PENSION SAVINGS

The Real Return

2019 Edition

BF BETTER FINANCE

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

Pension Savings: The Real Return

2019 Edition

A Research Report by BETTER FINANCE

COORDINATORS

Ján Šebo
Ștefan Dragoș Voicu

CONTRIBUTORS

Carsten Andersen
Edoardo Carlucci
Lubomir Christoff
Michel Deinema
Laetitia Gabaut
Timothée Galvaire
Johannes Hagen
José Antonio Herce
Arnaud Houdmont
Aleksandra Mączyńska
Alessandra Manis
Michal Mešťan
Grégoire Naacke
Lina Strandvåg Nagell
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url
Aiste Vysniauskaite

Table of Contents

Acronyms

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

GDP	Gross Domestic Product
HICP	Harmonised Indices of Consumer Prices
IBEX 35	Índice Bursátil Español 35 Index
IKZE	'Indywidualne konto zabezpieczenia emerytalnego' – Polish specific Individual pension savings account
IRA	United States specific Individual Retirement Account
IT	Italy
JPM	J&P Morgan Indices
KIID	Key Investor Information Document
LV	Latvia
NAV	Net Asset Value
Mln	Million
MSCI	Morgan Stanley Capital International Indices
NL	Netherlands
OECD	The Organisation for Economic Co-Operation and Development
OFT	United Kingdom's Office for Fair Trading
PAYG	Pay-As-You-Go Principle
PIP	Italian specific 'Individual Investment Plan'
PL	Poland
PRIIP(s)	Packaged Retail and Insurance-Based Investment Products
RO	Romania
S&P	Standard & Poor Indexes
SE	Sweden
SK	Slovakia
SME	Small and Medium-sized Enterprise
SPIVA Scorecard	Standard & Poor Dow Jones' Indices Research Report on Active Management performances
TEE	Tax-Exempt-Exempt Regime
TCR/TER	Total Cost Ratio/ Total Expense Ratio
UCITS	Undertakings for the Collective Investment of Transferable Securities
UK	United Kingdom

Glossary of terms

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

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

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

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

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.

[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.

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 be 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.

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

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

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

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

[3] Werner Eichhorst, Maarten Gerard, Michael J. Kendzia, Christine Mayrhruber, Connie Nielsen, Gerhard Runstler, Thomas Url, 'Pension Systems in the EU: Contingent Liabilities and

"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 unfavorable 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.

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]

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.

[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).

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

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

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

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

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

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

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

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

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

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

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

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, shor-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).

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.

OECD gross replacement rate - is defined as gross pension entitlement divided by gross pre-retirement earnings. It measures how effectively a pension system provides a retirement income to

replace earnings, the main source of income before retirement. This indicator is measured in percentage of pre-retirement earnings by gender.

OECD net replacement rate - is defined as the individual net pension entitlement divided by net pre-retirement earnings, taking into account personal income taxes and social security contributions paid by workers and pensioners. It measures how effectively a pension system provides a retirement income to replace earnings, the main source of income before retirement. This indicator is measured in percentage of pre-retirement earnings by gender.

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 fud.

Pension fund governance* – is the operation and oversight of a pension fund. The governing body is responsible for administration, but may employ other specialists, such as actuaries, custodians, consultants, asset managers and advisers to carry out specific operational tasks or to advise the plan administration or governing body.

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

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

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

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

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 can not 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 benefits.

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

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.

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

Carsten Andersen, Msc. Economics, University of Copenhagen, has been working for the Danish Insurance Association for 23 years as Deputy General Manager. Retired in 2017.

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.

Lubomir Christoff, PhD, ChFC is co-founder and Chairman of the Institute of Certified Financial Consultants (ICFC) in Bulgaria, the only non-governmental body in Bulgaria granting financial planning certification to individuals. Christoff was a member of the Securities Markets Stakeholder Group at ESMA (European Securities & Markets Authority). Previously he has served as an Advisor to the Executive Director of the World Bank and Chief Economist of the Bulgarian National Bank.

Michaël Deinema is Chief Commercial Officer and analyst at The Pension Rating Agency (TPRA) based in Amsterdam, The Netherlands. Before joining TPRA in 2015, Michaël worked as postdoctoral researcher and lecturer at the Social and Behavioral Sciences faculty of the University of Amsterdam. He holds a PhD degree in Spatial Sciences (Economic and Social Geography). The Pension Rating Agency (TPRA) is an independent data service firm, benchmarker and rating agency for the Dutch collective pensions sector. It was founded in 2014 as a joint venture by MoneyView, a renowned research agency which focuses on financial retail products, and the econometricians of Broiler. TPRA systematically gathers, utilizes and analyzes publicly available data on Dutch pension funds and pension schemes. It produces annual reports on operating costs, investment charges, returns, cover ratios and trustee compensations which are used by Dutch pension funds, pension service providers, life insurance companies and media outlets. TPRA also publishes The Netherlands' only comprehensive and independent Quality Rating for Pension Schemes.

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.

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.

José Antonio Herce is Senior adviser at Analistas Financieros Internacionales (Afi). He is also the Chairman of the BBVA Pensions Institute's Experts Board, a member of the Santalucia Saving & Pensions Institute's Experts Forum and of the Global Advisory Board of the BBVA's Centre for Financial Education and Capabilities. He was Associate Professor of economics at the Universidad Complutense of Madrid (Spain) between 1986 and 2016. He has done extensive research on pensions, longevity and applied economics.

Timothée Galvaire is Research Assistant at BETTER FINANCE.

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.

Aleksandra Mączyńska is the Executive Director of BETTER FINANCE. She is a member of the EC Financial Services User Group (FSUG) and she was recently appointed by EIOPA as a member of its 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.

Alessandra Manis is Research Assistant at BETTER FINANCE and holds a master's degree in law, obtained from the University of Cagliari in Italy. She completed her studies with an in-depth look at "Consumer Protection in the sale of Financial Instruments". She was admitted to the Italian Bar and has prior professional experience in the field of banking, insurance and consumer law. She worked as a junior associate in a boutique law firm boutique specialized in banking and insurance law, carrying out both contentious and non-contentious activities.

Michal Mešťan is an assistant professor at the Department of Finance and Accounting and a founder of Talent and Research Centre at the Faculty of Economics Matej Bel University in Slovakia. He is a member of the CFA Society Slovakia as a director of University Relations. He holds a doctoral's 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 has been appointed in July 2019 as the new director of the European Savings Institute ("Observatoire de l'Épargne Européenne"), a non-profit organisation promoting and coordinating data and research on European savings. He was previously Head of Operations at the World Federation of Exchanges and worked as an economist both at the European Savings Institute and World Federation of Exchanges for more than 10 years.

Lina Strandvåg Nagell is Administration and Finance Assistant at BETTER FINANCE. She studied Comparative Politics and Economics at the University of Bergen and specialized in the financialization of commodities through her studies at the European University at St.

Petersburg (Masters). Before Joining the BETTER FINANCE team, Lina completed a master's degree at the Brussels School of International Studies in International Law focused on international bank' capital requirements.

Guillaume Prache is the Managing Director of BETTER FINANCE. He is a member of the EIOPA (European Insurance and Occupational Pensions Authority) Occupational Pensions Stakeholder Group, of the EBA (European Banking Authority) Stakeholder Group, 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.

Ştefan Dragoş Voicu is Research & Policy Officer at BETTER FINANCE, having a thorough background in Romanian, French 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, and is a member of the EIOPA Expert Practitioner Panel on PEPP.

Aiste Vysniauskaite joined BETTER FINANCE a Communications Assistant after finishing her Master studies in Media Culture in Maastricht university where she analysed the new media practices and their effects on society. At BETTER FINANCE she contributes to making videos and podcasts, particularly in terms of content creation. Aiste has a bachelor's degree in Political Science and is passionate about digital communication and FinTech.

Pension Savings: The Real Return

2019 Edition

Executive Summary

Real net returns, before taxes

How much did pension plans earn on average?

The main question this report seeks to answer is how much, on average, was the pension saver left with after charges and inflation were deducted from his benefits at the end of different periods? The aggregate summary return tables show, based on Pillars (II – occupational; III – voluntary/individual) the annual average rate of return on investments made by pension plans in each country based on 5 periods: 1 (last) year; 3 (last) years; 7 (last) years; 10 (last) years and since the start of the reporting period available (differs from one country to another).

These standardised periods eliminate inception and market timing bias, allowing to "purely" compare performances between different pension schemes.

Aggregate summary return table	Pillar II								
	1 year		3 years		7 years		10 years		whole reporting period*
	2018	2017	2016-2018	2015-2017	2012-2018	2011-2017	2009-2018	2008-2017	
Austria	-0.08%	3.72%	-0.39%	2.68%	2.09%	2.21%	2%	0.97%%	0.9%
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	-8%	3.9%	-0.42%	2.87%	2.05%	2.61%	1.40%	-1.72%	-1.83%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	-5.79%	3.76%	-1.64%	1.21%	1.39%	0.97%	1.83%	-1.29%	-0.01%
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Germany	n.a.	2.16%	n.a.	2.44%	n.a.	2.55%	n.a.	2.31%	2.23%
Italy	-3.60%	1.90%	0.05%	2.21%	3.15%	2.98%	2.71%	1.75%	0.54%
Latvia	-6.64%	1.07%	-1.88%	0.84%	1.58%	1.67%	2.60%	1.22%	-0.46%
Lithuania	-5.00%	0.20%	-0.89%	2.53%	2.93%	3.01%	2.98%	1.53%	0.67%
Netherlands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	-1.96%	1.67%	1.16%	3.40%	4.55%	4.85%	5.14%	5.35%	4.64%
Slovakia	-3.52%	0.77%	0.15%	1.80%	0.72%	0.85%	0.28%	-0.47%	-0.41%
Spain	-4.42%	1.77%	-0.41%	2.10%	3.15%	3.47%	2.69%	1.85%	0.41%
Sweden	-4.2%	8.44%	4.09%	8.02%	9.08%	9.04%	n.a.	n.a.	7.29%
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;

Sweden Pillar I: 2018 - -5.62%; 2016-2018 – 4.60%; 2012-2018 – 10.19%; 2009-2018 – 9.75%; whole reporting period – 3.85%.

Voluntary/individual pension plans falling into the third pension pillar have more investment flexibility, showing better returns on each period than in Pillar II (occupational pensions). On average, individual private pension arrangements earned x% per year since 2009.

Aggregate summary return table	Pillar III								
	1 year		3 years		7 years		10 years		whole reporting period*
	2018	2017	2016-2018	2015-2017	2012-2018	2011-2017	2009-2018	2008-2017	
Austria	0.01%	0.91%	1.31%	2.04%	1.75%	1.63%	1.74%	1.66%	2.16%
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	-7.66%	5.24%	1.03%	4.60%	3.34%	3.87%	2.46%	-1.40%	-0.33%
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	-9.83%	6.54%	-1.91%	2.57%	2.27%	1.90%	3.32%	4.40%	0.64%
France*	-2.60%	1.22%	-0.12%	1.49%	1.42%	1.57%	1.42%	1.42%	1.30%
Germany	n.a.	1%/1.1%	n.a.	1.7%/1.8%	n.a.	2%/2.1%	n.a.	2.3%/2.3%	2.2%/2.2%
Italy	-3.50%	1.10%	-0.08%	2.04%	2.35%	2.20%	2.10%	1.23%	0.78%
Latvia	-5.19%	1.46%	-1.78%	1.52%	1.73%	1.91%	n.a.	n.a.	0.65%
Lithuania	-6.10%	1.59%	-0.55%	2.61%	2.83%	1.84%	3.56%	0.31%	0.32%
Netherlands	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania	-3.68%	1.38%	0.19%	2.35%	3.61%	3.93%	3.73%	3.63%	2.27%
Slovakia	-5.54%	2.55%	0%	1.44%	0.86%	0.65%	0.14%	n.a.	0.14%
Spain	-5.71%	1.34%	-1.41%	0.99%	2.16%	2.49%	1.46%	1.22%	0.39%
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; *after tax

Unfortunately, due to unavailability of data breakdown, in some country cases (UK, Netherlands, Belgium, Denmark, Poland) we weren't able to calculate the annual reav average returns by Pillar. Nevertheless, the results by retirement provision vehicle are available in Graph 17 and Table 18 in the *General Report* and on an annual basis (nominal, net and real net return) in each country case).

Note: In few pension systems analysed in the report the data available on retirement provision vehicles has a "clear cut" between Pillar II and Pillar III (such as Romania or Slovakia). In the other, 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 coparability, the authorts of the report have put all efforts in correctly assigning each product according to the pillar it is or should be used for.

Taxation

What happens with 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 be highly dependent 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 to 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
Denmark*	T	T	T	T	T	T
Estonia	E	E	E	E	T	T
France	E	E	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	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

Who bears the risk of adequate pensions at retirement?

Back in the day, 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, inflation, average salaries etc). As such, the pension plan provider borne the risk of obtaining the necessary resources (money) to pay-out this ***defined benefit*** pension for the saver starting with 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 markets 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 (*who bears the risk?*)				
	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
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.

Highlights 2019 Key Trends

- The two global bull markets (equities and bonds) from 2010 to 2017 have stopped in 2018, in particular for equities. On aggregate, with the exception of Austria, Pillar II and III have recorded negative returns in 2018, ranging from -0.01% (Austria) to -9.83% (Estonia);
- Moreover, some fees have increased, despite the negative yields and performance;
- Worryingly, on the full reporting period, the average returns of pension plans (occupational and personal) is either close to 0% or negative on long-term investment horizons.
- Also, a major concern for BETTER FINANCE: the current low interest rate environment (and even negative for many new bond issues nowadays) can only worsen further the pension adequacy for EU pension savers: providers must simplify pension savings products, gain economies of scale and lower their fees.
- Taxation also constitutes a heavy drag on real returns for pension savers, since the fiscal contributions can be very high even if the real return is negative (France, personal pension funds);
- The future PEPP could represent a great window of opportunity to stimulate more savings in personal pension plans, promote an efficient, safe[8] and low-cost product that will achieve its target of providing a sufficient return at retirement, to improve the net pension replacement rate and, ultimately, achieve pension adequacy;
- The success of the PEPP lies firstly in the hands of EIOPA, which must submit regulatory technical standards that will ensure simplicity, efficiency and a risk scale adapted to its long time horizon, and secondly with Member States, who must work to welcome it, in particular on the tax side.

[8] Which at least takes into account the cumulative effect of inflation throughout the life-cycle of the product.

Pension Savings: The Real Return

2019 Edition

General Report

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

I. INTRODUCTION

In June 2013, BETTER FINANCE published a research report entitled "Private Pensions: The Real Return"[9] 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"[10] report, which included data updates for the three countries covered in the initial study, as well as new in-depth evaluations of pension savings for five new countries: Belgium, Germany, Italy, Poland and the United Kingdom.

The 2015, 2016, 2017 and 2018 editions added 9 (step-by-step) more countries in the report and updated the figures for those already existing. This year's edition (seventh in a row) expands once more the geographic scope to include Austria. The report is based on the most recent data available at the time of print and includes a wider range of available pension vehicles with the aim of encompassing all savings products actually used by EU citizens to save for retirement. Furthermore, overviews on recent trends in the respective long-term savings and pension markets are provided.

The entire series of research reports has illustrated over the years that real returns of retirement savings have been, and still are, very low once charges, inflation and taxes are deducted. Measuring all these elements is especially important in a low interest rate environment because the real return for savers can be substantially negative.

[9] Link for the print version available here: http://www.betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_Study_EN_website.pdf.
[10] Link for the print version available here: http://www.oee.fr/files/betterfinance_pensions_report_2014.pdf.

One of the worst European retail services market

Investment and private pension products are persistently among the worst performing retail services markets of all throughout the European Union according to the European Commission's consumer markets scorecards[11].

As stated by the European Commission in a 2013 staff working document, "*the crisis has increased savers' distrust in financial institutions and markets*"[12]. The Commission also pointed out that "*other reasons for not saving long-term are the often-poor performance of financial intermediaries to deliver reasonable return and costs of intermediation*"[13].

Pension savings also appear to be one of the few retail services where neither the customers nor the public supervisors are properly informed about the real net performance of the services rendered to them.

Why pension returns are critical for pension savings

Public Authorities involved in pension saving issues typically stress only two requisites for pension savings to achieve "pension adequacy" (i.e. pension income replacing a large part of the income before retirement):

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

For example, according to the OECD, *"In light of the challenges facing pension systems, the only long-term solution for achieving higher retirement income is to contribute more and for longer periods "*[15].

[11] Consumer Markets Scoreboard 2018 – Making markets work for consumers, European Commission, 2018, https://ec.europa.eu/info/publications/consumer-markets-scoreboard_en.
[12] Commission Staff Working Document "Long-Term Financing of the European Economy" accompanying the Green Paper on Long Investment, European Commission, 25 March 2013, page 10: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2013:0076:FIN:EN:PDF.
[13] European Commission - Staff Working Document on long term financing of the EU economy (2013)
[14] World Economic Forum White Paper: 'We'll live to 100 – How can we afford it?' May 2017
[15] OECD Pensions Outlook 2016 (Editorial, page 10, 2016)

BETTER FINANCE has continuously begged to disagree, something which is reiterated in this year's report. Indeed, saving earlier and more is not enough. A third and even more crucial requisite is missing: the need to get a positive and decent long-term return (a real net return: after inflation and fees and commissions).

BETTER FINANCE'a first wide-coverage report on pension savings (the 2014 Report)[16] was also the first in our series where we highlighted that pension savings products' returns are poor compared to their benchmarks (or capital markets in a broader view), mainly due to the high levels of fees or charges that eat into saver's returns. The subsequent five editions, including this one, have confirmed our initial findings over and over again.

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 the activity income for 30 years (as recommended by Public Authorities, 25-year life expectancy at retirement, and impact of fees, commissions tax excluded, 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 replacement income through retirement.**

Table GR1. Annual returns vs. replacement income	
Annual net return	Replacement income
negative 1%	10%
Zero	12%
2%	17%
8%	49%

Traditionally, the target of pension systems has been twofold:

- first, to cover or to reduce the risk of old-age poverty;
- second, to provide an income that, after deduction of those necessary costs that working life bears, can support a living standard similar to the pre-retirement one.

These two factors, which compose the *pension adequacy* indicator, should amount to a pension equal to 70%-80% of late working life gross salary.

Nevertheless, this indicator became harder and harder to achieve since the population has been ageing in the past decades, determining the pension downturn spiral: higher pension

[16] BETTER FINANCE, Pension Savings: The Real Return (2014 edition).

contributions need to be collected in order to support accrued pension rights (as in any PAYG system); subsequently, current workers accumulate even higher future pension rights.

This has determined the shift from the full reliance on the public scheme of redistribution and pension rights accumulation (tax-funded defined-benefit) to a more capital markets funded system, where the main pension income stream should (and does) come from pension savings products. Long-termism carries on inflationary risk, which unfortunately has always been present. In addition, pension performances are also subject to tax, which eats into the future retirement income. Therefore, an accurate "*real*" look-through of pension savings is needed to combat low gross positive returns, which in *real* terms sometimes prove negative.

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

Since one of the big problems of the pensions market in the EU is lack of data on real net performances, the data availability issue is also inherent in this report. Nevertheless, this research report aims to improve transparency on the real returns of long-term and pension savings in Europe as even though savers are in dire need of such comprehensive information, the time being it is not provided either Public Authorities or any other independent bodies. Our work corresponds 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 the current tasks the ESAs are undertaking in the area of personal pension products with respect to past performance and costs comparison.

Indeed, apart from the OECD (the Organisation for Economic Co-operation and Development) publications on the real return of certain "pension funds"[17], the contributors to this research report could not find any other more complete or more recent published comprehensive series of net real pension savings returns for EU countries.

From a peer analysis point of view, the data reported by the OECD[18] are unfortunately quite incomplete:

- The most recent OECD publication on pension returns, "Pension Markets in Focus 2019", provides ten-year returns maximum, which is quite a short time frame for such long-term products, and also the ending time of up to July 2018 is is only "preliminary" data.

[17] http://www.oecd.org/finance/private-pensions/oecdpensionsoutlook2012.htm and http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2015.pdf
[18] Namely the OECD "Pension Markets in Focus 2017" (1, 5 and 10 year data).

- Only nine of the seventeen EU countries covered by BETTER FINANCE are reported by OECD for its 10 year data; seven are missing including the biggest ones except the UK and Italy: Bulgaria, France, Germany, Poland, Romania, Spain and Sweden.
- 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.

The European Supervisory Authorities (ESAs) published in January 2019 (at the request of the European Commission) the three reports on costs and past performance of retail investment products in the EU. BETTER FINANCE analysed these reports and found out that of the European Insurance and Occupational Pensions Authority (EIOPA) analysed only 21% of the EU life-insurance market and only this 21% is reflected in the cost and past performance computations in the report. What is worse, personal pension products (PPPs) were not covered at all.

Guillaume Prache, Managing Director of BETTER FINANCE, highlighted:

"*It is a disappointment to observe that, after 4 years from the launch of the CMU project, the EU supervisor on insurances is still blind when it comes life-insurance products' past performance and costs.*"

Moreover, as if the failure of public authorities to report on this significant market was not enough, savvy retail savers have been deprived of the possibility to do it themselves. EU law has eliminated all disclosures on the past performance of investment funds and on their benchmarks in the Key Information Document (KID) in its "PRIIPs" delegated act of 8 March 2017. This severe stepback in transparency and comparability is completely inconsistent ith the CMU initiative, and it will bereave EU savers from knowing if the investment products have made any money or not in the past and if they had met their manager's investment objectives or not. It will also prevent independent researchers such as BETTER FINANCE to continue monitoring individual products' returns in the future.

All in all, it seems that the European financial supervisors do not know the actual performance of the services they are supposed to regulate and supervise.

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

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

Once more, in 2018, we find that information on long term and pension savings returns is actually not improving but on the contrary deteriorating:

- ***Insufficient information***: for example, the Belgian insurance trade organisation Assuralia does not report anymore the returns of insurance-regulated « Branch 21 » occupational and personal pension products since 2014 (and never did for the « Branch 23 products), and the national supervisor FSMA does not do it either.
- ***Late information***: at the time of printing, still a lot of 2018 return data have not been released by the national trade organisations or other providers. OECD has published preliminary data for December 2018, but on a limited number of jurisdictions and only for pension funds (and since in many countries pension funds are anyway not the most popular vehicle, this constitutes a large information gap).
- ***Unchecked information***: the principal source remain the national trade organisations, but their methodology is most often not disclosed, return data do not seem to be checked or audited by any independent party, and sometimes the are only based on sample surveys covering just a portion of the products.

BETTER FINANCE's Report Coverage

In contrast, 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.

Totaling 17 E.U. Member States under review (in particular Austria, Belgium, Bulgaria, Estonia, Germany, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Sweden, The Netherlands and the United Kingdom) the BETTER FINANCE research now covers 87% of the

E.U. population.[19] It also extends the period of time covered in order to now measure performance over the 19-years (2000 to 2018), 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 long-term and pension savings products for the customer.

Our first report in 2013 established the methodology that is also used for this much-expanded 2019 edition.

The net real return 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 covering the last 19 years because pension savings returns should be measured over a long-term horizon, and because it includes two market upturns (2003-2006 and 2009-2017) and two downturns (post dot com bubble of 2001-2003 and the 2008 financial crisis). It is on this period that we based our analysis in as far as data were available. Since the choice of the time reference has a material impact on real returns, we have paid special attention to our choice of period to cover in order to keep our research objective.

The countries under review can be divided into four categories:

- At one end, we find countries like the Netherlands, Denmark, Sweden and the United Kingdom, where pension products' assets represent far more than the annual GDP and where the real return of private pensions is of crucial importance;
- At the opposite end, we find countries like Italy and Spain, Bulgaria, Romania, or France, where pensions mainly depend on the quality and sustainability of the pay-as-you-go (PAYG) schemes;

[19] As of January 1st, 2018 – Eurostat, 'Population change - Demographic balance and crude rates at national level [demo_gind]' http://appsso.eurostat.ec.europa.eu/nui/show.do.

- The remaining countries, except for Sweden, are in an intermediate position, where the standard of life of retirees depends both on the sustainability of PAYG systems and the returns of private savings;
- Sweden is an original case where the pillar I mandatory pension is now, for a small part, funded instead of PAYG.

Table GR2. Retirement provision vehicles' assets				
	Pension Funds' assets (2018)		All retirement vehicles' assets (2018)	
	% of GDP	in € mil	% of GDP	in € mil
Austria	5.54%	21,404	n.a	
Belgium	7.28%	32,778	n.a	
Bulgaria	12.52%	6,908	12.52%	6,908
Denmark	45.37%	135,323	199.03%	593,673
Estonia	15.36%	3,940	16.88%	4,331
France	0.71%	16,629	n.a	
Germany	6.73%	225,195	n.a	
Italy	7.63%	134,000	9.85%	173,000
Latvia	1.56%	462	13.78%	4,070
Lithuania	7.14%	3,222	7.14%	3,222
Netherlands	171.01%	1,323,711	n.a	
Poland	7.48%	37,153	n.a	
Romania	5.25%	10,645	5.25%	10,645
Slovak Republic	11.66%	10,514	11.66%	10,514
Spain	8.78%	106,045	12.53%	151,371
Sweden	4.05%	18,924	90.61%	423,077
United Kingdom	104.48%	2,501,026	n.a	

Source : OECD Data (2018), Eurostat

While in some countries the level of accumulated assets in pension funds is almost the same (and predominant to) the total value of pension vehicles (such as Italy, Bulgaria or Romania), in others it can be seen that the total funded retirement products are even four times higher than pension funds (Denmark – 199% of GDP).

Performance: capital markets are not a proxy for retail investments

Our experience and 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).

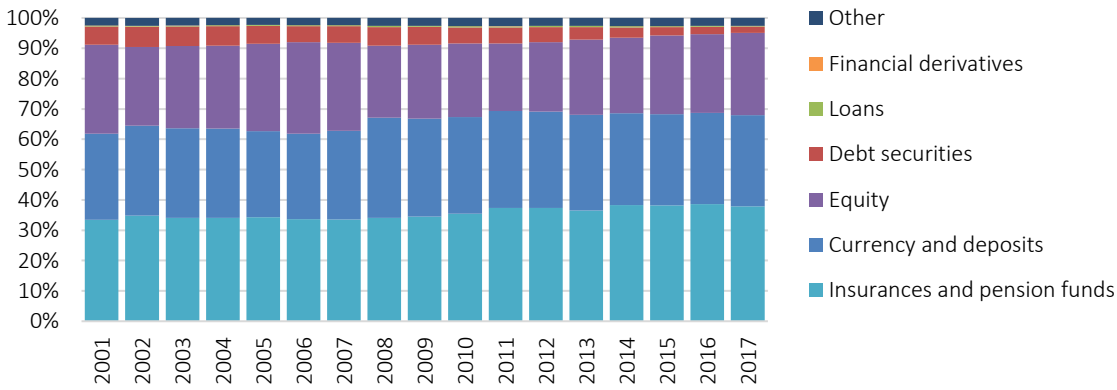
The European Supervisory Authorities (ESAs) have a legal duty to collect, analyse and report data on "consumer trends" in their respective fields (Article 9(1) of the European Regulations establishing the three ESAs). As such, the European Securities and Markets Authority's (ESMA) approach of mistaking capital market returns for retail investment ones is unfortunately widespread in available public research.

ESMA included "retail investor" portfolio returns in past "*Trends, Risks and Vulnerabilities*" reports, but these data were actually capital markets performance data, not retail investments performance ones, based on the 5-year average monthly returns on a portfolio composed of:

- 47% stocks (Stoxx600: large and mid-cap European equities),
- 42% deposits (1-year Euribor),
- and 11% bonds (Barclays Euro Aggregate 7-10Y).

However, in practice the situation differs from the approach taken by ESMA. European households are mostly invested in life insurances and pension funds – probably since these are traditional pension savings vehicles for Pillar II in which, in many jurisdictions, enrolment is mandatory.

Chart GR3. EU28 households portfolios



Source: BETTER FINANCE CMU Assessment Report 2019

The financial balance sheets of EU households differ from the typical "*retail investor portfolio*" proxied by ESMA. Instead holdings of 47% stocks and 11% bonds, the average EU citizen holds, in fact, merey 2% in bonds and 19% in stocks, the latter of which is given in

majority by private equity representing ownership of own companies or enterprises, not from quoted shares (equity listed at a stock exchange).

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. This is actually how ESMA came up with its "retail investor" portfolio return computation. But this was no more than a "leap of faith", ignoring such realities as fees and commissions charged on retail products, portfolio turnover rates, manager's risks, etc. Charges alone totally 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.[20]

Table GR4. Real case of a Belgian life insurance (branch 23)

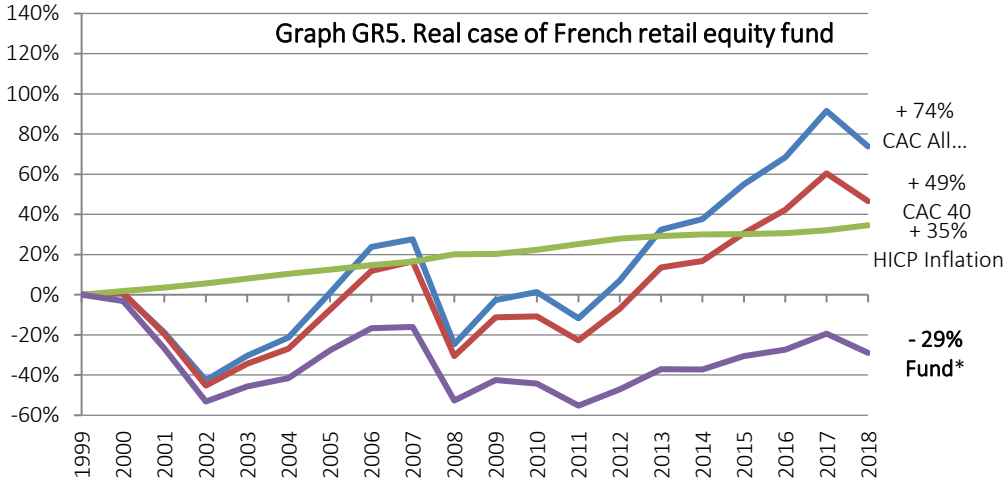
Capital markets vs. Belgian individual pension insurance 2000-2018* performance

Capital markets (benchmark index) performance**	
Nominal performance	224%
Real performance (before tax)	153%
Pension insurance performance (same benchmark)**	
Nominal performance	48%
Real performance (before tax)	1.25%

Source: BETTER FINANCE; Morningstar public website; *to end of 2018; ** Benchmark is composed of 50% bonds (LP06TREU) and 50% equity (1999-2006 M2WD and 2007-2017 AW01);

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

[20] European Commission -Staff Working Document on long-term financing of the EU economy (2013).



*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" fund[21]. As it can be easily observed, the fund actually under-performed the relevant equity index by 78 p.p. after 19 years of existence (loss of 29% instead of a +49% 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.

Another issue for European savers revealed in Graph GR5 is the use by investment product providers of narrow (large cap only or "blue chip") equity indexes instead of broader ones, although they claim the former to represent "the equity markets" as a whole. This practice has proven detrimental both:

- to investors as this graph shows (the French large cap equity market underperformed the actual global French equity market by 31 percentage points over the last 18 years: +60% versus +91%);
- and to European SMEs since a lot of investment inflows are thus directed to large caps only, instead of broader instruments including mid and small caps.

Most pension products recently improved but underperformed

However, 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

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

even destroying the real value for European pension savers (i.e. provided a negative return after inflation).

Capital market returns have been improving in recent years thanks to a long period of bullish capital markets (from 2011 onwards, both for bonds and for equities). Of course, the latter do not take any fees and commissions into account. Indeed, the attribution of performance shows that the level of fees and commissions has been the main factor explaining long-term and pension savings' returns in Europe. Nevertheless, we analyse in the following sub-section the main ***drivers for pension returns***.

Pension returns drivers

The underperformance (compared to a benchmark) of most pension vehicles can be explained by several return *drivers*.

Inflation has declined in recent years in a majority of countries, thus reducing the gap between nominal and real performance. However, inflation over a full contribution period (40 years), a modest inflation rate can eat even more than 50% of nominal returns.

Other drivers for pension returns include:

- the asset allocation of pension products,
- the performance of capital markets into which pension products are invested,
- the asset managers' skills in terms of picking securities and market timing,
- the fees and commissions charged by asset managers and other financial intermediaries, to a great extent on net real returns of private pensions,
- ultimately by inflation and tax burden.

There are striking differences between the asset allocation of pension funds across countries and products. Mutual funds have gained a larger share in the United Kingdom in the past couple of years, tending to replace direct holdings of shares, whose weight fell from 57% to 20% between 2001 and 2014.

Equities dominate only in Poland and, more recently, in Latvia. Bonds dominate in most countries lately, on average representing 45% of assets. The countries where pension funds are most heavily invested in debt securities (bills and bonds) are Romania (71% in 2018), Slovakia (68% in 2018), Denmark (59%) and Belgium (47%).

The equity allocation since 2015 (at least) has remained almost constant – what has changed, at least based on the OECD data, is the increase of capital allocation in mutual investment funds, which may provide diversification or higher yield prospects, but charge fees, which eat into the return of pensions, and does not directly fuel the economy, such as equities.

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 offer a good remuneration on new investment flows. The downside, starting with 2019, is that yields for sovereign bonds have started to turn negative.

Concerning the recent ***positive capital markets returns (1999 – 2017)***, this trend ended for both equities and bonds in 2018. Until then, returns have been good, but started to already decline. Since the beginning of the 21st century, capital market returns have been positive (moderately for equities while strongly for bonds):

- By 2018, on a nominal basis (before taking inflation into account), world stock markets have grown in value (in €) by 84%,[22] where the US stock market has grown by 98%[23] and the European ones by 57%;[24]
- On a real basis (net of inflation), European stock market (MSCI Europe GR) returned to positive cumulated performances by 2013, and once again reached significant levels by 2017 (+32%) but dropped in 2018 to reach +11.25%.

It is important to note, however, that in some European countries the end of bullish market has been felt, with good performances losing height and some falling on the negative side. Several large cap markets also continue to struggle with negative returns (CAC 40 - -2.84% after inflation or IBEX 35 -3.86% after inflation), and at the European level, the very narrow "Stoxx 50" index is still in negative territory after inflation (-1.01%) but includes only 50 European stocks.

Fees and commissions substantially reduce the performances of pension products, especially for personal "packaged" pension products, and for unit-linked life-insurance in particular. 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).

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 instead taxed as pension pay outs. 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.

[22] As measured by MSCI All Country World Index (ACWI) Gross Returns denominated in €.
[23] As measured by the MSCI USA Gross Returns Index, calculated in €.
[24] As measured by the MSCI Europe Gross Returns Index, denominated in €.

European Pension returns outlook

The previous sub-sections generically analysed pensions' poor performances and their drivers in comparison with capital market returns.

Looking forward, the overall mid-term outlook for the adequacy of European pension savings in 2019 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 19 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.
b) The negative impact of this foreseeable trend in bond returns on pensions' returns will be reinforced by a higher proportion of bonds in pension products' portfolios in recent years.
c) Fees and commissions do not show any significant downward trend, and the transparency of cost disclosures is not improving.
d) It seems unlikely that inflation – just like interest rates – will go down any further, and the consequences of the "non-conventional" monetary policies of central banks on possible market "bubbles" are still unchartered.
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 that would increase the confidence and trust of EU savers into the financial industry and efficientise investments. Named the pan-European Personal Pension product (PEPP), it is designed as a voluntary/personal pension product (pillar III), it 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.

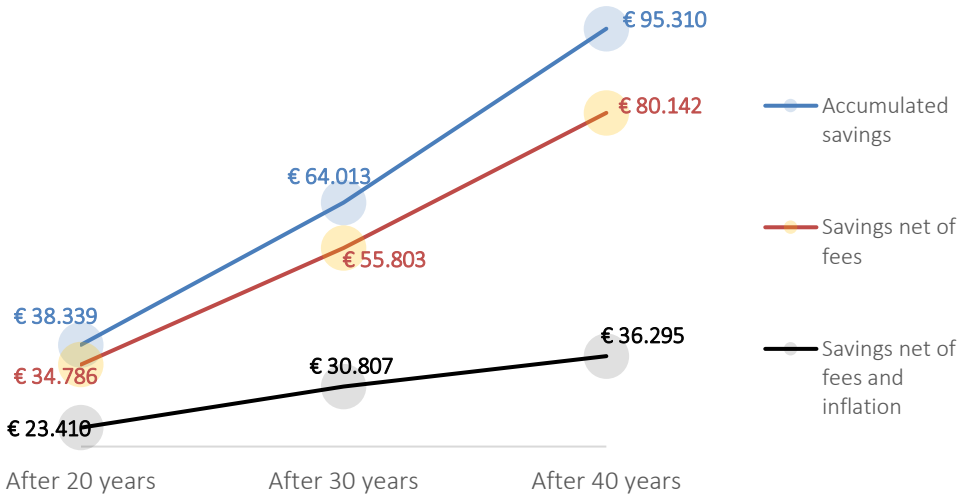
The last two objectives have not been attained. First, as taxation is still sovereign competence of EU Member States, agreeing on the same tax rates for the PEPP was impossible due mainly to the strong resilience of national Governments.

Second, any proper retirement plan and pension system embed a default investment option that sastisfies a minimum, standardised requirements for savers who do not make an active choice. These requirements concern the risk level, capital protection, and costs.

With regards to the risk level, there was no harmonisation. The basic PEPP allows product manufacturers to use three risk-mitigation techniques (capital protection, life cycling or establishing reserves) without any further detail.

What is more, 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 after the deduction of fees and without taking into account inflation, is highly misleading.[25]

Graph GR6. Nominal, net and real capital protection

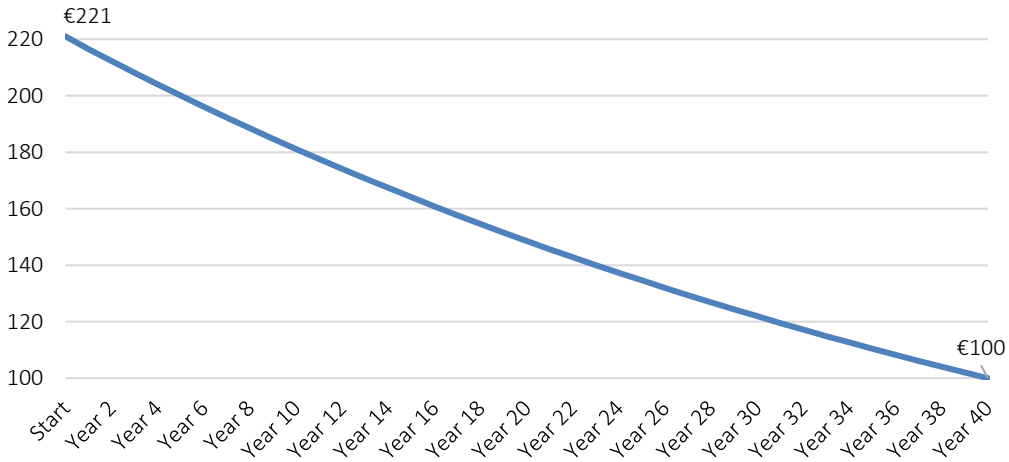


Source: BETTER FINANCE PEPP Level 2 position paper

Pension products are by essence long-term and have the longest investment horizon, usually until reaching retirement age, which on average implies 20-30 years of investments. The cumulative effect of inflation, assuming a modest inflation rate, in 40 years would decrease the value of savings by 56%.

[25] See BETTER FINANCE YouTube Video on the "PEPP Capital Protection SCAM".

Graph GR7. Real value of savings



Source: BETTER FINANCE PEPP Level 2 position paper

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

Hopefully the retirement provision industry will create a standard practice to offer the basic PEPP capital protecting with an inflation indexation feature.

II. COUNTRY PROFILES

Tables GR8 (A and B) include some key characteristics of the pension systems in the countries under review in this research report.

Table GR8 highlights a couple of key indicators for the sustainability of a pension system, i.e. the *old-age dependency ratio*, the *net replacement ratio* of pre-retirement income, the *population ageing trend*, the *public pension* part of the *final retirement income* (*net pension replacement ratio*) and the *net equity ofhouseholds* for life insurance and pension fund entitlements. The aim is ultimately to highlight the importance of the market for private pension products and the need for better returns, as the former are designed to fulfil the social purpose of Pillar II and Pillar III schemes, i.e. covering the risk of poverty in old-age. The rationale is quite simple: if the public pension system is strong and sustainable on the long-term, the need to save more in private pension products will be lower.

Table GR8(A). EUROPEAN UNION (at the end of 2017)			
Net equity of households in pension funds reserves (in € bln)	5,541	Net equity of households in pension funds reserves as % of GDP	36%
Net equity of households in life insurance reserves (in € bln)	13,330	Net equity of households in life insurance reserves as % of GDP	86.6%
Active population	240.5 m	Old-Age dependency ratio, old (% of working population	30.5%
Population ageing trend	%	Projected old-age dependency ratio by 2030	38.7%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			70.6%

Table GR(B). Country Profiles (at the end of 2017/2018)			
Austria			
Net equity of households in pension funds reserves (in € bln)	55	Net equity of households in pension funds reserves as % of GDP	14.8%
Net equity of households in life insurance reserves (in € bln)	79	Net equity of households in life insurance reserves as % of GDP	21.6%
Active population	4.5 mil*	Old-Age dependency ratio, old (% of working population)*	27.9%
Population ageing trend	22%	Projected old-age dependency ratio by 2030*	36.5%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			91.8%
Belgium			
Net equity of households in pension funds reserves (in € bn)*	95	Net equity of households in pension funds reserves as % of GDP*	21%
Net equity of households in life insurance reserves (in € bn)*	195	Net equity of households in life insurance reserves as % of GDP*	43.5%
Active population	5 mil*	Old- Age dependency ratio, old (% of working-age population)*	29.1%
Population ageing trend	21%	Projected old-age dependency ratio by 2030*	36.4%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			66.1%
Bulgaria			
Net equity of households in pension funds reserves (in € bn)	7	Net equity of households in pension funds reserves as % of GDP	12.7%
Net equity of households in life insurance reserves (in € bn)	0.7	Net equity of households in life insurance reserves as % of GDP	1.3%
Active population	3.2 mil*	Age dependency ratio, old (% of working-age population)*	32.5%
Population ageing trend	20%	Projected old-age dependency ratio by 2030*	39.4%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			88.9%
Denmark			
Net equity of households in pension funds reserves (in € bn)*	187	Net equity of households in pension funds reserves as % of GDP*	62.7%

Net equity of households in life insurance reserves (in € bn)*	263	Net equity of households in life insurance reserves as % of GDP*	88.7%
Active population*	2.9 mil	Age dependency ratio, old (% of working-age population)*	30.1%
Population ageing trend	16%	Projected old-age dependency ratio by 2030*	36.3%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			80.2%
Estonia			
Net equity of households in pension funds reserves (in € bn)	3.6	Net equity of households in pension funds reserves as % of GDP	15.3%
Net equity of households in life insurance reserves (in € bn)	0.5	Net equity of households in life insurance reserves as % of GDP	2%
Active population*	0.7 mil	Age dependency ratio, old (% of working-age population)*	30.6%
Population ageing trend	-5%	Projected old-age dependency ratio by 2030*	37.5%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			57.3%
France			
Net equity of households in pension funds reserves (in € bn)	n.a.	Net equity of households in pension funds reserves as % of GDP	n.a.
Net equity of households in life insurance reserves (in € bn)	1,932	Net equity of households in life insurance reserves as % of GDP	84.3%
Active population*	28.7 mil	Age dependency ratio, old (% of working-age population)*	31.6%
Population ageing trend	24%	Projected old-age dependency ratio by 2030*	39.9%%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			60.5%
Germany			
Net equity of households in pension funds reserves (in € bn)	846	Net equity of households in pension funds reserves as % of GDP	26%
Net equity of households in life insurance reserves (in € bn)	979.8	Net equity of households in life insurance reserves as % of GDP	29.9%
Active population*	42.1 mil	Age dependency ratio, old (% of working-age population)*	30.8%
Population ageing trend	23%	Projected old-age dependency ratio by 2030*	42.7%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			50.5%
Italy			
Net equity of households in pension funds reserves (in € bn)	212	Net equity of households in pension funds reserves as % of GDP	12.3%
Net equity of households in life insurance reserves (in € bn)	714	Net equity of households in life insurance reserves as % of GDP	42%
Active population*	25.3 mil	Age dependency ratio, old (% of working-age population)*	35.2%

Population ageing trend	23.8%	Projected old-age dependency ratio by 2030*	44.9
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			93.2%
Latvia			
Net equity of households in pension funds reserves (in € bn)	4	Net equity of households in pension funds reserves as % of GDP	13.8%
Net equity of households in life insurance reserves (in € bn)	0.39	Net equity of households in life insurance reserves as % of GDP	1.5%
Active population*	0.9 mil	Age dependency ratio, old (% of working-age population)	31.4%
Population ageing trend	29%	Projected old-age dependency ratio by 2030	41.4%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			59.5%
Lithuania			
Net equity of households in pension funds reserves (in € bn)	3.01	Net equity of households in pension funds reserves as % of GDP	7.1%
Net equity of households in life insurance reserves (in € bn)	0.84	Net equity of households in life insurance reserves as % of GDP	2%
Active population*	1.4 mil	Age dependency ratio, old (% of working-age population)*	30.1%
Population ageing trend	40%	Projected old-age dependency ratio by 2030*	44.2%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			71.2%
Netherlands			
Net equity of households in pension funds reserves (in € bn)*	1,498	Net equity of households in pension funds reserves as % of GDP*	193.5%
Net equity of households in life insurance reserves (in € bn)*	144	Net equity of households in life insurance reserves as % of GDP*	18.7%
Active population*	9.1 mil	Age dependency ratio, old (% of working-age population)*	29%
Population ageing trend	28%	Projected old-age dependency ratio by 2030*	39%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			100.6%
Poland			
Net equity of households in pension funds reserves (in € bn)*	42	Net equity of households in pension funds reserves as % of GDP*	8.5%
Net equity of households in life insurance reserves (in € bn)*	16.5	Net equity of households in life insurance reserves as % of GDP*	3.4%
Active population*	16.8 mil	Age dependency ratio, old (% of working-age population)*	25.3%
Population ageing trend	43%	Projected old-age dependency ratio by 2030*	36.3%

Net pension replacement rates, Men, % of pre-retirement earnings, 2016			38.6%
Romania			
Net equity of households in pension funds reserves (in € bn) *	11	Net equity of households in pension funds reserves as % of GDP*	5.3%
Net equity of households in life insurance reserves (in € bn) *	1.8	Net equity of households in life insurance reserves as % of GDP*	0.9%
Active population*	8.8 mil	Age dependency ratio, old (% of working-age population)*	27.5%
Population ageing trend by 2030	25%	Projected old-age dependency ratio by 2030*	37.6%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			51.6%
Slovakia			
Net equity of households in pension funds reserves (in € bn)	9.5	Net equity of households in pension funds reserves as % of GDP	11%
Net equity of households in life insurance reserves (in € bn)	4.8	Net equity of households in life insurance reserves as % of GDP	6%
Active population	2.7 mil*	Age dependency ratio, old (% of working-age population)*	22.5%
Population ageing trend	44%	Projected old-age dependency ratio by 2030*	32.8%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			83.8%
Spain			
Net equity of households in pension funds reserves (in € bn)	169	Net equity of households in pension funds reserves as % of GDP	15%
Net equity of households in life insurance reserves (in € bn)	161	Net equity of households in life insurance reserves as % of GDP	14%
Active population	22.6 mil*	Age dependency ratio, old (% of working-age population)*	29.2%
Population ageing trend		Projected old-age dependency ratio by 2030*	37.9%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			81.8%
Sweden			
Net equity of households in pension funds reserves (in € bn)*	397	Net equity of households in pension funds reserves as % of GDP*	85.1%
Net equity of households in life insurance reserves (in € bn) *	102.5	Net equity of households in life insurance reserves as % of GDP*	22%
Active population*	5.3 mil	Age dependency ratio, old (% of working-age population)*	31.7%
Population ageing trend	7.3%	Projected old-age dependency ratio by 2030*	33.1%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			54.9%

United Kingdom			
Net equity of households in pension funds reserves (in € bn) *	3,421	Net equity of households in pension funds reserves as % of GDP*	144.7%
Net equity of households in life insurance reserves (in € bn)*	764	Net equity of households in life insurance reserves as % of GDP*	32.3%
Active population*	32.4 mil	Age dependency ratio, old (% of working-age population)*	28.6%
Population ageing trend	18%	Projected old-age dependency ratio by 2030*	33.7%
Net pension replacement rates, Men, % of pre-retirement earnings, 2016			29%

Source: Eurostat; OECD; own composition; *2018 figures;

Old-age dependency ratio

the old-age-dependency ratio 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:[26]

- When the ratio is low (like in Slovakia with 22.5% or Poland with 25.3%, corresponding to less than 1 pensioner to 4 workers), it means that the pressure on the state pension is low;
- When the old-age dependency ratio is high, it means that the burden on PAYG schemes is significant:
    - in the short term, because they need to collect more in order to pay for current pension obligations;
    - in the long term, because pension rights generally will increase proportionally with the amount of paid contributions during employment.[27]

Population ageing trend

An ageing population means that the number of retirees increases relative to the number of workers. 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.

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

[27] All data are taken from the World Bank statistics – The World Bank, Age dependency ratio, old (% of working-age population) https://data.worldbank.org/indicator/SP.POP.DPND.OL.

Projected old-age dependency ratio

If currently the old-age dependency ratio is, on average, 1-to-3, by 2030 this level will, for most countries in this Report, be close to 50%, or every state pension will depend on the level of contributions of almost two working-age individuals. These assumptions will be translated, as for the *old-age dependency ratio*, into a higher pressure on public pension schemes (Pillar I).

Net equity of households in pension fund and life insurance reserves

The *net equity of households* in pension funds and reserves of life insurances are a classification of financial accounts that represent the value of technical (mathematical) provisions insurance and pension fund providers hold to pay future pension liabilities (entitlements), based on actuarial estimations.[28] They reflect the savings that contributors to pension funds and life insurances have accumulated for their retirement income. These indicators are expressed in the table above (Table GR7). Both in their nominal value (*in € billion*) and as a percentage of the GDP for 2018. 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.

Net replacement ratio

The purpose of multi-pillar pension systems is to provide a net pre-retirement replacement ratio that ensures pension adequacy. Pension schemes, life insurance contracts and PAYG systems are combined differently in each country to build the overall financial income of retirees.[29] The public (mandatory) basis is illustrated in the net pension replacement rate from public pension systems. These replacement rates are highest in the Netherlands (above 100%), closely followed by Italy (93%) and still solid in Slovakia (84%) and Bulgaria (89%).

[28] See OECD, 'Net Equity of Households in Life Insurance Reserves and in Pension Funds' OECD Glossary of Statistical Terms – https://stats.oecd.org/glossary/detail.asp?ID=1754; see also Francois Lequiller, 'International Differences in the Recording of General Government Pension Schemes in the National Accounts' Contribution to the IMF EDG on the Treatment of Pension Schemes in Macroeconomic Statistics, 3 - https://www.imf.org/external/np/sta/ueps/2003/030303.pdf; International Monetary Fund, 'Monetary and Financial Statistics Manual' (2000) IMF, 34.

[29] Looking only at financial sources of pension income; property-related income is not in the scope of this study.

OECD reports the lower pre-retirement income replacement ratios for Romania (52%), Germany (50%) and Poland (39%).[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 was 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.

III. RETURN ATTRIBUTION

Inflation

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 for the case of retirement savings, can lead to considerable losses in purchasing power.

[30] OECD Data, Net pension replacement rates - https://data.oecd.org/pension/net-pension-replacement-rates.htm.

Table GR9(A). Inflation in Eurozone Member States (in %)											
Year	AUSTRIA	BELGIUM	ESTONIA	FRANCE	GERMANY	ITALY	LATVIA	LITHUANIA	NETHERLANDS	SLOVAKIA	SPAIN
2000	1.8%	2.7%	3.9%	1.8%	1.4%	2.6%	2.6%	1.1%	2.3%	12.2%	3.5%
2001	1.8%	2.4%	5.6%	1.8%	1.9%	2.3%	2.5%	1.5%	5.1%	7.2%	2.8%
2002	1.7%	1.5%	3.6%	1.9%	1.4%	2.6%	2.0%	0.3%	3.9%	3.5%	3.6%
2003	1.3%	1.5%	1.4%	2.2%	1.0%	2.8%	2.9%	-1.1%	2.2%	8.4%	3.1%
2004	2.5%	1.9%	3.0%	2.3%	1.8%	2.2%	6.2%	1.2%	1.4%	7.5%	3.1%
2005	1.5%	2.5%	4.1%	1.9%	1.9%	2.2%	6.9%	2.7%	1.5%	2.8%	3.4%
2006	1.6%	2.3%	4.4%	1.9%	1.9%	2.3%	6.6%	3.8%	1.7%	4.3%	3.6%
2007	3.5%	1.8%	6.7%	1.6%	2.3%	2.0%	10.1%	5.8%	1.6%	1.9%	2.9%
2008	1.5%	4.5%	10.6%	3.2%	2.7%	3.6%	15.3%	11.1%	2.2%	3.9%	4.1%
2009	1.1%	0.0%	0.2%	0.1%	0.2%	0.8%	3.3%	4.2%	1.0%	0.9%	-0.2%
2010	2.2%	2.3%	2.7%	1.7%	1.2%	1.6%	-1.2%	1.2%	0.9%	0.7%	2.1%
2011	3.4%	3.4%	5.1%	2.3%	2.5%	2.9%	4.2%	4.1%	2.5%	4.1%	3.0%
2012	2.9%	2.6%	4.2%	2.2%	2.1%	3.3%	2.3%	3.2%	2.8%	3.7%	2.4%
2013	2.0%	1.2%	3.2%	1.0%	1.6%	1.3%	0.0%	1.2%	2.6%	1.5%	1.5%
2014	0.8%	0.5%	0.5%	0.6%	0.8%	0.2%	0.7%	0.2%	0.3%	-0.1%	-0.2%
2015	1.1%	0.6%	0.1%	0.1%	0.1%	0.1%	0.2%	-0.7%	0.2%	-0.3%	-0.6%
2016	1.6%	1.8%	0.8%	0.3%	0.4%	-0.1%	0.1%	0.7%	0.1%	-0.5%	-0.3%
2017	2.3%	2.2%	3.7%	1.2%	1.7%	1.4%	2.9%	3.7%	1.3%	1.4%	2.0%
2018	1.7%	2.2%	3.3%	1.9%	1.7%	1.2%	2.5%	1.8%	1.8%	1.9%	1.2%
AAVG	**1.9%**	**2.0%**	**3.5%**	**1.6%**	**1.5%**	**1.8%**	**3.6%**	**2.5%**	**1.8%**	**3.1%**	**2.1%**

Table GR9(B). EU28 Inflation		
2000	2001	2002
1.9%	2.2%	2.1%
2003	2004	2005
2.0%	2.0%	2.2%
2006	2007	2008
2.2%	2.3%	3.7%
2009	2010	2011
1.0%	2.1%	3.1%
2012	2013	2014
2.6%	1.5%	0.5%
2015	2016	2017
0.0%	0.2%	1.7%
2018		Annual average
1.63%		**2%**

Table GR9(C). Inflation in non-Eurozone Member States (in %)						
Year	BULGARIA	DENMARK	POLAND	ROMANIA	SWEDEN	UK
2000	10.3%	2.8%	10.1%	45.7%	1.3%	0.8%
2001	7.4%	2.3%	5.4%	34.5%	2.7%	1.2%
2002	5.8%	2.4%	1.9%	22.5%	1.9%	1.2%
2003	2.3%	1.8%	0.7%	15.3%	2.3%	1.3%
2004	6.2%	1.0%	3.7%	11.9%	1.0%	1.3%
2005	6.0%	1.8%	2.2%	9.1%	0.8%	2.1%
2006	7.4%	1.8%	1.2%	6.6%	1.5%	2.3%
2007	7.6%	1.7%	2.6%	4.9%	1.7%	2.4%
2008	11.9%	3.6%	4.2%	7.9%	3.4%	3.5%
2009	2.5%	1.0%	4.0%	5.6%	1.9%	2.2%
2010	3.0%	2.2%	2.7%	6.1%	1.9%	3.2%
2011	3.4%	2.7%	3.9%	5.8%	1.4%	4.5%
2012	2.4%	2.4%	3.6%	3.4%	0.9%	2.9%
2013	0.4%	0.5%	0.8%	3.2%	0.4%	2.5%
2014	-1.6%	0.4%	0.1%	1.4%	0.2%	1.5%
2015	-1.1%	0.2%	-0.7%	-0.4%	0.7%	0.0%
2016	-1.3%	0.0%	-0.2%	-1.1%	1.1%	0.7%
2017	1.2%	1.1%	1.6%	1.1%	1.9%	2.7%
2018	2.3%	0.7%	0.9%	3%	2.2%	2.1%
AAVG	**3.8%**	**1.5%**	**2.3%**	**8.3%**	**1.6%**	**2.1%**

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

Over the last 19 years, from 2000 to 2018, the highest annual average inflation rates could be observed in Eastern European countries. By far the most important loss of purchasing power was recorded in Romania with an annualised average of 8.3%. Especially in the early 2000s, Romania suffered from high double-digit inflation rates of 45% in 2000 and 35% in 2001, and it took until 2005 to see it drop under 10%. The other countries that witnessed double-digit inflation rates were Bulgaria (2000, 2008), Poland and Slovakia (2000) and Latvia (2007, 2008), as well as Lithuania (2008) although it remained below 15%. The countries with the lowest average inflation rate were Denmark and Germany at 1.5%, closely followed by France and Sweden (at 1.6% each).

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 GR10. Public sector deficit and debt (in %)								
	Public Sector Deficit as a % of GDP				Public Debt as a % of GDP			
	2015	2016	2017	2018	2015	2016	2017	2018
Austria	-1.0%	-1.6%	-0.8%	0.1%	84.7%	83.0%	78.2%	73.2%
Belgium	-2.5%	-2.6%	-1.0%	-0.7%	106.0%	105.9%	103.1%	102.0%
Bulgaria	-1.6%	0.0%	0.9%	2.0%	26.0%	29.5%	25.4%	22.6%
Denmark	-1.3%	-0.9%	1.0%	0.5%	39.5%	37.8%	36.4%	34.1%
Estonia	0.1%	0.3%	-0.3%	-0.6%	10.1%	9.5%	9.0%	8.4%
France	-3.6%	-3.4%	-2.6%	-2.5%	95.6%	96.3%	97.0%	98.4%
Germany	0.7%	0.8%	1.3%	1.7%	71.2%	68.3%	64.1%	60.9%
Italy	-2.7%	-2.4%	-2.3%	-2.1%	132.1%	132.6%	131.8%	132.2%
Latvia	-1.3%	0.0%	-0.5%	-1.0%	36.5%	40.5%	40.1%	35.9%
Lithuania	-0.2%	0.3%	0.5%	0.7%	42.6%	40.1%	39.7%	34.2%
Netherlands	-2.1%	0.4%	1.1%	1.5%	64.5%	61.8%	56.7%	52.4%
Poland	-2.6%	-2.4%	-1.7%	-0.4%	50.2%	53.8%	50.6%	48.9%
Romania	-0.8%	-3.0%	-2.9%	-3.0%	37.3%	37.2%	35.0%	35.0%
Slovakia	-2.7%	-1.7%	-1.0%	-0.7%	52.5%	51.9%	50.9%	48.9%
Spain	-5.1%	-4.5%	-3.1%	-2.5%	99.8%	99.4%	98.3%	97.1%
Sweden	0.3%	0.9%	1.3%	0.9%	44.7%	41.2%	40.6%	38.8%
UK	-4.3%	-3.0%	-1.9%	-1.5%	88.0%	85.4%	87.7%	86.8%

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

In 2018, a budgetary surplus was observable in Austria, Bulgaria, Denmark, Germany, Lithuania, Netherlands and Sweden. Germany, in particular, recorded its fifth consecutive year with a surplus, although at a lower rate compared to last years (+0.9%). Romania recorded the highest public deficit at -3.0% of GDP, in line this year with the Maastricht Treaty requirement[31] ("-3% ratio of the planned or actual government deficit to gross domestic product at market prices").

When it comes to the second criterion of the Maastricht Treaty concerning the theoretical ceiling of "*60% for the ratio of government debt to gross domestic product at market prices*"[32], eleven countries had an outstanding level of debt below this threshold while seven countries, all of them from Western Europe, surpassed it.

Asset Mix

In the 2018 version, BETTER FINANCE attempted to present the asset allocation in pension funds in all countries in scope of the analysis using the data from the analysis of individual country cases. However, this was not possible since sufficient data is not publicly available from national regulators or representative/professional associations. Therefore, countries in

[31] 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.
[32] Ibid.

the table below (GR1(A)) indicated with an asterisk continue to report OECD Data, while the 1other countries are based on data from this report itself.

There are striking differences between pension funds' asset allocations across European countries as shown by the following table:[33]

Table GR11(A). Pension funds' asset allocation, [in % of total assets]

Country	Year	Cash and deposits	Bills and bonds	Equities	Other	Data source
Austria	2005	6%	53%	37%	4%	OECD Data
	2016	9%	46%	33%	12%	
	2017	**7%**	**44%**	**35%**	14%	
	2018	**8%**	**45%**	**33%**	14%	
Belgium	2005	10%	25%	36%	29%	OECD Data
	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%	
Bulgaria	2015	12%	56%	28%	3%	BF Pensions Report Data
	2016	15%	55%	26%	3%	
	2017	7%	61%	29%	3%	
	2018	10%	10%	30%	50%	
Denmark	2005	1%	57%	29%	14%	OECD Data
	2010	0%	70%	16%	14%	
	2015	0%	63%	18%	19%	
	2016	0%	62%	17%	21%	
	2017	1%	59%	19%	21%	
	2018	0%	59%	21%	19%	
Estonia	2005	7%	44%	48%	2%	BF Pensions Report Data
	2010	9%	17%	70%	4%	
	2015	20%	22%	58%	0%	
	2016	23%	18%	59%	0%	
	2017	4%	46%	49%	0%	
	2018	3%	48%	48%	1%	
Germany*	2005	4%	46%	12%	38%	OECD Data
	2010	2%	46%	5%	46%	
	2015	4%	54%	5%	38%	
	2016	4%	51%	6%	39%	
	2017	4%	50%	6%	40%	
	2018	4%	49%	5%	42%	
Italy	2005	5%	37%	10%	6%	OECD Data
	2010	6%	58%	12%	24%	COVIP

[33] We could not find any available data for France.

	2015	5%	63%	17%	16%	
	2016	7%	58%	18%	17%	
	2017	6%	45%	21%	28%	OECD Data
	2018	6%	45%	19%	30%	
Latvia	2015	19%	46%	35%	1%	BF Pensions Report Data
	2016	13%	47%	39%	1%	
	2017	7%	43%	49%	1%	
	2018	6%	42%	51%	1%	
Lithuania	2015	12%	40%	47%	1%	BF Pensions Report Data
	2016	9%	46%	45%	1%	
	2017	6%	46%	46%	2%	
	2018	7%	47%	44%*	2%	
NL	2005	2%	41%	46%	11%	OECD Data
	2010	2%	42%	35%	20%	
	2015	3%	46%	38%	13%	
	2016	2%	45%	39%	14%	
	2017	3%	48%	46%	2%	
	2018	3%	51%	44%	2%	
Poland	2005	4%	63%	32%	0%	*OECD Data
	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%	
Romania	2010	7%	80%	12%	1%	BF Pensions Report Data
	2015	5%	72%	19%	4%	
	2016	7%	70%	19%	4%	
	2017	9%	68%	20%	4%	
	2018	8%	71%	18%	3%	
Slovakia	2005	51%	11%	5%	0%	BF Pensions Report Data
	2010	46%	50%	4%	0%	
	2015	16%	73%	11%	0%	
	2016	11%	75%	15%	0%	
	2017	13%	68%	19%	0%	
	2018	13%	68%	18%	0%	
Spain	2005	5%	64%	21%	10%	*OECD Data
	2010	19%	58%	12%	11%	
	2015	17%	62%	11%	9%	
	2016	15%	64%	14%	7%	
	2017	11%	47%	13%	29%	
	2018	10%	48%	13%	29%	
Sweden	2005	1%	58%	34%	7%	OECD Data
	2010	3%	72%	18%	7%	
	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*	
UK	2005	3%	23%	48%	27%	OECD Data
	2010	4%	29%	31%	37%	
	2015	2%	34%	20%	43%	
	2016	4%	43%	22%	31%	
	2017	2%	28%	13%	57%	
	2018	2%	30%	9%	59%	
AVG 2018		**6%**	**45%**	**31%**	**17%**	

Sources: OECD Pension Funds in Figures – 2016, 2017, 2018; BF Pensions Report (2018);

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 UCITS[34] or AIF[35]). The "other" category comprises 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.

On average in 2018, most pension funds employed a conservative/defensive investment strategy, investing almost a half (45%) of the capital in debt securities (bills and bonds). Equity (and, at times, shares or units in collective investment schemes, such as UCITS) have the second largest share in pension funds' asset allocation, with an average of 31%.

However, there are high deviations from the average:

- In countries such as Germany, Spain or UK, the equity allocation is of small significance (5%, 13%, and 9%);
- In countries such as Poland and Latvia, most assets are invested in equity (more than a half);

The evolution of asset allocation in European pension funds has evolved over the last four years to more capital invested in collective investment schemes, mainly UCITS.

Table GR11(B). Evolution of average asset allocation in pension funds

	Cash & Deposits	Bonds	Equity	Other
2015	8%	50%	30%	11%
2016	9%	49%	31%	11%
2017	6%	47%	33%	14%
2018	6%	45%	31%	17%

[34] "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*.

[35] "AIFs" stand for Alternative Investment Funds, which are all the non-UCITS funds.

2015-2018	7%	48%	31%	13%

Source: own computations based on Table GR10(A).

In countries such as the United Kingdom, almost half of the "*other*" assets category includes shares and units in collective investment schemes, while in others – such as Slovakia – the vast majority of other investments are in mutual fund schemes.

We could observe a slight decrease of investments in debt securities (bills and bonds) from an average of 50% in 2015 to 45% in 2018, compensated by an increase in other assets (such as CIUs) and equities.

From a data availability point of view, we could not find a breakdown of assets under management for Swedish pension funds, neither in the OECD database, nor in the individual country case report, but we were able to obtain a breakdown by type of fund in the premium pension system.

After the state-managed default investment fund (AP7 Safa), the highest share of Assets under Management (AuM) was held by equity funds, administering over €39 billion at the end of 2018. The default investment option, AP7 Safa, is "*a blend of the AP7 Equity Fund and AP7 Fixed Income Fund*".[36]

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

For most countries, the period 2005-2017 showed a decrease in equities and an increase in public debt in the asset allocation of pension funds, partially due to unrealised capital gains generated by the historical decrease of interest rates.[37]

Asset performance

Equity markets

Equity returns are of a volatile nature 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 2009-2017. Data in the table below is calculated based on gross performances (***nominal return***), then adjusted by inflation (***return net of inflation***).

[36] https://www.ap7.se/english/ap7-sa%CC%8Afa/.

[37] A decrease in market interest rates translates into an increase in the mark-to-market value of fixed interest debt products held by investors.

Table GR12. Historical Returns on Equity Markets, yearly average				
Country	Period	Nominal Return	Return net of inflation	Source
Belgium	(2000-2018)	-0.2%	-2.34%	BEL 20 (^BFX)
Bulgaria*	(2009-2018)	9.15%	8.0%	BSE-Sofia SOFIX Bulgaria
Denmark	(2000-2018)	10.22%	8.64%	FTSE Denmark TR EUR
Estonia	(2000-2018)	12.4%	7.99%	Tallinn SE General (OMXTGI)
Europe (EU28)	(2000-2018)	-0.74%	-2.84%	STXE 600 PR.EUR (^STOXX)
France	(2000-2018)	-1.21%	-2.84%	CAC 40 (^FCHI)
Germany	(2000-2018)	2.22%	0.67%	DAX PERFORMANCE-INDEX (^GDAXI)
Italy	(2000-2018)	-4.34%	-6.34%	FTSE MIB Index (FTSEMIB.MI?P=FTSEMIB.MI)
Latvia	(2001-2018)	10.43%	5.72%	OMX Riga Index (OMXRGI)
Lithuania**	(2001-2018)	11.1%	7.3%	Vilnius SE General (OMXVGI)_EUR
Netherlands	(2000-2018)	-1.67%	-3.7%	AEX-INDEX (^AEX)
Poland	(2000-2018)	6.11%	3.5%	WIG
Romania	(2000-2018)	10.35%	0.16%	BET® (BUCHAREST EXCHANGE TRADING)
Slovakia	(2000-2018)	8.00%	4.96%	SAX
Spain	(2000-2018)	-1.62%	-3.86%	IBEX 35. (^IBEX)
Sweden	(2000-2018)	-0.10%	-1.77%	OMX Stockholm 30 Index (^OMX)
UK	(2000-2018)	-2.05%	-4.18%	FTSE 100 (^FTSE?P=FTSE)
EMU	(2000-2018)	-2.66%	-4.47%	ESTX 50 PR.EUR (^STOXX50E) - 50 large blue chip companies in the Eurozone

Sources: MSCI Indices (Gross Returns), Eurostat, Morningstar, Finance Yahoo, Investing.com, Bucharest Stock Exchange; Bratislava Stock Exchange; NASDAQ Nordic OMX Villnius, Talinn, Riga, Eurostat HICP annual average

Since not all equity indexes (MSCI) have data available for the entire 19-year period, it is difficult to perfectly compare the performances of the same stock market indicators between all the countries in the same timeframe.

The best performing equity markets in nominal terms were Estonia (12.4% annually), Lithuania (11.1%) and Romania (10.35%), whereas the worst performers were Italian equities (-4.64% p.a.), followed by equities representative of the Economic and Monetary Union (EMU) - -2.66% per year.

In real terms, inflation has had a strong effect in some cases: in Romania, the 167% profit in nominal terms over the last 19 years transformed in a merely 3% in real terms. This is one of the most powerful examples of the "money illusion" and the cumulative effects of inflation

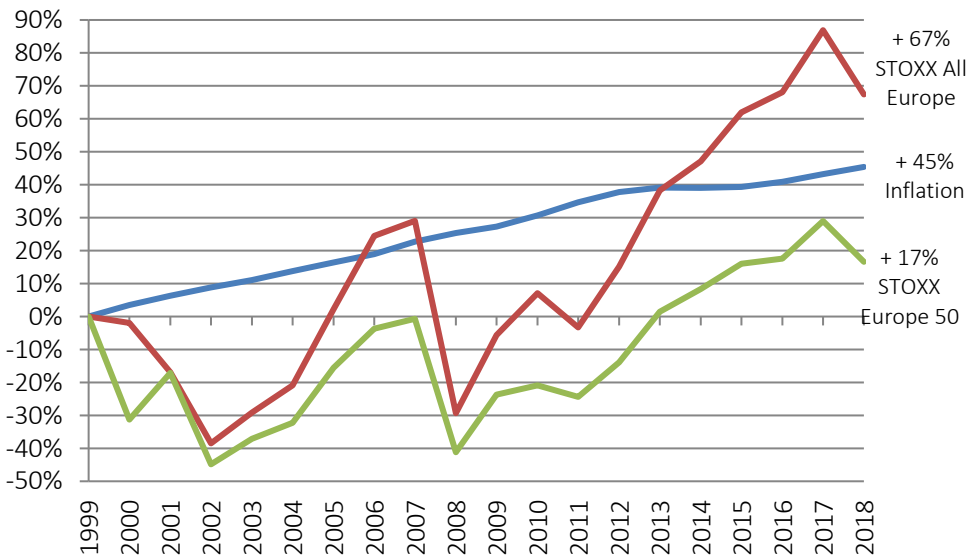
overt the long term. The worst results, after adjustment for inflation, were recorded also in Italy and EMU (-6.34% per year and -4.47% per year).

However, the equity indices used in Table GR12 are narrow, large cap only indices, usually including only a few tens of stocks each, and excluding all mid and small cap equities. Broader indices are required to better reflect the returns of the whole of equity markets in Europe. Those include mid and small capitalisations, which have massively outperformed the "blue chips" over the last 18 years. As a result, the broader country equity market returns were much higher (for example the real return of the French broader equity market shown in Graph FR I has been very positive). But these broader country equity indices are unfortunately less known and often available only for recent years in Europe.

When looking at the cumulated results at European level, as well as in the individual countries where we developed this analysis (see French, German, Spanish and UK 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, FTSE 100, DAX 30, IBEX 35, CAC 40).

The following graph shows a comparison of the broad STOXX All Europe Total Market index which includes 1,466 European stocks (as of 23 June 2017)[38] and the much narrower Stoxx Europe 50.

Graph GR13. Cumulative performance of Wide Index vs narrow index



Source: BETTER FINANCE; Eurostat; STOXX

At European level, the difference at the end of our 19-year period is an astonishing 50% in favour of the broader stock market index in nominal terms. And whereas the performance

[38] 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 (446 components as of 31 May 2017) for that year was taken as a proxy instead.

of the narrow index (17% nominal) was heavily outmatched by inflation (45%) over the last 19 years, the broader European stock market recorded a positive real performance with a cumulated gain of 15%.

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 2008-2018:

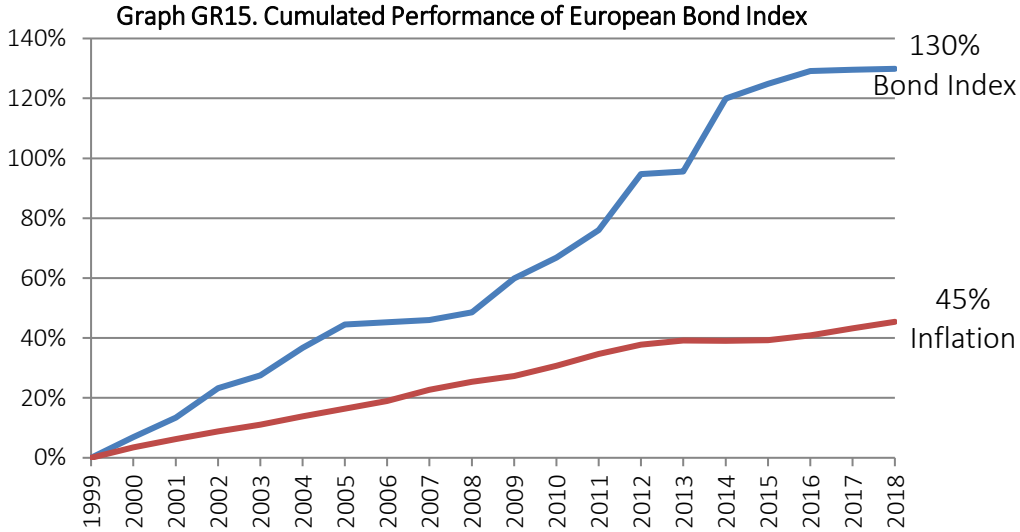
Table GR14. Historical Returns on Bond Markets, yearly average			
Country	**Year**	**Nominal Return**	**Real Return**
Belgium	(2008-2018)	4.91%	3.04%
Denmark	(2008-2018)	4.73%	3.53%
Germany	(2008-2018)	4.25%	2.94%
Spain	(2008-2018)	5.20%	3.93%
France	(2008-2018)	4.63%	3.39%
Italy	(2008-2018)	4.85%	3.44%
Lithuania	(2008-2018)	7.32%	4.78%
Netherlands	(2008-2018)	4.54%	3.11%
Romania	(2008-2018)	n.a.	n.a.
Slovakia	(2008-2018)	n.a.	n.a.
Sweden	(2008-2018)	3.38%	1.96%
United Kingdom	(2008-2018)	3.71%	1.34%
EMU	(2008-2018)	4.46%	3.13%

Sources: MorningstarDirect, Eurostat HICP annual average

The European government bond markets all showed steady nominal average returns over the past 11 years, ranging between 3.38% (Sweden) and 7.32% (Lithuania). Real average returns ranged even closer together, with the highest in Lithuania at 4.78% and Spain (3.93%) and the lowest in the UK (1.34%) and Sweden (1.96%) per year. While equity markets usually perform better in the long run, as of 2019 sovereign bonds have started to turn negative as they are perceived more safe or secure over the long-term.

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 GR15. Cumulated Performance of European Bond Index



Source: Eurostat; Bloomberg website; own computations

Over the last 19 years, European bonds as a whole enjoyed a very positive nominal return which was significantly higher than the return of European equities, and due to the continuous fall of bond interest rates over the period under review. It is difficult to foresee a continuation of this past trend given the very low level of interest rates reached today. However, in 2016-2018 this index continued to stagnate, growing from 129.1% to 129.86% in nominal terms.

Graph GR14 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 2018 are shown in the following table:

Table GR16. Percentage of European Equity Funds Beating their Benchmarks						
Fund Category	Comparison Index	1-year (2018)	3-year (2016-2018)	5-year (2014-2018)	10-year (2009-2018)	10y AVG
Percentages calculated in Euro						
Europe Equity	S&P Europe 350	14	14	20	13	
Eurozone Equity	S&P Eurozone BMI	23	10	11	9	
France Equity	S&P France BMI	2	5	15	13	
Germany Equity	S&P Germany BMI	26	23	18	18	16
Italy Equity	S&P Italy BMI	25	40	37	35	
Spain Equity	S&P Spain BMI	31	28	22	22	
Netherlands Equity	S&P Netherlands BMI	0	0	9	7	
Percentages calculated in local currencies						
U.K. Equity	S&P United Kingdom BMI	27	20	31	27	
Denmark Equity	S&P Denmark BMI	16	66	39	15	18
Poland Equity	S&P Poland BMI	7	2	6	9	
Sweden Equity	S&P Sweden BMI	38	36	45	21	

Sources: S&P Dow Jones Indices LLC, Morningstar; BETTER FINANCE own Computations - SPIVA Europe Scoreboard, Year-End 2018, Report 1, page 4 (https://us.spindices.com/spiva/#/reports); Outperformance is based on equal-weighted fund counts. Index performance based on total return.

The latest findings for the year of 2018 once again reveal that a large majority of funds (83%) do not outperform their respective benchmark on the past 10 years. For funds investing in European equities, only 13% 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, Poland and Eurozone, where 7%, respectively 9% of the equity funds delivered a cumulative profit over the past 10 years above that of their benchmark. What's worse, it seems that none of the funds investing in NL equities were able to outperform the comparison index in 2018 or in the period 2016-2018.

The best performers by number were in Italy (35%) and UK (27%) between 2009-2018. In Germany and the UK only 18% and 12% outperformed the respective country index. Funds investing in the Nordic countries compared better. While 21% of funds investing in Swedish equity beat their benchmark almost no funds investing in Danish equities outperformed the respective country index (3%).

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 2017, with short sub-periods of decline in most countries. Prior research found that investment funds tend to outperform their benchmarks in a bearish market while they

underperform in a bullish market, as also shown by the outperformance rate in 2018 compared to 2008-2017.[39]

For a longer time horizon and especially in the case of retirement savings, a recent study[40] provides relevant results for UK personal pension funds operated by 35 providers over a 30-year period (1980-2009). Big providers performed better than their prospectus benchmarks, but they 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 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 on a period between 2008-2017 (10 years), the rest that managed to beat their market seem to have did it by coincidence or luck. [41]

In attempting to give an explanation to 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*".[42] More information on fees and charges is given in the following section.

