

BF BETTER FINANCE

The European Federation of Investors and Financial Services Users
Fédération Européenne des Épargnants et Usagers des Services Financiers



Long-Term and Pension Savings | The Real Return

2021 Edition



Pension Savings: The Real Return

2021 Edition

A Research Report by BETTER FINANCE

COORDINATORS

Aleksandra Mączyńska
Ján Šebo
Ştefan Dragoş Voicu

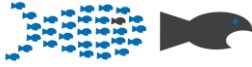
CONTRIBUTORS

Torben M. Andersen
Edoardo Carlucci
Laetitia Gabaut
Johannes Hagen
Arnaud Houdmont
Matis Joab
Michal Mešťan

Gregoire Naacke
Dayana Nacheva
Yordanka Popova
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url

REVIEWERS

Ján Šebo
Michal Mešťan
Ştefan Dragoş Voicu



DISCLAIMER

This report is an independent research publication, elaborated through the efforts of its independent coordinators, contributors, and reviewers.

The data published in this report stems from publicly available sources (national statistics institutes, regulatory bodies, international organisations etc) which are disclosed throughout the report.

The authors and contributors produce and/or update the contents of this report in good faith, undertaking all efforts to ensure that there are no inaccuracies, mistakes, or factual misrepresentations of the topic covered.

Since the first edition in 2013, and on an ongoing basis, **BETTER FINANCE** invites all interested parties to submit proposals and/or data wherever they believe that the gathered publicly available data is incomplete or incorrect to the email address info@betterfinance.eu.

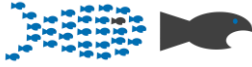


Acronyms

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	Standard & Poor Dow Jones’ Indices Research Report on Active Management performances
Scorecard	
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.¹

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.

¹ 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.²

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.

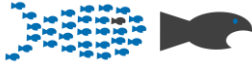
Custodian* – is the entity responsible, as a minimum, for holding the pension fund assets and for ensuring their safekeeping.

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

² See European Commission, ‘Investment Funds’ (28 August 2019) https://ec.europa.eu/info/business-economy-euro/growth-and-investment/investment-funds_en.



and does not bear the risk of longevity and the risk of investment. Defined Benefits schemes may be part of an individual employment contract or collective agreement. Pension contributions are usually paid by the employee and the employer”.³

“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”.⁴

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.⁵ In general, the inactive (dependent) population is represented by children, retired persons and persons living on social benefits.

³ Werner Eichhorst, Maarten Gerard, Michael J. Kendzia, Christine Mayrhuber, 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.

⁴ Ibid.

⁵ 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.



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.

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.⁶

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.

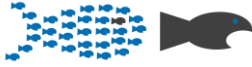
Gross/net replacement rate – is the ratio between the pre-retirement gross or net income and the amount of pension received by a person after retirement. The calculation methodology may differ from source to source as the average working life monthly gross or net income can be used to calculate it (divided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

⁶ 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).



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.

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.⁷ 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.

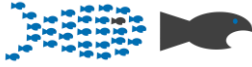
Open pension funds* – are funds that support at least one plan with no restriction on membership.

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 fund.

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, custodians,

⁷ See Eurostat definition: <http://ec.europa.eu/eurostat/web/products-datasets/product?code=tsdde511>.



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.

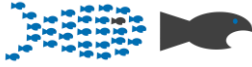
Supervisory board* – is(are) the individual(s) responsible for monitoring the governing body of a pension entity.

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.

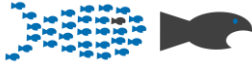


World Bank multi-pillar model – is the recommended design, developed by the World Bank in 1994, for States that had pension systems inadequately equipped to (currently and forthcoming) sustain a post-retirement income stream for future pensioners and alleviate the old-age poverty risk. Simpler, it is 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>.



Contributors

Edoardo Carlucci is Research and Policy Officer at Better Finance. He obtained a bachelor's degree in Economics, Finance and Management with Law at Sapienza University of Rome. In 2014, he graduated from the ULB University with a master's degree in European Studies with Economic Specialization. He previously worked in the European Institutions and Civil Society Organizations dealing with various aspects of economic issues and policies such as EU Internal Market, EU Competition Policies, Public Procurement and SMEs.

Laetitia Gabaut is an economist who graduated from the Toulouse School of Economics. She joined the European Savings Institute in 2010, where she is in charge of the "Overview of Savings" publication. She has been involved in European projects related to savers' behaviour and to retirement savings.

Yordanka Popova, CFC, is a lifestyle financial advisor who helps people articulate and achieve their goals. She is member of the Institute of Financial Consultants and is registered as Investment Advisor by FSC in Bulgaria. Additionally, Yordanka is a junior lecturer in Finance at Sofia University.

Dayana Nacheva is an independent financial planner and a member of the Institute of Certified Financial Consultants (ICFC) in Bulgaria. She also works as a freelance researcher and author of articles on personal finance.

Dr. Torben M. Andersen Torben M. Andersen, Professor Aarhus University and associate research fellow at CEPR, CESifo, IZA and PerCent. Main research interests: Economics of the welfare state, labour economics, public economics and pension economics. Has published on these topics in well-known international journals and books. Has been extensively involved in policy advice in Denmark, the Nordic countries, OECD, EU Commission and various other contexts. Is member of various boards, and chairman of the Board of Directors, the Danish Pension Fund ATP.

Johannes Hagen is an Assistant Professor in Economics at Jönköping International Business School in Sweden. He graduated from Uppsala University in 2016 and conducts research primarily within the field of public finance with a special interest in retirement behaviour and pensions.

Arnaud Houdmont is Chief Communications Officer at BETTER FINANCE. Prior to his career in communications and research in the heart of Europe, he earned a master's degree in Global Communication from Goldsmith's College and a bachelor's degree in international relations from Sussex University.

Matis Joab, is the Finance Officer at Better Finance. He has a bachelor's degree in Applied Economics and a master's degree in Management from Tallinn University of Technology. After working 6 years in the private sector in Estonia, mostly in Real Estate, he moved to Brussels to become Financial Director of the European Students' Forum (AEGEE), before joining Better Finance at the beginning of 2020.



Aleksandra Mączyńska is the Executive Director of BETTER FINANCE. She is a member of the EC Financial Services User Group (FSUG), the Consumer Policy Advisory Group (CPAG), member of the EU Ecolabelling Board and vice-chair of the EIOPA's Occupational Pensions Stakeholder Group (OPSG). Previously she worked for the Polish consumer and competition watchdog and was an expert on various EU Council Working Parties such as the WP on Financial Services and the WP on Competition.

Michal Mešťan is a Vice-Dean for Development and an Assistant Professor at the Faculty of Economics Matej Bel University in Banská Bystrica. He is also a founder of Talent and Research Centre at the same university. He is a member of the CFA Society Slovakia as a director of University Relations. He holds a doctoral degree (PhD.) In Finance and focuses on financial engineering, pension and individual asset-liability management models. Professionally, he builds robo-advice models oriented on long-term investing.

Grégoire Naacke is Managing Partner at IEM Finance and was appointed in June 2018 as Executive Director of the Observatoire de l'Épargne Européenne (OEE) by the Chairman Jacques de LAROSIÈRE and the members. Before his appointment as Executive Director, Grégoire has already worked for the OEE as Economist for eight years (2002-2010). Grégoire also worked for the World Federation of Exchanges (WFE) as Economist (2011-2015) and Head of Operations (2015-2018). In 2008, Grégoire was a Scientific Advisor for the Centre d'Analyse Stratégique, now France Stratégie (the French Prime Minister's research department). Grégoire graduated with honours from the Postgraduate Research Master "Money Banking and Finance" at the Panthéon-Sorbonne Paris University (Paris I) and completed his thesis ("The Households' Financial Wealth") under the supervision of Professor Christian de BOISSIEU.

Guillaume Prache is the Managing Director of BETTER FINANCE. He is a member of the EIOPA (European Insurance and Occupational Pensions Authority) Insurance and Reinsurance Stakeholder Group (IRSG), and member and former chair of the ESMA (European Securities & Markets Authority) Securities and Markets Stakeholder Group.

Joanna Rutecka-Góra is associate professor at the Warsaw School of Economics where she conducts research on old-age pension systems, insurance markets and consumer protection on financial markets. She cooperated with the Polish Financial Ombudsman and was an advisor to the President of the Polish Chamber of Pension Funds. She is an active member of the Polish Association of Social Policy, the Polish Pension Group SGH and the European Network for Research on Supplementary Pensions.

Ján Šebo is Vice-Dean at Matej Bel University in Slovakia and Consultant at the Institute of Savings and Investment. He is a member of the Financial Services User Group of the European Commission and of the European Insurance and Occupational Pensions Authority's Occupational Pensions Stakeholder Group. He focuses on pension systems' research and professionally consults on the design and implementation of private pension schemes.



Dr. Thomas Url is an economist at the Austrian Institute of Economic Research (WIFO) and lecturer at the University of Vienna. He graduated at the University of Graz and attended the post graduate course in economics at the Institute for Advanced Studies (Vienna). His main research areas are risk management and funded pension systems, European monetary and economic union as well as various topics in applied econometrics.

Ștefan Dragoș Voicu is Senior Research & Policy Officer at BETTER FINANCE, having a thorough background in Romanian and EU law. He specialises in Financial Services Regulation and Capital Markets Research, with a focus on packaged investment products (mutual funds and insurances), retirement provision and market infrastructure. He coordinates four BETTER FINANCE Working Groups on Pensions, Insurances, Packaged Investments and Audit & Reporting.



Pension Savings: The Real Return

2021 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?"⁸

Despite improvements, real returns of pension savings still struggle to deliver value for money

How much did pension savers earn on average?

The main question this report seeks to answer is: How much was the pension saver left with, on average, after charges and inflation were deducted from his benefits at the end of different periods, compared to the amounts he saved? The aggregate summary return tables show – for occupational/collective (“Pillar II”) and voluntary/individual (“Pillar III”) pension products - the annual average rate of return on investments in each country based on 5 periods: 1, 3, 7, 10 years and since the start of the available reporting period (differs case by case). These standardised periods eliminate inception and market timing biases, allowing to “purely” compare performances between different pension schemes.

⁸ 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>.



Aggregate summary return table			Pillar II						
	1 year		3 years		7 years		10 years		max. available *
	2020	2019	2018-2020	2017-2019	2014-2020	2013-2019	2011-2020	2010-2019	
Austria	1,41%*	8,01%	1,23%	1,78%	2,35%	2,53%	1,79%	2,01%	1,48%
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	1,41%	2,71%	-1,06%	-0,24%	2,06%	2,59%	1,96%	1,74%	-1,35%
Croatia	-0,29%	8,06%	2,81%	4,68%	4,99%	5,77%	4,10%	4,91%	3,28%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	4,64%	7,97%	2,10%	0,57%	2,13%	1,65%	1,31%	1,24%	0,67%
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	3,02%	n.a.	1,77%	n.a.	2,54%	n.a.	2,40%	2,28%
Italy	3,30%	7,30%	1,85%	1,76%	2,81%	3,33%	2,66%	2,57%	0,84%
Latvia	1,94%	8,43%	1,12%	0,77%	1,54%	1,62%	1,45%	1,83%	-0,07%
Lithuania	5,19%	14,92%	4,72%	3,04%	4,07%	4,15%	3,52%	3,65%	1,72%
Netherlan	6,23%	13,00%	5,01%	4,26%	5,79%	5,10%	5,26%	5,42%	2,89%
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	2,59%	5,05%	1,81%	0,61%	2,68%	3,64%	2,95%	3,33%	2,41%
Slovakia	0,45%	5,37%	0,70%	-0,27%	1,50%	1,57%	0,79%	0,74%	-0,03%
Spain	2,10%	7,89%	1,74%	2,14%	2,80%	4,28%	2,94%	2,60%	0,79%
Sweden	6,45%	24,08%	8,23%	9,03%	n.a.	n.a.	n.a.	n.a.	8,32%
UK	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: BETTER FINANCE own composition; see methodological explanation box below

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.

- *Data for 2020 is estimated. So are the previous 2019 figures, which are now consolidated.*
- *Returns for Bulgaria are time-weighted, and the dataflow is updated compared to the last edition.*
- *In Germany AOPP is used as a proxy for pillar II returns.*
- *For Romania, returns are calculated in EUR and differ from previous editions. See Romanian country case explanations.*
- *For Spain, pillar II returns have been recalculated based on the weighted average between employer-sponsored and associate plans.*

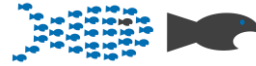


	Aggregate summary return table		Pillar III						
	1 year		3 years		7 years		10 years		whole reporting period*
	2020	2019	2018-2020	2017-2019	2014-2020	2013-2019	2011-2020	2010-2019	
Austria	1.82%*	1,2%	1,34%	1,01%	1,70%	1,73%	1,50%	1,51%	2,05%
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	1,91%	3%	-0,92%	0,08%	2,57%	3,28%	2,65%	2,48%	0,17%
Croatia	-1,41%	8,57%	2,13%	3,58%	4,57%	5,07%	3,75%	4,58%	3,59%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	4,51%	13,84%	2,37%	1,64%	3,19%	3,03%	2,04%	2,45%	1,54%
France*	1,30%	2,83%	0,44%	0,46%	1,23%	3,55%	1,23%	2,81%	1,36%
Germany*	2,68%	0,67%	1,30%	0,68%	1,62%	1,53%	1,64%	1,58%	1,51%
Italy	0,03%	6,40%	1,18%	1,22%	2,58%	2,84%	2,49%	1,99%	1,85%
Latvia	2,14%	8,66%	0,82%	0,59%	1,75%	1,94%	1,58%	n.a.	1,58%
Lithuania	4,83%	8,72%	2,29%	1,22%	2,85%	2,93%	1,98%	2,48%	1,05%
Netherlands	1,83%	0,40%	1,39%	1,40%	1,14%	0,97%	0,27%	-0,08%	0,13%
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	0,99%	3,99%	0,35%	-0,41%	1,53%	2,69%	1,91%	2,06%	-0,85%
Slovakia	1,30%	5,68%	0,00%	0,22%	1,00%	0,98%	0,44%	0,37%	0,60%
Spain	0,80%	8,11%	0,86%	1,24%	1,83%	3,25%	2,00%	2,15%	0,32%
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; for DE, pillar III can be proxied through both Riester and Rurup pensions, the authors chose Riester for the purposes of this graph (Acquisition charges are included and spread over 5 years); for BG, VPF is proxied for pillar III returns and the returns are time-weighted; for FR, pillar III comprises life insurance, corporate savings plans, public employee pension schemes; for AT, the returns for 2020 are estimated, so were the 2019 figures which are now consolidated;*

Unfortunately, due to unavailability of data breakdowns, for some country cases (UK, Netherlands, Belgium, Denmark, Poland, Sweden) we were not able to calculate the annual real average returns by Pillar. Nevertheless, the results by retirement provision vehicle are available in Graphs 18 and Table 20 in the *General Report*.

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.



Taxation

What happens to investment returns after charges and inflation are deducted?

Charges, investment strategies and inflation influence earnings, but the actual sum the pension saver will be able to withdraw and spend at retirement will depend on the taxation regime. In other words, when and how much do savers lose of their pensions due to taxes?

The actual taxation rates (in %) are highlighted in Table GR10 and in the *Taxes* sub-section of each individual country case. However, the purpose of the “pillar”-system is to stimulate pension savings by giving tax incentives (exemptions, lower taxes, deductibility, subsidises etc).

The table below shows whether the three pension saving steps (contribution – *what you pay for your pension*; returns – *what your investments earn*; and pay-outs – *what you will withdraw*) are **exempt (E)** or **taxed (T)** in each country under review.

Taxation of pension savings						
	Contributions		Returns		Pay-outs	
	Pillar II	Pillar III	Pillar II	Pillar III	Pillar II	Pillar III
Austria	E	E	E	E	T	T
Belgium	E	E	E	E	T	T
Bulgaria	E	E	E	E	E	E
Croatia	E	E	E	E	T	T
Denmark*	T	T	T	T	T	T
Estonia	E	E	E	E	T	T
France	E	E/T	T	T	T	T
Germany	T	T	E	T	T	T
Italy	E	E	T	T	T	T
Latvia	E	E	E	E	T	T
Lithuania	E	E	E	E	E	E
Netherlands	E	E	E	E	T	T
Poland	T	E/T	E	E	E	E/T
Romania	E	E	E	E	T	T
Slovakia*	E/T	E	E	E	E	T
Spain*	E	E	E	E	T	T
Sweden	E	E	T	T	T	T
UK	E	E	E	E	T	T

*There are rules and exceptions based on the type of pension vehicle. For details, see the relevant country case; Source: BETTER FINANCE own composition

Pension plan types: defined contribution on top

Who bears the risk of adequate pensions at retirement?

Originally, the level of pension (*benefit*) would be pre-defined by the provider of the pension plan, usually based on a formula that used some standard variables for each saver (income/salary,



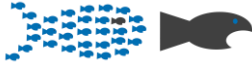
inflation, etc). As such, the pension plan provider bears the risk of obtaining the necessary resources (money) to pay out this **defined benefit** pension to the saver at retirement age.

Nowadays, most private pension plans (Pillar II and III) use a **defined contribution** rule. This means that the saver only knows how much he can pay for his future pension, but the actual amount and income level at retirement will depend on external factors and will be subject to capital market fluctuations, just as any other investment. In other words, the risk of obtaining an adequate pension at retirement depends on the investment decisions made by the saver, where the provider is only obliged to pay-out the **real net returns**, before tax, earned during the investment period.

Pension scheme type (<i>who bears the risk?</i>)				
	Provider (defined benefit)		Saver (defined contribution)	
	Pillar II	Pillar III	Pillar II	Pillar III
Austria	X		X	X
Belgium	X	X	X	X
Bulgaria			X	X
Croatia	X			X
Denmark	X	X	X	X
Estonia			X	X
France	X		X	X
Germany	X		X	X
Italy			X	X
Latvia			X	X
Lithuania			X	X
Netherlands	X		X	X
Poland			X	X
Romania			X	X
Slovakia			X	X
Spain	X		X	X
Sweden	X		X	X
UK	X		X	X

Source: BETTER FINANCE own composition

For more details on how this information unfolds, what factors influence pension savings and how governments tax pension earnings, read the following chapter or the individual country case corresponding to your domicile.



Pension Savings: The Real Return

2021 Edition

EU Policy Updates

The High-Level Forum on the Future of the Capital Markets Union⁹ made three important recommendations¹⁰ for the European Commission to pursue in the area of pensions, to which BETTER FINANCE contributed and fully supported:

- establishing ***national pension dashboards***, which are systems of indicators for EU Member States “to monitor the state of play in Member States and, where applicable, the progress achieved by Member States with regard to pension sustainability and pension adequacy”;
- establishing ***individual pension tracking systems***, which would be platforms where EU citizens can see all their pensions data (State pension and private pension vehicles) with the purpose of providing “an overview and an estimate of the future retirement income from different sources”;
- supporting EU Member States in establishing ***auto-enrolment in occupational pension schemes***, which would mean that workers would by default contribute to a pension plan, with the possibility to opt-out (stop contributions) at no cost.

The European Commission (EC) and European Insurance and Occupational Pensions Authority (EIOPA) followed-up on these proposals and have started work towards their implementation. The EC formally initiated the process by mandating EIOPA to gather evidence, data, and technical recommendations on the first two actions while also commissioning a study from a consortium of consultants on best practices in auto-enrolment systems. Consequently, EIOPA published two public consultations requesting:

- [technical advice on the development of pension dashboards and the collection of pensions data](#), which is meant to gather input from stakeholders on where and how to aggregate the necessary information – and what indicators to use – to set up and update the pension dashboards;
- [technical advice on pension tracking services](#), which is meant to collect views from stakeholders on what types of investment products will be aggregated in the tracking service, what and how the estimations of the retirement pot will be made, etc.

BETTER FINANCE, together with the experts that collaborate with the writing of this report, will leverage the long-term experience accumulated through the efforts of publishing this report since 2013 and will provide EIOPA with technical advice on both topics.

⁹ A group of experts from EU public authorities, industry, and consumer associations established by the European Commission between November 2019 and May 2020 to brainstorm and make recommendations to improve the regulation and supervision of EU capital markets and create better conditions to invest for EU citizens; see https://ec.europa.eu/info/publications/cmu-high-level-forum_en.

