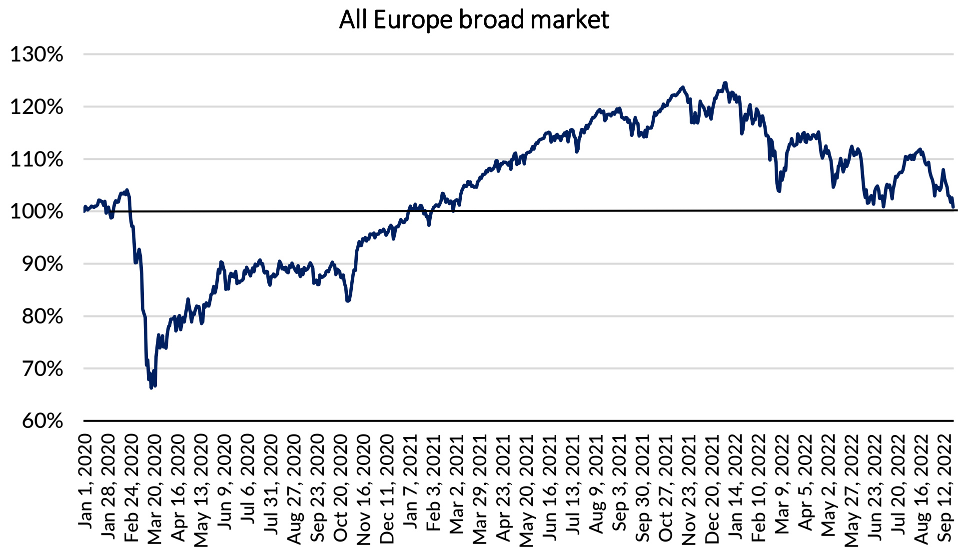
At the time of writing, the overall mid-term outlook for the adequacy of European pension savings is worrying when one analyses it for each of these main return drivers:

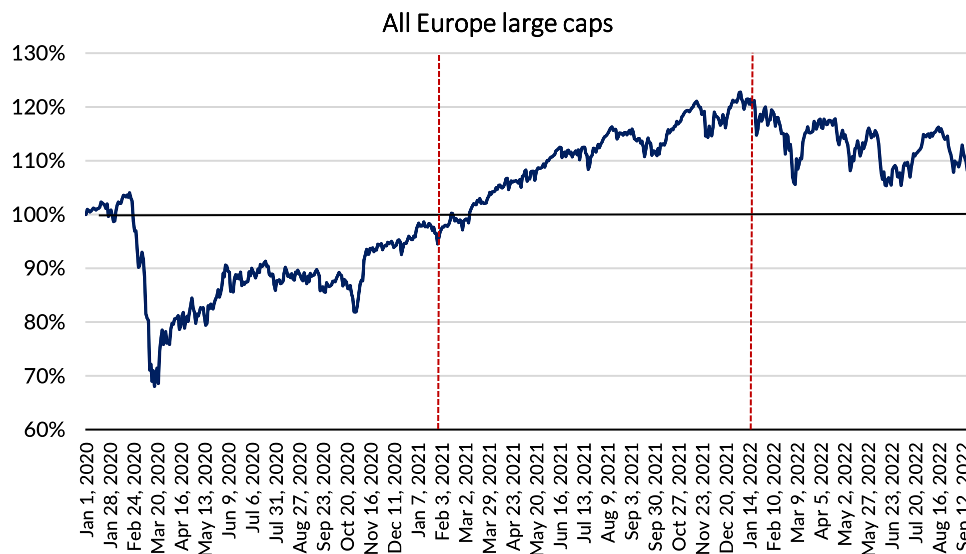
a) it is unlikely that the European bond markets will come any closer to the extraordinary returns of the period ended in 2020 for bonds due to the continuous

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

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

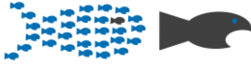
b) the strong growth of equities in 2020 and 2021 is already reverting, with the European all country broad equity index reaching pre-2020 levels and the large caps market also close by;