IV. INVESTMENT CHARGES

Findings of the initial study by BETTER FINANCE on the opacity and weight of charges did not change dramatically over the successive research reports. Charges are often very complex and far from being harmonised for different pension providers. Consequently, this makes it difficult for consumers to understand and entirely capture the magnitude of charges on their pension product. Generally speaking, charges are heavier on personal pension products than

[39] 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

[40] 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.

[41] 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.

[42] 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/.

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. A report of the Office of Fair Trading (2013) highlighted the lack of transparency and comparability in terms of fees charged to members of UK pension funds: various fees are added to the Annual Management Charges (AMC) on the basis of which pension fund providers usually promote their services. The dispersion of charges has also been found to be very significant, depending, amongst others, on the type (personal plans are more heavily charged than occupational ones) and the size of the funds.

Following the OFT study, the Department for Work and Pensions issued a regulation which took effect on 6 April 2015[43]. 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 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.

While not necessarily as advanced as in the United Kingdom, the introduction of transparent, limited and comparable charges is the subject of debates in several of the investigated countries.

V. Taxation

One of the key elements of a pension system, as designed by the World Bank's conceptual framework of 1994,[44] 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 (payouts) are taxed within the framework of income tax or, usually, at a more favourable rate. Some countries are currently

[43] https://www.legislation.gov.uk/ukpga/2015/8/contents/enacted

[44] 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.

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*"[45], 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.

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 GR17. Overview of Main Taxation Rules Applied in the Country Reports	
Austria	● **EET regime** – generally, only payments are taxed; 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	● **EET regime** - only withdrawals/payments are taxed; 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.

[45] OECD definition: https://stats.oecd.org/glossary/detail.asp?ID=5225

Bulgaria	● **EEE regime**; o Annual contributions of up to 10% of annual taxable income is tax free;
Denmark	● **TTT regime** (combination of ETT and TTE); o Annuities, periodic instalments, and lump-sum pensions under the form of *kapitalpension* are income tax deferred and follow an ETT regime; o Lump-sum pensions under the form of *alderopsparing* are taxed TTE;
Estonia	● **EET regime for taxation**: 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 regime.
France	● **ETT regime**; 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	● **EET regime**, taxation divides retirement savings into three groups: 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 phase o 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	● **ETT regime**, contributions are tax deductible up to prescribed limits; o Accruals are taxed at 20% (12.5% on income derived from public bonds) in the capital accumulation phase; EU equities & investment funds are tax-exempt o Taxation in the pay-out phase varies from 9-15%.
Latvia	● **EET regime;** 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	● **EEE regime**; 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	● **TEE regime** for Employees Pension Programs (PPE) and Individual Retirement Accounts (IKE); **EET** for Individual Retirement Savings Accounts (IKZE); o benefits are taxed with a reduced flat-rate income tax (10%)
Romania	● **EET regime** applies for both mandatory and voluntary pensions; 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	● Funded pensions are usually not taxed (EEE regime); ● Supplementary pensions follow the EET regime with several exceptions and specifications.
Spain	● EET regime, contributions are tax deductible up to prescribed limits; ● No taxation in the capital accumulation phase; ● Pay-outs are taxed differently depending whether they take the form of an annuity or the form of a lump sum payment.
Sweden	● **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
The Netherlands	● EET regime; ● Contributions paid into pension funds are tax deductible; ● Taxation is applied in the pay-out phase at the personal income tax rate.
United Kingdom	● 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 objective of this research report is a global overview of the real return of private pensions in the 17 EU countries under review. The net returns after fees, commissions, inflation and taxes are critical to protect the purchasing power of the income of pension savers when they retire. Unfortunately, information on these real returns is scarce, hence this research report provides a global and coherent approach, making use of all individual and historical data available in order to augment transparency and deliver simulations on real performances for EU pension savers.

The BETTER FINANCE report now provides for almost 20 years of performance disclosure for retirement provision products. Unfortunately, over 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. For instance, most pension funds for the countries under review are offered as defined-contribution plans while those in Germany, as of now, and the majority of those in Belgium are offered as defined-benefit plans. 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 for the full reporting period, nor are the concepts (Pillars, occupational vs supplementary plans) so common in all E.U. Member States. Therefore, for ease of reference, the names of the pension vehicles have been used in Graphs 17 (A, B and C) and Table 18 as presented in each individual country case.Over the longest reporting period (19-years, 2000-2018), the top performers continued to be the Dutch pension funds, recording a real net return (before taxes) of 2.52% p.a. or 60% profit, with a steep gap to the second best performing, French capital guaranteed life-insurance contracts, which returned 1.1% p.a. (or 23% - after tax). However, during 2000-2017, the UK pension funds outperformed the Dutch ones, gaining 3.06% p.a. compared to 2.85% in the Netherlands.

Out of the 20 pension vehicles on which we report performances over at least 18 years (Graph 17(A)):

- eight (40%) have recorded cumulative negative returns, ranging from -29% to -6.8% cumulatively;

- other vehicles (25%) reported less than 1% real net return per year, equalling to less than 21% profits over the past 19 years.

Considering that an EU capital markets-representative benchmark (50% European Equities – 50% European bonds) recorded 53% real profits before taxes (2.26% p.a.), only isolated pension vehicles (German pension insurances, Dutch and UK pension funds) managed to beat the market over the long-term.

On shorter reporting time frames (2002-2018 – Graph 17(B)) performances were much higher, with 54% of pension vehicles achieving at least 2% p.a.

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 recorded more than twice than Pillar III pensions;
- in Austria, pension funds profited 27 p.p. less than life-insurance contracts;
- in Italy, PIP with profits had positive returns over the past 11 years, while unit-linked PIP recored a a loss (on average) of -2.2%; or
- in France, where capital guaranteed insurance products gained 1.1% p.a. and unit-linked insurance lost 1.7% 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 GR17(A), (B), (C) AND (D) is by the starting reporting year available in this report.

Italy and the United Kingdom are two opposite examples of policy options chosen by governments to tackle the imbalances of pension systems. 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. However, the newly formed coalition (2018) put forward plans to undo the reform, reduce the standard retirement age and eliminate several conditions for full pension entitlement. Under the current law, the State's expenditure on pensions will rise to 16.2% of GDP by 2040.

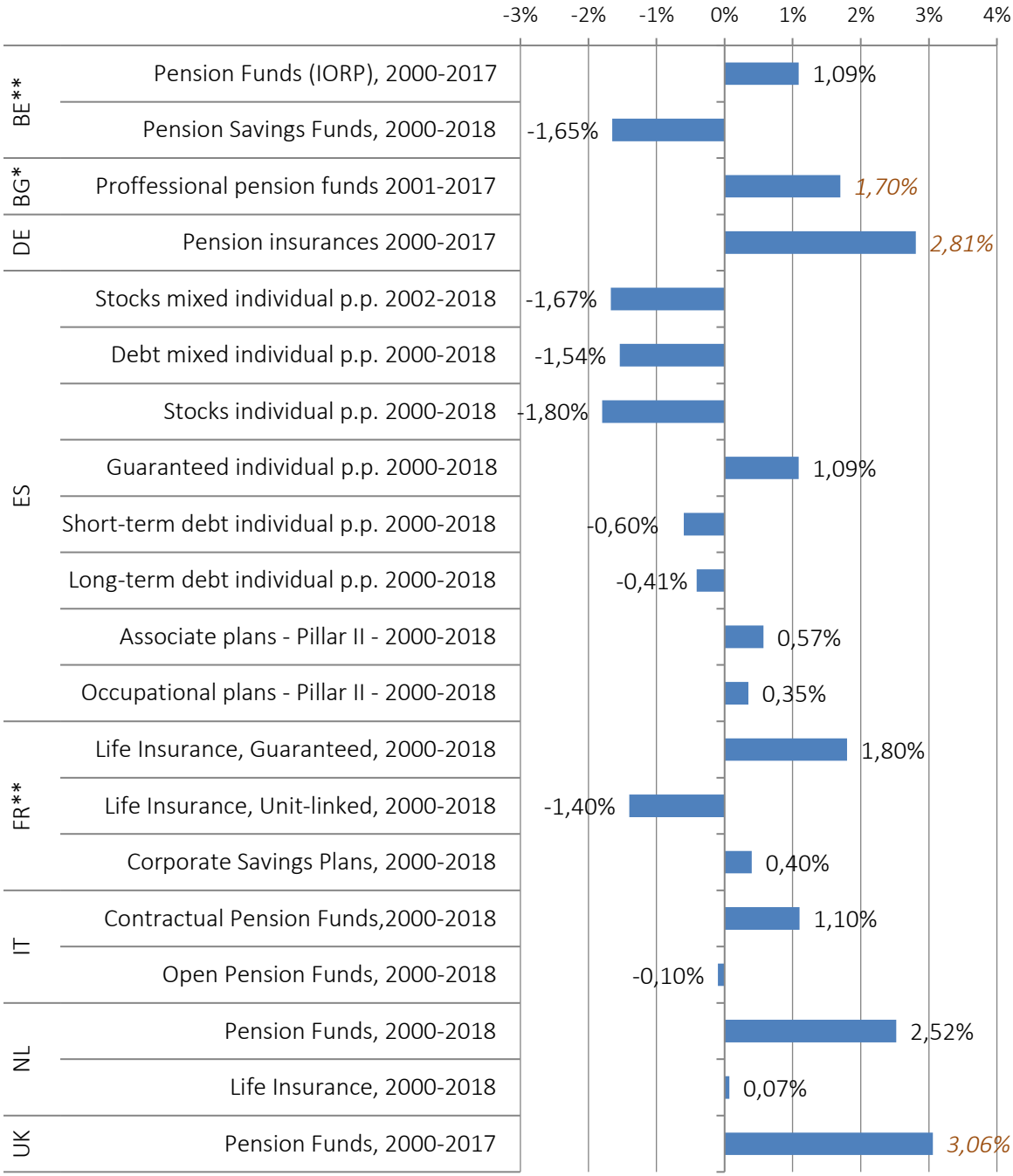
By contrast, pensions in the UK are more heavily dependent on pre-funded schemes. As such, the total value of pension assets as % of the 2018 GDP reached 105%, which is modest

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.

In overall, the 19-year period provides around zero returns in real terms for pension funds, but still positive after inflation and charges are taken into account.

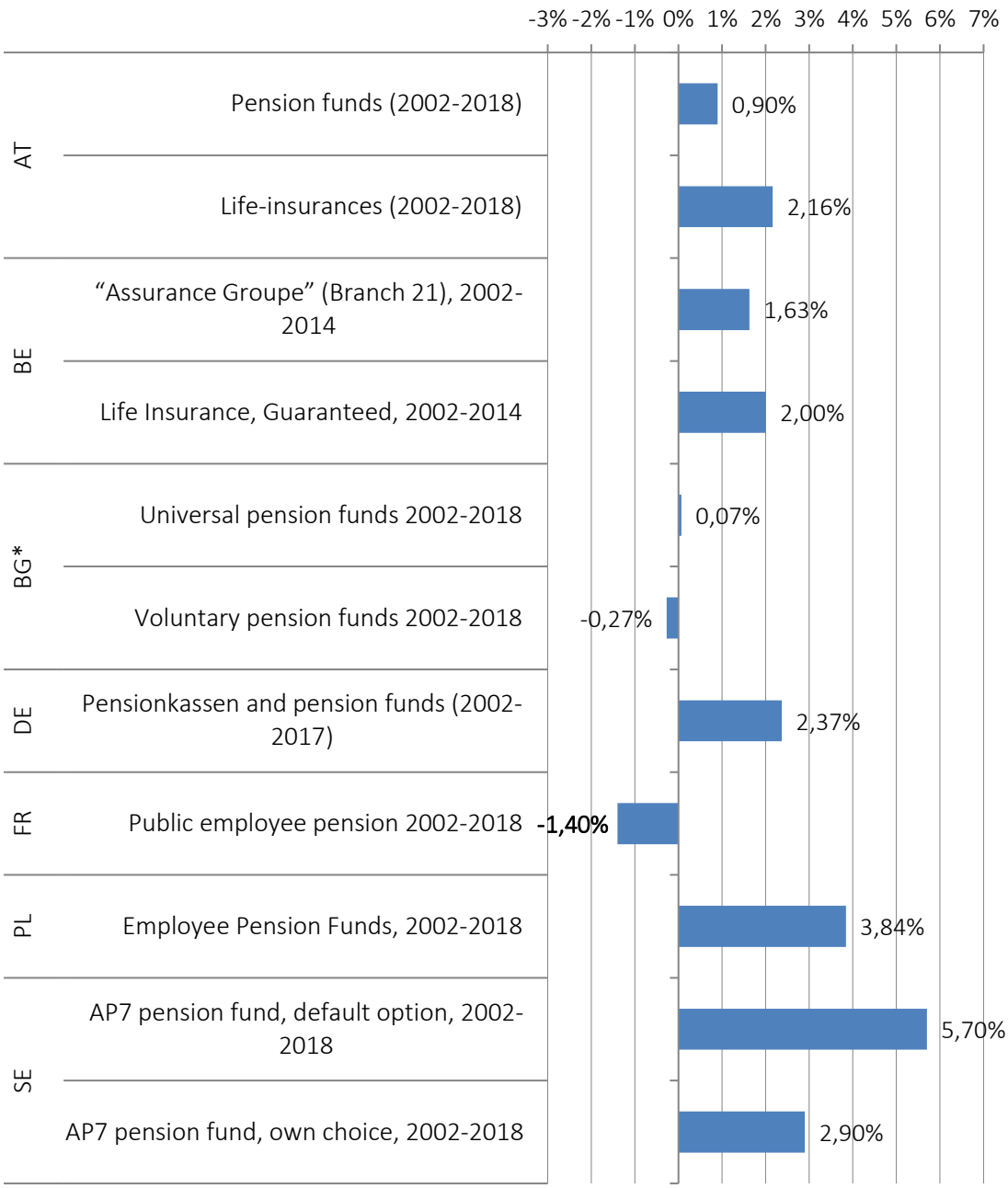
Note: In Bulgaria, data on professional pension funds (occupational and voluntary) was no longer available for the 2018 update. However, universal and personal pension funds, albeit the very favourable EEE formula, recorded a steep decrease in 2018. From an annual average of 0.5% on 16 years (2002-2017) to -1.83% on 17 years (2002-2018) due to the negative performance of -8% in 2018. The same happened to Pillar III funds (-7.66% in 2018), which dropped from the previous 1.7% to -0.33%. In addition, in Denmark the supervisor started to report based on hybrid-DC and DB pension vehicles, therefore the latest consolidated data goes back to 2016.

Graph GR17(A). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE/AFTER TAX - FROM 2000/01



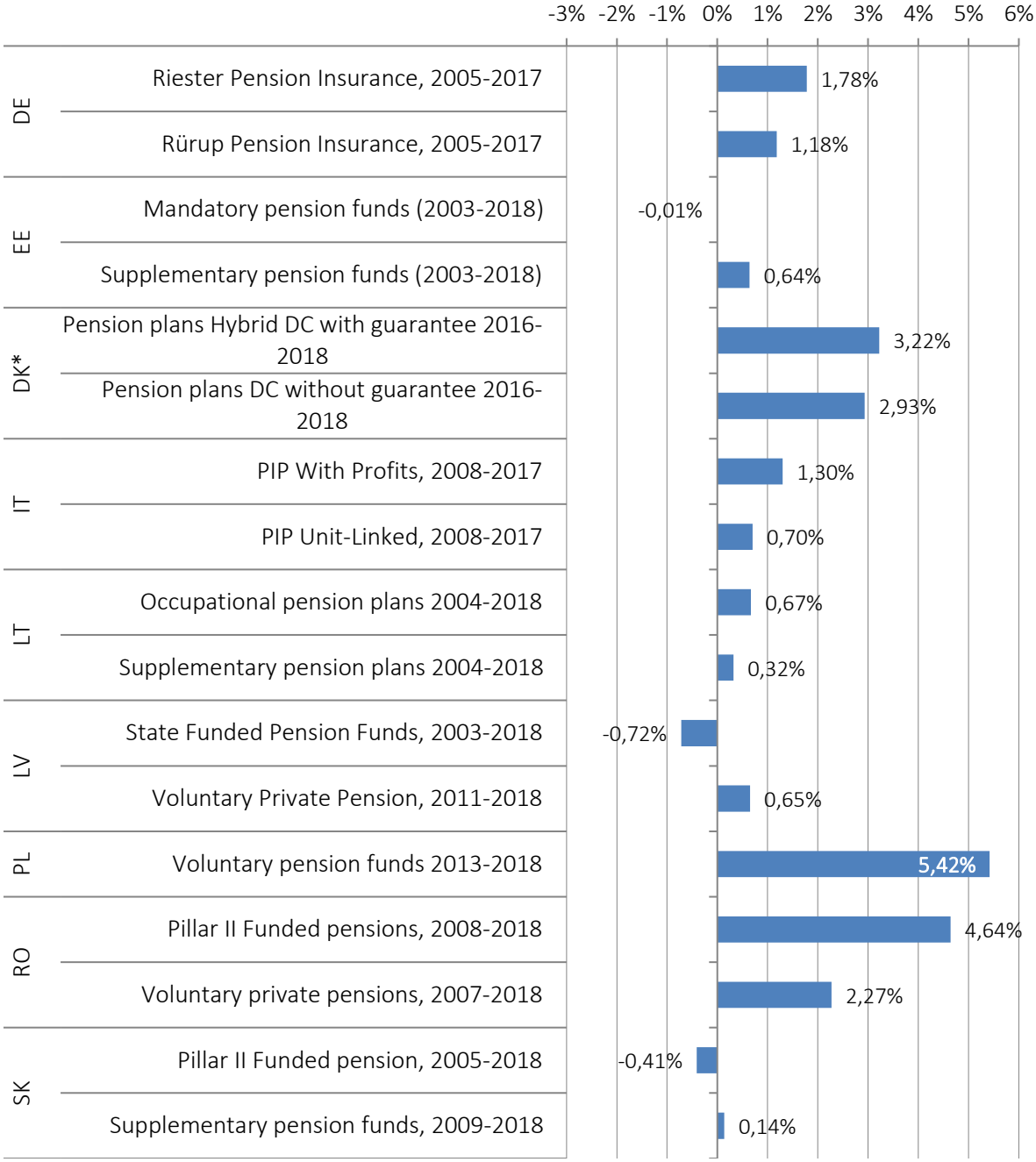
Source: BETTER FINANCE research; *Data for 2018 n/a; **After tax; *Money-Weighted Returns

Graph GR17(B). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - FROM 2002



Source: BETTER FINANCE research; *Money-Weighted Returns

Graph GR17(C). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - LATER STARTING DATES



Source: BETTER FINANCE research; *Earlier return breakdown not available

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

Table GR18. Yearly Real Returns of Private Pension Products	
Austria	Pension funds, 2002- 2018: +0.90% Life-insurances, 2002-2018: +2.16%
Belgium	Pension Funds (IORP [1]), 2000-2017: +1.09% "Assurance Groupe" (Branch 21), 2002-2014: + 2.00% Pension Savings Funds, 2000-2018: -1.65% Life Insurance, Guaranteed, 2002-2014: +1.63%
Bulgaria	Universal Pension Funds, 2002-2018: +0.07%* Professional pension funds (2001-2017): +1.70%* Voluntary Pension Funds, 2004-2018: -0.27%*
Denmark	Pension plans Hybrid DC with guarantee 2016-2018: +3.22% Pension plans DC without guarantee 2016-2018: +2.93%
Estonia	Mandatory Pension Funds, 2003-2018: -0.01% Supplementary Pension Funds, 2003-2018: +0.64%
France	Life Insurance, Capital guaranteed, 2000-2018: +1.10%* Life Insurance, Unit-linked, 2000-2018: -1.70%* Corporate savings plans, 2000-2018: +0.40%
Germany	A.O.P.P.[1], 2002-2017: +1.70%* Riester Pension Insurance, 2005-2017: +1.80%* Rürup Pension Insurance, 2005-2017: +1.18%* Pension Insurances, 2000-2017: +2.81%*
Italy	Closed Pension Funds, 2000-2018: +0.70% Open Pension Funds, 2000-2018: -0.37% PIP with Profits, 2008-2018: +0.90% PIP Unit-Linked, 2008-2018: -0.2%
Latvia	State Funded Pension Funds, 2003-2018: -0.72% Voluntary Private Pension, 2011-2018: +0.65%
Lithuania	Occupational pensions 2004-2018: +0.67% Supplementary pensions 2004-2018: +0.32%
Poland	Employee Pension Funds, 2002-2018: +3.84% Voluntary Pension Funds, 2013-2018: +5.42%
Romania	Pillar II Funded Pensions, 2008-2018: +4.64% Voluntary Pension Funds, 2007-2018: +2.27%
Slovakia	Pillar II Pension Funds, 2005-2018: -0.41% Supplementary Pension Funds, 2008-2017: +0.14%
Spain	Associate Plans, 2000-2018: +0.57% Occupational Plans, 2000-2018: +0.35%
Sweden	AP7 fund, default option: 2000-2018: +5.70% Premium pension, other funds: 2000-2018: +2.9%
The Netherlands	Pension Funds, 2000 - 2018: +2.52% Life Insurance, 2000 - 2018: +0.07%
United Kingdom **After tax*	Pension Funds, 2000-2017: +3.06%

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.

VII. POLICY RECOMMENDATIONS

Non-toxic, transparent, comparable and simple long term and pension savings products

Unfortunately, again this year, most of the BETTER FINANCE's 2017 and 2018 recommendations remain valid for the 2019 edition of the Report.

1. Provide simple, intelligible and comparable reporting on pension products across the EU.

Although the European Supervisory Authorities' (ESAs) first reports on *costs and performance* of retail investment products are a step forward in the right direction (a 2015 "CMU"[46] Action proposed by BETTER FINANCE), many products – in particular in life insurance and pension areas– escape the remit of supervision and reporting.

For the seventh year in a row, BETTER FINANCE and its research contributors continue to struggle to get information on actual charges, asset allocation and performance. While in some cases the timing of reporting can be improved (made earlier), in many others there is no available information on large categories of pension products.

Therefore, national supervisory authorities must improve disclosure and report on the costs and net past performance (at least) of all the long term and pension saving products in their scope.

These improvements must be made in easily accessible and understandable formats, such as web-comparison tools, mobile applications or annual reports addressed to the retail saver. Pension products must not be understood *stricto sensu* (only those

[46] Capital Markets Union.

labelled as such) but organically, meaning all those products that are actually used by savers for retirement provision purposes (for instance even bank savings accounts sometimes).

2. Tell the EU citizen the whole truth

Disclosing the net asset value (NAV) is not enough, neither is it intelligible for the average pension saver. As this report proves**,** the EU citizen too often does not achieve, in the end, decent net returns[47] on his investments. In addition, he usually is not aware of this. Therefore, in order to raise citizens' awareness and encourage them to look for alternative better performing products, the truth should be communicated clearly:

- pension products 'performance disclosure must be made in relative terms (% change from one year to another) and with cumulative effects (compound % change over pre-defined periods);
- after deducting charges from gross returns, disclosures must show the impact of inflation on real returns, and, where possible, calculate them net of taxes. If calculation net of taxes is not possible, disclosures must give generic examples for the purpose of showing what the saver will be actually left with at retirement;
- as pension products are by essence long-term (investment horizon of at least 20 years), key mandatory disclosures and public authorities' reporting must cover at least a period as long, or since inception – whichever is earlier – in order to reflect the characteristics of retirement provision vehicles.

3. Restore and standardize relative past performance disclosure for all long-term and retirement savings products.

Neither past, nor future performance are a reliable indicator of future results. However, while past performance can be analysed to determine whether the product manufacturer has provided any positive returns and/or has achieved its objectives in the past, future performance is just simply wrong (nobody can predict

[47] "Decent" returns are returns that at the very least do not destroy the value of EU citizens' lifetime's savings: i.e. net (after charges) real (after inflation) returns that are positive over the long-term, and sufficiently high to allow them to get an adequate pension replacement income.

future performances), and misleading, has no added value and stimulates retail investors to hyperbolise future returns. Therefore:

- the EU must re-instate standardised disclosure of past performance of "retail" investment products compared to objective market benchmarks (as required up to 2017 for all UCITS investment): long term historical returns after inflation, after all charges taken from the investor; and after tax - when possible;
- make the period of the past performance disclosure consistent with the time horizon of the investment product: it is currently 10 years minimum for UCITS funds and it should be longer for pension products;
- extend the exemption of UCITS funds[48] from the PRIIPs Regulation until the issues of performance and cost methodology and presentation are resolved.

The UCITS KIID represented a great achievement in properly disclosing essential information for the retail investor: simple concepts, based on actual data, and fully comparable across products. If the PRIIPs exemption for UCITS ceased before addressing all issues of the KID, it would mean a huge step back for disclosure and comparability of investment products. Therefore, KIDs should:

- Disclose total fees and commissions charged to the end investor, both direct and indirect;
- Disclose the funding status, when relevant;
- Disclose transfer/exit possibilities and conditions and provide this information in plain language;
- Extend the PRIIPs'[49] KID[50] principle (meaning a standardized plain language and short information document) to all long-term and pension savings products, including pension products, shares and bonds;
- Initiate a full review of the PRIIPs Regulation without further delay;
- Eliminate future performance scenarios or at the very least make the PRIIPs KID compliant with MIFID II rules on performance disclosure, in particular by

[48] Also in view of the 2017 request to ESAs to issue reports on the cost and past performance of the main categories of retail investment, insurance and pension products **where the EC itself called for the UCITS KIID to serve as a key source for the performance data**.

[49] PRIIPs: Packaged Retail and Insurance-based Investment Products

[50] KID: Key Information Document (the existing summary document for UCITS funds is the "KIID": Key Investor Information Document).

adding to the future performance "information" a prominent warning stating that such forecasts are not reliable indicators of future performance.

4. Improve EIOPA's report on cost and performance of retail investment products.

EIOPA did not include personal pension products in the first report, and it seems that neither will Defined Contribution (DC) non-insurance-based Occupational Pension Schemes ("IORPs") be included in the scope of next year's report.

EIOPA must establish and maintain a database for costs and performance (at least) of all IBIPs[51] for pensions and PPPs in its scope of competence, no matter how large or subscribed.

5. Ensure that the PEPP truly represents an "EU quality label" product

The Pan-European Personal Pension (PEPP) product must create an EU quality label for retirement provision vehicles that will increase transparency and trust of consumers in capital markets.

- ***Fee cap***: ensure that the basic PEPP fee limitation to 1% covers all direct and indirect costs (management, sale & distribution, capital protection, transaction costs) in order to prove effective.
- ***Use tax as an incentive*:** EU public authorities and Member States must ensure that the PEPP will benefit from an equivalent tax regime, at least as attractive as for existing national personal pension products, in order to allow a real European coverage.

PEPP KID: The key pre-contractual disclosure document for the PEPP must be simple, based on actual data and comply with the principle of "*fair, clear, and not misleading*" information.

Capital guarantee: the notion of "capital" must be calculated on the basis of the amounts saved before the deduction of all accumulated fees, charges and expenses directly or indirectly borne by investors and if possible in real terms, otherwise the long-term, accumulated fees and inflation will destroy both the nominal and real value of this "protection". If not, there should be at least a mandatory and prominent warning in the PEPP KID pointing to the very negative impact that inflation and fees

[51] Insurance-Based Investment Products.

will have on the real net value of the "guaranteed" capital over time. If adopted without these conditions, the so-called "capital protection will very seriously mislead consumers.

Risk & return scale: the risk scale must be simple as well and adapted to the long-term horizon of the product, incorporating:

- a clear, simple and standardised life-cycle "de-risking" approach supervised at EU level[52];
- the disclosure of the provider's benchmark(s) and their past performance alongside the PEPP's past performance since the inception of the product.

6. Simplify, standardise and streamline the range of product offerings:

BETTER FINANCE recommendations concerning the product offerings are:

- Restrict the use of non-UCITS funds (the 20,000 or so "AIFs") in all packaged long-term and pension products promoted to savers and individual investors, and in particular in the future PEPP;
- Reduce and consolidate the excessive number of UCITS on offer in the EU;
- ESAs to ensure EU individual investors have full access to low fee investment products such as shares, bonds and index ETFs (in line with the CMU initiative of the EU); this requires banning inducements that push intermediaries ("non independent advisors") to ignore these low cost products to the detriment of pension savers.

[52] Based on its research on the divergence of asset allocation paths in existing life cycle funds, BETTER FINANCE believes that the life cycle approach should be allowed if: i) the life-cycle "de-risking" design of the investment option will be simple, cost effective, standardised and supervised by EIOPA ii) Information disclosure will be improved with the publication of the asset allocation glidepath and corresponding target allocation table iii) diversification will be ensured iv) overall fees will be capped at 1%.

7. **Better align the pricing of investment products with the interests of savers and end biased advice at the point of sale[53] and guarantee competent advice on long-term investments, including equities and bonds.**

Asset-based fees do not ensure the alignment of interests between providers and clients.

- Address the lack of consistency regarding terminology as it is contributing to the investors' confusion and work with stakeholders, like BETTER FINANCE, to agree on a standardised terminology, in particular on how to define concepts such as "investment advice", "personal recommendations", "product selling", "guidance", "planning", "fee-based" and "commission-based".

8. **Improve the governance of collective schemes:**
   - Ensure that at least half of the schemes' supervisory bodies are designated directly by the pension schemes' participants.

9. **Establish EU-wide transparent, competitive and standardised retail annuities markets:**
   - grant more freedom to pension savers to choose between annuities and withdrawals (but after enforcing a minimum threshold for a guaranteed life-time retirement income);

10. **Grant special treatment by prudential regulations to all long-term & pension liabilities** allowing for an adequate asset allocation (in particular the solvency II[54] requirements should be recalibrated as to eliminate the penalisation of equity holdings by insurers when covering long term and pension liabilities).

[53] The 2018 EC Study on retail investment products confirmed BETTER FINANCE's findings, i.e. that investment products are not bought but sold, and that an average individual investor is not able to differentiate between the benefits and risks of different types of advice, often believing that advice provided by non-independent advisors via banks and insurers is "free" (unaware of incentive schemes and potential conflicts of interests).

[54] Solvency II Directive (Directive 2009/138/EC [recast])

11. Use tax to incentivise Pan-European long-term retirement savings and investments over consumption and short-term savings.

Member States must stop exploiting the "monetary illusion" to abuse pension savers: they must stop taxing the nominal returns of long term and pension savings, and tax only their REAL returns (i.e. after deducting the very negative impact of inflation over time).

Pan-European products such as ELTIFs and PEPPs will not emerge significantly unless they get the most favourable tax treatment already granted to numerous other nationally sponsored long-term investment products.

The FTT (financial transactions tax) should be reviewed in order to actually meet its stated goal: tax the transactions of financial institutions (the largest ones by far being the Forex ones, and then derivatives) instead of those from the real economy (end-investors ones in equities and corporate bonds, individual ones in particular). To this end, a "FAT" (Financial Activities Tax) may be more fit for purpose;

12. Improve the rules and requirements for automated investment advice

In light of BETTER FINANCE's Robo-advice report findings on very diverging results for one and the same investor profile on different robo-advice providers, it is clear that EU citizens are in dire need of comparable information on investment products, including past performances relative to the objectives of the providers (their "benchmarks"), and on costs:

- **Make comparable information on investment products accessible via independent web-based comparison tools for retail investments**.
- **propose a legislative framework that will ensure that Automated-Decision Making (ADM) systems such as Robo- advisors are accountable, transparent and fair for EU citizens** and are developed on criteria that comply with the legislation (MiFID II) with regards to the investment advice process, in order to ensure a harmonised, minimum level of quality.

13. Improve financial literacy: introduce financial mathematics' basics

(compounding interest rates and returns, annuities) and capital markets' (shares and bonds) **as part of school curricula**; financial institutions to inform clients on

shares, bonds and index ETFs (and not only on fee-laden more "packaged" products), and to **allow at least a part of their financial education efforts to be guided by independent bodies**.

14. Sustainability

More and more retail investors are asking to invest in financial products that take into consideration sustainability criteria considering environmental, social and governance objectives as important factors for their investments. [55]

- Develop a clear, precise and common **taxonomy** established on science and facts (not on emotions and ideologies), and focussing on all the three criteria (Environmental, Social and Governance);
- Develop **a well-designed EU-wide Ecolabel** for retail investment products, that avoids the pitfalls of existing national labels (being granted to products not complying with existing investor protection and disclosure rules) – BETTER FINANCE is involved in the process and forms part of the Joint Research Centre's Ecolabel Working Group as well as the EU Ecolabelling Board;
- **Address the short-termism ensuring by e**nsuring the link and consistency between **sustainability** and **long-term value creation** by putting exemplarity with regard to investor protection rules first and ensuring decent returns for individual investors at the very least that the very least do not destroy the value of their savings.

Prevent the use of ESG specific benchmarks (such as low carbon indices for example) in retail investment products in lieu of mainstream capital markets ones, as this can only confuse pension savers further and prevent them from assessing the long -erm performance of these products.

[55] FINANCING A SUSTAINABLE EUROPEAN ECONOMY, Final Report 2018 by the High-Level Expert Group on Sustainable Finance https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf

Pension Savings: The Real Return

2019 Edition

Country Case: Austria

Summarisch

Rund 90% des durchschnittlichen Alterseinkommens in Österreich stammen aus dem öffentlichen Pensionssystem. Damit ist die Altersvorsorge sehr stark auf die erste Säule konzentriert. Die betriebliche Altersvorsorge wird in erster Linie von Pensionskassen und Versicherungsunternehmen getragen. Direktzusagen sind ein alternatives Instrument deren Nutzung seit Jahren stagniert. Die Möglichkeit für beitragsorientierte Pensionspläne in Pensionskassen und über Versicherungen hat die Verbreitung der betrieblichen Altersversorgung in Österreich gestärkt. Während betriebliche Formen der Altersvorsorge im Laufe der Zeit beliebter wurden, dämpften niedrige Zinssätze und die hohe Liquiditätspräferenz die Nachfrage nach individuellen Lebensversicherungsverträgen. In den Jahren 2002 bis 2018 war die Performance der Pensionskassen real und nach Abzug der Verwaltungskosten positiv. Die annualisierte Durchschnittsrendite lag bei 0,9% vor Steuern. Die Lebensversicherungsbranche verfolgt eine deutlich konservativere Anlagepolitik und erzielte eine durchschnittliche reale Nettorendite vor Steuern von 2,2% pro Jahr.

Summary

With With around 90% of the average retirement income received from public pension entitlements, the pension system Austrian is very reliant on the first pillar. Occupational pensions are primarily offered through pension funds and insurance companies. Direct commitments are an alternative vehicle, but their usage stagnates. The option for defined contribution (DC) plans with favourable tax treatment offered by pension funds and insurance contracts definitely boosted the occupational pensions in Austria. While occupational pensions have become more popular over time, low interest rates and a high liquidity preference dampened demand for individual life insurance contracts. Over the years 2002 through 2018, the performance of pension funds in real net terms has been positive, with an annualised average return of 0.9% before tax. The life insurance industry followed a distinctly more conservative investment policy and achieved an average annual net real return before tax of 2.2%.

Introduction

The Austrian pension system consists of three pillars:

- Pillar I: Mandatory Public Pension Insurance
- Pillar II: Voluntary Occupational Pensions
- Pillar III: Voluntary Individual Pensions

The mandatory public pension insurance covers most of private sector employees (Pillar I). Civil servants have their own pension system which will gradually converge towards the public pension insurance system. The self-employed belong to various separate mandatory systems. The public pension system works as a PAYG scheme (Pay-As-You-Go) and was founded in 1945. The system covers 4.1 million people or 96% of the gainfully employed (2018). In 2018, all employees – except civil servants – were subject to a contribution payment of 22.8% of their income before taxes, with contributions shared between the employer (12.55%) and the employee (10.25%). Civil servants pay a contribution of 12.55% of their gross wage and the self-employed pay 18.5% of their profit before taxes into the pension system. The Austrian pension system will be fully harmonized across all insured persons by 2050. The public pension system has an income ceiling (maximum contribution basis) up to which contributions apply, income above this level is exempted from contributions but the ceiling also limits the pension benefit level. In 2017 the ceiling was between 4,980€ and 5,810€, depending on the employment status. About 8% of the gainfully employed achieve an income above these ceilings. The theoretical gross pension replacement rate at the median income level corresponds to 78.4% of the average lifetime income while the net pension replacement rate is at 91.8% (OECD, 2018). Both theoretical replacement rates will be reached only after 45 years of uninterrupted employment with earnings always at the average income level. Effective replacement rates are likely to be lower because careers are not continuous and life-time income profiles are not flat. Due to pension reforms gradually taking effect, the effective replacement rates are expected to fall for future pensioners. Nevertheless, high replacement rates for many of the gainfully employed limit the demand for occupational as well as private pension plans.

Accompanying a series of public pension reforms between 2003 and 2006 which implemented reductions in the expected benefit level, the Austrian government introduced the premium subsidised pension plan to make private old-age provision more attractive. This scheme became very popular until 2012 with 1.64 million contracts signed but it lost attraction after the government halved the premium subsidy in 2012 (to 4.25% of the premium paid) and after investment yields collapsed during the financial crisis on 2007. By 2017, only 1.29 million contracts were still active.

Introductory Table – Austrian Pension System overview

Pillar I	Pillar II	Pillar III
Mandatory Public Pension Insurance	Voluntary Occupational Pensions	Voluntary Personal Pensions
Practically all gainfully employed persons with a monthly income above € 446.81 are subject to pension contributions of 22.8% of income before taxes	Employers can establish an occupational pension plan of their preference	Supplementary particularly for high earners
Means tested minimum pension	Direct commitments, pension funds, occupational life insurance. About 50% of employees are entitled	Life insurance with a coverage of about 50% of private households1). Premium subsidised pension plans feature 1.29 mio. contracts
Pension level depends on lifetime income (several kinds of supplementary insurance months are accounted, cf. motherhood, unemployment, military service		
Mandatory	Voluntary	Voluntary
PAYG	DB or DC	DC
Quickfacts		
Statutory retirement age is 60 (women) and 65 (men)		
The average effective age of retirement was 59,4 for women and 61.5 for men (2018, including invalidity pensions and early retirement schemes)		
At 91.8% the theoretical net replacement rate in 2018 was considerably higher than the the OECD average (60%).		
The mandatory public pension system covers 4.06 mio. insured persons and pays pensions to 2.36 mio. beneficiaries	The voluntary occupational pension system covers 1.67 mio. entitled persons and pays pensions to 0.2 mio. beneficiaries 2)	Voluntary personal pension plans cover 2.74 mio. entitled persons and pay pensions to 0.46 mio. beneficiaries
The average pensioneer receives 89% of the retirement income from public pensions	The average pensioneer receives 4% of the retirement income from an occupational pension	The average pensioneer receives 7% of the retirement income from a personal pension

Source: BETTER FINANCE own composition. - 1) Coverage rates for life insurance are based on the household consumption panel rather than individual data. – 2) Values for 2017

The annualised nominal, net and real net rates of returns for the Austrian retirement provision vehicles are summarised in the table below based on different holding periods: 1 year, 3 years, 7 years, 10 years and since inception (2002).

Summary Table Austria. Annualised Performance for Various Holding Periods (in %)

	Holding period	Nominal return before charges, inflation, and tax	Nominal return after charges, before inflation and tax	Real return after charges and inflation before tax
Pension funds	**in years**		**in %**	
	1	-5.14	-5.39	-7.50
	3	1.60	1.39	-0.39
	5	2.96	2.79	1.27
	7	4.03	3.84	2.09
	10	4.03	3.81	2.00
	since 2002	3.09	2.83	0.90
Pension insurance	**In years**			
	1	3.10	2.73	0.62
	3	3.44	3.08	1.31
	5	3.63	3.29	1.77
	7	3.84	3.50	1.75
	10	3.88	3.53	1.74
	since 2002	4.41	4.05	2.16

Source: Compare tables AT5 and AT6. Annualised performance corresponds to geometric mean over the holding period.

Occupational and voluntary personal pension vehicles

Private pensions are divided into voluntary occupational and voluntary personal pensions. About 6.5% of today's retirees receive regular benefits from an occupational or personal pension. This figure is made up by 4% of retirees receiving benefits from an occupational pension and 2.5% of retirees receiving annuities from a personal pension plan (Pekanov – Url, 2017). Given todays numbers of active plan members these shares can be expected to increase substantially over time.

Occupational pension vehicles (Pillar II)

At the beginning of 2003, the system of severance payments has been replaced by mandatory contributions towards occupational severance and retirement funds (Betriebliche Vorsorgekassen). While the old severance payment regulations continue to apply to existing employment relations, employment contracts established after the end of 2002 feature mandatory contributions of 1.53% of gross wages to these funds. The main characteristics of severance payments have been transferred to the new system, i.e. in case of dismissal the fund will pay out the accumulated amount. Beneficiaries, however, may voluntarily opt to use this instrument as a tax-preferred vehicle for old-age provision. Less than one percent of the beneficiaries use this option. We therefore do not count occupational severance and retirement funds as pension vehicles in the following.

Voluntary Occupational Pensions (Pillar III)

Occupational pension plans are typically provided on a voluntary basis by firms, only a few collective bargaining agreements include an obligation for member firms of the respective sector. Employers can also choose the coverage and the vehicle of their pension plan. There are three types of occupational retirement schemes:

- direct commitments funded by book reserves,
- pension funds and
- several types of life insurance schemes.

Each of these schemes has advantages and drawbacks. While direct commitments create a stronger link between employees and the firm, the future pension payments are subject to bankruptcy risk and, during the accumulation phase, the firm must either manage the assets backing the book reserves or seek some sort of reinsurance. External vehicles like pension funds or life insurance contracts imply less bonding because the vesting period is much shorter, but they also outsource the effort of investment choice and annuity payments to a financial intermediary. The design of a voluntary pension plan is at the full discretion of the employer, but usually an arrangement with the firm's workers council is necessary.

Over the last decades many firms switched from direct commitment schemes to pension funds. On the one hand, this was a strategy to reduce the cost of existing defined benefit pension schemes by switching to defined contribution plans, and on the other hand, these efforts shortened balanced sheets and cleaned them from items unknown to international investors.

Direct commitments ("Direktzusage")

Direct commitments are pension promises by the employer to the employee that are administrated within a firm. These types of arrangements dominated until the 1980s, when several large bankruptcies or near bankruptcies revealed their fragility. The main two characteristics of this arrangement are direct administration of the pension obligation within the firm and a defined benefit type of the pension plan: the pension level is related to the wage level of employees. The plan administration comprises the computation of individual pension obligations and the respective book reserves, their coverage by invested assets, as well as the annuity payment. Nevertheless, many activities can be outsourced to actuaries, investment funds, and insurance companies. Pension claims based on direct commitments are not subject to any reinsurance requirement, but the reserve funds dedicated to back book reserves are protected from creditors. Besides outsourcing, the Insolvenz-Entgelt-Fonds provides a further safeguard for entitled employees and pensioners to bankruptcy risk. This fund is a public fund covering wage entitlements by employees in case of bankruptcy. Currently, the Insolvenz-Entgelt-Fonds covers a maximum of 2 years of benefit payments or accrued entitlements (Insolvenz-Entgeltsicherungsgesetz § 3d). Due to their voluntary character and a lack of supervision the incidence of direct commitments is hardly documented.

Pensions funds ("Pensionskassen")

Pension funds are specialised financial intermediaries providing only services related to occupational pensions, i. e. they collect contributions, manage individual accounts, invest the accumulated capital, and they pay out an annuity to beneficiaries. Pension funds were introduced in 1990 with the Occupational Pension Law and the Pension Fund Law (Betriebspensions- und Pensionskassengesetz) which established a general legal basis for occupational pension schemes including pension funds. These laws facilitated the outsourcing of asset management and accounts administration from direct commitment systems into pension funds. This made individual pension entitlements transferable between companies, it made possible additional contribution by employees, but it also enabled firms to switch from defined benefit to defined contribution pension plans. By now most pension plans are of the defined contribution type and beneficiaries are directly exposed to investment risk as well as to changes in mortality risk. For example, plan members whose entitlement was converted from a direct commitment into an entitlement vis-a-vis a pension fund still suffer from investment losses shortly after transferring the assets into pension funds around the year 2000 because the imputed interest rates used at that time were overly optimistic (Url, 2003B).

Pension funds may be either multi-employer pension funds, i. e. they are open to other firms, or alternatively, they may be firm specific pension funds (single-employer pension funds)

administrating the pension plan for a single firm or a holding group. Over the last couple of years, many firm specific pension funds have been merged into multi-employer pension funds building independent risk and investment pools like UCITS. Pension funds are subject to supervision by the Austrian Financial Market Authority and they feature investment advisory boards, where representatives of workers and employers can advance their opinion on the investment strategy. Nevertheless, the results from asset-liability management strategies dominate the portfolio choice of pension funds.

Pension funds offer primarily annuities because lump-sum payments are restricted to accounts with very small accumulated assets. Pension funds have to offer accounts with guaranteed long-term yields on investment linked to the market yield of Austrian government bonds, although this option lost attractiveness due to the high costs of guarantees and a substantial weakening of the guarantee type. The guarantee is backed by the own capital of the pension fund and by a minimum return reserve fund financed by contributions from beneficiaries (Mindestertragsrücklage). All entitlements from the bankruptcy of the pension fund are protected by separate ownership of the assets associated to each account (Deckungsstock).

Direct insurance

Firms can alternatively sign a contract with a life insurance company. This contract is either subject to the regulation covering occupational pension (Betriebliche Kollektivversicherung) or it is designed as a life insurance policy and is subject to the regulation for life insurance products. Insurance companies also subscribe risks embedded in direct commitments. Direct insurance of occupational pension plans implies that the sponsoring firm will pay contributions into a life insurance contract with employees as beneficiaries. In this case, the firm outsources the management of personal accounts and assets, as well as the annuity payments to an insurance company.

The number of working and retired persons with an entitlement to a life insurance policy almost matches the number of beneficiaries from pension funds because life insurance policies benefit from a tax loophole. Contributions up to € 300 annually (§ 3/1/15 EStG) are tax exempt and as a result more than 600.000 contracts have been signed until 2018. Given the small pension wealth accumulated in these accounts one cannot expect reasonable annuity payments resulting from this vehicle.

The Betriebliche Kollektivversicherung, on the other hand, provides occupational pensions with a favourable tax treatment up to 10% of individual gross wages. It is regulated according to the Occupational Pension Law, but this vehicle allows for more substantial long-term guarantees usually offered by classic life insurance contracts. Insurers also freeze mortality tables at the date of joining a pension plan.

Table AT1. Entitlements to active occupational pensions (in million persons)

	Direct commitments	Pension funds	Life insurance	Total
2001	-	0.32	0.09	-
2002	0.13	0.34	0.08	0.56
2003	-	0.37	0.21	-
2004	0.14	0.4	0.27	0.81
2005	-	0.43	0.31	-
2006	-	0.48	0.33	-
2007	0.13	0.49	0.37	0.99
2008	-	0.51	0.39	-
2009	-	0.74	0.41	-
2010	0.14	0.76	0.43	1.33
2011	-	0.79	0.49	-
2012	-	0.82	0.54	-
2013	-	0.84	0.62	-
2014	-	0.86	0.7	-
2015	0.14	0.88	0.77	1.79
2016	-	0.90	0.73	-
2017	-	0.92	0.87	-
2018	-	0.95	0.87	-

Source: Fachverband der Pensionskassen, Austrian Insurance Association, Url (2003A), Url (2009), Url (2012), Pekanov - Url (2017). - Includes active and retired beneficiaries.

Life insurance and pension insurance contracts

Life insurance policies are signed by private persons who pay contributions over an agreed period into their own pension account. The insurance company administrates the account and manages the accumulated assets. At the end of the contribution period, either a lump-sum amount is paid out to the insured person or alternatively the insurer converts the accumulated capital into an annuity.

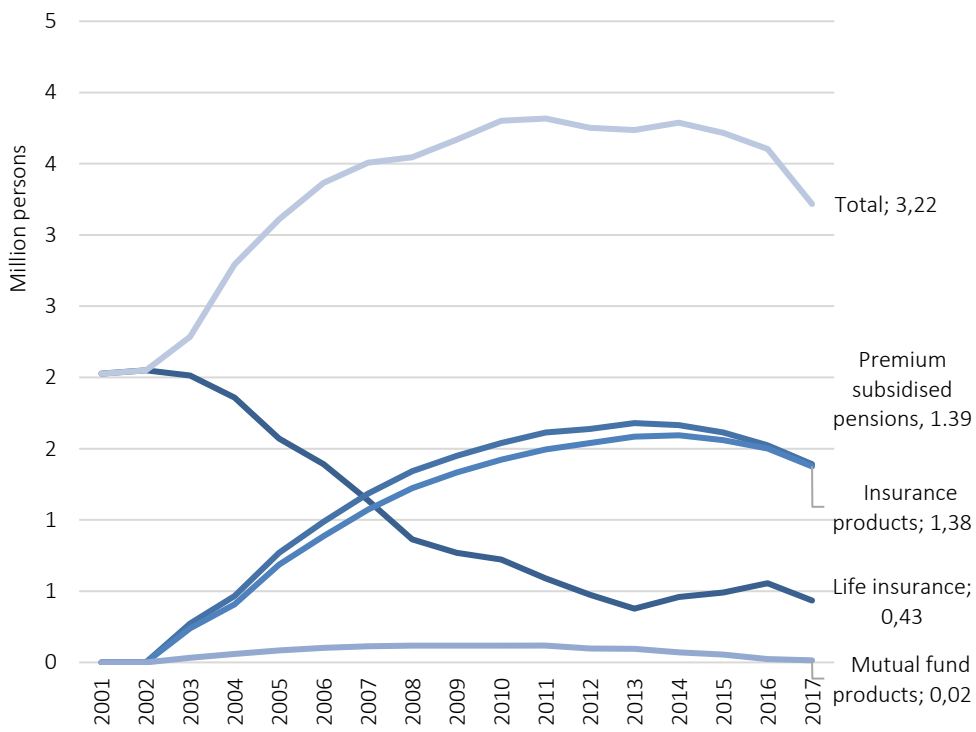
There are two types of insurance contracts available which can be distinguished according to who is the bearer of investment risks. Insured persons with a unit-linked policy assume the investment risk and must choose their investment portfolio. Classic life insurance products, on the other hand, offer a minimum return guarantee but investment decisions are delegated to the insurance company. The maximum possible guaranteed rate of return is

regulated by the Austrian supervisory authority; currently this rate is fixed at 0.5% per annum (since 1.1.2017; BGBl. II Nr. 266/2016). Investment returns in excess of the guaranteed level are distributed across the insured as variable profit participation.

The major public pension reforms between 2003 and 2006 left many private employees, employers, and civil servants with a lower expected public pension payment. As a compensation the Austrian government introduced the premium subsidised pension plan (Prämienbegünstigte Zukunftsvorsorge). Originally the premium was fixed at 9.5% of the annual contribution, but in 2012, fiscal consolidation measures resulted in a halving of the subsidy rate; it is currently fixed at 4.25%. Additionally, the yield on investment is fully tax exempt. Premium subsidised pension plans have a minimum contract length of 10 years. About one third of the contracts feature a length of more than 30 years and two thirds of the contracts have a minimum duration of 20 years. The portfolio choice for the assets of subsidised pension plans is highly restricted by law. A minimum share of the assets must be held in equities noted on underdeveloped stock exchanges. This measure was targeted to foster the Vienna stock exchange, but it resulted in highly concentrated investment risk. The strict regulation of investments has been weakened over the past years allowing for example life cycle portfolios with a reduction in the equity exposure when the retirement of entitled persons comes closer.

The halving of the subsidy premium and considerably negative returns on stock exchanges during the year 2008 reduced the interest in this new pension saving vehicle. The number of contracts is falling and contracts with the shortest possible duration of ten years have been mostly terminated with a lump-sum payment. This triggers an exit from the annuity phase with a mandatory repayment of the subsidy.

Chart AT2. Entitlements to active personal pensions



Source: Austrian Insurance Association, WIFO. - Includes contributing and retired policy holders.

Charges

Information on all types of charges for occupational and private pension products are hard to obtain. Within direct commitment systems, pensions are of the defined benefit type and firms cover all expenses. The remaining vehicles for occupational pensions are subject to some degree of competition between financial intermediaries, although most pension funds are owned by alliances of banks and insurance companies. Because occupational pension plans are always group products, i. e. the individual entitled person has only limited or even no choice during the savings and annuity phases, these products have a cost advantage over individual pension plans. Large firms also receive quantity discounts or customised tariffs with lower administrative charges. In Table AT3 administrative charges and investment expenses for pension funds are expressed as a percentage of the funds' total invested assets. There are no data published on acquisition costs.

Table AT3. Operating expenses as % of total assets for pension funds

	Administrative charges	Investment expenses
2003	0.23	0.18
2004	0.23	0.12
2005	0.38	0.14
2006	0.39	0.15
2007	0.26	0.16
2008	0.32	0.16
2009	0.35	0.17
2010	0.28	0.17
2011	-	-
2012	-	-
2013	0.30	0.16
2014	0.00	0.17
2015	0.18	0.18
2016	0.19	0.18
2017	0.19	0.18
2018	-	-

Source: OECD Pension indicators.

Table AT4. Life Insurance expense ratios

	Acquisition charges In % of total premiums	Adminstrative charges In % of mean capital investments
2005	11.28	0.43
2006	11.49	0.38
2007	11.10	0.38
2008	10.66	0.38
2009	9.97	0.37
2010	10.75	0.36
2011	11.01	0.39
2012	11.68	0.33
2013	11.37	0.32
2014	10.67	0.33
2015	10.80	0.33
2016	11.49	0.35
2017	10.44	0.36
2018	10.27	0.37

Source: Financial Market Authority, Austrian Insurance Association.

The costs of acquisition and administration for life insurance products are published by the Financial Market Authority. Acquisition costs amount to roughly one tenth of total premium income. Since 1 January 2007 the Insurance Contract Law includes a provision that acquisition fees have to be distributed over at least the first five years of the contract length. Before 2017 it was possible to charge the full acquisition fee in the first year, making the cancellation of a life insurance contract extremely costly. Administration costs are presented as a ratio to the mean of the invested assets.

Since 1 January 2017, every consumer receives a short product information (Key Information Document) before signing an insurance contract. These information sheets are standardised and contain details of individual charges and investment fees allowing a better comparison of offers.

Taxation

The taxation of old-age provision varies over different vehicles and depends mainly on the history associated to the vehicle. For example, the taxation of occupational pensions is very much oriented towards the treatment of direct commitments, which were the first vehicle used for occupational pensions. Direct commitments work like a deferred compensation and therefore they are only taxed in the year of the payment. This corresponds to a system with tax-exempt contributions, tax-exempt capital accumulation, and (income) taxed benefits (EET system). This philosophy carries over to contributions paid by the employer into a pension fund or a group insurance product following the pension fund regulation (Betriebliche Kollektivversicherung). Contributions to pension funds and group insurance products (Betriebliche Kollektivversicherung) are subject to a reduced insurance tax of 2.5%. Contributions by employees are fully taxed but the resulting annuity is subject to reduced income taxation.

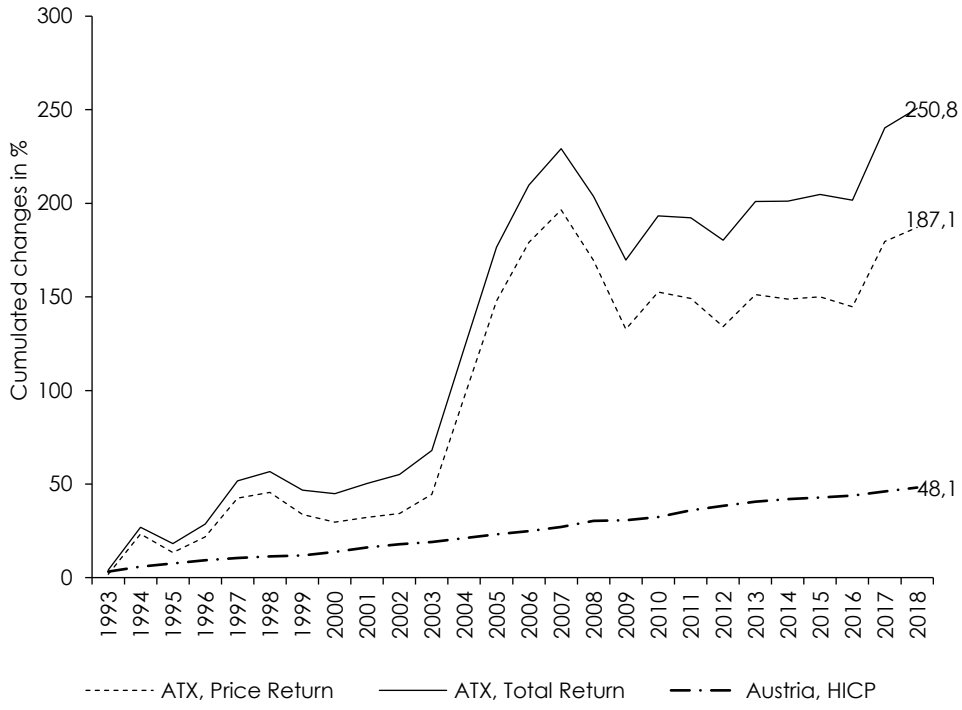
Contributions to classic life insurance products are not tax deductible and are subject to an insurance tax of 4%. During the capital accumulation phase all investment returns are tax exempt, and the taxation of benefits depends on the pay-out mode. Lump-sum payments are tax-free while annuities are subject to (reduced) income taxation. Additionally, 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. Pekanov – Url (2017) provide a survey of the tax treatment of all vehicles for old-age provision using the present value approach as suggested by the OECD (2015, 2016). This approach compares the tax treatment of each vehicle to the tax treatment of a standard savings account. Expressed as a ratio to the present value of contributions, the tax advantage of employer payments into pension funds amount to 20%, i. e. the value of the tax subsidy corresponds to one fifth of life-time contributions. The lowest tax advantage results for life insurance products with an annuity payment. In this case, the tax subsidy makes up for 7% of life-time contributions. The maximum tax preference is associated with occupational life insurance policies subject to § 3/1/15 EStG. In this case, the subsidy amounts to 60% of life-time contributions, however, payments into this vehicle are restricted to a negligible € 300 per year.

Austrian Capital market returns

The performance of the Vienna stock exchange is shown in Figure 1, where we distinguish between the price development of shares and the total return to equity investments in Austria including reinvested dividend payments. It is not surprising to observe that both indices have a positive real return and are well above the cumulated inflation rate in 2018. Because the Austrian equity market is small, financial intermediaries spread their equity

investment throughout Europe and the rest of the world. Therefore, equity returns of the Vienna stock exchange provide no guidance for the investment performance of Austrian pension products, except premium subsidised pension plans carrying an obligation to invest in under-developed equity markets.

Graph AT5. Cumulated Austrian Equity Market Performance, 1993-2018



Source: Macrobond, Statistik Austria.

Pension Returns

Due to the defined benefit character of pensions derived from direct commitments and because accumulated assets for direct commitments have the narrow purpose of protecting individual pension claims in case of a firm bankruptcy, we do not compute pension returns for this vehicle. Furthermore, the asset class in which firms can invest are restricted to government bonds issued by OECD member countries.

The way of taxing contributions, investment returns, and pension payments varies according to the vehicle chosen, the party paying the contribution, i. e. employers or employees, and

the personal income tax break of the retiree (cf. chapter on taxation). For this reason, we cannot compute a general after-tax return for Austria. Instead, we present the:

- nominal returns before charges, inflation, and tax,
- nominal returns after charges but before inflation and tax
- real returns after charges and inflation but before tax

for the two most important vehicles, i. e. pension funds and classic life insurance policies. The returns on classic life insurance policies are also representative for occupational pension plans using life insurance products under the occupational pension law (Betriebliche Kollektivversicherung).

Pension funds

Table AT5 shows the returns on assets held by pension funds. In the case of a defined benefit pension plan, investment returns are important for the sponsoring firm because if the return falls short of the imputed interest rate used for the computation of the expected pension level, the firm will have to provide additional contributions covering the shortfall. On the other hand, if a defined contribution pension plan has been established, the beneficiaries bear the risk of a shortfall in the realised return on investment, and consequently the realised pension level falls below its expected value.

Information on the performance of pension funds is published continuously by an independent third party, the Oesterreichische Kontrollbank[56], following a standardised procedure. The returns are available for all pension funds and separately for multi- and single-employer pension funds. The long-term performance of firm specific pension funds is about 0.5 percentage points higher as compared to multi-employer pension funds. The difference results probably from a less risk-oriented investment style followed by multi-employer pension funds, due to the wider usage of return guarantees in multi-employer pension funds. Nominal investment returns after charges but before inflation and taxes result from the subtraction of administrative charges of pension funds as presented in the chapter on charges. Real returns are computed by subtracting the HICP-inflation rate for Austria.

The Financial Market Authority publishes the asset allocation of pension funds as of year end (FMA, 2019). The portfolio in 2018 was dominated by bond holdings (41.7%) and equity investments (25.5%). The negative development on capital markets at the end of the year 2018 created a high demand for liquid holdings in current bank accounts (17.3%) which

[56] https://www.oekb.at/oekb-gruppe/news-und-wissen/news/2019/performancezahlen-zu-oesterreichischen-pensionskassen-verfuegbar.html.

helped to hold losses small. Real estate investments accounted for 6% of assets while the remainder was mixed throughout smaller asset categories. Given the strong exposure to equity, we find several years with negative returns, i. e. investment losses. Specifically, during the years after the bursting of the dotcom bubble (2000), the international financial market crisis (2007), and the public debt crisis in the euro area (2011), but also in 2018, when both bond and equity markets turned downwards. Nevertheless, pension funds achieved between 2002 and 2018 an annual average net real yield on investment of 0.9%. This corresponds to an average excess return over Austrian government bonds (benchmark) of 0.8%.

Table AT6. Pension funds' average annual rate of investment returns (in %)

	Nominal return before charges, inflation, and tax	Nominal return after charges, before inflation and tax	Real return after charges and inflation before tax
2002	-6.31	-6.56	-8.28
2003	7.60	7.37	6.06
2004	7.34	7.11	5.16
2005	11.37	10.99	8.69
2006	5.55	5.16	3.46
2007	1.95	1.69	-0.50
2008	-12.93	-13.25	-16.47
2009	9.00	8.65	8.25
2010	6.45	6.17	4.49
2011	-2.96	-3.19	-6.72
2012	8.40	8.17	5.61
2013	5.14	4.84	2.72
2014	7.82	7.82	6.36
2015	2.30	2.14	1.33
2016	4.24	3.99	3.01
2017	6.13	5.94	3.72
2018	-5.14	-5.39	-7.50
Annual average	3.09	2.83	0.90

Source: Fachverband Pensionskassen, OECD Pension indicators, Statistik Austria. - Charges for the years 2002, 2011-2012, and 2018 are estimated by their mean value, cf. Table AT3. Annual average corresponds to geometric mean.

Life insurance contracts

The return on investment in the classic life insurance industry is regularly computed by the Austrian Institute of Economic Research (WIFO). This computation excludes unit-linked contracts because the investment risk is borne by the insured and returns are usually retained within mutual funds and reinvested. The calculation of investment returns is based on investment revenues of the insurance industry and the related stock of invested assets in classic life insurance as provided by the Financial Market Authority. The method uses the mean amount of invested capital as the basis for the computation and is documented in Url (1996). The charges used to correct the yield for administrative expenses are based on Table AT4. Real returns result from subtracting the HICP-inflation rate for Austria from the nominal return.

Obviously, nominal gross returns in the insurance industry are less volatile than in the pension fund industry. The main reason for this divergence is the more conservative asset allocation of insurance companies, i. e. they invest more heavily in bonds (47.3%) and their mutual fund investments of 18.2% of the portfolio are also concentrated in bonds, creating a high exposure to fixed interest securities (FMA, 2019). Another important asset class in the insurance industry are shareholdings in group members (18.7%), which are usually not listed at a stock exchange. Real estate investments sum up to 7.3% of the assets, while equity holdings form just 1.2% of the portfolio. This gives insurance companies small exposure to volatile asset categories and consequently their investment performance is steadier. The resulting average net real rate of return of 2.2% was thus mainly due to the avoidance of losses during the period 2002 through 2018. The insurance industry achieved an average excess return over Austrian government bonds (benchmark) of 2.1% over this period, and their investment return was above the one delivered by pension funds.

The particular way of distributing investment returns in classic insurance policies makes their performance even more steady. Insurance companies separate their investment income into two parts. The first part serves to cover underwritten minimum return guarantees and it is immediately booked towards the individual account. Any excess return will be distributed over a couple of years through the build-up and reduction of profit reserves. By transferring accumulated profit reserves smoothly into individual accounts, insurance companies make the individual accrual of investments returns less dependent on current capital market developments although asset values are marked to market.

Yields on fixed interest securities from highly rated debtors are low or even negative since a couple of years. This environment forces insurance companies to replace maturing securities featuring high yields with new lower yielding securities. In a few years, insurance companies will have completely replaced their stock of high-yield-high-grade securities and accordingly their average yields will continue to decline.

Table AT7. Pension insurances' average annual rate of investment returns (in %)

	Nominal return before charges, inflation, and tax	Nominal return after charges, before inflation and tax	Real return after charges and inflation before tax
2002	3.96	3.60	1.88
2003	5.60	5.24	3.93
2004	5.93	5.57	3.62
2005	6.32	5.88	3.77
2006	5.86	5.48	3.79
2007	5.18	4.80	2.61
2008	3.35	2.97	-0.25
2009	3.80	3.43	3.02
2010	4.47	4.11	2.42
2011	3.70	3.31	-0.22
2012	4.42	4.09	1.53
2013	4.31	3.99	1.88
2014	3.90	3.58	2.12
2015	3.94	3.61	2.81
2016	3.73	3.38	2.40
2017	3.49	3.14	0.91
2018	3.10	2.73	0.62
Annual average	4.41	4.05	2.16

Source: Financial Market Authority, Statistik Austria. - Charges for the years 2002-2004 are estimated by their mean value, cf. Table AT4. Annual average corresponds to geometric mean.

Conclusions

The performance of pension funds in real terms has been positive over the whole period from 2002-2018, with an annualised average return of 0.9% before taxation. Especially the difficult years after 2000, in 2008, 2011, and recently 2018 dampened the investment performance considerably. The consequences are either additional payments by sponsoring firms (defined benefit plans) or reduced expected and realised pension levels (defined contribution plans). A mediocre investment performance will be more intensively felt in risk and investment pools with a high imputed interest rate used for the computation of the expected pension level. For example, plan members whose entitlement was transferred from a direct commitment to a pension fund around the year 2000 still suffer from investment losses after the dotcom bubble because overly optimistic imputed interest rates had been used at that time.

The average real rate of return on investments by insurance companies benefits from a conservative asset allocation with strong government bonds holdings. This allowed insurers to avoid large losses in years with a financial market crisis and reach an average real rate of return of 2.2% annually. The net real rate of return, however, declines since the beginning of the public debt crisis in Europe in 2012. Insurance companies benefit from the long duration of their investment portfolio, i. e. they still own bonds featuring high interest coupons, but these bonds will expire during the next few years creating a potential for low yield reinvestments. Consequently, demand for classic life insurance by individual households is shrinking and even premium subsidised pension insurance is in low demand now because subsidies were halved in 2012 and investment losses, due to the concentrated investment in small and under-developed markets, affected this vehicle disproportionally.

The opportunity to offer defined contribution plans has certainly boosted the spread of occupational pensions in Austria. Within pension funds around three quarters of the entitlements are defined contributions plans, while occupational pensions based on insurance contracts are all of the defined contribution type.

Note: The addition of the Austrian Country Case was possible also thanks to our partners from Pekabe (the Austrian Association for the Protection of Pension Fund Investors), who reviewed the Country Case and co-funded it with BETTER FINANCE.

References

- FMA (2019): Jahresbericht der Finanzmarktaufsichtsbehörde 2018, Financial Market Authority, Vienna.
- Pekanov, A., Url, T. (2017): Kosten der privaten und betrieblichen Altersvorsorge für die öffentliche Hand, Bundesministerium für Soziales, Arbeit und Konsumentenschutz, Vienna, 2017.
- OECD (2015): Stocktaking of the Tax Treatment of Funded Private Pension Plans in OECD and EU Countries, Organisation for Economic Development and Cooperation, Paris.
- OECD (2016): Pensions Outlook 2016, Organization for Economic Development and Cooperation, Paris.
- OECD (2018): Pensions at a Glance, Organization for Economic Development and Cooperation, Paris.
- Url, T. (1996): Kennzahlen der österreichischen Versicherungswirtschaft, Austrian Institute of Economic Research (WIFO), Vienna.
- Url, T. (2003A): Die Entwicklung der betrieblichen Altersvorsorge in Österreich, Austrian Institute of Economic Research (WIFO), Vienna.
- Url, T. (2003B): Einschätzung langfristiger Kapitalrenditen in der Veranlagung zur Altersvorsorge, Austrian Institute of Economic Research (WIFO), Vienna.
- Url, T. (2009): Die Verbreitung der betrieblichen Altersvorsorge in Österreich 2007, Austrian Institute of Economic Research (WIFO), Vienna.
- Url, T. (2012): Die Rolle von Lebensversicherungen in der betrieblichen Altersvorsorge, Austrian Institute of Economic Research (WIFO), Vienna.
- Url, T. (2013): Volkswirtschaftliche Daten zur Pensionsvorsorge in Österreich, in Urnik, S., Pfeil, W., J., (Eds.), Betriebliche Altersvorsorge in der Krise, Manz, Vienna, 2013, S. 1-18.

Pension Savings: The Real Return

2019 Edition

Country Case: Belgium

Sommaire

En Belgique, le système de retraite est constitué de trois piliers. Le premier pilier par répartition reste le plus important des trois piliers. Les retraités bénéficient d'un taux de remplacement moyen de 66% en 2016. Les piliers 2 et 3 représentent les pensions complémentaires professionnelles et individuelles basées sur les cotisations volontaires des individus. Le nombre d'individus couverts par les véhicules de placements dans ces deux piliers continue de croître rapidement. Respectivement 75% et 66% de la population active est couverte par ces deux piliers. Dans chacun de ces piliers, les véhicules de placements peuvent être soit un fonds géré par une IRP dans le pilier 2 ou une banque dans le pilier 3 ou soit un contrat d'assurance groupe dans le pilier 2 ou un contrat d'assurance vie individuelle dans le pilier 3.

Sur une période de 19 ans (2000-2019), les fonds de pension gérés par les IRP (pilier 2) et les fonds d'épargne retraite (pilier 3) ont eu un rendement réel annuel moyen après charges et taxation de 1,09% et 0.9% respectivement. Au sein du pilier 2, tous les fonds à contributions définies gérés par les IRP et tous les contrats d'assurance groupe Branche 21 doivent verser un rendement minimum garanti de 1,75% sur les cotisations des employeurs et des employées. Avec la baisse des rendements des obligations d'Etat à 10 ans, les sociétés d'assurance ont revu à la baisse le rendement minimum garanti offert sur les nouvelles cotisations versées sur les contrats d'assurance groupe Branche 21. Cependant, les sociétés d'assurance continuent de garantir les anciens rendements sur les cotisations passées jusqu'au départ à la retraite. Les provisions passées sont toujours rémunérées avec des rendements garantis oscillant entre 3.25% et 4.75%. En 2015, le rendement garanti moyen était légèrement supérieur à 3%. En raison, du manque d'informations publiques, il est plus difficile de fournir des informations sur les rendements des contrats d'assurance-vie individuels souscrits dans le cadre du pilier 3.

Summary

The Belgian pension system is divided into three pillars. The first PAYG pillar is still important among the three pillar and provides on average a replacement rate of 66% in 2016. Pillar II and Pillar III are both based on voluntary contributions. Numbers of individuals covered by

pillar II and pillar III pension schemes continue to grow rapidly. Respectively 75% and 66% of the active population is covered by these pillars. In both pillar II and pillar III, pension scheme can take the form of a pension fund (managed by an IORP in pillar II and by a bank in pillar III) or can be an insurance contract ("Assurance Groupe" contracts in pillar II and individual life-insurance contracts in pillar III).

Over a 19-year period (2000-2019), occupational pension funds managed by IORPs (pillar II) and pension savings funds (pillar III) had real annual average returns after charges and taxation of 1.09% and 0.9% respectively. Within the pillar II, all Defined Contributions plans managed either by IORP and "Assurance Groupe "Branch 21 contracts are required to provide an annual minimum guaranteed return of 1.75% on both employee and employer contributions. With the decline in the return on the Belgian 10-year government bonds, insurance companies were forced to decrease the minimum guaranteed return offered to new contributions on "Assurance Groupe" Branch 21 contracts. However, insurance companies continue to guarantee the previous returns on the past contributions until the retirement. Past reserves continue to have guaranteed returns range from 3.25% to 4.75%. In 2015, the average guaranteed return was slightly above 3%. Due to a lack of information, it is more difficult to provide return information on individual life-insurance contracts subscribed in the framework of pillar III.

Introduction

The Belgian pension system is divided into three pillars:

Introductory Table. Multi-pillar pension system in Belgium		
PILLAR I	**PILLAR II**	**PILLAR III**
State Pension	Funded pension *The Supplementary Pension Law (the Vandenbroucke Law) implemented in 2003*	Voluntary pension
Federal Pension Service (SFP)	IORP and Insurance companies	Banks (pension savings fund) and Insurance companies (pension savings insurance and long-term savings plans)
Mandatory	Voluntary	Voluntary
Publicly managed	Privately managed pension funds and "Assurance Groupe contracts"	Privately managed pension funds and life-insurance contracts
PAYG	Funded	Funded
Earnings-related public scheme with a minimum pension	DB (Defined Benefits scheme) / DC (Defined Contribution scheme) Individual retirement accounts	
	Quick facts	
Number of old-age pensioners (as of 31st January 2018): 2,098,197	IORP: 197 Insurance Companies:24	Pension savings funds: 19 life insurance retirement savings product
Average old-age pension: €1,065	AuM: €105.5 bn	AuM: €49.5 bn
Average income (gross): €3,345	Participants: 3.7 million	Participants: 3.3 million
Men's average replacement ratio: 66%	Coverage ratio: 75%	Coverage ratio: 66%

Source: BETTER FINANCE own composition

First Pillar

The Belgian Pillar I is organised as a Pay-As-You-Go (PAYG) pension system consisting of three regimes: one for employees in the private sector, one for the self-employed individuals and one for civil servants. The legal age of retirement is 65 for both women and men. It used to be 60 for women until 1993 but was progressively increased to reach 65 in 2010. The Act

of 10 August 2015 increases the retirement age imposed by law to the age of 66 by 2025 and 67 by 2030. Pillar I pensions are PAYG systems based on career duration and income earned. A complete career corresponds to 45 working-years. The calculation of the retirement pension depends on the individual's status, his/her career and his/her salary earned throughout his/her career. The amounts can therefore vary greatly from person to person. A guaranteed minimum pension and a maximum pension have been fixed. A retiree with a complete career will receive at least a guaranteed minimum pension of €1,545.20 if he/she lives within a household or € 1,236.55 if he/she lives alone. In 2016, the net replacement rate from the PAYG system for men (with an average working wage) was 66.1% and, respectively, for women 66%.[57]

Second Pillar

Occupational pension plans are private and voluntary. This pillar exists for both employees and self-employed individuals. Employees can subscribe to occupational pension plans provided either by their employer (company pension plans) or by their sector of activity (sector pension plans). Company pension plans are traditionally dominant in the second pillar in comparison to sector pension plans. Self-employed individuals can decide for themselves to take part in supplementary pension plans.

An employer can set up a company pension plan for all its employees, for a group of employees or even for a single employee. In the case of sector pension plans, collective bargaining agreements (CBAs) set up the terms and conditions of pension coverage. Employers must join sector pension plans, unless labour agreements allow them to opt out. Employers who decide to opt out have the obligation to implement another plan providing benefits at least equal to those offered by the sector.

Company and sector pension plans can be considered as "social pension plans" when they offer a solidarity clause that provides employees with additional coverage for periods of inactivity (e.g. unemployment, maternity leave, illness). Notably, social pension plans are becoming less and less prevalent, possibly as a result of the relatively high charges associated with these plans in comparison to pension plans without a solidarity clause.

Occupational pension plans are managed either by an Institution for Occupational Retirement Provision (IORP) or by an insurance company. Insurance companies predominantly manage them.

The Supplementary Pensions Act reform entered into force as of 1 January 2016. It amended the Act of 28 April 2003 by introducing the alignment of the supplementary pension age and

[57] OECD, Pension at Glance 2017 Country Profiles – Belgium, https://data.oecd.org/pension/net-pension-replacement-rates.htm.

the legal pension age (respectively 65, 66 in 2025 and 67 in 2030). Supplementary pension benefits will be paid at the same time as the legal pension's effective start. Previously, some occupational pension plans allowed early liquidation: lump sum payments or annuities from supplementary pension could be paid from the age of 60. Conversely, employees who decide to postpone their effective retirement when having reached the legal pension age, have the possibility to claim their supplementary pension or to continue to be affiliated to the pension scheme until their effective retirement.

Moreover, many supplementary pension plans provided financial compensations to offset the income loss employees may have when they end prematurely their career. As of January 1st, 20 16, all these existing beneficial anticipation measures were abolished. These existing "advance mechanisms" can still be applied to affiliates who reached the age of 55 years on or before December 31, 2016. At the beginning of 2018, approximatively 3.76 million Belgians (79% of the active population[58]) were covered by occupational pension plans:

- 3.2 million employees were covered either by their company or by their sector of activity;
- 363,459 self-employed individuals were covered by supplementary pension plans;
- 197,034 individuals were covered both by their company or by their sector of activity and by a supplementary pension plan dedicated to self-employed.[59]

Third Pillar

The third pillar's purpose is to provide Belgians with individual private and voluntary pension products, which allow them to have tax reliefs from their contributions. There are two types of available products for subscription: pension savings products managed either by asset management companies or by life insurance companies and long-term savings products managed by insurance companies. This pillar is significant in Belgium when compared to other EU member states. The tax rate applied to accrued benefits from pension savings products (funds or insurance) was lowered from 10% to 8% in 2015, in order to encourage savings in the framework of the third pillar.[60] The third pillar covered two thirds of the active

[58] According to StatBel (Belgian National Statistics Office), the Belgian total active population in 2018 was 4,755,179 people.
[59] Source: DB2P's website:
http://www.db2p.be/fr/resources/8e81c0e7-ce85-48f5-bca8-87165476b683/Kerrncijfers%202018.pdf?1563990136329
The DB2P manages the supplementary pensions database. It collects data related to supplementary pension plans such as individualised acquired pension rights of employees, self-employed individuals and civil servants.
[60] The lowering of the tax rate does not apply to long-term savings products.

population of Belgium in 2017,[61] with 34% of workers subscribed to a life insurance retirement savings product (1.7 million Belgians) and 33% being covered by pension savings funds (1.6 million Belgians)

The real net returns (before taxes) of the main retirement provision vehicles in Belgium are presented in the below table based on 6 recommended holding periods: 1 year (2018), 3 years (2016-2018), 7 years (2012-2018), 10 years (2009-2018), and since the earliest data available.