¹⁰ See the Final Report here:

https://ec.europa.eu/info/sites/default/files/business_economy_euro/growth_and_investment/documents/200610-cmu-high-level-forum-final-report_en.pdf, Recommendation 11, page 85.



Pension Savings: The Real Return

2021 Edition

Value for Money for Long-term and Pension Savings

For too many editions in a row (since 2013), BETTER FINANCE's annual report on the real returns of long-term and pension savings finds, in many EU jurisdictions, poorly performing retirement saving vehicles (whether pension funds, products, or life-insurances used for pension provision) once fees and inflation are deducted. With a few notable exceptions, such as occupational pension funds in the Netherlands or the AP7 Safa fund in Sweden, the majority of products barely cover for inflation and only a handful come close to a simple, broad capital markets benchmark (50% equity and 50% bonds). Unfortunately, there is also a share – quite high – of products that deliver negative returns, which means that, in hindsight, keeping savings “under the mattress” would have been a more profitable solution.

Considering the impact on economic output generated by the global health pandemic, the strains on public pension systems, the current low interest rate environment, and the shift from defined-benefit to defined-contribution pensions, addressing the pensions time-bomb is long overdue.¹¹

While there is no silver bullet to rectify poor pension returns, BETTER FINANCE formulates a set of proposals to define *value for money* for retirement provision investments.

BETTER FINANCE already initiated the debate on *value for money* for retail investment products in November 2019, when it released the joint BETTER FINANCE-CFA Institute report on *Sustainable Value for Money*.¹² The report, gathering the views of investment professionals and retail investors, found, among others, that the duty of care (*to act in the best interests of clients*) should be mandatory for finance professionals and that consumers should be presented with simple and standardised information on cost and past performance.

Moreover, an earlier (2016) report by the CFA Institute found that retail investors have high expectations for finance professionals to generate similar or better returns than those of the benchmark, and that the charges and fees paid must reflect the value of the relationship, but with a level of satisfaction much lower in both regards.¹³

In 2021, the European Insurance and Occupational Pensions Authority (EIOPA) launched a public consultation aimed at gathering stakeholders' views on the proposed framework to assess value for

¹¹ See BETTER FINANCE's Press Release of 29 November 2017 “BETTER FINANCE Applauds EU Proposal for a Pan-European Personal Pension (PEPP) to Defuse the Ticking Pensions Time Bomb”, available at: <https://betterfinance.eu/wp-content/uploads/publications/PR-PEPP-INITIATIVE-19072017-01.pdf>.

¹² BETTER FINANCE-CFA Institute Report, *Sustainable Value for Money* (2019), p. 6, available at: https://betterfinance.eu/wp-content/uploads/BETTER-FINANCE-CFA-Institute-Report-on-SUSTAINABLE-VALUE-FOR-MONEY-201119_correct.pdf.

¹³ CFA Institute, *From Trust to Loyalty: A Global Survey of What Investors Want*, (2016), p. 14. , available at: <https://www.cfainstitute.org/-/media/documents/survey/from-trust-to-loyalty.ashx>.



money for unit-linked insurance-based investment products.¹⁴ According to EIOPA, value for money would mean that “*the costs and charges are proportionate to the benefits (i.e., investment performance, guarantees, coverage and services) to the identified target market and reasonable taking into account the expenses born by providers and in comparison to other comparable retail solutions on the market*”.¹⁵ EIOPA’s definition sets a very important milestone as it builds the concept of value for money (VfM) around cost and performance but, very important, not in a vacuum: what retail investors pay for their investments must be comparably better compensated through returns and other product features than other options on the market. On this occasion, BETTER FINANCE put forward several proposals to improve on EIOPA’s definition, namely:

- while comparability with “*other solutions on the market*” is a step in the right direction, in many cases the entire peer-group of a product may be poorly performing – as is already the case – which may still leave investors with undesirable outcomes; thus, BETTER FINANCE proposed to replace “*other solutions on the market*” with the market index benchmark, i.e., the underlying investments;
- a product’s purpose (objective and investment policy) must be aligned with the concept of value for money;
- the products’ costs must be reviewed regularly.

At the same time, inspiration can also be drawn from the practice of the UK Financial Conduct Authority (FCA), which spearheaded (and continues to) retail investor protection in Europe. To begin with, the UK was the first country in Europe to ban commissions, kickbacks, retrocessions (collectively, “inducements”) for retail investment services and products. Besides creating a conflict of interests, inducements also increase the cost of investing, which further erodes net returns.¹⁶

Second, the UK FCA issued a handbook (guidance) for fund managers on how to evaluate and report to clients the value their investment services deliver for the money they are paid. The guidance highlights that fund managers should assess the value of services in light of costs (in general and comparing classes of units), comparable market rates, the quality of the service (also in comparison

¹⁴ The framework takes the form of a supervisory convergence mechanism under the tools of EIOPA and it would be ultimately addressed to national insurance supervisors when evaluation the provision of insurance-based investment products to retail investors.

¹⁵ See the EIOPA Consultation Paper on Addressing Value for Money risk in the European unit-linked market, available at: <https://www.eiopa.europa.eu/document-library/consultation/consultation-framework-address-value-money-risk-european-unit-linked-en>.

¹⁶ See the BETTER FINANCE Report on the Correlation between Cost and Performance in eu Equity Retail Funds, where we analysed active funds’ ability to outperform the market and the impact of fees on mutual fund performance, finding that “*the more you pay, the less you get*” - <https://betterfinance.eu/wp-content/uploads/BETTER1.pdf>. See also the ESMA Annual Statistical Report Cost and Performance (latest the 2021 edition), highlighting that passive equity funds and UCITS ETFs (which are much cheaper) overperform the more expensive actively managed ones – https://www.esma.europa.eu/sites/default/files/library/esma_50-165-1710_asr_performance_and_costs_of_eu_retail_investment_products.pdf; see also the ESMA Annual Statistical Report on Cost and Performance of 2020, highlighting that more expensive, actively managed funds impact returns and underperform not only their passive and index-tracking peers, but also the benchmark - to passive and ETFs UCITS, ultimately impacting performance” - https://www.esma.europa.eu/sites/default/files/library/esma50-165-1106-asr-performance_and_costs.pdf.



with other services), and performance. The performance must be “*considered over an appropriate timescale having regard to the scheme’s investment objectives, policy and strategy*”.¹⁷

Recently, the FCA furthered their efforts in driving value for money in retail investment products by issuing a policy statement on *assessing value for money in workplace pension schemes and pathway investments*.¹⁸ The FCA highlights that managers¹⁹ of occupational pension funds must take into account three key elements in assessing whether they deliver value for money or not:

- costs and charges,
- investment performance, and
- the quality of services,

in comparison “*with other similar propositions on the market*”.

At the same time, one must also factor in *pension adequacy* when analysing the returns of retirement provision vehicles. Although there is no unified understanding of pension adequacy, a few sources can give an adequate starting point.

The European Commission builds the concept of pension adequacy (from public pensions) on three pillars: eliminating the risk of poverty in old age, smooth transition from work income to retirement income and the length of retirement.²⁰ By smooth transition, the European Commission refers to a pensions’ ability to replace the working-life income in such a way as to limit the financial impact brought about by this transition. In simpler words, an adequate pension must ensure, at the very least, that pensioners are not in a far worse position than when they were earning work income.

The European Commission also correctly noted that adequacy is achieved if individuals “*can spend a reasonable share of their lives in retirement*”.²¹

Other authors define pension adequacy as allowing individuals “*to maintain, to a reasonable degree, their standard of living after retirement*”.²² A World Bank report on adequate pension systems focused, besides the smooth transition between work-life and retirement and poverty in old age, also on smoothing consumption. In short, smoothing consumption over the lifetime of

¹⁷ See the Collective Investment Schemes sourcebook (COLL) rules that require fund managers to carry out a Value Assessment (AoV) at least annually, to report publicly on the conclusions of the AoV, and to appoint independent directors on AFM Boards - <https://www.handbook.fca.org.uk/handbook/COLL.pdf>.

¹⁸ UK Financial Conduct Authority, *Assessing Value for Money in Workplace Pension Schemes and Pathway Investments: Requirements for IGCs and GAAs* (October 2021) Policy Statement PS21/12, available at: <https://www.fca.org.uk/publication/policy/ps21-12.pdf>.

¹⁹ Independent Governance Committee (IGC) or Governance Advisory Arrangement (GAA).

²⁰ European Commission Pension Adequacy Report 2021 (Vol. I), p. 22.

²¹ Ibid.

²² Margherita Borella, Elsa Fornero, *Adequacy of Pension Systems in Europe: An Analysis Based on Comprehensive Replacement Rates* (April 2009), ENEPRI Research Report no. 68, AMI WP 9, available at: <https://www.ceps.eu/download/publication/?id=6260&pdf=1837.pdf>.



workers means that achieving an adequate level of pensions should not necessitate exaggerated savings during working life.²³

Therefore, it can be argued that pension adequacy:

- should not be achieved by “saving more and more”;
- should not be achieved by extending the work life (starting work earlier and retiring later);
- is achieved if the working income is replaced by a pension that is sufficient to ensure a smooth transition, or maintain the same lifestyle, from work-life to retirement.

Although pension adequacy is mostly aimed at statutory (public) pension systems, we believe that the growing importance of private pension savings in pension provision requires the application of the same “adequacy” standards.

Drawing inspiration from the above practices, but also from the knowledge and empirical findings of 9 editions of this report, BETTER FINANCE formulates the following definition for *Value for Money* in long-term and pension saving products.

Value for Money through design, objective, and governance

A long-term and pension savings product delivers value for money for individual, non-professional savers when:

- The investment objective is clearly defined by the provider in the key disclosures;
- Simple and clear full cost and performance disclosure is made publicly available and is comparable to those of other investment products with similar goals;
- the costs borne by savers are commensurate with the investment objective (e.g., if “active” level fees are charged, then the product must overperform the relevant investment universe over the recommended holding period) and commensurate with other comparable retail solutions on the market (e.g., sometimes index products on offer are ten times more expensive than the equivalent ETF solution);
- there are at least two independent members in the governing body of the product representing investors (can be the fund itself if it has legal personality or the product manufacturer) like in the UK (asset manager level) and in the US (fund level);
- the product’s cost and performance must be evaluated, periodically, against the investment objectives of the provider (for example for an active fund charging active level fees, it will be its benchmark or the performance of its investment universe);

²³ Robert Holzman, Richard Hinz, *Old Age Income in the 21st Century* (2005) World Bank, available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/7336/32672.pdf?sequence=1&isAllowed=y>.



The services provided in relation to the distribution and management of a product that delivers Value for Money should encompass the following:

- the management or governing body should report annually and in a simple and concise manner on how the product delivered Value for Money for its beneficiaries;

SUPERVISION

- supervisory authorities should conduct annual assessments of Value for Money reporting;
- EU supervisory authorities (EIOPA) should use their product intervention powers which should also cover value for money issues.



Pension Savings: The Real Return

2021 Edition

General Report

I. INTRODUCTION

In June 2013, BETTER FINANCE published a research report entitled "[Private Pensions: The Real Return](#)"²⁴ which evaluated the return of private pension products after charges, after inflation ("real" returns) and – where possible – after taxation, in Denmark, France and Spain.

In September 2014, BETTER FINANCE published the second edition of the "[Pension Savings: The Real Return](#)"²⁵ report, which included data updates for the three initial countries covered and new in-depth evaluations of pension savings for five new countries: Belgium, Germany, Italy, Poland and the United Kingdom.

The following editions added 10 more countries to the report and updated the figures for those already included. This year's edition (the ninth in a row) expands the geographic scope once again to include Croatia.

The actual performance of this market is 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 data on real net performances. Since a comprehensive approach to provide this indispensable information to savers is not yet provided by public authorities or other independent bodies, this report aims to improve transparency and comparability on the real returns of long-term and pension savings in Europe. This is in line with the European Commission's current "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 the ESAs are undertaking in the area of personal pension products with respect to past performance and cost comparison.

Indeed, apart from the OECD's (the Organisation for Economic Co-operation and Development) report on pensions and EIOPA's (European Insurance and Occupational Pension's Authority) reports on cost and performance, which covers a part of the private pensions market, the contributors to this research report could not find any other more complete or more recent published

²⁴ Link for the print version available here:

http://www.betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_Study_EN_website.pdf.

²⁵ Link for the print version available here: http://www.oee.fr/files/betterfinance_pensions_report_2014.pdf.



comprehensive series of net real pension savings returns for such a wide coverage of EU countries and the UK.

The data reported by the OECD²⁶ are unfortunately quite incomplete:

- At the time of writing, the most recent OECD publication on *pension funds'* returns, "Pension Funds in Figures 2021", provides only 1-year preliminary data (for 2020) on the real returns of *pension funds* in selected OECD and non-OECD countries;²⁷
- The OECD "Pension Markets in Focus 2020" covers 15-year returns maximum (until 2019) only for *pension funds*.²⁸
- Although the OECD reports 5-year returns for 23 EU countries, it drops to 16 for 10-year horizons and to 11 for 15-year horizons, ending in 2019;
- A part of occupational pension products, and most - if not all - individual pension products are missing as well, as OECD performance data include only "pension funds" stricto sensu, and exclude all "pension insurance contracts and funds managed as part of financial institutions (often banks or investment companies), such as the Individual Retirement Accounts (IRAs) in the United States";
- It is questionable that the OECD was able to capture all expenses borne by pension savers - entry fees for example - because the OECD relies mostly on reporting by national authorities and, typically, this is not something covered by them;
- Finally, OECD figures are all before taxes, except for Italy.

EIOPA's Annual Report on Cost and Performance of 2021 covers only 57% of the unit-linked insurances market and 62% of the profit-participation one, and the personal pensions (insurance-based) part covers only a few (210) products from 14 jurisdictions in the EU. Moreover, and unfortunately, the cost data in EIOPA's report is the Reduction-in-Yield from the PRIIPs KID and only covers the previous 5 years.

In comparison, the present report documents a principal component of, and reason for, the generalised level of distrust of EU citizens in capital markets, namely the frequent poor performance of private pension products, once inflation, charges and (when possible) taxes are deducted from nominal returns, when compared to the relevant capital market benchmarks.

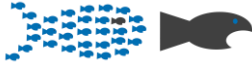
Totalling 17 EU Member States under review (Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, France, Germany, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Spain Sweden and The Netherlands), the BETTER FINANCE research now covers 87% of the EU27 population.²⁹ It also

²⁶ Namely the OECD "Pension Markets in Focus 2017" (1, 5 and 10 year data), and the subsequent editions (2018, 2019, 2020), available at: <https://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>.

²⁷ <https://www.oecd.org/daf/fin/private-pensions/Pension-Funds-in-Figures-2021.pdf>.

²⁸ <https://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2020.pdf>.

²⁹ As of January 1st, 2020 – Eurostat, [demo_gind]' <http://appsso.eurostat.ec.europa.eu/nui/show.do>.



extends the period of time covered in order to now measure performance over the 21-year period ranging from 2000 to 2020, in as far as data was available.

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.

The net real return³⁰ 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;
- 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).

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).

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

This report shows that it is not an impossible, albeit 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 2020 (2021 edition), we find that **the availability and quality of 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 on 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

³⁰ 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.



longer available since 2018; in the UK, the survey conducted by the Department for Statistics has been discontinued and information on the British pension funds stopped at 2017;

- **Late information**: at the time of printing, still a lot of 2020 return data have not been released by the national trade organisations or other providers. OECD has published preliminary data for December 2020, but on a limited number of jurisdictions and only for pension funds; however, 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.

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).

Moreover, savvy retail savers and EU public authorities must rely on private databases (and divergent methodologies) to learn about 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.

How to achieve pension adequacy?

Public pension authorities typically stress two requisites for pension savings 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”*.³¹

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).

³¹ World Economic Forum White Paper: ‘We’ll live to 100 – How can we afford it?’ May 2017



A simple example will illustrate why saving “*more and for longer periods*” is not sufficient, and too often even detrimental.

Assuming no inflation, saving 10% of activity income for 30 years (as recommended by Public Authorities, 25-year life expectancy at retirement, gross of fees and taxes) 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

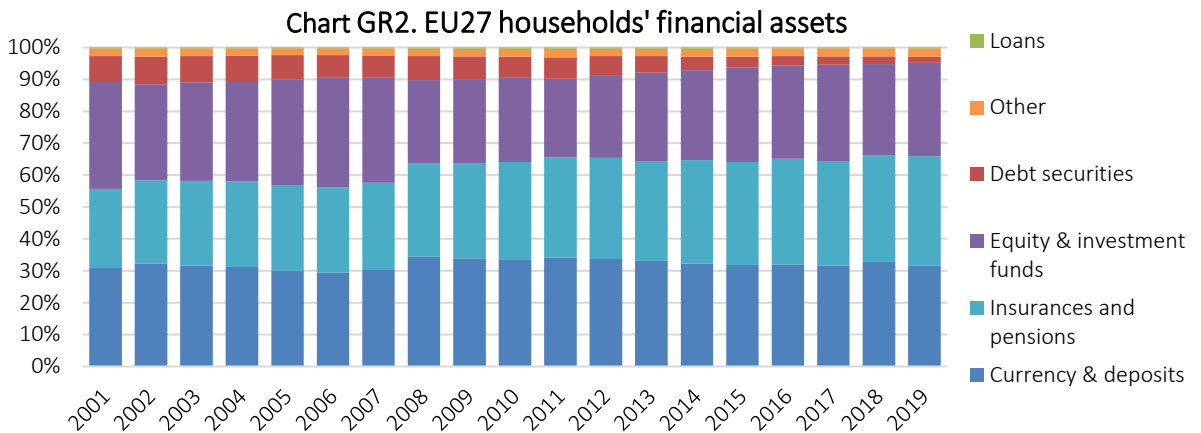
To achieve *pension adequacy*, retirement benefits altogether (State and private pensions) should amount to at least 70%-80% of late working life gross salary.

Nevertheless, this is harder and harder to achieve due to ageing populations, higher pension contributions, longer life expectancy, higher discounting rates etc.

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.

Most pension products recently improved but underperformed

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).



Source: BETTER FINANCE based on Eurostat data; 2020 data not yet available

Our research findings show that most long-term and pension savings products did not, on average, return anything close to those of capital markets, and in too many cases even destroying the real value for European pension savers (i.e., provided a negative return after inflation).

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 since 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.

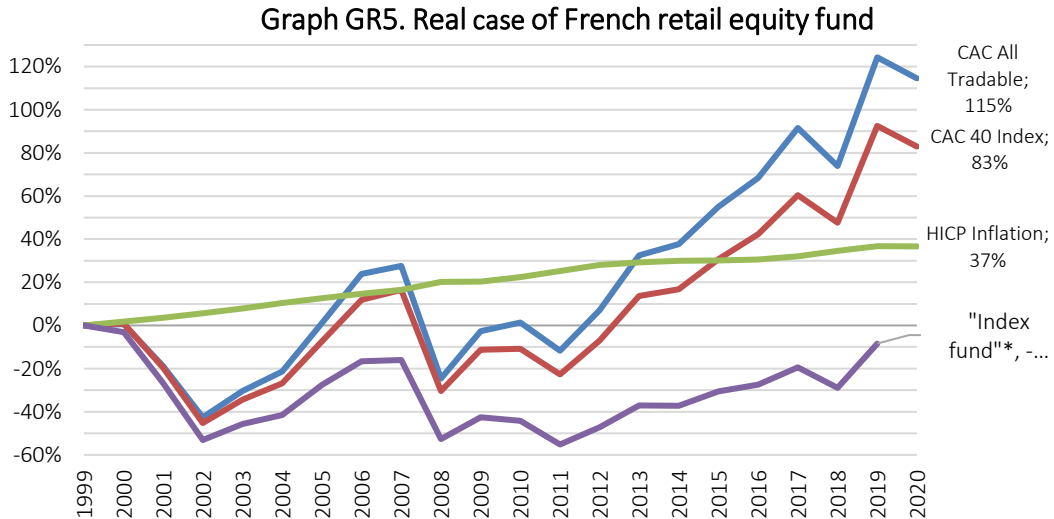
Table GR4 and Graph GR5 below show two striking – but unfortunately not uncommon – real examples of this largely ignored reality: capital market performance is not a valid proxy for retail investment performance and the main reasons for this are the fees and commissions charged directly or indirectly to retail customers. The European Commission itself publicly stressed this fact (see footnote 2 above).