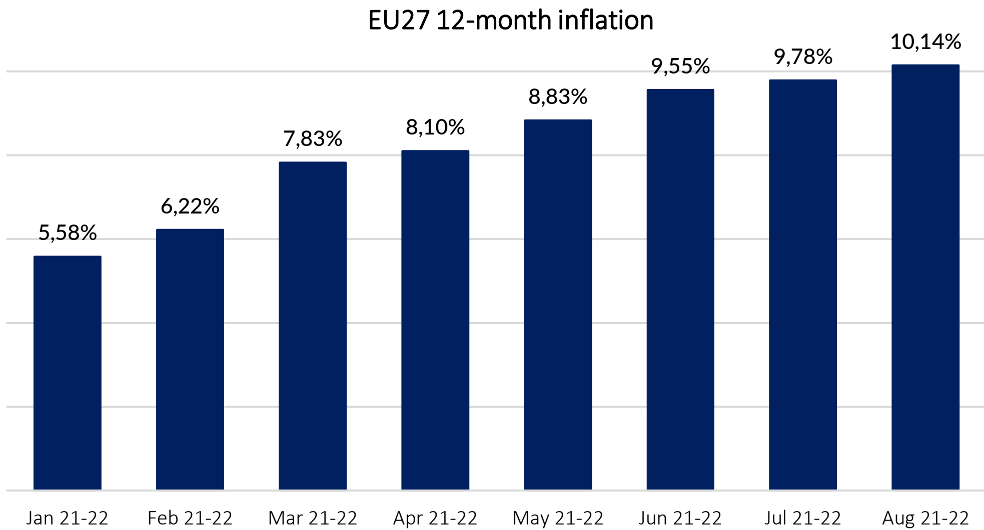


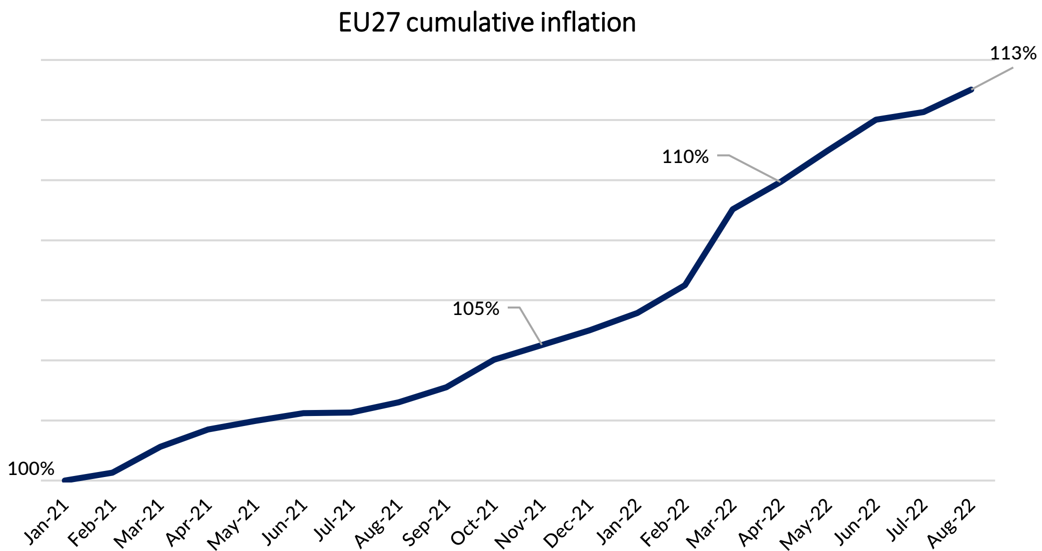
Source: Own composition based on MSCI data

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



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





Source: Own composition based on Eurostat data

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

Pension Savings: The Real Return

2022 Edition

Country Case: Italy

Sommario

Il sistema pensionistico italiano ha avuto una spesa pubblica del 17% del PIL nel 2020, 0,2 p.p. aumento rispetto al 2019 (16,8% del PIL). La riforma del sistema pensionistico italiano nel 2011 ha creato un solido regime di primo pilastro, con un tasso di sostituzione aggregato delle pensioni del 73% nel 2019, uno dei più alti tra i casi nazionali presi in esame in questo Rapporto. Considerando anche il tasso di partecipazione relativamente basso delle famiglie italiane ai mercati dei capitali, l'incentivo a indirizzare il reddito disponibile verso il risparmio previdenziale privato oi prodotti di investimento è basso. Complessivamente il 67,3% dei pensionati italiani percepisce una sola pensione e il 24,7% percepisce due pensioni (quindi pensioni pubbliche e private). Ciò risulta evidente se si considera la percentuale del patrimonio dei fondi pensione italiani, pari al 10% del PIL, nonché il tasso di copertura del secondo pilastro del 20% e del terzo pilastro del 14,2% della forza lavoro.

Per quanto riguarda le performance, i fondi pensione contrattuali hanno restituito x% annuo in media negli ultimi 21 anni (2000-2020). I fondi pensione aperti hanno restituito in media x% annuo nello stesso periodo., PIP (Piani Individuali Pensionistici) con utili realizzati in media x% annuo negli ultimi 13 anni, mentre i PIP unit-linked hanno registrato % annua in media nello stesso periodo. Tutti i rendimenti sono espressi al netto di oneri e inflazione.

Summary

The Italian general government's public expenditure on old-age pensions increased over the last 21 years from 11.4% to 15.1% of GDP. The Italian pension system reform in 2011 created a strong Pillar I scheme, with an aggregate replacement ratio for pensions of 72% in 2020 (second highest of the country cases analysed in this report) and 77% in 2021 (highest based on available data). Considering also the relatively low participation rate of Italian households in capital markets – which however increased over 2020 and 2021 - the incentive to direct available income to the private retirement savings or investment products is low. A total of 67.3% of Italian pensioners receive just one pension, and 24.7% received two pensions (meaning public and private pension income). This becomes apparent when looking at the percentage of Italian pension funds' assets, of 10% of GDP, as well as the coverage ratio for Pillar II of 20% and Pillar III of 14.2% of the labour force.

With regards to performances, contractual pension funds returned x% annually on average over the past 21 years (2000-2020). Open pension funds returned -% annually on average over

the same period., PIP (*Piani Individuali Pensionistici*) with-profits experienced % annually on average over the past 13 years, while PIP unit-linked experienced % annually on average over the same period. All returns are expressed net of charges and inflation.

Introduction

The Italian Pension System is divided into three pillars:

- Pillar I – the public (state) pension scheme;
- Pillar II – the occupational (mandatory) pension arrangements;
- Pillar III – the individual (voluntary) pension schemes.

Pillar I – State Pension

The first pillar (state and mandatory) is the main pension vehicle in Italy and is made up of two tiers: the zero and first tier. The zero tier consists of a social pension ensuring a minimum level of income for the elderly. The first-tier covers employed individuals and it constitutes a notional defined contribution system for all future generations.[202]

The Italian pension system used to be a Defined Benefit system. Since 1995, it is based on a Notional Defined Contribution system. The Italian state pension system went through intensive reforms. The year 1995 can be seen as a turning point, moving from a defined benefits system towards a defined contribution system. The Dini reform (law 335/1995) is one of the most important reforms towards the restructuring of the Italian pension system. As a result, all workers entering the job market after 1995 have been accruing their pension entitlement according to a defined contributions method, while before 1995 pension entitlements were computed according to an earnings-related system.