Summary Table BE1. – Real net returns of Belgian pension vehicles

	Pillar II			Pillar III	
	IORP	"Assurance Groupe Branch 21"	Pension savings funds	Life Insurance Branch 21 contracts	Life Insurance Branch 23 contracts
2018	-5.2%	na	-7.87%	na	na
2016-2018	0.2%	na	0.31%	na	na
2012-2018	4.2%	na	3.9%	na	na
2009-2018	4.6%	na	5.82%	na	na
Since inception	Since 1985 (source Pensio Plus): 4.39%	2002-2014: 2.54%	1993-2018 (source BeAma): 5.74%	2002-2014: 1.94%	2002-2014: 1.57%

Source: Tables BE13-BE21

Pension Vehicles

Pillar II: Occupational pension plans

The second pillar refers to occupational pension plans designed to raise the replacement rate. Savings in these plans are encouraged by tax incentives. The second pillar is based on the capitalisation principle: pension amounts result from the capitalisation of contributions paid by the employer and/or employee in the plan or by self-employed individuals. There are three types of occupational pension plans in place:

[61] According to the official statistics office of Belgium (StatBEL), the average active population in 2017 was of 4,940,348 Belgians = see Statbel, 'Active (working and unemployed) population since 2017 based on the reformed Labour Force Survey, by quarter, region, age class and level of education' (27 July 2018) available at https://bestat.statbel.fgov.be/bestat/crosstable.xhtml?view=7d30d7ff-ab74-4047-b2af-2a0bff250647.

- Company pension plans;
- Sector pension plans (CBAs);
- Supplementary pension plans for self-employed individuals (PLCIs).

In the following section devoted to occupational pension plans, the available data reported in Tables BE2 to BE5 were provided by the Financial Services and Markets Authority (FSMA), Assuralia and the National Bank of Belgium (NBB).

The FSMA annually reports detailed information on Institutions for Occupational Retirement Provision (IORP, the EU law term for non-insurance regulated occupational pension products provider[62]). Every two years, the FSMA also reports detailed information on sector pension plans and supplementary pension plans for self-employed individuals. Information on "Assurance Groupe" contracts was reported by Assuralia (for Branch 21 contracts) and by the National Bank of Belgium (for Branch 23 contracts).

Some data for the whole year of 2017 is still missing as the bi-annual survey regarding supplementary pension plans for self-employed has not been published yet[63]. Annual statistics for the whole year 2018 for occupational pension plans managed by IORPs and "Assurance Groupe" contracts will unfortunately be published only by the end of this year (2019).

Management of occupational pension plans

The management of occupational pension plans can be entrusted to an Institution for Occupational Retirement Provision (IORP) or to an insurance company.

Institutions for Occupational Retirement Provision (IORP)

IORPs are asset management companies set up with the sole purpose of providing occupational retirement savings products under the form of investment funds, which can either be directly invested, through tailor-made portfolios, or which can be linked to other funds' units (unit-linked).

In 2017, 197 occupational pension plans were managed by an IORP. The number of affiliates to IORPs increased to 2,039,423 in 2017. This is mainly due to an increase in the number of individuals affiliated to IORP who operate cross-border activities.

[62] Article 6(1) of Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs) (recast), O.J. L354/37.
[63] The bi-annual survey regarding supplementary pension plans for self-employed will be available on the FSMA's website by the end of September2019.

In 2017, affiliates to sector pension plans through IORPs still represented the largest part in the number of total affiliates (75%), whereas their reserves represented only 15% of the total (€5 billion). The number of affiliates to sector pension plans managed by IORPs continued to increase from 1,507,893 in 2016 to 1,538,067 in 2017.

Company pension plans managed by IORPs represented 78% of total reserves (€25 billion) with 23% of affiliates.

Three supplementary pension plans for self-employed individuals (€2.1 billion of reserves) were managed by IORPs.

Based on the amount of reserves managed out of the total in Pillar II, IORPs had a market share of 30%, the rest being managed by insurance companies through Branch 21 and Branch 23 contracts, described below.

"Assurance Groupe" (Branch 21 and Branch 23 contracts)

Occupational pension plans are predominantly managed by insurance companies. Such pension plans are called "*Assurance Groupe*" contracts and can be divided into two different types of contracts:

- "Branch 21 contracts" are occupational plans, offering a guaranteed return on contributions made by employers and employees (1.75% since January 1st, 2016). The insurance companies who provide these contracts bear the risk and pay the guaranteed return in addition to a profit-sharing. All sector pension plans and all supplementary pension plans for self-employed individuals managed by insurance companies take the form of "Branch 21 contracts". Most of company pension plans are also managed through "Branch 21 contracts" rather than "Branch 23 contracts".
- "Branch 23 contracts" are unit-linked contracts and are invested mainly in investment funds and equity markets. Insurance companies do not offer a guaranteed return on contributions made into the plan. Their total returns depend on their portfolio composition. However, affiliates to "Branch 23 contracts" benefits from the legal minimum guaranteed return which is 1.75% since January 1st.2016. In case of a shortfall on the individual account when paying a benefit or a transfer of reserves, the employer has to pay the difference. This kind of occupational plans are riskier for employers who bear the risk and are generally costlier.

  In the second pillar, only company pension plans are managed through Branch 23 contracts. In 2017, these contracts accumulated €3.2 billion in reserves, representing 4.4% of the total reserves managed within "Assurance Groupe" contracts (see Table BE2).

Table BE2. Total reserves in pillar II (€ billion)[64]					
	IORP (1)	"Assurance Groupe": Branch 21 contracts (2)	"Assurance Groupe": Branch 23 contracts (3)	Total "Assurance Groupe" (2) +(3)	Total (1)+(2)+(3)
2004	11.7	29.9	Na	Na	**41.6**
2005	13.4	30.6	1.6	32.2	**45.6**
2006	14.3	33.5	1.7	35.2	**49.5**
2007	14.9	37.3	1.7	39.0	**53.9**
2008	11.1	38.2	1.4	39.6	**50.7**
2009	11.2	41.2	1.8	43.0	**54.3**
2010	13.9	44.7	1.8	46.5	**60.4**
2011	14.0	48.6	1.6	50.2	**64.2**
2012	16.4	52.3	1.7	54.0	**70.4**
2013	18.0	56.7	1.9	58.6	**76.6**
2014	20.7	60.1	2.1	62.2	**82.9**
2015	21.9	64.2	2.1	66.3	**88.2**
2016	26.8	67.4	2.4	69.8	**96.6**
2017	**32.0**	**70.3**	**3.2**	**73.5**	**105.5**

Sources: "Assuralia", NBB, own research, FSMA

Description of occupational pension plans

The following section provides information and figures for the different occupational pension plans within Pillar II in Belgium: sector pension plans, private supplementary pensions for self-employed individuals (PLCI) and company pension plans. For the whole-year 2016, only information for occupational pension plans managed by IORP is available. Information regarding occupational pension plans managed by insurance companies ("Assurance Groupe" contracts) is not available[65].

[64] Table BE2 represents reserves managed only within the second pillar. Data does not include the insurance dedicated to managing directors that represented around €5.5 billion of assets under management in 2017.

[65] FSMA reports on sector pension and PLCI are published every two years. The next edition of these reports will be published in mid-2019.

Sector pension plans[66]

Sector pension plans are supplementary pension commitments set up on the basis of collective bargaining agreements and concluded by a joint committee or joint sub-committee. In the joint committee/sub-committee, a sectorial organiser responsible for the pension commitment is appointed. There are 50 joint committee in 2017.

In 2017, the total reserves managed by sector pension plans represented 6.8% of the total reserves within Pillar II. Reserves are mainly managed by IORPs which amounted to €5 billion and represented more than two thirds of their total reserves in 2017. This amount represents 19% of total reserves managed by IORPs within the second pillar. Reserves of sector pension plans managed by insurance companies through Branch 21 contracts are less important. In 2017, they represented €2.1 billion of reserves, being around 3% of the total reserves managed through "Branch 21 contracts" within the second pillar.

Table BE3. Total reserves in sector pension plans (€ billion) [67]

	IORP	"Assurance Groupe" (Branch 21)	Total
2005	0.4	0.1	**0.6**
2007	1.4	0.7	**2.1**
2009	1.5	0.8	**2.3**
2010	1.6	0.9	**2.6**
2011	2.0	1.1	**3.1**
2012	2.5	1.3	**3.8**
2013	2.7	1.5	**4.3**
2014	2.5	1.6	**4.1**
2015	3.4	1.9	**5.3**
2016	5.3	1.8	**7.1**
2017	5.0	2.1	**7.2**

Source: FSMA

Private Supplementary Pensions for self-employed individuals (PLCI)

In 2004, *Pension Libre Complémentaire pour Indépendants* (PLCI) – Private Supplementary Pensions for self-employed individuals – were integrated into the Supplementary Pensions Act. PLCI enable self-employed individuals to get a supplementary and/or a survival pension at their retirement.

[66] All data provided comes from plans for which information is available.
[67] Data for 2006 and 2008 was not available. FSMA publishes a report on sector pension funds every two years.

Since 2004, self-employed individuals have the choice to contribute to supplementary pension plans. Moreover, they can henceforth choose the pension provider, either an IORP or an insurance company. They can switch from one provider to another during the accumulation period. In 2015, self-employed individuals had the choice between 122 pension plans managed by 3 IORPs and 21 insurance companies.

Self-employed individuals can also supplement their PLCI with several solidarity benefits, called social conventions. These conventions offer benefits such as the funding of the PLCI in the case of inactivity and/or the payment of an annuity in the case of income loss. Self-employed individuals can save up to 8.17% of their income, without exceeding a maximum annually indexed amount (€3,256.87 in 2019). These ceilings can be increased up to 9.40% and €3,747.19 when a social convention is subscribed.

Contrary to sector pension plans, private supplementary pensions for self-employed individuals are predominantly managed by insurance companies trough Branch 21 contracts. Most of insurance companies offer contracts with social convention. In 2015, insurance companies managed 73% of the total reserves in PLCI[68].

Table BE4. Total reserves in PLCI (€ billion)

	IORP	"Assurance Groupe" (Branch 21)	Total
2006	na	na	2.9
2007	na	na	3.3
2008	na	na	3.5
2009	1.6	2.4	4.0
2010	1.7	2.8	4.5
2011	1.4	3.7	5.1
2012	1.6	4.1	5.7
2013	1.6	4.6	6.2
2014	1.7	5.1	6.8
2015	2.0	5.4	7.4
2016	2.1	na	na
2017	2.1	na	na

Sources: FSMA, own calculations

[68] The bi-annual survey regarding supplementary pension plans for self-employed will be available on the FSMA's website by the end of September2019.

Company pension plans

Company pension plans are prevalent within the second pillar. However, there is no aggregated and publicly available information on this type of plan. Company pension plan reserves managed by IORPs and insurance companies ("Assurance Groupe" contracts) are assessed from data based on Tables BE2, BE3 and BE4.

Table BE5. Total reserves in company pension plans (€ billion)					
	IORP (1)	"Assurance Groupe": Branch 21 contracts (2)	"Assurance Groupe": Branch 23 contracts (3)	Total "Assurance Groupe" (2) +(3)	Total (1)+(2)+(3)
2009	8.1	38.0	1.8	39.8	**47.9**
2010	10.6	41.0	1.8	42.8	**53.4**
2011	10.6	43.9	1.6	45.5	**56.0**
2012	12.3	47.3	1.7	49.0	**61.4**
2013	13.7	49.9	1.9	51.8	**65.5**
2014	16.5	53.5	2.1	55.6	**72.1**
2015	16.5	56.6	2.1	58.7	**75.2**
2016	19.4	na	2.4	na	**Na**
2017	24.9	na	3.2	na	**Na**

Sources: "Assuralia", FSMA, NBB, own research

Pillar III: Description of personal pension savings products

Pillar III refers to private pension plans contracted on an individual and voluntary basis. The Belgian market for personal pension plans is divided into two types of products:

1. Pension savings products, which can take two different status:
   - A pension savings fund;
   - A pension savings insurance (through individual Branch 21 contracts).
2. Long-term savings products, which consist mainly in a combination of Branch 21 and Branch 23 contracts.

Belgians can benefit from a tax relief based on their contributions made to pension savings products or long-term savings products. At their retirement, individuals are free to choose how to liquidate the products: lump sum payment, periodic annuities or life annuity from invested benefits.

In 2018, 1,604,909 million Belgians saved through pension savings funds. When adding up pension savings insurance contracts and long-term savings products, 2 out of 3 Belgians in the active population is covered by pension plans within the third pillar.[69]

Pension savings funds

The Belgian pension savings funds market remains relatively concentrated since the launch of the first funds in 1987. The market has grown significantly in the past few years. 19 products were available for subscription at end-2018.

Table BE6. Net assets under management in pension savings funds (€ billion)	
2003	7.4
2004	8.7
2005	10.3
2006	11.5
2007	11.8
2008	9.0
2009	11.1
2010	12.0
2011	11.2
2012	12.6
2013	14.4
2014	15.6
2015	16.9
2016	18.0
2017	**19.6**
2018	**18.2**

Source: BeAMA

Pension savings funds are constrained by quantitative limits applied to their investments:

- A maximum of 75% in equity;
- A maximum of 75% in bonds;
- A maximum of 10% in euros or any currency of a country of the European Economic Area cash deposits;

[69] BeAma, Press Release, April 18, 2018.

- A maximum of 20% in foreign currency deposits;
- A maximum of 30% in equities from companies whose Market Capitalisation is less than or equal to €3 billion euros.

In practice, the majority of funds are predominantly exposed to the equity market. Their return is entirely variable and depends on the returns of the underlying assets and fee policy applied.

Pension savings insurance / Long-term savings products

Belgians can save for their retirement through life insurance products within two different frameworks: a pension savings insurance product (Branch 21 contracts) or a long-term savings product (Branch 21 and Branch 23 contracts combined). Assuralia reports annual statistics on contributions and reserves managed in individual life insurance products. Data for the whole year 2018 are unfortunately missing and will be published only by the end of 2019.

Assuralia also reports data on contributions and reserves managed through pension savings insurance and long-term savings products within the third pillar. In 2017, reserves managed within the framework of the third pillar represented 22.2% of total individual life-insurance reserves. For long-term savings products, there is no available information on the breakdown between Branch 21 and Branch 23 contracts (see Table BE7).

Table BE7. Contributions and reserves in individual life-insurance products within the third pillar in 2017 (€ billion)

	Contributions	Reserves	Pillar III reserves in % of total individual life insurance reserves
Pension savings insurance (Branch 21 contracts)	1.16	15.13	10.75%
Long-term savings products (Branch 21 and Branch 23 contracts combined)	1.08	16.15	11.48%
Total	**2.24**	**31.28**	**22.23%**

Source: "Assuralia"

Charges

Pillar II: Occupational pension plans

Charges in IORPs

There is no general data or available information on IORP charges. The only available information was for sector pension funds managed by IORPs[70]: operating expenses ranged from 0.01% to 0.69% of assets, with an average of 0.13% in 2017 (0.15% in 2015 and 0.16% in 2013).

Company pension funds managed by IORPs are smaller than sector pension funds and they are, therefore, likely to be costlier.

Charges in "Assurance Groupe" (Branch 21 contracts)

The only historical information on administration and management costs as well as commissions on a yearly basis was for "Assurance Groupe" contracts (Branch 21), reported by "Assuralia".

Table BE8. Charges in % of reserves in "Assurance Groupe" contracts

	Administrative & management costs (% of reserves)	Commissions (% of premiums)
2002	1.2	1.2
2003	1.0	1.3
2004	0.8	1.2
2005	0.9	1.4
2006	0.9	1.2
2007	0.8	1.4
2008	0.8	1.5
2009	0.8	1.3
2010	0.7	1.5
2011	0.7	1.5
2012	0.7	1.5

[70]Source: FSMA, Report on sector pensions plans, August 2019.

2013	0.7	1.5
2014	0.7	1.6
2015	0.6	1.6
2016	0.6	1.6
2017	0.6	1.8

Sources: "Assuralia", own calculations

Many insurance companies apply fees on premiums. In the case of sector pension plans, the level of fees varies considerably, ranging from 0.5% to 5% of premiums. Half of the plans managed by insurance companies levied charges lower than 2% of premiums in 2015. The level of fees was below 1% for 15% of plans. Nevertheless, 13% of plans applied charges above 5% of premiums[71].

In Branch 23 Group Insurances ("Assurance Groupe"), charges can be higher: in addition to contract fees other fees related to underlying "units" (typically investment funds) may apply. For more details, the reader can refer to the case analysis in the annex.

Pillar III: Personal pension savings products

Pension savings funds

Historical data on charges for pension savings funds is difficult to obtain for investors. Key Investor Information Documents (KID) must provide investors with information on all charges related to the funds on a yearly basis, but for UCITS only, not for other investment funds.

Using the prospectus of available pension savings funds for subscription in the Belgian market, the following average yearly charges were calculated in 2018:

- Entry fees: 2.32% of initial investment;
- Management fees: 0.93% of total assets under management;
- Total Expenses Ratio represented on average 1.24% of total assets under management;
- No exit fees.

The following table summarises the Total Expenses Ratio (TER) of 19 available funds for subscription in the Belgium market from 2015 to 2018. For the third consecutive year, the average TER slightly decreased due to the lowering in some fund TER in 2018.

[71] Source: FSMA, Report on sector pensions plans, June 2017.

Table BE9. Historical Total Expense Ratio from 2014 to 2018 (% of assets under management)				
	2015	2016	2017	2018
VDK Pension Fund	1.31	1.31	1.29	1.29
Argenta pension fund	1.34	1.34	1.34	1.32
Argenta Defensive pension fund	1.35	1.35	1.33	1.33
Belfius Pension Fund Balanced Plus	1.32	1.32	1.32	1.39
Belfius Pension Fund High Equities Cap	1.60	1.16	1.16	1.31
Belfius Pension Fund Low Equities Ca	1.63	1.61	1.61	1.17
BNP Paribas B Pension Balanced	1.25	1.25	1.24	1.24
BNP Paribas B Pension Growth	1.26	1.25	1.25	1.24
BNP Paribas B Pension Stability F Cap	1.25	1.25	1.24	1.24
Hermes Pension funds	1.07	1.07	1.06	1.06
Interbeurs Hermes Pensioenfonds	1.03	1.03	1.03	1.03
Metropolitan-Rentastro Growth	1.26	1.25	1.24	1.23
Pricos	1.25	1.25	1.24	1.16
Pricos Defensive	1.25	1.24	1.24	1.15
Pricos SRI (launched in 2018)	-	-	-	1.36
Star Fund[72]	1.17	1.18	1.18	1.16
Crelan pension funds Stability	1.29	1.29	1.29	1.27
Crelan pension funds Growth	1.29	1.29	1.29	1.27
Crelan pension funds Balanced	1.29	1.29	1.29	1.27
Total Expenses Ratio (simple average)	**1.29**	**1.27**	**1.26**	**1.24**

Source: BETTER FINANCE research

On May 28, 2018, KBC launched a new savings pension fund: PRICOS SRI. This fund is the first savings pension fund to comply with strict sustainability criteria defined by the Belgium Asset Management Association (BeAma)[73]. This fund invests with a strategy "best in-class", i.e. in companies with the best marks with regards to several criteria (environment, social impact, corporate governance).

[72] On January 12, 2018, Record Top Pension merged with Star Fund.
[73] BeAma published a methodology guide on the SRI UCITs in 2013.
http://www.beama.be/fr/duurzame-icbs-fr/beama-isrd-methodologie/view

Pension savings insurance (Branch 21 contracts) / Long-term savings products (Branch 21 and Branch 23 contracts combined)

"Assuralia" provides us with historical data on administration and management costs as well as entry fees and other commissions paid for individual life insurance contracts. Data, for Branch 23 individual life insurance contracts, most likely do not include fees charged on the underlying units (investment funds).[74]

Table BE10. Administration and management costs and commissions for individual life insurance contracts

	Branch 21		Branch 23	
	Administrative and management costs (% of reserves)	Commissions (% of premiums)	Administrative and management costs (% of reserves)	Commissions (% of premiums)
2002	1.2	4.8	na	2.5
2003	1.8	3.7	na	3.0
2004	1.4	3.6	na	2.7
2005	0.7	3.3	0.4	2.0
2006	0.7	4.7	0.3	3.4
2007	0.6	4.6	0.3	4.2
2008	0.7	5.4	0.4	5.4
2009	0.6	5.8	0.3	5.6
2010	0.5	5.7	0.3	4.8
2011	0.5	6.0	0.3	4.6
2012	0.5	6.6	0.3	2.9
2013	0.6	8.8	0.3	4.8
2014	0.6	7.6	0.4	5.1
2015	0.5	8.6	0.4	4.9
2016	0.5	8.0	0.4	5.7
2017	0.5	8.8	0.4	5.4

Sources: "Assuralia", BETTER FINANCE calculations

[74] The reader can refer to the case analysis in the annex.

Taxation

Pillar II: Occupational pension plans

Regarding the second pillar in Belgium, the tax regime for the whole saving period is an EET model. Employees are not taxed during the first two phases that constitute the process of saving via a pension scheme: contribution and accrued interests are not taxed. Employees are taxed during the third phase on the benefits' payment.

Employees pay two taxes on their benefits:

- A solidarity contribution varying up to a maximum of 2% of the benefits depending on the retiree's income;
- An INAMI ("Institut National d'Assurance Maladie-Invalidité") contribution of 3.55% of the benefits.

In addition, benefits from occupational pension plans are taxed depending on how they are paid out:

- A lump sum payment;
- Periodic annuities;
- A life annuity issued from invested benefits.

Lump sum payment

In the case of a lump sum payment, the taxation of benefits depends on the beneficiary's age and who contributed to the plans (employer or employee). Since July 2013, the rules detailed in Table BE11 are applied to taxation on benefits from occupational pension plans. Before July 2013, benefits from employer's contributions were taxed at the flat rate of 16.5% regardless the beneficiary's age at the time of the payment of the benefits.

Table BE11. Taxation of benefits from occupational pension plans			
Benefits paid before the legal pension		**Benefits paid at the same time as the legal pension**	
Benefits from employee's contribution	**Benefits from employer's contributions**	**Benefits from employee's contribution**	**Benefits from employer's contributions**
16.5% for contributions made before 1993	60 years old: 20%	16.5% for contributions made before 1993	10% if the employee remains employed until legal pension age (65 years old)
10% for contributions made since 1993	61 years old: 18%	10% for contributions made since 1993	
	62-64 years old: 16.5%		
+ local tax	+ local tax	+ local tax	+ local tax

Source: "Assuralia", Wikifin.be

The local tax can vary from 0% to 10%, with an average of 7%.

Periodic annuities[75]

Periodic annuities are considered to be an income and are taxed at the applicable progressive personal income tax rate.

Converting the accumulated capital into a life annuity

An employee can convert the lump sum payment into a life annuity. In this case, the INAMI contribution and the solidarity contribution have to be paid according to the rules applied to the lump sum payment. Then the retiree has to pay a withholding tax of 15% on the annuity each year.

Pillar III: Personal pension savings products

Regarding the third pillar in Belgium, the tax regime for the whole saving period is an EET model with a limited ceiling on contributions during the first phase for

[75] For pillar II, employees can choose to redeem capital in a lump sum payment or in annuities. In practice, few people choose annuities and most employees redeem their product in a lump sum payment.

pension savings products and with a limited ceiling on the maximum tax benefit depending on the level of the saver's yearly earnings for long-term savings products.

Pension savings products (fund or life insurance contracts)

- Tax relief on contributions during the accumulation phase

Contributions invested in pension savings products (fund or insurance) are deductible from the income tax. Individuals can make contributions into pension savings products up to a rather low annual ceiling (€980 in 2019). Since 2012 and until 2018, a tax relief rate equal to 30% of the contributions was applied, regardless of the taxpayer's income.

In 2018, in order to further promote the third pillar and contributions to pension savings products (fund or life-insurance contracts), a new tax relief system was introduced. Two tax relief systems now co-exist and the amount of the individual contribution determines the tax relief:

- For any contribution less or equal to €980, individuals can still benefit from a 30% tax relief rate. This may result in a maximum tax relief of €294 per year.
- If the individual chooses to make a contribution above €980 and informs the provider of the product, he / she can benefit from a tax relief rate equal to 25%. The maximum contribution cannot exceed €1260.

The tax relief of pension savings products is "stand-alone". Taxpayers can receive tax relief for only one contract even if they make contributions to several products.

- Final taxation on the accumulated pension rights

Since 1 January 2015, the final taxation on the accumulated capital was lowered from 10% to 8% and still depends on the beneficiary's age at the time of the subscription. From 2015 onwards, a part of the taxation is levied in advance (except in case of early retirement before the age of 60). From 2015 to 2019, the pension reserves (per 31 December 2014) are subject to a tax of 1% each year, which constitutes an advance on the final tax due.

Table BE12. Taxation of pension savings products (funds and insurance)	
Subscription to pension savings products before the age of 55	
Benefits paid before the age of 60	The accumulated capital is taxed under the personal income tax system.
At the age of 60	• 8% of the accumulated capital is levied (excluding participation to annual earnings); • The taxation is based on a theoretical return of 4.75%[76]; • The saver can continue investing and enjoying tax relief until the age of 64; • The accumulated capital is no longer taxed after the 60th birthday of the beneficiary.
Subscription to pension savings products at the age of 55 or after	
Benefits paid before the age of 60	The accumulated capital is taxed under the personal income tax system.
Benefits paid between the age of 60 and 64	The accumulated capital is taxed at the rate of 33%.
At the age of 65 or after (i.e. when the contract reaches its 10th birthday)	• 8% of the accumulated capital is levied (excluding participation to annual earnings); • The taxation is based on a theoretical return of 4.75%; • To benefit from this lower taxation, the beneficiary has to stay at least 10 years in the fund and make at least five contributions.

Sources: "Assuralia", Wikifin.be

Long-term savings products (life insurance contracts)

The maximum amount of tax relief based on contributions invested in long-term savings products depends on the level of the saver's yearly earnings, without exceeding the ceiling of €2,350 in 2019. However, the tax relief is determined jointly for long-term savings products and mortgage deductions. If a saver already receives a tax relief for a mortgage, it may be impossible to obtain a further tax relief for life insurance products under the third pillar.

[76] The capital accumulated from contributions made before 1993 is taxed by considering a theoretical return of 6.25%. For contracts subject to this taxation, the amount of taxation was levied in advance in 2012.

The same rules of taxation to that of pension savings products (fund or insurance) apply to long-term savings products. The taxation depends on the beneficiary's age at the time of subscription (before or after 55) (see Table BE12).

However, the taxation differs in two points:

- The pension reserves are taxed by considering the real return of the long-term savings products over the period of holdings instead of a theoretical return of 4.75%;
- The lowering of the tax rate to 8% does not apply to the capital accumulated through long-term savings products, which remain taxed at 10%.

Pension Returns

Pillar II: Occupational pension plans

The returns of occupational pension plans depend on how they are managed, either by an IORP or by an insurance company. From 2004 to 2015, all DC plans managed either by IORP or insurance companies through Branch 21 contracts were required to provide an annual minimum return of 3.75% on employees' contributions and 3.25% on employers' contributions. The Supplementary Pensions Act reform entered into force as of 1 January 2016, in order to ensure the sustainability and social character of the supplementary pensions. The level of the minimum guaranteed return for both employer and employee contribution is set each year according to economic rules considering the evolution of government bond yields in the future:

- the new guaranteed return must be within the range of 1.75% to 3.75%;
- the new guaranteed return represents 65% of the average of 10-year government bonds rates over 24 months, rounded to the nearest 25 basis points to prevent it from fluctuating too frequently.[77]

In addition, the alignment of the supplementary pension age and the legal pension age (respectively 65, 66 in 2025 and 67 in 2030) affects the minimum guaranteed return offered to employees. When the affiliate reaches the age of 60, his/her occupational pension plan is extended until he/she reaches the age of 65. During the extension period, the minimum guaranteed return continues to be applied to reserves. Its level corresponds to the new

[77] The rate of 65% could be increased to 75% in 2018 and to 85% in 2020 according to the FSMA decision.

effective minimum guaranteed return that will be recalculated and published each year by FSMA. Since 2016, the minimum guaranteed return remained steady at 1.75%.

In the following sub-sections, the real returns after taxation of occupational pension plans were calculated under the hereunder assumptions:

- The employee claims his supplementary pension at the same time as the legal pension and remains employed until the legal age (65 years old);
- The benefits are paid as a lump sum payment;
- Solidarity contributions of 2% of benefits and the INAMI contribution of 3.55% of benefits are levied;
- Only the employer´s contributions were paid;
- In addition to an average local tax of 7%, a flat tax rate of 10% is applied to the final benefits.

Occupational pension plans managed by IORPs

In 2017, among the 197 pension plans managed by an IORP, 166 had a promise of returns (DB plans) or were hybrid plans (Cash Balance, DC + rate), 31 were DC plans. While newly opened plans are always DC plans, a large part of assets are still managed in plans offering promises of returns.

PensioPlus, the Belgium's occupational pension plans association reported an average return of -3.07% in 2018. This represents the gross average weighted returns after charges of occupational pension plans that participated in the annual financial and economic survey of PensioPlus in 2018.[78]

Table BE13. Returns of occupational pension plans managed by IORPs (%) (2000-2018)			
	Nominal return before charges, tax and inflation	Nominal return after charges, before tax and inflation	Real return after charges and inflation, before tax
2000	0.9	-0.1	-2.7
2001	-4.2	-5.1	-7.3
2002	-11.0	-11.9	-13.2
2003	10.4	9.3	7.7
2004	9.9	8.9	6.9

[78] 63 IORP participated in the 2018 annual PensioPlus' survey. They represented 22.6 billion euros under management (64% of the market share)

2005	16.0	15.0	12.2
2006	10.3	9.3	6.8
2007	2.2	1.4	-0.4
2008	-17.1	-17.7	-21.3
2009	16.6	15.7	15.7
2010	10.3	9.5	7.0
2011	0.0	-0.7	-4.0
2012	12.9	12.1	9.3
2013	7.5	6.7	5.4
2014	11.9	11.1	10.5
2015	5.2	4.5	3.9
2016	5.8	5.1	3.2
2017	6.0	5.3	3.0
2018	-2.4	-3.1	-5.2

Table BE14. Annual average return of occupational pension plans managed by IORPs (%) (2000-2018)	
Nominal return before charges, tax and inflation	4.4
Nominal return after charges, before tax and inflation	3.6
Real return after charges and inflation, before tax	1.5
Real return after charges, tax and inflation	1.1
Sources: PensioPlus, BETTER FINANCE calculations	

Over a 19-year period (2000-2018), occupational pension plans managed by IORPs experienced negative nominal returns before charges four times: in 2001, 2002, 2008 and in 2018. Over the period 2000-2018, the annual average return after charges, tax and inflation is positive (1.09%). PensioPlus reported the average asset allocation of IORP at end-2018, as follows: 36.4% in equities, 52.3% in Fixed Income securities, 4.3% in Real Estate, 2.1% in cash and 4.9% in other asset classes. The proportion of fixed income assets increased in 2018 to represent more than half of the total assets. The decrease in the proportion of equities in the total assets is mainly due the depreciations on stock market in 2018.

Occupational pension plans managed by insurance companies (Branch 21 contracts)

Assuralia used to annually report net returns after charges in percentage of the total reserves in its annual report[79]. Since 2015, this report no longer contains available information on the returns of "Assurance Groupe" Branch 21 contracts. We are thus unable to update this information for the whole years 2015 and 2016. FSMA reported an average net return of 2.63% for sector pension funds managed through "Assurance Groupe" contracts in 2017 (against 2.91% in 2016 and 3.01% in 2015)[80].

Nevertheless, Assuralia provided information on "Assurance Groupe" contracts on its website[81]. At the end-2015, "Assurance Groupe" Branch 21 contracts invested a total amount of €158.3 billion with the following assets allocation:

- 72% in fixed income assets (of which 23% in Belgian government bonds);
- 11% in equities and UCITs;
- 11% in loans and real estate;
- 6% in other assets.

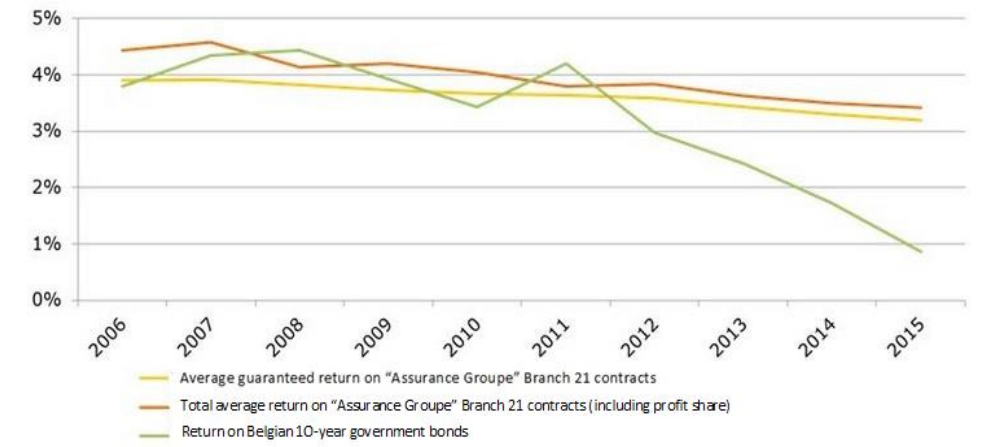
With the decline in the return on the Belgian 10-year government bonds since 2011, insurance companies were forced to decrease the guaranteed return offered to new contributions on "Assurance Groupe" Branch 21 contracts. However, insurance companies continue to guarantee the previous returns on the past contributions until the retirement. Past reserves continue to have guaranteed returns range from 3.25% to 4.75%. In 2015, the average guaranteed return was slightly above 3%. When including the profit share, the average guaranteed return reached 3.5% of the total reserves.

79 In November 2017, Assuralia published its annual report including Statistics for the whole year 2016 .

80 Source: FSMA, Report on sector pensions plans, June 2017.

81 http://assuralia.be/fr/infos-secteur/publications-secteur/775-l-assurance-de-groupe-un-tour-d-horizon-au-niveau-du-secteur

Graph BE15: Average guaranteed return on "Assurance Groupe" Branch 21 contracts



Source: Assuralia

Over a 13-year period (2002-2014), "Assurance Groupe" Branch 21 occupational pension plans experienced a positive real annual average return after charges and taxation of 2.0%.

Table BE16. Returns of occupational pension plans managed by insurance companies ("Branch 21" contracts) (%)

	Nominal return before charges, tax and inflation	Nominal return after charges, before tax and inflation	Real return after charges and inflation, before tax
2002	5.4	4.1	2.6
2003	6.3	5.3	3.7
2004	6.3	5.4	3.4
2005	6.8	5.8	3.2
2006	6.7	5.7	3.3
2007	6.6	5.7	3.8
2008	2.0	1.2	-3.2
2009	5.4	4.6	4.6
2010	5.3	4.5	2.2
2011	4.0	3.3	-0.1
2012	5.4	4.6	1.9
2013	5.4	4.7	3.5
2014	5.5	4.8	4.3

Sources: "Assuralia", own calculations

Table BE17. Annual average return of "Branch 21" occupational pension plans managed by insurance companies (2002-2014) (%)	
Nominal return before charges, tax and inflation	5.5
Nominal return after charges, before tax and inflation	4.6
Real return after charges and inflation, before tax	2.5
Real return after charges, tax and inflation	2.0

Source: "Assuralia", own calculations

Occupational pension plans managed by insurance companies (Branch 23 contracts)

"Assurance Groupe" Branch 23 occupational pension plans seem to have suffered negative real returns over the last 15 years[82]. The following graph show the returns on "Assurance Groupe" Branch 23 from 2006 to 2015. Returns on "Assurance Groupe" Branch 23 contracts are variable and depend on the performance of underlying assets. These contracts experienced negative returns in 2008 and 2011. Their net average returns are very close to those of occupational funds managed by IORP (around 4% in 2015).

Insurance companies do not offer guaranteed return on these contracts. However, affiliates benefit from the legal minimum guaranteed return on their contributions, which is currently equal to 1.75%. When the affiliate claim for its pension rights, if the final payment is less than the amount including the minimum guaranteed return, the employer has to pay the difference.

Since 2015, Assuralia no longer provides information on the returns of returns of "Assurance Groupe" Branch 23 contracts.

82 See Annex: Case analysis of a Branch 23 "Assurance Groupe" occupational pension plan.

Graph BE18. Average return on "Assurance Groupe" Branch 23 contracts

Source: Assuralia

Pillar III: Personal pension savings products

Pension savings funds

The Belgian Asset Management Association (BeAMA) provides quarterly data on the annual average returns of pension savings funds. The most recent data was on an annual basis at end-2017.

Table BE19: Annual average returns of pension savings funds

Over 1 year	Over 3 years	Over 10 years	Over 25 years
-7.87%	0.31%	5.82%	5.74%

Source: BeAMA

These average returns were calculated based on the average returns of all available funds in the market, after expenses but before taxation and inflation.

Annual returns are also available in the prospectus of each pension savings fund provided by the asset management company that commercialises the fund. In general, there is no available information on returns before 2002 in the fund prospectuses. The following table displays the average return of all available funds for subscription in the Belgian market from 2000 to 2018.

From 2013 to 2018, TER expressed as a percentage of total assets under management were collected and were used in returns calculations. However, there is no historical data for TER before 2013. Over the whole period from 2000-2012, TER from 2013 were used and assumed to remain stable.

Table BE20. Returns on pension savings funds after expenses, inflation and taxation (%)			
	Nominal return before charges, tax and inflation	Nominal return after charges, before tax and inflation	Real return after charges and inflation, before tax
2000	-2.8	-4.0	-6.8
2001	-3.3	-4.5	-6.3
2002	-13.4	-14.5	-15.6
2003	16.0	14.6	12.8
2004	20.2	18.7	16.4
2005	18.5	17.1	13.9
2006	10.5	9.1	6.9
2007	3.8	2.5	-0.6
2008	-25.1	-26.0	-27.9
2009	20.0	18.6	18.2
2010	8.6	7.3	3.8
2011	-4.1	-5.3	-8.2
2012	12.9	11.6	9.3
2013	12.8	11.4	10.1
2014	8.6	7.3	7.7
2015	9.8	8.4	6.8
2016	4.1	2.8	0.6
2017	7.9	6.6	4.4
2018	**-6.7**	**-7.9**	**-9.9**

Sources: BeAma, Morningstar, BETTER FINANCE calculations

Table BE21. Annual average return of pension savings funds (2000-2017) (%)	
Nominal return before charges, tax and inflation	4.5
Nominal return after charges, before tax and inflation	3.2
Real return after charges and inflation, before tax	1.2
Real return after charges, tax and inflation	0.82

Source: BeAma, Morningstar, BETTER FINANCE calculations

Pension savings funds within the third pillar experienced negative nominal returns from 2000 to 2002, as well as in 2008, 2011 and in 2018. Unlike occupational pension plans, these pension savings funds are not obliged to pay a guaranteed return to retirees. Over the 19-year period (2000-2018), they delivered relatively similar nominal returns to occupational

pension plans managed by IORPs. Benefits are taxed at a flat rate of 8%[83], considering an annual return of 4.75% during the accumulation phase, irrespective of the pension savings fund returns.

Pension savings insurance (Branch 21 contracts) and long-term savings products (Branch 23 contracts)

In order to save for their retirement, Belgian can subscribe to pension savings insurance or to long-term savings products. Pension savings insurance consists in investing in individual life-insurance Branch 21 contracts with a guaranteed capital. Long-term savings products combine Branch 21 contracts and unit-linked Branch 23 contracts. Assuralia used to report net returns after charges in percentage of the total reserves managed through Branch 21 and Branch 23 contracts. This information gave an insight into returns of reserves invested within the third pillar. However, we were unable to update returns for the whole year 2015 as there was no available information on the annual data published by Assuralia. Over the whole period from 2002-2014, the real annual average return after charges and taxation remained positive to 1.67% for Branch 21 contracts and to 1.30% for Branch 23 contracts.

Table BE22. Returns of individual life-insurance Branch 21 contracts (%)

	Nominal return before charges, tax and inflation	Nominal return after charges, before tax and inflation	Real return after charges and inflation, before tax
2002	4.0	2.8	1.2
2003	5.6	3.8	2.2
2004	6.3	4.8	2.8
2005	6.3	5.4	2.9
2006	5.9	5.1	2.8
2007	6.0	5.2	3.4
2008	0.8	0.1	-4.2
2009	4.9	4.3	4.3
2010	4.6	4.0	1.7
2011	3.0	2.5	-0.9
2012	5.0	4.4	1.8
2013	4.7	4.1	2.9
2014	**5.8**	**5.2**	**4.7**

Sources: "Assuralia", own calculations

[83] To calculate the taxation, the following assumptions are made: the saver subscribes before the age of 55. The final taxation is levied at her / his 60th birthday.

Table BE23. Annual average return of individual life-insurance Branch 21 contracts (2002-2014) (%)	
Nominal return before charges, tax and inflation	4.8
Nominal return after charges, before tax and inflation	4.0
Real return after charges and inflation, before tax	1.9
Real return after charges, tax and inflation	1.6

Sources: "Assuralia", BETTER FINANCE calculations

Branch 23 contracts experienced negative nominal and real returns in 2008 and 2011. Nevertheless, there is no available information on return for 2015 and 2016.

Table BE24. Returns of individual Branch 23 contracts[84] (%)			
	Nominal return before charges, tax and inflation	Nominal return after charges, before tax and inflation	Real return after charges and inflation, before tax
2005	11.9	11.5	8.8
2006	7.5	7.1	4.7
2007	1.6	1.3	-0.5
2008	-18.2	-18.5	-22.0
2009	13.3	12.9	12.9
2010	7.5	7.1	4.7
2011	-2.6	-2.9	-6.1
2012	9.4	9.1	6.3
2013	5.9	5.6	4.3
2014	8.3	7.9	7.4

Sources: "Assuralia", BETTER FINANCE calculations

In our calculations, we considered that benefits from Branch 21 contracts were taxed like pension savings schemes and a flat tax rate of 10% was applied to the accrued benefits from Branch 23 contracts.

Table BE25. Annual average return of individual life-insurance Branch 23 contracts (2005-2014) (%)	
Nominal return before charges, tax and inflation	4.1
Nominal return after charges, before tax and inflation	3.7
Real return after charges and inflation, before tax	1.6
Real return after charges, tax and inflation	1.3
Sources: "Assuralia", BETTER FINANCE calculations	

Conclusions

Belgians are encouraged to save for their retirement in private pension vehicles. In 2003, the implementation of the Supplementary Pensions Act defined the framework of the second pillar for sector pension plans and supplementary pension plans for self-employed individuals. The number of employees covered by occupational pension plans keeps rising as well as the number of self-employed individuals covered by supplementary pension plans.

Measures to guarantee the sustainability and social character of the supplementary pensions were enforced in January 2016:

- The guaranteed minimum return on contribution was lowered to 1.75% for both employee and employer contributions. This return will be revised according to an economic formula considering the evolution of government bond yields in the future;
- The supplementary pension age and the legal pension age were aligned;
- Beneficial anticipation measures granted to employees when they claim their supplementary pension before the legal age were abolished.

Over a 19-year period (2000-2018), occupational pension funds managed by IORPs (pillar II) and pension savings funds (pillar III) had annual average returns of 1.09% and 0.85% respectively. These funds offer returns linked to the performance of the underlying assets. Unlike insurance companies, asset management companies are less constrained in their asset allocation and can more easily benefit from potential increases in markets.

Assuralia reported some information on "Assurance since 2015 Groupe" contracts on its website. In 2015, "Assurance Groupe" Branch 21 contracts offered on average nearly 3.5% of return (including profit share) and "Assurance Groupe" Branch 23 contracts offered a return close to 4%. The case analysis in the annex reports the return of an occupational pension plan invested through a Branch 23 contract. Nevertheless, we do not have any

information on return for “Assurance Groupe” and individual life-insurance contracts within the third pillar since 2014.

Bibliography

- Rapport bisannuel concernant les régimes de pension sectoriels– FSMA (August 2019)
    - https://www.fsma.be/fr/rapport-bisannuel-0
- Rapport bisannuel concernant la pension complémentaire libre des indépendants – FSMA (June 2017)
    - https://www.fsma.be/sites/default/files/public/content/FR/fsma_wapz_2017_fr.pdf
- Le secteur des institutions de retraite professionnelle – FSMA (Reporting sur l’exercice 2017)
    - https://www.fsma.be/fr/statistiques-des-operations-des-institutions-de-retraite-professionnelle
- Rapport annuel PensioPlus -2018
    - http://pensioplus.be/ABIP/documents/2.Rapportannuel_20182930.pdf
- DB2P website
    - https://www.db2p.be/nl/resources/bf6bd8a9-b630-4e06-90e4-1b7e7024ec4e/Cijfers%20persmap%20mijn%20aanvullend%20pensioen_NL.pdf
- Wikifin.be website
    - http://www.wikifin.be/fr/thematiques/les-pensions/pension-complementaire/quand-la-demander
    - http://www.wikifin.be/fr/thematiques/les-pensions/epargne-pension/fiscalite
- Assuralia website:
    - L’épargne pension - http://assuralia.be/images/docs/stats/FR/02_chiffres-cles-par-branche/02_07_epargne-pension.htm
    - L’épargne à long-terme - http://assuralia.be/images/docs/stats/FR/02_chiffres-cles-par-branche/02_07_epargne-long-terme.htm
    - Encaissements de l’assurance vie - http://assuralia.be/images/docs/stats/FR/02_chiffres-cles-par-branche/02_07_encaissement-vie.htm

- Provisions de l'assurance vie - http://assuralia.be/images/docs/stats/FR/02_chiffres-cles-par-branche/02_07_provisions-vie.htm
- Proportion Banques/Assureurs 3ème pillier - http://assuralia.be/images/docs/stats/FR/02_chiffres-cles-par-branche/02_07_banques-assureurs-troisieme-pilier.htm
- Les principaux chiffres du marché belge de l'assurance en 2017 - https://www.assuralia.be/fr/etudes-et-chiffres/etudes-d-assuralia/237-les-principaux-chiffres-du-marche-belge-de-l-assurance-en-2016
- L'assurance de groupe : un tour d'horizon au niveau du secteur - http://assuralia.be/fr/infos-secteur/publications-secteur/775-l-assurance-de-groupe-un-tour-d-horizon-au-niveau-du-secteur

- BeAma's website:
  - Chiffres secteur OPC 4ème trimestre 2018, 03 Mai 2019 - https://www.beama.be/fr/publicaties-fr/persberichten-fr/communique-de-presse-4ieme-trimestre-2018

ANNEX: Case analysis of a Belgian Branch 23 – Unit-linked life-insurance pension plan

This unit-linked individual insurance pension plan offers several investment options.

The balanced investment option provides the returns of an investment fund that has an equal asset allocation between equities and bonds:

- 50% equity (World equities);
- 50% bonds (Diversified).

Table BE26. Real case of a Belgian life insurance (branch 23)

Capital markets vs. Belgian individual pension insurance 2000-2018* performance

Capital markets (benchmark index) performance**	
Nominal performance	224%
Real performance (before tax)	153%
Pension insurance performance (same benchmark)**	
Nominal performance	48%
Real performance (before tax)	1.25%

**To end of 2018*

Sources: BETTER FINANCE, provider

** Benchmark is composed of 50% bonds (LP06TREU) and 50% equity (1999-2006 M2WD and 2007-2017 AW01)

As the table above shows:

- The real annual growth rate of the fund (before tax) on an 18-year period is slightly above 0 (0.51% - cumulative 9.52%).
- The real performance of the pension fund is disconnected and much below that of the capital market benchmark, which is positive: the performance of capital markets cannot be used as a proxy for pension savings performance, even if the capital market benchmark used is the one chosen by the asset manager.

What are the reasons for such a bad performance?

The key explanation factor is charges (fees). Whereas the benchmark does not bear any fees, the pension fund does. It appears that this fund is a fund of funds. This means it bears two layers of fees: those of the fund itself plus those of the funds it invests in.

While in the last edition (2017) BETTER FINANCE had to complain to the Belgian regulator to finally obtain the yearly charges on the exhibited fund (since it was an AIF and it did not publish a KIID), as of January 1st, 2018, AIFs distributed to retail investors must publish a Key

Information Document (KID), which comprises an annual recurring expense figure for the fund. In this case, the recurring expense figure of 2.49% is charged for managing the saver's investment.

However, the saver pays much more than that, but indirectly: the saver's money is not invested directly in transferable securities, but instead it buys units of underlying funds which (normally) directly hold financial assets. From the gross return on capital gained for each underlying fund unit a management fee will be deducted. This net return will form, in turn, the gross return on capital for the fund where the saver holds units, which again will be subject to the aforementioned management fees (2.49%).

This expense rate is very high and more than explains the huge performance. Most of these expenses could have been saved by investing in an equity index exchange-traded fund (ETF).

Table BE-A1. Charges taken from funds over a year	
This Belgian occupational pension fund	2.49%
Average European equity fund	1.89%
Average US equity fund	0.45%
Average EU equity ETF	0.31%
Average EU real estate fund	1.28%
Average EU mixed fund	1.51%
Average EU bond fund	1.01%
Average EU life insurance (life insurance)	0.88%
Average EU pension product	1.45%
Average EU life insurance	1.38%
Average EU pension mutual fund	1.15%

Source: see footnote.[85]

[85] For average EU investment products' fees, see Karel Lanoo, 'Funds, Fees and Performance' ECMI Commentary No. 54 (2 July 2018) 3, https://www.ceps.eu/system/files/KL_FeesAndFunds.pdf; for average US equity fund fee, see Patricia Oey, 'U.S. Fund Fees: Average Fund Fees Paid by Investors Decreased 8% in 2017, the Larges One-Year Decline Ever' Morningstar Manager Research (26 April 2018) 3, https://www.morningstar.com/content/dam/marketing/shared/pdfs/Research/USFundFeeStudyApr2018.pdf?cid=EMQ_.

Pension Savings: The Real Return

2019 Edition

Country Case: Bulgaria

Executive Summary (English)

The ability of pension savers to accumulate capital and draw pensions at old age depends crucially on the long-term real return they receive in their accounts. Yet the long-term real returns actually received by pension savers are neither calculated, nor published in Bulgaria. The contribution of this report is to evaluate pension funds' performance over the long haul from the viewpoint of the pension saver. The main findings are as follows:

1) Bulgarian pension funds of all types - universal, voluntary and professional - have underperformed a simple benchmark portfolio with comparable investment strategy. The benchmark portfolio is investable with a management fee of 0.2 %, while fees and charges of Bulgarian pension funds exceed 1 %. Thus, pension savers in Bulgaria overpay for underperformance.

2) The actual return credited to pension accounts is properly calculated as money-weighted return. The real return received by pension savers in Universal Pension funds is a paltry 0.1 % (2001-2018), while pension savers in voluntary pension funds have lost money in real terms over the same period as their real return was a negative 0.3 % over the same period. Accumulating assets in Bulgarian pension funds appears to be a very long shot, if not a "mission impossible".

3) For pension savers to count on a supplemental pension from Universal pension funds, the return on their accounts needs to exceed the growth rate of the average insurable income in Bulgaria[86]. In fact, the annual insurable income has grown by 4.6 % annually between 2001 and 2018, while all pension savers in the universal pension funds have received just 0.1% over the same period. This fact alone ensures that universal pension funds hurt their clients, as they cause a reduction in their retirement income compared to a scenario, in which

[86] This is due to the fact that contributions to UPFs are not supplemental. They are deducted from the contributions to the State pension fund. Therefore, the state pension is reduced for those contributing to UPFs. The pension from the UPF needs to first compensate for the state pension reduction before it can produce a supplemental pension.

pension savers have never participated in a UPF at all. Two pensions are less than one in Bulgaria.

The three-pillar pension system is failing pension savers in Bulgaria by delivering paltry, if not outright negative, real returns and by resulting in reduction of retirement income for participants in universal pension funds.

Executive Summary (Bulgarian)

Дългосрочната реална доходност фактически получавана по партиди в пенсионни фондове е критично важна за способността на осигурените да натрупат средства и да теглят пенсии. Въпреки това тази доходност не се публикува в България. Приносът на този доклад е в оценката на дългосрочното представяне на пенсионните фондове от позициите на осигурените. Основните резултати са както следва:

1) Българските пенсионни фондове – универсални, професионални и доброволни – показват резултати, по-ниски от прост бенчмарк със съпоставима инвестиционна стратегия. В портфейла-бенчмарк може да се инвестира при такса за управление от 0.2 %, докато таксите на българските пенсионни фондове са над 1 %. Така, осигурените в България плащат такси над пазарните за да получат доходност по-ниска от пазарната.

2) Фактическата доходност, получавана от осигурените е правилно да се изчислява по парично претегления метод. Реалната доходност, получена от всички осигурени в универсални пенсионни фондове (УПФ) между 2001 и 2018 г. е мизерните 0.1 % годишно, докато осигурените в доброволни пенсионни фондове (ДПФ) реално са загубили пари, тъй като доходността им за същия период е била отрицателна – минус 0.3 %. Натрупването на средства в пенсионни фондове в България се оказва много трудна задача ако не и "мисия невъзможна".

3) За да разчитат на допълнителна пенсия от УПФ, осигурените трябва да получават доходност, надхвърляща темпа на нарастване на средния осигурителен доход за страната.[87] На практика средният осигурителен доход е нараствал реално с 4.6 % през 2001-2018, докато осигурените в УПФ са получили 0.1 % реална доходност. Този факт показва, че осигуряването в УПФ уврежда интересите на осигурените като намалява пенсионните им доходи. Пенсията от УПФ няма да е в състояние да ги компенсира за намалената им държавна пенсия. Две пенсии са по-малко от една.

[87] Това се дължи на факта, че вноските в УПФ не са допълнителни, а се изваждат от вноската в държавното обществено осигуряване. Съответно и държавната пенсия на осигурените в УПФ ще бъде намалена. Пенсията от УПФ трябва първо да замести намалението на държавната пенсия, преди да осигури допълнителна.

Тристълбовата пенсионна система, изпълнена в България, проваля осигурените като носи мизерна, ако не и направо отрицателна дългосрочна доходност и намалява пенсионния доход на мнозиството, осигуряващи се в УПФ.

Introduction

The Bulgarian pension system rests on three pillars:

- Pillar I – Publicly managed, defined benefit, pay-as-you-go (PAYG) Social Security;
- Pillar II – Privately managed, defined contribution, fully funded Supplementary Mandatory Pension Schemes (SMPS);
- Pillar III – Privately managed, defined contribution, fully funded Supplementary Voluntary Pension Schemes (SVPS).

Old age social insurance is mandatory. All employed and self-employed are obliged to contribute to either only Pillar I or to both Pillar I and Pillar II pension schemes. Contributions to Pillar III pension schemes are voluntary.

The mandatory pension insurance contribution rate is 19.8% of the gross insurable income for the majority of the working population (but not more than the maximum monthly insurable income of €1329 in 2018). It is split between the employer (56%) and the employee (44%). The contribution rate is higher for "category I and category II workers" – those who are employed in strenuous and hazardous conditions, as well as those employed in the national security services, who are eligible for early retirement.

Those born prior to 1960 participate in the Pillar I state pension fund only. Since the pension insurance is mandatory, the employees covered by Pillar I pension insurance is universal.

Those born after 1959 are eligible to participate in Pillar II pension schemes. There are two pension schemes under pillar II: Universal pension funds (UPF) and Professional Pension funds (PPF). Participation in Universal pension funds was mandatory between 2002 and 2015 and has become optional ever since. Universal pension funds participants can opt-out of those funds and transfer their pension insurance to the Pillar I state pension fund up to five years before reaching the statutory retirement age.

The contribution to the Universal pension funds is set by law at 5% of the insurable income (up to the maximum insurable income) and is split between the employer and the employee. The contribution to the Universal pension funds is not supplementary but it is rather deducted from the mandatory pension insurance contribution of 19.8 % of the insurable income. Those participating in Universal pension funds in essence split their contribution between the state pension fund (14.8% of insurable income) and the universal pension fund

of their choice (5% of insurable income). Thus, Pillar II universal pension funds are not "supplementary", but rather represent a partial privatization of the state pension insurance. Correspondingly, those contributing to a universal pension fund will see their state pension reduced in proportion to the lower level of contributions to the state pension funds they have made. The coverage of universal pension funds is nearly universal since until 2015 the participation was mandatory for those born after 1959 and very few insured have opted out of UPFs between 2015 and 2018.

Those employed as "category I and category II" workers are eligible to participate in Professional pension funds (PPFs). Their participation is non-contributory, meaning that the contributions are entirely at the expense of the employer. They are eligible to receive a fixed-term pension from PPFs for the period between their early retirement and the statutory pension age. They too have the right to opt-out from the Professional pension funds up to five years before reaching the statutory retirement age.

There are two pension schemes under Pillar III, i.e. voluntary pension funds and voluntary professional pension funds. All persons of at least 16 years of age are eligible to contribute to a voluntary pension fund. Voluntary professional pension funds are open only to participants of Pillar II professional pension funds.

The main features of the Bulgarian pension system are summarized in the table below:

Table BG1. Pension system in Bulgaria				
National Social Insurance Institute	Financial Supervision Commission			
PILLAR I	PILLAR II		PILLAR III	
State Pension	Funded Pensions		Funded Pensions	
Mandatory	Mandatory / Possibility to opt out		Voluntary	
Management type: Public	Management type: Private		Management type: Private	
Pay-as-you-go	Fully funded		Fully funded	
Defined Benefit	Defined Contribution / Individual Accounts		Defined Contribution / Individual Accounts	
State Pension "Fund"	**Universal Pension Funds**	**Professional Pension Funds**	**Voluntary Pension Funds**	**Voluntary Professional Pension Funds**
Pensions are granted at statutory pension age, provided the length of service requirement is met. Possibility to draw a reduced pension one year before the statutory pension age.	Pensions at statutory pension age. Possibility to draw a pension up to five years before the statutory pension age provided funds in the account are sufficient for granting a pension, equal to the minimal state pension.	Fixed term pension for the period between the reduced pension age for eligible workers and the statutory pension age.	Pensions at statutory pension age. Possibility to draw a pension up to five years before the statutory pension age.	Fixed term pensions at age 60 or five years earlier if provided in the collective social insurance contract.
Quick facts:				
Number of old-age pensioners*: 1,633,577	Accounts⌘: 3,734,824	Accounts⌘: 302,869	Accounts⌘: 628,131	Accounts⌘: 8,322
Average old-age pension*: €185.54	Funds/Administrators⌘: 9	Funds/Administrators⌘: 9	Funds/Administrators⌘: 9	Funds/Administrators⌘: 1
Average salary (gross)**: €580.36	AUM⌘: € 5,723 mil.	AUM⌘: € 551 mil.	AUM⌘: € 551 mil.	AUM: € 7.4 mil.
Average replacement ratio***: 41 %	N/A	N/A	N/A	N/A

Sources :
**) Old age pensions only. National Social Security Institute https://appreports.nssi.bg/elserviceStatData/StatPens.aspx*
***) National Statistical Institute http://bit.ly/2W5JIdW*
****) Eurostat http://bit.ly/2vYvIEa*
⌘) Financial Supervision Commission http://bit.ly/2Hm6fKm

The three major pension vehicles' performance (Universal, Professional and Voluntary pension funds), between the end of June 2004[88] and the end of 2018, are presented in Tables BG2 and BG3 and Fig BG4. below.

[88] The Financial Supervisory Commission publishes pension funds' share prices since July 1, 2004. http://www4.fsc.bg/units.asp

Table BG2. Nominal Annualized Time-Weighted Returns (net of fees)					
	1 Year	3 Years	7 Years	10 Years	Since 2004
	2018	2015-2018	2011-2018	2008-2018	2004-2018
Benchmark portfolio	-3.3%	0.5%	4.7%	5.2%	4.4%
Universal Pension Funds	-4.1%	1.9%	3.5%	3.6%	3.4%
Voluntary Pension Funds	-3.8%	3.3%	4.7%	4.6%	3.8%
Professional Pension Funds	-3.3%	2.5%	3.7%	3.7%	3.2%
Inflation (HICP 2015=100)	2.3%	1.2%	0.4%	1.1%	3.2%

Table BG3. Real Annualized Time-Weighted Returns (net of fees)					
	1 Year	3 Years	7 Years	10 Years	Since 2004
	2018	2015-2018	2011-2018	2008-2018	2004-2018
Benchmark portfolio	-5.5%	-0.7%	4.3%	4.1%	1.2%
Universal Pension Funds	-6.3%	0.7%	3.1%	2.5%	0.2%
Voluntary Pension Funds	-5.9%	2.1%	4.4%	3.5%	0.7%
Professional Pension Funds	-5.5%	1.3%	3.3%	2.6%	0.0%

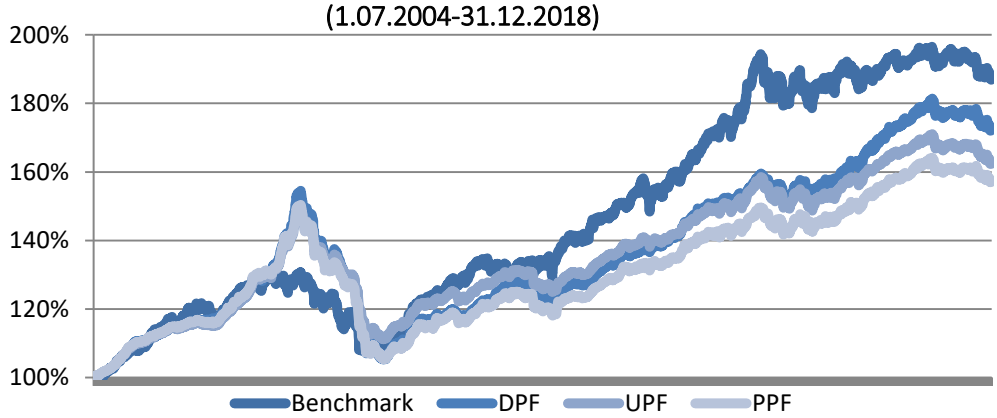
Sources: Author's calculations based on

1. Financial Supervisory Commission, Unit values of pension funds

2. Eurostat HICP database

Figure BG4 depicts the daily performance of both the benchmark portfolio and the pension funds from 1 July 2004 to 31 December 2018.

Figure BG4. Pension funds performance vs. Benchmark (1.07.2004-31.12.2018)



Sources: Author's calculations based on

1. Financial Supervisory Commission, Unit values of pension funds

2. STOXX Europe 600 Index EURSXXP, http://quotes.wsj.com/index/XX/SXXP/historical-prices

3. S&P Eurozone Sovereign Bond Index

https://us.spindices.com/indices/fixed-income/sp-eurozone-sovereign-bond-index

The different lines depict the performance of the aggregate pension fund indexes – voluntary, universal and professional respectively. The darkest line represents the benchmark portfolio, constructed as a blend of 35 % of the STOXX Europe 600 Index and 65% S&P Eurozone Sovereign Bond Index, in line with the investment constraints, imposed on pension fund management by law. It is to be noted that the Benchmark portfolio is investable as there are ETFs that replicate the performance of both indexes, namely iShares STOXX Europe 600 UCITS ETF and iShares Euro Government Bond 7-10yr UCITS ETF.

As is evident, all types of pension vehicles in Bulgaria underperform the market, represented by a simple, investable portfolio over longer periods at, as we will see below, higher fees and charges. Bulgarian pension savers overpay for underperformance.

Pension vehicles

There are four types privately managed pension vehicles in Bulgaria. Universal and professional pension funds fall under Pillar II, while Pillar III consists of voluntary pension funds and voluntary professional pension funds.

Pension funds are managed by specially licenced, privately owned and operated pension companies. As of the end of 2018, a total of nine companies were licensed to manage pension funds in Bulgaria. They are subject to various governance and capital requirements.

Each pension company is allowed to manage a single fund of each type: universal, professional, voluntary and voluntary professional. As of end 2018, just one company offers all four pension fund vehicles and the remaining eight companies offer three pension fund types each (universal, professional and voluntary).

The insurance industry in Bulgaria is excluded from the mandatory pension savings and investment. While purchasers of life-insurance enjoy the same tax advantage as investing in a voluntary pension fund (investment of up to 10% of the annual income is tax free), life insurance does not play any significant role in the pension system in Bulgaria.

Universal pension funds

The universal pension funds are by far the most important pension vehicles in Bulgaria with over 3.7 million individual accounts and €5.7 billion[89] in assets under management (as of end 2018). Participation in the universal funds was mandatory for employees born after 1959 until August 2015 and has been optional since for those who participated at least one year in a universal pension fund. Participation in universal pension funds is tied to the employment

[89] For the conversion of the Bulgarian Lev (BGN) to euros, the official fixed exchange rate of € 1 = BGN 1.95583 is being used throughout this report.

status of the insured and both the employee and the employer are required to make contributions. Universal pension funds operate at national level and not at company or industry level.

Contributions

Contributions to the universal funds are set by law at 5% of insurable income[90], which in 2018 was capped at BGN 2,600 (€1,329) per month. The insurable monthly income ceiling increased in 2019 to BGN 3,000 (€1,534).

Minimum Returns

Pension companies are obliged to manage assets in such a way as to achieve a minimum nominal return. The minimum nominal return is set quarterly by the regulator, the Financial Supervision Commission, on the basis of the average return achieved by all pension companies over a period of the preceding 24 months. The minimum return is equal to either 60% of the average for all universal pension funds, or 300 bps (basis points) below the average, whichever is smaller.

In case a fund's actual performance is weaker than the minimum nominal return determined by the regulator, the pension company is obliged to top up individual pension accounts to the extent of the shortage. The source for this obligatory top-up is the pension companies' own reserves, which should be maintained at between 1% and 3% of assets under management.

Another source of funds could be reserves accumulated within the respective pension fund. These reserves are accumulated when the actual fund's performance exceeds the average industry performance for the respective period by either 40% or 300 bp, whichever is larger.

Reserves

Pension companies are mandated to maintain pension reserves to cover the actuarial longevity risk when lifetime pensions are offered. The regulator has decreed however, that these reserves must be set aside one year after the first lifetime pension from the respective fund is extended. Since typically such pensions are not yet being paid out of universal funds, pension companies have not made provisions for the longevity risk.

[90] The 5 % statutory contribution to Universal pension funds is split between the employee (2.2 %) and the employer (2.8 %).

Distribution

Participants in universal pension funds become eligible for supplementary pensions at the statutory retirement age. However, universal pension plan participants can start drawing on their account five years prior to reaching full pension age, provided their accumulated assets are sufficient to ensure a lifetime pension of at least the state-mandated minimum pension.

In the case of a premature death of an insured member or retiree, the universal pension fund distributes the balance of the account to his or her heirs either as a lump sum or as scheduled withdrawals. Should there be no heirs, the balance of the account is transferred to the universal fund's reserves.

There is a contradiction between preserving the individual account after retirement and paying out lifetime pensions. This is an issue for urgent legislative intervention, as the fist cohorts of those born 1960 will start drawing pensions from the universal pension funds in 2021.

Professional pension funds

Only those employees who work under strenuous and hazardous conditions such as miners, air pilots and similar are eligible to participate in professional pension funds. People working under these conditions are entitled to an early retirement. The purpose of professional pension funds is limited to ensuring pensions for a prescribed length of time until those employees become eligible to draw pensions from the universal pension funds. With €551 million in assets under management and 302 thousand participants (as of end 2018), professional pension funds play a more limited role in the Bulgarian pension system.

Contributions

Professional pension funds are non-contributory. Only employers pay into the funds.

Minimum returns

The quarterly nominal returns are subject to the same floor as universal pension funds are – either 60% of the average return for the previous 24 months or 300 bp below the average return, whichever is smaller.

Reserves

The same provisions as for universal pension funds apply.

Distribution

Employees, eligible for a pension from a professional pension fund, are normally promised a fixed-term pension covering the period starting from the date of their early retirement to the date they achieve the statutory retirement age.

Should a person who has been insured through a professional pension fund fail to meet the eligibility criteria for early retirement, he or she has a choice at the time of reaching the regular retirement age to:

- either withdraw his or her balance from the professional pension fund as a lump sum, or
- transfer the balance of his professional fund account to his or her universal pension fund account.

Similar to inheritance rights for universal pension funds, the heirs of a deceased insured or retired person inherit the account balance and may choose to receive the entitlement as either a lump sum or as a scheduled withdrawal. Contrary to the rule for universal pension funds, should a deceased insured or retiree leave no heirs, the remaining balance on the account is transferred to the state budget.

Voluntary pension funds

Voluntary pension funds form the core of pillar III of the Bulgarian pension system. Nine voluntary pension funds operating in Bulgaria manage 628 thousand individual accounts and €551 million in assets under management (as of end 2018). Any person 16 years of age or older may contribute to a voluntary pension fund. Contributions are either personal or made by a third party (such as an employer) on behalf of the insured.

Minimum returns

The performance of voluntary pension funds is not subject to a minimum return obligation.

Reserves

As a matter of legal obligation, where voluntary pension funds promise lifetime pensions, they are required to maintain pension reserves to cover the longevity risk. As a matter of practice, currently voluntary pension funds have accumulated such reserves only for the limited number of lifetime pension contracts currently extended.

Distributions

Participants in voluntary pension funds have a variety of choices in drawing on their accounts.

One option is for participants to withdraw funds accumulated through their own contributions at any time prior to reaching the statutory retirement age. This right does not apply to funds accumulated as a result of any employers' contributions.

Another option gives them the right to a lifetime pension upon meeting the age and length of service requirements for a public pension. However, participants may choose to draw a lifetime pension up to five years prior to meeting these eligibility criteria.

Lastly participants can choose between drawing the balance from their account as a lump sum or a scheduled withdrawal over a certain period of time.

The heirs of an insured or retired person who leaves a balance in his or her account at the time of death, are entitled to the balance as either a lump sum or to scheduled withdrawals over a specified period of time. Should there be no heirs the balance is transferred to the voluntary pension fund reserves.

Voluntary professional pension funds

With only one voluntary professional fund with 8,322 participants and €7.4 mln. in assets under management as of end-2018, this vehicle is a rather insignificant part of the Bulgarian pension system and will be dropped from the real return analysis. Only participants in professional pension schemes can contribute to voluntary professional pension funds. Their employers may elect to make contributions on behalf of employees too.

To meet their future obligations, pension companies set aside technical reserves. The technical reserves need to be maintained at any moment in time and invested appropriately to ensure liquidity.

Participants acquire a right to a term pension from a voluntary professional fund upon reaching the age of 60 for both men and women. They have the choice to either a lump sum or scheduled withdrawals.

The heirs of a deceased insured or retiree are entitled to receive the remaining balance on the account as either a lump sum or scheduled withdrawals.

Asset Allocation (Investment Strategy)

Pension companies in Bulgaria are allowed to manage only one pension fund (one portfolio) per category (universal, professional, voluntary or voluntary professional). Thus, they are prevented by law from assessing the suitability and appropriateness of any pension fund to the insured. Every client of each type of fund receives the same portfolio irrespective of his

or her time horizon, investment objectives, risk tolerance, financial circumstances or the ability to bear losses.

At the same time pension funds' portfolios are subject to investment restrictions. Universal and Professional funds' investments in 2018 were limited to no more than 45% investments in dynamic assets and no less than 55% in fixed income and cash equivalents. Specifically, the limits were as follows:

- No more than 20% in equities;
- No more than 15% in collective investment schemes such as mutual funds and ETFs. Since the investment focus of these collective schemes is not defined, theoretically they can be invested in equites;
- No more than 5% in REITs (Real Estate Investment Trusts) and
- No more than 5% directly in investment property...[91]

Investment restrictions for Voluntary pension funds are more relaxed and focus primarily on limiting concentration and exchange rate risk. We report the asset allocation per major pension category in Table BG5. In the three most recent years Universal and Professional pension funds hold about 44%-49% in government bonds; 12%-13% in corporate and municipal fixed income instruments and about 27%-30% in equities and collective investment schemes.

Voluntary pension funds hold on average 30-35 % in equities and collective investment schemes with 35-38 % in government bonds and another 12%-14% in corporate and municipal fixed income instruments.

[91] Art. 176-178. Social Insurance Code. http://noi.bg/images/bg/legislation/Codes/KCO.pdf

Table BG5. Asset Allocation of the main pension vehicles in Bulgaria											
Universal Pension Funds	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cash & Cash Equivalents	27.1%	30.7%	26.9%	26.2%	20.6%	21.1%	12.1%	12.5%	15.9%	7.0%	10.6%
Government Bonds	32.7%	23.0%	21.6%	30.9%	35.4%	35.0%	41.6%	44.8%	44.8%	48.9%	47.4%
Corporate and Municipal Bonds	24.7%	23.7%	23.4%	21.9%	23.8%	19.6%	16.2%	12.4%	11.2%	13.0%	10.1%
Equity & Mutual Funds	11.5%	18.7%	23.5%	16.1%	16.2%	20.7%	26.8%	27.3%	25.5%	28.5%	29.2%
Real Estate	3.9%	3.9%	4.5%	4.8%	4.1%	3.6%	3.3%	3.0%	2.7%	2.5%	2.7%
Professional Pension Funds	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cash & Cash Equivalents	26.4%	28.8%	27.4%	25.6%	22.8%	17.3%	11.1%	9.9%	12.7%	6.9%	9.6%
Government Bonds	28.3%	21.0%	17.8%	27.4%	28.3%	33.5%	40.1%	44.0%	42.5%	45.6%	44.6%
Corporate and Municipal Bonds	25.0%	24.0%	23.5%	20.9%	23.4%	20.2%	16.3%	12.4%	11.4%	13.5%	10.6%
Equity & Mutual Funds	14.3%	20.3%	25.5%	19.1%	20.5%	24.5%	28.3%	29.6%	29.4%	30.2%	31.2%
Real Estate	6.0%	5.9%	5.8%	7.0%	4.9%	4.6%	4.2%	4.0%	4.0%	3.7%	4.1%
Voluntary Pension Funds	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Cash & Cash Equivalents	20.7%	29.8%	19.8%	18.8%	16.0%	13.2%	9.1%	10.5%	12.5%	7.2%	9.1%
Government Bonds	23.1%	13.3%	13.6%	23.1%	26.9%	29.7%	30.3%	35.6%	37.6%	38.3%	42.6%
Corporate and Municipal Bonds	25.0%	25.7%	28.0%	24.9%	25.2%	20.7%	18.2%	13.8%	12.1%	13.8%	7.5%
Equity & Mutual Funds	16.8%	20.1%	27.7%	22.1%	22.9%	28.0%	35.0%	33.5%	31.8%	35.7%	36.2%
Real Estate	14.4%	11.1%	10.9%	11.1%	9.0%	8.4%	7.4%	6.6%	6.1%	5.0%	4.6%

Source: Author's calculations, based on data published by the Financial Supervisory Commission http://www.fsc.bg/bg/pazari/osiguritelen-pazar/statistika/statistika-i-analizi/2018/

Thus, pension funds in Bulgaria are managed quite conservatively, especially considering the fact that they are largely in the accumulation phase. Conservative strategies imply lower expected returns going forward, which makes it less likely for pension savers to enjoy an adequate income in retirement. The asset allocation of all pension funds in Bulgaria, including the post-crisis period, and the decision to maintain less exposure to riskier asset classes explains why their investments did not fully participate in stock market recoveries that have occurred since 2009 and their long term performance still lags the market return as shown on Figure BG4. above.

Amendments to the Social Security Code, effective as of 18 November 2018, have relaxed some of the investment restrictions for Universal and Professional funds as follows:

- Equities – from 20% t0 25%;
- Collective Investment Schemes – from 15% to 20%;
- REITS – from 5 % to 10%.

Charges[92]

Participants in pension funds are subject to fees and charges, defined and capped by law. Three types of fees and charges apply:

- Entry fee on pension fund contributions;
- Annual investment management fees on account balances (or the annual return in the case of voluntary funds);
- Transfer fees.

The law caps those fees and charges as follows (2018):

Table BG6. Legal caps on fees and charges in 2018

Fees	Universal/ Professional Pension Funds	Voluntary Pension Funds
Entry fee	4.00%	Up to 7%
Management fee	0.80%	10 %[93]
Transfer fee	BGN 10.00	BGN 20.00

Source: Art. 201 and Art. 256, Social Insurance Code

Pension companies are banned from charging any fees other than the ones listed. The entry fee applies to each contribution, while the management fee applies to the balance of the account (or the annual return in the case of voluntary funds). The transfer fee is charged when a participant initiates a transfer of his or her account to a different pension management company. Only one transfer of the account per year is permitted. Companies, managing voluntary pension funds are allowed to collect several other administrative fees as long as those are explicitly allowed and specified in the law.

[92] Data on charges are collected from individual pension companies' Internal Rules and Regulations for managing pension funds. These documents are publicly accessible on the web page of each pension company.

[93] Up to 10% of the positive nominal return to the fund/ individual account.

In practice, most of the pension companies managing universal and professional funds charge the maximum loads and fees but some offer discounts to long-term participants.

The entry fees charged by pension companies for voluntary pension funds vary more widely and are typically between 2.5 and 4.5%. The amount of the entry fee varies according to the amount of the contribution or the number of employees signed up to a voluntary pension fund by their employer. The majority of pension companies charge the maximum allowed 10% of returns in investment management fees. Four companies charge lower investment management fees: one charges 4.5%, the other charges 7% and the remaining two, including the largest company, charge 9% on positive returns.

Administrative charges are normally one-time and nominal.

As of 2016 the law mandates a gradual reduction of fees and charges for the Pillar II funds according to the following schedule[94]:

Table BG7. Pension funds fees and charges for Universal/ Professional Funds - (2016-2019)				
	2016	2017	2018	2019
Front Load	4.50 %	4.25 %	4.00 %	3.75 %
Management fee	0.90 %	0.85 %	0.80 %	0.75 %

Source: Art. 201, Social Insurance Code

As reported on Figures BG12 and BG13 below, fees and charges have reduced the yield to pension savers by 1.9% annual average for universal pension funds and 1.3 % for voluntary pension funds over the 2001-2018 period.

Taxation - EEE

Individual contributions to pension funds are income tax free. A contribution to voluntary pension funds of up to 10% of annual taxable income is tax-free, while any additional contributions can be made from after-tax income. Investment income accrues tax-free to individual pension accounts. Pension payments are also free of tax.

[94] National Assembly, (2015), Social Insurance Code, State Gazette, No. 61, 11.08.2015 (In Bulgarian).

Employers deduct contributions to pension funds of up to BGN 60 (€30.68) per employee per month from their annual revenue before taxes. Pension companies' services and revenues are free from VAT and tax respectively.

The tax regime of the pension companies and pension funds does not drive a wedge between nominal and real returns in Bulgaria.

Pension Returns

Pension funds returns can be calculated using one of two methods: time-weighted or money-weighted returns[95]. While time-weighted returns are useful when comparing pension funds' performance to a benchmark, it is only money-weighted returns that matter to participants, since their accumulated capital before retirement depends on their contributions and their average money-weighted return (net of fees and charges).

We reported the 1-, 3-, 7-, and 10-year time weighted nominal and real returns in the introduction and observed that all types of pension funds in Bulgaria underperform a simple investable benchmark portfolio. In this section, we report both the annual nominal and real money-weighted returns (2002-2018) and the returns over 1-, 3-, 7-, 10- year trailing returns and since 2002 for the two main pension vehicles: universal and voluntary funds.

Money-weighted Returns

The pension savers' annual returns in the two dominant pension vehicles in Bulgaria: universal and voluntary pension funds, are reported in tables BG8-BG11.

[95] Feibel, Bruce J., (2003), "Investment Performance Measurement", John Wiley & Sons, Inc., Hoboken, New Jersey, p. 53.