Table GR4. Real case of a Belgian life insurance (branch 23)	
Capital markets vs. Belgian individual pension insurance 2000-2020 performance	
Capital markets (benchmark index*) performance	
Nominal performance	275%
Real performance (before tax)	186%
Pension insurance performance (same benchmark)	
Nominal performance	82%
Real performance (before tax)	23%

Source: BETTER FINANCE own computations based on Morningstar public website; *Benchmark is composed of 50% bonds (LP06TREU) and 50% Barclay’s Pan-European Aggregate Bond Index + 50% FTSE WORLD TGR



The real case of Graph GR5 illustrates a unit-linked life insurance product (Pillar III), in Belgium. The pension product's nominal return amounted to less than a third of its corresponding capital market benchmark's return.



Source: BETTER FINANCE research, fund manager; * 2000-2003 simulated

The real case above illustrates an investment fund domiciled in France, a so-called retail CAC 40 “index” fund³². The fund actually underperformed the relevant equity index by 101.4 p.p. after 20 years of existence (loss of -8.4% instead of a +83% profit), 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. Unfortunately, the index fund has been sold to another manager and the 2020 performance is no longer relevant.

European Pension returns outlook

The overall mid-term outlook for the adequacy of European pension savings in 2021 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 last 20 years (as we are already seeing stagnation or even signs of a downward trend), due to the continuous fall of interest rates, currently at rock-bottom levels; moreover, the global health crisis has already destroyed the record 2019 capital market returns;

³² Wrapped in an insurance contract as suggested by the distributor.



- b) The negative impact of this foreseeable trend in bond returns on pensions' returns will be reinforced by a higher proportion of bonds being taken up in pension products' portfolios in recent years; this is all the more relevant in light of the monetary policy response to the health-generated recession.
- c) The transparency of cost disclosures is not improving.
- d) While it seemed unlikely that inflation – just like interest rates – would turn into deflation, and the consequences of the “non-conventional” monetary policies of central banks on possible market “bubbles” are still uncharted, currently inflation (with its known devastating impact on the purchasing power of pension income) is surging, hitting record high after record high.
- e) Taxes on long-term and pension savings do not show any significant downward trend either.

The pan-European Personal Pension (PEPP) product

In an attempt to revitalise voluntary pension savings, the EU engaged in a project to create an EU quality label for personal retirement products, mainly to enable cross-border workers to save simply and efficiently for retirement. Named the pan-European Personal Pension product (PEPP), it is designed as a voluntary/personal pension product (pillar III), and should be:

- portable, allowing the PEPP saver to move across Europe and either continue contributing to his PEPP or switch to a new national sub-account without fees;
- simple, transparent and cost-efficient, embedding proper long-term risk-mitigation techniques; and
- benefiting of tax-incentives in a harmonised manner.

The last two objectives have not been attained – yet. First, taxation is still the sovereign competence of EU Member States and found strong opposition from national Governments, although the Commission and European Parliament have asked or recommended it.³³

Second, EIOPA allowed insurance-based investment products (IBIPs) manufacturers to charge the cost of guarantees separately from the “all inclusive” 1% cap for the basic PEPP.³⁴ What is more, is that the capital protection is a “scam” enshrined by EU law. The fact that EU savers would be informed that their capital (meaning accumulated contributions) would be protected, but only after the deduction of fees and without taking into account inflation, is highly misleading.³⁵

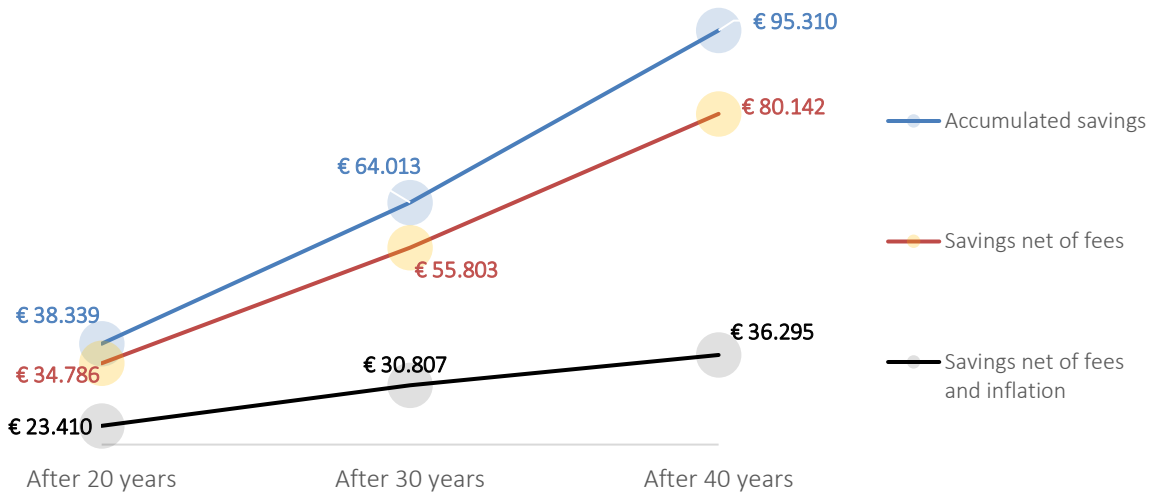
³³ Most recently, the European Parliament's Economic and Monetary Affairs' (ECON) own initiative report on the Further Development of the Capital Markets Union (CMU) does contain a resolution to incentivise and harmonise PEPP tax treatments across the EU; however, at the time of writing, the resolution was not yet final.

³⁴ See EIOPA Final Regulatory Technical Standards (RTS) supplementing Regulation (EU) 2019/1238 on the PEPP: https://www.eiopa.europa.eu/sites/default/files/publications/eiopa-20-500_pepp_draft_rtss.pdf.

³⁵ See BETTER FINANCE YouTube Video on the “PEPP Capital Protection SCAM”.



Graph GR7. Nominal, net and real capital protection



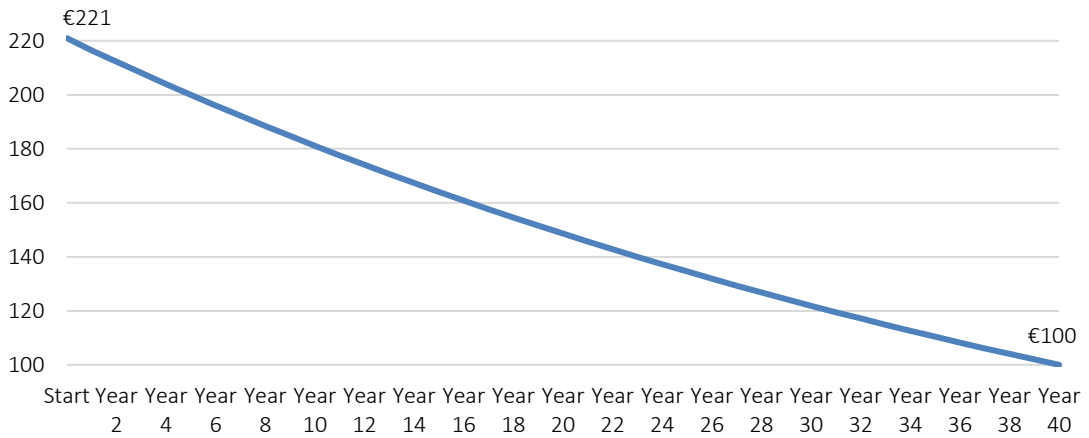
Source: BETTER FINANCE PEPP Level 2 position paper

Pension products have the longest investment horizon, usually until retirement age, which should imply 35 to 40 years of investments. The cumulative effect of inflation, assuming a modest inflation rate, over 40 years would decrease the value of savings by 56%.

What is a “nominal rate” of return?	What is a “real rate” of return?
<p>A <i>nominal</i> value and rate represent the actual amount of money (or mathematical result) of an investment. <i>Nominal returns</i> or profits in <i>nominal terms</i> designate the current entitlement from an investment at a certain point in time.</p> <p>E.g.: A €100 investment that increase by a quarter will have a nominal value of €125 (nominal profit of €25) or a nominal rate of return of 25%.</p> <p>In finance, rates are mostly expressed in <i>nominal</i> and, usually, <i>gross</i> terms. This shows the pure profit generated by an investment before fees, commissions, taxes are deducted and before inflation is adjusted for.</p> <p>Nominal returns can be recalculated into <i>real returns</i> (see right-hand side) by <i>adjusting for inflation</i>.</p>	<p>The <i>real</i> rate is a nominal rate adjusted by <i>inflation</i>. The real return is a “down to earth” indicator because it factors in the practicality (<i>reality</i>) of actually using the money:</p> <ul style="list-style-type: none"> • If inflation has been positive, then the <i>real value</i> of money will be smaller than the <i>nominal value</i>. • If inflation has been negative, then the <i>real value</i> of money will be higher than the <i>nominal one</i>. <p>This is because inflation (or deflation) shows how many goods or services one can buy with the same amount of money at different points in time. Economists call it the <i>purchasing power</i> and it calculates whether the same €10 bill earned in 2010 (for instance) can be exchanged for less, the same, or more of the same goods in 2020 (for instance).</p>



Graph GR8. Real value of savings



Source: BETTER FINANCE PEPP Level 2 position paper

BETTER FINANCE highlights and warns about the “money illusion” and how detrimental it is to consider pension savings in nominal terms rather than in **real** terms, i.e., adjusting for inflation.

II. COUNTRY PROFILES

This second part onward analyses each country profile available in this study. Tables GR9 (A and B) include some key indicators of the pension systems in the countries under review in this research report. These indicators, explained below, are representative of the sustainability of a pension system, or otherwise the pressure on State (public) pensions. Our aim is to highlight the importance of additional private pension savings for pension adequacy.

What is old-age dependency ratio?

It is 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:

- when the ratio is low (e.g., Slovakia with 25% or 1 pensioner to 4 workers), it means that the pressure on the state pension is low;
- when the ratio is high (e.g., Italy with 37% or 1 pensioner to less than 3 workers), it means that the burden on PAYG schemes is high, and it can be alleviated through private pension sources.

What is population ageing trend?

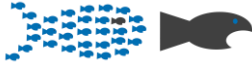
An ageing population means that the number of retirees increases relative to the number of workers. This indicator refers to public (PAYG) pensions.

The effect is that the same pension contributions need to pay for a higher number of pensioners, which can make it difficult for the state pension to ensure an adequate level of retirement income stream.

What is the projected old-age dependency ratio?

It shows how the number of pensioners to working people will evolve in time.

If the old-age dependency ratio is now, on average, 1-to-3, by 2050 this level will be for most countries in this Report above 50%. In other words, every state pension will depend on the level of contributions of almost two working-age individuals.



What is the net equity of households?

It represents the value of technical (mathematical) provisions insurance and pension fund providers hold to pay future pension liabilities (entitlements of savers). This indicator is expressed both in nominal terms (in € billion) and as a percentage of the GDP for 2019. Therefore:

- a high value-to-GDP rate of *net equity of households* reflects well established privately funded systems, indicating a lower dependency on state pensions;
- a low value-to-GDP shows either that the private system is relatively new (as in Romania or Bulgaria) or that households do not contribute too much to pension funds and life insurances, relying more on state pensions.

What is the aggregate replacement ratio for pensions?

It represents the ratio between 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.

Note: In the previous editions of this report, the indicator used was *net pension replacement rate* – aggregated by the OECD – which was discontinued in 2019. Thus, the research team replaced it with the *aggregate replacement ratio for pensions* computed by Eurostat.

Table GR9(A). EUROPEAN UNION (EU27) at the end of 2019, except otherwise provided

Net equity of households in pension funds reserves (in € bln)	4,232	Net equity of households in pension funds reserves as % of GDP	30.30%
Net equity of households in life insurance reserves (in € bln)	5,226	Net equity of households in life insurance reserves as % of GDP	37.40%
Active population (mil.), 2020	214.4	Old-Age dependency ratio, old (% of working population)	32.40%
Population ageing trend (2020-2050)	61%	Projected old-age dependency ratio by 2050	52%
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		57%	

Source: for both parts, BETTER FINANCE own composition based on OECD, WorldBank, Eurostat data

Table GR9(B). Country Profiles (end 2019, except otherwise provided)

Austria			
Net equity of households in pension funds reserves (in € bln)	60	Net equity of households in pension funds reserves as % of GDP	15.10%
Net equity of households in life insurance reserves (in € bln)	83	Net equity of households in life insurance reserves as % of GDP	20.90%
Active population (mil.), 2020	4.6	Old-Age dependency ratio, old (% of working population), 2020	28.93%
Population ageing trend (2020-2050)	63%	Projected old-age dependency ratio by 2050	47.20%
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020		61%	
Belgium			
Net equity of households in pension funds reserves (in € bn), 2020	120	Net equity of households in pension funds reserves as % of GDP, 2020	27%



Net equity of households in life insurance reserves (in € bn), 2020	204	Net equity of households in life insurance reserves as % of GDP, 2020	45.20 %
Active population (mil.) 2020	5.1	Old-Age dependency ratio, old (% of working population), 2020	30.22 %
Population ageing trend (2020-2050)	48%	Projected old-age dependency ratio by 2050	44.80 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020			46%
Bulgaria			
Net equity of households in pension funds reserves (in € bn)	8	Net equity of households in pension funds reserves as % of GDP	13.20 %
Net equity of households in life insurance reserves (in € bn)	1	Net equity of households in life insurance reserves as % of GDP	1.30 %
Active population (mil.), 2020	3.2	Old-Age dependency ratio, old (% of working population), 2020	33.62 %
Population ageing trend (2020-2050)	64%	Projected old-age dependency ratio by 2050	55.00 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020			34%
Croatia			
Net equity of households in pension funds reserves (in € bn)	15	Net equity of households in pension funds reserves as % of GDP	27.70 %
Net equity of households in life insurance reserves (in € bn)	3	Net equity of households in life insurance reserves as % of GDP	4.70 %
Active population (mil.), 2020	1.8	Old-Age dependency ratio, old (% of working population), 2020	33.10 %
Population ageing trend (2020-2050)	59%	Projected old-age dependency ratio by 2050	52.50 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020			39%
Denmark			
Net equity of households in pension funds reserves (in € bn)	212	Net equity of households in pension funds reserves as % of GDP	68.00 %
Net equity of households in life insurance reserves (in € bn)	293	Net equity of households in life insurance reserves as % of GDP	93.90 %
Active population (mil.), 2020	3.0	Old-Age dependency ratio, old (% of working population), 2020	31.73 %
Population ageing trend (2020-2050)	37%	Projected old-age dependency ratio by 2050	43.40 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019			45%
Estonia			
Net equity of households in pension funds reserves (in € bn)	5	Net equity of households in pension funds reserves as % of GDP	16.80 %



Net equity of households in life insurance reserves (in € bn)	1	Net equity of households in life insurance reserves as % of GDP	2%
Active population (mil.), 2020	0.7	Old-Age dependency ratio, old (% of working population), 2020	32.27 %
Population ageing trend (2020-2050)	52%	Projected old-age dependency ratio by 2050	49.10 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020		43%	
France			
Net equity of households in pension funds reserves (in € bn)	0	Net equity of households in pension funds reserves as % of GDP	0%
Net equity of households in life insurance reserves (in € bn)	2,084	Net equity of households in life insurance reserves as % of GDP	85.90 %
Active population (mil.), 2020	30.0	Age dependency ratio, old (% of working-age population), 2020	33.69 %
Population ageing trend (2020-2050)	46%	Projected old-age dependency ratio by 2050	49%
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		65%	
Germany			
Net equity of households in pension funds reserves (in € bn)	911	Net equity of households in pension funds reserves as % of GDP	26%
Net equity of households in life insurance reserves (in € bn)	1,069	Net equity of households in life insurance reserves as % of GDP	31.00 %
Active population (mil.), 2020	43.4	Old-Age dependency ratio, old (% of working population), 2020	33.70 %
Population ageing trend (2020-2050)	43%	Projected old-age dependency ratio by 2050	48.30 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		44%	
Italy			
Net equity of households in pension funds reserves (in € bn)	238	Net equity of households in pension funds reserves as % of GDP	13.30 %
Net equity of households in life insurance reserves (in € bn)	808	Net equity of households in life insurance reserves as % of GDP	45%
Active population (mil.), 2020	25.1	Old-Age dependency ratio, old (% of working population), 2020	36.57 %
Population ageing trend (2020-2050)	68.15 %	Projected old-age dependency ratio by 2050	62%
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		73%	
Latvia			
Net equity of households in pension funds reserves (in € bn)	5	Net equity of households in pension funds reserves as % of GDP	16.00 %



Net equity of households in life insurance reserves (in € bn)	1	Net equity of households in life insurance reserves as % of GDP	2.40 %
Active population (mil.), 2020	0.98	Old-Age dependency ratio, old (% of working population), 2020	32.90 %
Population ageing trend (2020-2050)	72%	Projected old-age dependency ratio by 2050	56.70 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		38%	

Lithuania

Net equity of households in pension funds reserves (in € bn)	4	Net equity of households in pension funds reserves as % of GDP	8.30 %
Net equity of households in life insurance reserves (in € bn)	1	Net equity of households in life insurance reserves as % of GDP	2%
Active population (mil.), 2020	1.5	Old-Age dependency ratio, old (% of working population), 2020	32.26 %
Population ageing trend (2020-2050)	75%	Projected old-age dependency ratio by 2050	56.50 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		43%	

Netherlands

Net equity of households in pension funds reserves (in € bn)	1,725	Net equity of households in pension funds reserves as % of GDP*	212.90 %
Net equity of households in life insurance reserves (in € bn)	170	Net equity of households in life insurance reserves as % of GDP*	21.00 %
Active population (mil.), 2020	9.4	Old-Age dependency ratio, old (% of working population), 2020	31%
Population ageing trend (2020-2050)	44%	Projected old-age dependency ratio by 2050	45%
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020		51%	

Poland

Net equity of households in pension funds reserves (in € bn), 2020	40	Net equity of households in pension funds reserves as % of GDP, 2020	7.80 %
Net equity of households in life insurance reserves (in € bn), 2020	15	Net equity of households in life insurance reserves as % of GDP, 2020	3.00 %
Active population (mil.), 2020	18.2	Old-Age dependency ratio, old (% of working population), 2020	28.37 %
Population ageing trend (2020-2050)	84%	Projected old-age dependency ratio by 2050	52.20 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019		60%	

Romania

Net equity of households in pension funds reserves (in € bn), 2020	16	Net equity of households in pension funds reserves as % of GDP, 2020	7.40 %
--	----	--	--------



Net equity of households in life insurance reserves (in € bn), 2020	2	Net equity of households in life insurance reserves as % of GDP, 2020	0.90 %
Active population (mil.), 2020	9.0	Old-Age dependency ratio, old (% of working population), 2020	29.47 %
Population ageing trend (2020-2050)	85%	Projected old-age dependency ratio by 2050	54.50 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020			41%
Slovakia			
Net equity of households in pension funds reserves (in € bn), 2020	13	Net equity of households in pension funds reserves as % of GDP, 2020	14%
Net equity of households in life insurance reserves (in € bn), 2020	5	Net equity of households in life insurance reserves as % of, 2020	5%
Active population (mil.), 2020	2.7	Old-Age dependency ratio, old (% of working population), 2020	24.65 %
Population ageing trend (2020-2050)	109%	Projected old-age dependency ratio by 2050	51.40 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019			53%
Spain			
Net equity of households in pension funds reserves (in € bn), 2020	176	Net equity of households in pension funds reserves as % of GDP, 2020	16%
Net equity of households in life insurance reserves (in € bn), 2020	200	Net equity of households in life insurance reserves as % of GDP, 2020	18%
Active population (mil.), 2020	22.8	Old-Age dependency ratio, old (% of working population), 2020	30.44 %
Population ageing trend (2020-2050)	95%	Projected old-age dependency ratio by 2050	59.50 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2019			70%
Sweden			
Net equity of households in pension funds reserves (in € bn), 2020	531	Net equity of households in pension funds reserves as % of GDP, 2020	107.1 0%
Net equity of households in life insurance reserves (in € bn), 2020	116	Net equity of households in life insurance reserves as % of GDP, 2020	24%
Active population (mil.), 2020	5.5	Old-Age dependency ratio, old (% of working population), 2020	32.76 %
Population ageing trend (2020-2050)	19.04 %	Projected old-age dependency ratio by 2050	39.00 %
Aggregate replacement ratio for pensions (excl. social benefits), total, 2020			55%



United Kingdom			
Net equity of households in pension funds reserves (in € bn)	3,571	Net equity of households in pension funds reserves as % of GDP*	137.2 0%
Net equity of households in life insurance reserves (in € bn)	830	Net equity of households in life insurance reserves as % of GDP*	31.90 %
Active population (mil.), 2020	34.7	Old-Age dependency ratio, old (% of working population), 2020	29.30 %
Population ageing trend (2020-2050)	-	Projected old-age dependency ratio by 2050	-
Aggregate replacement ratio for pensions (excl. social benefits), total, 2018			55%

Source: Eurostat; OECD; World Bank; own composition

Table GR10. Funding level of private pension systems				
	Pension Funds' assets (2020)		All retirement vehicles' assets (2020)	
	% of GDP	in € mil	% of GDP	in € mil
Austria	7%	24,969	n.a.	
Belgium	9%	41,959	37%	169,071
Bulgaria	15%	8,900	15%	8,900
Croatia	35%	16,959	35%	16,959
Denmark	58%	182,588	239%	436,290
Estonia	20%	5,302	20%	5,302
France	3%	58,500	11%	254,241
Germany	8%	269,582	n.a.	
Italy	10%	161,658	13%	209,158
Latvia	2%	610	19%	5,707
Lithuania	10%	4,663	10%	4,663
Netherlands	210%	1,679,386	n.a.	
Poland	6%	32,420	6%	32,420
Romania	7%	16,041	7%	16,041
Slovak Republic	14%	13,195	14%	13,195
Spain	10%	117,359	14%	161,373
Sweden	4%	19,719	95%	468,546
United Kingdom	119%	2,641,370	n.a.	