The next pension reform came on the background of an ageing population and a massive pension expenditure (relative to the GDP). In 2011, the minister of Welfare and Social Policy under the Monti Government, Elsa Fornero, implemented a state pension reform (law n.214) to bring the system closer to equilibrium. Under the new system, pension eligibility is based on working years rather than age. Earlier retirement is possible, but subject to penalties. The public pension system was thus sustainable. Nevertheless, the Italian Constitutional Court stated in April 2015 that the suppression of indexation of pensions on inflation included in the "Fornero law" was unconstitutional. The indexation of pensions on inflation was estimated to €500 million in unforeseen costs to the first pillar.

Further followed the "Quota 100" measure, which means that if the sum of the age and number of years worked is 100, the worker can retire. Since January 1st, 2019, the new measure offers the opportunity for workers aged at least 62 with 38 years of contributions to retire earlier than the normal retirement age of 67 years. The "Quota 100" was modified to

[202] Since the structural reform implemented by Minister Dini in 1995, the Italian pension system has been re-designed according to the Notional Defined Contribution system, in order to guarantee the stability of public finances.

"Quota 102" in 2022 to increase the minimum retirement age to 64 (thus, 64+38) but will cease to operate as of 31st December 2022 (as well as "Ape Sociale" and "Opzione Donna").

Reforms in the Italian pension system are foreseen for this year on the background of a new Government that will be formed after the 25 September elections and the expiry of the three aforementioned instruments. To the date of publication, we do not know exactly how the form will look like.

Pillar II – Occupational pensions

The second pillar is made up of collective complementary pension plans. These can be contractual occupational pension funds (managed by social partners with Collective Bargaining Agreements) or open pension funds linked to collective affiliations (managed by financial institutions).[203]

The Trattamento di Fine Rapporto (TFR) is also part of the second pillar. The TFR is a deferred indemnity. Each year the employer has to put aside (by law) part of the worker's salary which will be returned to the employee upon termination of the employment contract.

Pillar III – Voluntary (individual) pension

The third pillar is made up of voluntary contributions to individual complementary pension schemes, *Individual Pension Plans* (PIP). Individuals can also make contributions to open funds in the case of individual affiliations. Given the strong component of mandatory contributions within the state pension system, both collective and individual complementary pension funds play a small role in the financing of future retirees' income. While the savings in collective complementary pension funds are rather small, private savings are still consistent. If all pension contributions and home ownership were transformed into an annuity, the corresponding stream of generated income at retirement would be very high.

To summarise the information of the pension system set-up and to obtain a basic overview of the pension system in Italy, the table below presents key data on the multi-pillar pension system.

[203] Igor Guardiancich, 'Current Pension System: First Assessment of Reform Outcomes and Output' (2009) European Social Observatory Country Report on Italy, 2009 http://www.ose.be/files/publication/2010/country_reports_pension/OSE_2010_CRpension_Italy.pdf

Introductory table. Multi-pillar pension system in Italy		
PILLAR I	PILLAR II	PILLAR III
State Pension	Private, voluntary and collective funded system	Private, voluntary and individual savings
	Legislative Decree 124/93 on complementary pension plans implemented in 1993 Reform on complementary pension (Legislative Decree 252/2005)	
National Social Security Body (INPS)	Pension accumulation companies	Insurance companies
Mandatory	Voluntary	Voluntary
Publicly managed	Privately managed pension funds	Privately managed pension funds
PAYG	Partially or fully funded	Fully Funded
Notional Defined Contribution system (NDC)	DC (Defined Contribution scheme)	
Quick facts		
Number of old-age pensioners: 9,368,107	Funds: 277	Funds (new PIP): 72
Average old-age pension: €1,393	AuM: €131.9 bn.	Old & new PIP, AuM: €51.3 bn.
Monthly household average income (net): €2,492	Participants in 2021: 5.7 million	Participants in 2021: 3.8 million
Aggregate pension replacement rate (2021): 77%	Coverage ratio: 22.8%	Coverage ratio: 15.1%

Source: BETTER FINANCE composition based on COVIP Annual Report 2021 and INPS data for 2020

The real net returns (before taxes) of the main retirement provision vehicles in Italy are presented below based on 6 recommended holding periods: 1 year (2021), 3 years (2019-2021), 7 years (2015-2021), 10 years (2012-2021), and since the earliest data available (22 years for pension funds, 2000-2021, and 14 years for PIP, 2008-2021).

Summary Table – Real net returns of Italian pension vehicles (before tax)				
	Contractual pension funds	Open pension funds	PIP with profits	PIP unit-linked
2021	0.72%	2.16%	-2.74%	6.57%
2019-2021	3.57%	4.35%	0.00%	6.00%
2015-2021	1.70%	1.95%	0.28%	2.93%
2012-2021	1.90%	2.05%	0.77%	3.51%
2008-2021	1.86%	1.65%	1.16%	5.14%
2000-2021	1.29%	0.41%	n.a.	n.a.

Source: Tables IT5 and IT6

Pensions Vehicles

Collective and individual complementary pension funds

Complementary pension funds were introduced in 1993 and are composed of contractual funds, open funds and individual pension plans provided by life insurance companies. The main features of complementary pension plans are:

i. voluntary membership;
ii. funded;
iii. managed by banks, financial institutions and insurance companies;
iv. supervised by Commissione di Vigilanza sui Fondi Pensione (Individual Pension Funds Supervisory Commission - COVIP).

Following the signature of an agreement, all complementary pension funds are managed by an external financial institution that can only be an insurance company, a bank or a registered asset management company (Legislative Decree 252/2005). All complementary pension funds now operate on a defined contribution (DC) basis, as this is the only permitted type of pension plan. Defined benefit (DB) plans are restricted to pre-existing funds.

At the end of 2020, the total workers enrolled into collective and individual pension plans (Pillar II and III) amounted to 8.45 million[204]. The number of individuals covered by a pension plan represents 33% of the labour force, compared to 31.4% in 2019. The increase in membership was driven by an increase in the number of affiliates to all categories of schemes except pre-existing closed pension funds whose membership remained quite stable in 2020.