Table BG8: Universal Pension Funds (UPF) Money-Weighted Returns					
	Nominal Return (Net of Fees)	Fees and charges***	Nominal Return (Gross of Fees)	Inflation (HIPC)	Real Return (Gross of Fees)
2002*	8.6%	10.5%	-1.9%	5.8%	-7.3%
2003	6.8%	5.4%	1.5%	2.3%	-0.8%
2004	12.5%	5.2%	7.4%	6.1%	1.2%
2005	7.7%	3.7%	3.9%	6.0%	-2.0%
2006	8.7%	3.3%	5.4%	7.4%	-1.9%
2007	14.5%	3.2%	11.3%	7.6%	3.4%
2008	-21.2%	3.2%	-24.3%	12.0%	-32.4%
2009	8.8%	2.8%	6.0%	2.5%	3.5%
2010	6.1%	2.4%	3.7%	3.0%	0.6%
2011	0.6%	2.1%	-1.6%	3.4%	-4.8%
2012	8.2%	1.9%	6.3%	2.4%	3.8%
2013	5.7%	1.8%	3.8%	0.4%	3.4%
2014	6.7%	1.7%	5.0%	-1.6%	6.7%
2015	1.9%	1.7%	0.2%	-1.1%	1.3%
2016	3.3%	1.4%	1.9%	-1.3%	3.3%
2017	6.4%	1.4%	5.1%	1.2%	3.8%
2018	-4.3%	1.3%	-5.6%	2.5%	-7.9%
Annual Average	3.3%	1.9%	1.4%	1.3%	0.1%

**Universal Pension Funds were launched in April 2002*

****No official statistics for 2002 and prior to 2002 - estimation for these years*

Source: Author's calculations based on data published by the Financial Supervisory Commission

As data for professional pension funds (PPF) is no longer publicly available and the authors could not update it, we publish below the returns up until 2017.

Table BG9: *2018 edition* Professional Pension Funds (PPF) Money-Weighted Returns

	Nominal Return (Net of Fees)	Fees and charges**	Nominal Return (Gross of Fees)	Inflation (HIPC)	Real Return (Gross of Fees)
2001*	7.2%	7.8%	-0.6%	7.8%	-7.4%
2002	8.3%	3.9%	4.4%	5.8%	-1.3%
2003	8.9%	2.8%	6.1%	2.3%	3.7%
2004	12.6%	2.5%	10.1%	6.1%	3.8%
2005	8.4%	2.1%	6.3%	6.0%	0.3%
2006	9.6%	2.0%	7.6%	7.4%	0.2%
2007	14.9%	1.9%	13.0%	7.6%	5.0%
2008	-25.0%	2.1%	-27.0%	12.0%	-35.0%
2009	8.9%	2.0%	6.9%	2.5%	4.3%
2010	6.1%	1.8%	4.3%	3.0%	1.2%
2011	4.2%	1.8%	2.4%	3.4%	-1.0%
2012	10.2%	1.7%	8.5%	2.4%	5.9%
2013	7.8%	1.6%	6.2%	0.4%	5.8%
2014	7.4%	1.6%	5.8%	-1.6%	7.5%
2015	3.0%	1.6%	1.4%	-1.1%	2.5%
2016	5.0%	1.4%	3.6%	-1.3%	3.6%
2017	6.9%	1.3%	5.6%	1.2%	4.3%
Annual Average	6.0%	2.0%	4.0%	2.4%	1.7%

**Professional Pension Funds were launched in June 2001*

***No official statistics for 2002 and prior to 2002 - estimation for these years*

Source: BETTER FINANCE's calculations based on data published by the Financial Supervisory Commission

Table BG10: *2018 edition* Breakdown of Nominal Returns by Compoment and Type of Pension Fund (2002-2017)

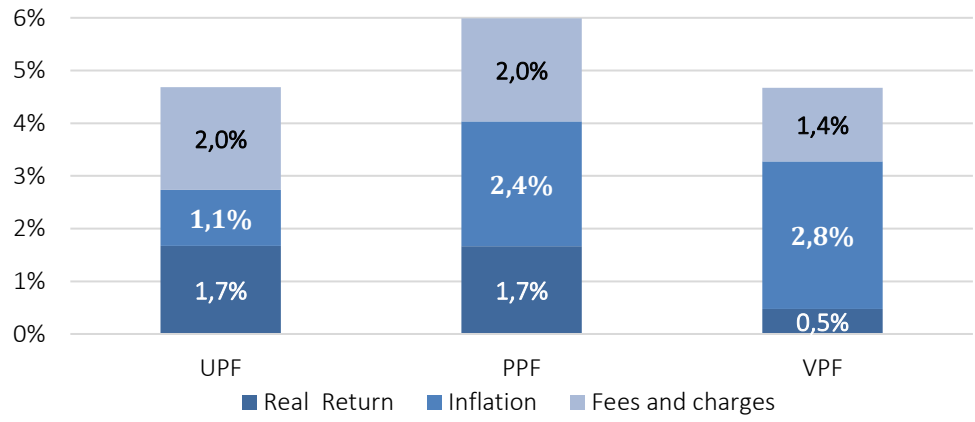


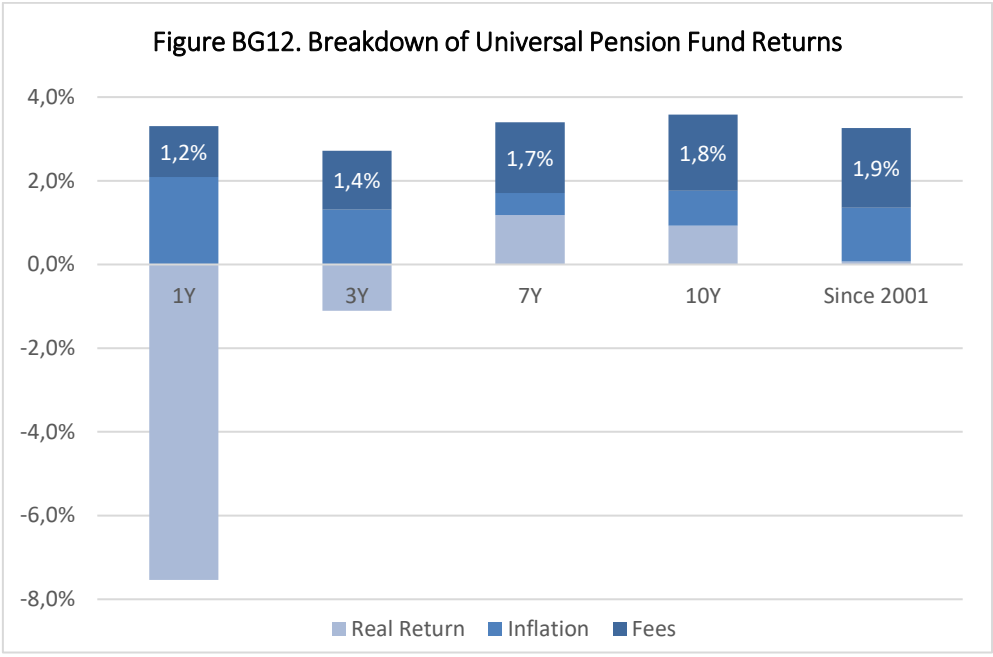
Table BG11. Voluntary Pension Funds (VPF) Money-Weighted Returns					
	Nominal Return (Net of Fees)	Fees and charges**	Nominal Return (Gross of Fees)	Inflation (HIPC)	Real Return (Gross of Fees)
2002*	15.4%	4.5%	10.9%	5.8%	4.9%
2003	9.7%	2.6%	7.2%	2.3%	4.8%
2004	11.4%	2.4%	9.0%	6.1%	2.7%
2005	9.1%	2.1%	7.0%	6.0%	0.9%
2006	7.3%	1.8%	5.5%	7.4%	-1.8%
2007	16.0%	2.6%	13.4%	7.6%	5.4%
2008	-28.9%	0.7%	-29.6%	12.0%	-37.1%
2009	8.1%	1.3%	6.8%	2.5%	4.2%
2010	6.3%	1.6%	4.6%	3.0%	1.6%
2011	-0.6%	0.4%	-1.0%	3.4%	-4.3%
2012	8.6%	1.1%	7.4%	2.4%	4.9%
2013	6.7%	0.9%	5.8%	0.4%	5.6%
2014	6.8%	1.0%	5.8%	-1.6%	7.5%
2015	2.0%	0.6%	1.4%	-1.1%	2.5%
2016	5.6%	0.8%	4.8%	-1.3%	6.1%
2017	7.6%	1.1%	6.5%	1.2%	5.2%
2018	-4.9%	0.4%	-5.2%	2.5%	-7.5%
Annual Average	3.8%	1.3%	2.5%	2.8%	-0.3%

**Voluntary Pension Funds existed prior to 2002 but there are no official statistics available on the electronic site of the Financial Supervision Comission (FSC)*

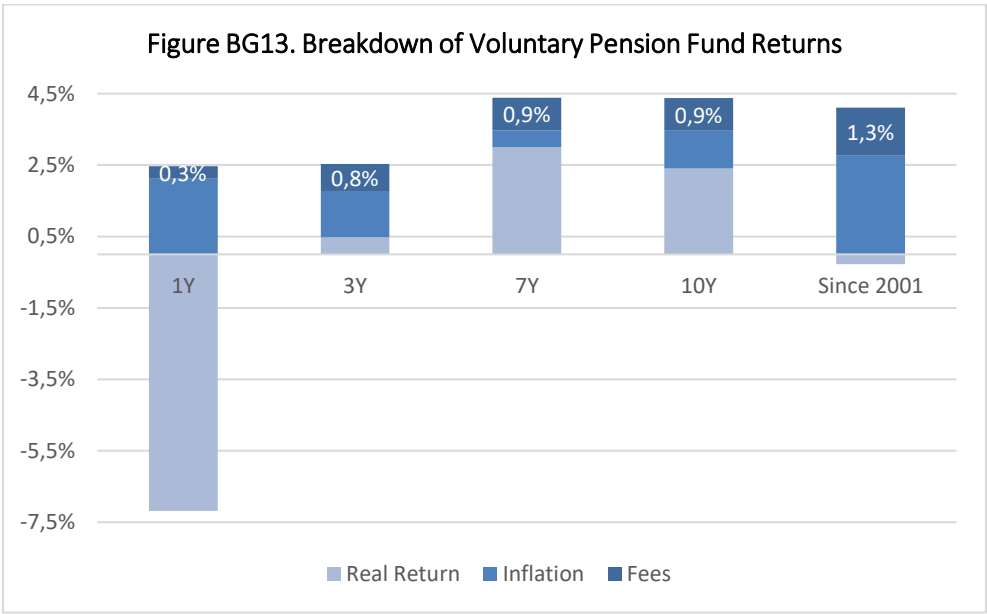
***No official statistics for 2002 and prior to 2002 - estimation for these years*

Source: Author's calculations based on data published by the Financial Supervisory Commission

The breakdown on pension savers' returns into real returns, inflation and fees and charges is illustrated on Figures BG12 and BG13.



Source: Author's calculations based on data published by the Financial Supervisory Commission



Source: Author's calculations based on data published by the Financial Supervisory Commission

When assessing pension funds returns from the pension saver point of view, we observe that:

Universal Pension Funds have yielded a minimal positive real return to investors over the 2001-2018 period of 0.07% annually, while Voluntary Pension Funds have yielded a negative real return of minus 0.27 % over the same period. This means that while universal pension funds have preserved the purchasing power of their contributions, pension savers in voluntary funds have not been compensated for the inflation and fees and charges and their contributions have lost purchasing power on average.

It is worth noting that fees and charges for both, universal and voluntary pension funds, show a tendency of gradual declining over the 2001-2018 period. This tendency is primarily due to the accumulation of assets and thus the declining impact of the one-time entry fees on the overall performance. New contributions, on which entry fees are charged, are an ever-smaller portion of the overall assets under management. We expect this tendency to continue, moreover that both entry and annual management fees have been capped at a lower level by law (See section "Charges").

The recorded returns for universal pension funds are grossly insufficient for pension savers to actually receive a "supplementary" pension from these funds. On the contrary, if the past performance persists, the great majority of those insured in universal pension funds, will see their retirement income reduced below the full state pension.

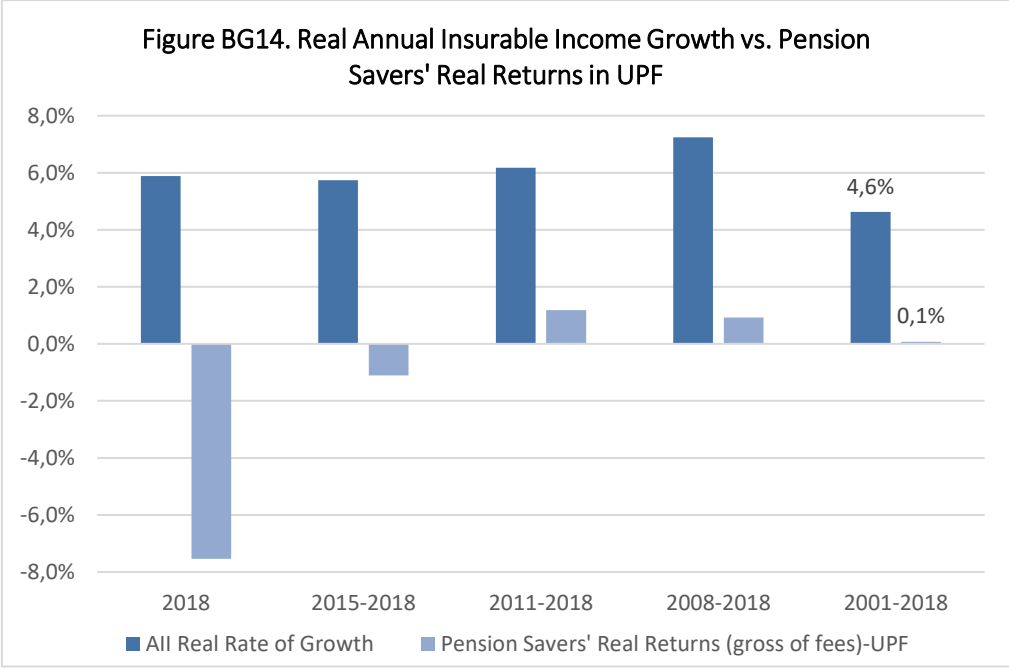
The last point requires some elaboration. While contributions to Voluntary pension funds are truly additional to the mandatory pension contributions, the contribution to the Universal pension funds is financed at the expense of the contribution to the State Pension Fund[96]. This means that while the mandatory pension contribution is the same for all insured, those who participate in universal pension funds, divert about a quarter of their mandatory contribution to an UPF. Their contribution to the State Pension Fund, therefore, is smaller compared to the contribution of those insured who have opted out of universal pension funds. Consequently, those who contribute to an UPF will be entitled to a proportionately reduced state pension, compared to those who do not participate in a UPF.

Therefore, for an UPF pension to be truly "supplemental", it would need to first compensate for the reduction of the state pension. The question arises as to under what circumstances

[96] Second Pillar contributions are financed at the expense of the first pillar in all Eastern European countries, except Estonia, which introduced an additional contribution for second pillar funds. See Krzyzak, Krystyna. (2018). "CEE: A system in flux". In IPE . January, 2018. https://www.ipe.com/pensions/country-reports/cee/cee-a-system-in-flux/10022463.article

an expected "supplemental" pension from an UPF will be able to exactly compensate for the reduction of the state pension?

The author has researched this question elsewhere[97] and reached the conclusion that the necessary and sufficient condition an UPF pension to fully compensate for the reduction of the state pension is for the actual real return on an UPF account to exceed the annual real rate of growth of the average insurable income in Bulgaria over the whole contributory period. In fact, as illustrated on Figure 4 below, the situation in 2002-2018 has been exactly the opposite – the average annual rate of growth of the insurable income in Bulgaria has consistently outpaced the annualized return, received by pension savers in UPFs.



Source: Author's calculations based on data from the National Social Security Institute and Eurostat.

All Real Rate of Growth – Average Insurable Income Real Rate of Growth for the respective period.

Real UPF Return (Gross) – Real Money Weighted Rate of Return Gross of Fees for all nine UPFs for the respective period.

[97] Christoff, Lubomir, (2019), "Pension (In)Adequacy in Bulgaria". (In Bulgarian). Available at SSRN: https://ssrn.com/abstract=3354170

Going forward, the National Social Insurance Institute expects the real growth of the average insurable income in Bulgaria to slow down to 2.4 % per annum[98]. Under this assumption, an insured person, who has contributed to an UPF since 2002 and will retire in 2042 after 40 years of uninterrupted contributions, will need to receive a 3.9 %[99] real annual rate of return between 2019 and 2041 in order for his "supplemental" UPF pension to just replace the reduction of his state pension. The required 3.9 % real return is not only far in excess of the realized real return of only 0.1 % over the 2001-2018 period, but is also unrealistic to expect, given the long-term capital market expectations by asset class[100].

Thus, participating in an UPF over a 40-year contributory period will reduce pension savers' retirement income in comparison with the state pension they would have been entitled to, had they not participated in Pillar II pension funds at all. By producing returns below the growth rate of the average insurable income in Bulgaria, universal pension funds hurt the interests of pension savers by reducing the adequacy of their pensions and preventing them from maintaining their living standards after retirement. While the legislator created an opportunity to opt-out of UPFs at any time up to five years before reaching the statutory retirement age, contributing to an UPF remains the default option for those, who enter the labour market for the first time.

Conclusion

Pension savings real returns are crucial for the accumulation of capital[101] and, hence, for the size and adequacy of pensions to be expected from defined contribution schemes. Yet, pension savings money-weighted real returns are neither calculated nor published in Bulgaria. This report is the only source, documenting real pension savings returns across pension vehicles, available in Bulgaria, for the 2001-2018 period.

[98] National Social Security Institute. (2016). "Actuarial Report 2016." Sofia. (In Bulgarian). p. 38, Table 10. http://www.noi.bg/images/bg/about/statisticsandanalysis/analysis/ActuarialReport2016.pdf

[99] Christoff, Lubomir. (2019). "Pension (In)Adequacy in Bulgaria". (In Bulgarian). Available at SSRN: https://ssrn.com/abstract=3354170

[100] Dobbs Richard, Tim Koller, Susan Lund, Sree Ramaswamy, Jon Harris, Mekala Krishnan and Duncan Kauffman. (2016). "DIMINISHING RETURNS: WHY INVESTORS MAY NEED TO LOWER THEIR EXPECTATIONS", McKinsey & Company, p. IX https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/why-investors-may-need-to-lower-their-sights

[101] Assuming a given size and length of contributions.

With the PAYG pension pillar in Bulgaria under financial stress and the universal pension funds being the default option for employees born after 1959, the defined contribution pillars are growing in importance to secure adequate pensions for future retirees. However, as the analysis of the real return of pension funds from 2001 to 2018 illustrates, with miniscule real returns in universal pension funds and outright negative real returns in voluntary pension fund, the task of providing Bulgarians with adequate pensions and old age security is proving beyond reach.

The asset allocation analysis of pension funds raises doubts as to whether they will have capacity to secure meaningful supplementary pensions. They are far too conservatively managed from the point of view of the younger investor. The relaxed investment restriction on universal and professional funds, effected in November 2018, may alleviate this concern somewhat.

Moreover, universal pension funds – by far the largest pension vehicle by number of participants and assets under management – is detrimental to pension savers interests as it cannot generate the returns needed to yield a supplemental pension and on the contrary, will reduce the pension income of future retirees as two pensions in Bulgaria are less than one.

Reforms on the Agenda:

As first cohorts of employees are approaching retirement, the Social Code will need to be amended to specify in sufficient detail the type of pensions from the universal pension funds and how exactly these are to be calculated and paid out.

Pension fund charges in Bulgaria are limited in number, capped by law and transparent. They have proved, however, too high a hurdle for fund managers across all pension vehicles to overcome and deliver market-like long-term returns.

Bulgarians can choose whether to contribute to Universal pension funds but if they do, they don't have a choice as to how their savings are to be managed. Their contributions are invested irrespective of their individual time horizon and risk tolerance, which indicates that perhaps a majority of the Bulgarians invest their pension savings in unsuitable portfolios. It would be advisable for the Bulgarian legislation of private pension insurance to provide for a number of investment options per pension fund, so that savers with different investment profiles can find a suitable product.

Under the current circumstances and with the inadequacy of supplementary pensions from universal pension funds, which will reveal itself when these funds start distributions en masse in 2021-2022, a popular backlash against the pension system in the near future cannot be ruled out.

Bibliography

- Christoff, Lubomir, (2019), "Pension (In)Adequacy in Bulgaria". (In Bulgarian). Available at SSRN: https://ssrn.com/abstract=3354170
- Christopherson, Jon A., David R. CariÑo, Wayne E. Ferson, (2009) "Portfolio Performance Measurement and Benchmarking", The McGraw-Hill Companies, Inc., p. 34.
- Dobbs Richard, Tim Koller, Susan Lund, Sree Ramaswamy, Jon Harris, Mekala Krishnan and Duncan Kauffman. (2016). "DIMINISHING RETURNS: WHY INVESTORS MAY NEED TO LOWER THEIR EXPECTATIONS", McKinsey & Company
- Feibel, Bruce J., (2003), "Investment Performance Measurement", John Wiley & Sons, Inc., Hoboken, New Jersey.
- Financial Supervision Commission, (2004), Ordinance No.19 on setting aside pension reserves. (In Bulgarian, accessed at
- Krzyzak, Krystyna. (2018). "CEE: A system in flux". In IPE. January 2018. https://www.ipe.com/pensions/country-reports/cee/cee-a-system-in-flux/10022463.article
- National Assembly, (2015), Social Insurance Code, State Gazette, No. 61, 11.08.2015 (In Bulgarian).
- National Social Security Institute. (2016). "Actuarial Report 2016." Sofia. (In Bulgarian).
- National Social Insurance Institute. (2018). "Social Insurance Contributions and Insurable Income for the Self-insured -Contributions to the Pension Fund". Sofia. (In Bulgarian)
- OECD, (2015), Pension Markets in Focus 2014
- Palmer, Edward. (2007). "Pension Reform and the Development of Pension Systems: An Evaluation of World Bank Assistance". Background Paper. Bulgaria Country Study. The World Bank. p.25
- Social Security Code. In Bulgarian.

Pension Savings: The Real Return

2019 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 forventes at stige i de kommende år fra det nuværende niveau på ca.3/4.

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 4400 mia. DKK eller mere end det dobbelte af BNP.

De danske pensionskasser har klaret sig pænt igennem den finansielle krise og perioden med lavt renteniveau. Selv om den sidste tiårsperiode startede med betydelige tab, har de følgende år mere end kompenseret for disse tab. Og selv om væksten og renteniveauet har været lavt, så har den private pensionsformue I perioden fra 2007 til 2017 opnået en akkumuleret real forrentning på ca. 50 pct. Det svarer til en realrente på ca. 4 pct. om året. Der er endnu ikke offentliggjort tal for det samlede investeringsafkast for 2018, men det generelle billede viser tab for næsten alle aktivklasser. Den politiske situation med handelskrig mellem USA og Kina og Brexit påvirkede markederne i negativ retning og resulterede i samlede tab på investeringer, typisk på mellem -1 og -5 pct. De største investeringstab fik de markedsrentebaserede pensionsordninger, mens de garanterede pensionsordninger typisk opnåede et relutalt på lige under nul. Det illustrerer en mere forsigtig investeringspolitik for de garanterede produkter.

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 exceeds €590 billion,[102] or more than twice the Danish GDP.

The Danish pension funds have managed the financial crisis and the low interest rate environment rather well. Although the last decade started out with substantial losses, the following years more than compensated for these losses. Although it has been a decade of low interest rates and low economic growth, money invested in a private pension scheme in 2007 has, on average, accumulated a real return of approximately 50% by 2017 (an average real return after tax of around 4% a year). The figures for the investment return for the sector in total for 2018 are not yet available, but in general the return has been negative for almost all asset groups. Political topics such as the relations between the USA and China and Brexit have had a negative impact on the markets, resulting in overall losses – typically between -1% to -5% - for 2018. The greater losses were in market rate-based schemes with no guarantee while the investment return for guaranted DC-schemes typically was just below zero. illustrating a more cautious investment policy for guaranteed products.

Introduction

The basic structure of the Danish pension system has changed gradually in the past 30 years. The expansion of occupational pension schemes is changing the system from a mainly tax-based pay-as-you-go (PAYG) system to a mainly funded DC system. This change secures a standard of living in retirement for almost everybody in Denmark that reflects the income before retirement, while also contributing to a sound economic development in Denmark.

For 6 years in a row (2012-2017), the Danish pension system was ranked number 1 in the Melbourne Mercer Global Pension Index. This year though (2018), Denmark was ranked number 2 after the Netherlands.[103] The high ranking is a result of a number of indicators concerning design of the pension system and pension coverage, as well as parameters such as demography and economic governance.

The total value of funded pension schemes exceeds DKK 4400 billion (€590 bln), or more than twice the Danish GDP.

[102] All currency conversions are made at the exchange rate provided by the ECB Statistical database for EUR/DKK on 31.12.2018, 1 EUR = 7.7473 DKK.
[103] Melbourne Mercer Global Pension Index 2018, https://australiancentre.com.au/wp-content/uploads/2018/10/MMGPI-Report-2018.pdf.

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 general agreements in the labour market and participation is mandatory for the individual members based on the employment contract, but enrolment is not statutory by law. Through occupational pension schemes, the income over one's entire life is levelled and reallocated from the active work years to post-retirement years. 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.

Introductory Table. Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
Mandatory State Pension	Occupational Pension DC	Voluntary Personal Pension
Provides the basic income for most elderly - Pillar I prevents poverty in old age	Aiming to grant a standard of living reflecting the level of income before retirement	Supplementary saving based on individual needs
	More than 80% of Danish labour force is enrolled in one or more occupational schemes.	As Pillar II gains importance, Pillar III enrolments are diminishing
Compulsory and regulated by law	Mandatory for the individual members based on the employment contract, but enrolment is not statutory by law	Voluntary
Quick facts		
Danish pension system has been top ranked (no 2) in the Melbourne Mercer Global Pension Index		
The average replacement ratio is expected to increase in the years to come at around 75%		
	The total value of funded pension schemes exceeds 590 billion euro, or more than twice the Danish GDP	
	Period 2007-2017 the average real return after tax for private pension scheme has been around 4 % a year	

Source: BETTER FINANCE own composition

Within the recent decades, the importance of Pillar II has increased substantially, and this trend will continue in the years to come. Eventually, occupational pensions will become more

important than Pillar I schemes. At the same time the role of supplementary pension schemes of Pillar III is diminishing.

Table DK1. Participation in the three pillars					
	Pillar I		Pillar II	Pillar III	Pillar II and/or III
	ATP	Folkepension			
Contributors (as % of the work force)	88%	0%	81%	25%	91%
Retirees (as % of retirees)	86%	99%			61%

Source: Forsikring Pension DK - Folkepension og ATP

Table DK2. Total value of funded pension schemes 2000-2017 (in bln)							
	Life insurance companies	Industry wide pension funds	Company pension funds	Banks	ATP	Total	currency
2000	650	270	43	215	247	1,424	DKK
	87	36	6	29	33	191	€
2001	650	272	40	215	247	1,423	DKK
	87	36	5	29	33	191	€
2002	669	277	37	198	243	1,424	DKK
	90	37	5	27	33	191	€
2003	732	302	38	215	263	1,550	DKK
	98	40	5	29	35	208	€
2004	810	339	39	244	307	1,740	DKK
	108	45	5	33	41	233	€
2005	953	381	42	298	365	2,040	DKK
	128	51	6	40	49	273	€
2006	1,010	402	43	347	372	2,174	DKK
	135	54	6	46	50	291	€
2007	1,054	412	43	369	389	2,268	DKK
	141	55	6	49	52		€
2008	1,119	396	44	308	678	2,545	DKK
	150	53	6	41	91	341	€
2009	1,212	436	45	378	609	2,680	DKK
	162	58	6	51	82	359	€
2010	1,351	478	51	405	758	3,043	DKK
	181	64	7	54	102	408	€
2011	1,496	556	53	399	776	3,279	DKK
	200	74	7	53	104	439	€
2012	1,682	565	57	438	791	3,533	DKK
	225	76	8	59	106	473	€
2013	1,757	585	53	445	677	3,517	DKK

	235	78	7	60	91	471	€
2014	2,013	646	59	424	812	3,955	DKK
	270	87	8	57	109	530	€
2015	2,074	672	60	446	781	4,033	DKK
	278	90	8	60	105	540	€
2016	2,289	692	59	460	870	4,369	DKK
	307	93	8	62	117	585	€
2017	2,368	727	56	385	893	4,429	DKK
	317	97	7	52	120	593	€

Source: ForsikringogPension

The statutory retirement age in Denmark was in 2018 65 years, while the average life expectancy after retirement was 21 years. From 2019 the retirement age will gradually be raised until it reaches 68 years for people born after 1962.

Presently the statutory retirement age is a hot political topic. There is broad political agreement that the standard retirement age must be gradually increased following increased life expectancy. But how should people who are not able to work until standard retirement age be treated? Some argue for a differentiated retirement age, so that some groups - typically workers with a low level of education and an early start in the labour market - should be entitled to an earlier retirement age than others and without further testing. Others argue for a right to early retirement for all citizens subject to an individual medical test.

Table DK3. Retirement age in Denmark 2000-2017

Year	Average retirement age
2000	62.5
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	63.5
2013	63.5
2014	64.2
2015	64.5
2016	64.9
2017*	65.1
2018*	65.4

Source: Forsikringogpension Danmark; **preliminary*

Pillar I

Pillar I basically consists of two pension plans: the state pension for elderly inhabitants of Denmark (Folkepension) and the ATP, a mandatory pension scheme for all employees in the Danish labour market. Both schemes are regulated by law.[104]

The state pension (Folkepension)

The state pension is a tax financed PAYG pension plan. The pension is given to all elderly persons who have lived in Denmark for the majority of their adult lives. Entitlement is not conditional on employment or tax payments earlier in life, but the pension is reduced for persons who have spent a substantial part of their lives outside Denmark.

The state pension consists of a basic pension and a personal supplementary pension. The basic pension amounts to DKK 75,924 a year (€10,191).[105] The pension is means-tested against personal work income, but practically everybody who is retired is entitled to the same basic pension. The pension is reduced by 30% of personal work income above a threshold. The personal supplementary pension amounts up to DKK 83,076 (€11,151) – for married persons this figure is a little lower. The supplementary pension is means-tested against all other income, including private pensions. The supplementary pension is reduced if all other income exceeds DKK 87,800 (€11,785), and if your income exceeds DKK 356,000 (€47,785) you are not entitled to any supplementary pension. Neither the basic pension nor the supplementary pension is means-tested against disposable assets as is the case for some other social benefits targeted at the elderly.

ATP

ATP is part of the Danish welfare system for old-age pensioners. ATP is a funded plan for all employees in the Danish labour market. It is mandatory and regulated by law. The contribution is no more than DKK 3,408 per year (€458), so the ATP is meant to be a supplement to the state pension and other pension plans. Two thirds of the contribution are paid by the employer, 1/3 by the employee.[106] Self-employed and people who receive some kind of social benefits – e.g. temporarily unemployed people and people who are currently

[104] 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).

[105] The currency rate used is 1 DKK = 0.1343 EUR, according to the foreign currency conversion rate published by the ECB for 31/12/2017 https://sdw.ecb.europa.eu/curConverter.do?sourceAmount=73920&sourceCurrency=DKK&targetCurrency=EUR&inputDate=31-12-2017&submitConvert.x=46&submitConvert.y=8.

[106] The pension contribution is nominal (fixed) and equally applicable for all workers, therefore the contribution rate (%) will vary depending on the income.

not working due to disability, illness etc. - can choose to continue paying to the ATP on a voluntary basis, in which case the employer's part is financed by the state.

The ATP is a lifelong pension. It is paid out from when the saver reaches the statutory retirement age until he passes away. The annual amount depends on how many years you have been saving. The maximum amount per year is currently DKK 24,500 (€3,289). If the beneficiary dies before reaching retirement age, the saved amount is paid out to the heirs.

The pension plans of Pillar I provide all Danish inhabitants with a basic income. Combined with the tax-financed healthcare system and tax-based old age care, this prevents poverty in old age. Around half of the old age pensioners of today have no other income than Pillar I pension. But for many people, Pillar I cannot ensure a sufficient income relative to their income before retiring. Because of this, Pillar II schemes play an increasing role for new generations of old age pensioners.

Pillar II

The schemes of Pillar II are non-statutory plans founded upon an unofficial agreement between the government and the social partners of the labour market.[107] Society provides economic incentives for saving in pension schemes and the social partners (the term used in the Danish pension system to describe unions and employer organisations) provides mandatory enrolment either through general agreements in the labor market or through employment contracts.

Within the last 25 years, we have seen a major expansion of Pillar II. Before 1990, Pillar II schemes were almost exclusively for civil servants and white-collar workers in the private sector. But since then, Pillar II schemes have been established for a very large majority of the labor market- more than 80%.

Total contributions to occupational pension schemes amounted to DKK 104 billion (€14 billion) in 2017 (comment: 2018 figures are not yet available), 2.6 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 35,000 DKK per year (€4,701).

[107] The Danish labour market has a high organization rate. There are frequently talks between the Government, unions and employers' organizations (tri-party-meetings). Sometime, political goals are best achieved through agreements rather by legislation. Then, an informal agreement can be settled between the parties and afterwards implemented through general agreements. Pillar II schemes for the private sector are an example of this. An agreement of the three parties was made in 1989 and pension schemes and contributions were given priority in the general agreements for the next 25 years.

Contribution rates during the accumulation phase have gradually increased during the last 25 years and have probably reached their final level today. Contribution rates vary a lot, but a common rate for blue collar workers is 12% of the salary and 15-18% for white collar workers. Normally, 2/3 is paid by the employer and 1/3 by the employee.

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

Table DK4. Number of private pension contracts 2001-2017			
Year	Individual schemes	Occupational schemes	Total
2001	1,255,931	2,604,127	3,860,058
2002	1,187,110	2,837,482	4,024,592
2003	1,126,061	3,016,891	4,142,952
2004	953,925	3,055,831	4,009,756
2005	1,022,752	3,361,712	4,384,464
2006	1,095,731	3,405,394	4,501,125
2007	1,112,714	3,589,372	4,702,086
2008	1,293,226	3,771,977	5,065,203
2009	1,378,350	3,898,196	5,276,546
2010	1,142,774	3,891,501	5,034,275
2011	1,208,941	4,059,209	5,268,150
2012	1,398,422	3,997,145	5,395,567
2013	1,481,007	3,801,555	5,282,562
2014	1,431,842	4,153,361	5,585,203
2015	1,403,226	4,265,022	5,668,248
2016	1,568,273	4,028,323	5,596,596
2017	1,645,745	4,403,822	6,049,567

Source: ForsikringogPension.dk

Around 80% of all working people contribute to a Pillar II scheme. We only have figures of the number of contributors for a specific year. But some do not pay contributions every year. One reason could be unemployment. Therefore, the percentage of people in the work force covered by an occupational pension scheme is probably somewhat higher than 80%.

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 2017,[108] pension funds and life insurance companies had a total of 4,404,000 contracts concerning

[108] Data for 2018 were not available at the time of writing. Therefore, wherever the text of this analysis or the tables or graphs refer to 2017 figures, it means that the research team could not find the necessary updates.

occupational pension. In the same year, around 2.3 mln. persons paid contributions to one or more occupational schemes, so many 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-based DB pension. These schemes have rapidly decreased. Today, only about 30.000 civil servants in the state are still paid in this way when they retire. Civil servants in local governments now enroll 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. Today, only 5 firmapensionskasser hold assets of more than DKK 1,000 million (€135 million). Based on AuM, they only constitute 1.3% of the total market, and most of the funds do not enroll new members anymore. Less than 2,500 persons made contributions in 2017, 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. Also, changes in tax regulation have negatively influenced the demand for Pillar III schemes.

In 2000, approximately 1 million persons contributed to an individual scheme. In 2017, the number had decreased to 740,000. This is an increase compared to 2016.

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 2017, contributions to individual schemes were almost at the same level (DKK 16,326 mln or €2,193 mln) as in 2000.

Regulations have been tightened, 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, individual scheme savings 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 the full population and split by educational background. The replacement ratio 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 Education						Not working before retirement
	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	96.0
2008	67.7	67.5	70.0	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	73.0	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	77.0	78.6	71.2	107.6
2014	72.1	71.9	74.1	80.0	81.9	73.8	107.4
2015	71.4	71.0	77.3	79.6	83.5	73.5	108.0
2016	73.1	72.2	78.4	79.0	83.6	74.4	107.1
2017	72.1	71.0	76.1	76.3	78.3	73.1	104.8

Source: Forsikring & Pension Danmark

The average net replacement rate was 73% in 2017, which indicates a small decrease compared to the previous years. The importance of private pensions is reflected in a higher replacement ratio for people with a higher education. This is because they have been contributing to a pension plan throughout their careers with higher contribution rates, whereas people with lower education have enrolled later and their contribution rates have

only gradually grown.[109] Therefore, the ratio for people with lower education is expected to grow in the forthcoming years relative to the average. The replacement rate[110] is measured as the income in the first year after retirement relative to the income in the last year before retirement. For people who were not working in the year before retirement, the replacement ratio is naturally very high, since their income before retiring was typically very low, and since they are entitled to pension from the state and sometimes even from private pension schemes.

Today, the most important source of income for pensioners is Pillar I. Approximately 40% of all current pensioners have little or no other income. Payouts 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 2017.

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. 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).[111]

As stated earlier, around 80% of all working people contribute to a Pillar II scheme. But that does not necessarily mean that the remaining 20% will have a low pension replacement rate:

- A large part of the latter are people with very low income, whose coverage from Pillar I is already at around 100%;
- Another large group consists of people temporarily without a job or people with part time jobs, e.g. students, who will save for pension in Pillar II schemes when they become full time employees; and
- A third group consists of the self-employed, such as farmers, taxi drivers etc. and of employees without an occupational pension scheme; for this group, the absence of pension savings might lead to a low coverage in old age.

[109] This is because 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.

[110] This replacement rate is provided from a different source than the one in the General Report.

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

Pension Vehicles

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

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

A Danish industry-wide *pensionskasse* – or pension fund – is a legal entity owned and governed by its members. A *pensionskasse* can provide the same kind of products as a life insurance company and it is subject to the same kind of regulation as a life insurance company – specifically, the Solvency II Directive.[112]

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 owned by the social partners.

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 more costs, especially related to acquisition and to individual counseling.

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.

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

The 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

The detailed regulation of pension products is tax regulation.

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

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

All kind of pension savings can be paid out from five years before statutory retirement age.

Annuities (*livrenter*) provide the beneficiary with a monthly payout from retirement to death. Income tax is deferred. Regular contributions to an annuity are deductable in the income tax base without any limit. Pay-outs are taxed as personal income. An annuity can be life-contingent, or the capital value can be paid out to the heirs in the case of death.

Periodic installments or fixed term annuities (*ratepension*) provide you with monthly installments of equal amounts for a period of minimum 10 years and maximum 25 years. A *ratepension* can be life-contingent or the capital value can be paid out to the heirs in the case of death. Income tax is deferred. Regular contributions to a *ratepension* are deductable in the income tax base up to a maximum of DKK 54.700 (€7,340). 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. Instead you can contribute to an *aldersopsparing.* Contributions to an aldersopsparing are not and the pay outs are not taxed. So, 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 now DKK 5,000 per year (Euro

670) except for the last 5 years before retirement age, where the maximum contribution per year is DKK 50,000 (see section on taxation).

Table DK6 (A). Number of persons contributing to one or more private pension schemes, 1998-2017							
		Individual schemes					
Year	Annuities	Periodic instalment, insurance	Lump sum insurance	Periodic instalment, bank	Lump sum, bank	TTE lump sum, insurance or bank	*One or more individual schemes*
1998	259,000	82,000	267,000	45,000	744,000	-	1,146,000
1999	257,000	96,000	236,000	91,000	631,000	-	1,078,000
2000	260,000	102,000	221,000	124,000	600,000	-	1,064,000
2001	256,186	105,372	208,361	126,776	566,013	-	1,029,736
2002	252,354	109,068	198,518	137,834	545,463	-	1,010,388
2003	249,901	112,817	189,861	151,401	540,339	-	1,005,919
2004	260,574	117,470	182,494	168,181	543,297	-	1,017,806
2005	262,298	119,131	174,437	198,445	553,162	-	1,033,467
2006	255,074	119,054	166,014	221,825	561,435	-	1,038,035
2007	238,632	123,642	156,234	290,036	646,566	-	1,132,179
2008	232,590	124,325	145,194	259,241	529,316	-	1,017,452
2009	226,275	122,904	137,893	277,580	505,959	-	998,868
2010	216,788	91,110	128,657	191,101	479,363	1,700	855,465
2011	225,108	90,557	121,585	192,034	467,943	7,098	856,640
2012	214,991	93,408	118,720	177,146	457,700	6,795	812,337
2013	221,418	144,571	5,791	206,323	14,711	5,997	571,360
2014	237,274	137,031	3,681	203,616	2,012	220,648	631,716
2015	242,256	130,106	2,953	194,441	1,302	265,193	656,600
2016	253,018	126,346	2,591	185,565	933	291,129	650,869
2017	262,908	124,312	2,289	203,182	953	386,673	740,165

Source: *Forsikfring & Pension Danmark*

Table DK6 (B). Number of persons contributing to one or more private pension schemes, 1998-2017							
		Occupational schemes					
	Annuities	Periodic instalment, insurance	Periodic instalment, bank	Lump sum, insurance	Lump sum, bank	TTE lump sum,	*One or more*

						insurance or bank	*occupational schemes*
1998	1,513,000	130,000	26,000	742,000	269,000	-	1,721,000
1999	1,571,000	224,000	60,000	836,000	205,000	-	1,751,000
2000	1,676,000	537,000	69,000	1,115,000	196,000	-	1,855,000
2001	1,728,748	624,144	73,330	1,148,454	195,035	-	1,917,845
2002	1,755,775	678,454	67,771	1,114,154	150,613	-	1,944,128
2003	1,782,288	896,553	68,229	1,103,331	133,711	-	1,963,281
2004	1,818,140	962,244	75,532	1,126,380	118,735	-	1,995,636
2005	1,851,642	1,009,499	87,712	1,133,902	104,503	-	2,027,786
2006	1,897,567	1,099,180	106,666	1,150,081	100,874	-	2,088,547
2007	1,971,768	1,192,310	117,778	1,183,232	97,106	-	2,150,860
2008	2,081,505	1,259,956	123,282	1,184,460	93,221	-	2,270,862
2009	2,077,861	1,251,463	127,094	1,126,765	87,099	-	2,259,965
2010	2,061,011	1,240,876	100,526	1,046,102	80,423	-	2,102,855
2011	2,091,462	1,270,709	92,699	1,009,685	75,510	-	2,242,204
2012	2,123,697	1,310,147	85,834	965,023	72,376	-	2,259,603
2013	2,143,487	1,464,161	92,614	3,537	1,951	9,552	2,265,953
2014	2,174,825	1,506,361	87,255	1,989	142	10,069	2,290,884
2015	2,197,722	1,535,244	82,409	419	37	11,343	2,310,180
2016	2,242,792	1,572,731	78,058	208	12	13,363	2,344,391
2017	2,284,406	1,613,025	203,182	154	35	16,907	2,378,569

Source: Forsikring & Pension Danmark

Table DK7. Total pension contributions to private pension schemes (1999-2017)	
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)

Source: ForsikringogPension.dk

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

Normally the distinction between the groups of products only relates to tax treatment and the pay-out phase. The investment assets and the investment policies are pooled.

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:

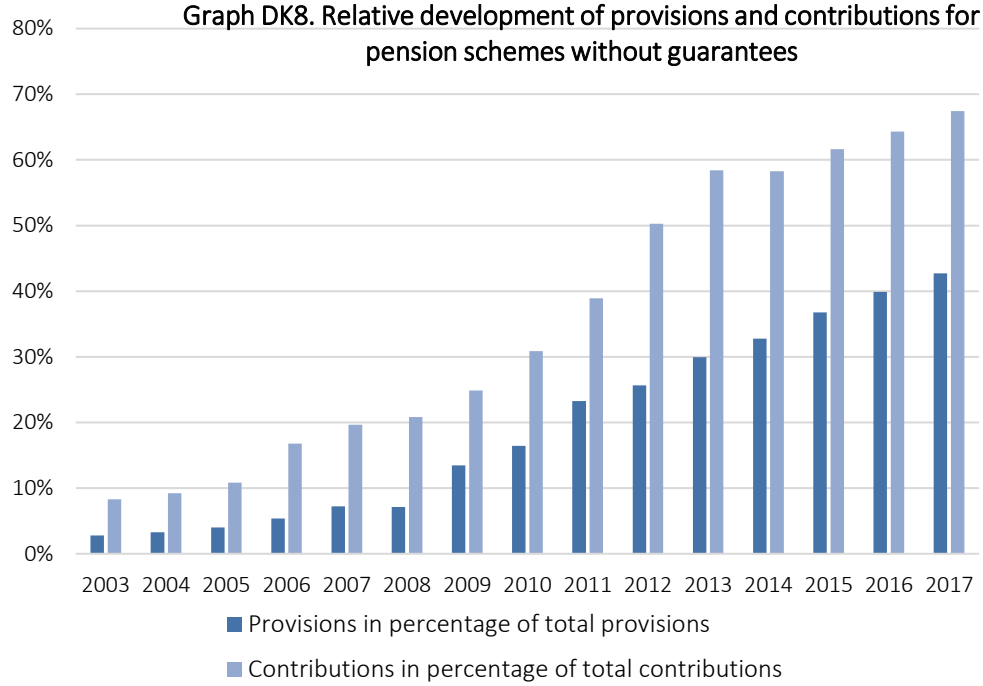
- as an ordinary deposit with the interest rate offered by the bank;
- in investment funds of the customers own choice; or
- in listed equities, bonds and other financial assets owned directly by the customer.

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 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 assumptions turned out to be riskier than expected. Therefore, the Financial Supervisory Authority (FSA) gradually lowered the maximum allowed interest rate 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 classical DC model. Others have offered their customers compensation if they were willing to cancel the guarantee individually. Thus, the high guarantee schemes play a much less important role today than a few years ago.

In 2006, contributions to guaranteed schemes amounted to 83% of total contributions. In 2017, this figure has decreased to 32%. So, today around 2/3 of all new savings are placed in

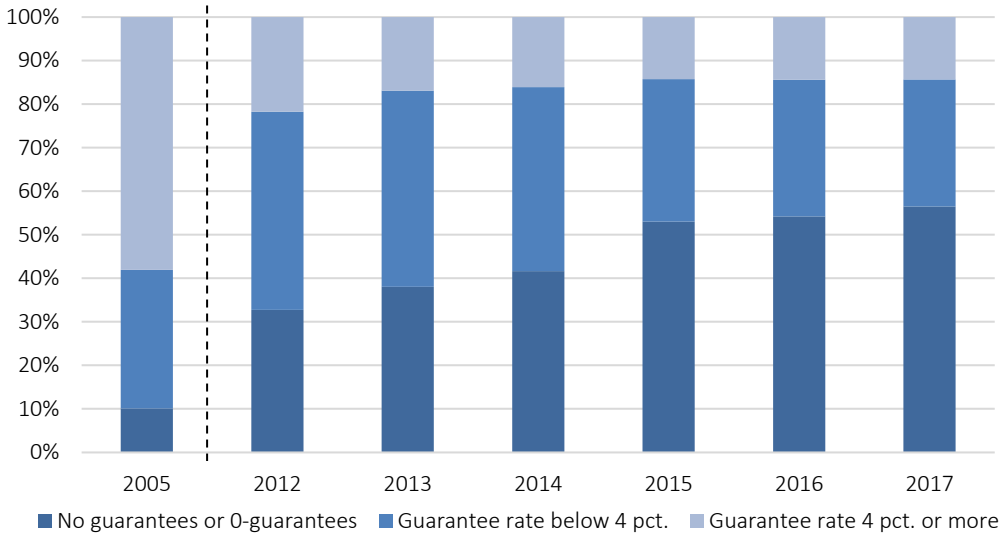
DC schemes without guarantee or with a guarantee only against loss. Measured by the provisions, the guaranteed schemes have decreased from 95% in 2006 to 57% in 2017. In addition, the high-rate guarantees – above 4% in interest rate – have decreased even more, from 58% in 2005 to 14% in 2017.

Graph DK8. Relative development of provisions and contributions for pension schemes without guarantees



Source: Forsikring & Pension Danmark

Graph DK9. Provisions for guaranteed and non-guaranteed schemes



Source for Graphs DK8 and DK9: Danish FSA.

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 will lead to a reduction of life-time consumption of 1.2% for low income groups and 2.3% for high income groups. The same increase makes a two years postponement of the retirement age necessary if the life-time consumption shall remain unchanged.

The Danish FSA has analyzed 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 a level in 2017 of 0.19% of total provisions. 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 0.11% of total provisions in 2017.

Table DK10. Administration costs in DKK and in percentage of total provisions and contributions, 2007 -2017				
	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.

Source: Danish FSA

In addition, new self-regulation in the pension sector is an indication of an increasing attention to costs. 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 in order 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.

Table DK11 compares total charges for the five largest Danish companies, for three different persons and for DC schemes with no guarantee and hybrid DC schemes, respectively. The three persons differ on three parameters: age, yearly contribution, and value of previous savings. The site offers more options to combine the parameters than shown here. The first example is a young person who pays relatively small contributions and is newly enrolled in the scheme. The second example is a middle-aged person with larger contributions and some previous savings. The third example is a person close to retirement age with the same contributions as in example 2 and a larger value of previous savings.[113]

[113] The companies compared are: PFA – Denmark's largest life insurance company with around 1 million customers and total assets of about DKK 600 billion (€81 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 600,000 customers and assets of about DKK 400 billion (€54 billion). Today owned by Danske Bank. 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. 700,000 customers and assets of around DKK 250 billion (34 billion euros); Industriens Pension – founded in 1989 by the social partners to run an industry-wide pension scheme for skilled industrial workers, mostly in the private sector. 400,000 customers and assets of around DKK 170 billion (23 billion euros); Sampension – founded in 1945 by Danish local governments, originally to run pension schemes for municipal employees. Now runs industry-wide pension schemes for a number of public and private employees. Around 100,000 customers and managing assets of DKK 270 billion (€36 billion).

Table DK11. Comparative example of charges between different pension products in Denmark					
		Charges in DKK (euro)			
Company	Total in %	Total	Administration	Investment	Guarantee
Hybrid DC DKK (euro)					
PFA					
Person 1	4.2	1.151 (154)	744	208	199
Person2	1.7	9.172(1.231)	920	4,213	4,039
Person 3	1.6	16.742 (2.247)	920	8,078	7.444
Danica					
Person 1	4.3	1.169 (157)	804	201	163
Person 2	1.5	8.221 (1.103)	804	4,068	3,321
Person 3	1.4	15.023 (2.017)	804	7,852	6,367
Sampension					
Person 1	2.0	572 (77)	420	152	0
Person 2	0.6	3.475 (466)	420	3,055	0
Person 3	0.6	6.275 (842)	420	5,855	0
DC - no guarantee					
PFA					
Person 1	2.0	571 (77)	345	226	
Person 2	0.9	5.102 (685)	575	4,527	
Person 3	0.7	7.663 (1.029)	575	7,088	
Danica					
Person 1	2.4	674 (91)	414	260	
Person2	1.0	5.692 (764)	690	5.002	
Person 3	0.9	9.675(1.299)	690	8.985	
PensionDanmark					
Person 1	1.5	421 (57)	297	124	
Person 2	0.5	2.713 (364)	297	2.416	
Person 3	0.4	4.285 (575)	297	3.988	
Sampension					
Person 1	2.0	574 (77)	420	154	
Person 2	0.5	3.102 (416)	420	2.682	
Person 3	0.4	4.697 (630)	420	4.277	
Industriens Pension					
Person 1	1.4	387 (52)	264	123	
Person 2	0.8	4.597 (617)	264	4.333	
Person 3	0.7	7.128(957)	264	6.864	
Source: faktaompension.dk					

There are a number of general conclusions to be made from the examples in Table DK11.

1. Administration costs constitute only the minor part of total charges for the majority of customers. Investment costs increase rapidly with the size of the pension savings.
2. Total charges are lowest in the industry-wide schemes with the highest degree of standardization and with no acquisition costs.
3. Total charges seem to be highest in the so-called market-oriented companies (PFA and Danica) with the best possibilities for the customer to adjust the product to his own preferences
4. Total charges are substantially higher for hybrid DC schemes with a guarantee than for schemes without guarantee. This is due to a specific charge for the guarantee.

Taxation

The actual Danish tax model was originally an EET model, but it has been adjusted through numerous amendments, so today one might as well say that the Danish model is a TTT model.

The tax legislation of pension savings has followed two general trends. The first trend has been adjustments of the tax incentives to a politically desired level. This has mostly led to a reduction of the tax incentives, but we also have examples of amendments created to promote life-long pension over lump sum payments. The second trend is a general move towards earlier income taxation of pension savings, i.e. adjustments of the general deferral of income tax for pensions.

The first major adjustment to the EET regime 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 flat rate nominal taxation on all yields from pension assets. The tax rate is at present 15.3%. Thus, Denmark was probably the first country to go from EET to ETT. But even today, a lower taxation of investment return constitutes the major tax incentive to pension savings.

In general, pension contributions are tax-deductable when saved, and income tax is deferred until the money is paid out for consumption. But there are exceptions to this general rule. In 1994, the income tax base was broadened by lowering the income tax rate and introducing a gross tax on all wage income (arbejdsmarkedsbidrag). This tax of 8% includes pension contributions. When paid out, no wage tax is imposed. Thus, the deferral of income tax was partly abandoned.

In 2013, future contributions to the lump sum pension scheme named "*kapitalpension*" was abandoned and a tax regulation for a new product "*aldersopsparing*" was introduced. Contributions into a *kapitalpension* had until then been exempted from income taxation.

When paid out as a lump sum the money was and still is taxed at a flat rate of 40%. In an *aldersopsparing*, there is no exemption for contributions. When retiring, you can take out the money without any income taxation. In both schemes, the return on investments is taxed by 15,3 pct. like in other schemes.

Thus, though the starting point for the tax regime was the EET model, the tax rules have gradually been adjusted to a combination of an ETT regime and a TTE regime.

Table DK12. Taxation of contributions, investment returns, and pension pay outs

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

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.
Source: BETTER FINANCE own composition

The latest amendments from 2018 do not concern the tax rules directly, but rather the total impact of tax and social benefits. The existence of a political dilemma became more and more clear. On the one hand, society wants the Danes to save for their old age. Therefore, tax incentives to save for pensions are needed. On the other hand, it is generally expected that the welfare system takes care of elderly citizens with little income. Therefore, social benefits are directed towards old aged people with little or no private pension. Thus, the interaction between the tax system and earnings-related social benefits resulted in extremely high implicit marginal tax rates for pension saving, even higher than 100%. Instead of a tax incentive, some people were losing money on their marginal pension contributions. This was particularly a problem for contributions made in the last 5-15 years before retirement age. As pensions in Pillar II schemes increase, the interaction between pension tax and social benefits would become an increasing problem.

Since Parliament did not want to change the rules for social benefits, amendments of the regulation for pension schemes were passed in 2017 and 2018.

First, the regulation for saving in *aldersopsparing* was changed. The right to receive social benefits is not means-tested against *aldersopsparing*. Therefore, the problem was partly solved by allowing extra saving in *aldersopsparing* in the critical period just before retirement. The maximum allowed amount to save in an aldersopsparing is in general DKK 5,000 per year (€670). Now, a yearly contribution of DKK 50,000 (€6,700) is allowed in the

last five years before retirement age. Thus, many people will benefit from switching their saving into an *aldersopsparing* in the last years before retirement.

Second, the value of the tax-exemption of savings in annuities and periodic installments has been raised. In the future, if you save DKK 100 in an exempted pension scheme, your taxable income is lowered by DKK 103.1. In addition, contributions in the last fifteen years before retirement age are exempted by 108.2%. There is a limited contribution of DKK 50,000 (€6,700) per year for this extra allowance.

Pension Returns

In general, pension savers have little influence on how their savings are invested. The investment policy is decided by the insurance company or the pension fund with the double aim to limit the risk and make the highest return possible. 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. This is not common in the market for industry-wide schemes. Here the demand for these products is not present. Even customers in unit-linked schemes often let the insurance company choose investment funds based on the reported risk profile of the customer.

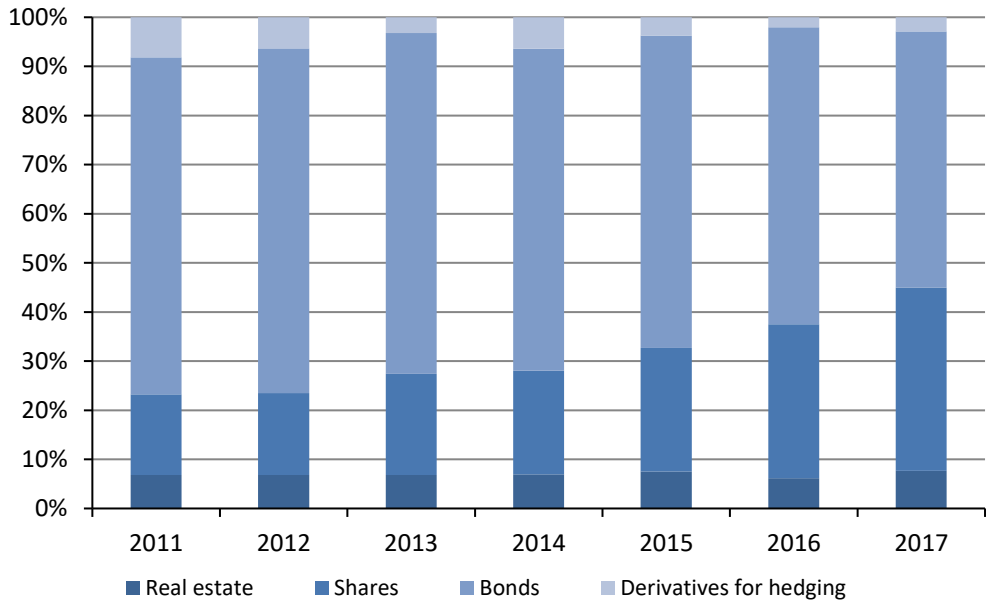
More common are so-called life-cycle products. The insurance company invests in two portfolios, one with high risk and one with low risk. When you are enrolled as a young person, all your contributions are invested in the high-risk portfolio. As you get closer to retirement age, your money is gradually moved to the low risk portfolio. In most companies the split between the two portfolios depends only on your age. 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 are invested in bonds. The low interest rate environment of 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 huge compared to the size of the country, and the credit risk is rated almost as low as for government bonds.

Graph DK13. Investment assets



Source: Ftnet.dk

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. A lot 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.

Until now, the Danish pension sector has managed the financial crisis and the low interest rate environment rather well. Although the last decade started out with substantial losses, the following years more than compensated for these losses. Although it has been a decade of low interest rates and low economic growth, money invested in a private pension scheme in 2007 has, on average, accumulated a real return of approximately 50 percent by 2017. This equates to an average interest rate after tax and inflation of approximately 4.0% a year (a little higher for non-guaranteed products).

Figures for 2018 concerning the investment return for the sector in total are not yet available. In general pension funds and life insurance companies have experienced negative returns in 2018 for almost all asset groups. Political topics such as the relations between the USA and China and the uncertainty concerning Brexit have had negative impact on the markets, resulting in overall losses – typically between -1 to -5 pct. - for 2018. The greater losses were in market rate-based schemes with no guarantee, while the investment return for guaranted DC-schemes typically was just below zero. In 2017 where the markets gave a positive return, schemes with no guarantee had the highest return, thus illustrating a more cautious investment policy for guaranteed products.

Table DK14. Nominal and real return of private pension schemes in Denmark 2007-2017 (in %)

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

Source: Danish FSA; own computations

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. Therefore, the average rate of return for 2007-2017 cannot be computed.

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 is characterized by a high degree of funding and clear roles for the tax-based public pensions of Pillar I and the private funded pensions.

In the next decades, the benefits from occupational pension schemes will be growing and will thereby contribute to a high replacement ratio and, at the same time, improve public finances through higher tax revenue and lower public pension expenses. The replacement ratio is at an acceptable level for almost all parts of the population. A relatively small fraction of the working population with no or little private pension will face a problem of relative poverty when they retire. The problem probably does not affect a great number of people but is all the more severe for the few. Most likely, a political solution of some sort will have to be found within the next years. The statutory retirement age is gradually raised in the forthcoming years in order to keep elderly people in the work force as life expectancy increase. Presently this raise political discussions on how to give elderly people below retirement age who are no longer able to work a right to earlier retirement.

The pension system's high degree of funding makes future generations of pensioners less vulnerable to political risk. Their income from Pillar II and Pillar III does not depend directly on political decisions. But, at the same time, they become more vulnerable to market risk. A sudden increase in inflation rates will most likely result in great losses for pension savers. An increase in interest rates will lead to lower market value of bonds owned by future pensioners. So, too much volatility of the economic environment has become a greater risk for the retired generations.

The charges of private pensions have been decreasing for a long period of time. This is due to the growth of private pension schemes and efforts in the market to obtain economies of scales. The pluralism of the market with suppliers organized in many different ways is said to put pressure for higher efficiency.

Policy Recommendations

1. Though average contribution rates are high in Denmark compared to many other countries, the present historical low level of interest rates give reason to consider whether contributions are sufficient.
2. Considering the importance of pension savings in Denmark, data availability seems to be at an unsatisfactorily level.

Pension Savings: The Real Return

2019 Edition

Country Case: Estonia

Kokkuvõte

Eesti pensionisüsteem on traditsiooniline Maailmapanga mitme-sambaline (kolm sammast) süsteem, mis põhineb individuaalsetel (personaalsetel) pensionikontodel. 2017. aasta tõi positiivse tulemi mõlemas sambas; sh olid kolmanda samba fondide tulemuseks soliidsed 2,35% reaaltootlust, samal ajal kui teise samba fondid olid napilt positiivsed 0,06% reaaltootlusega.

Rõõmustav oli madalate kuludega passiivsete pensionifondide lisandumine mõlemas sambas. Nende madalate kuludega fondide turuletulek on sundinud valitsemistasusid alandama teisedki teise ja kolmanda samba fondid.

Summary

The Estonian Pension system is a typical World Bank multi-pillar (three pillar) system based on individual (personal) pension savings accounts. 2018 saw negative returns across all pension pillars, with Pillar III recording average negative returns of -6.51% and Pillar II funds averaging negative returns of -2.47%. After adjusting for inflation, the real returns were even lower: -5.79% for Pillar II funds and -9.83% for Pillar III funds.

Low-cost passively managed pension funds introduced in 2017 recorded increased assets under management as well as a higher number of savers despite negative returns. In 2018, the low-cost competitors have forced providers to further decrease the fees charged in Pillar II as well as Pillar III pension funds.

Introduction

The Estonian old-age pension system is also based on the World Bank multi-pillar approach, which consists of three main pillars:

- Pillar I – State pension organized as a mandatory Pay-As-You-Go (PAYG) scheme;
- Pillar II – Funded pension organized as a mandatory funded defined contribution (DC) based scheme;
- Pillar III – Supplementary pension organized as a voluntary individual pension scheme.

The Estonian multi-pillar pension reform began in 1998 with the introduction of the third (voluntary) pension pillar in legislation. The second or "mandatory" pension pillar, which funds individual private retirement accounts with worker and government matching contributions, was adopted in 2001 and became operational on 1 July 2002.

Table EE1. Multi-pillar pension system in Estonia

Pillar I State pension	Pillar II Funded pension	Pillar III Supplementary pension
Mandatory	Mandatory	Voluntary
PAYG	Funded	Funded
Financed by social tax	DC	DC
Benefits Paid via State Pension Insurance Fund	Basic benefit	Complementary benefit
Minimum pension + employment related	Individual pension accounts	Individual pension contracts
Publicly managed by Social Insurance Board (government entity)	Privately managed pension funds	1. Privately managed pension funds 2. Pension insurance

Source: BETTER FINANCE own elaboration, 2019

The basic pension system generated an average replacement ratio in 2018 of 33.64%, calculated by dividing the average old-age pension with the average salary in Estonia (according to Statistics Estonia, 2019). The coverage ratio of Pillar I pensions comprises nearly 100% of the economically active population. Pillar II covers nearly 96%, whereas for Pillar III the coverage ratio is close to 17%.

Table EE2. Summary returns table - Estonia				
	Pillar II		Pillar III	
	Nominal	Real	Nominal	Real
1 year (2018)	-2.47%	-5.79%	-6.51%	-9.83%
3 years (2016-2018)	1.51%	-1.64%	1.25%	-1.91%
7 years (2012-2018)	3.55%	1.39%	4.44%	1.39%
10 years (2009-2018)	4.15%	1.83%	5.68%	3.32%
Whole reporting period (2003-2018)	3.56%	-0.01%	4.38%	0.64%

Source: BETTER FINANCE own composition

Pillar I – State Pension

The state pension (Pillar I) should guarantee the minimum income necessary for subsistence after retirement. It is based on the Pay-As-You-Go (PAYG) principle of redistribution, i.e. the social taxes paid by today's employees cover the pensions of today's pensioners.

Legislatively, the state pension is governed by the State Pension Insurance Act. The act is part of the pension system reform which came into force on 1 January 2002. Since then, the act has been amended more than 30 times. Employers pay 33% of the salary of each employee as social tax, 13% of which is for health insurance and 20% (16% in case of participation in Pillar II) is for the pensions of today's pensioners.

There are two kinds of state pension: the pensions that depend on work contributions (the old-age pension, the pension for work-incapacity and the survivor's pension) and the national pension.[114] Estonians are entitled to the state old-age pension if they have been employed for at least 15 years in Estonia. If the period of employment is shorter, they are not entitled to the old-age state pension and might fall under the national pension system (the national pension was €205.21 in 2018).

The **national pension** (also called National Pension Rate – NPR) provides a minimum pension for those who are not entitled to a pension that depends on work contributions, provided that they have lived in Estonia for at least five years before applying for a pension. The amount of the national pension as of 1 April 2019 (Pensionikeskus, 2019) is €205.21 (up from

[114] The difference is that both parts are financed by one social security contribution. However, the national pension is a minimum pension and this part depends on the number of working years (regardless the level of salary) and thus incorporates the solidarity principle. The second part depends on the level of salary and thus takes into account how much an individual has paid in contributions during his or her career compared to the average salary in the country.

€189.31 on 1 April 2018). Generally, no additional benefits are provided via the state pension scheme.

The old-age pension, available for those who contributed for 15 years or longer, takes into account the solidarity part (national pension) plus the work and salary related part. The old-age pension financed through Pillar I is calculated as a sum of two components:

1. Basic amount (equaling to €205.21 – NPR);
2. Salary based amount calculated as a multiplication of two factors:
    - Pensionable service period;
    - Insurance contributions.

The basic amount, acting as a first component of the state pension, is aimed at achieving basic solidarity and a minimum pension. The solidarity state pension insurance is represented by the basic amount (base component) of a pension which is equal to all, irrespective of the person's salary.

The factor "pensionable service" period represents the part of state pension which depends on the length of employment (i.e. years of employment and years deemed equal to employment, e.g. raising of children, compulsory military service, etc.) of the pensioner, which entitles him or her to the pension. Period of pensionable service is taken into account up until 31 December 1998. The monetary value of one year of employment in a monthly pension is €6.161 since 1 April 2018 and €6.627 since 1 April 2019 (Social Insurance Board of Estonia, 2019)[115]. This part of the state pension is deemed to diminish in future years (temporary component) as the third component (insurance contributions) will account for a larger portion of the total state pension amount.

The factor "insurance contributions" depends on how much social tax has been paid on the salary of the pensioner since 1 January 1999. The amount of the insurance component is calculated on the basis of the sum of annual factors of pension insurance. An annual factor shows the ratio of the social tax paid on the person's salary during the calendar year to the social tax paid on the average salary of the state. If social tax is paid on the average salary, the annual factor is 1.0 and its monetary value in a monthly pension is €6.627 (since 1 April 2019), the same as the pensionable service period component.

The relative importance of the insurance component increases with every year, which means that the state old-age pension depends more and more on the amount of social tax paid for each specific person or the amount of his or her salary during his or her entire employment life. Thus, Pillar I limits solidarity among individuals.

[115] https://www.sotsiaalkindlustusamet.ee/en/pension-benefits/pension-calculation

The solidarity part of the state pension insurance involves the redistribution mechanism of income from the persons with high salaries to the persons with low salaries. However, the base component of a pension is equal for all, irrespective of the person's salary, while the law also procures the minimum amount of the old-age pension irrespective of the paid social tax.

The **statutory retirement age** is 63 for men and women. However, on 7 April 2010, the Estonian Parliament adopted the Act to amend the State Pension Insurance Act and related acts, establishing that the general pensionable age of 65 years is to be reached in 2026. The transition period (starting from 2017) applies for people who were born from 1954 to 1960. For the latter, the retirement age will be gradually increased by 3 months for every year of birth and will reach the age of 65 in 2026. The amendment came into effect on 1 January 2017. Further increases in the retirement age after 2026 are possible based on the increase in life-expectancy.

Indexation of state pensions is performed by the Social Insurance Board with the aim to adjust the level of state pensions so they correspond to the development of the cost of living and receipt of social tax (growth of the salary fund). Once a year (1 April of each year), pensions are multiplied by an index that is dependent for 20% on the changes in the consumer price index (cost of living) and 80% on the yearly increase in received social tax (labor market conditions). The indexation introduced in 2002 was up until 2008 equally weighted (50% / 50%) on increases in consumers' price index and social tax contributions. It was changed in 2007 to today's 20% and 80%, respectively. According to the Pension Insurance Act, the Government of Estonia has to analyze the impact of the increase in pensions on financial and social sustainability and suggest any need of indexation changes to the parliament every five years.

The average monthly old-age pension paid from Pillar I in 2018 was €440.7 (€405.40 in 2017)[116].

Pillar II – Funded pension

The funded pension and supplementary funded pension put a person in charge of his or her own future – the amount of his or her pension depends on how much he or she has put aside for retirement during their working life. The funded pension is legislated by the Funded Pensions Act, which came into force on 1 May 2004 and replaced the Funded Pension Act, effective 1 October 2001. The funded pension pillar (Pillar II) started its operation in July 2002.

[116] https://www.stat.ee/58108?highlight=pension

The funded pension is based on accumulation of assets (savings) – a working person themselves saves for his or her pension, paying 2% of the gross salary to the selected pension fund. In addition to the 2% that is paid by the individual, the state adds 4% out of the current social tax that is paid by the employee and retains 29% (out of 33%). The state pension insurance component of a person who has subscribed to the funded pension is also respectively smaller (for the years when 16% is received for state pension instead of 20%).

Subscription to the funded pension is mandatory for persons presently entering the labor market, i.e. persons born in 1983 or later. The funded pension was voluntary for those born between 1942 and 1983. Subscription was possible in seven years from 1 May 2001 until 31 October 2010. By submitting a subscription application, a person assumes a binding obligation – a person who has once subscribed will never be able to give up the funded pension.

Each Pillar II participant has his/her own individual pension account that records contributions and accumulated savings. A pension account is a special type of securities account in which there are only units of mandatory pension funds and data related to these units, as well as data about the unitholder.

In response to the impact of the financial crisis on the Estonian economy, a temporary change of contributions' regime has been adopted and lowered the amount of new contributions flowing into the mandatory pension funds. Through amendments to the Funded Pensions Act and the Social Tax Act (entered into force on 28 May 2009), temporary changes were adopted in connection with the contributions to pension Pillar II for the years 2009 to 2017. Contributions to a funded pension were suspended in the period from 1 June 2009 to 31 December 2010. Those interested could have continued making contributions to funded pension themselves from 2010 upon request. From 2011, contributions continued in half-volume, i.e. the state contributed 2% and the savers themselves 1%. Customary contributions to Pillar II (2% + 4%) were restored in 2012 and is fully valid since 2018. There was a special mechanism for Pillar II contributions during the years 2014 – 2017. To those who voluntarily continued their contributions in 2010 and 2011, the state shall pay an additional 6% during 2014 – 2017 in order to promote personal saving in Pillar II. However, if a saver did not contribute himself in 2010 and 2011 and submitted an application in 2013, they are required to pay voluntary contributions of 3% of his salary during years 2014–2017. If he does, the state will contribute an additional 6% during those 4 years. The prerequisite for these additional state contributions is at least 5% nominal economic growth of the Estonian economy. If this prerequisite is not fulfilled, the state is entitled to postpone the increasing of the contribution rate. Since 2018, the contribution mechamis is 2% + 4%.

Pillar III – Supplementary pension

The supplementary funded pensions scheme, or Pillar III, is a part of the Estonian pension system and is governed by the same act that governs Pillar II, the Funded Pension Act (Chapter 3 and following).

This scheme has been introduced with the aim of helping to maintain the same standard of living and adding more flexibility in securing a higher and/or stable stream of income after one reaches the age of 55. The state pension and Pillar II pension are estimated to deliver a gross replacement ratio of approximately 45%. Therefore, the supplementary pension has been designed to help achieve a recommended level of 65% gross replacement ratio of an individual´s previous income in order to maintain the established standard of living.

The supplementary pension participation is voluntary all persons, who can decide to save either by contributing to a voluntary pension fund or by entering into a respective supplementary pension insurance contract with a life insurance company. The amount of contributions is determined solely by the free choice of an individual and can be changed during the duration of accumulation phase. There is also a possibility to discontinue contributions (as well as to finish the contract).

The supplementary funded pension contracts can be made with life insurers as pension insurance or by acquiring pension fund units from fund managers. An individual can choose between three different pension products:

1. Pension insurance with guaranteed interest;
2. Pension insurance with investment risk (unit-linked); and
3. Pension fund.

Pension Vehicles

Pillar II – Funded pension

The only allowed pension vehicles by the Funded Pension Act for the mandatory Pillar II are the mandatory pension funds. Mandatory pension funds differ in their investment strategy and are divided into four groups according to the investment risk they carry:

1. Conservative funds;
2. Balanced funds;
3. Progressive funds; and
4. Aggressive funds.

The structure of savers, assets under management (AuM) and market share for respective groups of mandatory pension funds is presented in the table below.

Table EE3. Mandatory Funded pension vehicles market share

Type of mandatory pension fund	AuM *(€ mil.)*	Market share based on AuM	Number of participants	Market share based on participants
Conservative funds	162.25	4.13%	34,247	5.07%
Balanced funds	543.92	13.83%	78,026	11.56%
Progressive funds	2,545.44	64.72%	370,024	54.81%
Aggressive funds	681.23	17.32%	192,813	28.56%
TOTAL	**3,932.84**	**100.00%**	**657,110**	**100.00%**

Source: own calculations based on pensionikeskus.ee data, 2019 (data as of 31 December 2018)

The asset allocation of mandatory pension funds is legislatively regulated, where the quantitative investment limits are imposed on four different types of mandatory pension funds:

- max. 75% equity (changed from 50% in 2009), of which only 50% may be directly in shares (up to 75% in the case of equity funds);
- max. 40% real estate and real estate funds (changed from 10% in 2007);
- max. 50% venture capital funds (changed from 30% in 2007);
- max. 30% outside the EEA or OECD area.

The abovementioned four main types of mandatory pension funds that members can choose from are distinguished by their equity exposure.

Conservative mandatory pension funds are obliged to invest 100% of the assets into bonds, other fixed-income securities, deposits, investment funds, securities and deposits, and other similar assets. Conservative mandatory pension funds are not allowed to invest in equities and immovables, nor respective investment funds. The conservative strategy focuses on bonds and its objective is the preservation of capital and moderate growth, primarily in short term.

Balanced mandatory pension funds invest in different types of assets under specific limitations:

- up to 25% of the assets of the funds can be invested in equities, equity funds and other instruments similar to equity;
- the remaining part of the assets of the funds is invested in bonds, money market instruments, deposits, immovables and other assets.

Progressive mandatory pension funds invest in different types of assets from the objective under quantitative limits:

- up to 50% of the assets of the funds are invested in equities, equity funds and other instruments similar to equity;

- the remaining part of the assets of the funds is invested in bonds, money market instruments, deposits, immovables and other assets.

Aggressive mandatory pension funds introduced in 2010 are eligible to invest the highest portion of the assets into equities. The following quantitative limits on equities are used:

- up to 75% of the funds market value may invest in equity funds, equity and other instruments similar to equity;
- the remaining part of the assets of the fund is invested in bonds, money market instruments, deposits, immovables and other assets.

In Estonia, more than 660,000 people save under the Pillar II funds, which is almost 96% of the economically active population. Almost 80% of them have opted for pension funds with an active investment strategy pursuing more aggressive investment strategies tied with the significantly higher portion of equities in portfolio.

Even more interesting is the analysis of pension vehicles (preference of pension funds) based on the income level of participants. Wealthier individuals and those with higher earnings individuals prefer conservative funds with less equity exposure. Lower income groups on the other hand tend to prefer riskier pension funds with more equity exposure and more market risk.

Comparing the Pillar II market share development in 2016, more contribution in-flows could be seen in aggressive funds and less into conservative and balanced funds.

Pillar III – Supplementary pension

According to the law, two types of pension vehicles for supplementary pension (Pillar III) are allowed:

1. Voluntary pension funds;
2. Supplementary pension insurance contracts.

For the supplementary pension insurance vehicle, two product options are available:

- Pension insurance at a guaranteed interest rate;
- Pension insurance with investment risk (unit-linked).

Considering the size of Pillar III based on the coverage of economically active population, the Estonian Pillar III amounts only about 17% of the economically active population. There are no investment restrictions regarding asset classes for voluntary (supplementary) pension funds.

Table EE4. Supplementary Pension vehicles market share		
Supplementary pension vehicles	AuM / Reserves *(in €)*	Market share based on AuM / reserves
Voluntary pension funds	155,958,986	39.86%
Supplementary pension insurance contract*	235,270,000	60.14%
TOTAL	391,228,986	100.00%

Source: own calculations based on pensionikeskus.ee data, 2019 (data as of 31 December 2018)
* *latest data available for 2017*

Charges

Pillar II – Funded pension

Pension funds are offered by asset management companies, which are managed under the Investment Funds Act and, as such, the funds are considered typical UCITS funds with special regulation via the Funded Pension Act.

A saver contributing into the pension fund receives the fund units, which represent the unit-holder's share in the fund's assets. Each pension fund can have only one class of units. The nominal value of a unit at the beginning of the fund operation is €0.64. The rights and obligations attached to a unit with respect to a unitholder will enter into force upon issuing a unit and will terminate upon redeeming a unit. A unit is deemed issued upon registration and is considered redeemed upon cancellation with the register. Ownership of a unit is proved by an entry in the register.

As the pension funds are considered typical UCITS funds, fees and charges typical for UCITS funds are applied to the pension funds with some legislative restrictions.

According to the paragraph 151 of the Investment Funds Act, the following charges can be applied to the expense of a mandatory pension fund:

- management fee,
- exit fee (unit redemption fee),
- transactions costs.

Considering the individual saver, additional charges are paid from the individual value of pension savings:

- unit redemption fee,
- entry fee (unit issuance fee, resp. contribution fee).