Source: OECD, 2021



In some countries the level of accumulated assets in pension funds is almost the same as that of the total value of pension vehicles (such as in Italy, Bulgaria or Romania), in others we see that the total amount of funded retirement products is up to four times higher than the amount for pension funds (Denmark – 219% of GDP).

III. RETURN ATTRIBUTION

Pension returns drivers

This report seeks to explain the (often poor) performance of pension vehicles, especially when compared to capital market returns. The underperformance (compared to a benchmark) of most pension vehicles can be explained by several return *drivers*:

- **inflation**, which over a full contribution period (40 years) at a modest rate can erode even more than 50% of nominal returns,
- pension portfolios' **asset allocation** and **performance**,
- the **asset managers' skills** in terms of picking securities and market timing,
- the **investment charges** deducted by asset managers and other financial intermediaries, to a great extent from net real returns of private pensions,
- ultimately by the **tax** burden.

These return drivers are analysed separately in the following sections.

Inflation

As explained in the previous section, inflation is a measurement for the *purchasing power of money* over time: positive inflation rate means that the **real value** of our money decreases over time; negative inflation rate means that the **real value** of our money increases.

For several of the countries analysed in this research report, inflation rates were significant and consequently had a severe impact on returns in real terms over the periods in review. One has to keep in mind that even for those countries with moderate inflation, the compound effect over long periods, as applicable to the case of retirement savings, can lead to considerable losses in purchasing power.



Table GR11(A). Inflation in Eurozone Member States (in %)

Year	AUSTRIA	BELGIUM	ESTONIA	FRANCE	GERMANY	ITALY	LATVIA	LITHUANIA	NETHERLANDS	SLOVAKIA	SPAIN
2000	1.8%	3.0%	5.0%	1.8%	2.2%	2.7%	1.7%	1.7%	2.9%	8.4%	4.0%
2001	1.8%	1.9%	4.2%	1.5%	1.4%	2.3%	3.2%	2.0%	5.1%	6.7%	2.5%
2002	1.7%	1.3%	2.7%	2.2%	1.1%	3.0%	1.5%	-0.9%	3.2%	3.2%	4.0%
2003	1.3%	1.6%	1.2%	2.4%	1.1%	2.5%	3.6%	-1.3%	1.6%	9.4%	2.7%
2004	2.5%	2.0%	4.8%	2.2%	2.3%	2.3%	7.3%	2.8%	1.3%	5.9%	3.3%
2005	1.5%	2.8%	3.7%	1.8%	2.1%	2.0%	7.1%	3.0%	2.0%	3.8%	3.7%
2006	1.6%	2.1%	5.1%	1.7%	1.4%	2.1%	6.7%	4.6%	1.7%	3.7%	2.7%
2007	3.5%	3.1%	9.7%	2.8%	3.1%	2.8%	14.0%	8.2%	1.6%	2.5%	4.3%
2008	1.5%	2.7%	7.5%	1.2%	1.1%	2.4%	10.4%	8.5%	1.7%	3.5%	1.4%
2009	1.1%	0.3%	-1.9%	1.0%	0.9%	1.1%	-1.4%	1.2%	0.7%	0.0%	0.9%
2010	2.2%	3.4%	5.4%	2.0%	1.8%	2.1%	2.4%	3.6%	1.8%	1.3%	2.9%
2011	3.4%	3.2%	4.1%	2.7%	2.2%	3.7%	3.9%	3.5%	2.5%	4.6%	2.3%
2012	2.9%	2.1%	3.6%	1.5%	2.1%	2.6%	1.6%	2.9%	3.4%	3.4%	3.0%
2013	2.0%	1.2%	2.0%	0.8%	1.2%	0.6%	-0.4%	0.5%	1.4%	0.4%	0.3%
2014	0.8%	-0.4%	0.1%	0.1%	0.1%	0.0%	0.3%	-0.1%	-0.1%	-0.1%	-1.1%
2015	1.1%	1.5%	-0.2%	0.3%	0.2%	0.1%	0.4%	-0.2%	0.5%	-0.5%	-0.1%
2016	1.6%	2.2%	2.4%	0.8%	1.6%	0.5%	2.1%	2.0%	0.7%	0.2%	1.4%
2017	2.3%	2.1%	3.8%	1.2%	1.5%	1.0%	2.2%	3.8%	1.2%	2.0%	1.2%
2018	1.7%	2.2%	3.3%	1.9%	1.7%	1.2%	2.5%	1.8%	1.8%	1.9%	1.2%
2019	1.8%	0.9%	1.8%	1.6%	1.5%	0.5%	2.1%	2.7%	2.8%	3.2%	0.8%
2020	1.0%	0.4%	-0.9%	0.03%	-0.7%	-0.3%	-0.5%	-0.1%	0.9%	1.8%	-0.6%
AVG	1.9%	1.9%	3.2%	1.5%	1.4%	1.7%	3.3%	2.4%	1.8%	3.1%	1.9%

Source: BETTER FINANCE own composition based on Eurostat data

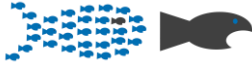


Table GR11(B). Inflation in non-Eurozone Member States (in %)

Year	BULGARIA	CROATIA	DENMARK	POLAND	ROMANIA	SWEDEN	UK
2000	11.3%	5.9%	2.4%	8.4%	40.7%	1.3%	0.8%
2001	4.8%	2.4%	2.0%	3.5%	30.3%	3.2%	1.1%
2002	3.8%	2.8%	2.6%	0.8%	17.8%	1.7%	1.6%
2003	5.6%	2.2%	1.2%	1.7%	14.2%	1.8%	1.3%
2004	4.0%	2.0%	1.0%	4.3%	9.3%	0.9%	1.6%
2005	7.4%	4.0%	2.3%	0.8%	8.7%	1.2%	1.9%
2006	6.1%	2.1%	1.6%	1.4%	4.9%	1.5%	3.0%
2007	11.6%	5.4%	2.4%	4.3%	6.7%	2.5%	2.1%
2008	7.2%	2.8%	2.5%	3.3%	6.4%	2.1%	3.0%
2009	1.6%	1.8%	1.1%	3.9%	4.7%	2.8%	2.9%
2010	4.4%	1.7%	2.8%	2.9%	7.9%	2.1%	3.6%
2011	2.0%	2.1%	2.4%	4.6%	3.2%	0.4%	4.3%
2012	2.8%	4.4%	1.9%	2.1%	4.6%	1.0%	2.6%
2013	-0.9%	0.5%	0.5%	0.6%	1.3%	0.4%	2.0%
2014	-2.0%	-0.1%	0.1%	-0.7%	1.0%	0.3%	0.5%
2015	-0.9%	-0.3%	0.3%	-0.4%	-0.7%	0.7%	0.2%
2016	-0.5%	0.7%	0.3%	0.9%	-0.1%	1.7%	1.6%
2017	1.8%	1.3%	0.8%	1.7%	2.6%	1.7%	2.9%
2018	2.3%	1.0%	0.7%	0.9%	3.0%	2.2%	2.1%
2019	3.1%	1.3%	0.8%	3.0%	4.0%	1.7%	1.3%
2020	0.02%	-0.3%	0.4%	3.4%	1.8%	0.6%	-
AVG	3.5%	2.1%	1.4%	2.4%	7.8%	1.5%	-

Source: BETTER FINANCE own composition based on Eurostat data

Table GR11(C). EU27 inflation

2000	2001	2002	2003	2004	2005
4.0%	3.0%	2.5%	2.2%	2.6%	2.4%
2006	2007	2008	2009	2010	2011
2.1%	3.4%	2.0%	1.3%	2.5%	2.8%
2012	2013	2014	2015	2016	2017
2.3%	0.8%	-0.2%	0.2%	1.1%	1.4%
2018	2019	2020	AVG		
1.6%	1.6%	0.2%	1.9%		

Source: Eurostat HICP monthly index (2015=100, prc_hicp_aind), annual averages (AAVG) are calculated by BETTER FINANCE.



Why is inflation calculated per country/region?

Inflation is a relative term and depends on the “area” where one lives.

e.g.: €10 earned in 2010 will be worth more in 2020 in Germany than in Austria.

In 2020, we can observe deflation (negative inflation) in several countries, which means that the purchasing power of the currency increased over the course of the year. This is the case for Estonia, Germany, Italy, Latvia, Lithuania, Spain, and Croatia. With a few exceptions, the other countries in scope have recorded very low inflation rates. This can be attributed to decreasing prices of consumer goods and services, but also to lower economic output and pressure on the labour market. From a central bank’s point of view, deflation can be alarming as it reveals an undesired state of the economy. At the same time, deflation slightly increases real returns. In real terms, a 5% nominal return in 2020 actually means 5.53% given a deflation of -0.5%.

Aiming to maintain inflation rates below, but close to, 2%, the European Central Bank undertook considerable monetary policy efforts to bring the rates back to the desired levels.

Table GR12. Public sector deficit and debt (in %)

	Public Sector Deficit as a % of GDP						Public Debt as a % of GDP					
	2015	2016	2017	2018	2019	2020	2015	2016	2017	2018	2019	2020
EU	-1.9	-1.4	-0.8	-0.4	-0.5	-6.9	84.8	84.0	81.5	79.5	77.5	90.7
Austria	-1.0	-1.5	-0.8	0.2	0.6	-8.9	84.9	82.8	78.5	74	70.5	83.9
Belgium	-2.4	-2.4	-0.7	-0.8	-1.9	-9.4	105.2	105.0	102.0	99.8	98.1	114.1
Bulgaria	-1.7	0.2	1.2	2.0	2.1	-3.4	26.0	29.3	25.3	22.3	20.2	25
Croatia	-3.5	-0.9	0.8	0.2	0.3	-7.4	84.3	80.8	77.6	74.3	72.8	88.7
Denmark	-1.2	0.1	1.8	0.7	3.8	-1.1	39.8	37.2	35.9	34	33.3	42.2
Estonia	0.1	-0.4	-0.7	-0.6	0.1	-4.9	10.0	9.9	9.1	8.2	8.4	18.2
France	-3.6	-3.6	-3.0	-2.3	-3.1	-9.2	95.6	98.0	98.3	98	97.6	115.7
Germany	1.0	1.2	1.4	1.8	1.5	-4.2	72.3	69.3	65.1	61.8	59.7	69.8
Italy	-2.6	-2.4	-2.4	-2.2	-1.6	-9.5	135.3	134.8	134.1	134.4	134.6	155.8
Latvia	-1.4	0.2	-0.8	-0.8	-0.6	-4.5	37.1	40.4	39.0	37.1	37	43.5
Lithuania	-0.3	0.2	0.5	0.6	0.5	-7.4	42.5	39.7	39.1	33.7	35.9	47.3
Netherlands	-2.1	0.0	1.3	1.4	1.8	-4.3	64.7	61.9	56.9	52.4	48.7	54.5
Poland	-2.6	-2.4	-1.5	-0.2	-0.7	-7	51.3	54.2	50.6	48.8	45.6	57.5
Romania	-0.6	-2.6	-2.6	-2.9	-4.4	-9.2	37.8	37.3	35.1	34.7	35.3	47.3
Slovakia	-2.7	-2.6	-1.0	-1.0	-1.3	-6.2	51.9	52.4	51.5	49.6	48.2	60.6
Spain	-5.2	-4.3	-3.0	-2.5	-2.9	-11	99.3	99.2	98.6	97.4	95.5	120
Sweden	0.0	1.0	1.4	0.8	0.6	-3.1	43.7	42.3	40.7	38.9	35	39.9
UK	-4.6	-3.3	-2.5	-2.2	-2.1	-	86.9	86.8	86.2	85.7	85.4	-

Source: Eurostat: (1) Public Sector Deficit as a % of GDP; (2) Public Debt as a % GDP

In 2020, public spending on healthcare and economic support (due to the COVID-lockdowns) have put strains on state coffers. All countries analysed have recorded deficits, ranging from 1.1% of GDP (Denmark) to 11% of GDP (Spain). As such, public debt has increased everywhere: at EU27 level,



public debt increased by 13.2 p.p., and in the countries analysed the public debt increase ranges between 4.8 p.p. (Bulgaria) to 24.5 p.p. (Spain).

We recall the two criteria concerning public deficit and debt deriving from the Maastricht Treaty, i.e., EU countries should not exceed:

- *“-3% ratio of the planned or actual government deficit to gross domestic product at market prices”,³⁶*
- *“60% for the ratio of government debt to gross domestic product at market prices”.³⁷*

In this light, more than half of the countries analysed are still under the 60% threshold and 16 out of the 17 have exceeded the 3% deficit threshold. Data for the UK is no longer available from Eurostat, so it was excluded from the analysis.

Asset Allocation

There are striking differences between the asset allocation of pension funds across countries and products.

Equities dominate only in Poland and Lithuania, being the only two jurisdictions where pension funds are more than 50% invested in shares. Bonds are the main portfolio component in 8 out of 10 countries, and at least 40% in another 6 countries. In the UK, Germany, Spain and Slovakia at least a third of the capital is invested in collective investment scheme units or other instruments; cash and deposits are marginally used, mostly for short-term liquidity purposes.

The average portfolio composition remained almost constant, with a slight shift from liquidity and bonds to collective investment schemes (11% in 2015 to 15% in 2020) across the jurisdictions analysed in this report.

The decrease in government bond interest rates since 1999 have had a positive impact on outstanding assets, especially in countries where this asset class dominates, but it reduces the capacity to provide a good remuneration on new investment flows. The downside, starting in 2019, is that yields for sovereign bonds have started to turn negative.

In this edition we also continue to observe striking differences between pension funds' asset allocations across European countries as shown by the following table.³⁸

³⁶ Article 1 of the Protocol No. 12 on the excessive deficit procedure of the Treaty on European Union, OJ C 115, 9.5.2008, p. 279–280.

³⁷ Ibid.

³⁸ We could not find any available data for France.



Table GR13(A). Pension funds' asset allocation, [2020, in % of total assets]

Country	Year	Cash and deposits	Bills and bonds	Equities	Other
Austria	2005	3%	53%	37%	4%
	2016	9%	46%	33%	12%
	2017	7%	44%	35%	13%
	2018	8%	45%	33%	14%
	2019	7%	43%	34%	16%
	2020	2%	32%	29%	37%
Belgium	2005	2%	6%	9%	78%
	2010	7%	43%	38%	13%
	2015	4%	44%	42%	10%
	2016	N/A	N/A	N/A	N/A
	2017	5%	45%	43%	7%
	2018	6%	47%	41%	5%
	2019	2%	40%	42%	15%
2020	3%	46%	38%	13%	
Bulgaria	2015	12%	65%	19%	4%
	2016	16%	63%	17%	4%
	2017	6%	61%	17%	16%
	2018	9%	57%	17%	17%
	2019	8%	66%	12%	14%
2020	8%	61%	12%	19%	
Croatia	2015	3%	73%	24%	0%
	2016	5%	72%	22%	1%
	2017	4%	73%	22%	0%
	2018	6%	72%	21%	1%
	2019	2%	72%	25%	1%
2020	4%	69%	26%	1%	
Denmark	2005	1%	50%	26%	21%
	2010	3%	42%	5%	50%
	2015	0%	63%	18%	19%
	2016	0%	62%	17%	21%
	2017	1%	59%	19%	21%
	2018	0%	59%	21%	19%
	2019	0%	59%	21%	19%
2020	0%	52%	21%	27%	
Estonia	2010	9%	17%	4%	69%
	2015	20%	48%	31%	0%
	2016	23%	43%	34%	0%
	2017	4%	59%	36%	0%
	2018	3%	62%	34%	1%
	2019	4%	56%	40%	0%
2020	3%	48%	49%	0%	
France	2020	2%	68%	12%	18%



Germany	2005	3%	31%	35%	2%
	2010	2%	46%	5%	46%
	2015	4%	54%	5%	38%
	2016	4%	51%	6%	39%
	2017	4%	50%	6%	40%
	2018	4%	49%	5%	41%
	2019	4%	47%	6%	43%
	2020	3%	46%	7%	44%
Italy	2005	5%	37%	10%	17%
	2010	6%	47%	11%	36%
	2015	4%	50%	20%	27%
	2016	4%	49%	20%	26%
	2017	6%	45%	21%	28%
	2018	6%	45%	19%	30%
	2019	6%	45%	21%	28%
	2020	6%	44%	23%	28%
Latvia	2015	19%	46%	35%	1%
	2016	12%	61%	23%	4%
	2017	10%	57%	29%	4%
	2018	6%	42%	51%	1%
	2019	8%	59%	31%	2%
	2020	10%	56%	31%	3%
Lithuania	2015	9%	51%	38%	2%
	2016	9%	46%	41%	1%
	2017	5%	46%	46%	2%
	2018	7%	47%	44%	2%
	2019	2%	20%	75%	3%
	2020	2%	21%	74%	3%
NL*	2005	2%	41%	46%	4%
	2010	4%	56%	20%	20%
	2015	3%	46%	38%	13%
	2016	2%	45%	39%	14%
	2017	3%	48%	46%	2%
	2018	3%	51%	44%	2%
	2019	3%	50%	46%	0%
	2020	3%	52%	45%	0%
Poland	2005	4%	63%	32%	0%
	2010	3%	59%	36%	1%
	2015	7%	10%	82%	0%
	2016	7%	9%	83%	1%
	2017	6%	9%	85%	0%
	2018	6%	9%	85%	0%
	2019	7%	10%	82%	0%
	2020	4%	11%	85%	0%



Romania	2010	7%	80%	12%	0%
	2015	5%	73%	22%	0%
	2016	7%	71%	22%	0%
	2017	9%	68%	23%	0%
	2018	8%	72%	20%	0%
	2019	4%	71%	25%	0%
	2020	1%	74%	25%	0%
Slovakia	2005	78%	11%	7%	4%
	2010	27%	71%	1%	0%
	2015	17%	78%	2%	2%
	2016	12%	80%	3%	5%
	2017	12%	58%	2%	28%
	2018	11%	58%	2%	28%
	2019	11%	57%	3%	30%
2020	5%	59%	3%	33%	
Spain	2005	5%	58%	19%	18%
	2010	19%	58%	12%	11%
	2015	17%	62%	11%	9%
	2016	15%	64%	14%	7%
	2017	11%	47%	13%	28%
	2018	10%	48%	13%	29%
	2019	8%	44%	14%	33%
2020	9%	44%	14%	34%	
Sweden	2005	1%	58%	34%	7%
	2010	N/A	N/A	N/A	N/A
	2015	2%	67%	18%	13%
	2016	N/A	N/A	N/A	N/A
	2017	N/A	N/A	N/A	N/A
	2018	N/A	N/A	N/A	N/A
	2019	2%	45%	24%	29%
2020	2%	42%	26%	30%	
UK	2005	3%	19%	39%	27%
	2010	N/A	N/A	N/A	N/A
	2015	2%	34%	20%	43%
	2016	4%	43%	22%	31%
	2017	2%	28%	13%	57%
	2018	2%	30%	9%	59%
	2019	2%	30%	9%	59%
2020	2%	45%	26%	27%	
AVG 2020		4%	48%	30%	18%

Sources: OECD Pension Funds in Figures Preliminary Data 2021;



The asset allocation data in this table include both direct investments in cash and deposits, bills and bonds (both sovereign and corporate), equities and indirect investments through collective investment schemes (investment funds such as UCITS³⁹ or AIF⁴⁰) and other assets, such as loans, land and buildings, real estate investment trusts (REITS), hedge funds, derivatives, commodities and precious metals, insurance contracts, money market instruments, private equity funds and other structured (unallocated) products. Data for the asset allocation in collective investment schemes is not available for all jurisdictions and all years.