Table IT1. Number of subscribers in Complementary Pension Funds (in thousands)

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Pillar II: Collective complementary pension plans									
Contractual Pension Funds	1,951	1,944	2,419	2,561	2,763	2,949	3,095	3,184	3,369
Open Pension funds	985	1,057	1,150	1,230	1,343	1,429	1,516	1,590	1,694
Pre-existing Closed Pension Funds	655	645	646	620	611	613	618	616.6	622
Pillar III: Private and individual complementary pension plans									
New PIP	2,134	2,357	2,601	2,759	2,969	3,130	3,264	3,349	3,445
Old PIP	505	467	434	411	390	370	354	338.8	321.9
Total	**6,204**	**6,585**	**7,235**	**7,786**	**7,585**	**7,953**	**8,264**	**8,445**	**8,771**

Source: COVIP Annual Report 2021

The budget law of 11 December 2016 allows members of complementary defined contribution pension funds, who are close to retirement age, to receive early retirement

[204] Covip, 2019 Annual Report.

income from their accumulated savings in a whole or in part (*Rendita integrativa temporanea anticipata* or RITA). Eligible employees are those who benefit from a similar provision in the first pillar (Anticipo finanziario a garanzia pensionistica or APE).

To be eligible to RITA, an individual must:

- cease his / her professional activity;
- reach the requirements necessary to receive the old-age pension in their mandatory regime within the next five years or to be unemployed for more than 24 months;
- have contributed at least 20 complete years to the mandatory regime; or / and have completed five years in the pension scheme.

The individual determines the amount of the accrued capital to use until his / her official retirement. In 2019, 8,200 individuals benefitted from RITA: 6,900 individuals drawn out their entire accrued position. In 2018, the first year of application of this package 2,200 individuals benefited from RITA and 400 individuals drawn out their entire accrued position.

Pillar II

Contractual funds or Closed funds *(Net assets at the end of 2021: €65.3 billion)*

Contractual funds are also called closed funds as only certain groups of people can join. These are professional occupational funds. Amongst employees, subscription is reserved only to those whose contracts are regulated by a collective bargaining agreement (CBA). For the self-employed, contractual agreements are usually provided by professional associations. Thus, only their members can subscribe to dedicated contractual pension funds.

Contractual pension funds are defined contribution schemes and the contribution amount is established by the fund's bylaws.[205] These funds are independent legal entities, with their own capital. Their governance is based on the principle of equal representation among employers and employees.

The Board of Directors is responsible for the investment strategies and chooses the investment manager, as well as the depositary bank and the designated entity dealing with administration. The fund must report on an annual basis, at least. Given the long-term characteristic of funds, managers' mandates are usually five years, or even longer for certain types of assets.

Open funds *(Net assets at the end of 2021: €28.97 billion)*

In contrast to closed funds, membership is not restricted to certain groups. An open fund is not a legal entity. They can be established for collective or individual members, or both.

[205] Paci S., P. Contaldo, C. Fiorentino, G. Nocera, L. Spotorno, F. Vallacqua, 'Carefin Report: Pension Funds in Italy' (2010) Bocconi University.

Like contractual funds, open funds are defined contribution funds. Alike closed funds, a depositary bank is required, and administration costs can be outsourced.

The number of subscribers to open funds were 1,694,029. It increased by 6.5% over a year with 144,116 new subscribers.

At the end of 2021, assets managed by open funds amounted €28.966 billion with €2.641 billion of contributions.

The TFR, Severance Payment

During his/her whole career, an employee perceives severance payments, which are paid upon work termination. The severance payments are collected in a specific vehicle for pension asset accumulation, also known as *Trattamento di Fine Rapporto* (TFR). The TFR is computed on an annual basis and is equal to 6.91% of employee's annual remuneration. The TFR rate of return was 3.6% in 2021. It is mandatorily saved and returned upon termination of employment (such as retirement, the most common form).

The TFR can also be partially drawn on (70%) before the employee ends his / her professional activity, but only under very special circumstances, including health problems, first-house purchases and parental leave. Moreover, the stability law of 2015 enabled employees in the private sector to receive their severance payments in advance with a state guarantee on bank loans to companies.

The TFR represents a huge savings pot, and its management underwent heavy changes from January 2007. Each worker can opt to accumulate their TFR by joining a complementary pension fund. If a worker does not make such a decision, tacit consent applies for the TFR to be transferred to a collective contractual pension fund when it exists for specific sectors.

This change represented a small cultural revolution in the Italian pension structure, where pensions had previously been provided by the public sector, with no active role by workers in choosing how much to invest. Workers have mandatorily contributed a conspicuous amount of their income, through the first pillar State system, with no involvement in where to invest their savings. With the TFR law, workers are now offered the possibility to choose to join any complementary pension fund[206] among contractual pension funds, open pension funds or even PIPs (Individual Pension Plans). When opting for PIPs, workers can decide the amount they contribute, a new element in the Italian framework, with no discretion in terms of pension contributions.

If an employee decides to opt-out from complementary pension funds and belongs to a company with more than 50 employees, his / her accumulated amount of severance payments is transferred to INPS (National Institute for Social Security), which manages the severance payment according to the law. For an employee who works in firms with less than 50

[206] Cannata and Settimo, 2007

employees and who does not opt for complementary pension funds, his / her TFR remains in the firms he / she works in and represents a debt for the company.

Third Pillar

PIP, individual pension funds *(Net assets at the end of 2021: €51.3 billion)*

They are subscribed on an individual basis only, as insurance contracts in the legal framework of complementary pension funds. Within PIPs policies, two types of insurance contracts are offered: with-profits or unit-linked. A combination of the two types of contracts is possible with a more flexible risk-profile.

The with-profits policies guarantee a minimum rate of return (guaranteed and consolidated in the company's accounts) which is added to a quota related to the financial performance. The unit-linked policies do not have a guarantee. Their performance depends on the value of the units in which contributions are invested.