A comparison table of the most current charges applied by the mandatory pension funds, asset management companies and individual fees paid by a saver is presented below. Constant decrease in management fees can be observed across all types of pension funds.

Table EE5. Mandatory Pension Funds´ Management Fees

	Fund / Charge type	2015	2016	2017	2018
Conservative funds	Luminor Pension Fund C	0,85%	0,84%	0,75%	0,70%
	Pension Fund LHV XS	0,74%	0,72%	0,63%	0,58%
	SEB Conservative Pension Fund	0,95%	0,95%	0,49%	0,29%
	Tuleva World Bonds Pension Fund			0,34%	0,49%
	Swedbank Pension Fund K1	0,62%	0,61%	0,29%	0,34%
Balanced funds	Luminor Pension Fund B	1,42%	1,40%	1,37%	1,29%
	Pension Fund LHV M	1,31%	1,28%	1,06%	1,01%
	SEB Optimal Pension Fund	1,30%	1,30%	1,01%	0,84%
	Pension Fund LHV S	0,98%	0,96%	0,80%	0,68%
	Swedbank Pension Fund K2	0,97%	0,94%	0,87%	0,80%
Progressive funds	Luminor Pension Fund A	1,51%	1,50%	1,47%	1,38%
	Pension Fund LHV L	1,64%	1,59%	1,33%	1,26%
	SEB Progressive Pension Fund	1,50%	1,50%	1,17%	1,12%
	Swedbank Pension Fund K3	1,03%	1,00%	0,92%	0,85%
Aggressive funds	Luminor Pension Fund A Plus	1,60%	1,56%	1,56%	1,46%
	Pension Fund LHV XL	1,64%	1,59%	1,33%	1,26%
	SEB Energetic Pension Fund	1,70%	1,70%	1,32%	1,10%
	Swedbank Pension Fund K4	1,03%	0,92%	0,92%	0,85%
	Pension Fund LHV Index		0,39%	0,39%	0,39%
	SEB Energetic pension fund index		0,29%	0,29%	0,29%
	Tuleva World Stocks Pension Fund			0,34%	0,34%
	LHV Pensionifond Eesti				1,26%
	Swedbank Pension fund K90-99 (Life-Cycle Strategy)		0,49%	0,49%	0,49%

Source: Own research based on the terms of pension funds, 2019

The management fee rate and the procedure for its calculation are established in the terms and conditions of the pension fund. The former is expressed as a percentage of the market value of the funds' assets. In order to limit the overall charges applied to the pension funds, there has been a 3% cap on charges introduced on most of the funds. More volatile (aggressive) funds have a higher cap on charges (up to 5% p.a.).

When considering the historical changes in charges, there is a significant transparency gap. Most of the asset managers do not disclose past charges and only recent charges applied to the pension funds are disclosed. Analyzing the Prospectuses, Terms as well as Monthly Reports of the pension funds, only Swedbank fully disclosed past charges effectively applied for managed mandatory pension funds. Other pension funds disclose only recent charges andrespective charges applied from a certain period. Using the data from available

Prospectuses, Terms and Monthly Reports we were able to estimate the trend in charges using the simple averaging approach.

Table EE6. Average fees in Estonian mandatory pension funds			
Fees/Year	Management fee	Subscription fee	Redemption fee
2002	1.42%	1.50%	1.00%
2003	1.42%	1.50%	1.00%
2004	1.42%	1.50%	1.00%
2005	1.42%	1.50%	1.00%
2006	1.42%	1.50%	1.00%
2007	1.42%	1.50%	1.00%
2008	1.42%	1.50%	1.00%
2009	1.42%	1.50%	1.00%
2010	1.35%	0.00%	1.00%
2011	1.35%	0.00%	1.00%
2012	1.36%	0.00%	1.00%
2013	1.31%	0.00%	1.00%
2014	1.36%	0.00%	1.00%
2015	1.23%	0.00%	1.00%
2016	1.08%	0.00%	1.00%
2017	0.87%	0.00%	0.00%
2018	0.83%	0.00%	0.00%

Source: *Own calculations based on data from pensions´ Prospectuses, Terms and Monthly Reports, 2019*

Management fees are applied on a periodical basis to the fund's market capitalisation (asset value), which in turn effectively decreases the value of pension fund unit. It should be noted that their effect during the saving cycle is therefore exponential and should be calculated using formulas for compound interest. The depository fee is born by the management company and is not directly charged at the expense of a mandatory pension fund.

Subscription as well as redemption fees are types of charges that are applied on a one-off basis, when a contribution to the fund is recorded respectively when the saver sells the pension units to the issuer. The effect of these charges is limited to the transaction, so there is only a cumulative effect that can be calculated as a simple summation. Subscription as well as redemption fees are also tied to the ability of savers to switch among the pension funds during the saving period. A fund can be replaced only with another fund of the mandatory funded pension. The choice of the pension fund can be changed in two ways:

1. Directing contributions to a new fund – the units of the current fund will be retained and will continue earning in the former fund. After choosing a new fund, your future contributions will be transferred to it, i.e. units of different funds will appear side by side in your pension account.

2. Changing the pension fund units – the units of one pension fund will be replaced with the units of a new pension fund selected.

From 1 January 2011 onward, there is no minimum limit for units upon changing a fund (before 1 January 2011 the minimum requirement was 500 units). Since 1 August 2011, it is possible to transfer to a new pension fund all or only a part (e.g. 25%, 50% or 75%) of the assets collected in the former pension fund.

Other charges include transfer costs, fees directly related to the transactions made on account of the fund and costs related to taking loans on account of the fund (including costs related to repurchase agreements and reverse repurchase agreements and other securities-borrowing transactions). The other charges can be viewed in a standard terminology as a trading and post-trading (clearing) costs except the charges associated with the depository services. However, these charges are not known, as they are neither disclosed nor visible to the general public. The term *Other charges* also includes individual services provided to the savers based on a specific request and should be charged individually to the saver asking for such services. These services typically include processing an application to recall inherited pension fund units, to transfer inherited pension fund units into the pension account of the inheritor, for a lump sum payment from a pension fund, for a fund pension, to change a fund pension, etc.

Pillar III – Supplementary pension

The supplementary pension is organized in two ways: as an insurance contract or as a supplementary pension fund. The way in which charges are disclosed to the client is significantly different for both.

For insurance contracts, no charges are publicly disclosed. The terms and conditions of an insurance contract cover the topic of charges; however, no charges are disclosed; Even if the charges are disclosed, the structure of fees is not transparent enough to allow the calculation of the total cost ratio. In most cases, the insurer is entitled to change contract fees and risk payments unilaterally during the insurance contract validity, with the obligation to inform the policyholder of the changes at least 30 days before such changes become effective. If the policyholder does not agree with the changes, he is entitled to terminate the contract.

The situation is different for a supplementary pension fund. All funds disclose most actual charges, which are presented in the table below.

Table EE7. Supplementary Pension Funds´ Fees					
Fund	Type of the fee	2015	2016	2017	2018
LHV Supplementary Pension Fund	Management fee	1.00%	1.00%	1.00%	1.00%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	0.00%	0.00%	0.00%	0.00%
	Depositary fee	N/A	N/A	N/A	N/A
Nordea Pension Fund Equity 100	Management fee	1.50%	1.50%	1.50%	1.50%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	1.00%	1.00%	1.00%
	Depositary fee	0.19%	0.19%	N/A	N/A
Nordea Pensionifond Intress Pluss	Management fee	1.20%	1.20%	1.20%	1.20%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	1.00%	1.00%	1.00%
	Depositary fee	0.15%	0.15%	N/A	N/A
SEB Active Pension Fund	Management fee	1.50%	1.50%	1.50%	1.50%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	1.00%	1.00%	1.00%
	Depositary fee	0.10%	0.10%	N/A	N/A
SEB Balanced Pension Fund	Management fee	1.00%	1.00%	1.00%	1.00%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	1.00%	1.00%	1.00%
	Depositary fee	0.10%	0.10%	N/A	N/A
Swedbank Pension Fund V1	Management fee	1.20%	1.20%	1.20%	1.20%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	0.00%	0.00%	0.00%
	Depositary fee	N/A	N/A	N/A	N/A
Swedbank Pension Fund V2	Management fee	1.30%	1.30%	1.30%	1.30%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	0.00%	0.00%	0.00%
	Depositary fee	N/A	N/A	N/A	N/A
Swedbank Pension Fund V3	Management fee	1.40%	1.40%	1.40%	1.40%
	Redemption fee	1.00%	1.00%	1.00%	1.00%
	Entry fee	1.00%	0.00%	0.00%	0.00%
	Depositary fee	N/A	N/A	N/A	N/A
LHV Pension Fund Index Pluss	Management fee	N/A	0.39%	0.39%	0.39%
	Redemption fee		0.00%	0.00%	0.00%
	Entry fee		0.00%	0.00%	0.00%
	Depositary fee		0.00%	N/A	N/A

Source: Own research based on pension funds´ documentations 2019 (data as of 31.12.2018)

Comparing to the previous years, stagnation of charges can be observed for traditional funds. However, the introduction of low-cost index funds came with significantly lower fees.

Taxation

Both funded pillars use the "EET" regime for taxation, which basically means that the contributions paid towards the pension schemes are tax-exempt. Returns achieved by respective pension funds are also tax-exempt and the benefits paid out during the retirement are subject to the income tax taxation.

Pillar II – Funded pension

Estonia is applying an EET taxation regime for Pillar II with some specifications (deductions) to the payout taxation regime, where generally the "T" regime is applied.

Taxation of the Fund

Income or profits of the Fund are not subject to taxes at the fund level.

Taxation of unitholders

Contributions to the Fund usually consist of two parts:

1. 2% withheld from the wages and other remuneration of a resident natural person participating in the mandatory funded pension system; in certain cases from the remuneration paid to a member of the management or supervisory body of a legal person; from the business income of sole proprietors after deductions relating to business and permitted in the Income Tax Act have been made, but annually from an amount not more than 15 times the sum of the minimum monthly wages for the taxable period; in certain cases from the remuneration or fees paid to a natural person on the basis of a contract for services, authorization agreement or another contract under the law of obligations entered into for the provision of services, and
2. the amount added by the state, which equals 4% of the sum of the resident natural person's wages and other remuneration.

The abovementioned 2% withheld from wages and other remuneration is tax deductible, i.e. not subject to income tax. Specifications apply to the procedure of contributions in the years 2014 to 2017.

Exchange of a fund's unit for another unit of a mandatory pension fund and redemption of a unit to enter into an insurance contract for funded pension (pension contract) is not taxed. Insurance contract for funded pension (pension contract) and pension fund units are not treated as financial assets for the purposes of income taxation and taxation of income on these cannot be postponed.

During the payout phase, income tax is charged on payments made from the mandatory pension fund to the unit holder, the successor of the unit-holder as well as on payments made to the policyholder, an insured person or a beneficiary pursuant to a pension contract provided for in the Funded Pensions Act. Thus, if a unitholder reaches retirement age, mandatory funded pension payments will be taxed together with the state (NDC PAYG pillar) pension. Estonian income tax rate since 2008 is 21%.

The taxation period for natural persons is a calendar year. In Estonia, the annual basic exemption (non-taxable amount) per year is €1,728.

A resident unitholder who receives a pension may deduct from his or her taxable income, in addition to the basic exemption, i.e. the amount of a pension paid from a mandatory funded pension or a pension paid under a social security agreement. However, there is an upper limit set in a law. The amount exceeding the deductions is taxed with the income tax rate established by law.

Taxation of successors

Payments to a successor upon redemption of units are taxed with the income tax rate established by law. Transfer of units into a successor's pension account is not taxable.

Pillar III – Supplementary pension

The effective Income Tax Act stipulates EET regime (similar to Pillar II) where:

I. Resident natural persons have the right to subtract the amounts paid to acquire supplementary fund units from their taxable income. The amount that is deducted may be up to 15% of the income earned in the taxation period, but no more than € 6,000.
II. Income or profits of the Fund are not subject to taxes at the fund level.
III. Payouts from a supplementary pension fund are subject to income tax as follows:
    a) 10% income tax if they are made under any of the following circumstances:
        (i) after the unit holder reaches the age of 55, but not before five years have passed from acquisition of the units;
        (ii) in the event of the unit holder's full and permanent incapacity for work;
        (iii) when the fund is liquidated.
    b) In all other cases, payouts from the fund are subject to income tax valid at the time the payout is made.
IV. Payouts made by an insurance company to the policyholder from the assets saved in the fund as lifelong pension payments after the policyholder turns 55 years of age are exempt from income tax.

Pension Returns

Pillar II – Funded pension

Year 2018 could be characterized by negative returns across the whole market, with an increase in assets under management of passively managed pension funds that have significantly lower fees than actively managed pension funds. There are still five Pillar II private asset managers in Estonia. Scandinavian banks are playing leading roles not only in Estonia, but generally in all Baltic States. The two uncontestable leaders (Swedbank and SEB) absorb 60-70% of the market, with exceptionally strong positions in Estonia.

Five asset managers offer 23 pension plans in Estonia, with an increase of 2 passively managed pension funds offered by the new player "Tuleva" in 2017 and 1 LHV fund in 2018. The pension plans (funds) can be divided into four groups in accordance with the investment strategy they use:

1. conservative (not investing in stocks);
2. balanced or small equity funds;
3. active or medium equity funds;
4. aggressive active and passive (investing in stocks mainly).

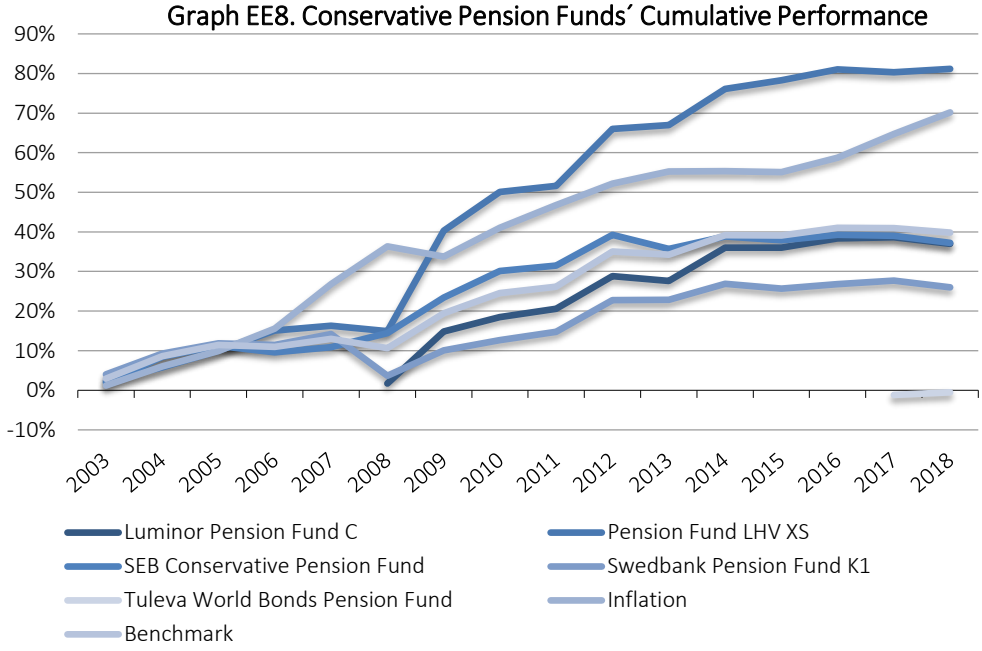
However, newly emerging passively managed index funds in 2016 and 2017 offer exceptionally low fees and one target date fund offers passive life cycle strategy. In Estonia the proportion of stocks in fund portfolios is set in increments of 25% for the four groups (zero; < 25; 25–50; 50–75). The most aggressive funds were introduced only from the year 2009. Also, some players (namely Nordea) only entered the market as of the year 2008.

It should be noted that the performance (returns and respective volatility) is closely tied to the structure of the portfolio and the level of active asset management. Active asset management should be able to lower the overall volatility of the returns while maintaining at least the same level of return as for a passive asset management approach. To which extent this is happening in Estonian mandatory pension funds can be seen in the below graphs presenting the returns (absolute and relative to the respective benchmarks).

All data presented on the pension funds´ returns are presented in net values, i.e. after all fees charged to the fund portfolio. The graphs also contain inflation on an annual basis as well as cumulative basis.

Conservative mandatory pension funds' performance on cumulative basis compared to their respective benchmark and inflation is presented in the graphs below.

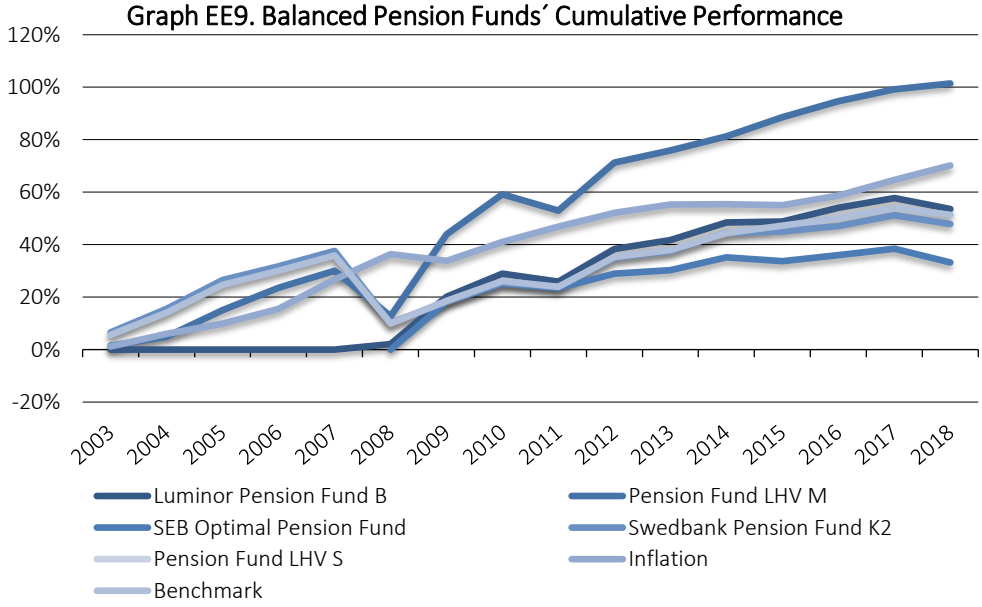
Graph EE8. Conservative Pension Funds´ Cumulative Performance



Source: Own calculations based on Pensionikeskus data, 2019

Balanced Mandatory Pension Fund´s cumulative performance comparing to the respective benchmark is presented in the graph below.

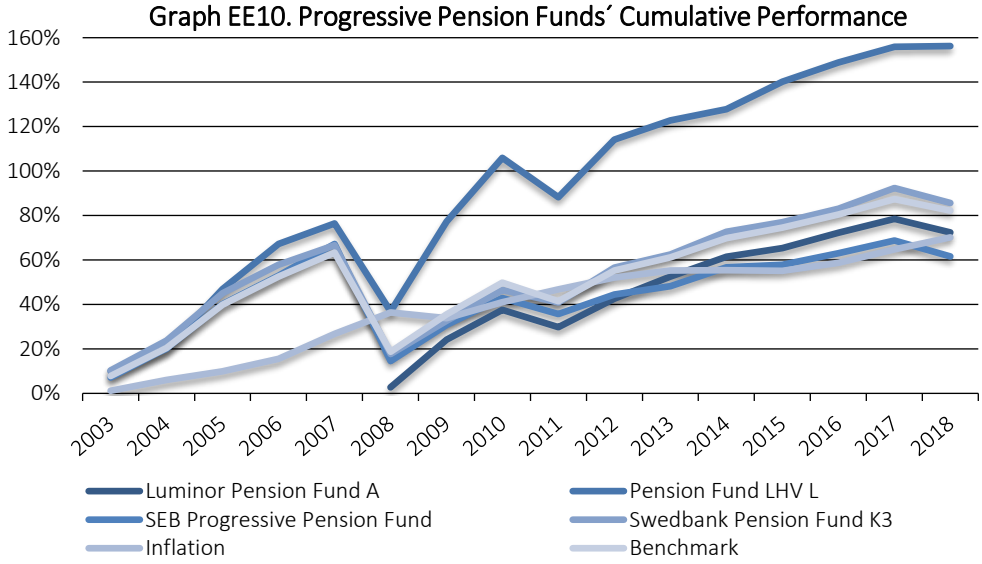
Graph EE9. Balanced Pension Funds´ Cumulative Performance



Source: Own calculations based on Pensionikeskus data, 2019

Progressive mandatory pension funds' cumulative performance compared to their respective benchmark is presented in the graph below.

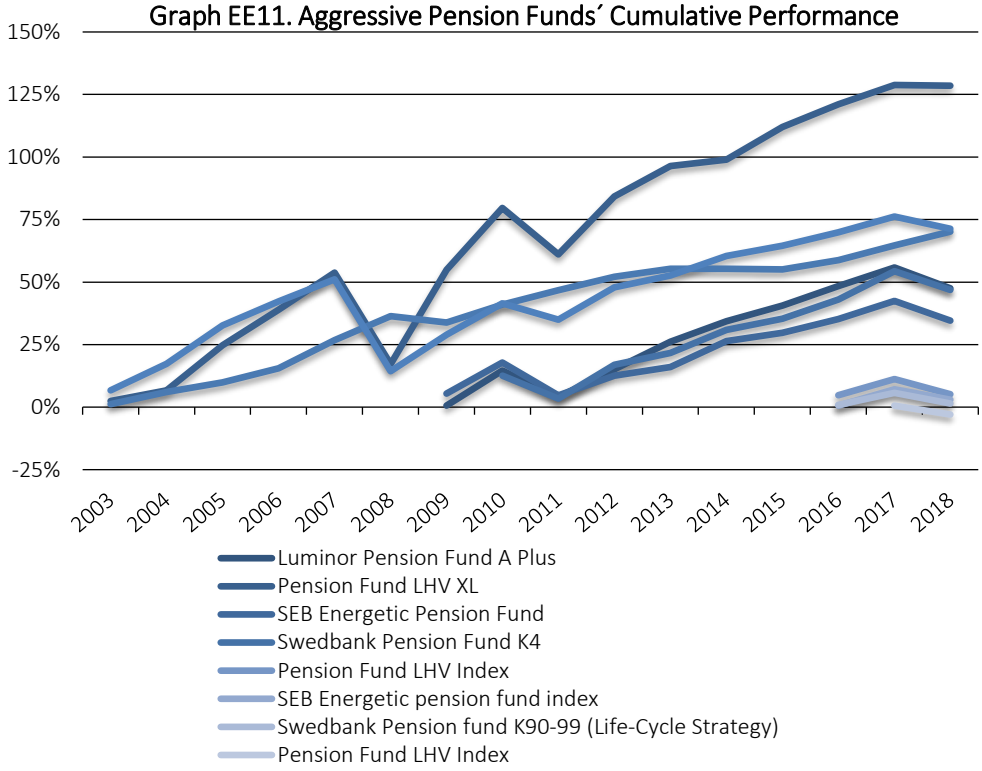
Graph EE10. Progressive Pension Funds´ Cumulative Performance



Source: Own calculations based on Pensionikeskus data, 2019

The last group of pension funds with the most volatile investment strategy and the highest share of equity investments (up to 75% of fund portfolio) are the aggressive pension funds. Aggressive mandatory pension funds' cumulative performance compared to their respective benchmark is presented in the graph below.

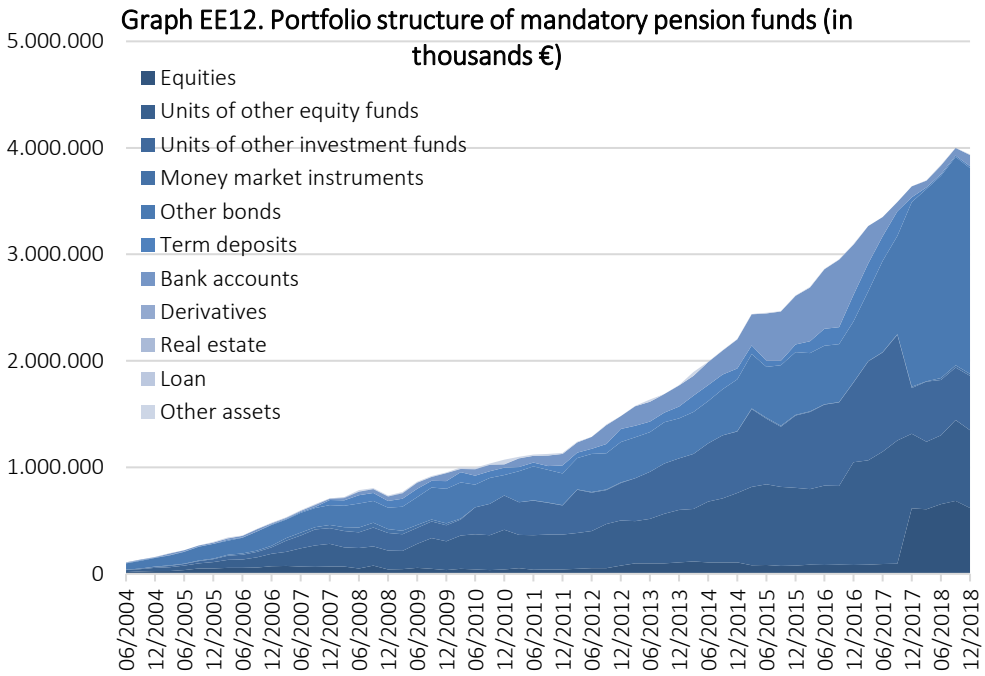
Graph EE11. Aggressive Pension Funds´ Cumulative Performance



Source: Own calculations based on Pensionikeskus data, 2019

Analyzing the performance of pension funds, one can see that most of the pension funds have high correlation with their respective benchmarks. This suggests that most of the funds (excluding LHV funds) are passively managed even presented as actively managed.

The portfolio structure of all mandatory pension funds is presented in the graph below.



Source: Own calculations, 2019

Analyzing the portfolio structure of mandatory pension funds in Estonia, one trend becomes apparent: replacement of direct investments into bonds and shares with the respective investment into structured products (UCITS) aimed at bond (equity) investments. However, in 2017 as well as 2018 the trend has been reversed and direct bond as (well as equity investments) play a dominant role in the portfolio structure of mandatory pension funds.

Nominal as well as real returns of mandatory pension funds in Estonia using weighted average by AuM are presented in a summary table below.

Table EE13. Nominal and Real Returns of Mandatory Pension Funds in Estonia

2003	**Nominal return after charges, before inflation and taxes**	6.84%	**3.56%**	**Real return after charges and inflation and before taxes**	5.65%	**-0.01%**
2004		10.07%			5.27%	
2005		13.43%			9.77%	
2006		7.40%			2.30%	
2007		6.25%			-3.48%	
2008		-23.43%			-30.97%	
2009		12.52%			14.40%	
2010		9.42%			4.00%	
2011		-4.44%			-8.53%	
2012		9.70%			6.06%	
2013		3.28%			1.23%	

2014	5.10%	5.04%
2015	2.49%	2.66%
2016	3.35%	1.00%
2017	3.76%	0.00%
2018	-2.47%	-5.79%

Source: Own calculations based on Pensionikeskus data, 2019

Considering the facts, that the taxation in Estonia´s mandatory (as well as supplementary) pension scheme is applied to the pay-out phase only and the income of each individual is tested, calculating the after-tax annual pension fund performance would lead to misleading results and only general assumptions of tax implications during the accumulation phase. Therefore, the after-income tax performance calculations have not been made in this study.

Additionally, we present the performance according to the selected periods of 1, 3, 5, 7 and 10 years and since inception of the II pension pillar.

Table EE14. Performance of the Pillar II pension funds in Estonia

Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-2.47%	-5.79%
3-years	1.51%	-1.64%
5-years	2.41%	0.52%
7-year	3.55%	1.39%
10-years	4.15%	1.83%
Since inception	3.56%	-0.01%

Source: Own calculations based on Pensionikeskus data, 2019

Pillar III – Supplementary pension

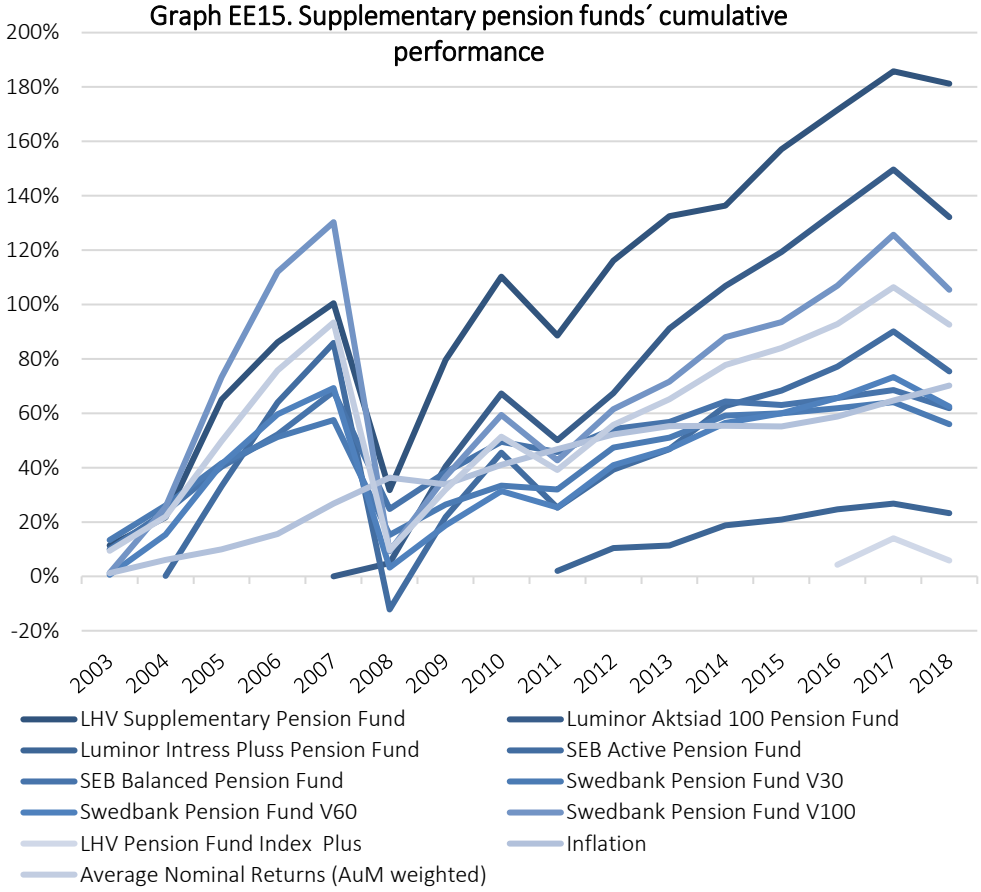
When analyzing the performance of supplementary pension vehicles, only the funds should be considered. Insurance based vehicles do not disclose this information on a periodical basis, as the market risk is shifted onto the insurer.

Supplementary pension funds do differ in their strategy, mostly based on the volatility of their portfolios. In most cases and compared to mandatory pension funds, the investment strategies of supplementary pension funds´ portfolio managers are far more aggressive. By large, the investment strategies do allow having up to 100% of assets allocated into equities and equity based structured products. Some asset management companies have reacted to this and started to also offer supplementary pension funds with conservative strategy.

LHV ceased two actively managed funds in 2017 (LHV Pension Fund 100 Plus; LHV Pension Fund Interest Plus) and has continued to offer more competitive (from the fee structure

perspective) passively managed fund (LHV Pension Fund Index Plus). The performance of supplementary pension funds on a cumulative basis is presented in the graph below.

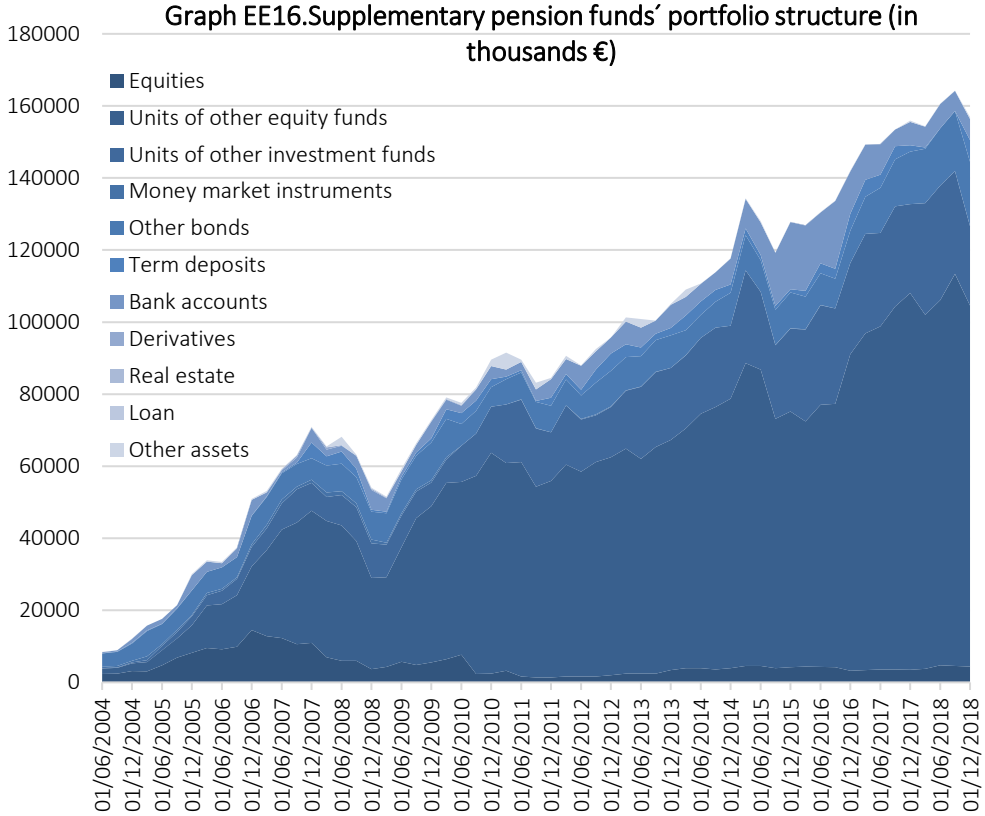
Graph EE15. Supplementary pension funds´ cumulative performance



Source: Own calculations based on Pensionikeskus data, 2019

The structure of supplementary pension funds´ portfolios differ significantly and a larger proportion is invested in equity and/or equity based structured financial products (mainly equity based UCITS funds).

Graph EE16.Supplementary pension funds´ portfolio structure (in thousands €)



Source: Own calculations, 2019

Similar to the mandatory pension funds, portfolio structure of supplementary pension funds tends to change in favor of structured products (UCITS funds, ETFs), confirming the trends of investing via financial intermediaries.

Table EE17. Nominal and Real Returns of Supplementary Pension Funds in Estonia						
2003		9.40%			8.21%	
2004		13.03%			8.23%	
2005		23.78%			20.12%	
2006		15.57%			10.47%	
2007		8.37%			-1.36%	
2008		-40.40%			-47.93%	
2009	Nominal return	21.99%		Real return after	23.87%	
2010	after charges,	14.21%	4.38%	charges and	8.79%	0.64%
2011	before inflation	-8.00%		inflation and	-12.08%	
2012	and taxes	11.76%		before taxes	8.12%	
2013		5.41%			3.36%	
2014		7.69%			7.62%	
2015		2.93%			3.10%	
2016		4.68%			2.33%	
2017		6.05%			2.29%	
2018		-6.51%			-9.83%	

Source: Own calculations based on Pensionikeskus data, 2019

Another view on the performance allowing the comparison across the EU countries and over time is presenting the nominal as well as real net performance according the different periods.

Table EE18. Performance of Pillar III Pension funds in Estonia		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-6.51%	-9.83%
3-years	1.25%	-1.91%
5-years	2.84%	0.93%
7-year	4.44%	2.27%
10-years	5.68%	3.32%
Since inception	4.38%	0.64%

Source: Own calculations based on Pensionikeskus data, 2019

Conclusions

Estonia, as an early pension system reformer, has introduced a typical multi-pillar pension system that combines state unfunded schemes, as well as mandatory and voluntary fully funded pillars. Different types of pension vehicles in Pillar II (as well as Pillar III) allow savers to choose from a wide variety of investment strategies. Lower transparency in fee history contrasts with the high transparency of performance disclosed on a daily basis. The exception is Pillar III insurance contracts, where no information about performance or fees is publicly disclosed. This resulted in an inability to confront the nominal as well as real returns of insurance contracts with other options available to Estonian savers.

Performance volatility of most pension vehicles is relatively high. However, Estonian savers tend to accept higher risk with regards to their savings. Pillar III vehicles are a typical example of high volatile pension vehicles. But after the financial crisis, pension asset management companies also started to offer more conservative funds for Pillar III savers.

Concerning the pension funds´ portfolio structure, one trend is clear. Portfolio managers are steadily replacing direct investments into bonds and equities with the structured financial products. Thus, the question of potential future returns when using financial intermediaries should be raised. Most of the pension funds can be seen as passively managed, which raises the question of high fees. A new trend arising in 2016 and continuing in 2018 is the introduction of low-cost index pension funds for both pension schemes, which could bring higher value to the savers due to lower fees compared to the peers.

Even if in most cases the net performance (adjusted for fees) is disclosed by pension funds, the overall level of fees is questionable. Comparing the level of fees, there is a significant risk undermining the ability to deliver above-benchmark performance in future years.

Bibliography

- Rajevska, O. 2013. Funded Pillars in the Pension Systems of Estonia, Latvia and Lithuania. In: Economics and Business 2013/23.
- Republic of Estonia. Funded Pensions Act (2004) (consolidated text). [Online] Available: http://www.legaltext.ee [Accessed June 15, 2017]
- Republic of Estonia. Investment Funds Act (2004) (consolidated text). [Online] Available: http://www.legaltext.ee [Accessed June 15, 2017]
- L. Leppik and A. Võrk. 2006. Pension Reform in Estonia. In: Fultz, E. (ed.). Pension Reform in the Baltic States. Budapest, Hungary: International Labour Office, 2006.
- Volskis, E. 2012. Reforms of Baltic States Pension Systems: Challenges and Benefits. EBRD. [Online] Available: www.ebrd.com/downloads/news/pension-system.pdf [Accessed June 10, 2017]

Internet sources:

- Estonian Tax and Customs Board
- Pensionikeskus
- Inflation.eu (http://www.inflation.eu/)

Pension Savings: The Real Return

2019 Edition

Country Case: France

Summary

The French pension system continues to rely heavily on the mandatory Pillar I and mandatory Pillar II income streams, with an average pre-retirement income replacement ratio of 60.5%,[117] and a total value of assets of 10% of the French GDP in 2017. Despite a rather dynamic asset allocation, corporate pension plans have a 19-year average annual real net return of +0.4% (+7.8% cumulative). Life insurance products - by far the most widely used personal product for pension purposes by French savers - had very contrasted long term pre-tax real returns: +39% (+1.8% annual average) for the still dominant capital guaranteed ones, but -24% (-1.4%) for the more promoted and faster growing unit-linked ones. The personal products specifically dedicated to pensions (PERP, Préfon, Corem, etc.) are much smaller, and their performances are less transparent and most often poorer.

Résumé

Le système francais d'épargne-retraite continue à reposer majoritairement sur les regimes d'assurance vieillesse de base et complementaire (Pilliers I et II), avec un taux moyen de remplacement du revenu d'activité de 60.5%, et une valeur totale des actifs représentant 10% du PIB en 2017. Malgré une allocation d'actifs plutôt dynamique, les plans d'épargne-retraite entreprise ont eu un rendement annualisé réel de +0.4% en 19 ans (+7.8% en cumulé). L'assurance vie – le produit individuel de loin le plus utilisé pour l'épargne retraite par les Français – a eu une performance très contrastée : +39% (+1,8% en moyenne annuelle) pour les fonds en euros (à capital garanti) encore dominants, mais -24% (-1.4%) pour les contrats en unités de compte qui sont davantage promus et se développent plus rapidement. Les produits individuels dédiés spécifiquement à l'épargne retraite (PERP, Préfon, Corem, etc.) sont beaucoup moins développés, et ont des performances plus opaques et le plus souvent plus mauvaises.

[117] In 2016, gross - https://data.oecd.org/pension/gross-pension-replacement-rates.htm.

Introduction

Using the World Bank multi-pillar structure, the French pension system mainly relies on:

- **Pillar I** – the public pension, a defined benefit (DB) Pay-As-You-Go (PAYG) scheme, which is managed by the State and comprises the basic pension insurance;
- **Pillar II** – the occupational retirement provision (complementary component), also DB and privately managed and funded by both employer and employee contributions, to which participation and contribution rates are mandatory;
- **Pillar III** – composed of the voluntary retirement savings plan, also privately managed, to which participation is optional, and which can be set up by the employer (voluntary occupational plans) or by providers for the pension saver on his own (voluntary personal plans).

Introductory table FR. Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
Mandatory State Pension	Mandatory Private Pension	Voluntary Personal Pension
Basic pension insurance	Supplement of the 50% pre-retirement income target of Pillar I	Divided into different retirement savings financial producst
Divided into several sub-categories of pensions regimes for private sector, private service and special professions.	The complementary component contributions are collected by different designated paritarian institutions, depending on the sector.	Voluntary pension products are tax-incentivised in order to support participation in the third pillar and are mostly defined contribution
DB PAYG	DB PAYG	DC
Quick facts		
A relatively high old-age dependency ratio of 31.6%		
An average pre-retirement income replacement ratio of 74.5% (2016)		

Sources: DREES, World Bank, 2019

Summary return tables - Average real net returns of French pension savings					
Average real net returns*	1 year 2018	3 years 2016-2018	7 years 2012-2018	10 years 2009-2018	whole reporting period***
Life insurance - CG	-0.54%	0.08%	0.79%	0.78%	1.76%
Life-insurance - UL	-8.45%	-1.91%	1.48%	1.18%	-1.43%
Corporate plans	-6.71%	2.35%	1.91%	2.90%	0.40%
Public employee PS**	-1.92%	-1.59%	-1.19%	-1.51%	-1.40%

Source: Tables FR5, FR8, FR15 and graphs FR12 and FR13; **After tax returns*; ***Return proxy measurement*; ****different periods*

Pillar I

The French state pension system (Pillar I) is divided it into several sub-categories of pension regimes for:

- Private sector employees;
- Public service; and
- Special professions (such as the army or hospital workers).

Each pension regime is further organised into two sub-components: (1) *The base pension insurance,* which incorporates both the non-contributory pillar 0 and the defined benefit Pillar I to which all employees and self-employed individuals must contribute; and (2) *The complementary pension insurance*, which supplements the basic state pension allowance (Pillar II).

The average state pension for French retirees was €1532 (net) in 2016. A closer look reveals a significant gap between men and women: the average pension for men being €1760 compared to €1332 for women.[118]

To benefit from the basic pension allowance (*assurance vieillesse*) of the French social insurance system, a person must reach the standard retirement age, which is currently not the same for all cohorts, thus birth-date dependent.[119]

[118] https://www.la-retraite-en-clair.fr/cid3190613/information-retraite-retraite-france-quelques-chiffres.html.

[119] The standard retirement age for the basic allowance and for the full pension entitlement starts at 60 and 65 years, respectively (for those born before 1951) and grows by 5-months for each later year of birth until 1954. This is to say, all persons born after 1 January 1954 have a standard retirement age of 62 years (for the minimum allowance) and 67 years old (for full entitlement) – see Droit-Finances, 'Age de départ à la retraite en 2018'

The full pension entitlement from Pillar I is calculated by multiplying the mean annual gross income,[120] by the correction coefficient,[121] and by the insurance coefficient, the latter being calculated by dividing the total insured period (limited by a set ceiling in the form of a maximum insurable period) by the maximum insurable period (thus, it cannot be higher than 1).[122]

Pillar II – occupational pensions

The French Pillar II is a mandatory defined benefit, PAYG and privately managed pension scheme, designed to supplement the 50% pre-retirement income target of Pillar I.[123]

The complementary component contributions are collected by different designated paritarian institutions, depending on the sector. The largest part of complementary mandatory contributions, those for private sector employees, are collected and redistributed by ARRCO (employees' pension regimes association). Employer and employee participation in Pillar II is mandatory and usually set up through collective agreements.

In France, Pillar I and Pillar II should cover 100 % of employees receiving a salary.

Pillar III – voluntary occupational and personal plans

The third pillar of the French pension system is composed of the voluntary pension plans, divided into different retirement savings financial products, which can be sub-categorised into several groups, depending on whether they are occupational or personal, i.e.:

A. Voluntary occupational pension plans are:
   - Corporate plans, for private sector employees at large, which are set up by employers either through DC pension funds (*PERCO*) or through insurance-regulated plans (PERE);
   - Professional or sector-specific personal plans, such as the *Contrats Madelin (for self-employed), Madelin Agricole* (for the agricultural sector) or the *CRH* (for

https://droit-finances.commentcamarche.com/contents/1163-age-de-depart-a-la-retraite-en-2018.

[120] Which is the average of the highest 25 annual gross salaries.

[121] The correction coefficient, in fact, referred to as a *rate* which can represent a maximum of 50% of the social security income limit.

[122] CNAV, "Elements de calcul de la pension" https://www.statistiques-recherches.cnav.fr/les-elements-de-calcul-de-la-pension.html.

[123] This is because, as indicated above, the full Pillar I pension entitlement at retirement is calculated by multiplying the average annual gross income and the insurance coefficient (which should be 1 in normal conditions) with a correction coefficient, which in normal conditions is set at 50%.

Public Health sector,) Préfon (mainly accessible to public employees), *Fonpel, Carel-Mudel* and *RMC*[124].

B. Personal pension products unrelated to occupation
   - PERP (People's Retirement Saving Plans), mainly sub-divided into contracts with capital guarantee and contracts linked to units in collective investment schemes (UCITS or AIFs), and Corem.

Voluntary pension products are tax-incentivised in order to support participation in the third pillar and are mostly defined contribution.

Life insurance contracts and bank accounts still represent the two largest blocks of financial savings products in portfolios held by French households. Total outstanding life insurance contracts reached €1,639 billion in 2018, whereas deferred annuity plans[125] grew by 1.2% to €200 billion, still only a very small portion of the financial assets of households:

Table FR1. Financial assets of French households at the end of 2018

	% of total financial savings	2018/2017
Currency and bank deposits	29.9%	4.5%
Investment funds	5.0%	-14.6%
Life insurance & pension funds	40.0%	-1.0%
Direct investments (direct holdings of bonds and shares)	25.1%	-5.4%
Total	**100%**	**-0.8%**

Source: Banque de France

The 2019 reform of French pension savings

The "PACTE" Law of 22 May 2019 reforms French pension savings. In summary, existing Pillar III products mentioned above and below will be progressively phased out from October 2019 on in favour of a new product called "Plan d'épargne retraite" (PER) or Pension Saving Plan. Basically:

- The collective non mandatory PER will succeed to the PERCO
- The mandatory PER will succeed to the PERE

[124] The *Fonpel*, *Carel-Mudel* and *RMC* are special pension vehicles and not covered by this report.

[125] Deferred annuity plans include personal pension products (PERP), pension products for the self-employed ("contrats Madelin") or farmers, sectorial collective pension plans ("Préfon" for public employees, CRH for hospital employees), and company pension plans, with either defined benefits ("article 39") or defined contributions PERE and PERCO).

- The individual PER will succeed to the PERP, Madelin, Préfon, Corem, etc.

The PER will be offered both by insurers and by asset management companies, and payout option will be free between annuities and capital withdrawals. All PERs will be freely transferable to other PERs. However, the new law lifted the 15-year ban on inducements for unit-linked personal pensions in order to try to boost their development. French savers organization FAIDER estimates that this will cost pension savers at the very least € 20 billion over the average life of the PER contract[126].

Pension Vehicles

Life insurance contracts

Ordinary life insurance contracts are not specifically designed for pension purposes. However, retirement is the main objective of French savers who subscribe to these insurance contracts, and they are by far the main long-term financial savings products used in France.

From 2013 to 2018, contributions to unit-linked contracts rose more than those to *"contrats en euros"* (capital guaranteed contracts – or misleadingly called "with profit policies" in the UK)) and their share in total mathematical reserves increased from 17% to 21%. This increase is due partially to capital gains, but more from net inflows (contributions minus benefits). Unit-linked contracts accounted for 30% of net inflows to life insurance in France in 2013 and 28% in 2018.

Table FR2. Life insurance mathematical provisions (in € billion)

	2013	2014	2015	2016	2017	2018	2018/2017
Capital-guaranteed contracts	1,195	1,235	1,269	1,282	1,280	1,298	1%
Unit-linked contracts	239	259	282	309	352	341	-3%
All contracts	1,433	1,494	1,549	1,591	1,632	1,639	0%

Source: FFA-Assurance

In 2014 a new life insurance contract, the "*Eurocroissance*, was created. The contract does not guarantee the invested capital in case of withdrawal until eight years following subscription. This new type of contract aims to incite savers to accept a higher level of risk in the short-term for potential better long-term return, for example by investing more on equity markets. By the end of 2018, those contracts amounted to only €2.5 billion of mathematical provisions,[127] probably at least partly due to the ultra low interest rates, making it challenging to generate a decent return. Since 2016, insurers are allowed to transfer unrealized capital

[126] Faider.org, 6 June 2019
[127] Source : FFA

gains from their general assets covering capital guaranteed contracts to the *Eurocroissance* contracts to boost returns.

Personal deferred annuity plans

"People pension savings plan" (PERP[128])

PERPs were launched in 2004 as insurance-regulated personal pension plans. Thanks to higher contributions and paid benefits remaining low, mathematical provisions in PERP personal pension plans increased from €7.5 billion in 2011 to €19.1 billion in 2018. However, the share of the PERP as part of the overall savings of French households remains very small.

The number of subscribers increased slowly from 2011 to 2018 from 2.1 to 2.5 million, (+18%), and -1% % in 2018 alone due to an exceptional ban on tax deductibility.

"Contrats Madelin" (for self-employed individuals)

Mathematical provisions related to "*contrats retraite Madelin*" increased by 2.2 % in 2018 to 36.7 billion.[129] There were 1.287 million outstanding contracts at the end of 2018 (+2.9%). The "*contrats Madelin*" are widely used by self-employed individuals because the PAYG system is less generous (and contributions lower) than for employees.

"Contrats Madelin agricole"

Mathematical provisions of "*contrats Madelin agricole*" (plan for persons working in the agricultural sector) increased by 4.4% in 2018, to €5.6 billion. 321,000 farmers had an open contract at the end of 2018.

Personal pension products exempted from governance rules

All personal pension products in France have to be subscribed by savers associations in which the participating pension savers are members of the General assembly, have the right to vote at the general assembly, have the right to propose resolutions to the general assembly. However French Law exempts the three biggest ones from all these governance rules protecting pension savers' rights.

Préfon

Préfon is a deferred annuity plan open to all current and former public employees and their spouses, had 392,000 participants at the end of 2018 (+0.8%% from 2017). Its assets under

[128] "*Plan d'épargne retraite populaire".* Figures source: FFA, French Federation of Insurance.
[129] Source: Federation Francaise de l'Assurance (FFA)

management reached € 15.6 billion (market value) at the end of 2018, down from €16.1 billion at the end of 2017.

Corem

Corem is also a deferred annuity plan open to everyone but so far mainly subscribed to by civil servants, had 389,597 participants at the end of 2018 (down from 397,515 in 2016). Its assets under management grew from € 7.6 billion at the end of 2012 to € 9.2 billion (market value) at the end of 2018[130].

CRH

CRH (*"Complementaire Retraite des Hospitaliers"),* a deferred annuity plan open to all public employees from the public health sector and their spouses, had 360,000 participants in 2018. Its technical reserves amount to €4 billion (same as in 2016).[131] We could not find more precise publicly available information.

Collective deferred annuities

In total, mathematical reserves grewvery little, from €118.8 billion to 119.1 billion, from the end of 2017 to the end of 2018.

For insurance-regulated corporate defined contribution plans under "Article 83" of the French tax code ("PER Entreprises" or PERE), mathematical reserves stood at €59.6 billion at the end of 2019.

For insurance-regulated defined benefit plans ("Article 39" of the French tax code), mathematical reserves stood at €39,3 billion at the end of 2018.

Corporate long-term savings plans

The total assets of French defined contribution corporate savings plans (PEE[132] + PERCO) slightly decreased in 2018 to € 125.5 billion (-5% % over previous year) due to unfavourable equity market trends. The number of members in those plans increased (10.6 million people in 2018).

The *"Plan d'Epargne Retraite Collectif"* (PERCO), exclusively dedicated to pension investments, is still less "mature" than other pension plans as it started in 2004 but continues

[130] Combined participants and assets of Corem and "R1", "R3" and "Corem Co", closed pension plans *managed by the same provider (UMR)*.
[131] Source: *Guide d'information CRH* du CGOS – 2018.
[132] PEE: « *Plan d'épargne entreprise* » is a corporate savings plan where savings are typically blocked for a minimum of five years.

to grow quite rapidly. Assets under management amounted to € 15,9 billion at the end of 2017 and 16.6 billion end of 2018 (+4.3%). 2.6 million employees had a PERCO at the end of 2018 (an annual growth of +9%) and 217,000 companies propose this type of plan to their employees.

PERCO is quite similar to the US Corporate pension plans ("401k") in its design. However, it is generally not invested in general purpose investment funds like UCITS, but mostly in specifically dedicated alternative investment funds (AIFs) called *Fonds Communs de Placement d'Entreprise* (FCPEs).

Charges: opaque, high and rising

Available data on average annual charges for savings products are scarce in France. Overall annual fees for equity funds in France were 1.8% on assets in 2013[133]. These charges alone appear quite high: the average ongoing fund charge for all UK domiciled active funds (both equity funds and all other funds) was only 0.92 % in 2015 (1.38% for retail funds and 0.69% for institutional ones).[134]

For the first time in 2018, the Regulator ACPR published the annual average charge on Insurance capital-guaranteed contracts *("fonds en euros")*: 0.61% of assets[135], but that does not include:

- profit sharing taken by insurers (0,21% in 2018),
- underlying fund fees
- and the impact of entry and exit fees.

Neither ACPR or the Industry trade body disclose any information on the charges on Unit-linked insurance contracts, which cumulate the units' (investment funds) charges and those linked to the contract. Unit-linked contract fees alone account for 0.95% in fees on average per annum on assets according to private surveys[136]. Therefore, for unit-linked insurance contracts invested in equity funds, the total average fees are estimated at 2.75% (1.8 + 0.95) per annum. More than half of investment funds held by French households are through unit-linked insurance contracts.

[133] Source: La lettre de l'Observatoire de l'épargne de l'AMF - n° 13 - Juin 2015 http://www.lafinancepourtous.com/html/IMG/pdf/Lettre-AMF-juin-2015.pdf

[134] Source: UK Financial Conduct Auhtority – Asset Management Market Study, November 2016 https://www.fca.org.uk/publication/market-studies/ms15-2-2-interim-report.pdf

[135] Source: ACPR, 2019

[136] Source: dossiers de l'épargne n°152, 2014

These average fees are very high: assuming the equity funds performed on average like the French equity market did (see below), an investment made at the end of 1999 and held for 15 years would have been charged with more than 40% in accumulated fees. They also seem to be rising even more. For example, the biggest life insurance subscribing association announced in 2019 an increase of its units-linked contract annual fees by 35 basis points[137].

There are very few data available on charges for personal and occupational deferred annuity plans, as well as for corporate DC plans. When available, the data tell us that they are on average rather high. For example, Préfon charged 0.58% on assets (versus 0.54% in 2017) for asset management plus 3.90% entry fee in 2018. For unit-linked personal pension products, the French government has lifted the ban on commissions in 2019. This will massively increase their charges. FAIDER estimates the impact to be a minimum of € 20 billion over the life of the PPP contracts.

For the first time, ACPR published the 2018 average annual charges for personal and occupational differed annuities: 0,47% that year. But, like for life insurance, this does not include the profit sharing for the provider (0,24% on average), the underlying fund fees and the impact of entry and exit fees. Exit fees can be very heavy on annuities, typically 1 to 3%.

Taxation

For PERPs and Public Employee schemes (*Préfon, Corem, CRH*), contributions are deductible from taxable income up to 10% of total professional income with a tax deduction ceiling (€31,383 in 2017). For *Madelin* contracts, the ceiling is higher. Annuities are taxable like pensions with a 10% fixed haircut (with a ceiling of € 3,752 in 2017). They are also subject to a social contribution, currently limited to 7.4%. This tax will increase to a 9.1% maximum in 2018. In some cases, capital withdrawals are allowed up to a 20% maximum of total pension rights. In those cases, the current taxation is 7.5% income tax plus social contributions of 15.5% (raised to 17.2% in 2018).

Since August 2012, the taxation of employers' contributions to corporate savings plans (PEE and PERCO) and defined contribution plans ("Article 83") increased from 8% to 20%.

The general rise in taxation of savings also impacted life insurance. The law of 29 February 2012 increased the rate of "social contributions" from 13.5% to 15.5%[138]. This new rate applies as of 1 January 2012 to property income and financial capital gains, and from 1 July 2012 onward to interest, dividends and real estate capital gains. As such, the minimum tax

[137] Afer.fr, 2019

[138] Loi de Finance rectificative du 29 Février 2012 : LOI n° 2012-354 du 14 mars 2012 de finances rectificative pour 2012

rate on life insurance income is now 23% (7.5% income tax +15.5% social contributions). This rate applies to any divestments of € 4,600 and above per annum for an individual, and € 9,200 for a couple. Below these thresholds, the minimum overall tax rate falls to 15.5%.

The taxation of long-term savings has again been globally increased in 2018, with the creation of the "PFU" or "flat tax". It amounts to 30% except for life insurance contracts after eight years (24.7% in 2018 instead of 23% before). Direct long-term investments in equities will no longer be taxed at a lower rate than short term ones: the negative impact of inflation on long term investment values is no longer taken into account except for real estate investments.

On the other hand, the wealth tax has been abrogated on all financial assets from 2018 on.

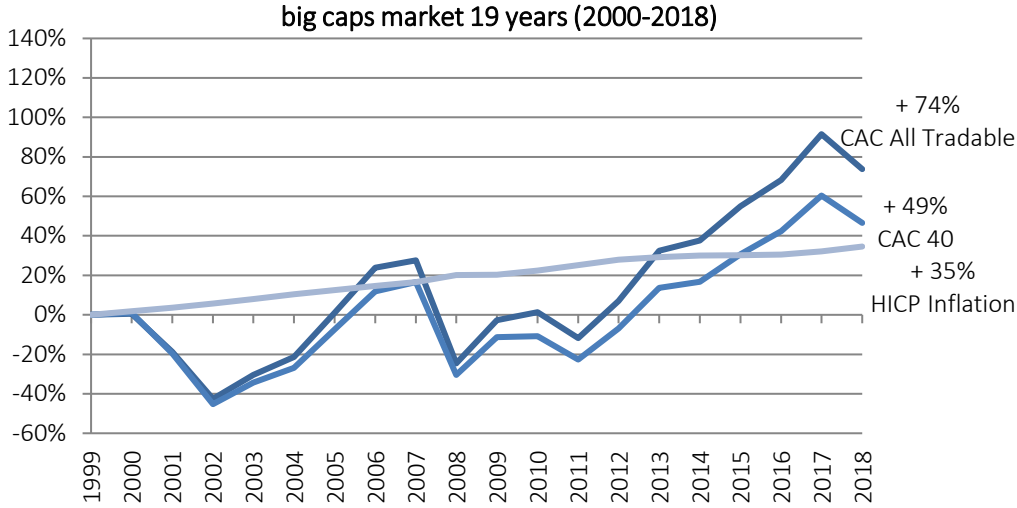
Pension Returns[139]

Shares and bonds (direct investment in securities)

In 2018, the French equity market (dividends reinvested) went down by -9.22 % (CAC all tradable GR index). Over the last 19 years (end 1999 to end 2018), it returned a total of (all shares) 74% % (3.68% annual average), while large capitalisations (CAC 40 index, dividends reinvested as well) returned less, only 49 % (2.65% annual average), demonstrating the very strong over-performance of small and mid-cap equities. Inflation over the same period was 35% (1.55% annual average). So, despite two sharp downturns (2000-2002 and 2007-2008), French equities delivered positive nominal and real returns over the whole period. However, the real (after inflation) performance of the mostliquid stocks started to be positive only since 2015.

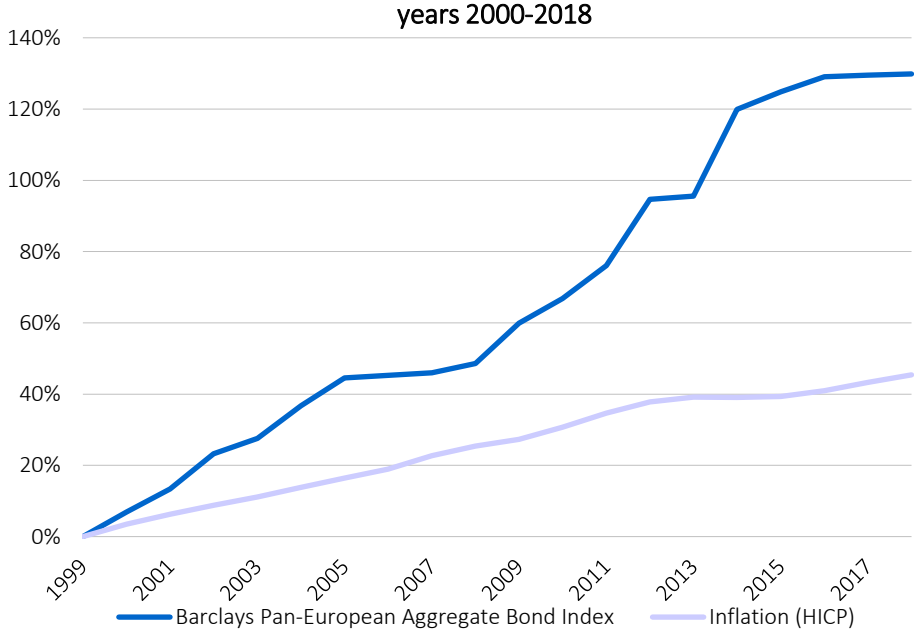
[139] Real Returns in the French case are calculated using Eurostat HICP monthly index annual rate of change (December to December)

Graph FR3 – French Equity market performance: broad market vs. big caps market 19 years (2000-2018)



Sources: Euronext, Eurostat 2019

Graph FR4. Cumulated Performance of Euro Area Bond Index - 19 years 2000-2018



Sources: Barclays Pan-European Total Returns & Eurostat HICP Europe 28 Monthly

Euro Bond markets became almost flat in 2017 and 2018, but still slightly positive, thanks to the quantitative easing policy of the European Central Bank. Overall, capital markets delivered significant positive returns[140] over the last nineteen years despite two major downturns in equity markets, in large part thanks to the continuous decline of interest rates and its positive impact on the value of bonds.

Life insurance contracts – capital guaranteed

The after-tax real returns of guaranteed life insurance contracts declined sharply again to a loss of -0.5% in 2018, due to the combined effect of very low interest rates, a resurgence of inflation, and increased taxation. This is its poorest performance in decades. Such returns should be assessed from a long-term perspective: the last data available from the industry trade body indicate that outstanding life insurance contracts were open for 11 years on average. These contracts – although of a long-term nature – are invested only 8% in equities[141].

Over a 19-year period, cumulated after-tax real returns of guaranteed life-insurance contracts reached 23.9%, and varied from a maximum annual performance of +3.1% in 2001 to a negative performance of -0.5% in 2018.

In the most favourable case, where savers do not redeem more than €4,600 per annum and at least eight years after the first subscription (see Taxation section above), real returns after tax are slightly better (-0.4% in 2018 and 30% cumulated over the last 19 years).

These returns do not take into account the changes in the insurers' reserves for profits sharing ("Provisions de participation aux bénéfices), which are legally required and are credited with the capital gains on sales of non fixed income portfolio assets. They have to be returned to the life insured within 8 years of their inception. They are then included in the annual return. The outstanding amounts of these reserves stood at 4.3% of mathematical reserves end of 2018.

[140] Of course, these market returns are without charges and without taxes. The closest retail investment products would be low-cost index funds using the same indices over the same period. As a reference, annual charges on the Lyxor CAC40 ETF index fund are 0.25%, and 0.25 % as well on the Vanguard Euro Government Bond Index Fund.
[141] Source: goodvalueformoney.eu, 2019

Table FR5. The returns of French life insurance contracts – capital guaranteed (%)				
	Disclosed return	Real return before tax	Real return after tax	Real return after tax*
2000	5.3	3.5	2.7	3.1
2001	5.3	3.8	3.1	3.5
2002	4.8	2.6	2.0	2.3
2003	4.5	2.1	1.4	1.8
2004	4.4	2.1	1.5	1.8
2005	4.2	2.4	1.6	1.9
2006	4.1	2.4	1.6	1.9
2007	4.1	1.3	0.5	0.8
2008	4	2.8	2.0	2.3
2009	3.6	2.6	1.8	2.1
2010	3.4	1.4	0.7	1.0
2011	3	0.3	-0.3	-0.1
2012	2.9	1.3	0.7	0.9
2013	2.8	1.9	1.3	1.5
2014	2.5	2.4	1.8	2.0
2015	2.3	2.0	1.5	1.6
2016	1.9	1.1	0.7	0.8
2017	1.8	0.5	0.1	0.3
2018	1.8	-0.1	-0.5	-0.4

Source: Source: FFA, Eurostat (HICP inflation index); * for redemptions below € 4,600 per annum

Once again, contradictory factors impacted real returns after tax in 2018:

- Nominal returns remained flat, reflecting historically low interest rates. Following capital guaranteed life insurance reporting rules, capital gains or losses are not accounted for in the disclosed returns above.
- Inflation slowed down dramatically, from 2.7% in 2011 to a low of 0.1% in 2014 but rebounded to 1.25% in 2017 and to 1.9% in 2018.

In 2012, taxation increased by 200 basis points, as a result of the rise in social contributions from 13.5% to 15.5%. In 2018, social contributions rose again to 17.2%. As taxation is applied to nominal returns, any rise in inflation increases the real tax rate which reached 76% in 2017, as shown in the table below. In 2018 as the real income bedore tax was negative, taxing nominal income had the effect of multiplying the real loss for life insurance savers by almost five times, from -0.1% to -0.5%.

Table FR6. French nominal and effective tax rates on capital guaranteed life insurance returns (%)			
	Inflation	Nominal tax rate	Real tax rate
2000	1.8	13.4	20.5
2001	1.5	13.4	18.8
2002	2.2	13.4	24.8
2003	2.4	13.4	29.4
2004	2.2	13.7	28.6
2005	1.8	18.5	32.3
2006	1.7	18.5	32.0
2007	2.8	18.5	60.1
2008	1.2	18.5	26.6
2009	1.0	19.6	27.6
2010	2.0	19.6	48.9
2011	2.7	21.0	194.0
2012	1.5	23.0	49.4
2013	0.8	23.0	33.1
2014	0.1	23.0	23.9
2015	0.3	23.0	26.2
2016	0.8	23.0	39.9
2017	1.2	23.0	76.0
2018	1.9	24.4	-457.7

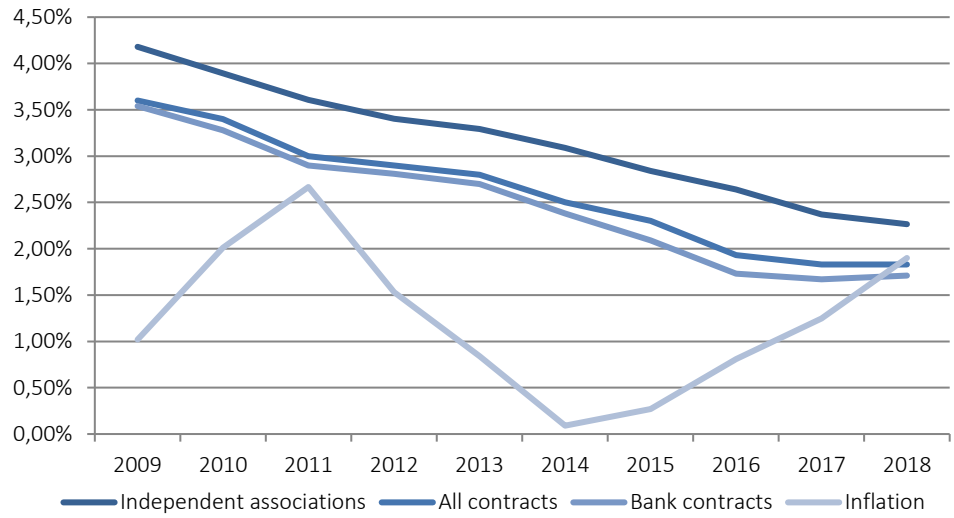
*Source: Eurostat (HICP index 2015 base), BETTER FINANCE computation; *Real tax rate = tax / real (net of inflation) income*

These average returns mask important differences depending on distribution networks and governance: for contracts distributed by banks, the 2018 average nominal return was only 1.71%[142], whereas the return of contracts subscribed by independent associations was 2.27%[143]. One reason is higher annual average fees for bank insurers (0,64% versus 0,45% for traditional insurers in 2018). Considering that contracts distributed by banks represent 61% of the French capital guaranteed life insurance market, this return gap constitutes an opportunity cost of €18 billion for the last three years (2016-2018) alone for savers getting their capital-guaranteed life insurance contracts from their bank instead of from independent savers' associations.

[142] Source: ACPR

[143] Source: Faider. Independent associations representing life insurance contracts holders included AGIPI, AMAP, AMIREP, ANCRE, ASAC-FAPES and GAIPARE in 2016. FAIDER is a member organisation of BETTER FINANCE.

Graph FR7. Nominal returns - all contracts versus independent life insurance associations



Sources: FAIDER (French Federation of Independent pension savers associations), FFA, ACPR

Life insurance contracts – unit-linked

Nominal returns were pushed upwards by the rise in stock prices from 2012 to 2017, against the background of declining inflation. Despite higher levels of taxation, after-tax real returns have been positive between 2012 and 2017. Despite the current long period of positive equity returns, unit-linked contracts still have a very negative cumulative return since the end of 1999 (see next section and table FR 6).

Over an 18-year period, real returns after tax of unit-linked life-insurance contracts were very volatile. The worst performance was recorded in 2008 (-23.9%) and the best one in the following year (12.2% in 2009).

Table FR8. The returns of French life insurance contracts – unit-linked (%)			
	Diclosed Return	Real return before tax	Real return after tax
2000	-2	-4.6	-4.6
2001	-9.5	-11.7	-11.7
2002	-15.2	-17.8	-17.8
2003	8.4	4.9	4.9
2004	6.4	3.1	3.1
2005	14.4	11.4	11.4
2006	8.8	6.0	5.8
2007	1.5	-2.2	-2.2
2008	-22.3	-23.9	-23.9
2009	14.4	12.2	12.2
2010	5.2	2.1	2.1
2011	-7	-10.3	-10.3
2012	11	8.3	8.3
2013	8.2	6.3	4.6
2014	5.9	4.8	3.7
2015	4.1	2.8	2.1
2016	2.9	1.1	0.7
2017	5.8	3.5	2.4
2018	-8.1	-10.7	-10.7

Source: FFA, Eurostat (HICP index), own calculations (deduction of the non-deducted fees, and of HICP price index variation from disclosed returns)

All life insurance contracts – 19 years returns (2000-2018)

In order to compute the real return achieved by an investor who would have subscribed to a life insurance contract at the end of 1999 and who would have withdrawn his funds 19 years later, one has to subtract the entry costs paid the year of subscription, as these fees are not taken into account in the disclosed returns. We estimate that entry costs in 2000 represented 2.76%[144] of the investment, to be deducted from real returns that year. Also, annual contract fees on assets are already taken into account for capital guaranteed contracts by the insurance industry body (FFA), but not for unit-linked ones.

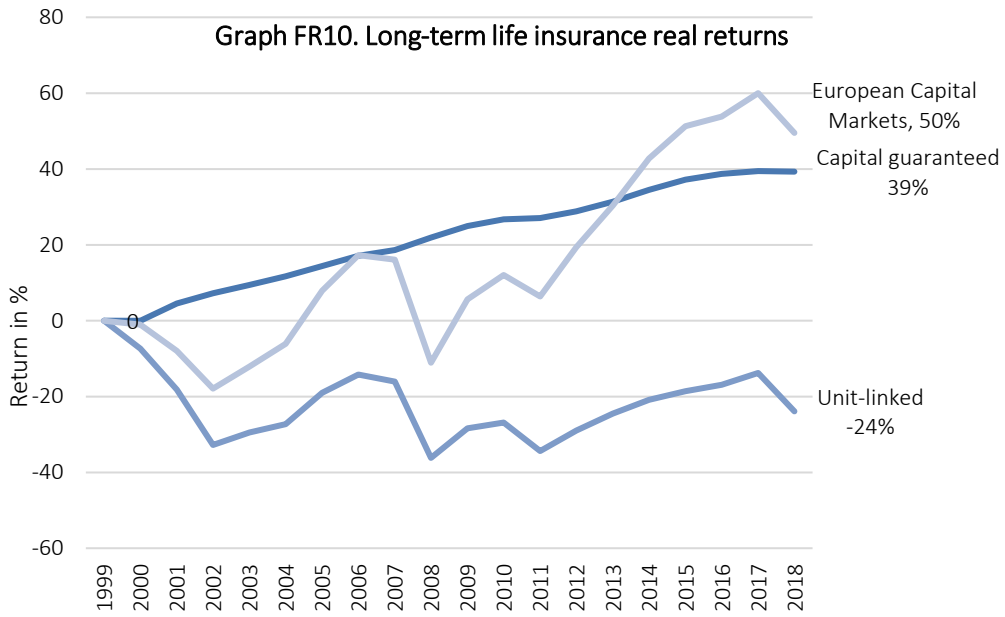
[144] Source: OEE

Table FR9. Real returns of all life contracts 2000-2018		
	19-year return	Average yearly return
Before tax returns		
Capital guaranteed contracts	39.3%	1.8%
Unit-linked contracts	-23.93%	-1.4%
All contracts (avg.)	28.5%	1.3%
After tax returns		
Capital guaranteed contracts	23.8%	1.1%
Unit-linked contracts	-27.7%	-1.7%
All contracts (avg.)	12.8%	0.6%

Source: FFA, own computations (based on the relative weight of both categories in the overall mathematical reserves)

A saver would thus get a cumulated net real after tax return of 23.8%[145] for this 19-year period of investment on guaranteed contracts, and a negative one of -27.7% on unit-linked contracts. On a yearly basis, the rates of returns would be 1.1% and -1,7% respectively. It is worth noting that, although unit-linked contracts are riskier for subscribers, they did provide returns that were significantly lower than those of the riskless guaranteed contracts. Such a significantly lower – and negative - real performance over 19 years is primarily due to much higher fees (see the fees and charges section above), as capital markets as a whole (bonds and equities) provided a positive real performance over the same period (see graphs FR I and FR II). Graph FR10 below shows that the pre-tax performance of unit-linked contracts is well correlated to that of capital markets, but massively underperforming those over time (minus 7,390 basis points over the last 19 years), making unit-linked a high-risk, low return offer.

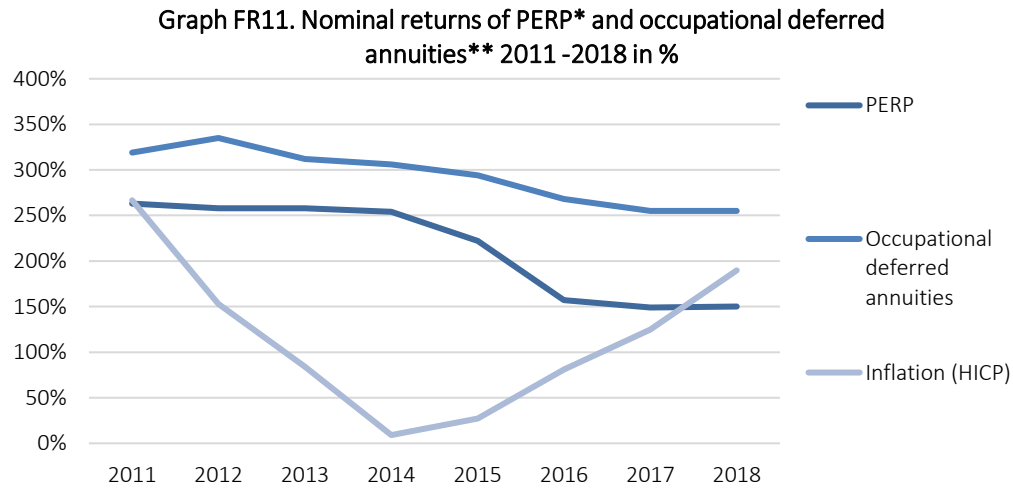
[145] +30,0 % with the most favourable tax treatment, see table FR 3 above



*Benchmark composed of 50% European equities and 50% European Bonds

Source: FFA, Eurostat, Stoxx All Europe Total Market (MSCI Europe for first 2 years) and Barclays Pan European Aggregate indices (Graphs GR1 and GR2 of this Report).

Personal and collective deferred annuities



* Capital guaranteed funds ("fonds en euros") only

** Those include PERE, Madelin and Article 39 contracts

Source: ACPR, 2019

PERP

A majority of PERPs are structured like ordinary life insurance contracts in the accumulation phase: a combination of capital guaranteed funds *("fonds en euros")* and "units" representing investment funds. A minority of PERPs are structured like deferred annuities, similar to the main pension savings products for public employees (see next section below).

It was again impossible to find global long-term return data on PERPs. The insurance industry body (FFA) publishes the average return of ordinary capital guaranteed *("fonds en euros")* and unit-linked life insurance contracts (see previous sections), but not that of insurance-regulated personal pension products such as PERPs. Based on the disclosed nominal returns of a majority of PERPs collected by the French Supervisor ACPR since only 2011, the weighted average nominal return of the capital guaranteed PERPs *("fonds en euros")* was only 1.50% in 2018, lower than the return of ordinary capital guaranteed life insurance contracts.

This can be surprising as PERPs enjoy a much longer duration of their liablities, which should allow for a higher allocaton to equities which have performed much better than bonds since 2011. The returns of PERPs should also be boosted by the rule unique to PERPs according to which the commissions (inducements) on units (funds) must be credited to the PERP, and, in practice they are credited to the capital guaranteed fund. On the other hand, PERPs are on average more recent than ordinary life insurance contracts and therefore their bond portfolio generates lower returns.

In addition, these returns do not take entry fees into account, which are probably comparable to those of ordinary life insurance (2.76% on average in 2000).

In 2018, pre-tax real returns of French personal pensions (PERP) are negative on average, as in 2011. They were already negative after tax on average in 2017.

Madelin, PERE and Article 39

The nominal returns of occupational deferred annuities were much higher (2.55% in 2018) and did not decline as much as for PERPs. This could be explained by older fixed income portfolios yielding higher rates, and by higher discount rates ("taux techniques") forcing insurers to deliver higher returns. Charges may also be lower than for PERPs, but cost data are missing specifically for these pension products. For the first time in 2019; the French supervisor ACPR published the average annual cost of 0.47% but that is for all personal and collective diffred annuity oproducts combined.

Unfortunately, it does not currently identify separately the historical returns and costs of the pensions products for self-employed individuals ("Madelin" - most of which are subscribed and supervised by independent pension saver associations), from the employer-sponsored

DC plans ("PERE") and DB plans ("article 39"). Following the European Commission's request for the European financial Supervisory Authorities to improve the transparency of past performances and fees, it is urgent to collect, analyse and disclose these data.