On average in 2020 as well, most pension funds employed a conservative/defensive investment strategy, investing more than half (51%) of the capital in debt securities (bills and bonds). Equities are the second largest position with an average of 28%.

However, there are significant deviations from the average:

- In countries such as Germany, Spain or Slovakia, the equity allocation is of small significance (7%, 14%, and 3%);
- In countries such as Poland and Lithuania, most assets are invested in equity (74% and 85%).

Table GR13(B). Evolution of average asset allocation in pension funds

	Cash & Deposits	Bills & bonds	Equity	Other (incl. CIS)
2015	8%	54%	27%	11%
2016	9%	54%	26%	11%
2017	6%	50%	29%	15%
2018	6%	50%	29%	16%
2019	5%	48%	30%	17%
2020	4%	48%	30%	18%
2015-2020	6%	51%	28%	15%

Source: own computations based on Table GR13(A).

So far, we were not able to obtain information on ESG-factored investments to correspond to the current reporting standards.

Asset performance

Concerning the recent **positive capital markets returns (1999 – 2020)**, equity markets managed to rebound well above the February 2020 level by the time of writing this report. Since the beginning of the 21st century, capital market returns have been positive (moderately for equities while strongly for bonds):

³⁹ “UCITS” stands for Undertakings for Collective Investment in Transferable Securities, which is the most common legal form mutual funds in the EU take, in particular because of the *passporting rights*.

⁴⁰ “AIFs” stand for Alternative Investment Funds, which are all the non-UCITS funds.



- Over the last 20 years, on a nominal basis (before taking inflation into account), world stock markets have grown in value (in €) by 151%,⁴¹ where the US stock market has grown by 176%⁴² and the European ones by 74% in the last 21 years;⁴³
- On a real basis (net of inflation), European stock markets (MSCI Europe NR) returned to positive cumulated performances by 2013, and once again reached significant levels by 2017 (+32%) and reached +17.4% in 2019.

Equity markets

Equity returns are more volatile in the short-term and hence need to be observed with a long-term perspective in mind. The real return calculations in this report date back to 31/12/1999 at the earliest, so we take a look at how equity markets performed over that same period. Overall, the 21st century began with one of the most severe bear markets in history and faced, in conjunction with the downward cycle of 2007-2008, two longer-lasting upward cycles from 2003-2006 and 2009-2019. Data in the table below is calculated based on gross performances (*nominal return*), then adjusted by inflation (*real return*).

Table GR14. Historical Returns on Equity Markets, yearly average

Country	Period	Nominal Return	Real return
Austria	(2000-2020)	3.2%	1.25%
Belgium	(2000-2020)	0.44%	-1.60%
Bulgaria	(2006-2020)	-9.10%	-3.61%
Croatia	(2003-2020)	5.24%	2.75%
Denmark	(2000-2020)	10.78%	9.20%
Estonia	(2000-2020)	11.95%	7.90%
Europe (EU27)	(2000-2020)	0.25%	-1.74%
France	(2000-2020)	-0.30%	-1.85%
Germany	(2000-2020)	3.29%	1.84%
Italy	(2000-2020)	-3.05%	-4.89%
Latvia	(2001-2020)	10.45%	6.12%
Lithuania	(2001-2020)	12.0%	8.6%
Netherlands	(2000-2020)	-0.34%	-2.4%
Poland	(2000-2020)	5.16%	2.5%
Romania	(2000-2020)	10.58%	1.06%
Slovakia	(2000-2020)	7.40%	4.42%
Spain	(2000-2020)	-0.91%	-2.96%
Sweden	(2000-2020)	1.43%	-0.20%

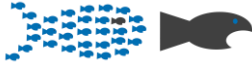
Sources: MSCI, Yahoo! Finance; Investing.com; NASDAQ Baltic; Bucharest Stock Exchange; GPW

Since not all equity indexes have the same coverage or data availability, it is difficult to perfectly compare the performances of the national equity markets. Most of the equity indices recorded negative nominal returns in 2020, ranging between -14.67% to -3.19%; the rest delivered positive

⁴¹ As measured by the MSCI All Country World Index (ACWI) Net Returns denominated in €.

⁴² As measured by the MSCI USA Net Returns Index, calculated in €.

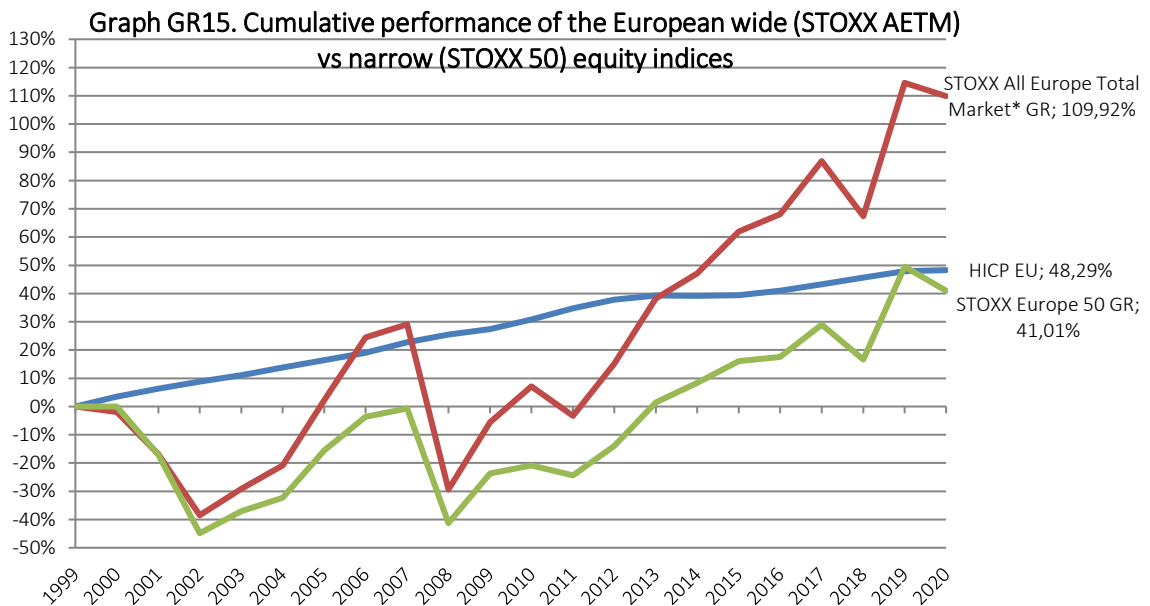
⁴³ As measured by the MSCI Europe Net Returns Index, denominated in €.



nominal returns ranging between 0.03% and 32.44%. In real net terms, due to predominant deflation, 2020 returns improved slightly. On average, the real returns for the equity markets listed in Table GR14 above are 2.34 p.p. lower than the nominal returns over their respective time periods.

When looking at the cumulated results at European level, as well as in the individual countries where we developed this analysis (see French, German and Spanish country cases), broad stock market indices performed much better than the better known and much narrower large cap or “blue chip” indices (Stoxx Europe 50, DAX 30, IBEX 35, CAC 40).

The following graph shows a comparison of the broad STOXX All Europe Total Market index which includes 1,793 European stocks (as of 2 September 2020)⁴⁴ and the much narrower Stoxx Europe 50.



Source: BETTER FINANCE; Eurostat; STOXX

At European level, the difference at the end of our 21-year period is an astonishing 69% in favour of the broader stock market index in nominal terms. And whereas the performance of the narrow index (29% nominal) was heavily outmatched by inflation (39%) over the last 18 years, the broader European stock market recorded a positive real performance with a cumulated gain of 34%.

⁴⁴ <https://www.stoxx.com/index-details?symbol=TE1P>. There was no data available for year of 2000. The performance of the narrower MSCI Europe TR (Net) index (435 components as of 02 September 2020) for that year was taken as a proxy instead.



Government bond markets

As already mentioned above, it is important to note that a decrease in interest rates translates into an increase in the mark-to-market value of bonds which had a positive impact on outstanding debt assets of pension funds. On the other hand, the capacity to provide good remuneration through new bond issuances is hereby reduced.

The following table indicates the returns of thirteen major European bond markets for the period 2000-2019.

Table GR16. Historical Returns on Bond Markets, yearly average			
Country	Year	Nominal Return	Real Return
Belgium	(2008-2019)	5.15%	3.35%
Croatia	(2009-2019)	6.03%	4.76%
Denmark	(2008-2019)	4.70%	3.54%
Germany	(2008-2019)	4.15%	2.82%
Spain	(2008-2019)	5.47%	4.24%
France	(2008-2019)	4.70%	3.43%
Italy	(2008-2019)	5.33%	3.99%
Lithuania	(2008-2019)	-	-
Netherlands	(2008-2019)	4.47%	2.92%
Romania	(2008-2019)	-	-
Slovakia	(2008-2019)	-	-
Sweden	(2008-2019)	2.98%	1.54%
UK	(2008-2019)	4.52%	2.23%
EMU	(2008-2019)	4.65%	3.31%

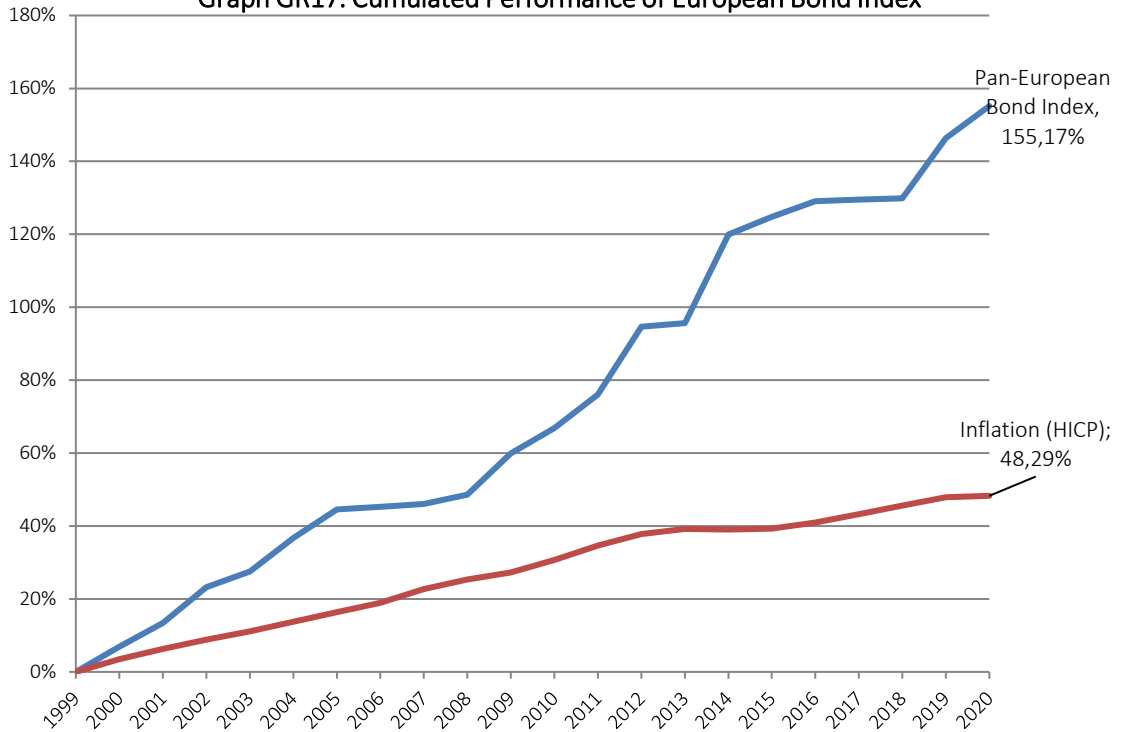
Sources: Morningstar Direct, Eurostat HICP annual average

The European government bond markets all showed steady nominal average returns over the past 10 years, ranging between 6.03% (Croatia) and 2.98% (Sweden). Real average returns ranged even closer together, with the highest in Croatia at 4.76% and Sweden and UK at the lower margin.

The following graph shows the long-term cumulated returns of European bonds as a whole - that is both government and corporate bonds - as measured by the Barclays Pan-European TR index:



Graph GR17. Cumulated Performance of European Bond Index



Source: Eurostat; Bloomberg website; own computations

Over the last 20 years, European bonds as a whole enjoyed a very positive nominal return which was significantly higher than the return of European equities. It is difficult to foresee a continuation of this past trend given the negative interest rates reached today. However, in 2019 this index grew from 129.86% to 146% in nominal terms. Overall, the real cumulative growth of the broad bond index was of 166.2%.



What are “**equities**”?

Equities, also referred to as *shares* or *stocks*, represent a certificate of ownership over a certain part of a company or undertaking.

Equity gives the *shareholder* the right to benefit of profits (through dividends) and the obligation to support losses, proportionally to his “ownership share” over the company. At the same time, it allows the *shareholder* to take part in the decision-making process of the company.

The value of a share is primarily determined by its growth potential, coupled with the amount and frequency of *dividend* payments: see here the BETTER FINANCE video about *Investing in Shares*.⁴⁵

If the company is going well, the **share price goes up**.

What are “**bonds**”?

Bonds, commonly referred to as *debt* or *fixed income securities*, represent a very liquid, easily fungible, and transferable **loan**.

The borrower issues the *bond*, which has a *principal* amount (sum to be repaid), a *maturity* (repayment date) and *coupon* (interest rate).

Bonds are used because they facilitate a very fast financing channel for borrowers (instead of making a loan contract with each lender) and a less risky source of investment return for lenders.

The price of a bond is primarily determined by the *credit rating* of the issuer, the *principal amount* and the *maturity*.

If the issuer is doing good, then the **bond price goes down**.

Graph GR15 shows that this period has indeed been particularly favourable to bonds as an asset class as illustrated by the considerable outperformance of European inflation over time.

Portfolio Manager / Advisor Competence

The initial BETTER FINANCE study highlighted that, in almost all categories of investment funds, a majority of funds under-performed their benchmarks. Investment funds play an important role in today’s asset allocation of pension vehicles, thus it is interesting to compare investment fund performances to benchmarks.

The Standard & Poor’s annual “SPIVA” report measures the proportion of active funds that have beaten their benchmark. The results from the latest SPIVA Europe Scorecard for year-end 2016 are shown in the following table:

⁴⁵ Link also here: <https://www.youtube.com/watch?v=bhYW-YnbEmc>.



Table GR18. Percentage of European Equity Funds Beating their Benchmarks

Fund Category	Comparison Index	1-year (2020)	3-year (2018- 2020)	5-year (2016- 2020)	10-year (2011- 2020)
Funds denominated in Euro (€)					
Europe Equity	S&P Europe 350	63	30	25	14
Eurozone Equity	S&P Eurozone BMI	42	21	13	8
France Equity	S&P France BMI	66	9	14	8
Germany Equity	S&P Germany BMI	54	35	26	20
Italy Equity	S&P Italy BMI	45	12	18	20
Spain Equity	S&P Spain BMI	38	22	26	17
Netherlands Equity	S&P Netherlands BMI	17	0	0	0
Funds denominated in local currencies					
U.K. Equity	S&P United Kingdom BMI	80	66	44	35
Denmark Equity	S&P Denmark BMI	32	11	47	15
Poland Equity	S&P Poland BMI	94	68	39	37
Sweden Equity	S&P Sweden BMI	52	35	31	19

Source: BETTER FINANCE own computation based on S&P SPIVA Scorecard Year-End 2020 (<https://www.spglobal.com/spdji/en/documents/spiva/spiva-europe-year-end-2020.pdf>); *Outperformance is based on equal-weighted fund counts. Index performance based on total return.*

The latest findings for 2020 once again reveal that the large majority of funds do not outperform their respective benchmarks over the past 10 years. For funds investing in European equities, only 14% were able to outperform their benchmark, the S&P Europe 350. The worst results on a country basis were recorded for funds investing in the Netherlands equity where already since 2016 funds haven't overperformed the Dutch broad market index (S&P Netherlands BMI), as well Eurozone and France where only 9% and 10% of the equity funds delivered a cumulative profit over the past 10 years above that of their benchmark.

For retirement savings products, consistent positive long-term returns are of particular importance. However definitive conclusions cannot be drawn from these calculations because they relate to a period that is too short, including no more than two cyclical periods: equity markets fell sharply in 2008 and 2009, then they recovered progressively until the end of 2019, with short sub-periods of decline in most countries, as was the case again in 2020. Prior research found that investment funds tend to outperform their benchmarks in a bearish market while they underperform in a bullish market.⁴⁶

For a longer time-horizon and especially in the case of retirement savings, a study⁴⁷ provides relevant results for UK personal pension funds operated by 35 providers over a 30-year period (1980-2009). Big personal pension fund providers performed better than their prospectus benchmarks, but underperformed treasury bills over the period of a fund's lifespan. Similarly, specialisation of portfolio managers in the investment universe is shown to deliver superior average

⁴⁶ IODS (2014): Study on the Performance and Efficiency of the EU Asset Management Industry, a study for the European Commission (Internal Market and Services DG) and the Financial Services User Group (FSUG), August 2014

⁴⁷ Anastasia Petraki and Anna Zalewska (April 2014), "With whom and in what is it better to save? Personal pensions in the UK", working paper of the Centre for Market and Public Organisation, University of Bristol.



annual returns but does not show superior long-term performances. More generally, they found that short-term performances based on arithmetic annual averages are not relevant indicators of the long-term performance calculated as geometric compounded returns similar to the methodology used in the present study. The authors also showed that younger funds perform better than older ones, which are under lower competitive pressure given the cost of leaving a fund to join a better performing one.

A research report published by BETTER FINANCE in 2019 analysed the drivers of over- or underperformance of the comparison or benchmark index of EU Equity Retail Investment funds domiciled in France, Belgium and Luxemburg. While only 2 funds out of 2,086 managed to consistently deliver overperformance over 10 years between 2008-2017, the rest that managed to beat their respective markets seem to have done so by coincidence or luck.⁴⁸

In attempting to give an explanation for the latter, the analysis deployed showed that fees are the most negative factor for fund (over)performance or – in other words – *“the more you pay, the less you get”*.⁴⁹ More information on fees and charges is given in the following section.

IV. INVESTMENT CHARGES

Fees and commissions substantially reduce the performances of pension products, especially for personal “packaged” pension products, and for unit-linked life-insurance. Charges are often complex, opaque, and far from being harmonised between different pension providers and products. Some countries have started to impose overall caps on fees for some pension products (UK, Romania, Latvia).

Findings of the initial study by BETTER FINANCE on the opacity and weight of charges did not change dramatically over the successive research reports. Generally speaking, charges are heavier on personal pension products than on occupational pension funds, as employers are in better position to negotiate with competing providers than individuals are.

To tackle this complexity, some pension providers – for example, some auto-enrolment schemes in the United Kingdom – set up fixed costs per member, but this penalises low paid workers.

Following the OFT study, the Department for Work and Pensions issued a regulation which took effect on 6 April 2015⁵⁰. The default schemes used by employers to meet their automatic enrolment duties are subject to a 0.75% cap on AMCs. The cap applies to most charges, excluding transaction costs. Moreover, an audit was conducted on schemes being “at risk of being poor value for money”. It found that about one third of surveyed schemes had AMCs superior to 1% and that a significant

⁴⁸ BETTER FINANCE, *Study on the Correlation between Cost and Performance of EU Equity Retail Funds* (June 2019) <https://betterfinance.eu/wp-content/uploads/BETTER1.pdf>.

⁴⁹ Press Release, “New research by BETTER FINANCE on the Correlation between Costs and Performance of EU Retail Equity Funds without a doubt establishes a negative correlation between returns and fees” <https://betterfinance.eu/publication/the-more-you-pay-the-less-you-are-likely-to-get/>.