Public employees

The coverage of public employees by specific retirement products is very limited, as the law introducing pension funds excluded them. Contractual pension funds are only possible for individuals working in National Education (Espero), in the National Health and in a regional or local authority (Perseo and Sirio). These contractual pension funds were implemented in 1993.

There are pension funds implemented before 1993 that are semi-autonomous in their management and can collect money directly from subscribers without intermediaries. These pension funds are more numerous than those implemented in 1993.

Asset allocation of complementary pension plans

Law no.703, that regulates complementary pension funds' asset allocation, has been approved at the end of 2014. It allows more flexibility, moving from a quantitative approach to a principle-based one. Short selling remains prohibited, and funds should allocate a minimum of 70% to listed products.

Looking at the portfolio composition of the complementary pension system as a whole (both pillar II and III), low-risk assets constituted the majority of holdings. In 2021, Sovereign bonds were still the main investment and their share in total portfolio, however, it decreased slightly at 35.5% (against 41.7% in 2018). The weight of Italian corporate bonds continued to decrease in 2021 (from 21.2% in 2018 to 18.2%). The share of direct holdings of equities increased from 17.7% in 2018 to 18.9% in 2019 and 22.6% in 2021. Nevertheless, altogether, fixed income securities make up for a too large part of portfolios, i.e., 53.7%.

According to COVIP calculations, considering equities held through investment funds and derivative instruments, the equity exposure increased to 26.7% in 2019 (against 23.4% in 2018).

Table IT2. Asset allocation of pension funds (in %)						
	2016	2017	2018	2019	2020	2021
Treasury bonds	41.5%	41.5%	41.7%	40.3%	37.2%	35.5%
Corporate bonds	16.6%	16.6%	17.1%	17.7%	18.9%	18.2%
Equities	17.7%	17.7%	16.5%	18.9%	19.6%	22.6%
Mutual funds	14.4%	12.6%	13.8%	14.8%	15.5%	13.3%
Real estate	1.6%	1.4%	1.2%	1.0%	0.7%	0.6%
Other	0.9%	3.0%	2.6%	0.8%	1.5%	3.0%
Cash	7.2%	7.2%	7.1%	6.5%	6.6%	6.7%

Source: COVIP Annual Reports

Charges

COVIP calculates a synthetic indicator of cost for a member who contributes €2,500 every year with a theoretical annual return of 4%. The calculation methodology of the indicator was revised by COVIP in order to eliminate distortions between the categories of funds. Since 2014, the tax rates on investment revenues depend on the underlying assets of the funds. Since March 2015, the cost indicator is no longer calculated net but gross of the tax paid by pension funds on their revenues.

In 2021, the average cost indicator remained stable over time and thus is quite similar to that of preceding years, on which we noticed small decreases. In general, the minimum and maximum costs observed remain stable. The cost indicator decreases with the membership period, with initial fix costs being progressively amortised.

However, there is a great variation in complementary pension funds costs. In closed pension funds, the indicator cost is 1.11% for two years of participation, while it drops to 0.32% after 35 years of participation. With respect to PIP, it drops from 3.79% to 1.81%.

There are significant differences between each category of funds, depending on the distribution channels of the products and the fees paid to distributors. Economies of scale lead lower costs for closed funds while no such impact can be observed on new PIP and open funds, according to a review of individual figures by COVIP.

Table IT3. Average costs at the end of 2021 (in %) *				
	2 years	5 years	10 years	35 years
Closed Funds				
Mean	**1.11**	**0.63**	**0.45**	**0.32**
Min	*0.21*	*0.15*	*0.13*	*0.08*
Max	*3.00*	*1.49*	*1.28*	*1.13*
Open Funds				
Mean	**2.32**	**1.56**	**1.36**	**1.23**
Min	0.55	0.55	0.55	0.55
Max	4.73	3.20	2.58	2.31
New PIP				
Mean	**3.80**	**2.64**	**2.18**	**1.82**
Min	1.04	0.85	0.58	0.38
Max	6.44	4.82	4.07	3.44

Source: COVIP Annual Report 2021

Taxation

The taxation regime of pension savings in Italy is essentially an ETT regime (exempt, taxed, taxed), corresponding to the following three stages over time: contribution, accumulation and payment.

In the first phase, employee contributions to private pension funds benefit from a favourable tax treatment. An employee can deduct his / her contributions from his / her taxable income up to a ceiling of €5,164.57 per year. Employer contributions are considered as employment income and are thus subject to tax and social security contributions.

Until 2014, in the second phase a tax rate of 11.5% was applied on the accrued capital gains paid by complementary pension funds. From 1 January 2015, this tax rate increased to 20%, except for accrued capital gains generated by investments in Government Bonds which are taxed at a rate of 12.5%. The difference in taxation rates of bonds and equities is an incentive to change the asset allocation towards the former, a trend that is likely to lower the returns of pension products in the future. The budget law of 31 December 2016 foresaw that assets invested in European equities or European investment funds (up to 5% of the fund's total assets) were exempted from income tax.

In order to avoid double taxation, benefits are taxed only on the corresponding shares that were not taxed during the accumulation phase. Contributions that were not deducted, and thus already taxed, won't be taxed again.

In the third phase the corresponding benefits are taxed at a rate varying from 9% to 15% depending on the length of membership in the private pension funds. Income received before retirement age in the framework of the RITA scheme is taxed at 15%, reduced by 0.3% for each year over the fifteenth year of participation in supplementary pension schemes, with a maximum reduction limit of six percentage points. If years of enrolment in the supplementary pension scheme are prior to 2007, those years can be considered up to a maximum of 15 years.

The tax rate of pension benefits that come from TFR varies between 9% and 15%, depending on the length of enrolment in the complementary pension funds.

Pensions Returns

The following tables (IT4 A and B) provide the returns broken down by type of complementary private pension funds. Returns are calculated net of taxes paid by the pension funds on investment revenues.