Deferred annuity plans exempted from governance rules (Préfon, Corem, CRH)

One difficulty in assessing real returns of deferred annuity plans is that up to 2010, it was not mandatory for those plans to disclose investment returns, Préfon being one example. Following action by BETTER FINANCE's French member organisations, a 2010 Law[146] made this a legal requirement from 2011 onward. However, since then Préfon only discloses an accounting return (taking into account only realised gains on sales of assets besides interest and dividend income) and does not disclose an economic return (taking into account the annual evolution of the market value of all assets in the portfolio).

Préfon

Préfon published an accounting return (net of fees) on its investment portfolio for 2018[147] of 2.80% versus 3.01% in 2017 However, as mentioned above, the accounting return does not take into account the changes in the market value of assets (unrealized capital gains stood at € 2.2 billion end of 2018 (14 % of the total market value). In addition, part of the investment return could be set aside in order to replenish reserves. In 2010, the French Supervisor (ACPR) decided that Préfon reserves were not sufficient and forced Préfon's insurers to contribute €290 million of their own funds (as of 31 December 2013) to help Préfon balance its assets and liabilities[148]. At the end of 2016, this contribution from the insurers amounted to €333 million[149] despite the massive cuts in pension rights for those who retire after age 60 decided in 2014 and 2017 (see below Graph FR12).

In 2017, in relation to the entry inot force of the Solvency II Directive, French Law was modified to move to use the market value of assets instead of their historical cost (accounting value). This enabled Préfon to show at last sufficient reserves and solvency ration, but – up to now – not enough to allow for increasing the nominal value of pensions (see below).

[146] Law n° 2010-737 of 1 July 2010 - art. 35 (V), which modified Article L441-3 of the French Insurance Code.
[147] For the first time, Préfon also disclosed a "cumulated portfolio performance" of 5.78% for 2016.
[148] "*Les Echos*" 27 December 2010. This information was not disclosed by *Préfon* to the participants.
[149] Source : Rapport de gestion Préfon Retraite 2016

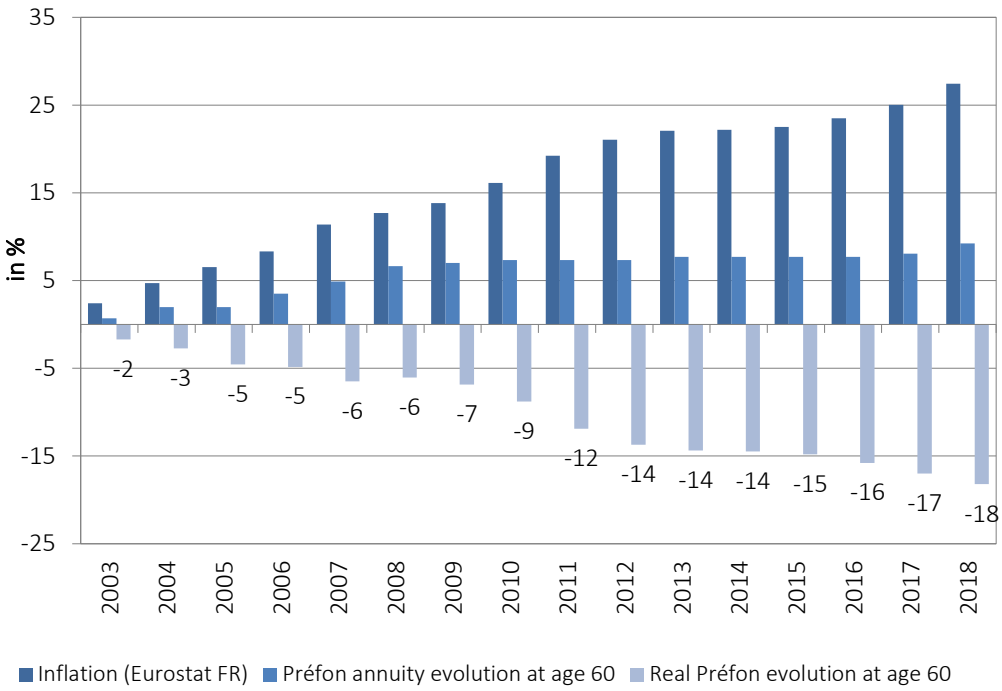
In addition, the value of the participants' accumulated savings is communicated individually to them only since 2012, and unfortunately with more than a one-year delay (this essential information should be released much sooner), and just as an "estimate"[150]. It is therefore impossible to compute a real rate of return individually and for all participants with the data currently made available by the Plan.

Thanks to the change in solvency rules, the ratio of assets to liabilities of Préfon increased from 97.5% in 2016 to 125.4% in 2018, allowing it for the first time in many years to increase the nominal value of its annuities, but still hurting their purchasing power (+1.08% versus +1.90% inflation).

Another difficulty for deferred annuity products is to translate the impact of portfolio returns (and other factors such as the capital conversion rate, into annuities, the discount rate and the evolution of annuities paid) on the actual long-term return for the pension saver. One proxy return indicator is the one computed and published by the French association of pension fund participants ARCAF. It has been collecting the annual rate of pension rights and annuities increases before tax for several years[151] (see graphs FRVI and FRVII). Since the end of 2002, Préfon participants who will retire at the age of 60 have lost 18% of the real value of their pensions (before tax[152]). The publicized objective of Préfon to maintain the purchasing power of pensions has not been fulfilled since 2002 and Préfon remains silent on the perspectives to reduce this loss of the real value of pensions in the future. This key performance information is not publicly disclosed[153].

[150] Besides, this "transfer value" does not include the 5% transfer fee Préfon charges for any transfer occurring within the first 10 years of the contract.
[151] This key data is not publicly disclosed.
[152] Savings into Préfon (like into PERPs and into Corem) are income tax deductible, but the annuities are fully taxable. Both savings and annuities bear social levies ("prélèvements sociaux").
[153] ARCAF, 2016

Graph FR12 - Préfon annuities real value : retirement at age 60
Compounded evolution in %

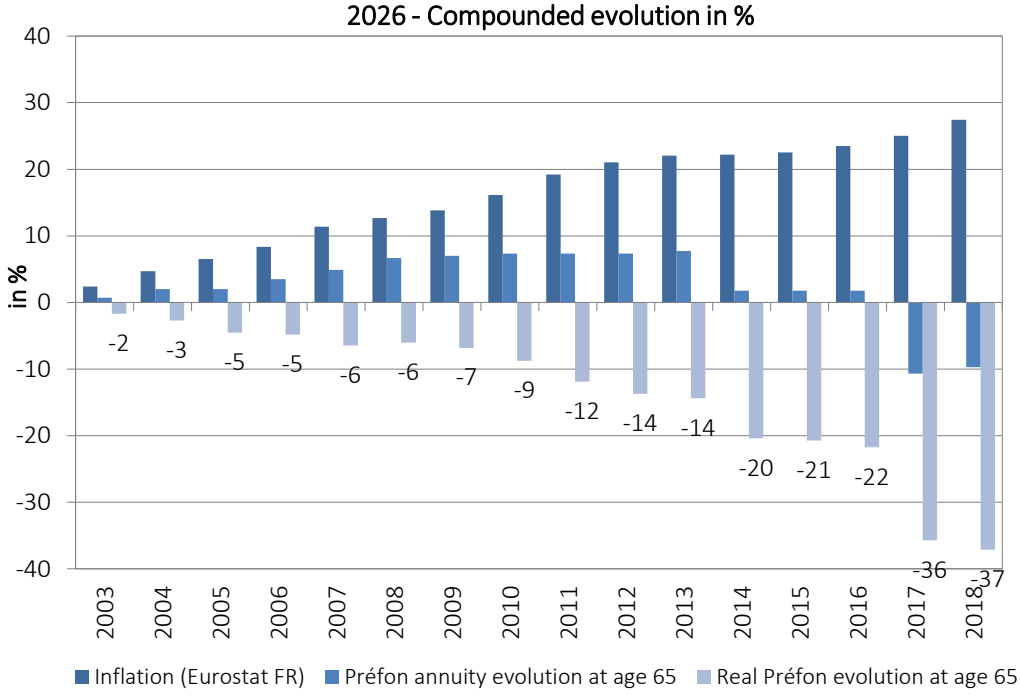


Source: ARCAF, 2019

This return indicator, however, does not include the discount rate embedded in the conversion ratio of accumulted savings to annuities. But this discount rate varies from one year to another, and also varies according to the actual retirement age - which is not disclosed.

Also, this indicator is only valid if one exercises his liquidation rights at age 60. But fewer and fewer people can retire at age 60 due to the postponement of the legal age to retire with full pension rights. For example, if one exercises these rights at the age of 65, starting from the year 2026 on, the initial annuities have been reduced by 17.3% in nominal terms from 2013 to 2017, although Préfon has always told its participants at subscription that its pensions could never be reduced in nominal terms. In real terms it is much worse, as shown by the graph below.

Graph FR13 - Préfon annuities real value : retirement at age 65 from 2026 - Compounded evolution in %



Source: ARCAF, 2019

It is difficult to compute the evolution of the Préfon annuities paid after tax, since they are taxed at the marginal income tax rate on pensions and salaries (plus social levies) and since contributions have been deducted from the taxable income for income tax purposes (but not for social levies).

Corem

Corem publishes the annual accounting return on its investments but does not specify if these are gross or net of fees. The accounting return for 2018 was +3.35%, slightly down from +3.92 % in 2017. However, this accounting return does not take into account the changes in the market value of assets. In addition, and more importantly, all the investment return of the Corem assets is set aside in order to replenish reserves. It is therefore impossible to compute a collective real rate of return.

The deferred annuity mechanisms of Corem are similar to those of Préfon, with the same difficulties in estimating the real return for the pension saver. Therefore, we also use the evolution of the annuities' values as a proxy return indicator here, as computed by ARCAF (Graph FR14 below). Corem has been in deficit for a very long time; the main – undisclosed

– tool of its recovery plan in place since 2002 is not to increase the nominal value of annuities served. As a result, the annuities served by CREF have lost 24% of their real value before tax (purchasing power) over the last 16 years (see graph FR14), as Corem has not increased them for many years, pocketing the return on its portfolio for other purposes. These figures are before tax. This key performance information is not disclosed to the public and to new participants. The reality is even worse as, in November 2014, Corem announced new measures to reduce its reserve gap by further reducing the returns for participants (they now need to be 62 years of age to get the full pension rights instead of 60 years of age, and the minimum guaranteed return on pension contributions was lowered from 2.3% to 1.5% from 2015 on).

The situation, however, is still difficult as its reserve gap (difference between its assets and the present value of its pension liabilities) reached €2.9 billion at the end of 2014, as measured using French common prudential rules at that time[154]. At the end of 2015, Corem obtained permission from the French Government to use a minimum discount rate of 1.50% (instead of 0.59 % according to the previous rule) to compute the present value of its liabilities, helping it to reduce its reserve gap to €1.3 billion at the end of 2016.

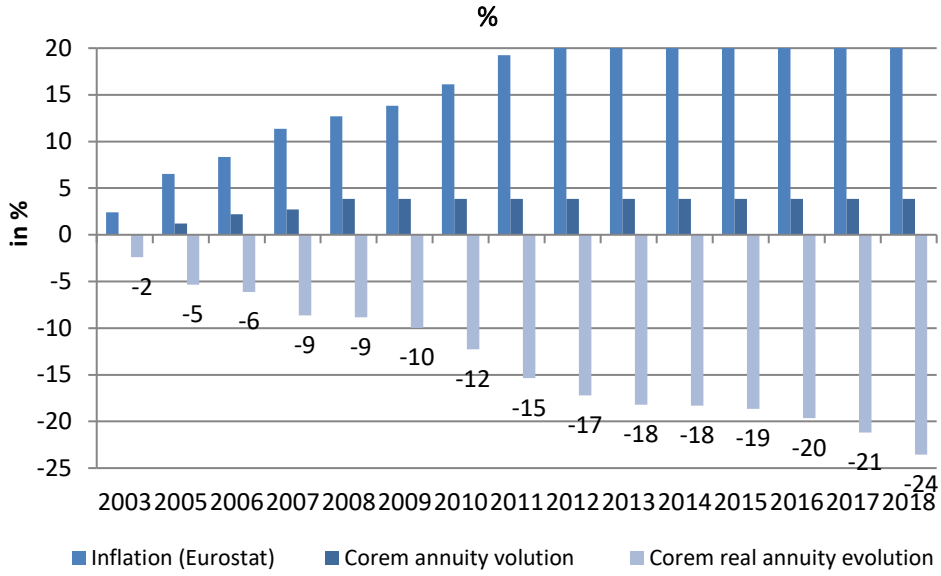
In 2017, the French Government allowed deferred annuity schemes such as Corem to use the market value of assets instead of the accounting (acquisition cost mostly) one, to compute its assets/liabilities coverage ratio. This new rule improved ed its coverage ratio to 98.2 % at the end of 2018. Otherwise, Corem would have been in breach of its Recovery Plan which required it to cover at least 90% of its liabilities.

Since 2016, the Corem rules also allows it to reduce the nominal value of annuities under certain conditions, contrary to the commitment that was provided to particpatns when they joined.

The distribution of new Corem contracts is currently suspended but is planned to resume in 2019, despite the continuously escalating losses borne by its participants.

[154] Until 2017, *Corem*'s recovery plan allowed it to exceptionally use a discount rate of 3% and an older mortality table to compute the present value of its pension liabilities instead of the regulatory 0.78% at the end of 2014 and 1.5% end of 2015. Using the 3% discount rate, *Corem* assets cover 107.5 % of its liabilities at the end of 2015.

Graph FR14. Corem annuities real value, compounded evolution in %



Source: *Source: ARCAF 2019*

Overall, BETTER FINANCE estimates the loss of purchasing power over the last sixteen years (2002-2018) of participants to the French Public Employee Pension Schemes to be at -20.2% (-1.5% per annum), based on the relative asset portfolio size of Préfon and Corem, assuming that Préfon participants retire at age 60 and not later.

CRH

CRH does not disclose an annual report or financial data publicly. Even its pre-contractual publications do not disclose past performance. Because of an on-going restructuring that started in 2008, the real returns of this plan are probably low and below inflation. For the last four years, CRH annuities value has increased by 1.8%, against an inflation of 4.3%.

Defined contribution corporate plans

Table FR15. French corporate savings plans - 19 years returns before tax 2000-2018					
Fund ("FCPE") category	Equity	Bond	Money market	Diversified	All funds
19Y Nominal return	22.1%	68.8%	28.3%	44.8%	45.2%
Yearly average	1.1%	2.8%	1.3%	2.0%	2.0%
19Y Real return	-10.2%	25.8%	-4.6%	7.4%	7.8%
Yearly average	-0.6%	1.2%	-0.2%	0.4%	0.4%

Source: AFG/Europerformance

We combine information provided by "Europerformance" on the performance of each category of funds with data from AFG on their total outstanding relative weight[155] to estimate the overall returns of corporate savings.

Real returns of corporate DC-based (Defined Contribution) plans before tax over an 19-year period, from the end of 1999 to the end of 2018, were overall positive: the yearly average real performance before tax of the aggregate of all funds was 0.4%, which makes French DC plans the second best performing pension savings product after life insurance capital-guaranteed contracts, and way ahead of life insurance unit-linked contracts.

The overall real returns before tax are influenced predominantly by the surprisingly heavy weight and negative return of money market funds (25% of assets; -4.6%), and the slightly negative real return of DC equity funds (despite a 9.7% real return in 2017 alone, but -14.3% in 2018). Equity funds, which account for about 18% of total outstanding assets (excluding company stock), greatly underperformed equity markets over the last 19 years: +22% versus +74% for French equities for example; see graph FR1 above. Also, DC Bond funds (around 22% of total assets) returned +69% in nominal terms over the period versus +130% for the European bond market (see graph FR4).

Like for unit-linked insurance contracts, the primary factor for this underperformance of DC equity and bond funds could be the level of fees charged.[156] Unlike the US corporate DC

[155] Data published by AFG relate to "FCPE L214-39". These funds are diversified funds which do not invest in the own shares of the concerned company ("company stock"). There is another category of corporate savings funds, the "FCPE L214-40" dedicated funds which can invest without limit in the own shares of the concerned company but there are no data available on the returns of these "FCPE L214-40" funds. The "FCPE L214-39" assets represented 61.5% of all FCPE assets at the end of 2017.

[156] The average management fees represented between 1.6 and 2% of managed assets for European equity FCPEs on average in 2013/2014 according to the « Observatoire de l 'épargne de l'AMF » (Nr. 14, July 2015) but it is difficult to know whether this includes fees on underlying funds in the case of FCPE funds of funds.

pension plans ("401k"), the French ones do not invest in general purpose mutual funds, but in special purpose alternative investment funds (AIFs) called FCPEs, especially dedicated to these plans. Consequently, French savers are faced with an additional offering of investment funds (about 2,500 FCPEs in addition to the about 3,500 UCITs funds already domiciled in France),the average size of these AIFs is quite small, and many FCPEs are merely wrappers of other – general purpose – funds, adding a lyer of fees. Another factor is that equity FCPEs are not 100% invested in equities.

A limitation of such computations is that performance indices provided by "Europerformance" only relate to diversified funds inside the corporate savings plans. They do not take into account the part of corporate long-term savings which is invested in shares of the concerned company ("company stock"), accounting for 37% (€ 46 billion end of 2018) of all corporate savings plans.

Return of regular identical investments over 18 years

Also – same rule whenever possible for the whole research report – the computed returns relate to a one-time investment at the end of 1999 and kept up to the end of 2018. Many pension savers will tend to invest regularly every year or every month. With the help of the French trade association AFG, we computed the annualized returns from 2000 to 2018 for the same amount invested every year over the last 19 years. This provides a slightly higher before tax return of 8.6% instead of 7.8%. Also, this return is less volatile with time, as it is spread over many years instead of only one.

After-tax returns are often higher

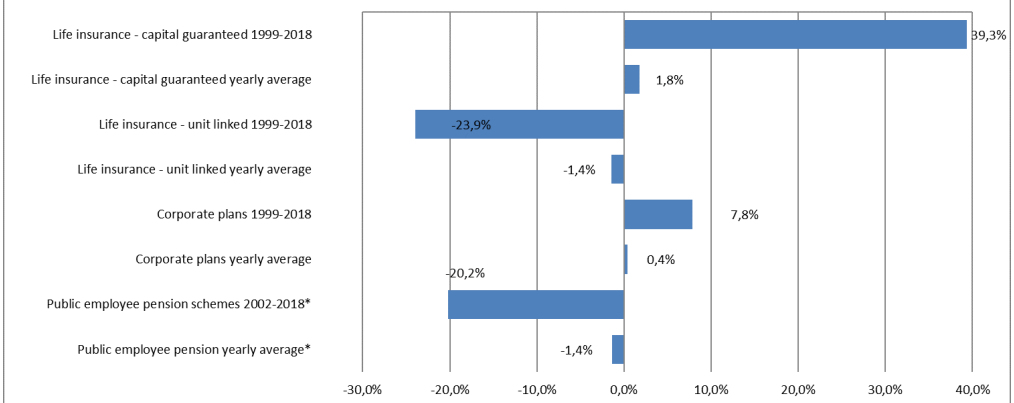
Finally, after-tax returns of French corporate long-term savings plans are difficult to compute globally, but they can often be higher than before-tax ones, since their taxation is the most favourable of all long-term and pension savings products in France (redemptions are exempt from income tax and are only subject to "social" levies of 17.2% of net gains). Also, most of these savings come from non-taxable profit-sharing income contributed by employees ("*intéressement*"and "*participation*") and employers' matching contributions.

Conclusions

After a year of negative real returns before tax in 2011, for the main long-term and pension savings product in France, subsequent years were more favourable to pension savers. Against the backdrop of bullish stock markets and lower inflation, unit-linked life insurance contracts showed a positive real performance every year from 2012 to 2017. However, their 19-year performance is still negative. The real performance of capital-guaranteed life insurance contracts *("contrats en euros")* has been positive for every year since 2011, but the continued decrease of interest rates, and increases of taxation, have turned it negative in 2018.

Over a 19-year period, from the end of 1999 to the end of 2018, capital-guaranteed life-insurance contracts show on average a positive yearly after-tax performance of +1.8% in real terms, whilethe unit-linked contracts show a negative yearly return of -1.4%. Corporate DC plans delivered 0.4% on an annual basis before tax. After-tax returns would typically be higher for those due to a favourable tax treatment.

Graph FR 16. French Pension Savings Real Returns before tax, 2000-2018



*** Purchasing Power of Pensions Before Tax**

Pension Savings: The Real Return

2019 Edition

Country Case: Germany

Summarisch

Das deutsche Rentensystem gehört zu jenen, in denen das gesetzliche System der öffentlichen Hand (Säule I) eine relativ wichtige Rolle für das Alterseinkommen der deutschen Rentner spielt. Die Bruttorentenersatzrate aus dem obligatorischen öffentlichen System beträgt 38,2% des individuellen Einkommens (gegenüber durchschnittlich 39,9% in OCED-Ländern), während die Ersatzrate aus freiwilligen Systemen (Säule II und Säule III zusammen) 12,7% beträgt. Die Riester- und Rürup-Reformen von 2005 zielten auf eine stärkere Beteiligung deutscher Arbeitnehmer an betrieblichen und individuellen Altersversorgungssystemen ab, da die akkumulierten Ansprüche relativ gering waren. Die Riester-Rentenversicherung erzielte in den letzten 13 Jahren (2005-2017) eine jährliche Rendite von 1.54% (kumuliert 22%) und eine Rendite von 1.63% für die Rürup-Rentenversicherung (kumuliert 23%).

Summary

The German pension system is among those where the mandatory public scheme (Pillar I) plays a relatively important role in German retirees' old-age income. The gross pension replacement rate from mandatory public scheme is equal to 38.2%[157] of individual earnings (against 39.9% on average in OCED countries), while the replacement rate from voluntary schemes (Pillar II and Pillar III together) is 12.7%. With a relatively low level of accumulated entitlements, the 2005 *Riester* and *Rürup* reforms were aimed at increasing participation in occupational and individual pension schemes for German workers. Voluntary personal pensions returned 1.54% annually (22% cumulatively) and 1.63% (Rürüp; 23% cumulative) over the last 13 years (2005-2017).

Introduction

In 2007, the German government raised the statutory retirement age from 65 to 67. A transitional phase to attain the retirement age of 67 for individuals with less than 45 years of

[157] OECD Pensions Outlook 2018 - © OECD 2018
https://www.oecd.org/finance/oecd-pensions-outlook-23137649.htm

contributions was started in 2012, including a gradual increase of the working life of one month per year until 2029. For individuals with 45 years of contributions, the pension age had been lowered to 63 years in July 2014 but started to increase again in 2016 until it will reach 65 in 2028. The average effective age of labour market exit was about 64.6 years for men in 2017 and 64 for women[158].

The German pension system can be divided into three pillars:

- Pillar I: Mandatory State Pension Insurance
- Pillar II: Voluntary Occupational Pensions
- Pillar III: Voluntary Personal Pensions

The first pillar with the statutory and the civil servant pension system is mandatory for all employees and civil servants. Currently, the general pay-as-you-go (PAYG) earnings-related first pillar statutory pension scheme covers about 85% of the employed German population whereas the public civil servants scheme protects 5%. Both systems accounted for pension expenditures of about 10.1% of GDP in 2016.

At 50.9%, the gross pension replacement rate for average-wage workers was significantly lower than the OECD average at 58.6%. Increasing life expectancy and fewer children being born represents a challenging demographic shift in Europe, forcing younger generations to assure an adequate retirement income through private savings.

In the early 2000s, the German government executed an important pension reform to promote private pension savings through subsidies and tax incentives, as well as social security contribution savings in the case of occupational pension plans. In 2002, company pension plans (Pillar II) traditionally provided on a voluntary basis by employers, were transformed into an employee's right to have a part of its earnings paid into a company pension plan under a deferred compensation arrangement. That same year, *The Riester Reform* was introduced to boost personal pension savings, followed by The *Rürup* pension in 2005 to further complement personal pension plans.

[158] BMAS (Federal Ministry of Labour and Social Affairs) - Pension Projections Exercise 2018 - For the attention of the Economic Policy Committees' Working Group on Ageing Populations and Sustainability, November 2017 https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070_en

Introductory Table - Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
Mandatory State Pension Insurance:	Voluntary Occupational Pensions:	Voluntary Personal Pensions:
all persons subject to social security charges contributed 18.7% of their gross income to the scheme	employees have the right to a deferred compensation arrangement - employers the right to choose the scheme	supplement to the statutory pension insurance
	Occupational retirement schemes that can be divided into two sub-pillars: 1) direct pension promise - 2) external occupational pension schemes	Riester pension or Rürup pension or life insurance
Mandatory for all employees who are subject to social insurance contributions	Voluntary or by tariff agreement	Voluntary
PAYG	DB and hybrid	DC
Quick facts		
Coverage (active population): 90%	About half of today's retirees receive income from a private pension	
Gross replacement rate: 38.2%	Gross replacement rate: 12.7%	
	Membership: 20.09 million	16.6 million *Riester* contracts

Source: BETTER FINANCE own composition

In the table below we present the annualized real net rates of return for retirement provision vehicles in Germany.

Table DE1. Aggregate summary annualised return table					
		Riester	A.O.P.P.**	Rürup	Other pension insurances
1 year	2018	n.a.	n.a.	n.a.	n.a.
	2017	0.68%	1.70%	0.52%	1.06%
3 years	2016-2018	n.a.	n.a.	n.a.	n.a.
	2015-2017	1.32%	1.99%	1.16%	1.75%
7 years	2012-2018	n.a.	n.a.	n.a.	n.a.
	2011-2017	1.59%	2.07%	1.40%	2.07%
10 years	2009-2018	n.a.	n.a.	n.a.	n.a.
	2008-2017	1.84%	2.01%	1.45%	2.34%
Whole reporting period*		1.70%	1.80%	1.18%	2.81%

*maximum available in this report; **A.O.P.P. stands for autonomous occupational pension plans (Table DE8); (1) Riester pension insurances contracts. Acquisition charges are not included; (2) Classic pension insurance products or life insurance products. Acquisition charges are not included.

Pension Vehicles

Private pensions are divided into Voluntary Occupational Pensions and Voluntary Personal Pensions. About half of today's retirees receive income from a private pension, however the proportion, currently at 16% (8% from occupational pension and 8% from personal pension) of a retiree's gross income, is currently rather low[159].

In general, there are no taxes on dividends, income or capital gains to take into account during the accumulation phase of the real return calculations. However, the calculations are considerably complicated by the fact that EET and TEE taxation formulas (or intermixtures) can still be found depending on the effective date of the pension promise and the type of vehicle. Consequently, the after-tax calculations are simplified and exclusively simulated as deferred taxation for the occupational *Pensionskassen* and pension funds, as well as personal *Riester* and *Rürup* insurance contracts. For that reason, the average retiree income tax rate is estimated from customised data provided by the German Federal Ministry of Finance for the year of 2012 - the most recent information available[160] - and set at 18%.

The classic pension insurance is not subject to deferred taxation but is (partially) taxed during the capital accumulation phase (see Taxation chapter). Furthermore, performance data is

[159] Bundesministerium für Arbeit und Soziales (2016).

[160] Data on income tax for a given year can only be completed three years later and is subsequently reprocessed by State Statistical Offices. The data also includes joint tax assessments.

available for a longer time span, so the results cannot be directly compared to *Riester* and *Rürup* insurance contracts.

Voluntary Occupational Pensions

For a long time, occupational pension plans have typically been provided by employers on a voluntary basis. Since January 2002, however, employees have the right to occupational pensions through deferred compensation. This means that future salary or special payments, such as vocational benefits or salary increases for up to 4% of a variable contribution cap[161], can be converted to entitlements to a pension - if not regulated differently by a labour agreement. While employers have to comply with the demand for occupational pensions and execute them, they can choose when it comes to structuring the retirement provision, leaving little to no choice to beneficiaries. There are five types[162] of occupational retirement schemes that can be divided into two sub-pillars:

- one direct pension promise (book reserves); and
- four external types of occupational pension schemes (support funds, direct insurance, *Pensionskassen* and pension funds).

To some extent, the five different financing methods compete with each other, but it is also possible to combine two or more types. Both employers' and employee's contributions to occupational pensions are voluntary, however employers have to at least offer a direct insurance pension scheme so that employees may benefit from tax advantages (deferred taxation) and social security contribution savings if they choose to contribute. When there is a binding labour agreement, occupational pensions are generally organised for whole industrial sectors and there is no employee's right to demand divergent occupational pension provisions. Many collective agreements also oblige employers to participate financially in occupational pensions and withdraw the employer's right to choose the retirement scheme. Indeed, employer-funded pensions represent the largest share of occupational schemes, though an increasing number of deferred compensation arrangements can be found. If the occupational pension is structured as a deferred compensation and contributions are

[161] *"Beitragsbemessungsgrenze";* there are differences between "*West*" and "*Ost*" due to the difference of the general level of salaries, but the variable contribution cap is always 4%. The "*Beitragsbemessungsgrenze Ost*" will gradually be aligned from 2018 until 2025.

[162] The aba (Arbeitsgemeinschaft für betriebliche Altersversorgung e.V., German Association for Occupational Pensions) - Occupational Pension Landscape in Germany – January 2015
https://www.aba-online.de/en/docs/attachments/42616471-6d26-4abc-a4de-5aa328b5fc8c/20150121-Occupational-Pension-Landscape-in-Germany.pdf

subsequently exempt from taxation and social security contributions, this will in turn lower claims from the statutory pension insurance.

Occupational pensions in Germany are managed as defined benefit (DB) plans, either as traditional or hybrid ones that can take the form of contribution-oriented DB plans with an annual minimum return guarantee, or as contribution-oriented DB plans with a minimum guarantee of the sum of nominal contributions at the retirement. The German labour law requires employers to guarantee employee's given pension promises. All occupational pensions also have to cover at least one biometric risk, such as longevity, disability or death[163].

Book reserves ("Direktzusage")

Book reserves are direct pension provisions that the employer realises on the company's balance sheet in order to pay an occupational pension once the employee reaches the retirement age. In recent years, an increasing number of employers' resorts to external funding of the provisions through Contractual Trust Arrangements (CTAs). The legislator obliges to protect claims from book reserves through the "*Pensions-Sicherungs-Verein*" (PSVaG) in the case of an employer's insolvency. Reserves via CTAs are protected from creditors in the case of insolvency through legal independency. Book reserves are usually designed as pure benefits given by employers, though deferred compensation arrangements are generally also possible. If an employee leaves the company, there is no possibility to continue the retirement provision through private funding, though deferred benefits are maintained. Book reserves are the most widely used type of occupational pension plans in terms of assets under management.

Support funds ("Unterstützungskasse")

Support funds, one of the oldest forms of occupational pension schemes, are institutions funded by one or several companies to provide retirement provisions for employees. The latter have no direct legal claim to benefits from support funds, only from their employers. Support funds invest the deposited funds to pay a company pension at a later date. If there is not enough money in the support fund to meet retirement commitments, employers have to compensate for the difference. The "*Pensions-Sicherungs-Verein*" (PSVaG) protects employee's benefits in the case of an employer's insolvency.

Direct insurance ("Direktversicherung")

These types of occupational pensions are life insurance contracts that an employer enters into with an insurance company for its employees. Only last-mentioned or surviving

[163] http://www.aba-online.de/glossar.html (Accessed on 14 June 2017).

dependents have claims to benefits from direct insurances. The insurance contracts can be continued with personal contributions if the employee leaves the company or, under specific conditions, be transferred to a new employer. If an employee solely contributes to a direct insurance, exemptions from taxation and social security contributions can be granted[164] or, alternatively, the employee can make use of the *Riester* support if the contributions are made from individually taxed income.

Regulated by the German occupational pension law, both the individual transfer of occupational pension claims and the application of the *Riester* support under above-mentioned prerequisite also apply to *Pensionskassen* and pension funds.

"Pensionskassen"

Pensionskassen are institutions, formed by one or several companies, which take the form of special life insurance companies. They are legal entities that continue to pay benefits even in the case of an employer's insolvency and are supervised by the German Federal Financial Supervisory Authority ("*Bundesanstalt für Finanzdienstleistungsaufsicht*"; BaFin). In contrast with direct insurances, employees become direct insurees and often even members of the *Pensionskasse*. The traditional form ("*regulierte*") of *Pensionskassen* offers classic life annuity contracts that may invest a maximum of 35% of the capital in equity. They are allowed to implement divergent actuarial interest rates and even to change the applicable mortality table. The new ("*deregulierte*") *Pensionskassen,* in place since 2006, must act as life insurers with guaranteed interest rates and specific calculation standards.

Pension funds ("Pensionsfonds")

Pension funds were introduced on 1 January 2002 as a new type of occupational retirement scheme. They are legal entities that grant employees a legal right to pension benefits. In contrast to *Pensionskassen* and direct insurances, pension funds are not subject to quantitative investment rules, hence their risk is generally higher. Pension funds are supervised by the BaFin, and entitlements of members and beneficiaries are protected by the PSVaG in case of insolvency of the sponsoring employer. Retirement payments can be fulfilled as lifelong annuities but there is also the possibility to have a lump-sum pay-out at the beginning of the retirement phase.

Overall, the growth of entitlements to occupational pension plans mainly took place between 2001 and 2005 and has lost momentum in recent years. Since 2005, entitlements only increased for direct insurances, *Pensionskassen* and pension funds raising the absolute

[164] For direct insurance, *Pensionskassen* and pension funds: 4% of the contribution cap "*Beitragsbemessungsgrenze West*" (BBVG-RV West) + €1,800 are tax exempt; 4% of the BBVG-RV West are exempt from social security contributions.

number to about 15 million. It should be noted that an individual can have several entitlements, lowering the number of effectively concerned employees. Surveys of the German Federal Ministry of Labour and Social Affairs have shown that individuals are often poorly informed about their occupational pension provision[165].

Table DE2. Entitlements to active occupational pensions (in € millions)										
	2001	2003	2005	2007	2009	2011	2013	2015	2016	2017
Book reserves and support funds	3.9	4.0	4.7	4.5	4.5	4.6	4.8	4.7	4.7	4.8
Direct insurance	4.2	4.2	4.1	4.2	4.3	4.7	4.9	5.1	5.2	5.3
Pension funds	-	0.1	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.4
Pensionskassen	1.4	3.2	4.1	4.5	4.5	4.6	4.8	4.8	4.8	4.7
Total	**9.5**	**11.5**	**13.0**	**13.5**	**13.6**	**14.3**	**14.9**	**15.0**	**15.1**	**15.2**

Source: Bundesministerium für Arbeit und Soziales (2016), GDV, own calculation; data for 2018 not yet available

The *Riester* support is rarely used within the framework of occupational pension schemes. It is registered in only 1-2% of cases[166].

While pure defined contribution (DC) plans cannot be found in Germany to date, a law introducing DC pension plans without guarantees, set up by collective bargaining agreements, passed legislation in the summer of 2017. This so-called "*Betriebsrentenstärkungsgesetz*" likewise allows for auto-enrolment of employees in a pension plan with voluntary opting-out within a specified time frame and incorporates measures to strengthen occupational pensions for low income workers through e.g. allowances and tax incentives.[167]

According to a proposal submitted to the Bundesrat by the ministers of the Land of Hesse in April 2018, employees not covered by a professional scheme would automatically be affiliated to an individual pension scheme created by the government.

Voluntary Personal Pensions

Over the last few years, the German government has undertaken significant communication efforts to advertise personal provisions for old age to supplement the statutory pension insurance. Since 2002, *Riester* pension savings are being promoted by the government

[165] Bundesministerium für Arbeit und Soziales (2016).
[166] Bundesministerium für Arbeit und Soziales (2012).
[167] http://dip21.bundestag.de/dip21/btd/18/112/1811286.pdf (Accessed on 14 June 2017).

through two different channels: subsidies and taxation reliefs. In 2005, the *Rürup* pension was introduced to specifically support the self-employed through tax exemptions.

Riester pensions

Riester[168] products are formally certified personal pension plans with the objective of building up a funded retirement pension supplement. They are subject to deferred taxation, and subscribers receive subsidies from the German state. The amount received depends on personally invested contributions. Subsidies are at their maximum if the total contributions to a *Riester* product (that is, personally invested contributions plus subsidies) reach at least 4% of the individual's previous year's income. The subsidies add up to €175 per adult (according to the pension law of summer 2017), plus €300 for each child born since 2008 and €185 for those born before 2008. The minimum contribution is €60 per year with accordingly fewer subsidies. Subscribers that are younger than 25 receive a bonus of €200 at the moment of subscription to a *Riester* product. Though rarely used in this context, the *Riester* support is also applicable to occupational pension plans for the following three types: direct insurances, *Pensionskassen* and pension funds. *Riester* subsidies and tax allowances are personal and can only be passed on to a spouse's *Riester* contract in the case of death.

Riester pension benefits can be paid out starting at the age of 62, or at the age of 60 for contracts concluded before 2012. The subscriber obtains the right to convert the invested capital into a life annuity, or a programmed withdrawal where up to 30% of the accumulated savings can be paid out as a lump-sum. Furthermore, one fifth of the accumulated savings is reserved for life annuities starting at the age of 85.[169]

The following types of investments are eligible as *Riester* products:

- Bank savings plan ("*Banksparplan*"): These contracts are typical long-term bank savings plans with fixed or variable interest rates.
- Pension insurance contract ("*Rentenversicherung*"): These *Riester* plans, offered by insurance companies, exist in two forms. There are typical pension insurance contracts consisting of guaranteed returns and a participation in profits. Additionally, there are also hybrid contracts where a fraction of the retirement savings is invested in investment funds. They consist of both a guaranteed part and a unit-linked part that depends on the performance of the investment funds.
- Investment fund savings plan ("*Fondssparplan*"): Savings are unit-linked, invested into investment funds chosen by the subscriber from a pool of funds proposed by a financial intermediary. The intermediary has to at least guarantee that the invested

[168] Named after former Federal Minister for Labour and Social Affairs: Walter Riester.
[169] Bundesministerium für Arbeit und Soziales (2014).

money plus the state's subsidies are available at the moment of retirement. In the case of premature withdrawals, a loss of capital is possible.

- Home loan and savings contract ("*Wohn-Riester/Eigenheimrente*"): These contracts take the form of real estate savings agreements. This most recent type of *Riester* scheme is based on the notion that rent-free housing at old age is a sort of individual retirement provision comparable to regular monetary payments.

At the end of 2018, about 16.6 million *Riester* contracts had been subscribed. After steady increases in the early periods following its establishment, considerably fewer contracts have been subscribed since 2012. The number of open contracts remained stable since 2015 and even decreased slightly for the first time in 2018. Suggested explanations include the financial crisis and the current environment of low interest rates along with less favourable media coverage of *Riester* products - reinforcing a general mistrust and doubt[170] concerning funded retirement savings. It should be noted that an individual can subscribe to several *Riester* contracts at the same time, so a direct inference of the number of individuals possessing a *Riester* contract is not possible. However, State subsidies (allocations and income tax reliefs) are only possible for up to 4% of the individual gross income (maximum €2,100 per year). In fact, a small number of non-subsidised *Riester* contracts exist. This is independent from the fact that many *Riester* policy holders "forget" to ask for state subsidies, and that others do not get the complete allocations. About two-thirds of *Riester* contracts take the form of pension insurance contracts, making it by far the most important type of *Riester* investment despite a decrease of subscriptions observed since 2015. Only the number of investment fund savings plans and home loan agreements continued to increase over the past four years, the latter also thanks to a booming real estate market in a low interest environment. According to Federal Ministry of Labour and Social Affairs, more than one fifth of the *Riester* contracts are currently put on hold - meaning that savers are suspending their contributions.[171]

Table DE3. Number of *Riester* contracts (in thousands)

	Pension insurance contracts	Bank savings plan	Investment fund savings plan	Home loan and savings contract	Total
2001	1,400	N/A	N/A		1,400
2002	2,998	150	174		3,322
2003	3,451	197	241		3,889
2004	3,557	213	316		4,086
2005	4,524	260	574		5,358

[170] Evidence of this can be found in Hagen, Kleinlein (2012).

[171] http://www.bmas.de/DE/Themen/Rente/Zusaetzliche-Altersvorsorge/statistik-zusaetzliche-altersvorsorge.html.

2006	6,388	351	1,231		7,970
2007	8,194	480	1,922		10,596
2008	9,285	554	2,386	22	12,248
2009	9,995	634	2,629	197	13,454
2010	10,484	703	2,815	460	14,462
2011	10,998	750	2,953	724	15,426
2012	11,023	781	2,989	953	15,746
2013	11,013	805	3,027	1,154	16,000
2014	11,030	814	3,071	1,377	16,293
2015	10,996	804	3,125	1,564	16,489
2016	10,931	774	3,174	1,691	16,570
2017	10,881	726	3,233	1,767	16,607
2018	10,819	676	3,288	1,810	16,592

Source: BMAS (Federal Ministry of Labour and Social Affairs)
Accessed on 1 July 2019. Changes in numbers from previous releases are due to revisions.

Rürup Pensions

Introduced in 2005, the *Rürup*[172] pension (or "*Basisrente*") is the most recent form of pension provision and, next to occupational pension plans and *Riester* pension plans, the third type of private pension that is supported by the German state through tax exemptions. The *Rürup* pension actually has similar characteristics to the statutory pension insurance. Contributions are utilised for monthly life annuities, starting with the retirement phase at the age of 62 (or at the age of 60 for contracts concluded before 2012), and there is no possibility of lump-sum payments. The benefits are personal, thus non-transferable, and cannot be disposed or capitalised either. Contributions are exempt from taxation up to a high deduction cap. *Rürup* pensions, specifically designed for self-employed persons and freelancers who could not benefit from state supported pension savings before its establishment, are beneficial for those with higher revenues because of the high tax-exempt savings amount. They take the form of pension insurance contracts that are, in contrast with *Riester*, irredeemable, for which invested funds cannot be regained before the retirement phase. It is also possible to subscribe to *Rürup* insurance contracts that invest in investment funds through savings plans. Such contracts can be designed with or without capital guarantees[173].

[172] Named after German economist Bert Rürup.
[173] http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Steuern/Weitere_Steuerthemen/Produktinformationsblatt/2016-12-12-Produktinformationsblatt-Basisrente.html

Life insurance and pension insurance contracts

Retirement provision in Germany is also carried out through classic pension insurance products or life insurance products, possibly the ones that are unit-linked. However, if not certified within the framework of the *Riester* pension, the *Rürup* pension or as an occupational pension plan, these contracts do not benefit from initial tax deductions or allowances. Nonetheless, they do play an important role in personal retirement provisions with about 71 million contracts concluded at the end of 2018[174]. These contracts are of a diverse nature. They usually start paying out at the moment of retirement, though there are also contracts that pay immediately after conclusion ("*Sofortrente*"). It is possible to redeem both via lump-sums and annuities.

While the pension law of summer 2017 mainly aimed at strengthening occupational pensions, personal pensions are likewise impacted as the basic allowances for *Riester* contracts increased from €154 to €175 from early 2018.

Charges

Information on the multifaceted types of charges for private pension products are rather hard to obtain and often non-transparent for individuals, which complicates the decision-making process.

Within Pillar II, due to the DB character of pension schemes, employers have an interest in cost-efficient pension provision, and the competition among different financing methods creates pressure on costs. In the case of book reserves and support funds, an employer has to meet the specified retirement commitments agreed upon, thus charges will not be discussed within the scope of these two types of occupational pension.

One of the main advantages of occupational pension schemes is that charges are usually lower than for personal pension plans because they are spread over larger groups. Employers often receive quantity discounts or customised rates with lower administrative charges. This is especially the case if rates are defined for whole industry sectors.

The following operating expenses data for autonomous occupational pension funds (*Pensionskassen* and pension funds) are available in the OECD Pension indicators database[175] and are provided by the Federal Financial Supervisory Authority (BaFin). Charges are expressed as a percentage of the funds' total assets. We did not find any charges data shown separately for occupational direct insurances. We did not find any data on acquisition costs

[174] https://www.gdv.de/de/zahlen-und-fakten/versicherungsbereiche/renten--und-kapitalversicherungen-24038
[175] http://www.oecd.org/daf/fin/private-pensions/globalpensionstatistics.htm

which are opaque in the case of occupational schemes and even prohibited by law for traditional *Pensionskassen*.

Operating expenses comprise all costs arising from the general administration of the plan/fund that are treated as plan/fund expenses (i.e. investment management costs and administrative costs):

- Investment expenses shall comprise all costs arising from investment management, such as: internal investment personnel costs; investment management fees (paid to external asset managers); trading expenses; legal fees (investment management related); custodian, accounting and performance measurement fees; property maintenance costs; asset consultant fees; other investment expenses.
- Administrative costs shall comprise all administrative costs, such as: interest expense; actuary fees; directors/trustees fees and expenses; personnel costs (excluding investment managers); external sales agents; total fees paid to audit firm; IT expenditures; rental costs; other legal fees (excluding those related to investment management); other administrative costs.

Table DE4. Operating expenses as a % of total assets for autonomous occupational pension funds			
	Investment expenses	Administrative costs	Total
2002	*0.132*	*0.122*	0.254
2003	*0.393*	*0.363*	0.756
2004	*0.509*	*0.471*	0.980
2005	*0.304*	*0.281*	0.585
2006	*0.222*	*0.205*	0.427
2007	*0.163*	*0.151*	0.314
2008	0.144	0.133	0.277
2009	0.139	0.119	0.258
2010	0.128	0.110	0.238
2011	0.118	0.101	0.219
2012	0.118	0.093	0.211
2013	0.114	0.094	0.208
2014	0.111	0.086	0.197
2015	0.122	0.088	0.210
2016	0.111	0.083	0.194
2017	0.108	0.077	0.185

Source: OECD Pension Indicators database (Accessed on 1 July 2019) – For the years from 2002 to 2007, data are no more available on the OECD website, they are extracted from previous issues of the Better Finance publication – therefore, data for investment expenses and administrative costs between 2002-2007 are estimated. The breakdown of costs between investment expenses and administrative costs is not available for the years 2002 to 2007. To estimate investment expenses and administrative costs for these years, we used the breakdown observed in 2008, which is the first year for which the information is available

Table DE5. Life insurance expense ratios		
	Acquisition charges (as % of total premiums for new policies)	Administrative charges (as % of investments)
2000	5.6	0.40
2001	5.5	0.39
2002	5.4	0.38
2003	5.0	0.37
2004	4.5	0.35
2005	5.6	0.35
2006	4.9	0.33
2007	5.2	0.31
2008	4.9	0.30
2009	5.2	0.29
2010	5.1	0.27
2011	5.0	0.25
2012	5.0	0.25
2013	5.1	0.24
2014	5.0	0.23
2015	4.9	0.22
2016	4.8	0.21
2017	4.7	0.20
2018	4.7	0.19

Source: German Insurance Association (GDV) (accessed on 1 July 2019)

Charges for *Riester* products are often the topic of negative media coverage. It is frequently stated that the charges consume almost all of the state's subsidies. Especially challenging for individuals is the complicated cost structure and the lack of transparency of *Riester* contracts. For instance, there are internal costs, like acquisition costs, distribution costs and administrative costs, that are derived from differing and sometimes ambiguous determination bases, as well as external costs if parts are invested into investment funds. As of late, charges on capital withdrawals in the retirement phase are at the centre of criticism. This opacity has created a curious situation where even providers with favourable charges are unable to properly set themselves apart from those more expensive ones. From a legal standpoint, until 2016, the German legislator only dictated that acquisition costs of *Riester* products have to be spread over at least 5 years to alleviate the initial cost burden.

Calculations by the German government in the early 2000s estimated the total charges to be 10% of the yearly savings premium, and this has become the standard for *Riester* charges calculations ever since[176]. Our own research shows that estimations of total charges of, on

[176] Rürup–Kommission (2003).

average, 10% to 12% of the yearly savings premium can be assumed. However, one can observe an enormous cost span from 2.5% to 20% for insurance contracts[177].

With regard to the less-used *Rürup* contracts and their shorter history, information is even harder to obtain. For a long time, there has been very little transparency regarding the cost structure, as there was no obligation by law for detailed disclosures. In contrast to *Riester* products, there is no obligation to spread the initial acquisition and distribution charges over a defined period[178], but application of the same conditions as for *Riester* products is common. The total charges for *Rürup* pensions expressed as percentages of the yearly savings premium are estimated by practitioners to be a little lower than for *Riester* pensions. Other personal retirement provisions, such as classic pension insurance and life insurance contracts, are likewise often stated to have slightly lower total charges than *Riester* products.

Since 1 January 2017, in order to increase transparency and comparability, every consumer receives corresponding product information sheets before the subscription to a *Riester* or *Rürup* contract. These information sheets are standardised and contain, along with details of individual charges, actual costs illustrating a reduction in yield ratio which should allow for a better comparison among products of the same risk type. Also enforced from this date are charges arising from changes by *Riester* or *Rürup* providers for contracts after 1 January 2017, now subject to hard caps such as distribution cost application to only 50% of the transferred subsidised capital[179].

Average effective costs are not available for the periods under review within this study, hence for our calculations we only consider two types of charges at our disposal: acquisition and administrative charges. For the years 2016 and 2017, *Assekurata*[180] calculated average

[177] Gasche, Bucher-Koenen, Haupt, Angstmann (2013).
[178] ZEW (2010).
[179] http://www.bundesfinanzministerium.de/Content/DE/Monatsberichte/2013/07/Inhalte/Kapitel-3-Analysen/3-4-die-gefoerderte-private-altersvorsorge.html (Accessed on 17 July 2018).
[180] "ASSEKURATA Assekuranz Rating-Agentur GmbH" (www.assekurata.de) is a private company specialized in the quality assessment of insurance companies from a customer's perspective providing rating and analysis services. For instance, ASSEKURATA is the only rating agency incorporating policy holder's opinions on their insurers gathered from customer surveys directly into their verdicts. ASSEKURATA, as a licensed European rating agency, is supervised by the European Securities and Markets Authority (ESMA). Calculations by Assekurata are renowned and utilised by governmental, corporate and consumer structures.

effective costs of about 0.8%[181] per year, which would lead to a heavier charge burden than what our calculations can capture.

Taxation

A reorganisation of retirement savings taxation has been instructed by a Federal Constitutional Court decision from 2002. This revision came into effect in 2005 whereupon taxation is based on a model that divides the different forms of retirement savings according to three groups.

The statutory pension insurance and the *Rürup* pension belong to the first group. Funded pension schemes like occupational pensions and the *Riester* pension belong to the second group. The third group covers the standard pension insurance or life insurance products due to their likewise existent function as investment products.

Contributions to products from the third group always have to be paid from taxed income. The products from the first two groups are subject to deferred taxation. Contributions up to a deduction cap are exempt from taxation and generally subject to tax in its entirety during the pay-out phase.

While products from the second group have already been partially subject to deferred taxation before 2005, this has not been the case for products from the first group. A transitional phase towards complete deferred taxation started in 2005 and since then, every year, higher amounts of contributions can be deducted from taxation and consequently the amount of retirement pay-outs subject to taxation rises. In 2025, pension savings for up to €20,000 for individual insurees and €40,000 for spouses will be exempt from initial taxation. 60% of the maximal amount was tax deductible in 2005 which means the percentage rises 2% each year until the maximum is attained in 2025. The 50% contribution by employers is already tax exempt, so in 2016, 32% of an employee's total contributions to retirement savings were tax exempt.

The percentage of retirement pay-outs subject to taxation was 50% in 2005. Since then, for each year following, the percentage of retirement pay-outs subject to taxation for new retirees rises at a rate of 2%. This means that in 2020, new retirees will pay taxes on 80% of their retirement pay-outs. From 2020 onwards, the rate will rise at 1% annually and consequently retirees from 2040 onwards will have to pay full taxes on their retirement pay-outs[182].

[181] Assekurata (2017).
[182] Deutsche Rentenversicherung (2017).

Voluntary Occupational Pensions

For occupational pension plans in 2013, and for commitments starting from 2005 on, the following taxation rules apply for the individual types of occupational pension schemes:

Book reserves and support funds

Book reserve and support fund contributions through deferred compensation are fully tax exempt while up to 4% of a variable contribution cap is exempt from social security contributions. Benefits are taxed as income at the personal rate.

Direct insurances, Pensionskassen and pension funds

Direct insurances, *Pensionskassen* and pension funds are treated identically according to taxation legislation. In 2017, contributions through deferred compensation were tax exempt for up to €4,848 (4% of the 2017 contribution cap, €1,800) and exempt from social security contributions for up to €3,048 (4% of the 2017 contribution cap)[183]. Investment income is tax exempt while benefits are subject to taxation.

Voluntary Personal Pensions

Riester pensions

Since 2008, total contributions to a *Riester* product of at most €2,100 are exempt from initial taxation even if this amount is more than 4% of the previous year's income. An automatic review by fiscal authorities within the framework of the income tax statement assures further fiscal relief on the difference originating if the tax deductions exceed the state's subsidies. During the savings accumulation period, investment income is likewise tax exempt, while benefits are taxed in the retirement phase but exempt from social security contributions.

Rürup pensions

Contributions to *Rürup* pensions will be exempt from taxation for up to €20,000 per adult in the year of 2025. In the year of 2005, 60% of this ceiling was exempt from taxation and during a transitional phase, the percentage rises at a rate of 2% each year.

[183] If the limits have not already been reached by employers' contributions.

Table DE6. Tax exemptions for *Rürup* contributions							
Year of contribution	2005	…	2016	…	2020	…	2025
Tax deductible	60%	…	82%	…	90%	…	100%

Source: Bundesministerium der Finanzen (2016).

Benefits from *Rürup* pensions are taxed in the retirement phase at the personal income tax rate. In 2005, 50% of the benefits were subject to deferred taxation. Until the year 2020, the taxable part of each year increases at 2%. From then on, the proportion will increase by 1% each year until finally, from the year 2040 on, benefits will be fully taxed[184].

Table DE7. Taxation of *Rürup* benefits							
Year of benefit	2005	…	2016	…	2020	…	2040
Tax deductible	50%	…	72%	…	80%	…	100%

Source: Bundesministerium der Finanzen (2016).

Life insurance and pension insurance contracts

Other retirement savings products that are not particularly promoted by the German state are taxed as follows for all contracts subscribed to since 1 January 2005:

Contributions are no longer tax deductible as special expenses and have to be made from taxed income. Benefits are taxed at the personal income tax rate on corresponding earnings (the difference between contributions and total pay-outs) in the retirement phase. Furthermore, one has to differentiate whether the insurance benefit is carried out as a one-time lump-sum payment or if a lifetime annuity payment is chosen. In the case of lump-sum pay-outs, if the contract runs for at least 12 years and the insuree is older than 60 years, or 62 years (for contracts subscribed to after 31 December 2011), only 50% of the earnings are subject to taxation. If these conditions are not met, the full earnings are taxed. In the case of life annuities, even further tax reliefs are possible depending on the age of the first retirement pay-out, as defined in the tax table. For instance, if the retiree is 60 years old, 22% of the earnings are subject to taxation and at the age of 65 only 18%.

[184] Bundesministerium der Finanzen (2016).

Pension Returns

Pension return calculations are not performed for book reserves and support funds. These are individual commitments to employees that will not increase or decrease depending on asset performances. The commitments are protected by the PSVaG, hence employees can estimate the exact amount they can expect in the retirement phase. Furthermore, we do not have data on performance or charges available for the 2nd pillar direct insurances - thus we cannot perform real return calculations for this occupational financing vehicle either.

These drawbacks should be kept in mind when interpreting real returns, as well as the impact of subsidies, such as allowances.

Voluntary Occupational Pensions

Pensionskassen and pension funds

The following table shows real return calculations for Pillar II aggregate *Pensionskassen* as well as pension funds supervised by BaFin.

Table DE8. Average annual rate of investment returns for autonomous occupational pension plans (in %)

	Nominal return* before administrative costs, inflation and tax	Nominal return after charges and before tax, inflation	Real return after charges and inflation and before taxes	Real return after charges and inflation and after taxes
2002	2.81	2.68	1.56	1.22
2003	4.58	4.20	3.07	2.54
2004	4.94	4.45	2.11	1.55
2005	4.89	4.60	2.42	1.84
2006	4.60	4.39	2.96	2.41
2007	4.16	4.01	0.90	0.40
2008	1.62	1.49	0.38	0.19
2009	4.76	4.64	3.73	3.15
2010	4.94	4.82	2.93	2.32
2011	3.01	2.91	0.66	0.29
2012	4.82	4.73	2.59	2.00
2013	4.29	4.20	2.94	2.41
2014	4.61	4.52	4.42	3.85
2015	3.37	3.27	3.07	2.65
2016	3.81	3.72	2.08	1.61
2017	3.76	3.68	2.16	1.70
Avg / Year	**4.06**	**3.89**	**2.37**	**1.88**

*Source: OECD Pension Markets in Focus (2018) for Norminal Returns; OECD Pension Indicators database (Accessed on 1 July 2019) for charges; Eurostat; OEE calculation; * Nominal return after investment management costs*

To simulate the impact of taxation on the real return of *Pensionskassen* and pension funds, the average income tax rate for retirees (18%) has been applied to the 70% of the pay-outs that were subject to deferred taxation in the year of 2015.

Since German pension funds and *Pensionskassen* are currently exclusively offered as DB or hybrid plans (see Pension Vehicles), employees bear minor risks when investments perform poorly[185].

Voluntary Personal Pensions

Information on the performance of personal pension plans is hard to obtain and there are considerable controversies surrounding the proper estimation method, notably for *Riester* insurance contracts.

Calculations of real returns for Voluntary Personal Pensions are only executed for insurance contract types since information on returns and charges is not consistently available for other types of personal pension plans. Nonetheless, this provides an important insight into the most important part of promoted personal pension plans since about two-thirds of all *Riester* pensions are designed as pension insurance contracts, as are all *Rürup* pensions.

The following real return estimations are based on average return rates calculated by *Assekurata*. One has to keep in mind that the calculations made by *Assekurata* are based on voluntary participations. For instance, in 2016, 83 providers were asked to participate in the survey with 21 providers not responding, adding up to a participant's market share of 86%. This may lead to a bias based on voluntariness. The return rates provided by *Assekurata* are composed of a guaranteed interest part ("*Höchstrechnungszins"* or "*Garantiezins*"), set and capped by the German Federal Ministry of Finance, and a surplus sharing part ("*Überschussbeteiligung*")[186]. Furthermore, the return figures provided are related to the investment part of the gross premium which is only about 60% to 90% of the total premium depending on not only deductions of distribution and administrative charges, but also risk premium[187].

[185] OECD (2016)

[186] Terminal bonuses and participation in valuation reserves are not included in these calculations as they are difficult to compare and not equally applied. Terminal bonuses are usually paid on the maturity of the policy or on death. Similary, valuation reserves only apply to about 5% of policy holders. One has to keep in mind that they account for, on average, 20% of the total return.

[187] In life insurers' advertisements, the return percentage figures that are published are always linked to the investment part of the premiums and, very often, the insurers do not differentiate between the gross premium and the investment part of the premium which is misleading from a consumer's perspective.

Though already introduced in 2002, data on investment return rates has only been available since 2005 for *Riester* pensions, just like for *Rürup* pensions which were introduced that year. Return rates for classic pension insurances are available for an 18-year period. For our real return estimations, we assumed that acquisition charges are spread over five years for all insurance contract types. Consequently, the charge burden in the first five years is more severe.

Riester pension

Table DE9. Riester pension insurances' average annual rate of investment returns (in %) - Excluding Acquisition Charges

	Nominal return before charges, inflation, tax	Nominal return after charges and before tax, inflation	Real return after charges, inflation and before tax	Real return after charges and inflation and after taxes
2005	4.24	4.24	2.07	1.52
2006	4.18	4.18	2.76	2.21
2007	4.18	4.18	1.07	0.53
2008	4.36	4.36	3.22	2.65
2009	4.27	4.27	3.37	2.81
2010	4.19	4.19	2.31	1.76
2011	4.05	4.05	1.78	1.25
2012	3.92	3.92	1.80	1.29
2013	3.56	3.56	2.31	1.85
2014	3.35	3.35	3.25	2.81
2015	3.11	3.11	2.90	2.50
2016	2.78	2.78	1.16	0.79
2017	2.50	2.50	1.00	0.68
Avg / Year	**3.74**	**3.74**	**2.23**	**1.74**

Source: Assekurata; Eurostat; GDV; OEE calculation

It is important to note though that for *Riester* products, subsidies which are not included in these calculations can play an important role in determining their performance. This is especially the case for low earners or for families with many children. Average and high earners benefit significantly from tax exemptions.

Rürup pension

Table DE10. *Rürup pension's average annual rate of investment returns (in %)*

	Nominal return before charges, inflation, tax	Nominal return after charges and before tax, inflation	Real return after charges, inflation and before tax	Real return after charges and inflation and after taxes
2005	4.31	2.89	0.75	0.38
2006	4.20	2.81	1.40	1.04
2007	4.21	2.84	-0.23	-0.60
2008	4.37	3.00	1.88	1.49
2009	4.27	2.92	2.02	1.65
2010	4.21	3.93	2.05	1.54
2011	4.07	3.81	1.54	1.05
2012	3.90	3.64	1.53	1.06
2013	3.57	3.32	2.07	1.64
2014	3.36	3.12	3.02	2.61
2015	3.13	2.90	2.70	2.32
2016	2.81	2.59	0.97	0.64
2017	2.52	2.31	0.82	0.52
Avg / Year	**3.76**	**3.08**	**1.58**	**1.18**

Source: Assekurata; Eurostat; GDV; OEE calculation

As discussed in the Pension Vehicles chapter, the contributions to *Rürup* pensions are, in contrast to *Riester* pensions[188], not guaranteed and cannot be recalled or capitalised, which can lead to the following difficulty: *Rürup* pensions were especially introduced for self-employed people and freelancers whose income may vary considerably from year to year, in particular in times of crisis. If contributions can no longer be maintained, and with contracts that are concluded lifelong, ongoing administrative charges can gradually diminish invested retirement savings. Hence, consumer advice centres[189] usually only advice *Rürup* pensions if consumers are professionally established and if the payments of contributions are secured in the long run[190].

In order to simulate after-tax real returns, the average income tax rate estimation for retirees has been applied to the 72% of the pay-outs that were subject to deferred taxation in the year of 2016.

[188] Contributions (gross premiums) and state subsidies for all kinds of *Riester* contracts are guaranteed.
[189] Such as Verbraucherzentrale Hamburg e. V.
[190] Gasche, Bucher-Koenen, Haupt, Angstmann (2013).

Personal pension insurance

The classic pension insurance is not subject to deferred taxation and data is available for a longer time span so one has to be careful with the comparison of investment returns within the Pillar III. Since contributions have to be paid from taxed income, classic pension insurances are generally less favourable than *Riester* or *Rürup* pensions with regard to the tax burden. However, the complexity of taxation in all three stages (contribution phase, accumulation phase[191] and pay-out phase) could not be taken into account within this study and consequently after-tax simulations are only executed for pension products with deferred taxation schemes. The following table shows real return calculations for Pillar III pension insurance contracts.

Table DE11. Pension insurances' average annual rate of investment returns (in %)

	Nominal return before charges, inflation, tax	Nominal return after charges and before tax, inflation	Real return after charges, inflation and before tax
2000	7.15	7.15	4.87
2001	7.10	7.10	5.65
2002	6.12	6.12	4.96
2003	4.84	4.84	3.70
2004	4.43	4.43	2.09
2005	4.31	4.31	2.14
2006	4.24	4.24	2.82
2007	4.25	4.25	1.14
2008	4.39	4.39	3.25
2009	4.28	4.28	3.38
2010	4.20	4.20	2.32
2011	4.07	4.07	1.80
2012	3.91	3.91	1.79
2013	3.61	3.61	2.36
2014	3.40	3.40	3.30
2015	3.16	3.16	2.95
2016	2.86	2.86	1.23
2017	2.56	2.56	1.06
Avg. / Year	**4.37**	**4.37**	**2.81**

Source: Assekurata; Eurostat; GDV; OEE calculation

[191] It can be considered that the contribution and the accumulation phases in reality are the same since the beneficiary is contributing normally for the whole duration of his professional career, but for the purpose of our study we are considering money-weighted returns and therefore we distinguish between the moment when the contribution is made, the period of the investment and finally the moment when the investment is redeemed.

The very favourable nominal returns in the early 2000s raise the annual average of classic pension insurances. Return figures from 2005 on resemble those of *Riester* and *Rürup* pensions.

Conclusions

The performance of *Pensionskassen* and pension funds in real terms has been positive over the whole period from 2002-2017, with an annualised average return of 1.88% after taxation. Even the difficult years of 2007, 2008 and 2011 still recorded modest positive real returns. German Voluntary Occupational Pensions are currently exclusively offered as DB or hybrid plans but pension reforms, including the introduction of DC pension vehicles as early as January 2018, are under way. It remains to be seen if the abandonment of traditional guarantees which has already created much debate and uncertainty among employees and providers can boost participation in occupational pensions, in particular for SMEs.

The real annualised average returns of Voluntary Personal Pensions have also delivered positive results, about 1.6% for *Riester* and *Rürup* pension insurances over a 13-year span, and 2.22% for classic pension insurances over an 18-year span. Only the *Riester* and *Rürup* pensions recorded a year with negative real performances in 2007 (-0.26% and -0.23% respectively) due to the impact of high initial charges. The after-tax simulation for the State sponsored *Riester* and *Rürup* pension insurances recorded annualised real average returns of 1.2% each. Old-age provisions through Voluntary Personal Pensions have somewhat stalled over recent years and a considerable share of subscribed *Riester* pensions is put on hold for the time being. Persistent low interest rates, as reflected in the steadily falling guaranteed interest rate (from 2.75% in 2005 to 0.9% in 2017), contribute to render new contracts of these pensions less profitable. While more and more providers already undercut these minimum return guarantees, a definite abolishment of this regulated interest fraction is still under discussion. The other important return part of pension insurances, surplus sharing, has likewise been plummeting over the last years, if nothing else to fulfil commitments of former contracts with higher guarantees. Voluntary Personal Pensions, especially the bureaucratic and expensive *Riester* pensions, continue to be at the centre of controversial debates with new legislative stimuli in the shape of higher allowances being implemented in 2018.

Policy Recommendations

Instead of trying to introduce new forms of old-age provisions, efforts should be focused on improving the existing products. The “Riester” product, with its licensing process, its strict legal framework, its exclusive number of categories and its comparability, is already an

existing standardised private product. Nevretheless, the contracts are often criticised for their high costs.

There is a lot of potential for reform within all three systems of old-age provision. Whereas the public pension system should be focused on its core purpose, both company and private pension schemes could be revamped by reducing excess bureaucracy, abandoning contradictory legislation and further enhancing transparency.

Proposals have been made by different stakeholders. It is up to the legislator to take them into consideration and to propel legislation to increase penetration and to make old age provision more sustainable.

An education effort should also be made to encourage people (notably Young people) to save for retirement and to promote existing products. A recent survey among young people highlighted that a decreasing number of young adults save for their old age, but an increasing number supports a stronger role of government in additional pension schemes. This obvious contradiction reveals a lack of knowledge regarding the pension system, options already available and the necessity to take responsibility for oneself.

Pension Savings: The Real Return

2019 Edition

Country Case: Italy

Sommario

Con una spesa pubblica (in % al PIL) del 11.6%, la riforma del sistema pensionistico italiano ha determinato un solido Pillar I, in particolare il rapporto di sostituzione tra il reddito pensionistico e quello da lavoro si attesta a 93% in 2016, confermandosi uno dei più alti tra i Paesi studiati nel presente Rapporto.

Considerando inoltre la relativamente bassa partecipazione delle famiglie italiane nel mercato dei capitali, l'interesse a indirizzare il reddito disponibile verso il risparmio pensionistico o prodotti di investimetento è basso. Questa situazione si evince in primo luogo dalla percentuale di assets dei fondi pensione italiani (10% in rapporto al PIL) e in secondo luogo dalla percentuale della popolazione economicamente attiva associata agli schemi del Pillar II (17.3%) e del Pillar III (13.1%).

Per quanto riguarda i rendiementi: i fondi pensione chiusi hanno avuto una performance media dell'1% (+14% cumulativa) negli ultimi 11 anni e dello 0.7% negli utlimi 19 anni; mentre i fondi pensione aperti la performance media è stata dello 0.7% e del -0,4% con riferimento nel primo caso agli ultimi 11 e anni nel secondo agli ultimi 19 anni . I PIP (*Piani Individuali Pensionistici)* hanno avuto una performance media dello 0.9% negli ultimi 11 anni, mentre i PIP unit-linked hanno avuto un rendimento medio dello 0,4% nello stesso arco di tempo- tutti i rendimenti sono espressi al netto di inflazione, commissioni e tasse.

Summary

The Italian Pension System currently has a public expenditure of 11.6% of GDP. The Italian pension system reform in 2011 created a strong Pillar I scheme, with a pension net pre-retirement income replacement ratio of 93% in 2016, one of the highest among the country cases under review in this Report. Considering also the relatively low participation rate of Italian households in capital markets, the incentive to direct available income to the private retirement savings or investment products is low. This becomes apparent when looking at the percentage of Italian pension funds' assets, of 10% of GDP, as well as the coverage ratio for Pillar II of 17.3% and Pillar III of 13.1% of the labor force.

With regards to performances, contractual pension funds returned 1% annually on average over the past 11 years and 0.7% over the past 19 years. Open pension funds returned 0.7% annually on average over the past 11 years and -0.4% over the past 19 years, while PIP (*Piani Individuali Pensionistici*) with-profits experienced 0.9% annually on average over the past 11 years, while PIP unit-linked experienced 0.4% annually on average over the same period. All returns are expressed net of charges, taxes on benefits and inflation.

Introduction

The Italian Pension System is divided into three pillars:

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

Pillar I – State Pension

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

The first pillar (state and mandatory) is the main pension vehicle in Italy and is made up of two tiers: the zero and first tier. The zero tier consists of a social pension ensuring a minimum level of income for the elderly. The first tier covers employed individuals and it constitutes a notional defined contribution system for all future generations.[192]

Italy spends 11.6% of its GDP on pension-benefit expenditures, while the EU level was at 9.6% in 2016, according to Eurostat. Pensions, therefore, represent a massive share of the GDP in the country. Italy faces a huge demographic challenge. The number of retirees, unemployed individuals or individuals outside of the labour force together constitute over 80% of the number of employed people (referred to as the economic dependency ratio, which is 1.25).

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

In 2050, the population aged 65 years or more will represent 70% compared to the population aged 15-64, the highest percentage across developed countries - on equal footing with Japan.

Given this context, the urgency to reform the pension system was clear. In 2011, the minister of Welfare and Social Policy under the Monti Government, Elsa Fornero, put in place a huge state pension reform (law n.214) to bring the system closer to equilibrium. Under the new system, pension eligibility is based on working years rather than age. Earlier retirement is possible, but subject to penalties. The public pension system is thus sustainable, though the Italian Constitutional Court stated in April 2015 that the suppression of indexation of pensions on inflation included in the "Fornero law" was unconstitutional, a ruling that will add unforeseen costs to the first pillar, estimated at €500 millions.

Since January 1st, 2019, a new measure was implemented by the current government, known as "Quota 100". It offers the opportunity for workers aged at least 62 with 38 years of contribution to retire earlier than the normal retirement age of 67 years. This possibily will remain available for 3 years, until 2021 in order to see the economic impact, notably on the public expenditures. For the moment, the overall impact of this measure is less than predicted. From January to Jully 2019, only 154,095 individuals claim an early retirement.

The gross pension replacement rate for an Italian man who had a full career is 83%, compared to the OECD average of 53%[193]. With a substantial increase in the pension age (66.6 years for men and 65.6 years for women compared with the OECD averages of 64.3 and 63.7, respectively), in addition to a high mandatory contributions (33%), the replacement pension rate is still one of the highest in Europe (replacement rates are only higher in the Netherlands, Portugal and Turkey).

Pillar II – Occupational pensions

The second pillar is made up of collective complementary pension plans. These can be contractual occupational pension funds (managed by social partners with CBAs) or open pension funds linked to collective affiliations (managed by financial institutions).[194]

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

[193] OECD (2019), Gross pension replacement rates (indicator). doi: 10.1787/3d1afeb1-en (Accessed on 31 July 2019)

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

Pillar III – Voluntary (individual) pension

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

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

Introductory table. Multi-pillar pension system in Italy		
PILLAR I	**PILLAR II**	**PILLAR III**
State Pension	Private, voluntary and collective funded system	Private, voluntary and individual savings
	Legislative Decree 124/93 on complementary pension plans implemented in 1993. Reform on complementary pension (Legislative Decree 252/2005)	
National Social Security Body (INPS)	Pension accumulation companies	Insurance companies
Mandatory	Voluntary	Voluntary
Publicly managed	Privately managed pension funds	Privately managed pension funds
PAYG	Partially or fully funded	Fully Funded
Notional Defined Contribution system (NDC)	DC (Defined Contribution scheme)	
	Quick facts	
Number of old-age pensioners: 15,994,782	Funds: 328	Funds (new PIP): 70
Average old-age pension: €1,527.88	AuM: €129.8 bn.	Old et new PIP, AuM: €37.3 bn.
Monthly household average income (net): €2,500	Participants: 4.5 million	Participants in 2018: 3.4 million

Men's gross average replacement ratio (2016): 83.1%	Coverage ratio (% of labor force)[195]: 17.3%	Coverage ratio (% of labor force): 13.1%

Source: COVIP, INPS, OECD

The real net returns (before taxes) of the main retirement provision vehicles in Italy are presented below based on 6 recommended holding periods: 1 year (2018), 3 years (2016-2018), 7 years (2012-2018), 10 years (2009-2018), and since the earliest data available (19 years for pension funds, 1999-2018, and 11 years for PIP, 2008-2018).

Summary Table – Real net returns of Italian pension vehicles				
	Contractual pension funds	Open pension funds	PIP with profits	PIP unit-linked
2018	-3.6%	-3.6%	0.5%	-7.6%
2016-2018	0.02%	0.1%	1.0%	-15.7%
2012-2018	2.8%	3.4%	1.6%	3.0%
2009-2018	2.4%	3.0%	1.4%	2.7%
1999-2018	1.1%	-0.1%		
2008-2018			1.3%	-0.02%

Source: Tables IT5-IT8

Pensions Vehicles

Collective and individual complementary pension funds

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

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

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

[195] The labor force corresponds to all working age individuals aged over 15 and all unemployed individuals. 25,971,000 individuals constitute the Italian labor force.

At the end of 2017, the total workers enrolled into collective and individual pension plans (Pillar II and III) amounted to 7.953 million[196]. Number of individuals covered by a pension plan increased by 4.9% with respect to 2016 and it represents 30.2% of the labor force. The increase in membership was driven by an increase in the number of affiliates to all catagories of schemes except pre-existing closed pension funds whose membership only rose slightly. Until 2014, the number of new members into pension plans was only increasing slowly and was driven by insurance companies and banks.

Table IT1. Number of subscribers in Complementary Pension Funds *(in thousands)*[197]

	2013	2014	2015	2016	2017	2018
Pillar II: Collective complementary pension plans						
Closed Pension Funds	1,951	1,944	2,419	2,561	2,763	2,949
Open Pension funds	985	1,057	1,150	1,230	1,343	1,429
Pre-existing Closed Pension Funds	655	645	646	620	611	613
Pillar III: Private and individual complementary pension plans						
New PIP	2,134	2,357	2,601	2,759	2,969	3,130
Old PIP	505	467	434	411	390	370
Total	**6,204**	**6,585**	**7,235**	**7,786**	**7,585**	**7,953**

Source: Covip, annual reports from 2013 to 2018[198]

In 2016, the number of closed funds members also increased following the implementation of new automatic enrolment programmes: Fondapi (SMEs), Byblos (Graphic, Editorial, Paper Manufacturers), Preverdi (construction industry), and Cooperlavoro in the cooperative sector. It should be noted, however, that these programmes only marginally increased assets managed by the pension industry, as the automatic enrolment programmes only applied to contributions made by employers and these made by employees. It is worth noting that about 200,000 individuals hold a small outstanding amount (around €100) in complementary pensions.

The vast majority of the members of the complementary pension funds (Pillar II) are employed in the private sector (about 4 million).

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

[196] Covip, 2018 Annual Report.

[197] The total excludes the duplications due to members who simultaneously join the "new" and "old" PIPs and therefore does not correspond to the sum of the individual items shown in the table.

[198] Commissione di Vigilanza sui fondi pensione (COVIP), Annual Reports (Relazione annuale), 2013-2017.

income from of their accumulated savings in a whole or in part. (Rendita integrativa temporanea anticipata or RITA). Eligible employees are those who benefit from a similar provision in the first pillar (Anticipo finanziario a garanzia pensionistica or APE). To be eligible to RITA, an individual must:

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

The individual determines the amount of the accrued capital to use until his / her official retirement. RITA was experimental until end of 2018. It is anticipated that this new flexibility will be an incentive to save in pension funds.

Pillar II

Contractual funds or Closed fun*ds* *(Investment portfolio at the end of 2018: €50.41 billion)*

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

Contractual pension funds are defined contribution schemes and the contribution amount is established by the fund's bylaws.[199] These funds are independent legal entities, with their own capital. Their governance is based on the principle of equal representation among employers and employees.

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

In some sector of activity, employees are automatically enrolled to a pension fund and then level of employer contributions is determined by agreement. For example, employees in the

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

automobile sector and the highway sector are automatically affiliated to a pension fund since 2016.

Open funds *(Investment portfolio at the end of 2018: €19.6 billion).*

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

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

At the end of 2018, assets managed by open funds amounted €19.6 billion.

The TFR, Severance Payment

During his/her whole career, an employee perceives severance payments, which are paid upon work termination. The severance payments are collected in a specific vehicle for pension asset accumulation, also known as *Trattamento di Fine Rapporto* (TFR). The TFR is computed on an annual basis and is equal to 6.91% of employee's annual remuneration. The TFR rate of return was 1.9% in 2018. It is mandatorily saved and returned upon termination of employment (such as retirement, the most common form).

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

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

This change represented a small cultural revolution in the Italian pension structure, where pensions had previously been provided by the public sector, with no active role by workers in choosing how much to invest. Workers have mandatorily contributed a conspicuous amount of their income, through the first pillar State system, with no involvement in where to invest their savings. With the TFR law, workers are now offered the possibility to choose to join any complementary pension fund[200] among contractual pension funds, open pension funds or even PIPs (Individual Pension Plans). When opting for PIPs, workers can decide the

[200] Cannata and Settimo, 2007

amount they contribute, a new element in the Italian framework, with no discretion in terms of pension contributions.

If an employee decides to opt-out from complementary pension funds and belongs to a company with more than 50 employees, his / her accumulated amount of severance payments is transferred to INPS (National Institute for Social Security), which manages the severance payment according to the law. For an employee who works in firms with less than 50 employees and who does not opt for complementary pension funds, his / her TFR remains in the firms he / she works in and represents a debt for the company.

Third Pillar

PIP, individual pension funds *(Investment portfolio at the end of 2018: € 30.7 billion)*

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

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

Public employees

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

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

Asset allocation of complementary pension plans

Looking at the portfolio composition of the complementary pension system as a whole, low-risk assets constituted the majority of holdings. In 2018, Sovereign bonds were still the main investment and their share in total portfolio remained steady at 41.7% (against 41.5% in 2017). The share of direct holdings of equities decreased from 17.7% in 2017 to 16.4% in 2018. According to COVIP calculations, considering equities held through investment funds, the equity exposure decreased to 23.4% in 2018 (against 25.3% in 2017).