⁵⁰ <https://www.legislation.gov.uk/ukpga/2015/8/contents/enacted>



number of savers would have to pay exit fees superior to 10% in case they wanted to switch to a better performing fund. Moreover, starting from October 2017, existing early exit charges in occupational pension schemes cannot exceed 1% of the member's benefits and no new early exit charges can be imposed on members who joined that scheme after 10 October 2017.

V. Taxation

Finally, taxes also reduce the performance of investments. The general model applied to pension products is deferred taxation, with contributions being deducted from taxable income and pension pay-outs being taxed then. The accumulated capital can be withdrawn at least partially at retirement as a lump-sum, which is often not taxable. Our calculations of net returns are based on the most favourable case, i.e., assuming that the saver withdraws the maximum lump-sum possible.

One of the key elements of a pension system, as designed by the World Bank's conceptual framework of 1994,⁵¹ is to incentivise savings and private investments by giving fiscal advantages, either as deferred taxation, exemptions, or tax reductions.

Pension taxation concerns three stages: contributions, investment returns and payments (benefit drawdowns).

The general model applied to pension products is usually deferred taxation: contributions are deducted from the taxable income and pensions (pay-outs) are taxed within the framework of income tax or, usually, at a more favourable rate. Some countries are currently in the middle of a transitional phase comprising proportionate deferred taxation which will lead to entire deferred taxation in the future.

The so-called EET regime, "*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*"⁵², is predominant in the countries covered by this research report. There are only a few exceptions, like in Poland, where the reverse rule is applied: contributions are paid from the taxable income while pensions are tax-free (the only exception from the TEE regime are IKZEs – individual pension savings accounts). Pensions in Denmark are taxed at all three stages with contributions to occupational pensions being partially deductible as the only exception. Furthermore, in Bulgaria and for the funded pensions in Slovakia, one can even observe EEE regimes with no pension taxation at all within defined tax exemption limits. In other countries, such as France or Poland, specific conditions apply in order to be tax-exempt or not.

⁵¹ World Bank, 'Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth' (1994) 10, <http://documents.worldbank.org/curated/en/973571468174557899/pdf/multi-page.pdf>.

⁵² OECD definition: <https://stats.oecd.org/glossary/detail.asp?ID=5225>



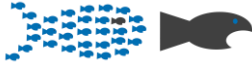
Usually, the accumulated capital can be withdrawn by the saver as a lump sum at retirement age, at least partially. Our calculations of returns net of taxation (where available) are based on the most favourable taxation case and assume that the saver withdraws the maximum lump sum possible.

Savings products used as retirement provision, but which are not strictly pension products, might benefit from a favourable tax treatment. This is the case of life insurance in France but successive increases of the rate of “social contributions” on the nominal income tend to diminish the returns of the investment.

An overview of the main taxation rules applied on a country basis can be found in the following table:

Table GR19. Overview of Main Taxation Rules Applied in the Country Reports

Austria	<ul style="list-style-type: none"> ● EET regime – generally, only payments are taxed; <ul style="list-style-type: none"> o direct commitments, occupational pension funds and group insurance have tax-exempt contributions, tax-exempt capital accumulation, and (income) taxed benefits; o life insurance contributions are subject to insurance tax (4%), investment returns are exempt, and payments are taxed (“TET” regime); o premium subsidised products carry a premium based on the contribution, the capital accumulation phase is tax-exempt, and benefits are also tax free if they are converted into an annuity (“TEE” regime).
Belgium	<ul style="list-style-type: none"> ● EET regime - only withdrawals/payments are taxed; <ul style="list-style-type: none"> o Contributions are tax deductible up to prescribed limits; o Employees pay generally 2% solidarity tax and 3.55% INAMI tax on benefits; o Pillar II: Taxation in pay-out phase depending on origin of contribution, local taxes to be added; o Pillar III: Taxation in pay-out phase at the age of 60, local taxes to be added.
Bulgaria	<ul style="list-style-type: none"> ● EEE regime; o Annual contributions of up to 10% of annual taxable income is tax free;
Croatia	<ul style="list-style-type: none"> ● EET regime Contributions and investment income are tax-exempt, whereas benefits are taxed. The tax allowance for pensioners is 1.7 times higher than for employees, meaning that pensions are only modestly taxed.
Denmark	<ul style="list-style-type: none"> ● TTT regime (combination of ETT and TTE); <ul style="list-style-type: none"> o Annuities, periodic instalments, and lump-sum pensions under the form of <i>kapitalpension</i> are income tax deferred and follow an ETT regime; o Lump-sum pensions under the form of <i>alderopsparing</i> are taxed TTE;
Estonia	<ul style="list-style-type: none"> ● EET regime for taxation: <ul style="list-style-type: none"> o Contributions paid towards the pension schemes are tax-exempt. o Returns achieved by respective pension funds are tax-exempt. o Benefits paid out during the retirement are subject to the income tax taxation.



France	<ul style="list-style-type: none">● ETT regime;<ul style="list-style-type: none">o PERP, Prefon, Corem, CRH contributions are income tax deductible;o Contributions to some DC pension plans (PERCO and PERP) are income tax deductible but no deductibility from social levies. No tax deductibility for life insurance contracts;o taxation of employers' contributions to corporate savings plans (PEE and PERCO) and defined contribution plans ("Article 83") increased from 8% to 20%.o the minimum tax rate on life insurance income is now 23%o pay-outs are taxed in the retirement phase (sometimes with tax reductions).
Germany	<ul style="list-style-type: none">● EET regime, taxation divides retirement savings into three groups:<ul style="list-style-type: none">o Statutory pension insurance and the Rürup pension: deferred taxation; contributions up to a deduction cap are exempted from taxation and generally subject to tax in its entirety during the pay-out phase.o Standard pension insurance or life insurance products: contributions to the products come from taxed income; benefits are taxed at the personal income tax rate on the corresponding earnings in the retirement phaseo Occupational pensions and the Riester pension: deferred taxation; contributions up to a deduction cap are exempted from taxation and generally subject to tax in its entirety during the pay-out phase.
Italy	<ul style="list-style-type: none">● ETT regime, contributions are tax deductible up to prescribed limits;<ul style="list-style-type: none">o Accruals are taxed at 20% (12.5% on income derived from public bonds) in the capital accumulation phase;o Taxation in the pay-out phase varies from 9-15%.
Latvia	<ul style="list-style-type: none">● EET regime;<ul style="list-style-type: none">o Pillar II – Contributions are personal income tax deductible item and therefore the contributions are not subject to additional personal taxation; Income or profits of the fund are not subject to Latvian corporate income tax at the fund level; a general principle for all investment and savings-based schemes to levy the income taxation on the final beneficiary.o Pillar III – Voluntary private pensions are generally taxed as Pillar II, however there are deduction limits in the contribution phase: payments (contributions) made to funds shall be deducted from the sum amount of annual taxable income, provided that such payments do not exceed 10 % of the person's annual taxable income.
Lithuania	<ul style="list-style-type: none">● EEE regime;<ul style="list-style-type: none">o Employee contributions are tax-deductible even if they are higher than required; for pillar III, there is a tax-refund policy during the contribution phase, which means that the contributions of up to 25% of gross earnings, the income tax (15%) is returned;
Poland	<ul style="list-style-type: none">● TEE regime for Employees Pension Programs (PPE) and Individual Retirement Accounts (IKE); EET for Individual Retirement Savings Accounts (IKZE);<ul style="list-style-type: none">o benefits are taxed with a reduced flat-rate income tax (10%)



Romania	<ul style="list-style-type: none"> ● EET regime applies for both mandatory and voluntary pensions; <ul style="list-style-type: none"> o for funded pensions (Pillar II), pension benefits paid out during retirement will be subject to a personal income tax (10% tax rate) above a certain level (€460 in 2018); the social security contributions have been removed as of 2018 and are supported completely from the consolidated state budget. o for voluntary private pensions (Pillar III), contributions are tax deductible up to a deduction limit, investment income is tax exempted, and benefits are subject to the personal income tax.
Slovakia	<ul style="list-style-type: none"> ● Funded pensions are usually not taxed (EEE regime); ● Supplementary pensions follow the EET regime with several exceptions and specifications.
Spain	<ul style="list-style-type: none"> ● EET regime, contributions are tax deductible up to prescribed limits; ● No taxation in the capital accumulation phase; ● Pay-outs are taxed differently depending on whether they take the form of an annuity or the form of a lump sum payment.
Sweden	<ul style="list-style-type: none"> ● EET regime for public pensions; ETT regime for private pensions; o Employers can partially deduct contributions to the second pillar; returns are subject to an annual standard rate tax based on the value of the account and the government-borrowing rate o Investment return is subject to tax rate on standard earnings at 15%; o in Pillar III, until 2016 there was a tax deduction of SEK 1,800 per year available; returns are subject to an annual standard rate tax based on the value of the account and the government-borrowing rate
Netherlands	<ul style="list-style-type: none"> ● EET regime; ● Contributions paid into pension funds are tax deductible; ● Taxation is applied in the pay-out phase at the personal income tax rate.
UK	<ul style="list-style-type: none"> ● EET regime; ● Allowances and tax relief on contributions with test against lifetime allowance ● Pay-outs are taxed as income, there are three marginal rates in the UK at the moment.

Source: BETTER FINANCE own composition

VI. RETURNS OVERVIEW

The BETTER FINANCE report now reaches 21 years (or maximum available) of performance disclosure for some retirement provision products. Unfortunately, in the long run, real returns were on average quite low and below those of capital markets (equities and bonds). In the context of negative interest rates and decreasing yields on capital markets, the pensions outlook looks grim.

One has to keep in mind that the diversity of the European pension landscape and the lack of available data complicate the drawing of straightforward conclusions. Although the aim of



comparability would be to present all results in a harmonised manner (either Pillar II vs Pillar III or on product categories - investment funds vs insurance products), complete data for all is not reported, neither the maximum periods available, nor are the concepts (Pillars, occupational vs supplementary plans) so common in all EU Member States. Therefore, for ease of reference, the names of the pension vehicles have been used in Graphs 18 (A, B and C) and Table 19 as presented in each individual country case.

Out of the 15 pension vehicles on which we report performances over at least 18 years (Graph 18(A)):

- only one so far remains on the negative side (-0.66%, French unit-linked life insurances);
- the majority (8) reported less than 1.5% real net return per year, equalling less than 35% pre-tax profits over the past 20 years.

Considering that an EU capital markets-representative benchmark (50% European Equities – 50% European bonds) recorded 72% real profits before taxes (2.69% p.a.), the 2020 data update shows few product categories overperforming this broad market benchmark.

On shorter reporting time frames (Graphs 18(B) and (C)) performances were much higher, but this may be due to the fact that some products did not pass through the same crises as the long-term ones (Graph 18(A)) did.

In general, we could observe significant performance differences in each country case, either between pillars or between types of pension vehicles:

- in Romania, Pillar II mandatory pension funds massively overperformed Pillar III pensions;
- in Austria, pension insurances overperformed pension funds by almost 17 percentage points;
- in Italy, both PIP-products have turned positive: PIP with profits had positive returns over the past 13 years (1.36%) unit-linked PIP recorded an average gain of 2.23%; and
- in France, where capital guaranteed insurance products gained 1.6% p.a. and unit-linked insurance lost -0.7% p.a.

These poor or even negative real returns have led public authorities in some Member States to take measures in order to ensure transparency and cap the fees charged by certain pension providers (in countries such as the UK, Romania and Latvia). The issue is crucial, especially in countries like the United Kingdom where the standard of living of retirees is heavily dependent on pre-funded pension schemes. The following tables detail the long-term real returns of the main long-term and pension saving product categories in the 17 European countries analysed. The categorisation in Graphs GR18(A), (B), (C) AND (D) is by the starting reporting year available in this report.

In Italy, an ambitious reform was implemented (as of 2011) by Minister Elsa Fornero under the Monti government in order to secure the public PAYG system, despite very unfavourable demographic trends. As such, the poor returns of the personal pension plans will have a limited

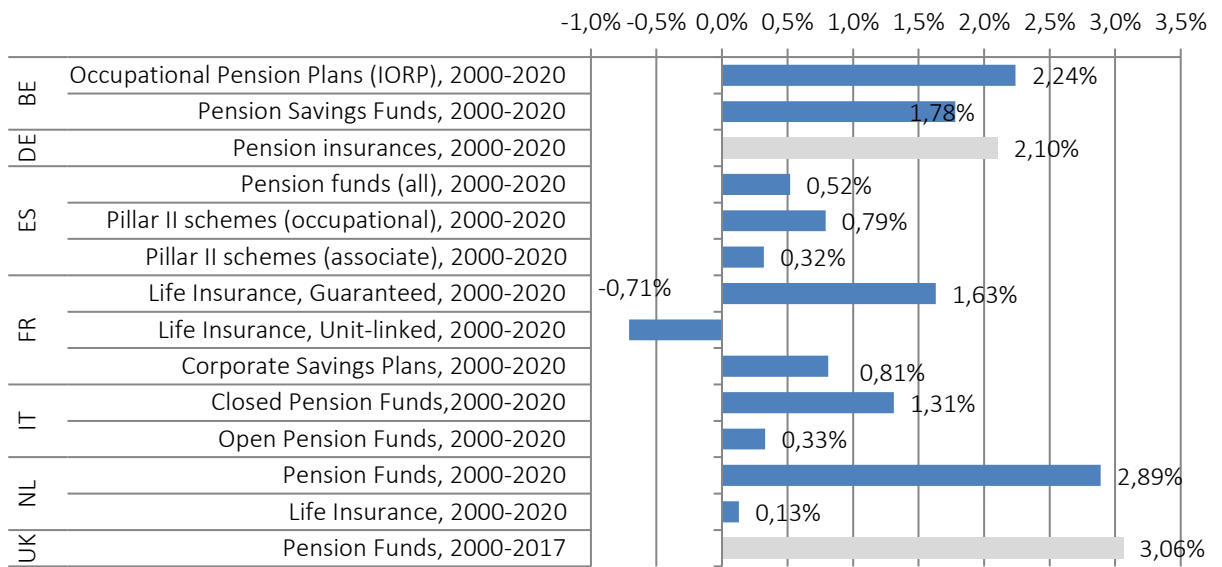


impact on the replacement rates of retirees’ income, the downside being the heavier reliance on the public pension scheme.

By contrast, pensions in the UK are more heavily dependent on pre-funded schemes. As such, the total value of pension assets as % of the 2018 GDP reached 105%, which is modest compared to the Netherlands or Denmark, but four times higher than the average (pension fund assets 25% of GDP) in the 17 countries in scope of this Report. The Government has implemented “auto-enrolment” to extend the benefits of pension funds to most employees. There, the excessive charges borne by pension fund members have led public authorities to take measures in order to improve transparency and to limit the fees charged by pension providers.

Note: In Bulgaria, data on professional pension funds (occupational and voluntary) was no longer available for the 2018 update. The data reported in these graphs and tables is time-weighted returns.

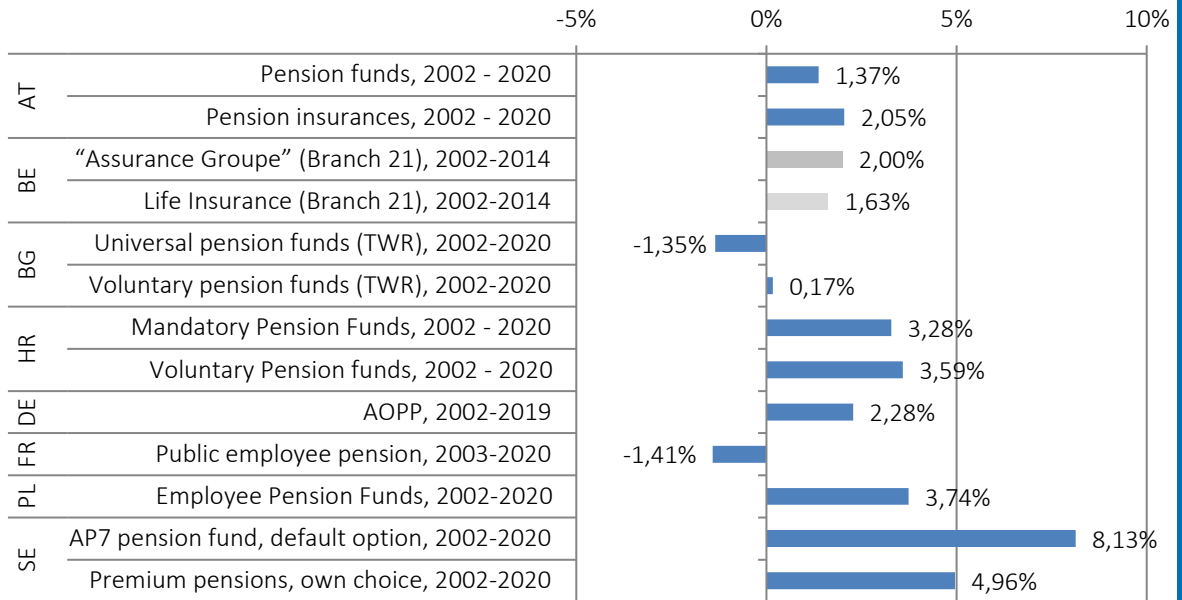
Graph GR19(A). ANNUALISED REAL RETURNS OF PENSION SAVINGS- AFTER CHARGES & INFLATION - BEFORE TAX - FROM 2000/01



Source: BETTER FINANCE Research (Table 20); * Net of taxes, charges and inflation

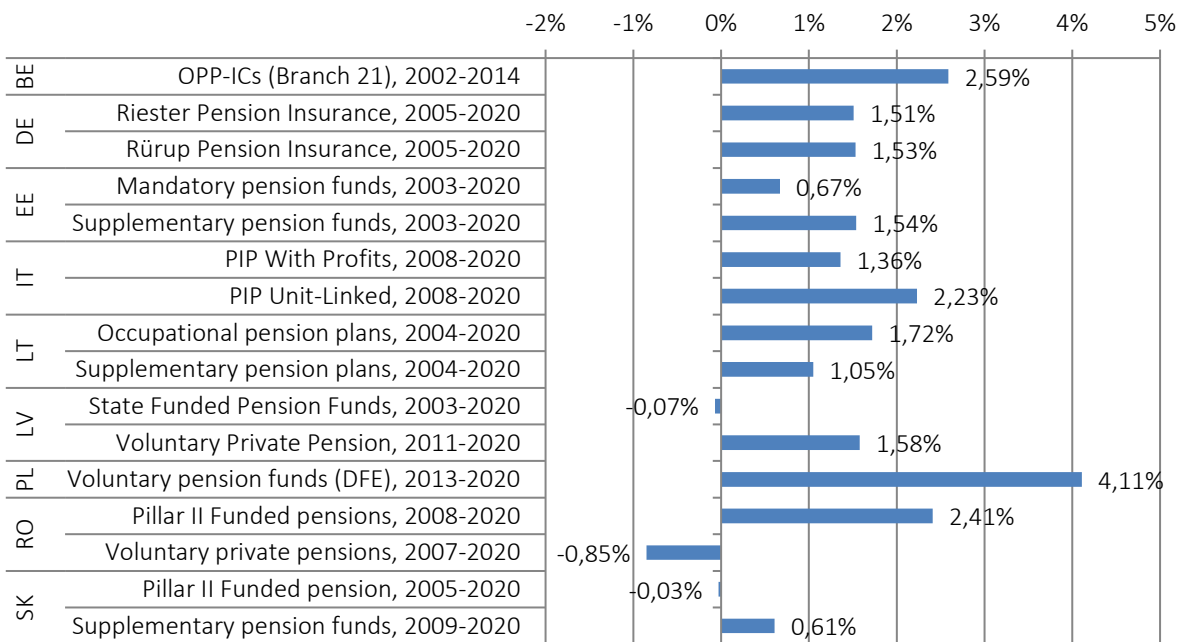


Graph GR19(B). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - FROM 2002



Source: BETTER FINANCE Research (Table 20); * Gross of fees

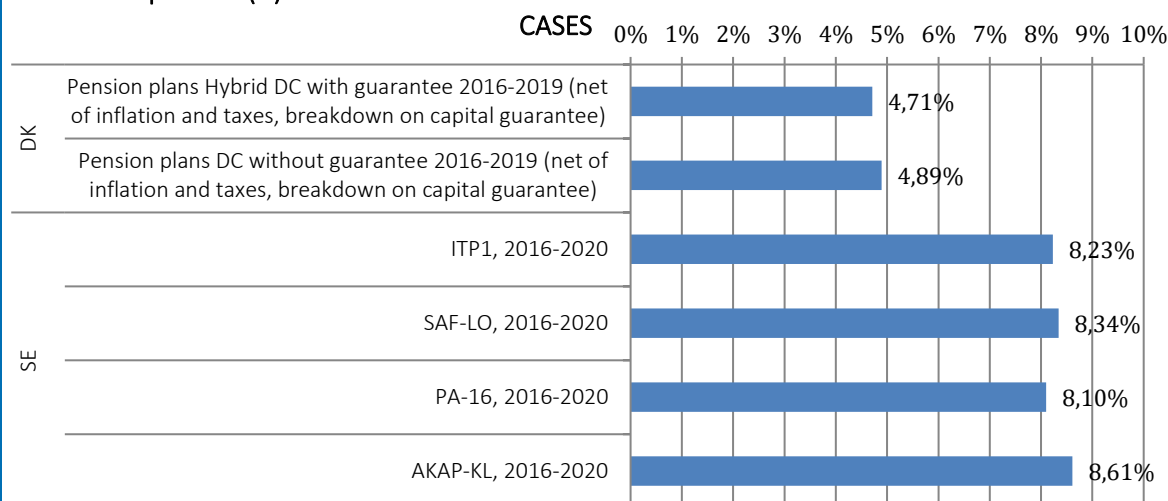
Graph GR19(C). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - LATER STARTING DATES



Source: BETTER FINANCE Research, Table 20



Graph GR19(D). ANNUALISED REAL RETURNS OF PENSION SAVINGS - SPECIFIC



Source: Graph 20

The following table groups the pension vehicles available and reported on by country, and presents the average returns on the entire available reporting period.