After the drops in returns since 2015, as a consequence of historically low interest rates paid on bonds, the aggregate returns, net of management costs and taxes, were on average positive for all complementary pension forms and for all types of sectors in 2020.

In 2020, complementary pension schemes achieved largely positive results thanks also to the sustained rise in equity prices and the rise in bond yields. For each type of pension form, the best results were observed in the schemes with a greater exposure to equities.

Table IT4(A). Nominal returns net of charges and taxes on investment revenues by type of funds

	Contractual PFs	Guar.	Bonds Only	Bonds Mixed	Bal.	Equity	**Open PFs**	Guar.	Pure Bonds	Mixed	Bal.	Equity
2005	**7.5**	-	2.1	6.9	7.9	14.9	**11.5**	2.9	3.3	6.4	11.4	16.2
2006	**3.8**	-	2.6	2.7	5.6	8.2	**2.4**	1.0	-0.2	1.0	2.4	3.7
2007	**2.1**		2.2	2.1	2.4	1.3	**-0.4**	1.9	1.6	0.3	-0.3	-1.6
2008	**-6.3**	3.1	1.6	-3.9	-9.4	-25.0	**-14.0**	1.9	4.9	-2.2	-14.2	-28.0
2009	**8.5**	4.6	2.9	8.1	10.4	16.1	**11.3**	4.8	4.0	6.7	12.6	17.7
2010	**3.0**	0.2	0.4	3.6	3.6	6.2	**4.2**	0.7	1.0	2.6	4.7	7.2
2011	**0.1**	-0.5	1.7	1.1	-0.6	-3.0	**-2.4**	-0.3	1.0	0.4	-2.3	-5.3
2012	**8.2**	7.7	3.0	8.1	9.2	11.4	**9.1**	6.6	6.4	8.0	10.0	10.8
2013	**5.4**	3.1	1.2	5.0	6.6	12.8	**8.1**	2.0	0.8	3.6	8.3	16.0
2014	**7.3**	4.6	1.2	8.1	8.5	9.8	**7.5**	4.3	6.9	8.0	8.7	8.7
2015	**2.7**	1.9	0.5	2.7	3.2	5.0	**3.0**	0.9	0.9	2.2	3.7	4.2
2016	**2.7**	0.8	0.2	3.2	3.2	4.4	**2.2**	0.7	1.3	1.4	2.7	3.2
2017	**2.6**	0.8	-0.2	2.6	3.1	5.9	**3.3**	0.6	-0.3	0.4	3.7	7.2
2018	**-2.5**	-1.1	-0.6	-2.4	-2.8	-5.3	**-4.5**	-1.8	-0.8	-1.8	-4.8	-8.0
2019	**7.2**	2.0	0.7	7.6	8.6	12.2	**8.3**	3.0	3.7	4.2	9.2	14.9
2020	**3.1**	1.0	0.7	3.5	3.3	5.6	**2.9**	1.1	2.2	1.3	3.6	3.9
2021	**4.9**	0.3	-0.3	5.3	5.3	11.1	**6.4**	0.0	-1.5	0.9	6.9	14.8

Source: COVIP Annual Report 2021; *PFs = pension funds; Guar. = guaranteed; Bal. = balanced*

Table IT4(B). Nominal returns net of charges and taxes on investment revenues by type of funds					
	New PIP with profits - Separate management	Unit-linked	*Bonds*	*Balanced*	*Stocks*
2008	3.1	-22	2.4	*-8.3*	*-32*
2009	3.1	14.5	3.7	*7.8*	*20.6*
2010	3.2	4.7	0.6	*2.5*	*6.7*
2011	3.2	-5.2	0.8	*-3.5*	*-7.9*
2012	3.3	7.9	4.9	*6.4*	*9.6*
2013	3.2	10.9	-0.3	*5.8*	*17.2*
2014	2.9	6.8	3.3	*8.2*	*7.1*
2015	2.5	3.2	0.6	1.9	4.5
2016	2.1	3.6	0.4	1.5	6
2017	1.9	2.2	-0.7	2.3	3.2
2018	1.7	-6.5	-1.4	-5.9	-8.9
2019	1.6	12.2	2.2	9.2	18.8
2020	1.4	-0.2	0.7	1	-1.3
2021	1.3	11	-0.8	7.5	18.8

Source: COVIP Annual Report 2021

Contractual pension funds

The Italian pensions supervisor reports the annual returns of supplementary pension products net of charges and taxes on returns (capital gains tax). As explained in the section above, and in the third table of the Executive Summary, the Italian private pension system is among the very few analysed in this report that has an E-T-T regime, meaning that both investment returns and pension pay-outs are taxed. Although unclear from the COVIP Report – that forms the main source of data for this country case – whether the returns "net of costs and substitute tax" means that the investment performance is calculated after deducting tax on benefits, our analysis points to the fact that it is net of tax on returns, after charges, but gross of tax on benefits. Therefore, to obtain the real net returns after tax on benefits, the research team applies the lowest tax rate by product (9% and 12.5%) on the average annual nominal net return obtained by 2020.

Table IT5(1) reports the gross nominal, net nominal and real net returns, before tax on benefits, for closed pension funds. The calculation starts from the nominal net returns, as reported by COVIP. To obtain the gross returns, we re-inflate the nominal net returns with the annual management cost reported by COVIP – which is only available for contractual pension funds. To obtain the real net returns, before tax on benefits, we adjust the nominal net returns reported by COVIP with the annual inflation rate (HICP) for Italy. The averages of each type of returns represent a geometric mean of individual returns.