Table IT2. Asset allocation of complementary pension funds (end-2018)	
Sovereign bonds	41.7%
Other debt securitiess	17.1%
Equities	16.4%
Mutual funds	13.8%
Real estate	1.2%
Alternatives	2.3%
Cash and Deposits	7.5%
Total	100%

Source: COVIP Annual Report 2018[201]

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

Charges

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

The average cost indicator remained stable in 2018.

However, there is a great variation in complementary pension funds costs. In closed pension funds, the indicator cost is 1% for two years of participation, while it drops to 0.3% after 35 years of participation. With respect to PIP, it drops from 3.9% to 1.8%. It has to be noted that small differences in these costs will result in effects of considerable magnitude. Ceteris paribus, PIP (open funds) will have a final return of 23% (17%) lower than that corresponding to closed pension funds.

The cost indicator decreases with the time of membership, with initial fix costs being progressively amortised.

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

[201] COVIP Annual Report, 2019.

Table IT3. Average costs at the end of 2018 (in %) *				
	2 years	5 years	10 years	35 years
Closed Funds	**1.07**	**0.57**	**0.39**	**0.26**
Min	*0.47*	*0.3*	*0.18*	*0.08*
Max	*3.04*	*1.35*	*0.81*	*0.48*
Open Funds	**2.37**	**1.58**	**1.37**	**1.24**
Min	*0.55*	*0.55*	*0.55*	*0.55*
Max	*5.14*	*3.42*	*2.82*	*2.38*
New PIP	**3.87**	**2.67**	**2.21**	**1.83**
Min	*1.04*	*0.85*	*0.58*	*0.38*
Max	*6.44*	*4.82*	*4.07*	*3.44*

Source: COVIP Relazione annuale 2017[202]

** Simple arithmetic averages within each category. Costs differ depending on the number of contribution years*

Taxation

The regime of taxation chosen by Italy is essentially an ETT (exemption, taxation, taxation), corresponding to the following three stages: contribution, accumulation and payment.

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

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

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

In the third phase the corresponding benefits are taxed at a rate varing from 9% to 15% depending on the length of membership in the private pension funds. Income received before retirement age in the framework of the RITA scheme is taxed at 15%, reduced by 0.3% for each year over the fifteenth year of participation in supplementary pension schemes,

[202] Covip, 2019 Annual Report.

with a maximum reduction limit of six percentage points. If years of enrolment in the supplementary pension scheme are prior to 2007, those years can be considered up to a maximum of 15 years.

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

Pensions Returns

The following table (IT4) provides returns broken down by type of complementary private pension funds. Returns are calculated net of taxes paid by the pension funds on investment revenues.

Returns of all categories of complementary private pension funds fell sharply since 2015 as a consequence of historically low interest rates paid on bonds. In 2018, all categories of funds, except new PIP with-profits and separate management, experienced negative returns, due to low interest rates on bonds, in addition to losses on Stock Markets.

Table IT4. Nominal returns net of charges and taxes on investment revenues by type of private pension funds

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Contractual pension funds	**7.5**	**3.8**	**2.1**	**-6.3**	**8.5**	**3**	**0.1**	**8.2**	**5.4**	**7.3**	**2.7**	**2.7**	**2.6**	**-2.5**
Guaranteed	-	-		3.1	4.6	0.2	-0.5	7.7	3.1	4.6	1.9	0.8	0.8	-1.1
Bonds Only	2.1	2.6	2.2	1.6	2.9	0.4	1.7	3	1.2	1.2	0.5	0.2	-0.2	-0.6
Bonds Mixed	6.9	2.7	2.1	-3.9	8.1	3.6	1.1	8.1	5	8.1	2.7	3.2	2.6	-2.4
Balanced	7.9	5.6	2.4	-9.4	10.4	3.6	-0.6	9.2	6.6	8.5	3.2	3.2	3.1	-2.8
Equity	14.9	8.2	1.3	-25	16.1	6.2	-3	11.4	12.8	9.8	5	4.4	5.9	-5.3
Open pension funds	**11.5**	**2.4**	**-0.4**	**-14**	**11.3**	**4.2**	**-2.4**	**9.1**	**8.1**	**7.5**	**3**	**2.2**	**3.3**	**-4.5**
Guaranteed	2.9	1	1.9	1.9	4.8	0.7	-0.3	6.6	2	4.3	0.9	0.7	0.6	-1.8
Pure Bonds	3.3	-0.2	1.6	4.9	4	1	1	6.4	0.8	6.9	0.9	1.3	-0.3	-0.8
Mixed	6.4	1	0.3	-2.2	6.7	2.6	0.4	8	3.6	8	2.2	1.4	0.4	-1.8
Balanced	11.4	2.4	-0.3	-14.2	12.6	4.7	-2.3	10	8.3	8.7	3.7	2.7	3.7	-4.8
Equity	16.2	3.7	-1.6	-28	17.7	7.2	-5.3	10.8	16	8.7	4.2	3.2	7.2	-8
New PIP: with-profits and separate management				**3.1**	**3.1**	**3.2**	**3.2**	**3.3**	**3.2**	**2.9**	**2.5**	**2.1**	**1.9**	**1.7**
New PIP: unit-linked				**-22**	**14.5**	**4.7**	**-5.2**	**7.9**	**10.9**	**6.8**	**3.2**	**3.6**	**2.2**	**-6.5**
Bonds				2.4	3.7	0.6	0.8	4.9	-0.3	3.3	0.6	0.4	-0.7	-1.4
Balanced				-8.3	7.8	2.5	-3.5	6.4	5.8	8.2	1.9	1.5	2.3	-5.9
Stocks				-32	20.6	6.7	-7.9	9.6	17.2	7.1	4.5	6	3.2	-8.9

Source: COVIP Annual Report, 2019

Contractual pension funds

Table IT5 reports the net returns for closed pension funds. Column (2) reflects nominal returns before charges. The synthetic cost indicator for a 35-year subscriber is added to column (3), as reported by COVIP. Until 2014, the cost indicator was calculated net of taxes on investment revenues ("imposta sostitutiva") but the latter was not disclosed in COVIP statistics. Thus, we added 11.5% (the tax rate on investment returns until 2014) to the cost indicator of the positive nominal return before charges. From 2015, as the cost indicator was calculated gross of these taxes, a correction is no longer needed.

Column (3) records the nominal returns after charges and before taxes on investment revenues calculated by COVIP (see table IT4).

Column (4) is equal to column (3) minus the Inflation Rate (as CPI index variation in percentage).

We calculate both the average annual rate of investment returns on the whole period 2000 - 2018 and on the period 2008 – 2018 because the legislative framework of pension funds was overhauled in 2007. The average annual real net return after taxation, equal to column (4), once 15% of the return, has been taken out of the nominal return after charges. The tax rate can be reduced by 0.3% for each year after 15 years of contributions, for a maximum of 6 percentage points of reduction in taxation of the benefit.

Between the end of 2000 and the end of 2018, the annual average real return of contractual funds after deduction of charges, taxes and inflation was 0.69%. On a more recent period 2008-2018, the return increased to 0.98%.

Table IT5.1. Annual rates of investment returns of contractual pension funds (in %)

Year	Nominal return	Nominal Return, after charges	Real Return, net of inflation and charges, before taxes on benefits
2000	3.9	3.6	0.8
2001	3.7	3.4	1.1
2002	-3.2	-3.4	-6.2
2003	5.3	5.0	2.4
2004	4.9	4.6	2.2
2005	7.8	7.5	5.3
2006	4.1	3.8	1.6
2007	2.4	2.1	-0.7
2008	-6.0	-6.3	-8.5
2009	8.7	8.5	7.3
2010	3.2	3.0	0.9
2011	0.3	0.1	-3.5

2012	8.4	8.2	5.5
2013	5.6	5.4	4.8
2014	7.5	7.3	7.3
2015	3.0	2.7	2.6
2016	3.0	2.7	2.2
2017	2.9	2.6	1.6
2018	-2.2	-2.5	-3.6
Average 2000-2018	**3.3**	**3.0**	**1.1**
Average 2008-2018	**3.0**	**2.8**	**1.4**

Source: COVIP Annual Report, 2019; BETTER FINANCE own computations

Table IT5.2. Contractual pension funds' average annual rate of returns (in %)

	2000-2018	2008-2018
Real Return, net of inflation, charges and taxes on benefits	0.69	0.98

Source: BETTER FINANCE calculations based on COVIP,[203] Eurostat[204]

Open pension funds

The same methodology as for contractual pension funds is used to calculate the returns of open funds. The only difference lies in the synthetic cost indicator that is different. Between the end of 2000 and the end of 2018, the annual average real return of open funds after deduction of charge, taxes and inflation was negative at -0.36%. The annual average return was positive at 0.76% over the period 2008-2018.

Table IT6.1 Open pension funds annual rate of returns (in %)

Year	Nominal return	Nominal Return, after charges	Real Return, net of inflation and charges, before taxes
2000	4.2	3.0	0.3
2001	-4.7	-5.6	-7.7
2002	-12.3	-13.1	-15.6
2003	6.9	5.7	3.1
2004	5.5	4.3	1.9
2005	12.7	11.5	9.3
2006	3.5	2.4	0.3

[203] COVIP, Annual Reports from 2000 to 2018

[204] Eurostat Harmonised Index of Consumer Prices (HICP) Annual Index Average Rate of Change (2015=100, prc_hicp_aind), http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_aind.

2007	0.7	-0.4	-3.1
2008	-13.0	-14.0	-16.0
2009	12.5	11.3	10.1
2010	5.4	4.2	2.1
2011	-1.3	-2.4	-5.9
2012	10.3	9.1	6.4
2013	9.3	8.1	7.5
2014	8.7	7.5	7.5
2015	4.3	3.0	2.9
2016	3.4	2.2	1.7
2017	4.6	3.3	2.3
2018	-1.3	-2.5	-3.6
Average 2000-2018	**2.9**	**1.7**	**-0.1**
Average 2008-2018	**3.7**	**2.5**	**1.1**

Source: COVIP Annual Report, 2019; BETTER FINANCE own computations

Table IT6.2. Open pension funds' average annual rate of investment returns (in %)

	2000-2018	2008-2018
Real Return, net of inflation, charges and taxes on benefits	-0.36	0.71

Source: BETTER FINANCE calculations based on COVIP,[205] Eurostat[206]

Individual Pension Plans

Individual Pension Plans (PIP) have the highest costs on the pension product market in Italy. The charges applied to PIPs were 1.8% for long-term subscribers in 2018.

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

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

[205] Covip (n 9) Table 1.23.
[206] Eurostat HICP (n 15).

Table IT7. PIP with-profits: annual rate of returns (in %)			
Year	Nominal return	Nominal Return, after charges	Real Return, net of inflation and charges, before taxes
2008	4.7	3.1	0.7
2009	4.7	3.1	2.0
2010	4.8	3.2	1.1
2011	4.8	3.2	-0.5
2012	4.8	3.2	0.6
2013	4.8	3.2	2.6
2014	4.5	2.9	2.9
2015	4.4	2.5	2.4
2016	4.0	2.1	1.6
2017	3.8	1.9	0.9
2018	**3.6**	**1.7**	0.5
Annual average 2008-2018	**4.4**	**2.7**	**1.3**

Source: COVIP Annual Report, 2019; BETTER FINANCE own computations

Table IT7.2 PIP with-profits: annual average rate of returns (in %)	
	2008-2018
Real Return, net of inflation, charges and taxes on benefits	0.9

Source: BETTER FINANCE own computation

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

Table IT8.1 PIP unit-linked: annual rate of returns (in %)			
Year	Nominal return	Nominal Return, after charges	Real Return, net of inflation and charges, before taxes
2008	-20.7	-21.9	-24.5
2009	16.2	14.5	13.6
2010	6.3	4.7	3.1
2011	-3.8	-5.2	-7.9
2012	9.5	7.9	4.5
2013	12.6	10.9	9.6
2014	8.4	6.8	6.6
2015	5.1	3.2	3.1
2016	5.5	3.6	3.7
2017	4.1	2.2	0.9
Average 2008-2017	**3.8**	**2.2**	**0.7**

Table IT8.2 PIP Unit-Linked: Average annual rate of investment returns (in %)	
	2008-2017
Real Return, net of inflation, charges and taxes on benefits	0.4

Source for Tables IT7.1, IT7.2, and IT8.1 and IT8.2: BETTER FINANCE calculations based on COVIP,[207] Eurostat.[208]

Conclusion

The Italian Pension System has a strong State component, which is likely to displace complementary pension funds. The mandatory contribution rate amounts to 33%. As the system is pre-funded, contributions to the pension system will translate one to one to future pension incomes. In this scenario the second and third pillar are likely to only develop slowly.

Even if the number of employees enrolled in private pension funds increased, it remained quite low. 7.953 million individuals are enrolled in private pension funds, representing 30.2% of the labor force. Experiences from the automatic enrolment implemented by labour agreements in 2015 and 2016 did not fundamentally change the framework, as employers' contributions were still low, and few employees voluntarily contributed to the new schemes. In addition, women and young people are under-represented in pension funds. The government has to play a role in encouraging all profile among employees to save for the retirement in pension funds.

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

Over the period 2000-2018, we calculated the return rate associated to open funds and contractual pension funds. We calculated returns over the 2008-2018 period for all types of pension funds available in Italy. Over the eleven-year period, all types of pension funds experienced positive annual average real return, except PIP funds with unit-linked contracts. Contractual pension funds experienced the highest annual average real return (+0.98%), PIP unit-linked policies experienced the lowest one (-0.2%).

Since 2000, contractual pension funds recorded a positive annual average return (+0.69%), while open pension funds recorded a negative one of -0.36%.

Private pension funds in Italy offer low real returns after inflation and taxation, even negative for open pension funds on a long period (19 years). Sovereign bonds remained the most important assets on average (42% in 2018) in the asset allocation of private pension funds.

[207] Covip (n 9), Table 1.23.
[208] Eurostat HICP (n 15).

The private pension funds have to elaborate other investement strategies which could provide higher returns to pensioners.

Bibliography

- Boeri, T, AL Bovenberg, B Coeuré, and AW Roberts (2006). Dealing with the New Giants: Rethinking the Role of Pension Funds. CEPR Geneva Reports on the World Economy.
- Bottazzi, R., Jappelli, T., Padula, M., 2009, Pension Reforms and the Allocation of Retirement Savings, mimeo.
- COVIP, Relazione Annuale (annual report), reports available from 1998 to 2018
- OECD iLibrary, *Pensions at a Glance*, various years, https://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-at-a-glance_19991363
- OECD Data, https://data.oecd.org/
- Fornero E., Economic-Financial Literacy (EFL) ans (Sustainable) Pension Refomrs, why the former is a key ingredient for the latter, presentation to the OEE, June 2017
- Guardiancich I., Current pension system: first assessment of reform outcomes and output, European Social Observatory Country Report on Italy, 2009, http://www.ose.be/files/publication/2010/country_reports_pension/OSE_2010_CRpension_Italy.pdf
- Guerra Maria Cecilia, Verso un Sistema Monetario e Bancario Europeo? La disciplina fiscale dei fondi pensione: esperienze nazionali e prospettive per l'Unione europea, Ente per Gli Studi Monetari, Bancari e Finanziari, Luigi Einaudi, Quaderni di Ricerca #57, 2003
- T. Japelli and Luigi Pistaferri. Tax incentives and the demand for life insurance: evidence from Italy Journal of Public Economics 87(7-8):1779—1799;
- Paci S., P. Contaldo, C. Fiorentino, G. Nocera, L. Spotorno e F. Vallacqua, Carefin report, Pension Funds in Italy, Bocconi University, 2010
- Rossi M. 2009, Private Saving and Individual Pension Plan Contributions, Oxford Bulletin of Economics and Statistics, Volume 71, Issue 2, pages 253–271, April 2009
- Settimo C and R. Cannata, Assicurazioni Generali, Italian Complementary Pension Reform, 2007.

Pension Savings: The Real Return

2019 Edition

Country Case: Latvia

Summary

Funded pension schemes have experienced negative returns even the portfolio of pension funds in mandatary pension pillar is conservatively oriented. Pillar II pension funds recorded on average annual nominal return of -4.39%, while Pillar III funds delivered on average a negative nominal return of -5.19%. A positive development could have been seen on the Pillar II market, where the introduction of passively managed funds helped to significantly decrease the level of fees. However, complex fee structure and generally high fees of Pillar III pension funds play a significant role on the expected accumulated benefits.

Introduction

Latvia is currently operating a multi-pillar pension system based on three pension pillars. The reform followed World Bank recommendations on creating a pension system with unfunded PAYG and funded pension pillars. Since 2001, the Latvian multi-pillar pension system includes:

- Pillar I (state compulsory PAYG pension scheme);
- Pillar II (mandatory state funded pension scheme) which is financed by a part of the social insurance contributions diverted from Pillar I;
- Pillar III (voluntary private pension scheme).

The introduction of the multi-pillar pension system has aimed its overall functionality on a different approach to each pension pillar operation, but with the overall objective of ensuring an adequate pension for individuals under the demographic risks of an aging society, as well as the pension system's overall future financial stability.

The reform of the Latvian pensions system started in 1995, when it was decided to implement the three-pillar pension system. Firstly, the shift from the old Soviet-styled PAYG pension system to the notional defined contribution pension scheme (NDC PAYG Pillar I) was carried out. The new law on state pensions was adopted by the Parliament in November 1995 and came into force on 1 January 1996. The state mandatory-funded pension scheme

(Pillar II) started operating in July 2001. The private pension funds (Pillar III) have been operating since 1998.[209]

From the point of view of individual savers, the Latvian pension system combines two aspects: personal interest in building wealth (based on a level of contributions and the length of the saving period) and intergenerational solidarity.

The Latvian NDC PAYG-based pension Pillar I has been effectively introduced by a partial reform in January 1996 and represents a mandatory scheme for all economically active persons who make social insurance contributions calculated from a monthly gross salary (income). Paid contributions are used for the payment of old age pensions to the existing generation of pensioners. Pillar I is organized as a NDC scheme, where the notional value of career contributions is recorded on each contributor`s personal account. Prior to claiming pension benefits, the pension capital recorded on individual NDC account is recalculated in accordance with the laws and regulations at the time when the individual accesses his/her pension.

Pension Pillar II is in fact a state-organized 1bis pillar, meaning that part of the individually paid social contributions are channeled to Pillar II and recorded on individual pension accounts. Monthly contributions are invested into individually chosen investment plans (pension funds) managed by private pension fund management companies. Pillar II was launched in July 2001 and completed the multi-pillar-based pension reform in Latvia.

Pillar III was launched in July 1998 and is organized as a private voluntary pension scheme. It accumulates individual contributions, as well as employer contributions made on the behalf of individual employees, to the selected voluntary pension fund.

Introductory Table - Multi-pillar pension system in Latvia		
Pillar I **State Pensions**	**Pillar II** **State Funded pensions**	**Pillar III** **Voluntary private pensions**
Mandatory	Mandatory	Voluntary
NDC PAYG	Funded	Funded
Financed by social insurance contributions	DC	DC

[209] Groduma, M. 2002. Social insurance in Latvia: Seeking balance between financial stability and equity. In: European regional meeting “New and revised approaches to social protection in Europe”. Budapest, 13 - 15 November 2002. [Online] Available: http://www.issa.int/html/pdf/budapest02/2groduma.pdf

Benefits paid via State Social Insurance Agency	Financed by social insurance contributions	Privately managed two types of pension plans:
Publicly managed	Individual pension accounts	1. open (individual)
	Privately (and publicly) managed pension funds	2. closed (quasi occupational)
Coverage: generally entire population	Coverage: generally entire working population	Coverage: 23% of working population (in 2018)

Gross replacement ratio: 31% (for the year 2018)

Source: own calculations based on Central Statistical Bureau of Latvia data, 2018

Remark: working population is defined according to the working and retirement ages established by the legislation of the respective year (methodology of Central Statistical Bureau of Latvia)

Pillar I – State Pension Insurance

State old-age pension (Pillar I) should guarantee the minimum income necessary for subsistence. It is based on an NDC PAYG principle of redistribution, i.e. the social tax paid by today's employees covers the pensions of today's pensioners. However, the amount of paid contributions for each saver are recorded on individual accounts.

The state old-age pension is paid out of the social insurance contributions. Total level of social insurance contributions is 34.09% of gross salary for employees (employers contributes 23.59% and employees 10.5%; self-employed persons pay 27.52%). Of the total contribution in 2018, 14% funded the Pillar I NDC pension and 6% was redirected to the individual's account under Pillar II. The remaining portion of contributions financed social security elements such as disability pension, sickness and maternity benefits, work injury benefits, parent's benefits, and unemployment benefits.

The **statutory retirement age** in Latvia in 2018 is 63 years and 3 months for both men and women. However, the law stipulates a gradual increase of the retirement age by three months every year until the general retirement age of 65 years is reached in 2025. Early pension is possible in Latvia if two conditions are met: 1) an individual in 2018 reaches the age of at least 61 years and 3 months (gradually rising by three months a year until 2025) and 2) an individual contributed for a period of at least 30 years.

Old-age pension is based on the insured's contributions, annual capital growth adjusted according to changes in the earnings index, and average life expectancy. Old age pension is calculated by considering two parameters:

1. K - accumulated life-time notional pension capital, which is an accrued amount of paid contributions since the introduction of NDC system (1 January 1996) until the

pension granting month. However, during the transition period to a full the NDC system, these two aspects are also taken into account:

a. average insurance contribution wage from 1996 until 1999 (inclusive);
b. insurance period until 1 January 1996;

2. G – cohort unisex life-expectancy at the time of retirement.

Annual old-age pension (P) is calculated as follows:

$$P = \frac{K}{G}$$

It can be said that the Latvian NDC PAYG Pillar I has shifted in a direction where 20% of all retirees receive a pension lower than €213 (equal to 40% of the average net salary of the working population). However, considering the level of contributions for pension insurance (16% of salary), the average income replacement ratio of old-age pensions is rather low. The average income replacement ratios for old-age pension in Latvia are shown in the table below.

Table LV1. Latvian NDC PAYG pillar statistics

Indicator / Year	Average Old-age pensions	Average Gross Monthly Wages and Salaries	Gross Replacement Ratio	Average Net Monthly Wages and Salaries	Net Replacement Ratio
2003	92	274	34%	196	47%
2004	101	300	34%	214	47%
2005	115	350	33%	250	46%
2006	137	430	32%	308	44%
2007	158	566	28%	407	39%
2008	200	682	29%	498	40%
2009	233	655	36%	486	48%
2010	250	633	39%	450	56%
2011	254	660	38%	470	54%
2012	257	685	38%	488	53%
2013	259	716	36%	516	50%
2014	266	765	35%	560	48%
2015	273	818	33%	603	45%
2016	280	859	33%	631	44%
2017	289	926	31%	676	43%
2018	314	1004	31%	742	42%

Source: Own calculations based on Central Statistical Bureau of Latvia (http://data.csb.gov.lv), 2019

A **Minimum old-age pension** mechanism has been introduced in Latvia. The minimum amount of the monthly old-age pension cannot be less than the state social security benefits

(€60.43 monthly in 2017) with an applied coefficient tied to the years of service (insurance period):

1. persons with insurance period up to 20 years - 1.1;
2. persons with insurance period from 21 to 30 years - 1.3;
3. persons with insurance period from 31 to 40 years - 1.5;
4. persons with insurance period starting from 41 years - 1.7.

The minimum old-age pension is calculated using the basic state social security benefit multiplied by the respective coefficient that is tied to the number of service (working) years (see table below).

Table LV2. Minimum Old-age Pension in Latvia	
Years of service (Insurance period)	**Minimum old-age pension (in €)**
• insurance length up to 20 years	70.43
• insurance length from 21 to 30 years	83.24
• insurance length starting from 31 to 40 years	96.05
• insurance length starting from 41 years	108.85

Source: own elaboration based on Ministry of Welfare data, 2019 (http://www.lm.gov.lv/text/2112)

Pillar II –State Funded Pensions

Pillar II of the pension scheme was launched on 1 July 2001. As of that date, a portion of every individual's social contributions are invested into the financial market and accumulated on their Pillar II personal account. Everyone who is socially insured is entitled to be a participant of the Pillar II scheme as long as the person was not older than 50 years of age on 1 July 2001. Participation in the 2nd tier is compulsory for those who had not reached the age of 30 on 1 July 2001 (born after 1 July 1971).

Gradually all employees will participate in Pillar II. Persons who were between the ages of 30 and 49 (born between 2 July 1951 and 1 July 1971) at the time when the scheme was launched could and still can join the system voluntarily. Administration of Pillar II contributions are made by the State Social Insurance Agency, which collects and redirects 20% old-age pension insurance contributions between the NDC and FDC pillar pension scheme individual accounts. According to the Law on State Funded Pension, the State Social Insurance Agency also performs additional tasks connected to the Pillar II administration.

The Ministry of Welfare, according to the Law on State Funded Pension, performs the supervision of the funded pension scheme and has the right to request and receive an annual account from the State Social Insurance Agency regarding the operation of the funded pension scheme.

Total redistribution of old-age pension contributions between Pillar I and Pillar II of the pension scheme are shown in the table below.

Table LV3. Redistribution of the old-age pension contributions between Pillar II and III		
Years	Pillar I (NDC)	Pillar II (FDC)
2001 - 2006	18%	2%
2007	16%	4%
2008	12%	8%
2009-2012	18%	2%
2013-2014	16%	4%
2015	15%	5%
2016 and ongoing	14%	6%

Source: https://www.vsaa.lv/en/services/for-employees/2-nd-tier-mandatory-state-funded-pension-scheme/, 2019

Contributions into Pillar II were raised continuously with the adopted reforms. However, during the financial crisis, the contributions into Pillar II were reduced to 2% with gradual growth since 2012. It should be mentioned that the largest part of contributions (8% of salary) had flown into the pension fund in 2008, right at the top and before the crash of financial markets. This has significantly influenced the performance of funds, which is analyzed in the sub-section dedicated to Pension Returns. Investing is performed by a third party: licensed fund managers.

Upon retiring, Pillar II participants will be able to make a choice: either add the accumulated pension capital to Pillar I and receive both pensions together or to entrust the capital accumulated in Pillar II to the insurance company of their choice and buy a single annuity.

Several changes have been made in the management of accumulated savings on personal accounts of Pillar II participants. Until 1 January 2003, there was only one public fund manager for the funds of Pillar II, the State Treasury. They invested the funds exclusively into the Latvian state bonds and into the deposits of the largest and safest Latvian banks. As of 1 January 2003, the private fund managers were involved, but today participants of Pillar II are in the position to choose their fund manager themselves. The private fund managers offer to invest the pension capital and into corporate bonds, shares and foreign securities. Participants of the system are entitled to change their fund manager once a year and, in addition, investment plans within the frame of one fund manager can be changed twice a year. Operation of private fund managers is supervised by the Finance and Capital Market Commission.

Pillar III – Voluntary private pensions

Voluntary private pension scheme, or pension Pillar III, was launched in July 1998, and it gives the opportunity to create additional voluntary savings in addition to the state organized Pillar I and II. Contributions that individuals and/or the employer regularly pay into the pension fund are invested in different securities, depending on the chosen investment strategy.

The Law on Private Pension Funds foresees that Latvian commercial banks, insurance companies and legal persons have the right to establish a private fund. Assets are invested by private pension funds with the aim not only to maintain the value of savings, but to increase it over a long-time period. There are generally two types of voluntary private pension funds in Latvia:

1. open pension funds (17 operational in Latvia in 2017)
2. closed pension funds (only one operating in Latvia in 2017).

Pension scheme participants can subscribe to a pension scheme by entering directly into a contract with an open pension fund or via their employer. Pension scheme participants can participate in a pension scheme through the intermediation of their employer if the employer has entered into a collective contract with an open or closed pension fund. A collective contract with a closed pension fund may be entered into only in such cases when the relevant employer is also one of the founders (stockholders) of the same closed pension fund. Acknowledging the fact that employers might enter into collective agreement with employees and establish the pension scheme, voluntary private pension funds might be recognized as a collective pension scheme.

According to the Law on Private Pension Funds, accumulated pension capital in private pension funds can be accessed by individuals when they reach the age of 55. In order to receive the Pillar III accrued pension, an individual must submit an application to the respective pension fund. The supervisory authority for all voluntary private pension funds in Latvia is the Financial and Capital Markets Commission.

Pension Vehicles

Pillar II – State Funded Pensions

Pension funds are the only pension vehicles allowed by the Law of State Funded Pensions for state-funded pension scheme. The law states that a funded pension scheme is a state-organized set of measures for making contributions, administration of funds contributed and payments of pensions which (without increasing the total amount of contributions for old age pensions) - provides an opportunity to acquire additional pension capital by investing

part of the pensions' contributions in financial instruments and other assets in accordance with the procedures specified in the Law.

Currently (as of 31 December 2018), 31 state-funded pension schemes have been operational on the Pillar II market. Eight new funds emerged during 2018, most of them introduced low-cost passive investment strategy. There is no specific legal recognition of types of pension funds based on their investment strategy, nor any legal requirement to provide a specific investment strategy for pension funds. It is up to a pension fund manager to provide an in-demand type of pension fund in order to succeed on the market. However, every fund manager is required to develop a systematic set of provisions, according to which funds are managed. They are presented in a prospectus of the relevant pension fund and in a key investor information document (KIID, specific for UCITS funds, but with particular features) for participants of the scheme. The prospectus of a pension fund and the key information document for participants are an integral part of the contract entered into between the Agency and the manager of pension funds. Pension fund prospectus must clearly define the risk-reward profile and indicate proposed investment strategy of the respective expected portfolio structure.

Although there is no legal recognition of types of pension funds, they can be divided into three types based on their risk/return profiles:

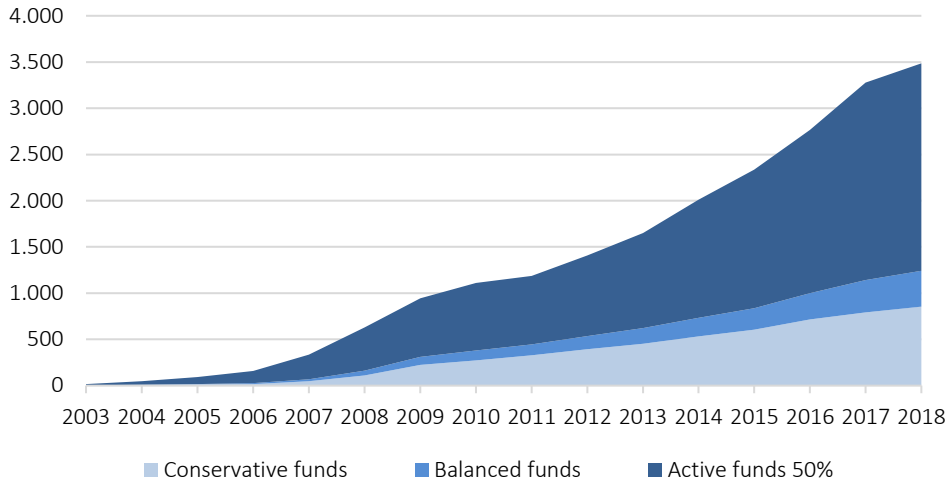
1. Conservative funds, with no equity exposure and a 100% share of bonds and money market instruments;
2. Balanced funds with bonds and money market instrument share of at least 50%; in addition, a maximum of 15% of the funds' balances can be invested in equities;
3. Active funds with an equity share (resp. investments in capital securities, alternative investment funds or such investment funds that may make investments in capital securities or other financial instruments of equivalent risk) of up to 75% (since 2018) and no limits on investments in bonds and money market instruments.

The legislation sets relatively strict quantitative investment limits for pension funds, trying to supplement the prudent principle.

Overall asset allocation in Latvia is fairly conservative despite the possibility of choosing a plan according to risk preference. The chart below presents the amount of Assets under Management for types of pension funds according to their investment strategy.

Contrary to many other CEE countries running mandatory pension systems, there is no requirement for pension funds to guarantee a certain minimum return. On the contrary, doing so is explicitly forbidden.

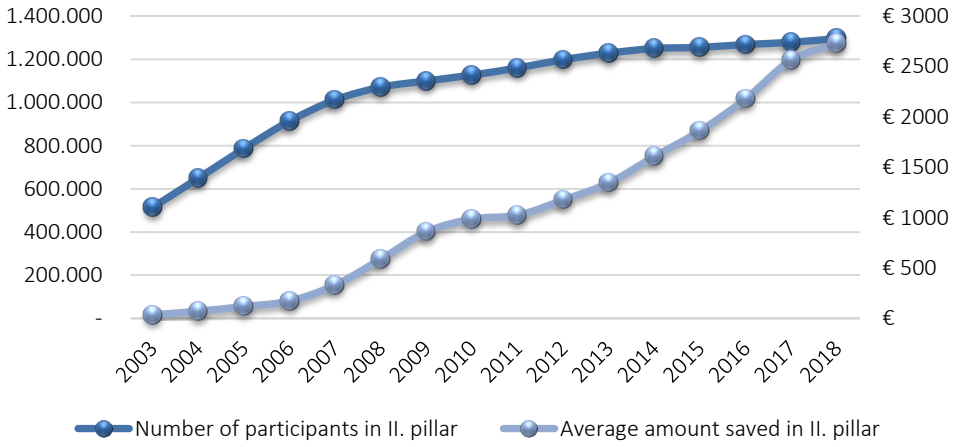
Graph LV4. Assets under Management in State Funded Pension Scheme pension vehicles (in mln. €)



Source: Own calculations (http://www.manapensija.lv/en/2nd-pensionpillar/statistics/data), 2019

As the State Funded Pension scheme is mandatory for all economically active individuals in Latvia, the number of savers (as well as the average amount of accumulated assets on individual accounts) is rising. The chart below indicates that the Pillar II market is starting to be saturated in terms of the number of participants.

Graph LV5. Number of participants and average size of individual accounts in Latvian II pillar



Source: Own calculations (http://www.manapensija.lv/en/2nd-pension-pillar/statistics/data), 2019

The number of Pillar II participants has almost encompassed the entire working population. Further growth of Pillar II savings will therefore be driven by the amount of contributions and pension funds´ performance.

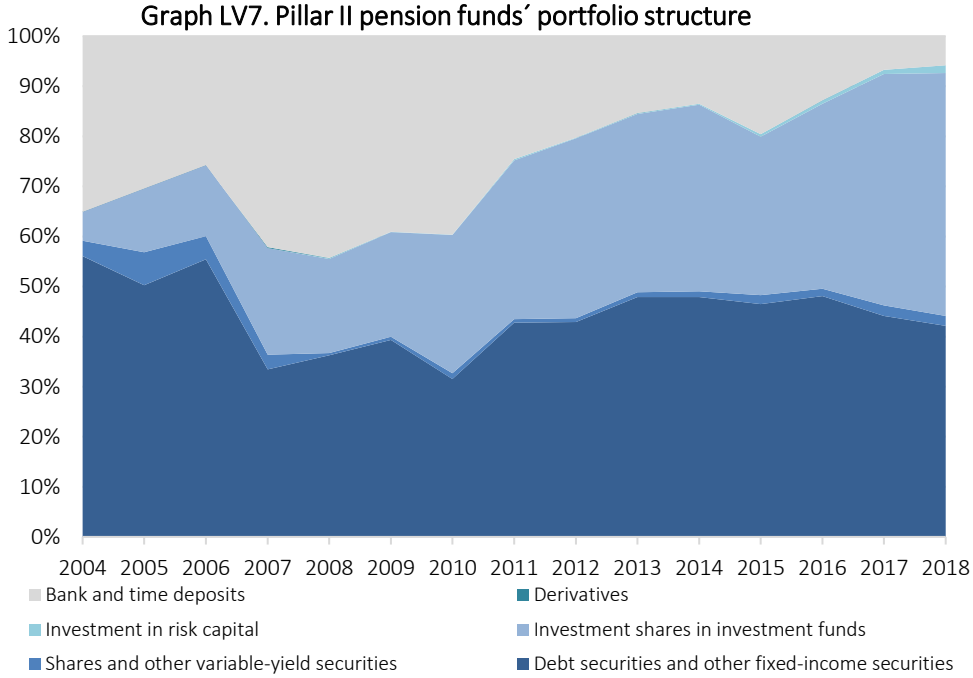
There are 31 pension funds operating by 9 providers (table below).

Table LV6. List of State Funded Pension Funds		
Pension Fund Name	Investment style of the pension plan	Inception day
CBL Aktīvais ieguldījumu plāns	Active 50	07.01.2003
CBL Universālais ieguldījumu plāns	Conservative	07.01.2003
Luminor (D) Aktīvais ieguldījumu plāns	Active 50	21.02.2005
Luminor (D) Konservatīvais ieguldījumu plāns	Conservative	21.02.2005
Luminor Sabalansētais ieguldījumu plāns	Balanced	21.02.2005
Ieguldījumu plāns „INVL Ekstra 47+”	Active 50	08.08.2006
Ieguldījumu plāns „INVL Komforts 53+”	Balanced	08.08.2006
Ieguldījumu plāns „INVL Konservatīvais 58+”	Conservative	07.01.2003
Luminor aktīvais ieguldījumu plāns	Active 50	02.02.2009
Luminor konservatīvais ieguldījumu plāns	Conservative	02.02.2009
PNB Konservatīvais ieguldījumu plāns "DAUGAVA"	Conservative	07.01.2003
PNB Aktīvais ieguldījumu plāns "GAUJA"	Active 50	14.10.2003
PNB Sabalansētais ieguldījumu plāns "VENTA"	Balanced	14.10.2003
SEB aktīvais plāns	Active 50	07.01.2003
SEB Eiropas plāns	Active 50	07.01.2003
SEB konservatīvais plāns	Conservative	26.05.2003
SEB Latvijas plāns	Conservative	07.01.2003
SEB sabalansētais plāns	Balanced	07.01.2003
Swedbank pensiju ieguldījumu plāns "Dinamika"	Active 50	07.01.2003
Swedbank pensiju ieguldījumu plāns "Stabilitāte"	Conservative	07.01.2003
Ieguldījumu plāns "INDEXO Izaugsme 47-57"	Active 50	21.06.2017
Ieguldījumu plāns „INVL INDEX DIRECT”	Active 50	14.08.2017
ABLV ACTIVE INVESTMENT PLAN	Active 50	02.08.2017
CBL dzīves cikla plāns Millennials	**Active 75**	**24.04.2018**
Ieguldījumu plāns "INDEXO Jauda 16-50"	**Active 75**	**18.01.2018**
Ieguldījumu plāns "INVL MAKSIMĀLAIS 16+”	**Active 75**	**05.11.2018**
Luminor Progresīvais ieguldījumu plāns	**Active 75**	**06.04.2018**
SEB dinamiskais plāns	**Active 75**	**05.03.2018**
SEB indeksu plāns	**Active 75**	**05.03.2018**
Swedbank ieguldījumu plāns 1990+	**Active 75**	**09.02.2018**
Ieguldījumu plāns "INDEXO Konservatīvais 55+"	**Conservative**	**04.04.2018**

Source: http://www.manapensija.lv/en/2nd-pension-pillar/statistics/, 2019

The portfolio structure of Pillar II pension funds (figure below) shows that debt and other fixed income securities as well as investment funds (UCITS funds) remain the dominant investments. There is only limited direct investment into equities.

Graph LV7. Pillar II pension funds´ portfolio structure



Source: Own elaboration based on Financial and Capital Market Commission data

Pillar III – Voluntary private pensions

There are two types of private pension funds in the Latvian voluntary private pension pillar:

1. closed, for fund founders' (corporate) staff;
2. open, of which any individual may become a participant, either directly or through an employer.

This distinction between private pension funds is rather significant, as closed private pension funds (only one operating in Latvia in 2018) could be recognized as a typical occupational pension fund. However, open private pension funds are more personal ones.

The law on Private Pension Funds provides a wide range of possibilities to organize and manage private pension funds. The law prescribes the accumulation of pension benefits (both in the specified contribution scheme and in the specified pay-out scheme), the types of private pension funds, the basis for activities thereof, the types of pension schemes, the rights and duties of pension scheme participants, the management of funds, the competence of holders of funds, and state supervision of such activities.

Pension vehicles (pension funds) can be created only by limited types of entities in Latvia, namely:

1. employers entering into a collective agreement with a pension fund, technically become founders of a closed pension fund;
2. for an open pension fund, two types of institutions can establish a fund:
    1) bank (licensed credit institution);
    2) life insurance company.

These founders usually hire a management company, who creates a different pension plan managed under one pension fund and manages the investment activities. Pension scheme assets can be managed only by the following commercial companies:

- a credit institution, which is entitled to provide investment services and non-core investment services in Latvia;
- an insurance company, which is entitled to engage in life insurance in Latvia;
- an investment brokerage company, which is entitled to provide investment services in Latvia;
- an investment management company, which is entitled to provide management services in Latvia.

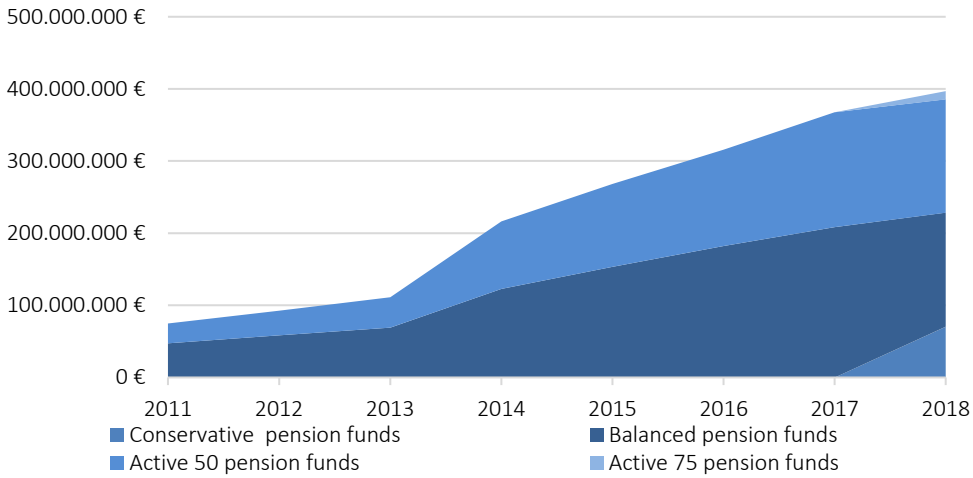
The level of transparency in providing publicly available data for private pension funds before the year 2011 is rather low. Therefore, the analysis of the market and main pension vehicles has been performed with publicly available data starting from 31 December 2011. Currently (as of 31 December 2018), 17 open private pension funds and one closed private pension fund exist on the market.

Table LV8. List of Pillar III Supplementary pension funds		
Pension Fund Name	Investment style of the pension plan	Inception day
INVL Konservatīvais 58+	Conservative open pension funds	08.10.2015
Swedbank pensiju plāns Stabilitāte+25	Conservative open pension funds	14.07.2003
INVL KOMFORTS 53+	Conservative open pension funds	23.10.1998
CBL Sabalansētais	Balanced open pension funds	30.09.1999
Luminor sabalansētais pensiju plāns	Balanced open pension funds	18.10.2011
"SEB - Sabalansētais" pensiju plāns	Balanced open pension funds	31.07.2000
INVL Klasika	Balanced open pension funds	07.03.2008
INVL EKSTRA 47+	Balanced open pension funds	08.10.2015
CBL Aktīvais	Active open pension funds	21.03.2000
INVL MAKSIMĀLAIS 16+	Active open pension funds	08.10.2015
"SEB Aktīvais" pensiju plāns	Active open pension funds	15.09.2004
Swedbank pensiju plāns Dinamika+60	Active open pension funds	01.08.2003
Swedbank pensiju plāns Dinamika+100	Active open pension funds	27.12.2006
CBL Aktīvais USD	Active open pension funds	01.04.2006
Swedbank pensiju plāns Dinamika+(USD)	Active open pension funds	14.07.2003
Luminor progresīvais pensiju plāns	Active 75 open pension funds	18.10.2011
"Pirmais Pensiju Plāns"	Closed pension fund	01.12.1999

Source: Own elaboration based on Financial and Capital Market Commission data, 2019

The structure of the pension vehicles according to the type of the fund and investment strategy offered is presented in the figure below.

Graph LV9. Type of pillar III pension funds based on AuM

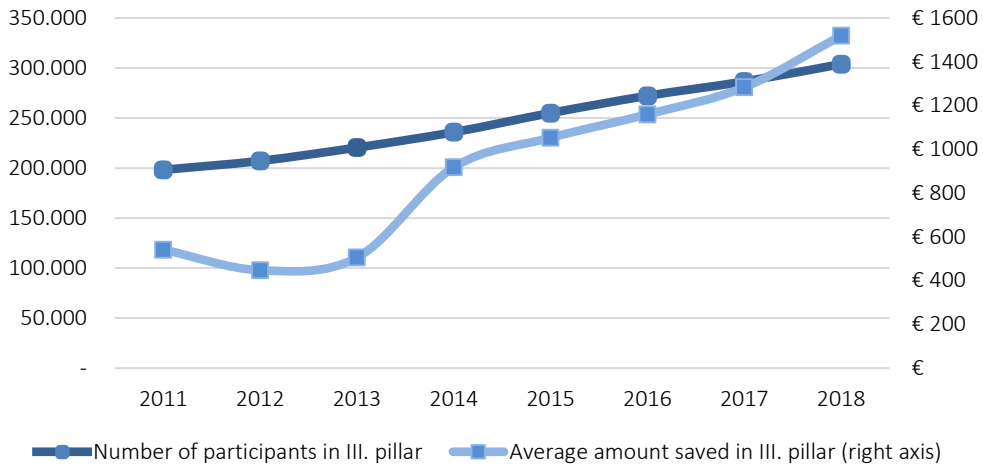


Source: Own calculation based on Manapensija data

The number of participants as well as the average amount saved in Pillar III saving accounts rises steadily. As of 31 December 2018, there has been almost 303,849 Pillar III saving

accounts with an average amount of € 1,518 saved in them. The developments of these parameters are presented in the figure below.

Graph LV10. Number of participants and average size of individual



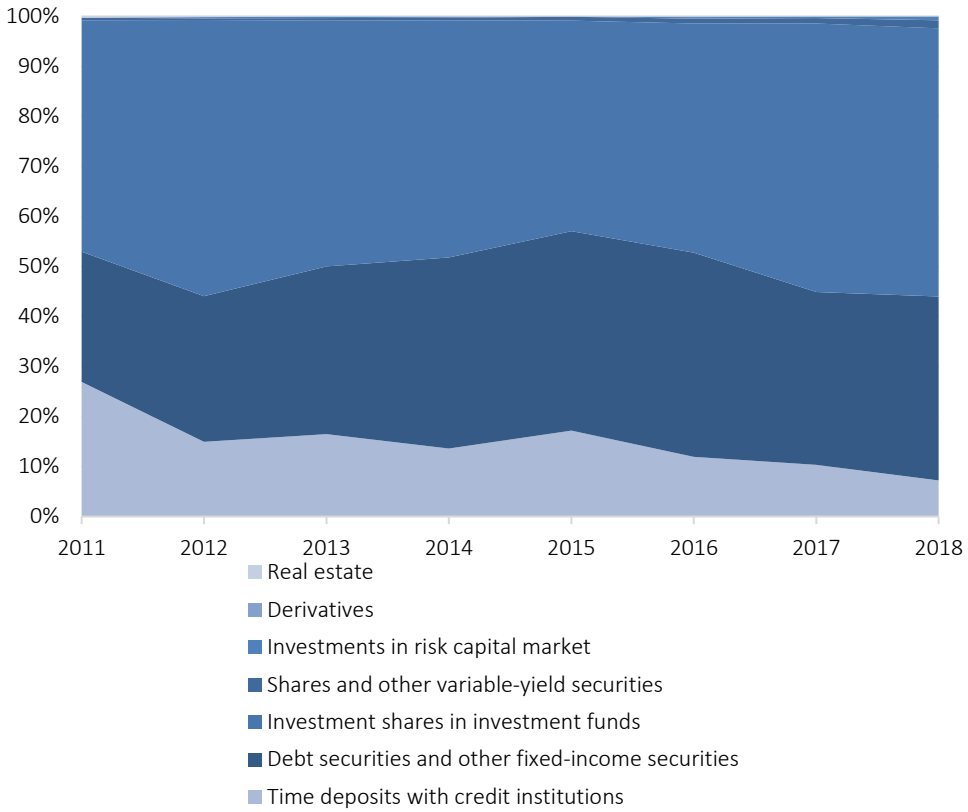
Source: Own calculation based on Manapensija data

It should be noted that balanced pension funds accounted for about 34% of market share based on AuM in 2018, where only four funds are offered. Active funds – for which the investment strategy allows more equity investments - are gaining market share (from 25% in 2011 to 36.5% in 2018). Conservative funds due to the reclassification of one fund from balanced to conservative have market share of around 15% in 2018.

On the other hand, the only closed pension fund, (which has only 5% of market share based on the number of participants) accounts for almost 14% of market share based on assets under management (data as of 2018), meaning that the closed pension fund has the highest level of accumulated assets per participant. However, considering the decreasing trend in market share during the last years, the number of participants is not increasing, and the closed pension fund serves a relatively matured market.

The portfolio structure of Pillar III pension funds is presented in the figure below. Generally, Pillar III pension funds invest predominantly into debt securities, bank deposits and UCITS funds. Direct investment into equities, real estate or other long-term riskier investment constitute for less than 1% of total portfolio.

Graph LV11. Pillar III pension funds´ portfolio structure



Source: Own elaboration based on Financial and Capital Market Commission data

Charges

Pillar II – State Funded Pensions

Latvia has adopted the cap on fees within Pillar II, which forces that the maximum amount of payment for the management of investment plan (including the fixed and variable parts of payment, calculating for the last 12-month period) to not exceed:

1) 1.50% of the average value of investment plan assets to the investment plans, where the investment plan prospectuses do not provide for any investments in the shares of commercial companies, other capital securities and other equivalent securities;

2) 2.00% of the average value of investment plan assets of all other investment plans.

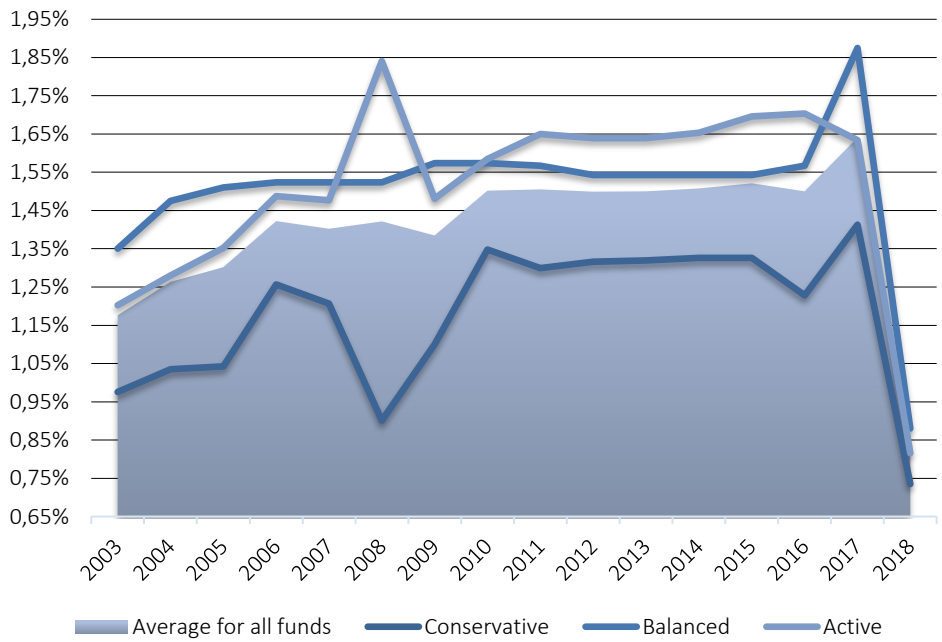
Fees that can be charged to pension funds by fund managers are recognized by law as having a fixed and variable part. The law stipulates that payment for the management of an investment plan shall include:

a) fixed component of payment, which is 1% of the average value of investment plan assets per year and includes payments to the manager of the funds, custodian, as well as payments to third persons, which are performed from the funds of the investment plans (except expenses which have arisen upon performing transactions by selling the assets of the investment plan with repurchase);

b) variable component of payment, which is remuneration to the manager of funds of the funded pension scheme for performance of investment plan, with its amount depends on the return of the pension plan.

Year 2018 brought a significant reversal into this trend and the fees have decreased significantly. Introduction of low-cost passively managed pension funds has spurred price battle and the charges dropped by almost half across the whole Pillar II market.

Graph LV12. Pillar II Pension Funds' Charges



Source: Own research based on the most recent terms of respective pension funds, 2019

Pillar III – Voluntary private pensions

It cannot be said that such a positive trend seen in Pillar II charges is observed in Pillar III. Complex fee structure and high fees preserve in Latvian Pillar III. Voluntary private pension funds have a typically lower level of transparency when it comes to fee policy. In most cases, only current fees and charges are disclosed. Historical data is almost impossible to track via publicly accessible sources. Charges of voluntary private pension funds for the last 4 years are presented in the table below. Administration cost, Fund Manager´s Commission, and Custodian bank´s commission are based on the assets under management. Funds managed by Nordea and Swedbank use mixed Administration costs, which are a combination of entry fees (fees on contributions paid) and ongoing charges (AuM based). CBL funds alos use a performance fee if the fund returns outperform the benchmark (12-month RIGIBID). Aggressive fee policy is applied for INVL funds (Sabalansētais 47+, Activais 16+ and Konservatīvais 58+), where the participant only pays fees on first year contributions. Otherwise, no additional charges are applied.

Table LV13. Voluntary Private Pension Funds´ Fees and Charges

Voluntary Private Pension Funds	Type of the Charges	Year 2015	Year 2016	Year 2017	Year 2018
CBL Aktīvais	Administration Cost	1.50%	1.50%	1.50%	1.50%
	Fund Manager´s Commission	0,90%	0,90%	0,90%	0,90%
	Custodian bank´s commission	0,20%	0,20%	0,20%	0,20%
	Performance fee	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)
CBL Aktīvais USD	Administration Cost	1.50%	1.50%	1.50%	1.50%
	Fund Manager´s Commission	0,90%	0,90%	0,90%	0,90%
	Custodian bank´s commission	0,20%	0,20%	0,20%	0,20%
	Performance fee	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)
CBL Sabalansētais	Administration Cost	1.50%	1.50%	1.50%	1.50%
	Fund Manager´s commission	0.75%	0.75%	0.75%	0.75%
	Custodian bank´s commission	0.20%	0.20%	0.20%	0.20%
	Performance fee	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)	10% (RIGIBID)
INVL KOMFOR TS 53+	Administration Cost	2.00%	2.00%	2.00%	0,50%
	Fund Manager´s commission	0.70%	0.70%	0.70%	0.99%
	Custodian bank´s commission	0.50%	0.50%	0.01%	0,10%
INVL plāns "Jūra - Aktīvais"	Administration Cost	1.00%	1.00%	1.00%	1.00%
	Fund Manager´s commission	1.00%	1.00%	1.00%	1.00%
	Custodian bank´s commission	0.50%	0.50%	0.01%	0,10%

INVL Klasika	Administration Cost	1.00%	1.00%	1.00%	0.99%
	Fund Manager´s commission	1.00%	1.00%	1.00%	0,50%
	Custodian bank´s commission	0.50%	0.50%	0.01%	0,10%
INVL EKSTRA 47+	Administration Cost		0.00% + 30% of contributions during the 1st year	0.00%	0.55%
	Fund Manager´s commission		0.00%	0.00%	0,50%
	Custodian bank´s commission		0.00%	0.00%	0,10%
	Fee from contributions during the first year of participation			30.00%	30,00%
INVL MAKSIMĀLAIS 16+	Administration Cost		0.00% + 30% of contributions during the 1st year	0.00%	0.55%
	Fund Manager´s commission		0.00%	0.00%	0,50%
	Custodian bank´s commission		0.00%	0.00%	0,10%
	Fee from contributions during the first year of participation			30.00%	30,00%
INVL Konservatīvais 58+	Administration Cost		0.00% + 30% of contributions during the 1st year	0.00%	0,00%
	Fund Manager´s commission		0.00%	0.00%	0,00%
	Custodian bank´s commission		0.00%	0.00%	0,00%
	Fee from contributions during the first year of participation			30.00%	30,00%
Luminor progresīvais pensiju plāns	Administration Cost	2% from contribution + 0.75% from average assets	2% from contribution + 0.75% from average assets	0.75%	0.75%
	Fund Manager´s commission	1.60%	1.60%	1.60%	1,60%
	Custodian bank´s commission	0.15%	0.15%	0.15%	0.07%
Luminor sabalans ētais pensiju plāns	Administration Cost	1% from payment + 1% from average assets	1% from payment + 1% from average assets	0.75%	0.75%

"Pirmais Pensiju Plāns"	Fund Manager´s commission	1.10%	1.10%	1.10%	1,10%
	Custodian bank´s commission	0.15%	0.15%	0.15%	0.07%
	Administration Cost	1.50%	1.50%	1.50%	1.50%
"SEB Aktīvais" pensiju plāns	Fund Manager´s commission	1.30%	1.30%	1.30%	1.30%
	Custodian bank´s commission	0.20%	0.20%	0.20%	0.20%
	Administration Cost	1.50%	1.50%	0.3 - 0.9%	0.3 - 0.9%
"SEB - Sabalans ētais" pensiju plāns	Fund Manager´s commission	0.90%	0.90%	0.60%	0.60%
	Custodian bank´s commission	0.20%	0.20%	0.10%	0,10%
	Administration Cost	1.50%	1.50%	0.3 - 0.9%	0.3 - 0.9%
Swedbank pensiju plāns Dinamika+(USD)	Fund Manager´s commission	0.90%	0.90%	0.6%	0.6%
	Custodian bank´s commission	0.20%	0.20%	0.10%	0,10%
	Administration Cost	2% from payments + 0.6% from assets per year	2% from payments + 0.6% from assets per year	0.60%	0.45%
Swedbank pensiju plāns Dinamika+100	Fund Manager´s commission	1.25%	1.25%	0.90%	0,50%
	Custodian bank´s commission	0.20%	0.20%	0.18%	0,10%
	Administration Cost	2% from payments + 1% from assets per year	2% from payments + 1% from assets per year	0.60%	0.45%
Swedbank pensiju plāns Dinamika+60	Fund Manager´s commission	1.60%	1.60%	0.90%	0,40%
	Custodian bank´s commission	0.20%	0.20%	0.10%	0,10%
	Administration Cost	2% from payments + 0.6% from assets per year	2% from payments + 0.6% from assets per year	0.60%	0.45%
Swedbank pensiju plāns Stabilitāte+25	Fund Manager´s commission	1.25%	1.25%	0.90%	0,40%
	Custodian bank´s commission	0.20%	0.20%	0.10%	0,10%
	Administration Cost	2% from payments + 0.6% from assets	2% from payments + 0.6% from assets	0.60%	0.45%
	Fund Manager´s commission	0.90%	0.90%	0.50%	0,40%
	Custodian bank´s commission	0.20%	0.20%	0.10%	0,10%

Source: Own research based on Manapensija data and supplementary pension funds´ Prospectuses and Terms, 2019

When comparing the charges applied to the voluntary private pension funds and to state-funded pension funds, the level of charges in Pillar III pension funds are significantly higher and the structure of fees is more complex. This limits the overall understanding of the impact of fees on the pension savings for an average saver.

There are neither limitations nor caps on fees in the law. The legislative provisions only indicate that at least the following should be disclosed: general information on maximum fees and charges applied, procedures for covering the expenses of the scheme, information regarding maximum payments to the management of the pension scheme and to the manager of funds, and the amount of remuneration to be paid out to the holder of funds, as well as the procedures by which pension scheme participants shall be informed regarding such pay-outs of the scheme.

Taxation

Pillar II – State Funded Pensions

Latvia is applying an "EET" taxation regime for Pillar II with some specifications (deductions) to the payout regime taxation, where generally the "T" regime is applied for the pay-out phase in retirement.

Taxation of contributions

Contributions paid to the state funded pension scheme are made via social insurance contributions redirection. As such, these contributions are personal income tax deductible items, so the contributions are not subject to additional personal taxation.

Taxation of the Fund

The Corporate Income tax rate in Latvia is 15%. However, income or profits of the fund (investment fund as a legal entity) are not subject to Latvian corporate income tax at the fund level. Latvia applies a general principle for all investment and savings-based schemes to levy the income taxation on the final beneficiaries and not on the investment vehicles.

Taxation of pension benefits

Latvia has one of the lowest levels of income redistribution among EU countries. Personal income tax rate is 23% and the pension benefits paid from the NDC PAYG scheme (Pillar I) and state-funded pension scheme (Pillar II) are considered taxable income. As such, pension benefits are subject to personal income tax. Latvia applies a non-taxable minimum, which is recalculated and announced every year by Cabinet regulation.

Pillar III – Voluntary private pensions

Latvian tax legislation stipulates the use of the "EET" regime (like Pillar II) for voluntary private pension schemes as well, where the contribution by individuals is treated in a slightly different way. Payments made to private pension funds established in accordance with the Republic of Latvia Law on Private Pension Funds or to pension funds registered in another Member State of the European Union or the European Economic Area State shall be deducted from the amount of annual taxable income, provided that such payments do not exceed 10 % of the person's annual taxable income. However, there is a limit on total income tax base deductible payments. The total of donations and gifts, payments into private pension funds, insurance premium payments and purchase costs of investment certificates of investment funds may not exceed 20% of the amount of the payer's taxable income.

Pension Returns

Pillar II – State Funded Pensions

Pension funds´ performance is closely tied to the portfolio structure defined by an investment strategy (as well as investment restrictions and regulations) applied by a fund manager. Investment regulations differ, depending on whether pension plans are managed by the State Treasury or by private companies. The State Treasury is only allowed to invest in Latvian government securities, bank deposits, mortgage bonds and deposit certificates. Moreover, it can only invest in financial instruments denominated in the national currency. In contrast, private managers are allowed to invest in a much broader range of financial instruments. The main investment limits include the following:

- 35% for securities guaranteed by a state or international financial institution;
- 5% for securities issued or guaranteed by a local government;
- 10% for securities of a single issuer, except government securities; for deposits at one credit institution (investments in debt and capital securities of the same credit institution and derivative financial instruments may not exceed 15%); and for securities issued by one commercial company (or group of commercial companies);
- 20% for investments in non-listed securities;
- 5% for investments in a single fund (10% of the net assets of the investment fund).

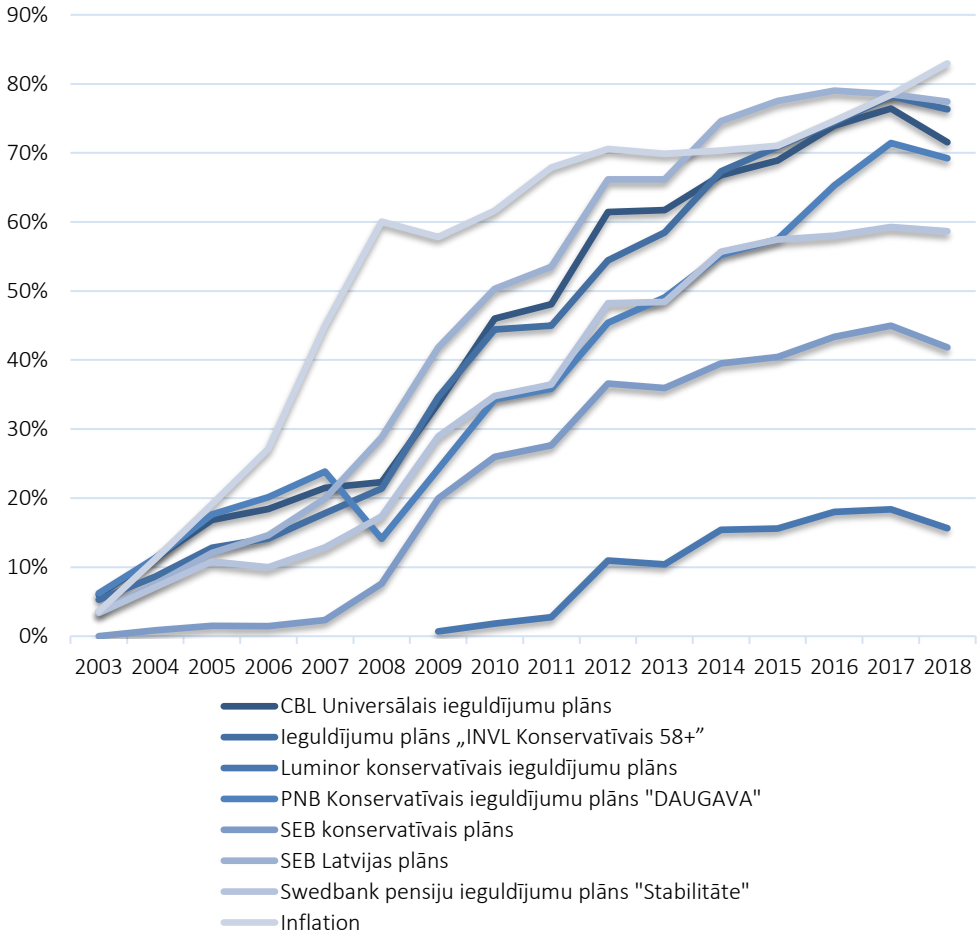
There is no maximum limit for international investments so long as pension funds invest in securities listed on stock exchanges in the Baltics, other EU member states, or the European Free Trade Area. However, the law stipulates a 70% currency matching rule. There is also a 10% limit for each non-matching currency. Investments in real estate, loans, and self-investment are not permitted.

All data presented on the pension funds' returns are presented in net values, i.e. after all fees charged to the fund portfolio. The graphs contain also inflation on an annual as well as cumulative basis.

Pension reform introduced Pillar II in July 2001. However, pension funds started their effective operation from January 2003, so only data for the period from 2003 to 2018 is presented.

Conservative mandatory pension funds' performance on a cumulative basis compared to the inflation is presented below.

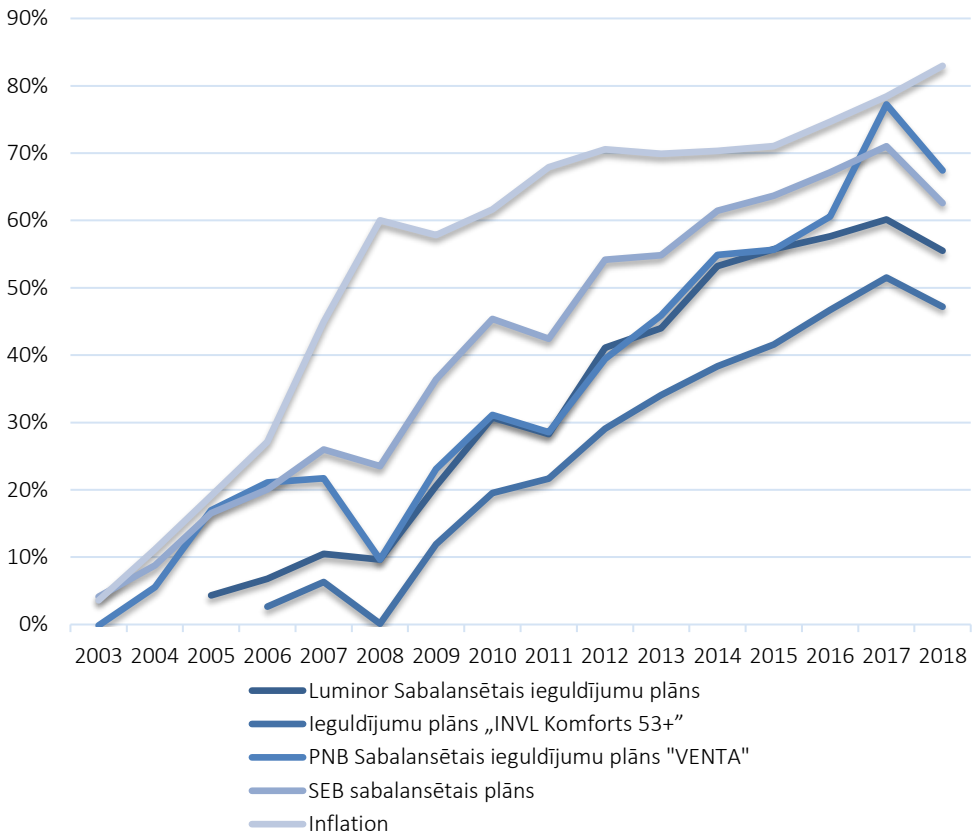
Graph LV14. Conservative Pension Funds´ Cumulative Performance



Source: Own calculation based on http://www.manapensija.lv/en/2nd-pension-pillar/statistics/ and supplementary pension funds´ Prospectuses and Terms, 2019

Balanced pension funds´ cumulative performance comparing to the Latvian inflation is presented in graphs below.

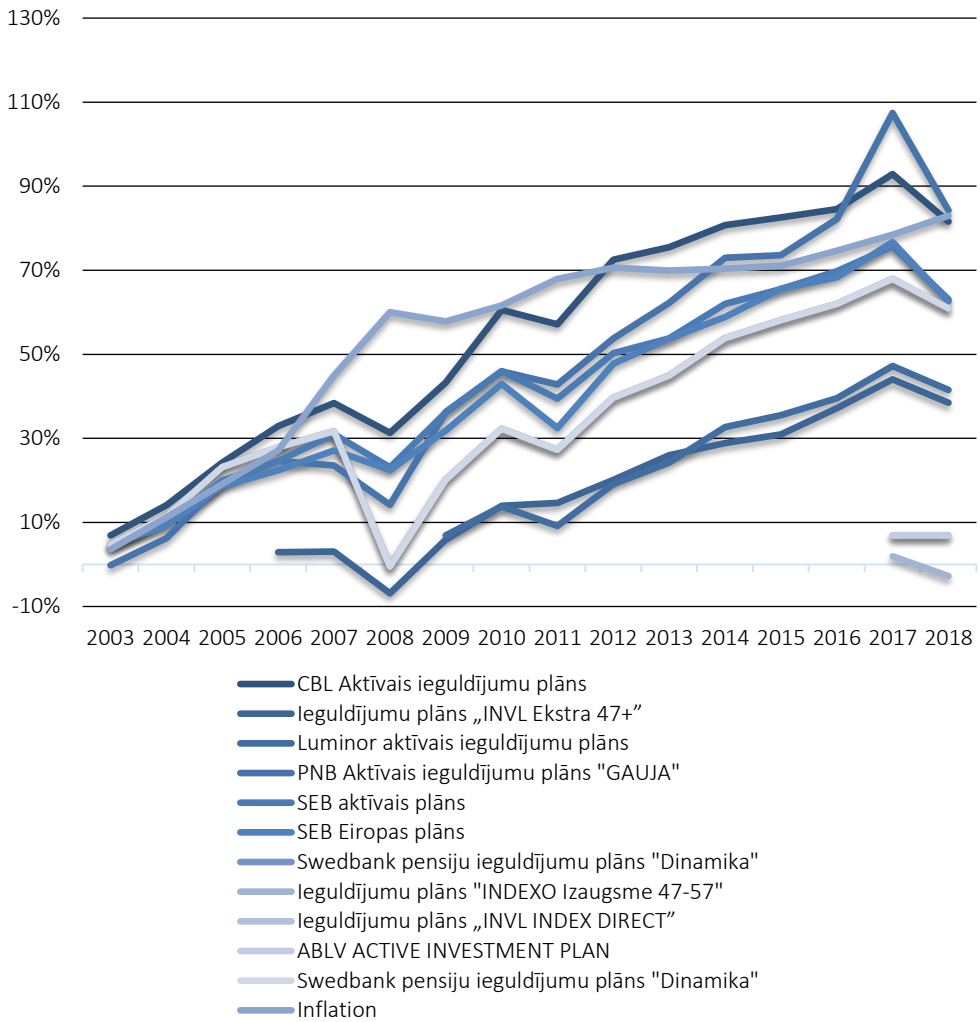
Graph LV15. Balanced Pension Funds´ Cumulative Performance



Source: Own calculation based on http://www.manapensija.lv/en/2nd-pension-pillar/statistics/ and supplementary pension funds´ Prospectuses and Terms, 2019

Active pension funds' performance on a cumulative basis compared to the inflation is presented in the graphs below.

Graph LV16. Active 50 Pension Funds' Cumulative Performance



Source: Own calculation based on http://www.manapensija.lv/en/2nd-pension-pillar/statistics/ and supplementary pension funds´ Prospectuses and Terms, 2019

It should be noted that none of the actively managed pensions were able to "beat" the inflation, and thus able to deliver the positive real returns to the savers. Nominal as well as real returns of state funded pension funds in Latvia weighted by AuM are presented in a summary table below.

Table LV17. Nominal and Real Returns of State Funded Pension Funds in Latvia					
2003	Nominal return after charges, before inflation and taxes	4.86%	3.38%	Real return after charges and inflation and before taxes	1.28%	-0.72%
2004		5.69%			-1.65%	
2005		8.93%			1.80%	
2006		3.91%			-2.83%	
2007		3.51%			-10.52%	
2008		-10.04%			-20.44%	
2009		13.51%			14.88%	
2010		8.45%			6.05%	
2011		-2.10%			-5.98%	
2012		9.06%			7.47%	
2013		2.32%			2.72%	
2014		5.25%			4.97%	
2015		1.93%			1.53%	
2016		2.02%			-0.08%	
2017		3.23%			1.07%	
2018		-4.09%			-6.64%	

Source: Own calculation based on Manapensija data (http://www.manapensija.lv/en/2nd-pension-pillar/statistics/), 2019

Another view on the performance of the Pillar II pension funds allowing the comparison across EU pension schemes is using the holding period approach.

Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-4.09%	-6.64%
3-years	0.34%	-1.94%
5-years	1.62%	0.10%
7-year	2.75%	1.49%
10-years	3.84%	2.42%
Since inception	3.38%	-0.72%

Source: Own calculation based on Manapensija data (http://www.manapensija.lv/en/2nd-pension-pillar/statistics/), 2019

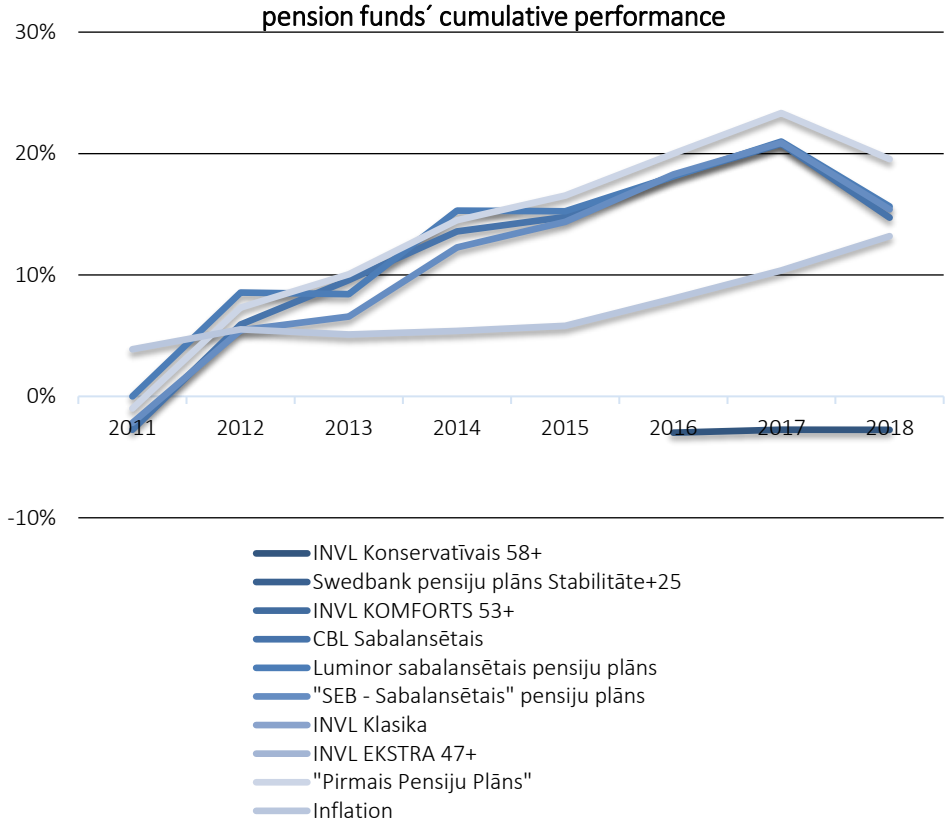
Pillar III – Voluntary private pensions

The analysis of voluntary pension funds' performance uses annual approaches as well as cumulative approaches, peer comparison and inflation.

Investment rules for private pension funds are similar to those for state-funded schemes but are more flexible. For example, investment in real estate is permitted (with a limit of 15%), the currency matching rule is only 30%, and limits for some asset classes are higher. Considering the structure of voluntary pension funds' portfolios in Latvia, a larger proportion is invested in structured financial products (mainly equity based UCITs funds) and direct investment in equities and bonds is decreasing.

Due to the lack of publicly available data before 2011, the performance of voluntary pension funds on an annual and cumulative basis starting from the year 2011 is presented in the charts below.

Graph LV18. Balanced and conservative voluntary open and closed pension funds´ cumulative performance

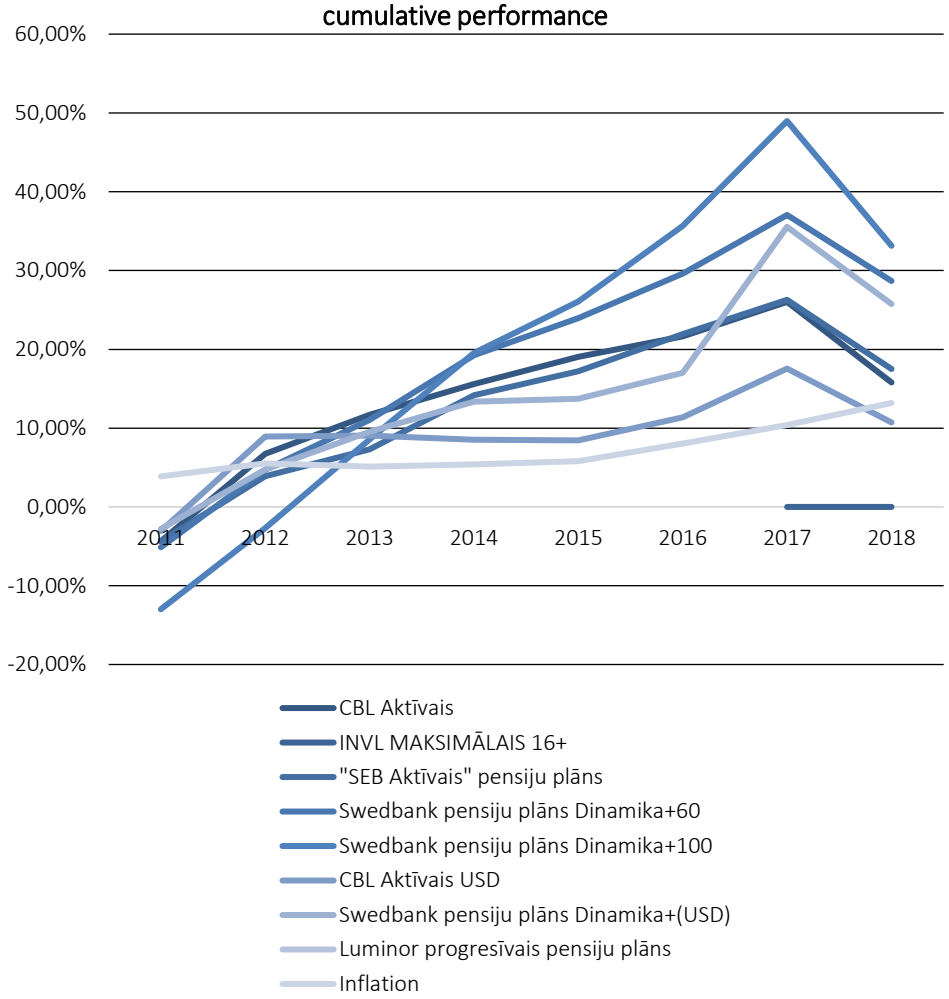


Source: Own calculation based on Manapensija data (http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/), 2019

Contrary to balanced Pillar II funds, balanced Pillar III funds all provide positive real returns (outperform inflation). Balanced Pillar III funds have a more aggressive portfolio structure. However, short historical data does not allow for a comprehensive conclusion to be drawn. There is a backward pressure of charges which might reverse the trend in future.