Table GR20. Yearly Real Returns of Private Pension Products

Austria	Pension funds, 2002- 2020: +1.37%
	Life-insurances, 2002-2020: +2.05%
Belgium	Pension Funds (IORP [1]), 2000-2020: +2.24%
	“Assurance Groupe” (Branch 21), 2002-2014: + 2.00%
	Pension Savings Funds, 2000-2020: +1.78%
	Life Insurance, Guaranteed, 2002-2014: +1.63%
	OPP-ICs (Branch 21), 2002-2014: + 2.59%
Bulgaria	Universal Pension Funds (TWR), 2002-2020: -1.35%
	Voluntary Pension Funds (TWR), 2004-2020: 0.17%
Croatia	Mandatory Pension Funds, 2002–2020: +3.28%
	Voluntary Pension funds, 2002-2020: +3.59%
Denmark (after tax)	Pension plans Hybrid DC with guarantee 2016-2019: +4.71%
	Pension plans DC without guarantee 2016-2019: +4.89%
Estonia	Mandatory Pension Funds, 2003-2020: 0.67%
	Supplementary Pension Funds, 2003-2020: +1.54%
France	Life Insurance, Capital guaranteed, 2000-2020: 1.6%
	Life Insurance, Unit-linked, 2000-2020: -0.71%
	Corporate savings plans, 2000-2020: +0.81%



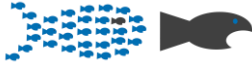
Germany	A.O.P.P.[1], 2002-2019: +2.28%
	Riester Pension Insurance, 2005-2020: +1.51%
Italy	Rürup Pension Insurance, 2005-2020: +1.53%
	Pension Insurances, 2000-2020: +2.10%
	Closed Pension Funds, 2000-2020: +1.31%
Latvia	Open Pension Funds, 2000-2020: +0.33%
	State Funded Pension Funds, 2003-2020: -0.07%
Lithuania	Voluntary Private Pension, 2011-2020: +1.58%
	Occupational pensions 2004-2020: +1.72%
Poland	Supplementary pensions 2004-2020: +1.05%
	Employee Pension Funds, 2002-2020: +3.74%
Romania	Voluntary Pension Funds, 2013-2020: +4.11%
	Pillar II Funded Pensions, 2008-2020: +2.41%
Slovakia	Voluntary Pension Funds, 2007-2020: -0.85%
	Pillar II Pension Funds, 2005-2020: -0.03%
Spain	Supplementary Pension Funds, 2008-2020: +0.60%
	Pension Funds (all), 2000-2020: +0.52%
	Individual plans (agg.), 2000-2020: +0.32%
	Pillar II schemes (occupational), 2000-2020: +0.89%
Sweden	Pillar II schemes (associate). 2000-2020: +1.07%
	AP7 fund, default option: 2000-2020: +6.95%
	Premium pension, other funds: 2000-2020: +4.18%
	ITP1, 2016-2020: +8.23%
	SAF-LO, 2016-2020: +8.34%
The Netherlands	PA-16, 2016-2020: +8.10%
	AKAP-KL, 2016-2020: +8.61%
UK	Pension Funds, 2000 - 2020: +2.89%
	Life Insurance, 2000 - 2020: +0.13%

**After tax*

Source: Own Research, Better Finance Research

Occupational pension funds as per the definition and scope of the EU "Institutions for Occupational Retirement Provision Directive" (IORP); [1] A.O.P.P. stands for Autonomous Occupational Pension Funds.

[1] The returns on private pension products in Denmark cannot be calculated on average since the Danish Supervisory Authority started to report the returns for two categories: hybrid defined-contribution (DC) with guarantee and defined-contribution (DC) with no guarantee. Therefore, averages as of 2016 cannot be calculated.



Pension Savings: The Real Return

2021 Edition

Country Case: Denmark

Danish Summary

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

Det danske pensionssystem er karakteriseret ved en høj grad af forudgående opsparing og ved en klar arbejdsdeling mellem de offentlige, skattefinansierede pensioner og de private, opsparingsbaserede pensionsordninger. Den samlede pensionsopsparing udgør i 2019 4.430 mia. DKK eller næsten det dobbelte af BNP.

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

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

Summary

The Danish pension system is a well-established 3-pillar system. The role of the pillars has changed gradually within the last 30 years. The PAYG- system of Pillar I still provides the basic income for most elderly, but occupational DC pension schemes play an increasingly important role. More than



80% of the Danish labour force is enrolled in one or more occupational schemes. The average replacement ratio is expected to increase in the years to come from today's level at around 75%.

The Danish pension system is characterized by a high degree of funding and clear roles for the tax-based public pensions of Pillar I and the privately funded pensions. The total value of funded pension schemes in 2019 is close to €600 billion,⁹⁸ or almost twice the Danish GDP.

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

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

Introduction

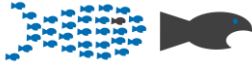
The Danish pension system is in a transition from being largely based on defined-benefit tax financed pensions to a larger role of defined benefit, funded occupational pensions. The latter have been expanded to most of the labour market in the 1990s and will mature in two or three decades. This arrangement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

In international comparisons, the Danish pension system stands out by low poverty rates among the old and high replacement rates. Conditions for the financial viability is ensured also against the backdrop of large demographic shifts. This position is reflected in a consistently high ranking (1st 2012-17, and 2nd 2018-2020) in the Melbourne Mercer Global Pension Index.⁹⁹

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

⁹⁸ All currency conversions are made at the exchange rate provided by the ECB Statistical database for EUR/DKK on 31.12.2019, 1 EUR = 7.4409 DKK.

⁹⁹ Melbourne Mercer Global Pension Index 2019, <https://www.mercer.com.au/our-thinking/global-pension-index.html#contactForm>



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

Description of the pension system

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

Table DK1. Pension System Overview

Pillar I	Pillar II	Pillar III
Base pension plus means-tested supplements, tax-financed	Occupational Pension; DC, funded schemes	Voluntary Personal Pension
Poverty prevention in old age	Ensures a standard of living reflecting the level of income before retirement	Supplementary saving based on individual needs
An individual entitlement (residence requirement) regulated by law	Determined by collective agreements, but contribution is mandatory for the individual	Voluntary
Quick facts		
Danish pension system has been top ranked (no 2) in the Melbourne Mercer Global Pension Index		
The average replacement ratio is about 75%		
The total value of funded pension schemes exceeds 600 billion euro, or more than twice the Danish GDP		
Period 2007-2017 the average annual after-tax real rate of return for private pension schemes was close to 5%		

Source: BETTER FINANCE own composition



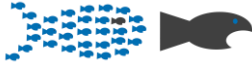
The occupational pension scheme is still in a build-up phase. Contribution rates have been steady at current levels since 2010, and it takes several decades for the scheme to mature in the sense of having contributed during an entire work-career and getting a pension throughout retirement based on the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

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

Source: Forsikring Pension DK - Folkepension og ATP

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

Table DK3. Total value of funded pension schemes 2000-2019 (in bln)							
	Life insurance companies	Industry wide pension funds	Company pension funds	Banks	ATP	Total	currency
2000	650	270	43	215	247	1,424	DKK
	87	36	6	29	33	191	€
2001	650	272	40	215	247	1,423	DKK
	87	37	5	29	33	191	€
2002	669	277	37	198	243	1,424	DKK
	90	37	5	27	33	191	€
2003	732	302	38	215	263	1,550	DKK
	98	41	5	29	35	208	€
2004	810	339	39	244	307	1,740	DKK
	109	46	5	33	41	234	€
2005	953	381	42	298	365	2,040	DKK
	128	51	6	40	49	274	€
2006	1,010	402	43	347	372	2,174	DKK
	136	54	6	47	50	292	€
2007	1,054	412	43	369	389	2,268	DKK
	142	55	6	50	52		€
2008	1,119	396	44	308	678	2,545	DKK
	150	53	6	41	91	342	€
2009	1,212	436	45	378	609	2,680	DKK



	163	59	6	51	82	360	€
2010	1,351	478	51	405	758	3,043	DKK
	182	64	7	54	102	409	€
2011	1,496	556	53	399	776	3,279	DKK
	201	75	7	54	104	441	€
2012	1,682	565	57	438	791	3,533	DKK
	226	76	8	59	106	475	€
2013	1,757	585	53	445	677	3,517	DKK
	236	79	7	60	91	473	€
2014	2,013	646	59	424	812	3,955	DKK
	271	87	8	57	109	532	€
2015	2,074	672	60	446	781	4,033	DKK
	279	90	8	60	105	542	€
2016	2,289	692	59	460	870	4,369	DKK
	308	93	8	62	117	587	€
2017	2,368	727	56	385	893	4,429	DKK
	318	98	8	52	120	595	€
2018	2,344	726	60	354	907	4,431	DKK
	315	98	8	48	122	595	€
2019	2,710	848	68	393	1,024	5,082	DKK
	364	114	9	53	138	683	€

Source: Danish FSA

Statutory ages in the pension system (for public pensions, for early retirement, and age limits for payment of funds from pension schemes) are established by law and thus regulated at the political level. The effective retirement age has been gradually increasing over the years, and it is currently about 63 years. A sequence of reforms has tightened the possibilities for early retirement and increased the statutory pension age (and early retirement age). The statutory pension age has increased in steps from 65 years to reach 67 years in 2022. Thereafter the statutory retirement age is indexed to the development in life expectancy at the age of 60 in order to target the expected pension period to 14.5 years (17.5 including early retirement) in the long run (currently about 18.5/23.5 years). There is a “speed limit” stipulating that the statutory retirement at not can be increased by more than one year every fifth year. In accordance with the indexation rules, parliament decided in 2015 to raise the statutory retirement to 68 years in 2030, and in 2020 it was increased to 69 years in 2035. The next decision comes up in 2025, and according to development in longevity, the statutory retirement age will increase to 70 years.

The indexation scheme has recently been debated, and it has been questioned whether it is too tough, especially when implying a statutory pension age above 70 years. The higher statutory pension age has also prompted a discussion of early exit options from the labour market for those



who have a reduced work capability, but not so severely that they are eligible for a disability pension. Recently a so-called senior pension has been introduced giving an option to retire six years prior to reaching the statutory retirement age, provided work capability is reduced (unable to work at least 15 hours per week). A new scheme “early pension” (tidlig pension) is available for persons who at the age of 61 have worked at least 42 years in the labour market. Finally, early retirement (efterløn) remains a possibility to retire in a window (after reforms reduced from five to three years) prior to the statutory pension age for persons who have contributed to the scheme for at least 30 years. The number of persons eligible for early retirement is decreasing.

Table DK4. Retirement age in Denmark 2000-2020

Year	Average retirement age
2000	62.4
2001	62.4
2002	62.3
2003	62.2
2004	62.2
2005	62.3
2006	62.3
2007	62.5
2008	62.7
2009	62.9
2010	63.1
2011	63.3
2012	63.4
2013	63.5
2014	64.2
2015	64.5
2016	64.9
2017	65.2
2018	65.6
2019*	66.0
2020*	66.0

*Source: Forsikringpension.dk, *preliminary*



Pillar I

Pillar I basically consists of two pension plans: the tax financed public pension (Folkepension) and the ATP, a mandatory pension scheme comprising the larger part of the population. Both schemes are regulated by law.¹⁰⁰

The state pension (Folkepension)

The public pension includes a basic amount (flat-rate pension) and means-tested supplements (I: supplementary pension (“pensionstillægget”) and II: supplementary pension benefit (“ældrecheck”)). In addition, there are needs-based supplement, e.g., housing, medical expenses. The supplements are means-tested on a family basis. All are entitled to the public pension when reaching the statutory retirement age provided a residence requirement is satisfied and earned income is below a certain threshold¹⁰¹. Public pensions are indexed to wages.

The state pension consists of a basic pension and a personal supplementary pension. For 2021 the base pension is DKK 78.0216 a year (€10,500), and the maximum supplement (for a single) is DKK 85.464 (€14.300). The means-testing is relatively complicated depending on family situation and other sources of income. As an example, for a single the pension supplement is reduced by 30.9% of income above a lower threshold, and therefore there is no supplement for a sufficiently high income e.g., from an occupational pension scheme.

ATP

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

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

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

¹⁰⁰ See: “Lov om sociale pensioner” (<http://www.socialjura.dk/content-storage/love/love/pensionslov/>) and “Lov om Arbejdsmarkedets Tillægspension” (<https://www.retsinformation.dk/Forms/R0710.aspx?id=164210>).

¹⁰¹ To be eligible for the full amount, residence in Denmark for 40 years after the age of 15 is required, otherwise the amount is reduced proportionally to the period of residence. To be eligible for the full amount, labour income cannot exceed DKK 344,600 (2021).



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

Pillar II

Occupational pensions are an outcome of collective bargaining¹⁰². Before 1990, Pillar II schemes were almost exclusively for civil servants and white-collar workers in the private sector. A tripartite agreement between the government and the social partners in the late 1980s resulted in occupational pension schemes for the larger part of the labour market. In a process contribution rates were increased over a sequence of years, and they have remained constant at their current level since 2010. Contribution rates differ across groups and is 12% for blue collar workers and 15-18% for white collar workers (reflecting their longer longevity). Normally, 2/3 is paid by the employer and 1/3 by the employee.

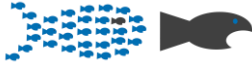
As a result of the phasing in of the occupational pension scheme most pension funds are still in a building up phase with contributions exceeding pay-outs. Accumulated funds are thus on an increasing trajectory, and in total amounts to about two times GDP.

Total contributions to occupational pension schemes amounted to DKK 127.6 billion (€17 billion) in 2020, close to three times higher than the level in 2000. The total work force is around 3 million people, so the overall average contribution can be estimated to about 42,000 DKK per year (€5,684).

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

Year	Individual schemes	Occupational schemes	Total
2001	1,255,931	2,604,127	3,860,058
2002	1,187,110	2,837,482	4,024,592
2003	1,126,061	3,016,891	4,142,952
2004	953,925	3,055,831	4,009,756
2005	1,022,752	3,361,712	4,384,464

¹⁰² Collective agreements cover a large part of the labour market. There is a tradition for tripartite consultations between the Government, unions and employers' organizations, and labour market issues are generally settled by collective agreement rather than law. The establishment of occupational pensions is an example of this. An agreement of the three parties was made in 1989 and it marked the start of introduction of occupational pension schemes to more of the private labour market (most public employees were already covered).



2006	1,095,731	3,405,394	4,501,125
2007	1,112,714	3,589,372	4,702,086
2008	1,293,226	3,771,977	5,065,203
2009	1,378,350	3,898,196	5,276,546
2010	1,142,774	3,891,501	5,034,275
2011	1,208,941	4,059,209	5,268,150
2012	1,398,422	3,997,145	5,395,567
2013	1,481,007	3,801,555	5,282,562
2014	1,431,842	4,153,361	5,585,203
2015	1,403,226	4,265,022	5,668,248
2016	1,568,273	4,028,323	5,596,596
2017	1,645,745	4,403,822	6,049,567
2018	1,666,448	4,513,366	6,179,814
2019	1,750,005	4,515,485	6,265,490
2020	1,786,682	4,620,069	6,406,751

Source: ForsikringogPension.dk

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

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

Pillar II DB schemes

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



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

Pillar III

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

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

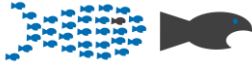
In 2000, approximately 1 million persons contributed to an individual scheme, but this number has steadily declined until 2013, and since then increased somewhat to about 630.000 persons in 2019. The huge fall in 2013 is due to a shift in the lump sum pension from kapitalpension to alderopsparing. There may take time to get acquainted with the new scheme, and at the cap on the contributions to the periodic instalments or fixed term annuities (*ratepension*) in 2012 is also contributing to explain the decline¹⁰³.

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

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

Savings in banks have played a much more important role for individual schemes than for occupational schemes. Until 2013, when the tax regulation for lump sum pension was changed,

¹⁰³ See <https://www.forsikringogpension.dk/media/7019/pensionsindbetalinger-cps.pdf>



individual pension saving schemes were predominantly held in banks, rather than in insurance companies and pension funds. Today, around 60% of contributions are in insurance companies or pension funds and 40% are in banks.

Replacement ratio and pension benefits

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

Table DK5. Replacement ratio and educational background							
	Working before retirement						Not working before retirement
	Education						
	Unskilled workers	Skilled workers	Short cycle higher education	Medium cycle higher education	Long cycle higher education	All	
2004	72.2	71.2	73.9	82.9	88.2	73.5	88.5
2005	71.9	71.5	75.2	82.1	89.3	73.7	91.4
2006	69.6	69.4	72.7	79.9	84.6	71.4	95.3
2007	68.1	67.7	70.8	77.3	83.3	69.7	96
2008	67.7	67.5	70	76.8	81.1	69.4	100.5
2009	67.4	66.6	69.4	76.5	77.3	68.8	100.9
2010	70.3	69.5	73	78.2	80.1	71.5	103.2
2011	67.2	66.5	73.3	76.2	77.2	68.8	101.6
2012	67.9	66.5	70.1	74.9	77.2	68.8	101.9
2013	70.2	69.2	72.7	77	78.6	71.2	107.6
2014	72.1	71.9	74.1	80	81.9	73.8	107.4
2015	71.4	71	77.3	79.6	83.5	73.5	108
2016	73.1	72.2	78.4	79	83.6	74.4	107.1
2017	72.1	71	76.1	76.3	78.3	73.1	104.8
2018	74.5	71.8	77.5	77.6	78.5	74.3	105.5
2019	75.1	71.97	77.17	75.82	75.73	74.07	103.1

Source: Forsikring & Pension Danmark

The average net replacement rate was 74% in 2019, and the replacement rate is generally increasing with education reflecting higher contributions rates. The replacement is a snapshot in the transition of the pension system, and since this primarily is improving occupational pensions for



groups with low- and medium-income levels¹⁰⁴, the average replacement rate is expected to increase in the future.

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

Today, the most important source of income for pensioners is Pillar I. Approximately 40% of all current pensioners have little or no other income. Pay-outs from the *folkepension* amounts to DKK 120 billion per year (€16.1 billion). The ATP pays out around DKK 17 billion per year (€2.3 billion). Total pay-outs from private pensions schemes to pensioners were around DKK 71 billion (€9.5 billion) in 2019.

For the 50% of today's pensioners with the lowest income, 90% of their income is *folkepension* (thus, from Pillar I). But this situation is changing with the growing importance of Pillar II. Today almost 60 percent of the newly retired people have made contributions to pillar II during their active years on the labour market. In 2040, private pensions are expected to exceed half of the total income for about 40% of the pensioners. Even for the lowest income groups of the retired population, about 20% of their income is expected to come from private pensions under the condition of an unchanged level for the *folkepension* (of Pillar I).¹⁰⁵ However, at older ages some pensioners become increasingly dependent on Pillar I pensions, since schemes with period instalment expire.