IT5.1 Gross, Nominal and Real Returns of contractual pension funds in Italy (%)

	Gross returns	Nominal return after charges, before inflation and taxes	Real return after charges and inflation and before taxes
2000	4.18	3.50	0.74
2001	0.07	-0.50	-2.70
2002	-2.87	-3.40	-6.21
2003	5.47	5.00	2.41
2004	5.06	4.60	2.21
2005	7.97	7.50	5.34
2006	4.24	3.80	1.64
2007	2.55	2.10	-0.66
2008	-5.87	-6.30	-8.46
2009	8.90	8.50	7.32
2010	3.36	3.00	0.92
2011	0.41	0.10	-3.50
2012	8.49	8.20	5.49
2013	5.68	5.40	4.77
2014	7.55	7.30	7.30
2015	2.94	2.70	2.60
2016	2.94	2.70	2.19
2017	2.85	2.60	1.60
2018	-2.27	-2.50	-3.63
2019	7.44	7.20	6.68
2020	3.38	3.10	3.40
2021	5.22	4.90	0.72
	3.46	3.09	1.29

Source: Own calculations based on Table IT4, COVIP, Eurostat data

Italian contractual pension funds have quite low fees – as many other occupational pension plans – which makes the difference between the gross and net returns small. However, taking into account inflation, more than half of the net returns is eroded, leaving savers with less than half of the nominal net return after 22 years. However, the deflation recorded in Italy in 2020 (-0.3%) slightly improved the real net returns of all products, which was severely reversed in 2021 when returns dropped almost 4.2% in real terms.

We further calculate the average annual rate of investment returns on different holding periods to enable comparison with other products. Then, we provide a hypothetical average nominal and real return after taxation on benefits as well. Normally, the tax rate on benefits is 15%, but it can be reduced by 0.3% for each year after 15 years of contributions until 35 years of contribution, thus reaching a potential tax reduction of 6%.

IT5.2 Annualised performances of contractual pension funds			
Holding Period	Gross returns	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	5.22%	4.90%	0.72%
3-years	5.33%	5.05%	3.57%
5-years	3.27%	3.01%	1.70%
7-year	3.18%	2.92%	1.90%
10-years	4.38%	4.12%	3.07%
2000-2021	3.46%	3.09%	1.29%

Source: Table IT5.1

Assuming a worker started saving at the end of 1999 and reaches retirement age at the end of 2022, his average nominal returns after tax on benefits would equal 2.68% (equivalent of 13.2% tax), which in real terms would be equal to 0.88%. Otherwise, after deducting a tax of 15% from the net returns, the return would be 2.63% and the real net return would be 0.83%.

Open pension funds

The same methodology as for contractual pension funds is used to calculate the returns of open funds, with the difference that for open pension funds there is no annual cost data available, but instead we have the *synthetic cost indicator* for 35 years calculated by COVIP. Although, on long-terms, this cost indicator dilutes cost, it is the only proxy we can use to obtain the gross returns. For 22-year holding period (2000-2021), the annual average real return of open funds after deduction of charge and inflation was positive at 0.41%. The return is higher and reached 3.5% for 10-year holding period (2012-2021).

IT6.1 Gross, Nominal and Real Returns of open pension funds (%)								
2000	Gross returns	4.20	3.44	Nominal return after charges, before inflation and taxes	3.00	2.20	Real return after charges and inflation and before taxes	0.16	0.41
2001		-4.70			-5.60			-7.69	
2002		-12.30			-13.10			-15.63	
2003		6.90			5.70			3.09	
2004		5.46			4.30			1.91	
2005		12.74			11.50			9.26	
2006		3.54			2.40			0.27	
2007		0.71			-0.40			-3.09	
2008		-13.04			-14.00			-15.98	
2009		12.54			11.30			10.09	
2010		5.36			4.20			2.09	
2011		-1.31			-2.40			-5.91	
2012		10.31			9.10			6.37	
2013		9.30			8.10			7.45	
2014		8.70			7.50			7.50	
2015		4.25			3.00			2.90	
2016		3.44			2.20			1.69	
2017		4.55			3.30			2.68	
2018		-1.28			-2.50			-5.61	
2019		9.65			8.30			7.78	
2020		4.14			2.90			3.20	
2021		7.63			6.40			2.16	

Source: own composition based COVIP Annual Reports

IT6.2 Annualized performance of open pension funds			
Holding Period	Gross returns	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	7.63%	6.40%	2.16%
3-years	7.08%	5.84%	4.35%
5-years	4.51%	3.27%	1.95%
7-year	4.31%	3.07%	2.05%
10-years	5.84%	4.60%	3.54%
2000-2021	3.44%	2.20%	0.41%

Source: Table IT6.1

The real net return, after taxation, for open pension funds between 2000-2021 turned positive again (after being negative last edition) at 0.41%. Taking into account the tax on benefits (same as for contractual funds), we obtain a nominal return, net of charges and tax, of 1.96% and 0.24% in real terms.

Individual Pension Plans

Individual Pension Plans (PIP) have the highest costs on the pension product market in Italy. The synthetic cost indicator calculated for PIPs was 1.81% for long-term subscribers in 2020 and it slightly increased to 1.82% in 2020.

The performance of the PIPs depends on the type of contracts. With-profits contracts have a comparable performance to contractual pension funds, while unit-linked PIPs have a lower average return on the market comparable to open pension funds.

However, performances are highly volatile, potentially associated with the relatively short timeframe considered, in fact corresponding to the financial crisis years. Moreover, given the shorter timeframe, the high variability could lead to misleading conclusions. In 2018, the returns of unit-linked PIPs decreased once again and was even negative at -7.6%.

IT7.1 Gross, Nominal and Real Returns of PIP with profits (%)									
2000		-			-			-	
2001		-			-			-	
2002		-			-			-	
2003		-			-			-	
2004		-			-			-	
2005		-			-			-	
2006		-			-			-	
2007		-			-			-	
2008	Gross returns	4.91	4.27	Nominal return after charges, before inflation and taxes	3.10	2.46	Real return after charges and inflation and before taxes	0.72	1.06
2009		4.91			3.10			1.98	
2010		5.01			3.20			1.11	
2011		5.01			3.20			-0.51	
2012		5.11			3.30			0.71	
2013		5.01			3.20			2.58	
2014		4.71			2.90			2.90	
2015		4.31			2.50			2.40	
2016		3.91			2.10			1.60	
2017		3.71			1.90			0.90	
2018		3.51			1.70			0.52	
2019		3.41			1.60			1.11	
2020		3.21			1.40			1.69	
2021		3.12			1.30			-2.74	

Source: COVIP Annual Report 2021

IT7.2 Annualized performance of PIP with profits			
Holding Period	Gross returns	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	3.12%	1.30%	-2.74%
3-years	3.25%	1.43%	0.00%
5-years	3.39%	1.58%	0.28%
7-year	3.60%	1.78%	0.77%
10-years	4.00%	2.19%	1.16%
2008-2021	4.27%	2.46%	1.06%

Source: Table IT7.1

The average real net return before taxes of PIP with profits stood at 1.06% in the last 14 years. By deducting the tax rate on benefits for PIPs (12.5%), we obtain a return on the longest period available of 2.24% and 0.84%, in nominal and real terms.

The return computations for individual pension plans (unit-linked) are presented in the following Table IT8.1.

IT8.1 Gross, Nominal and Real Returns of PIP unit linked (%)									
2000	Gross returns	-	5.78	Nominal return after charges, before inflation and taxes	-	3.96	Real return after charges and inflation and before taxes	-	2.54
2001		-			-			-	
2002		-			-			-	
2003		-			-			-	
2004		-			-			-	
2005		-			-			-	
2006		-			-			-	
2007		-			-			-	
2008		-18.90			-20.71			-22.54	
2009		18.05			16.24			14.98	
2010		8.10			6.29			4.14	
2011		-1.95			-3.76			-7.21	
2012		11.35			9.54			6.80	
2013		14.40			12.59			11.92	
2014		10.24			8.43			8.43	
2015		6.90			5.09			4.99	
2016		7.31			5.50			4.98	
2017		5.88			4.07			3.05	
2018		-2.95			-4.76			-5.86	
2019		14.01			12.20			11.66	
2020		1.61			-0.20			0.09	
2021		12.82			11			6.57	

Source: COVIP Annual Report 2019

Table IT8.2. Annualized performance of PIP unit-linked			
Holding Period	Gross returns	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	12.82%	11.00%	6.57%
3-years	9.33%	7.52%	6.00%
5-years	6.08%	4.26%	2.93%
7-year	6.37%	4.56%	3.51%
10-years	8.02%	6.21%	5.14%
2008-2020	5.78%	3.96%	2.54%

Source: Table IT8.1

The average real net return, after taxes, of PIP unit-linked pension products in the last 14 years (2008-2021) stood at 3.46%. After deducting taxes on benefits, the nominal net return stood at 3% and the real net return at 2.05%.

Conclusion

The Italian Pension System has a strong State component, which – if anything – does not strongly encourage private pension savings. The notional defined contribution (NDC) system puts the Italian public pension system under pressure. After all, the higher aggregate replacement rate (out of the countries analysed in this report) is in Italy at 77%, which alone – at the moment – achieves pension adequacy. However, the population ageing trend is set to mushroom the old-age dependency ratio from 37.1% as it stood for 2021 to 61.5% by 2050. In other words, the 3 workers that pay today's pension to one retiree will turn to less than two in thirty years.

The mandatory contribution rate amounts to 33%. As the system is pre-funded, contributions to the pension system will translate one to one to future pension incomes. In this scenario the second and third pillar are likely to only develop slowly. Moreover, Italy had the second highest level of retirement and social protection expenses in percentage of the GDP among OECD countries (15.6% in 2019, more recent data is unavailable from OECD). According to Eurostat, pension expenses elevated at 11.3% of the GDP in 2020 (up from 10.2% in 2019), representing the equivalent of €195.2 billion.

Even if the number of employees enrolled in private pension funds increased, it remained quite low. 8.65 million individuals are enrolled in private pension funds, representing 34.7% of the labour force. Experiences from the automatic enrolment implemented by labour agreements in 2015 and 2016 did not fundamentally change the framework, as employers' contributions were still low, and few employees voluntarily contributed to the new schemes. In addition, women and young people are under-represented in pension funds. The government has to play a role in encouraging all profile among employees to save for the retirement in pension funds.

The complementary pension funds can be of three types: contractual occupational pension funds (managed by Social Partners), open funds managed by financial institutions and Individual Pension Plans (PIP), split into with-profits and unit-linked policies.

Over the period 2000-2021, we calculated the annualized real return associated to open funds and contractual pension funds. Since 2000, contractual pension funds recorded a positive annualized real return (+1.29%), while open pension funds recorded a positive one of 0.41%.

Over the fourteen-year period (2008-2021), we calculated the annualized real returns of both unit-linked and with profits PIP contracts, which experienced annualized positive returns respectively 1.06% and 2.54%.

Private pension funds in Italy offer lower real returns after inflation and taxation, even negative for open pension funds on a long period (22 years). Sovereign bonds remained the most important assets on average (35.8% in 2021) in the asset allocation of private pension funds. This percentage dropped once again in 2021 while the percentage of the exposure to equities (direct holdings and through investments funds) increased to reached 22.6% of the

total asset allocation. The private pension funds have to elaborate other investment strategies which could provide higher returns to pensioners.

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Acronyms

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

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

Glossary of terms

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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Editor and Publisher

The European Federation of Investors and Financial Services Users
Rue d'Arenberg 44
1000 Brussels
Belgium
info@betterfinance.eu

Coordinators

Aleksandra Mączyńska
Ján Šebo
Ştefan Dragoş Voicu

Contributors

Torben M. Andersen
Daniela Danková
Laetitia Gabaut
Johannes Hagen
José Antonio Herce
Arnaud Houdmont
Matis Joab
Gregoire Naacke
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url

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