Pension Vehicles

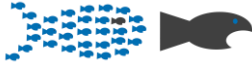
Private pension schemes are administered by pension funds, insurance companies or in banks. This goes for Pillar II as well as for Pillar III.

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

A Danish industry-wide *pensionskasse* – or pension fund – is a legal entity owned and governed by its members. A *pensionskasse* can provide the same kind of products as a life insurance company

¹⁰⁴ Pension schemes for lower educated people in the private sector were not established until 1990. The contribution rates grew gradually thereafter, therefore people who retired today were between 35-40 years old when they enrolled, thus their contributions were low in the first many years.

¹⁰⁵ See <http://www.atp.dk>



and it is subject to the same kind of regulation as a life insurance company – specifically, the Solvency II Directive.¹⁰⁶

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

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

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

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

Tax regulation defines the products

Tax rules play a crucial role for pension products. The tax regulation defines the distinctions between the 3 groups of pension products:

¹⁰⁶ Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (recast) <http://data.europa.eu/eli/dir/2009/138/2014-05-23>.



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

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

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

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

Periodic instalments or fixed term annuities (*ratepension*) provide monthly instalments of equal amounts for a period of minimum 10 years and maximum 25 years. A *ratepension* can be life-contingent or the capital value can be paid out to the heirs in the case of death¹⁰⁷. There is a cap on the contribution DKK 74,700 (€10.039) in 2021. Pay-outs are taxed as personal income.

Lump sum pensions (*kapitalpension/aldersopsparing*) provide you with a lump sum in old age. The lump sum is paid out five years before statutory retirement age at the earliest and 15 years after this age at the latest. The regulation of this product has changed a lot during the years. Today there are two products in the market: *kapitalpension* and *aldersopsparing*. For a *kapitalpension* the income tax is deferred. When paid out the accumulated savings are taxed at 40%. New contributions to a *kapitalpension* have not been allowed since 2013, and instead a new scheme, *aldersopsparing*, has been introduced. Contributions to an *aldersopsparing* are not deductible and the pay outs are not taxed and are not included in means testing for the public pension supplements. Hence, income tax is no longer deferred when saving in this type of product. The maximum contribution was DKK 29,600 (4,000 euros) in 2017, but the regulation has been changed, so the maximum contribution is for 2021 DKK 5,400 per year (€ 726) except for the last 5 years before retirement age, where the maximum contribution per year is DKK 52,400 (€ 7.042) (see section on taxation).

¹⁰⁷ <https://skat.dk/skat.aspx?oid=2559>



Table DK7 (A). Number of persons contributing to one or more private pension schemes, 1998-2020

Year	Individual schemes						TTE lump sum, insurance or bank	One or more individual schemes
	Annuities	Periodic instalment, insurance	Lump sum insurance	Periodic instalment, bank	Lump sum, bank			
1998	259,000	82,000	267,000	45,000	744,000	-	1,146,000	
1999	257,000	96,000	236,000	91,000	631,000	-	1,078,000	
2000	260,000	102,000	221,000	124,000	600,000	-	1,064,000	
2001	256,186	105,372	208,361	126,776	566,013	-	1,029,736	
2002	252,354	109,068	198,518	137,834	545,463	-	1,010,388	
2003	249,901	112,817	189,861	151,401	540,339	-	1,005,919	
2004	260,574	117,470	182,494	168,181	543,297	-	1,017,806	
2005	262,298	119,131	174,437	198,445	553,162	-	1,033,467	
2006	255,074	119,054	166,014	221,825	561,435	-	1,038,035	
2007	238,632	123,642	156,234	290,036	646,566	-	1,132,179	
2008	232,590	124,325	145,194	259,241	529,316	-	1,017,452	
2009	226,275	122,904	137,893	277,580	505,959	-	998,868	
2010	216,788	91,110	128,657	191,101	479,363	1,700	855,465	
2011	225,108	90,557	121,585	192,034	467,943	7,098	856,640	
2012	214,991	93,408	118,720	177,146	457,700	6,795	812,337	
2013	221,418	144,571	5,791	206,323	14,711	5,997	571,360	
2014	237,274	137,031	3,681	203,616	2,012	220,648	631,716	
2015	242,256	130,106	2,953	194,441	1,302	265,193	656,600	
2016	253,018	126,346	2,591	185,565	933	291,129	650,869	
2017	262,908	124,312	2,289	203,182	953	386,673	740,165	
2018	268,336	131,673	2,009	187,622	830	327,887	674,315	
2019	268,733	133,086	1,794	180,448	514	302,547	630,576	
2020	268,758	134,770	1,573	191,356	501	316,578	NA	

Source: Forsikring & Pension Danmark



Table DK7 (B). Number of persons contributing to one or more private pension schemes, 1998-2017

	Occupational schemes						<i>One or more occupational schemes</i>
	Annuities	Periodic instalment, insurance	Periodic instalment, bank	Lump sum, insurance	Lump sum, bank	TTE lump sum, insurance or bank	
1998	1,513,000	130,000	26,000	742,000	269,000	-	1,721,000
1999	1,571,000	224,000	60,000	836,000	205,000	-	1,751,000
2000	1,676,000	537,000	69,000	1,115,000	196,000	-	1,855,000
2001	1,728,748	624,144	73,330	1,148,454	195,035	-	1,917,845
2002	1,755,775	678,454	67,771	1,114,154	150,613	-	1,944,128
2003	1,782,288	896,553	68,229	1,103,331	133,711	-	1,963,281
2004	1,818,140	962,244	75,532	1,126,380	118,735	-	1,995,636
2005	1,851,642	1,009,499	87,712	1,133,902	104,503	-	2,027,786
2006	1,897,567	1,099,180	106,666	1,150,081	100,874	-	2,088,547
2007	1,971,768	1,192,310	117,778	1,183,232	97,106	-	2,150,860
2008	2,081,505	1,259,956	123,282	1,184,460	93,221	-	2,270,862
2009	2,077,861	1,251,463	127,094	1,126,765	87,099	-	2,259,965
2010	2,061,011	1,240,876	100,526	1,046,102	80,423	-	2,102,855
2011	2,091,462	1,270,709	92,699	1,009,685	75,510	-	2,242,204
2012	2,123,697	1,310,147	85,834	965,023	72,376	-	2,259,603
2013	2,143,487	1,464,161	92,614	3,537	1,951	9,552	2,265,953
2014	2,174,825	1,506,361	87,255	1,989	142	10,069	2,290,884
2015	2,197,722	1,535,244	82,409	419	37	11,343	2,310,180
2016	2,242,792	1,572,731	78,058	208	12	13,363	2,344,391
2017	2,284,406	1,613,025	74,175	154	35	16,907	2,378,569
2018	2,302,287	1,605,300	72,176	123	253	559,030	2,398,171
2019	2,328,187	1,630,375	66,578	96	11	741,557	2,418,462
2020	2,335,426	1,618,870	59,043	72	12	751,526	NA

Source: Forsikring & Pension Danmark

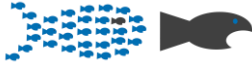


Table DK8. Total pension contributions to private pension schemes (1999-2019)

Year	Amount in DKK millions (€ millions)
1999	51,762 (6,948)
2000	57,148 (7,671)
2001	62,324 (8,366)
2002	67,596 (9,043)
2003	73,682 (9,890)
2004	82,090 (11,019)
2005	92,182 (12,373)
2006	101,626 (13,641)
2007	110,284 (14,803)
2008	112,919 (15,157)
2009	116,841 (15,683)
2010	104,872 (14,077)
2011	106,998 (14,362)
2012	107,745 (14,462)
2013	105,209 (14,122)
2014	109,821 (14,741)
2015	111,618 (14,982)
2016	116,447 (15,630)
2017	121,606 (16,323)
2018	123,548 (16,536)
2019*	127,150 (17,018)

Source: Forsikring & Pension Danmark

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

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

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

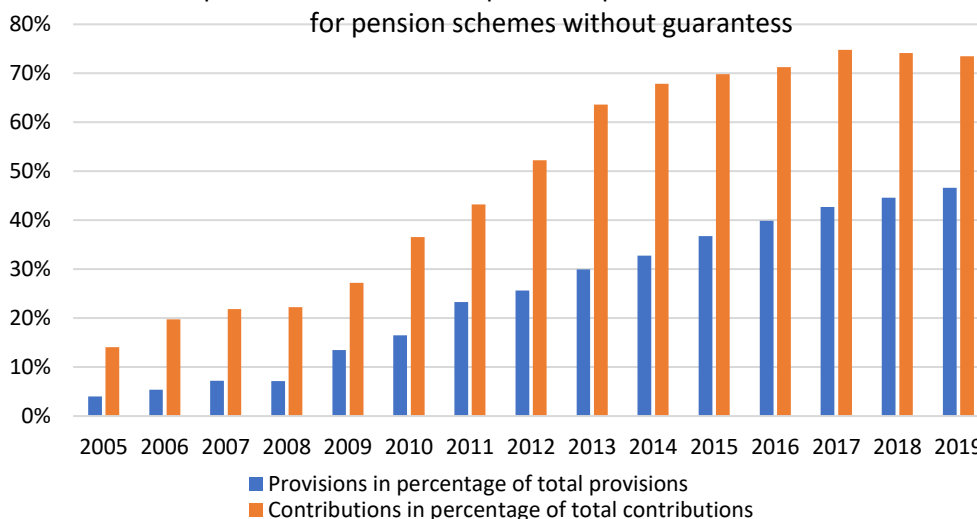
The Danish private pension schemes are DC schemes (with a very few Pillar II exceptions). The system has gradually changed from a guarantee-based insurance approach into a market rate-



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

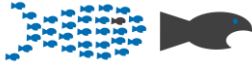
In 2006 contributions to guaranteed schemes amounted to 83% of total contributions. In 2019, this share decreased to 27%. Hence, today around 70 % of all new savings are placed in DC schemes without guarantee or with a guarantee only against loss. Measured by the provisions, the guaranteed schemes have decreased from 95% in 2006 to 53% in 2019. In addition, the high-rate guarantees – above 4% in interest rate –decreased even more, from 58% in 2005 to 11% in 2019¹⁰⁸.

Graph DK9. Relative development of provisions and contributions for pension schemes without guarantess

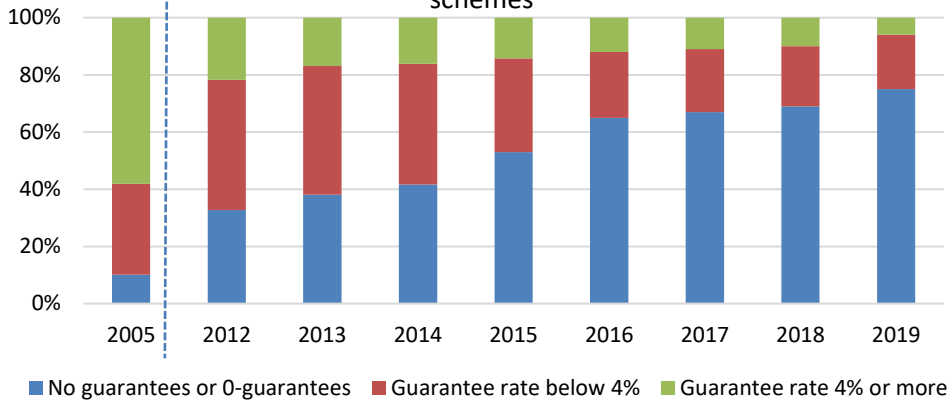


Source: Forsikring & Pension Danmark

¹⁰⁸ https://www.finanstilsynet.dk/~media/Tal-og-fakta/2019/MU/Markedsudviklingsartikel_LP_2018-pdf.pdf?la=da, table A2.



Graph 10. Provisions for guaranteed and non-guaranteed schemes



Source: Forsikring & Pension Danmark

Charges

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

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

The Danish FSA has analysed the development of administration costs, including costs related to acquisitions and sales, but not including investment costs. The administration costs have declined over the last 10 years to 0,17% of total provisions in 2019. The FSA distinguishes between market-oriented insurance companies (running mainly company pension schemes) and non-market-oriented insurance companies/pension funds (running mainly industry-wide pension schemes). Since industry-wide pension schemes are typically governed by the customer representatives, and since their schemes are often very standardized, they are in general cheaper to run than company schemes. The FSA has calculated the administration costs for non-market-oriented insurance companies/pension funds to around 0.10% of total provisions in 2018.



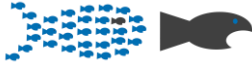
Table DK11. Administration costs in DKK and in percentage of total provisions and contributions, 2007 -2019				
	Costs/customer		Costs in percentage of total provisions	Costs in percentage of total contributions
	in DKK	in euro		
2007	949	128	0.44	4.7
2008	895	120	0.43	4.48
2009	929	125	0.43	4.75
2010	813	109	0.34	3.99
2011	956	129	0.36	4.15
2012	882	119	0.33	3.89
2013	881	119	0.3	3.63
2014	826	111	0.28	3.34
2015	772	104	0.26	2.95
2016	769	103	0.22	n.a.
2017	755	102	0.19	n.a.
2018	762	102	0.18	n.a.
2019	786	106	0.17	n.a.

Source: Danish FSA

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

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

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



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

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

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

Table DK12 illustrates cost levels and costs structures for three typical different persons at different positions in the lifecycle, for three different pension companies.¹⁰⁹ Costs are relatively higher for young than older contributors, reflecting their lower level of accumulated assets. Administrative costs are relatively constant across types and hence matters relatively less, but investment costs are higher for older contributors with larger accumulated assets. Total charges are lowest in the industry-wide schemes with the highest degree of standardization and with no acquisition costs. Remaining schemes with guarantees have higher charges, as an example a person close to retirement (type III) would have costs of 1.4% and 1.1% in Danica and PFA, respectively, and payments for the guarantees constitute about half of total charges.

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

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

Source: www.faktaompension.dk

¹⁰⁹ The companies compared are: PFA – Denmark's largest life insurance company with around 1,3 million customers in 2019 and total pension provisions of about DKK 587 billion (€79 billion); a non-profit company founded in 1918 by a number of private employer organizations which runs mostly pensions schemes for large or medium-sized Danish companies; Danica – the second-largest life-insurance company in Denmark with around 650,000 customers and pension provisions of about DKK 304 billion (€41 billion). Runs mostly pension schemes for large or medium-sized Danish companies; Pensiondanmark – founded in 1989 by the social partners to run an industry-wide pension scheme for unskilled workers, mostly in the private sector. 750,000 customers and pension provisions of about DKK 240 billion (32 billion euros).



Taxation

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

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

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

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



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

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

Table DK13. Taxation of contributions, investment returns, and pension pay outs			
	Contributions	Investment returns (4)	Pay outs
Annuities	E (1)	T	T
Periodic installments	E (1) (5)	T	T
Lump sum			
<i>Kapitalpension</i>	E (1) (2)	T	T (3)
<i>Aldersopsparing</i>	T	T	E

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

Pension Returns

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

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

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

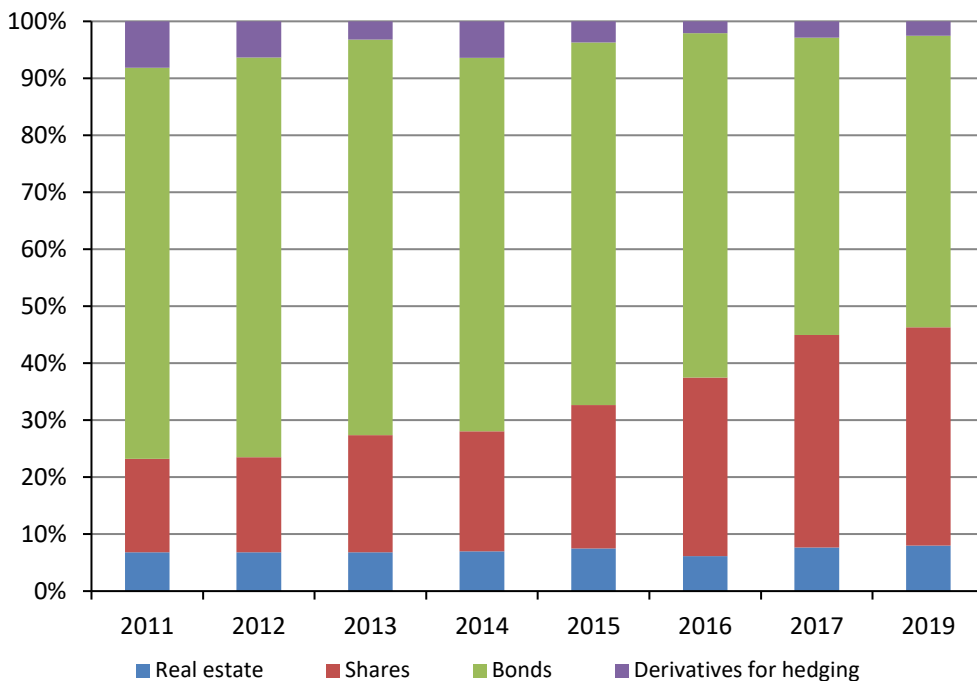


For hybrid DC schemes with guarantees, the investment policy depends on the guaranteed interest rate and the size of accumulated reserves. The higher the rate – up to 4.5% – and the smaller the reserves, the more focus on hedging and risk minimizing.

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

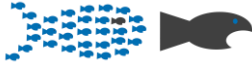
Pension schemes seek an investment return that is stable in the long run, predictable and as high as possible. Traditionally, a large part of pension savings is invested in bonds. The low interest rate environment in recent years has, therefore, been a challenge. Danish pensions are still, for a large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

Graph 14. Investment assets



Source: FSA

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



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

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

Generally, the pension sector has delivered high returns, and weathered crises like the Financial Crisis and the Corona Crises. The long-run trend to lower returns poses challenges. For some years the decline interest rates have generated capital gains, contributing significantly to the reported returns. The after-tax return has on average been close to 5 % since 2007 – and a bit higher for schemes without guarantees, although with substantial year-to-year variations. Looking forward, a new normal with low real rates of return will be challenging and has brought focus on the issue whether more risk should be accepted in the quest for higher returns. In an environment where the individual to a larger extent directly carries the consequences of this risk, this is a particularly important discussion.

Table DK15. Nominal and real return of private pension schemes in Denmark 2007-2019 (in %)

	Nominal return before taxes and inflation		Nominal return after taxes		Real return after taxes and inflation	
	Hybrid DC with guarantee	DC with no guarantee	Hybrid DC with guarantee	DC with no guarantee	Hybrid DC with guarantee	DC with no guarantee
2007	0.89		0.75		0.74	
2008	-3.09		-2.62		-2.65	
2009	7.57		6.41		6.4	
2010	10.13		8.58		8.56	
2011	9.12		7.72		7.7	
2012	10.47		8.87		8.84	
2013	1.88		1.59		1.59	
2014	12.95		10.97		10.96	
2015	1.8		1.52		1.52	
2016	7.58	6.16	6.42	5.22	6.42	5.22
2017	5.45	8.54	4.62	7.23	4.6	7.22
2018	-0.63	-3.15	-0.53	-2.67	-1.2	-3.34
2019	11.9	13.9	10.1	11.8	9.2893	10.9833

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



Conclusion

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

The pension system is still maturing, and the private pensions will gain in importance relative to the public pensions, although the latter would still be significant and play an important role in preventing poverty among pensioners. Despite the attractive track record and the projected outcomes, the system faces a number of challenges.

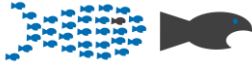
Combining public and private pensions addresses distributional objectives but also leaves important incentive problems. Means testing serves to target the pensions and to minimize public pension expenditures, but it creates high effective tax rates detrimental to savings incentives and later retirement.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

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

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

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

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



Imprint

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
Ștefan Dragoș Voicu

Contributors

Torben M. Andersen
Edoardo Carlucci
Laetitia Gabaut
Johannes Hagen
José Antonio Herce
Arnaud Houdmont
Matis Joab

Michal Mešťan
Gregoire Naacke
Dayana Nacheva
Yordanka Popova
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url

All rights reserved. No part of this publication may be reproduced in whole or in part without the written permission of the editor, nor may any part of this publication be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, or other, without the written permission of the editor.

Copyright 2021 @ BETTER FINANCE



BETTER FINANCE activities are partly funded by the European Commission. There is no implied endorsement by the EU or the European Commission of work carried out by BETTER FINANCE, which remains the sole responsibility of BETTER FINANCE.



BF BETTER FINANCE

The European Federation of Investors and Financial Services Users
Fédération Européenne des Épargnants et Usagers des Services Financiers