The performance of Latvian active voluntary private pension funds differs significantly, and the dispersion of annual returns and cumulative returns is higher. Performance of analyzed voluntary private pension funds on a cumulative basis is presented on the chart below.

Graph LV19. Active 50 & Active 75 voluntary pension funds´ cumulative performance



Source: Own calculation based on Manapensija data (http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/), 2019

Nominal as well as real returns of voluntary pension funds in Latvia weighted by AuM are presented in a summary table below.

Table LV20. Nominal and Real Returns of Voluntary pension funds in Latvia					
2011	Nominal return after charges, before inflation and taxes	-2.70%	2.26%	Real return after charges and inflation and before taxes	-6.58%	0.65%
2012		8.77%			7.18%	
2013		3.08%			3.48%	
2014		5.56%			5.29%	
2015		2.28%			1.87%	
2016		3.35%			1.24%	
2017		3.62%			1.46%	
2018		-5.19%			-7.74%	

Source: Own calculation based on Manapensija data (http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/), 2019

Additionally, we provide data on Pillar III (Voluntary) pension funds´ performance according to various holding periods.

LV 21. Summary Return Table – Latvian Pillar III		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-5.19%	-7.74%
3-years	0.51%	-1.78%
5-years	1.85%	0.33%
7-year	2.99%	1.73%
10-years	2.26%	0.65%
Since inception	2.26%	0.65%

Conclusions

Latvia has managed to build a sustainable pension system over the last decade with impressive growth in Pillar II funds. Acceptance of voluntary pension savings in Pillar III is still weak, but this trend has changed after the financial crisis. Pillar III pension funds have enjoyed high inflow of new contributions despite rather weak performance and high fees.

Latvian Pillar II experienced significant drop in charges in 2018 driven by a competition from low-cost passively managed funds. Pillar III funds managers enjoy relatively high fees charged to pension funds savers. Delivered real returns on the other hand are negative. Most of the Pillar II pension funds were not able to beat the inflation. One of the reasons is also the relatively conservative risk/return profile of most funds. Pillar III vehicles in Latvia suffer not only from significantly high fees charged by fund managers, but also from low transparency.

Pension fund managers of both pillars have started to prefer packaged investment products (investment funds) and limit their engagement in direct investments. Thus, the question of potential future returns (when using financial intermediaries multiplied by high fee policy) in both schemes should be raised.

Policy Recommendations

Latvia has improved significantly its mandatory part of funded pension system. Together with its NDC scheme for pay-as-you-go pillar, mandatory funded part as well as NDC part form a well-designed pension system that motivates individuals to contribute as there is a clear connection between paid contributions and expected pension benefits. However, voluntary part of the pension system still suffers from very complicated fee structure, high fees and low transparency.

These limits, despite a generous fiscal stimulus, larger participation in voluntary pension scheme. Regulators should seek for modern fee policies that would on one hand decrease the fee structure and on the other hand introduce success fee tied to the market benchmark. Applying high-water mark principle could limit the risk appetite of asset managers as they will start to prefer low-risk investments where constant fee revenue could be expected. If the benchmarking principle is applied, where the asset manager is rewarded by higher fee when the market benchmark has been outperformed and penalized by lower fees if the fund performance is lower than the market benchmark, savers could benefit more and start trusting the voluntary pension providers on a larger scale.

Bibliography

- Groduma, M. 2002. Social insurance in Latvia: Seeking balance between financial stability and equity. In: European regional meeting "New and revised approaches to social protection in Europe". Budapest, 13 - 15 November 2002. [Online] Available: http://www.issa.int/html/pdf/budapest02/2groduma.pdf
- Hernandez, D. G and Stewart, F. 2008. Comparison of Costs and Fees in Countries with Private Defined Contribution Pension Systems. *IOPS Working Paper No. 6.* 2008.
- Ministry of Welfare of Latvia. 2003. The State Social Insurance System in Latvia. *Financial Analysis*. Riga: Ministry of Welfare of Latvia. 2003.
- Rajevska, O. 2013. Funded Pillars in the Pension Systems of Estonia, Latvia and Lithuania. In: Economics and Business 2013/23.
- Volskis, E. 2012. Reforms of Baltic States Pension Systems: Challenges and Benefits. EBRD. [Online] Available: www.ebrd.com/downloads/news/pension-system.pdf
- Law on State Funded Pensions
- Law on Private Pension Funds
- Law on State Social Insurance

Pension Savings: The Real Return

2019 Edition

Country Case: Lithuania

Reziumė

Lietuva pritaikė tipišką Pasaulio banko daugiapakopę sistemą, kurioje vis dar dominuoja einamasis finansavimas (valstybinė pensija, I pakopa) užtikrinantis pajamas vyresnio amžiaus pensijų gavėjams. Vis dėlto, II pakopos pensijų fondai, apimantys daugiau nei 92% ekonomiškai aktyvių gyventojų, tampa vis labiau svarbūs. III pakopos fondai savo ypatybėmis yra labai panašūs į II pakopos fondus, kas, kita vertus, riboja jų galimybes konkuruoti su II pakopos fondais.

Apskritai paėmus, 2018 m. abiejų pakopų pensijų fondų rezultatai net ir konservatyviuose fonduose buvo neigiami. Pensijų fondų grąža labai skyrėsi skirtingos rizikos profilių atveju. „Gyvenimo trukės“ fondai atsirado 2018 m., kartu sumažėjo ir II pakopoje taikomi mokesčiai. Tuo pačiu tęsiasi diskusijos dėl II ir III pakopų sujungimo vienoje privačioje pensijų sistemoje.

Summary

Lithuania adopted the typical World-Bank multi-pillar system, where the PAYG pillar (state pension, Pillar I) still plays the dominant role in ensuring the income for old-age pensioners. However, Pillar II pension funds are growing in importance, covering more than 92% of the economically active population. Pillar III has very similar features to the Pillar II design, which, on the other hand, limits its ability to compete its Pillar II peers.

In overall, pension funds' performance in both pillars were negative in 2018, even for the conservatively oriented funds. There were significant differences among the pension funds´ returns with different risk-return profiles. “Life-cycle” funds emerged in 2018, as well as a decrease of fees within the Pillar II. At the same time, the ongoing debate to “merge” Pillar II and Pillar III into one private pension scheme is discussed.

Introduction

Lithuania has undertaken a pension reform in 2004, which was renewed in 2013. This was the reason to establish private pension funds. Currently, the Lithuanian pension system

provides three distinct sources of accumulation for retirement funds – so-called pension pillars:[210]

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

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

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

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

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

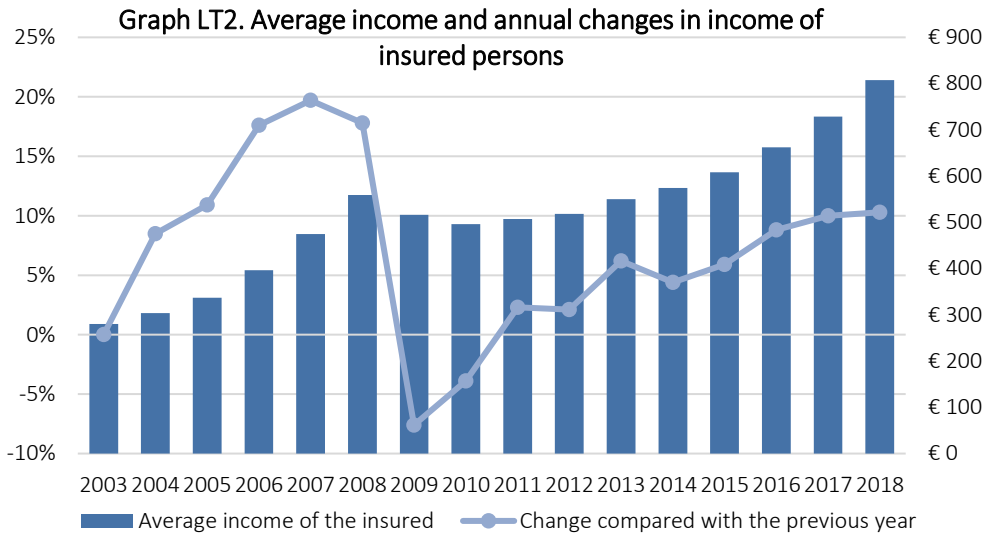
[210] BITINAS, A. (2011). Modern pension system reforms in Lithuania: Impact of crisis and ageing. Jurisprudence, 18(3), 1055–1080.

Table LT1. Multi-pillar pension system in Lithuania		
PILLAR I	**PILLAR II**	**PILLAR III**
State Pension	Funded pension	Voluntary pension
Law on State Social Insurance Pensions	Law on the Reform of the Pension System (effective till 2019); Law on Pension Accumulation	Law on the Supplementary Voluntary Pension Accumulation
State Social Insurance Fund (SoDra)	Pension accumulation companies	Pension accumulation companies
Mandatory	Quasi/Mandatory	Voluntary
Publicly-managed	Privately managed pension funds	Privately managed pension funds
PAYG	Funded	Funded
PS (Pointing System - Defined benefit scheme based on salary)	DC (Defined Contribution scheme)	
	Individual retirement accounts	
Quick facts		
Number of old-age pensioners: 605,400	Administrators: 5	Administrators: 3
Average old-age pension: € 344.20	Funds: 26	Funds: 12
Average income (gross): € 795	AuM: € 3,118.35 mil.	AuM: € 103.86 mil.
Average replacement ratio: 39.41%	Participants: 1,317,744	Participants: 62,215
Number of insured persons: 1,420,300	Coverage ratio: 92.78%	Coverage ratio: 4.38%

Source: Own calculations 2019.

The overall coverage of Pillar II, measured as a ratio between the number of participants and the economically active population (number of insured persons in Pillar I), was almost 93% in 2018, while Pillar III covered merely 4% of the economically active population. Thus, we can expect that future pension income stream will be influenced mostly by Pillar II pensions, while Pillar III will generate an insignificant part of individuals' income during retirement.

Regarding the income level, Lithuania´s citizens have experienced relatively high rates of income increase during the last 15 years (6.85% annually), while only in 2018, the income has risen by more than 10%. However, the overall income level is well below the EU average (€795 in 2018).



Source: Own calculation based on SoDra, 2019.

Pillar I – State Pensions

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

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

1) the person has reached the established old-age pension age (63.6 years for men and 62.3 years for women in 2018). Since 2012, the retirement age has been rising gradually by 2 months a year for men and 4 months a year for women until reaching the statutory retirement age of 65 for both men and women by 2026;
2) has the minimum record of pension social insurance established for old-age pension (has paid the pension social insurance contributions for at least 15 years).

The pension social insurance record is the period in which the obligatory pension social insurance payments are made or must be made either by the person themselves or on his/her behalf. Starting from 2018, the obligatory pension social insurance record requirement increased. In 2018, the mandatory record is at least 30 years and 6 months and will be increased in every subsequent year until it reaches 35 years in 2027.

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

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

$$GP = \beta \times B$$

where:

β represents the ratio of the insurance record of the person and the obligatory insurance record effective in the year of the pension entitlement (for example, if the obligatory insurance record at year of retirement is 30 years and the person´s insurance record is 40 years, then the value of β is 40/30 = 1.33333); and

B represents the basic pension (in euros).

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

$$IP = V \times p$$

where:

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

p is the pension point value (in euros).

For example, if a person´s salary during the whole career (40 years) was equal to the average salary in the economy (1 point), then the person can acquire 40 x 1 point = 40 points. If the

value of one pension point at moment of retirement is, for example, €10, then the individual part of old-age pension is: 40 x 10 = 400 Eur.

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

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

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

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

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

http://www.sodra.lt/lt/skaiciuokles/prognozuojamos_pensijos_skaiciuokle

Pillar II – Funded pensions

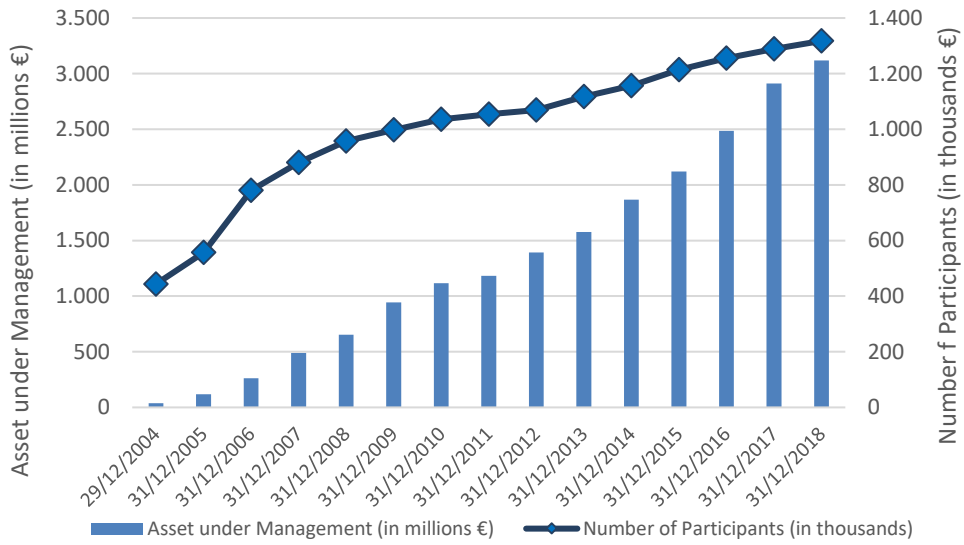
Lithuania´s private pensions system (Pillar II) is based on the World Bank's multi-pillar model. Pillar II pension scheme can be characterized as an accumulation of a redirected part of social insurance contributions towards individual retirement accounts managed by private pension accumulation companies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

contribution to Pillar II pension funds consists of three parts: a social-security contribution (currently paid to SoDra), salary contribution and an additional pension contribution from the State Budget.

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

Since 2004, when the Pillar II was effectively launched, the number of participants as well as AuM has grown rapidly and currently, more almost 92% of working population is covered by the scheme and more than 3 billion € are managed by 5 PACs (see graph below).

Graph LT3. Pillar II – Number of participants and Assets under Management



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

The pension contributions towards the Pillar II are part of the participant's state social insurance contribution rate. Originally, the level of contributions ("base rate") was set at final level of 5.5% of insurable income. This level should have been reached in 2007. The base rate in 2004 was 2.5%, in 2005 - 3.5%, in 2006 it was 4.5%, and since 2007 - 5.5% of the participants' income, from which the state social insurance contributions are calculated. However, it should be noted that there have been significant changes to the Pillar II set-up because of the financial crisis and the following public finance deficits. As a result, the mechanism and level of paid contributions have changed. Since 2014, the level of contributions has remained stable, while participants have been required to match redirected contributions from the social insurance with additional individual contributions

and the state must match the individual contributions of savers from the state budget. Under the new system, the "base rate" for Pillar II contributions is 2%, and existing savers can make a further 1% in contributions, matched by a state subsidy of 1% of gross average wages. These both additional contribution rates rose to 2% a piece since 2016. Under Lithuania's current "maximum accumulation" scenario, Pillar II savings during the years of 2016 till 2019 are funded by the so-called "2+2+2" system: 2% of social security system contributions, with an additional 2% of additional payment from a salary of a saver, matched by a state contribution based on the previous year's average state wages.

According to SoDra, the State Social Insurance Fund, the number of Pillar II participants who signed an agreement to pay the additional contributions totaled 409,000 (35% of all Pillar II participants). The factors that contributed to relatively high sign-up numbers included the government subsidy (matching mechanism), an active public debate and an official web-based calculator allowing individuals to estimate the impact of their choice on their pensions savings. On the other hand, constant changes in the Pillar II set-up have significantly increased the inertia of savers in Lithuania. As a result, Lithuanian pension savers lack awareness of the pension system and forecasts of their future benefits. According to the Lithuania's Central Bank 2016 report, more than 50% of participants have chosen the wrong pension fund considering their remaining saving period. More than two-thirds are inert savers and choose one pension fund for their whole life. Only 2% of all participants changed their pension fund or company in 2014-2015. Active clients follow short-term results and 92% made the wrong decision during the financial crisis in 2008.

However, there are more changes that are expected to become effective in the contribution mechanism since 2019, including the auto-enrolment for persons under the age of 40 with the right to opt-out and lowering the fees for Pillar II pension funds managers. At the same time, misallocation of savings is expected to be partially solved by the introduction of "life-cycle" funds. Furthermore, discussions on the merger of Pillar II and Pillar III schemes into one private pension accumulation scheme are ongoing.

The contributions to Pillar II are recorded on individual personal pension account at selected providers (Pension Accumulation Companies). Contributions and accumulated savings are invested by the companies into managed pension funds. Pension Accumulation Companies (PACs) can manage multiple pension fund. PAC must obtain licenses from market regulator and supervisory body, which is the Bank of Lithuania.

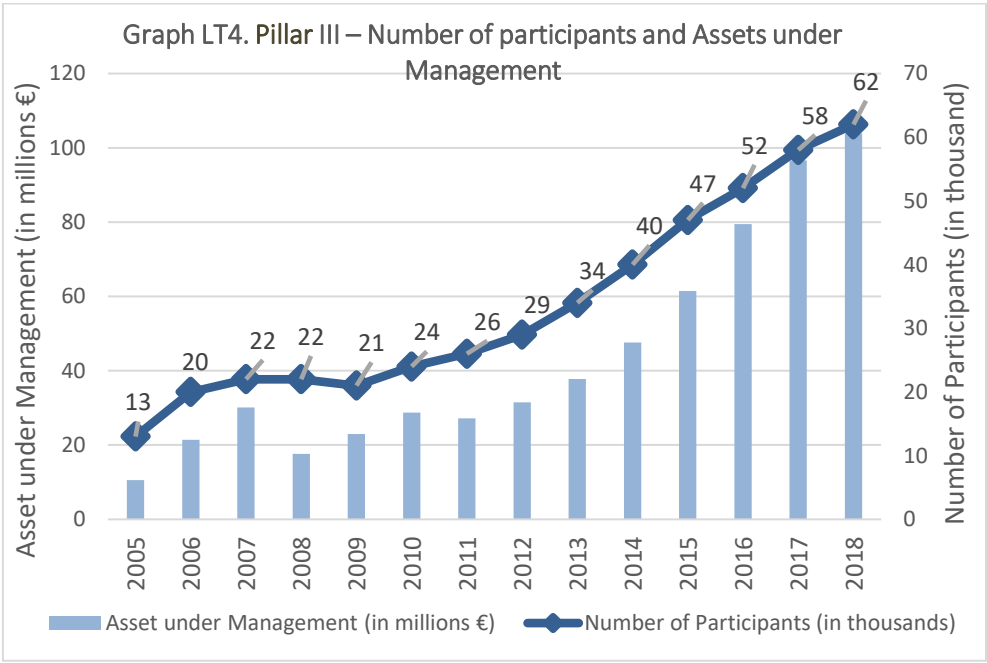
Pillar III – Voluntary private pension

Lithuania's voluntary supplementary private pensions system (Pillar III) is also based on the World Bank's multi-pillar model and effectively started in 2005. It is also a fully funded system, based on personal accounts and on the defined contribution (DC) philosophy. Pillar

III pension funds refer to supplementary voluntary pension accumulation. Funds are transferred by participants themselves or by their employers.

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

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



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

Pillar III is organized in a way that pension providers (Voluntary Supplementary Pension Accumulation Management Companies) offer pension funds on a basis of typical mutual funds. At the end of 2018, 12 supplementary voluntary pension accumulation funds operated in Lithuania were managed by 3 managing companies. Comparing to the previous years, the market is under the significant consolidation pressure as the management companies strive to attract more clients. In 2018, assets managed by funds grew by 7.5% and amounted to €103.86 million despite the negative return. Number of participants accumulating their pension in Pillar III pension funds increased by 6.9% and amounted to close to 62,000. The average value of savings per member is only €1,680.

Pension Vehicles

Pillar II – Funded pensions

As indicated above, each provider (PAC) can offer more than one pension fund. Currently, 26 pension funds are offered by 4 management companies and 1 life insurance undertaking. 2018 brought 6 new "life-cycle" funds on the market offered by Swedbank.

Table LT5. List of Pillar II Pension Funds

Investment style of the pension plan	Pension Fund Name	Inception day
CONSERVATIVE INVESTMENT PENSION FUNDS	Aviva Europensija	15.06.2004
	Swedbank Pensija 1	14.06.2004
	Luminor pensija 1	15.06.2004
	INVL STABILO II 58+	15.06.2004
	SEB pensija 1	15.06.2004
	Swedbank Pension pay-out fund	14.06.2004
SMALL EQUITY SHARE PENSION FUNDS (UP TO 30%)	Aviva Europensija plius	15.06.2004
	Luminor pensija 2	15.06.2004
	INVL MEZZO II 53+	15.06.2004
	Swedbank Pensija 2	14.06.2004
AVERAGE EQUITY SHARE PENSION FUNDS (UP TO 30%)	Aviva Europensija ekstra	08.02.2006
	Luminor pensija 3	15.06.2004
	INVL MEDIO II 47+	24.09.2007
	SEB pensija 2	15.06.2004
	Swedbank Pensija 3	14.06.2004
	Swedbank Pensija 4	18.12.2005
EQUITY PENSION FUNDS (UP TO 100%)	Luminor pension 4	06.06.2017
	INVL EXTREMO II 16+	24.09.2007
	SEB pensija 3	27.03.2006
	Swedbank Pensija 5	04.05.2011
LIFE CYCLE FUNDS (DYNAMIC ASSET ALLOCATION STRATEGY)	**Swedbank Pensija 1961-1967**	**01.03.2018**
	Swedbank Pensija 1968-1974	**01.03.2018**
	Swedbank Pensija 1975-1981	**01.03.2018**
	Swedbank Pensija 1982-1988	**01.03.2018**
	Swedbank Pensija 1989-1995	**01.03.2018**
	Swedbank Pensija 1996-2002	**01.03.2018**

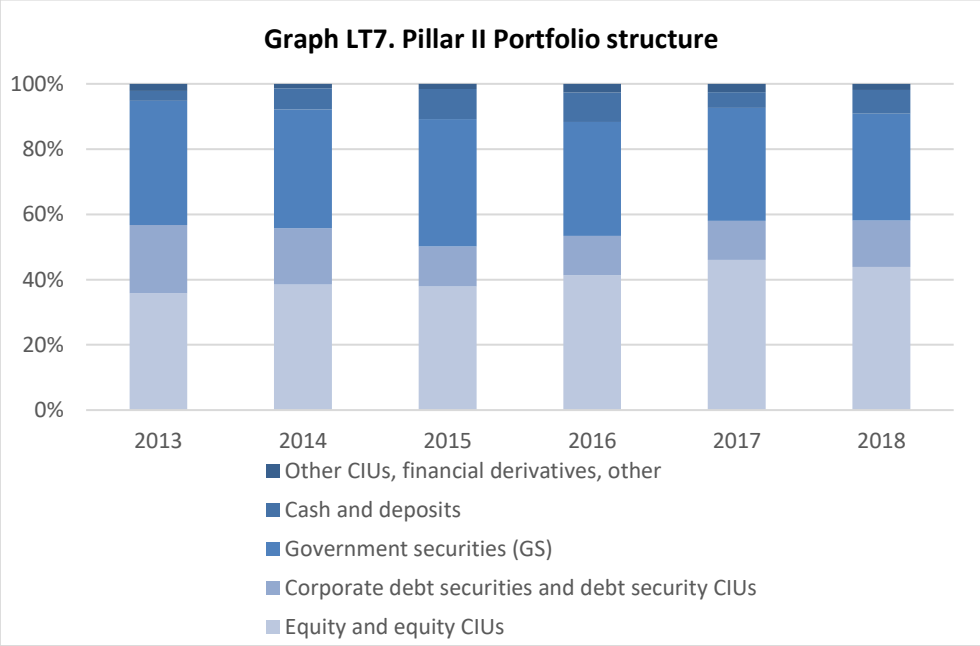
Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

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

Table LT6. Pillar II Market share based on AuM and Number of participants				
Investment strategy	AuM	Market share	Number of Participants	Market share
Conservative	244,127,541 €	7.83%	90,578	6.87%
Small Equity share (up to 30%)	728,241,859 €	23.35%	285,617	21.67%
Average Equity share (from 30% up to 60%)	1,546,850,218 €	49.60%	637,130	48.35%
Equity (up to 100%)	542,660,698 €	17.40%	269,007	20.41%
Life Cycle Funds	56,468,332 €	1.81%	35,412	2.69%
TOTAL	**3,118,348,649 €**	**100.00%**	**1,317,744**	**100.00%**

Source: Own elaboration based on Bank of Lithuania data, 2018

There are no strict quantitative limitations on financial instruments. However, the management company has to ensure risk management principles and avoid concentration risk. The portfolio structure (data available since 2013) of Pillar II pension funds is presented in the graph below.



Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

It can be seen that dominant financial instruments in Pillar II pension funds' portfolios are the equity UCITS funds (CIUs) and government bonds. Overall, UCITS funds account for more than 56% of portfolio structures and, therefore, it can be concluded that Pillar II pension funds vehicles operate as fund-of-funds.

Pillar III – Voluntary private pensions

The Lithuanian Pillar III allows licensed asset management companies (licensing process similar to typical UCITS funds providers) to offer as many voluntary pension funds as they prefer. At its inception, there were only 5 pension funds offered by 3 providers. Currently (at the end of 2018), there are 4 providers offering 12 voluntary pension funds. The list of Pillar III pension funds is presented below.

Table LT8. List of III. Pillar Pension Funds

Investment strategy	Pension Fund Name	Inception day
BOND PENSION FUND	INVL STABILO III 58+	20.12.2004
	Luminor pensija 1 plius	07.10.2013
	SEB Pensija 1 plius	27.10.2004
MIXED INVESTMENT PENSION FUNDS	Luminor pensija 2 plius	26.10.2004
	INVL Medio III 47+	24.09.2007
	INVL Apdairus	13.05.2013
	Luminor pensija darbuotojui 1 pllius	20.11.2014
	Luminor pensija darbuotojui 2 pllius	20.11.2014
EQUITY PENSION FUNDS	Luminor pensija 3 plius	01.10.2007
	INVL Drąsus	20.12.2004
	INVL Extremo III 16+	24.09.2007
	SEB Pensija 2 plius	27.10.2004

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

The Pillar III market is highly concentrated, where around 76% of assets were concentrated in the funds of 2 PACs. The marketshare according to the AuM and number of participants is presented in the table below.

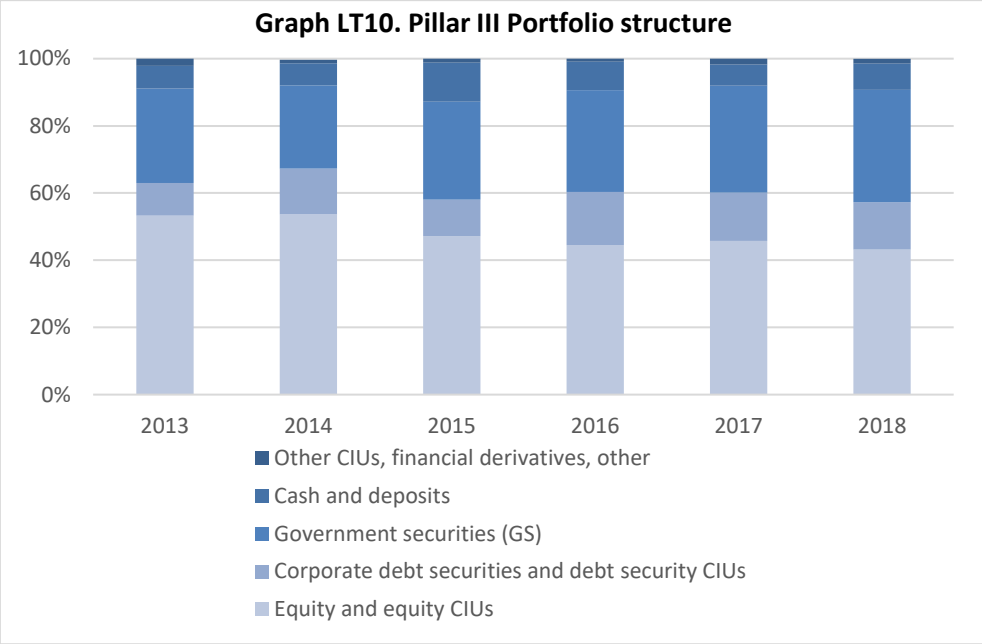
Table LT9. Pillar III Market share based on AuM and number of participants

Investment strategy	AuM	Market share	N° of Participants	Market share
Bond Pension Funds	28,054,738 €	27.01%	10,477	16.84%
Mixed Investment Pension Funds	40,248,343 €	38.75%	32,177	51.72%
Equity Pension Funds	35,553,041 €	34.23%	19,561	31.44%
TOTAL	**103,856,123 €**	**100.00%**	**62,215**	**100.00%**

Source: Own elaboration based on Bank of Lithuania data, 2019.

There are no specific quantitative limitations on financial classes or instruments. However, the investment strategy of the pension fund must include the procedure and areas for investment of pension assets, risk assessment methods, risk management principles, risk management procedures and methods used, and the strategic distribution of pension assets according to the duration and origin of the obligations relating to pension accumulation

contracts. The management company must review the investment strategy of the pension fund at least every 3 years. Pillar III pension funds´ portfolio structure is presented below (data available since 2013).



Source: Own elaboration based on Bank of Lithuania data, 2019.

Similar to the Pillar II pension funds, UCITS account for almost 58% of pension funds´ portfolios, while the government bonds account for almost 32%. Pillar III pension funds can be therefore characterized as a fund-of-funds.

Charges

Pillar II – Funded pensions

Pillar II pension funds´ management companies charge mostly the asset management fee, which do not exceed 1% of AuM per year. The second type of the fee that is applied is the switching fee, which accounts for 0.05% of transferred savings. The next table compares effective charges of Pillar II pension funds in Lithuania.

Table LT11. Pillar II Pension Funds´ Fees and Charges

Pension Fund	Type of fee	Year 2018
SEB Pensija 1	Contribution fee	0.00%
	Asset management fee	0.65% of the average annual value of pension savings in the account

	Company Change fee	Up to 0.05% of transferred savings
SEB Pensija 2	Contribution fee	0.00%
	Asset management fee	1% of the average annual value of pension savings in the account
	Company Change fee	Up to 0.05% of transferred savings
SEB Pensija 3	Contribution fee	0.00%
	Asset management fee	1% of the average annual value of pension savings in the account
	Company Change fee	Up to 0.05% of transferred savings
INVL EXTREMO II 16+ PENSION FUND	Contribution fee	0.00%
	Asset management fee	0.99%
	Company Change fee	0.00%
INVL MEDIO II 47+ PENSION FUND	Contribution fee	0.00%
	Asset management fee	0.99%
	Company Change fee	0.00%
INVL MEZZO II 53+ PENSION FUND	Contribution fee	0.00%
	Asset management fee	0.99%
	Company Change fee	0.00%
INVL STABILO II 58+ PENSION FUND	Contribution fee	0.00%
	Asset management fee	0.65%
	Company Change fee	0.00%
Swedbank Pensija 1961-1967	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1968-1974	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1975-1981	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1982-1988	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1989-1995	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1996-2002	Contribution fee	0.00%
	Asset Management Fee	0.75%
	Management company change fee	0.00%
Swedbank Pensija 1	Contribution fee	0.00%

	Asset management fee	0.65%
	Company change fee	0.05%
	Fund change fee	NONE
Swedbank Pensija 2	Contribution fee	0.00%
	Asset management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Swedbank Pensija 3	Contribution fee	0.00%
	Asset management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Swedbank Pensija 4	Contribution fee	0.00%
	Asset management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Swedbank Pensija 5	Contribution fee	0.00%
	Asset management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Swedbank Pension pay-out fund	Contribution fee	0.00%
	Asset management fee	0.40%
	Company change fee	0.05%
	Fund change fee	NONE
Aviva Europensija	Contribution fee	0.00%
	Asset Management fee	0.65%
	Company change fee	0.05%
	Fund change fee	NONE
Aviva Europensija plius	Contribution fee	0.00%
	Asset Management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Aviva Europensija ekstra	Contribution fee	0.00%
	Asset Management fee	0.80%
	Company change fee	0.05%
	Fund change fee	NONE
Luminor pensija 1	Contribution fee	0.00%
	Asset Management Fee	0.65% of the average annual value of pension savings in the account
	Management company change fee	Up to 0.05% of transferred savings
Luminor pensija 2	Contribution fee	0.00%
	Asset Management Fee	0.80% of the average annual value of pension savings in the account

	Management company change fee	Up to 0.05% of transferred savings
Luminor pensija 3	Contribution fee	0.00%
	Asset Management Fee	0.80% of the average annual value of pension savings in the account
	Management company change fee	Up to 0.05% of transferred savings
Luminor pensija 4	Contribution fee	0.00%
	Asset Management Fee	0.80% of the average annual value of pension savings in the account
	Management company change fee	Up to 0.05% of transferred savings

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019.

Considering the asset management fee, it can be seen that pension funds with higher risk profile have also higher fees, while the conservative funds charge lower asset management fees.

Pillar III – Voluntary private pensions

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

Table LT12. Pillar II Pension Funds´ Fees and Charges

Pension Fund	Type of fee	Year 2018
SEB Pensija 1 plius	Contribution fee	2.00%
	Asset management fee	0.65 percent average annual value of funds in the pension account
	Company Change fee	0.00%
SEB Pensija 2 plius	Contribution fee	3.00%
	Asset management fee	1.00% average annual value of funds in the pension account
	Company Change fee	0.00%
INVL Drąsus	Contribution fee	0.00%
	Entry fee	0.00%
	Asset management fee	1.50%
	Performance Fee	0.00%
	Switch Fee	0.00%
	Partial Withdrawal Fee	10.00%
	Minimum investment amount	0.00%

INVL Apdairus	Contribution fee	0.00%
	Entry fee	0.00%
	Asset management fee	1.50%
	Performance Fee	0.00%
	Switch Fee	0.00%
	Partial Withdrawal Fee	10.00%
	Minimum investment amount	0.00%
INVL STABILO III 58+	Contribution fee	0.00%
	Entry fee	0.00%
	Asset management fee	1.00%
	Performance Fee	0.00%
	Switch Fee	0.00%
	Partial Withdrawal Fee	10.00%
	Minimum investment amount	0.00%
INVL Medio III 47+ Pension fund	Contribution fee	0.00%
	Entry fee	30.00%*
	Asset management fee	0.80%
	Performance Fee	0.00%
	Switch Fee	0.00%
	Partial Withdrawal Fee	10.00%
	Minimum investment amount	0.00%
INVL Extremo III 16+ Pension Fund	Contribution fee	0.00%
	Entry fee	30.00%*
	Asset management fee	0.80%
	Performance Fee	0.00%
	Switch Fee	0.00%
	Partial Withdrawal Fee	10.00%
	Minimum investment amount	-
Luminor pensija 1 plius	Contribution Fee >= 100,000 €	0.50%
	Contribution Fee 10,000.00 € - 99,999.99 €	0.70%
	Contribution Fee 1,500.00 € - 9,999.99 €	1.00%
	Contribution Fee 250.00 € - 1,499.99 €	1.50%
	Contribution Fee < 250.00 €	2.00%
	Asset Management Fee	0.89%
	Depository Fee	-
	Change of fund	free of charge
	change of management company	free of charge
	Withdrawal from pension funds	1 % of transfared savings
	Withdraval from pension fund	free of charge
Luminor pensija 2 plius	Contribution Fee >= 100,000 €	0.50%
	Contribution Fee 10,000.00 € - 99,999.99 €	0.70%
	Contribution Fee 1,500.00 € - 9,999.99 €	1.00%
	Contribution Fee 250.00 € - 1,499.99 €	1.50%
	Contribution Fee < 250.00 €	2.00%
	Asset Management Fee	1.60%

	Depository Fee	-
	Change of fund	free of charge
	Change of management company	free of charge
	Withdrawal from pension funds	1 % of transfared savings
	Withdraval from pension fund	free of charge
Luminor pensija 3 plius	Contribution Fee >= 100,000 €	0.50%
	Contribution Fee 10,000.00 € - 99,999.99 €	0.70%
	Contribution Fee 1,500.00 € - 9,999.99 €	1.00%
	Contribution Fee 250.00 € - 1,499.99 €	1.50%
	Contribution Fee < 250.00 €	2.00%
	Asset Management Fee	2.17%
	Depository Fee	-
	Change of fund	free of charge
	Change of management company	free of charge
	Withdrawal from pension funds	1 % of transfared savings
	Withdraval from pension fund	free of charge
Luminor pensija darbuotojui 1 pllius	Contribution Fee >= 100,000 €	0.50%
	Contribution Fee 10,000.00 € - 99,999.99 €	0.70%
	Contribution Fee 1,500.00 € - 9,999.99 €	1.00%
	Transfer of funds from other fundor Management company	Free of charge
	Asset Management Fee	1.39%
	Depository Fee	-
	Change of fund	free of charge
	Change of management company	free of charge
	Withdrawal from pension funds	free of charge
	Withdraval from pension fund	free of charge
Luminor pensija darbuotojui 2 plius	Contribution Fee >= 100,000 €	0.50%
	Contribution Fee 10,000.00 € - 99,999.99 €	0.70%
	Contribution Fee 1,500.00 € - 9,999.99 €	1.00%
	Transfer of funds from other fundor Management company	Free of charge
	Asset Management Fee	1.61%
	Depository Fee	-
	Change of fund	free of charge
	Change of management company	free of charge
	Withdrawal from pension funds	free of charge
	Withdraval from pension fund	free of charge

Source: Own calculations (https://www.lb.lt/en/fs-pension-funds), 2019.

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

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

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

Taxation

Pillar II – Funded pensions

Lithuania applies an "EEE" regime for the taxation of Pillar II pension accounts. Employee contributions are tax-deductible even if they are higher than required (2+2+2 system). Investment income on the level of the pension fund is tax-exempt. Pension benefits paid out during retirement are tax-exempt from a personal income tax as the old-age income is considered as a part of social system.

Pillar III – Voluntary private pensions

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

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

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

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

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

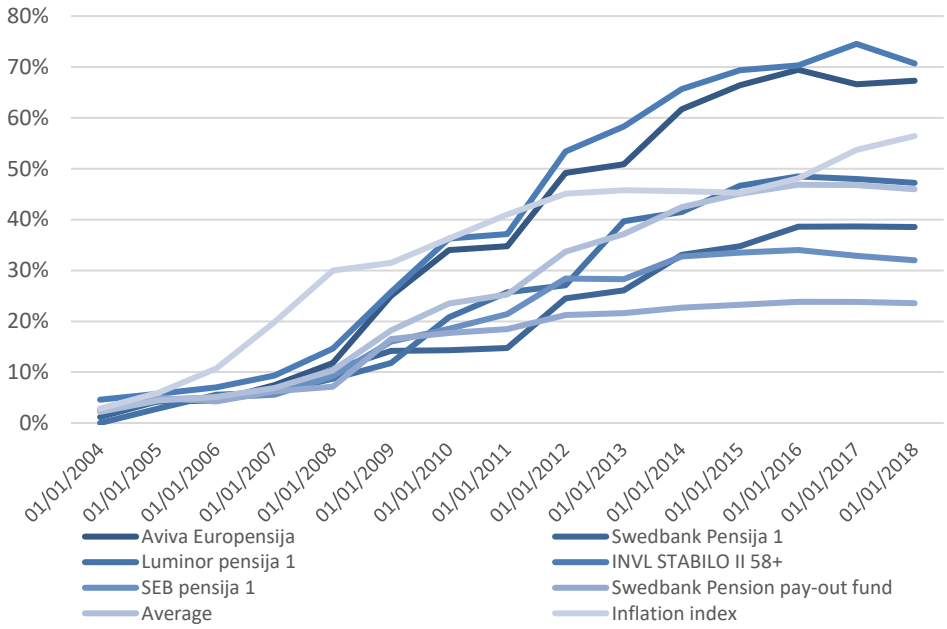
Under the optimum set-up, the "EEE" tax regime can be achieved on Pillar III savings.

Pension Returns

Pillar II – Funded pensions

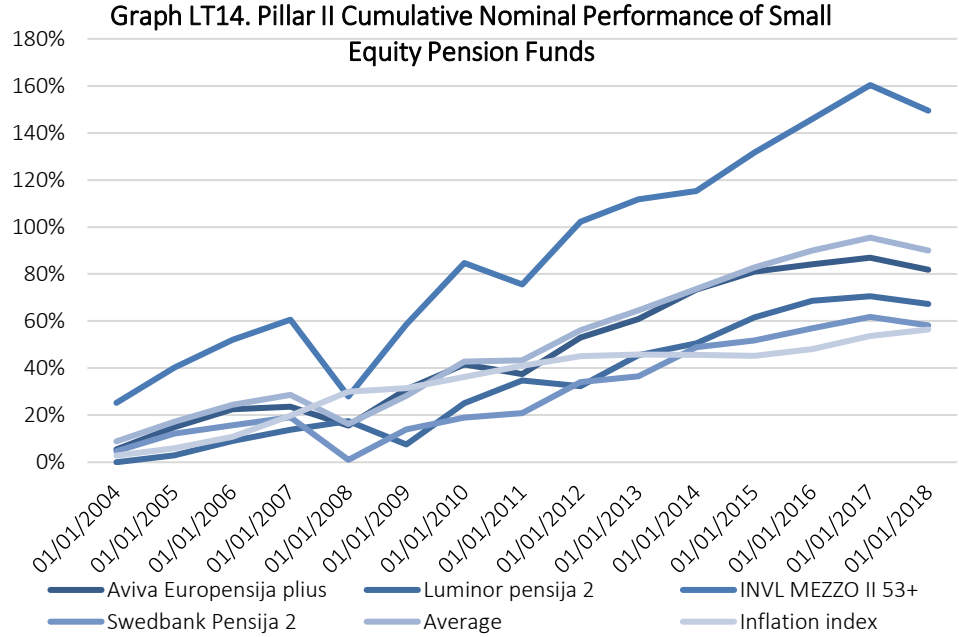
Pension returns of Pillar II pension funds differ according to the investment strategy applied. In order to see the differences among pension funds´ past performance, we present the returns according to the 4 defined groups of pension funds based on their investment strategy. Each graph below contains comparison to the inflation index.

Graph LT13. Pillar II Cumulative Nominal Performance of Conservative Pension Funds



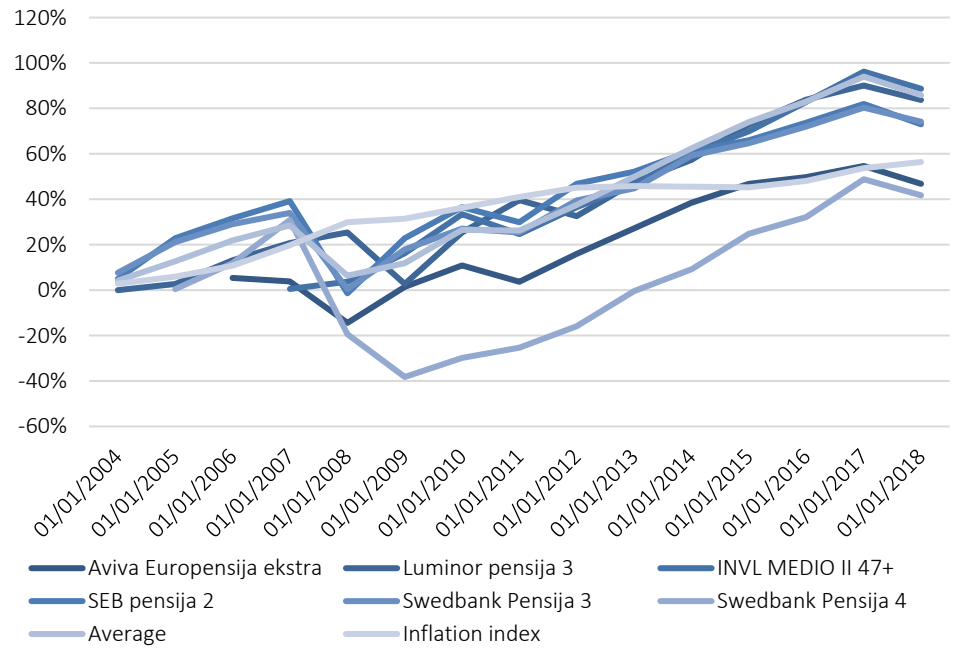
Source: Own elaboration based on Bank of Lithuania data, 2019

Graph LT14. Pillar II Cumulative Nominal Performance of Small Equity Pension Funds



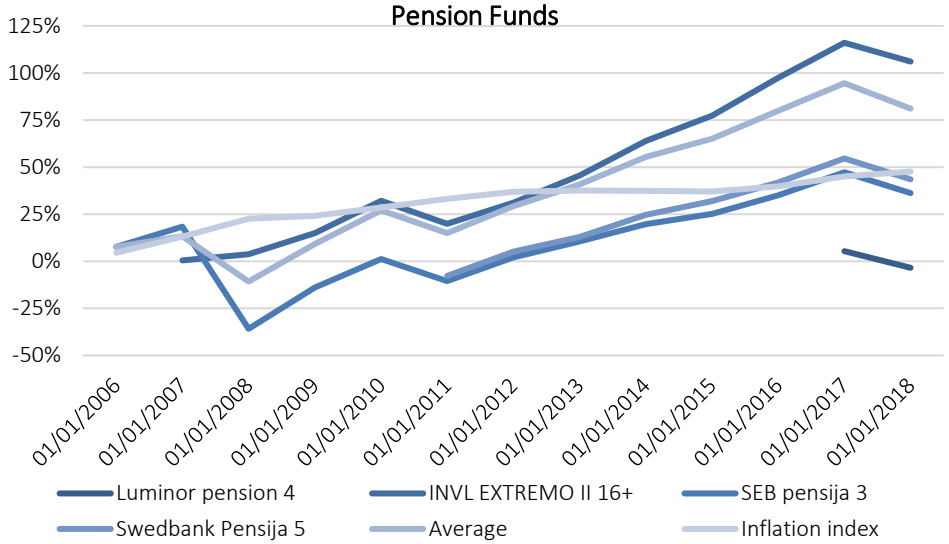
Source: Own elaboration based on Bank of Lithuania data, 2019

Graph LT15. Pillar II Cumulative Nominal Performance of Average Equity Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2019

Graph LT16. Pillar II Cumulative Nominal Performance of Equity Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2019

When comparing pension funds within each group, we see that the asset managers of INVL pension funds outperform their peers within each group. Nominal as well as real returns of Pillar II pension funds in Lithuania are presented in a summary table below.

Table LT17. Nominal and Real Returns of II. Pillar in Lithuania

2004	Nominal return after charges, before inflation and taxes	4.71%	3.83%	Real return after charges and inflation and before taxes	1.86%	0.67%
2005		5.49%			2.50%	
2006		4.76%			0.20%	
2007		3.72%			-4.48%	
2008		-9.16%			-17.63%	
2009		8.89%			7.72%	
2010		10.19%			6.57%	
2011		-1.04%			-4.51%	
2012		8.74%			5.83%	
2013		6.24%			5.79%	
2014		6.67%			6.78%	
2015		4.92%			5.17%	
2016		4.25%			2.29%	
2017		4.01%			0.20%	
2018		-3.24%			-5.00%	

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019

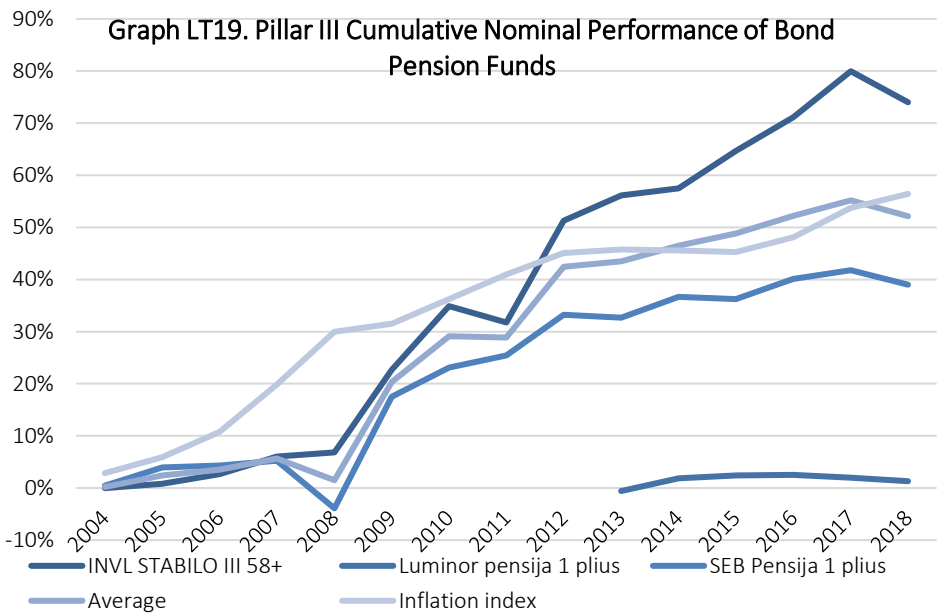
Another view on the performance is according to the holding period.

Table LT18 Performance of Pillar II Pension Funds according the holding period		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-3.24%	-5.00%
3-years	1.61%	-0.89%
5-years	3.26%	1.80%
7-year	4.45%	2.93%
10-years	4.88%	2.98%
Since inception	3.83%	0.67%

Source: Own calculation (https://www.lb.lt/en/fs-pension-funds), 2019

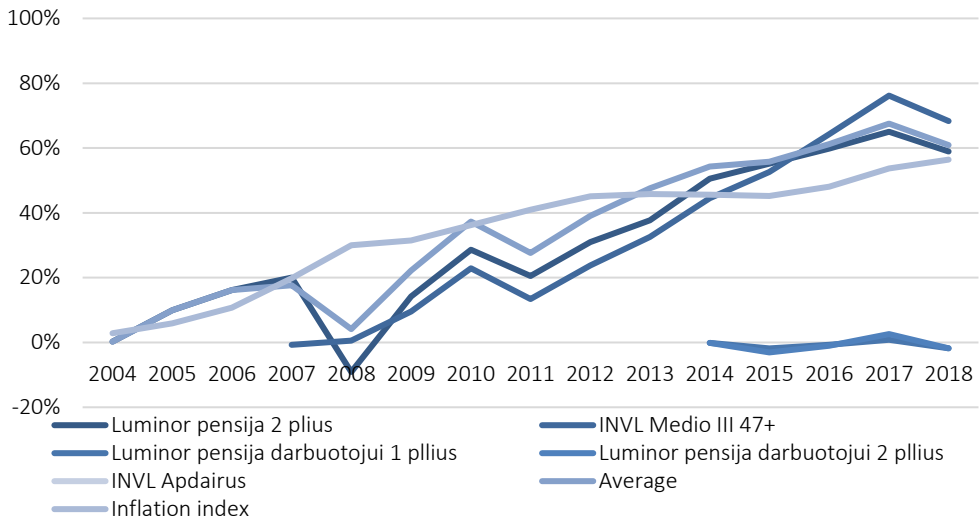
Pillar III – Voluntary private pensions

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



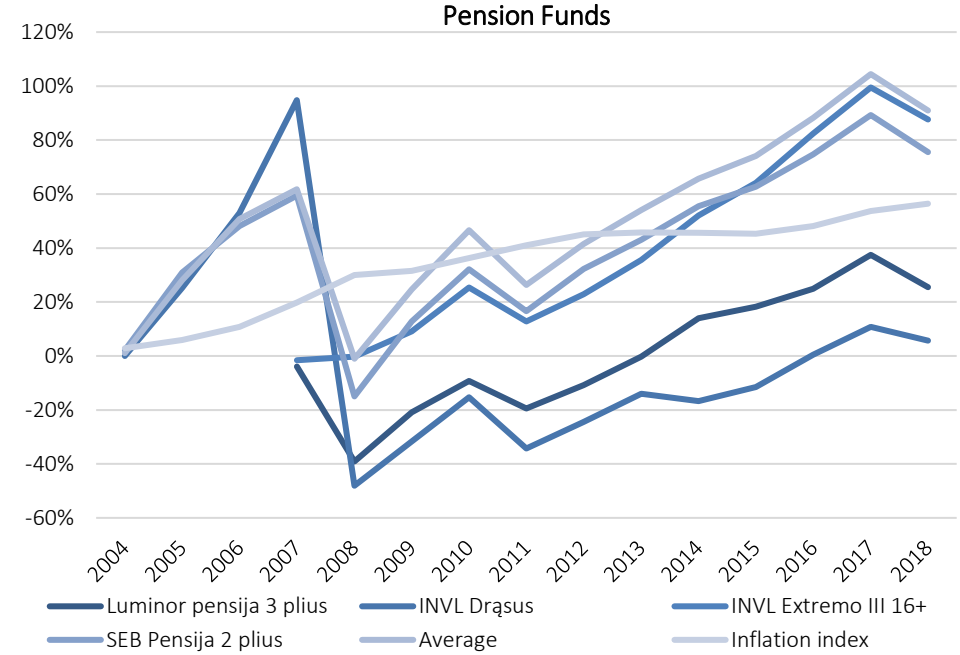
Source: Own elaboration based on Bank of Lithuania data, 2019

Graph LT20. Pillar III Cumulative Nominal Performance of Mixed Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2019

Graph LT21. Pillar III Cumulative Nominal Performance of Equity Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2019

Pillar III pension funds' performance in most cases correlate with its peers in the Pillar II. Even the names of the pension funds (in case of the INVL management company) are the same, so it indicates that the funds have the same portfolio structure and the return differences are explained by different fee structure. Again, INVL funds outperform their peers in all 3 group. However, the exception is the INVL III akciju pnsiju fondas, which achieved the lowest returns over the analyzed period and could be characterized as the most volatile pension fund as it went from almost 100% return in 2007 into negative territory of -50% a year later.

Table LT22. Nominal and Real Returns of III. Pillar in Lithuania						
2004	Nominal return after charges, before inflation and taxes	0.53%	3.57%	Real return after charges and inflation and before taxes	-2.31%	0.32%
2005		13.52%			10.53%	
2006		8.64%			4.08%	
2007		4.51%			-3.68%	
2008		-23.27%			-31.73%	
2009		21.94%			20.77%	
2010		13.74%			10.12%	
2011		-8.73%			-12.21%	
2012		10.86%			7.95%	
2013		5.88%			5.43%	
2014		5.19%			5.30%	
2015		2.86%			3.11%	
2016		5.09%			3.13%	
2017		5.40%			1.59%	
2018		-4.35%			-6.10%	

Source: Own elaboration based on Bank of Lithuania data, 2019

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

Table LT23 Performance of Pillar III Pension Funds according the holding period		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1-year	-4.35%	-6.10%
3-years	1.94%	-0.55%
5-years	2.77%	1.33%
7-year	4.33%	2.83%
10-years	5.47%	3.56%
Since inception	3.57%	0.32%

Conclusions

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

Reforms in the area of PAYG scheme supported with the funded pension schemes that emerged in 2017 and should be effective by 2019 will shift the preferences of the Lithuanian savers to rely more on their private funded pension schemes.

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

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

There are only minor differences between the portfolio structure of pension funds within both pillars, which leads to the conclusion that a similar performance can be expected. The difference is thus generated mostly by the different fee structure, which is in favor of Pillar II funds.

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

Bibliography

- BITINAS, A. (2011). Modern pension system reforms in Lithuania: Impact of crisis and ageing. Jurisprudence, 18(3), 1055–1080.
- KABAŠINSKAS, A., ŠUTIENĖ, K., KOPA M., VALAKEVIČIUS, E. (2017) The risk–return profile of Lithuanian private pension funds, Economic Research-Ekonomska Istraživanja, 30:1, 1611-1630, DOI: 10.1080/1331677X.2017.1383169

Pension Savings: The Real Return

2019 Edition

Country Case: Poland

Streszczenie

Dodatkowy system emerytalny w Polsce, który został wprowadzony w 1999 roku, a następnie był kilkukrotnie reformowany (główne zmiany w 2004, 2012 oraz 2018 roku), jest nadal w początkowej fazie rozwoju. Obecnie składa się z czterech elementów:

- pracowniczych programów emerytalnych (PPE),
- indywidualnych kont emerytalnych (IKE) indywidualnych kont zabezpieczenia emerytalnego (IKZE) oraz pracowniczych planów kapitałowych (PPK funkcjonujących od 1 lipca 2019 r.);
- poziom uczestnictwa w grupowych i indywidualnych planach oszczędzania na starość (odpowiednio 2,6%, 5,8% i 4,3%) wskazuje, że bardzo nieliczna część Polaków zdecydowała się na oszczędzanie w oferowanych zinstytucjonalizowanych formach gromadzenia kapitału na starość.

PPE mogą być prowadzone w czterech formach: umowy z funduszem inwestycyjnym; umowy z zakładem ubezpieczeń na życie (grupowe ubezpieczenia na życie z ubezpieczeniowym funduszem kapitałowym); pracowniczego funduszu emerytalnego (PFE) lub zarzadzania zewnętrznego. Na koniec 2018 roku w PPE zgromadzono 12,8 mld zł (2,98 mld €).

PPK mogą być oferowane w formie funduszu inwestycyjnego, funduszu emerytalnego i ubezpieczeniowego funduszu kapitałowego (UFK). Ta forma dodatkowych planów emerytalnych została dopiero wprowadzona, tj. funkcjonuje od 1 lipca 2019 r.

IKE i IKZE mogą być oferowane w formie: ubezpieczenia na życie z ubezpieczeniowym funduszem kapitałowym; funduszu inwestycyjnego; rachunku papierów wartościowych w domu maklerskim; rachunku bankowego lub dobrowolnego funduszu emerytalnego (DFE). Aktywa zgromadzone na IKE i IKZE na koniec 2018 roku wyniosły odpowiednio 8,7 mld zł (2,02 mld €) oraz 2,3 mld zł (0,53 mld €).

Pracownicze programy emerytalne (PPE), pracownicze plany kapitałowe (PPK) i indywidualne konta emerytalne (IKE) funkcjonują w reżimie podatkowym TEE (podatek pobierany jest na etapie opłacania składki), podczas gdy w IKZE podatek pobierany jest na etapie wypłaty środków (reżim EET).

W analizowanym okresie (2002-2018) pracownicze fundusze emerytalne (PFE) wypracowały dość wysokie stopy zwrotu sięgające 17,41% w skali roku. Straty pojawiły się jednak w latach 2008, 2011, 2015 i 2018 w czasie załamania na rynkach finansowych. Realne stopy zwrotu uwzględniające opłaty osiągnięte w 13 z 17 lat są pozytywne. Średnia realna stopa zwrotu za cały analizowany okres wyniosła 3,88%.

Dobrowolne fundusze emerytalne (DFE) osiągnęły natomiast nadzwyczajne wyniki inwestycyjne w początkowym okresie funkcjonowania, głównie z uwagi na hossę na rynku akcji w pierwszym roku ich działalności. W 2013 roku najlepsze DFE wygenerowały nominalny zysk przekraczający 50%. Wyniki te nie zostały jednak powtórzone w kolejnych latach. W 2014 roku część DFE wykazała straty, które jednak zostały pokryte przez zyski w kolejnych latach. Średnia realna stopa zwrotu z uwzględnieniem opłat za lata 2013-2018 wyniosła 5,22%.

Summary

Starting in 1999, with significant changes introduced in 2004, 2012 and 2018, the Polish supplementary pension market is still in its early stage of operation. Pillar III, which supplements the basic, mandatory pension system, consists of four different elements:

- employee (occupational) pension programmes (*pracownicze programy emerytalne*, PPE), 2) individual retirement accounts (*indywidualne konta emerytalne*, IKE);
- individual retirement savings accounts (*indywidualne konta zabezpieczenia emerytalnego*, IKZE) and
- employee capital plans (*pracownicze plany kapitałowe*, PPK).

The coverage ratios (2.6%, 5.8% and 4.3% respectively), show that only a small part of Poles decided to secure their future in old-age by joining the occupational pension plan or purchasing individual pension products.

PPE can be offered in four forms: a contract with an asset management company (investment fund); a contract with a life insurance company (group unit-linked insurance); an employee pension fund run by the employer (*pracowniczy fundusz emerytalny*, PFE) or external management. PPE assets amounted to PLN 12.8 bln (€2.98 bln) at the end of 2018.

PPK can operate as investment funds, pension funds or o unit-linked life insurance. These plans have just started to collect money (introduced in July 2019).

IKE and IKZE can operate in the form of either: a unit-linked life insurance contract; an investment fund; an account in a brokerage house; a bank account (savings account) or a voluntary pension fund (*dobrowolny fundusz emerytalny*, DFE). The total amount of IKE

assets amounted to PLN 8.7 billion (€2.02 billion) and IKZE assets amounted to PLN 2.3 billion (€0.53 billion) at the end of 2018.

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

During the period of 2002-2018 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative results appeared only in the years 2008, 2011, 2015 and 2018 when equity markets dropped significantly. After-charges real returns were observed in 13 of 17 years and the average return over the 17-year period is highly positive as well (3.88%).

Voluntary pensions funds (DFE) have obtained extraordinary investment results from their start in 2012. The first years of their operation coincided with the Polish financial market recovery and allowed funds to maximise rates of return from the equity portfolios. The best DFEs reported more than 50% nominal return in 2013. But such returns were impossible to achieve in next years. In 2014, some of DFE even experienced slightly negative returns that were covered by returns in the following years. The average real rate of return after charges in years 2013-2018 amounted to 5.22%.

Introduction

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

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

Table PL1. Multi-pillar pension system in Poland		
Pillar I	**Pillar II**	**Pillar III**
Mandatory	Mandatory[211]	Voluntary[212]
PAYG	PAYG/Funded (opt-out)	Funded
NDC	NDC/DC (opt-out)	DC
Basic benefit	Basic benefit	Complementary benefit
Publicly managed:	Publicly/Privately managed:	Privately managed:
Social Insurance Institution (ZUS)	Social Insurance Institution (ZUS); in opt-out element: Open Pension Funds (OFEs) Managed by Pension Societies (PTEs)	Pension savings managed by different financial institutions, depending on the product form, organised by an employer or an individual

Source: own elaboration based on: System emerytalny w Polsce, Izba Gospodarcza Towarzystw Emerytalnych, http://www.igte.pl/images/tabela1_system.png

Summary return table - Polish pension funds				
Polish Employee Pension Funds (PFE)				
1 year	3 years	5 years	7 years	10 years
2018	2016-2018	2014-2018	2012-2018	2009-2018
-1.47%	3.40%	2.28%	4.24%	5.01%
Voluntary Pension Funds (DFE)				
1 year	3 years	5 years	7 years	maximum
2018	2016-2018	2014-2018	2012-2018	2009-2018
-13.00%	-1.13%	-0.06%	n.a.	5.22%

Source: Table PL17

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

[211] The second pillar is still mandatory, although open pension funds (OFE) have been made voluntary since 2014 (partial opt-out for funded system).
[212] Employee capital plans (PPK) use auto-enrollment mechanism.

(open pension funds, OFE), 4.38 p.p. are recorded on a sub-account and 2.92 p.p. are allocated to an account in a chosen open pension fund.[213]

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

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

Polish open pension funds are frequently treated as typical private pension plans (OECD 2012) or even employer-arranged pension funds (Oxera 2013) when presented in global private pension funds statistics. Such an assessment is incorrect in the sense that neither the employer nor the employee can decide on the creation of the pension plan. Moreover, the law establishes the contribution level and guarantees minimum pension benefits that are paid together from the whole basic system by the public institution (ZUS). Thus, Polish OFEs are just a mechanism of temporary investing public pension system resources in financial markets (financial vehicles for the accumulation phase).

The statutory retirement age is 60 for women and 65 for men.[214] Prior to retirement the member's assets gathered in OFE (if one opted out for funded element) are transferred to

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

[214] It started to increase in 2013 and was planned to reach 67 for both men and women (in 2020 for men and in 2040 for women) but this reform was cancelled three years later. Hence, since October 2017 the statutory retirement age in Poland is again 60 for women and 65 for men. It may result in a situation where the significant proportion of women will get a minimum pension when retiring at the age of 60. More in: A. Chłoń-Domińczak, P. Strzelecki, 'The minimum pension as an instrument of poverty protection in the defined contribution pension system – an example of Poland' (2013) 12(3) Journal of Pension Economics and Finance.

the sub-account administered by ZUS.[215] Pension benefits from the basic system are calculated in accordance with a Defined Contribution (DC) rule and are paid by Social Insurance Institution (ZUS).

The old-age pension from the basic system (Pillar I+II) depends solely on two components: 1) the insured person's total pension entitlements accumulated during his/her entire career (balance of NDC account and sub-account), and 2) the average life expectancy upon retirement. The gross replacement rate at retirement from the public pension system in Poland is 61.4% (projections for 2016 for an average earner).[216]

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

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

Employee pension programmes (*pracownicze programy emerytalne*, PPE) are plans organised by employers for their employees. PPE settlement happens after an employer agrees with the representatives of the employees on the plan's operational conditions, signs the contract on asset management with a financial institution (or decides to manage assets himself) and registers a programme with the Financial Supervisory Commission (Komisja Nadzoru Finansowego, KNF). The basic contribution (up to 7% of an employee's salary) is financed by the employer but an employee must pay personal income tax on this. Participants to the programme can pay in additional contributions deducted from their net (after-tax) salaries. There is a yearly quota limit for additional contribution amounting to 4.5 times the average wage (PLN 21,442.50 - €4,985[217] - in 2019). PPE's returns are exempt from

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

[216] European Commission, *The 2018 Ageing Report: Economic and Budgetary Projections for the EU Member States (2016-2070)*, Luxembourg, 2018, https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070_en.

[217] For the conversion of PLN to euros, the report uses the "Euro foreign exchange reference rates" provided by the European Central Bank (the exchange rate used for the data is the one of 31st December 2018: 1 EUR = PLN 4.3014),

capital gains tax. Benefits are not taxable and can be paid as a lump sum or as a programmed withdrawal after the saver reaches 60 years. PPEs cover 425,989 employees which represents only 2.6% of the working population in Poland.

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

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

The employee contribution amounts to 2-4% of the gross salary. The minimum matching contribution financed by employer is 1.5% of the gross salary but can be higher on a voluntary basis (up to 4%). People earning 120% or less of the average income can save less, namely minimum 0.5% of the gross salary. In order to encourage individuals to save in PPK, the state budget offers the PLN 250 kick-start payment (€ 58.12) and regular annual state subsidy amounting to PLN 240 (€55.80). The employee and employer contributions are taxed while the state subsidies remain exempt from taxation both at accumulation and decumulation stage. PPK's returns are exempt from capital gains tax. Benefits can be paid as a lump sum (max. 25% of the accumulated capital) and programmed withdrawal when a saver reaches 60 years. Savings can be partially withdrawn (25% of the capital) in the case of the serious disease of the saver, his/her spouse or a child. The accumulated money can be also borrowed from the account (100% of the capital) to finance an individual commitment when taking a mortgage.

Individual retirement accounts (*indywidualne konta emerytalne*, IKE) were introduced in 2004, offering people the possibility to save individually for retirement. They are offered by various financial institutions such as asset management companies, life insurers, brokerage houses, banks and pension societies. An individual can only gather money on one retirement account at the time but is free to change the form and the institution during the accumulation phase. Contributions are paid from the net salary with a ceiling of 3 times the average wage (PLN 14,295 - €3,323.34 - in 2019). Returns are exempt from capital gains tax and the benefits are not subject to taxation. When a saver reaches 60 years of age (or 55 years, if he/she is entitled by law to retire early), money is paid in the form of a lump sum or

https://www.ecb.europa.eu/stats/policy_and_exchange_rates/euro_reference_exchange_rates/html/eurofxref-graph-pln.en.html

a programmed withdrawal. At the end of 2018 only 995,651 Polish citizens had an individual retirement account (IKE) which represents 5.8% of the working population

Individual retirement savings accounts (*indywidualne konta zabezpieczenia emerytalnego*, IKZE) started to operate in 2012 and are offered in the same forms as individual retirement accounts (IKE) but have other contribution ceilings and offer a different form of tax relief. Premiums paid to the account can be deducted from the personal income tax base. Contributions and returns are exempt from taxation, but the benefits are subject to taxation at a reduced rate. Savings accumulated in IKZE are paid to the individual as a lump sum or via a programmed withdrawal after the saver reaches the age of 65. The limit for IKZE contributions is 120% of the average wage (PLN 5,718 - €1,329.33 in 2019). Only about 4.3% of the Polish working population (2018) is covered by this type of supplementary old-age provision.

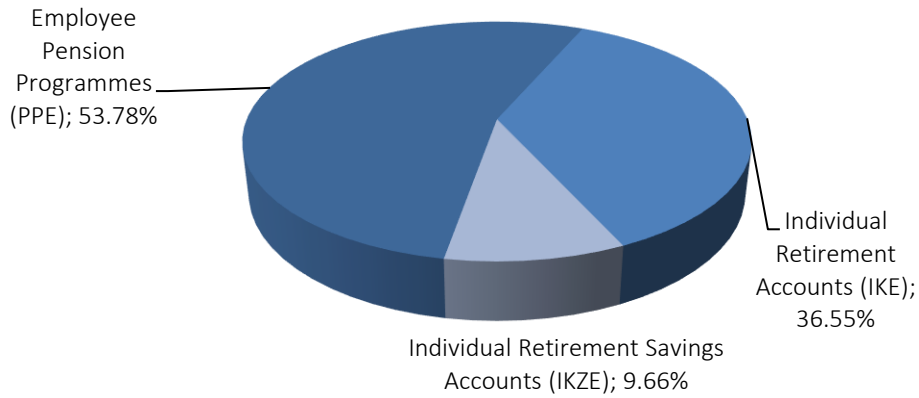
Table PL2. Architecture of voluntary pension system in Poland (Pillar III) at the end of 2018

Pension system element	Employee Pension Programmes (PPE)	Employee capital plans (PPK)*	Individual Retirement Accounts (IKE)	Individual Retirement Savings Accounts (IKZE)
Type of pension vehicle	· Unit-linked life insurance · Investment fund · Employee pension fund	· Unit-linked life insurance · Investment fund · Pension fund	· Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund	· Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund
AuM (PLNbln € bln	12.8 (2.98)	n.a. n.a.	8.7 (2.02)	2.3 (0.53)

*These vehicles started to operate in 2019.

Source: own collaboration based on: *Pracownicze programy emerytalne w 2018 roku, UKNF, Warszawa 2019*; *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2018 roku*, UKNF, Warszawa 2019.

Chart PL3. Market share of Polish voluntary pension system elements by assets under management as of 31 December 2018



Source: own collaboration based on: *Pracownicze programy emerytalne w 2018 roku, UKNF, Warszawa 2019*; *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w2018 roku*, UKNF, Warszawa 2019,'

The efficiency of the supplementary old-age pension system in Poland is rather satisfactory when considering the operation of voluntary pension funds (DFE) and employee pension funds (PFE, a form of PPE). Since inception they offered a positive nominal annual rate of return amounting to 8.16% and 6.36% respectively.

Pension Vehicles

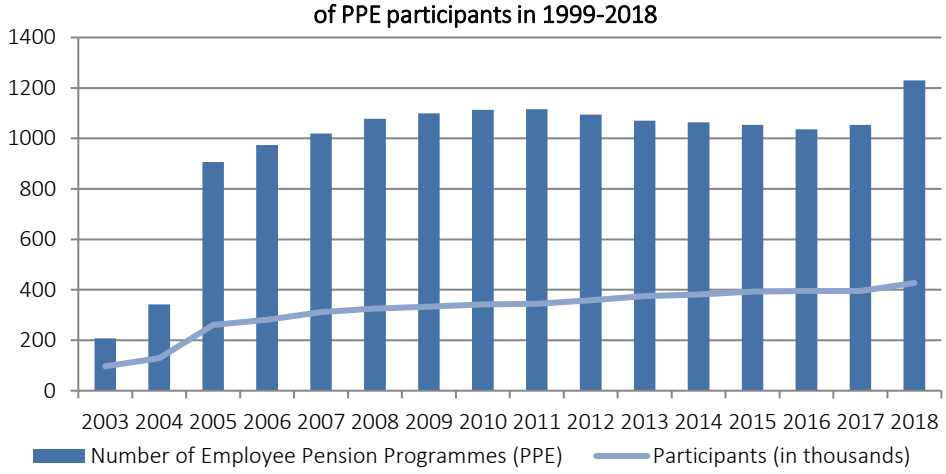
Employee pension programmes

PPEs can be offered in four forms:

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

Employee pension programmes started to operate in 1999. The development of the market was very weak during the first five years of operation. Thereafter, due to changes in PPE law, many group life insurance contracts were transformed into PPEs at the end of 2004 and in 2005. In 2007, the number of programmes reached 1,000, with the size of the market remaining more or less the same since that year. There were 1,230 programmes operating in Poland at the end of 2018 (see Graph PL4 below).

Graph PL4. Number of Employee Pension Programmes and the number of PPE participants in 1999-2018



Source: Pracownicze programy emerytalne w 2018 roku, UKNF, Warszawa 2019,

The most popular forms of PPE are group unit-linked life insurances and investment funds. These two forms represent 98% of PPEs (see table below). The proportion is lower when taking into consideration the number of participants (92.2%) and the level of assets (85.9% of total PPEs' assets are invested in insurance funds and investment funds).

Table PL5. Number and assets of Employee Pension Programmes (PPE) by form of the programme in 2018					
	Number of PPE	Market share (as % of PPE number)	Market share (as % of participants)	Assets (PLN million)	Market share (as % of PPE assets)
Unit-linked life insurance	623	50.7%	25.4%	3333	26.0%
Investment fund	582	47.3%	66.8%	7669	59.9%
Employee Pension Fund	25	2.0%	7.8%	1800	14.1%
Total	**1230**			**12802**	

Source: Pracownicze programy emerytalne w 2018 roku, UKNF, Warszawa 2019

The average basic contribution for the whole year paid in 2018 amounted to PLN 4,070.4 (€946.30). The average additional contribution financed by the employee amounted to PLN 1,252.60 (€291.21) on average. PPE assets amounted to PLN 12.8 bln (€2.98 bln) and the average account balance equaled PLN 31,156 (€ 7,243.22) at the end of 2018. No data is available on the average percentage level of contributions paid to the programmes.

Employee capital plans (PPK)

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

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

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

At the end of August 2019 there were 20 financial institutions (16 asset management companies, 3 general pension societies and 1 insurance company) offering ca. 170 PPK funds on the market.[218]

Individual Retirement Accounts (IKE)

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

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

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

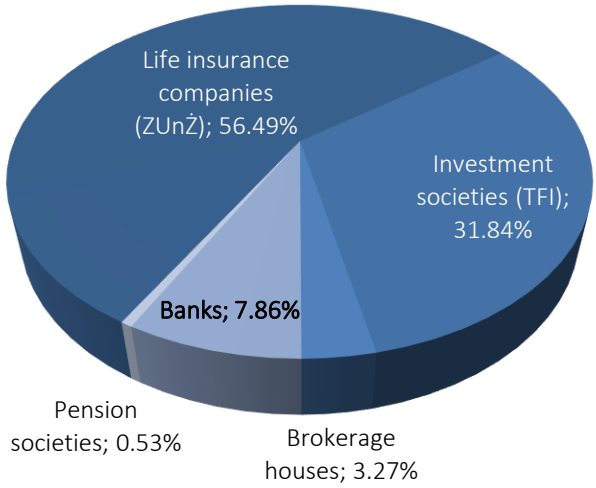
A voluntary pension fund is an entity established with the sole aim of gathering savings of IKE (or IKZE) holders. Pension assets are managed by a pension society (powszechne towarzystwo emerytalne, PTE) that also manages one of the open pension funds (OFE under Pillar II) in Poland. Assets of the funds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

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

The most popular IKE products take the form of life insurance contracts (unit-linked life insurance) and investment funds. According to official data (KNF 2019), these two forms of plans represent 87% of all IKE accounts.

218 https://www.knf.gov.pl/knf/pl/komponenty/img/wykaz_instytucje_w_PPK_26_08_2019_66864.xlsx

Chart PL6. Structure of IKE market by number of accounts and type of provider as of 31 December 2018



Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2018 roku, UKNF, Warszawa 2019

Table PL7. Number of Individual Retirement Accounts (IKE) by type of the product (2004-2018)						
	Unit-linked life insurance	Investment fund	Account in the brokerage house	Bank account	Voluntary pension fund	Total
2004	110,728	50,899	6,279	7,570		**175,476**
2005	267,529	103,624	7,492	49,220		**427,865**
2006	634,577	144,322	8,156	53,208		**840,263**
2007	671,984	192,206	8,782	42,520		**915,492**
2008	633,665	173,776	9,985	36,406		**853,832**
2009	592,973	172,532	11,732	31,982		**809,219**
2010	579,090	168,664	14,564	30,148		**792,466**
2011	568,085	200,244	17,025	29,095		**814,449**
2012	557,595	188,102	20,079	47,037	479	**813,292**
2013	562,289	182,807	21,712	49,370	1,473	**817,651**
2014	573,515	174,515	22,884	51,625	1,946	**824,485**
2015	573,092	205,494	25,220	53,371	2,548	**859,725**
2016	571,111	236,278	27,615	64,031	3,580	**902,615**
2017	568,518	275,796	30,418	71,922	4,922	**951,576**
2018	562,476	316,996	32,584	78,288	5,307	**995,651**

Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2018 roku, UKNF, Warszawa 2019; previous BETTER FINANCE reports;

IKE holders do not fully use the contribution limit. The average contribution paid from 2004 to 2018 remains permanently below the statutory limit (3 times the average wage). The total amount of IKE assets amounted to PLN 8.7 billion (€2.02 billion) as of 31 December 2018. There were PLN 8,729 (€2,029) gathered on an IKE account on average.

Table PL8. Limits on contributions and average contribution paid into IKE in 2006-2018		
	Contribution limit	Average contribution paid
2006	3,521	2.199
2007	3,697	1.719
2008	4,055	1.561
2009	9,579	1.850
2010	9,579	1.971
2011	10,077	1.982
2012	10,578	2.584
2013	11,139	3,130
2014	11,238	3,440
2015	11,788	3,511
2016	12,165	3,738
2017	12,789	3,843
2018	13,329	4,179

Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2018 roku, UKNF, Warszawa 2019; previous BETTER FINANCE reports

Individual Retirement Savings Accounts (IKZE)

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

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

As this part of the pension system only has a seven-year history (started in 2012), the number of participants is still at an unsatisfactory level.

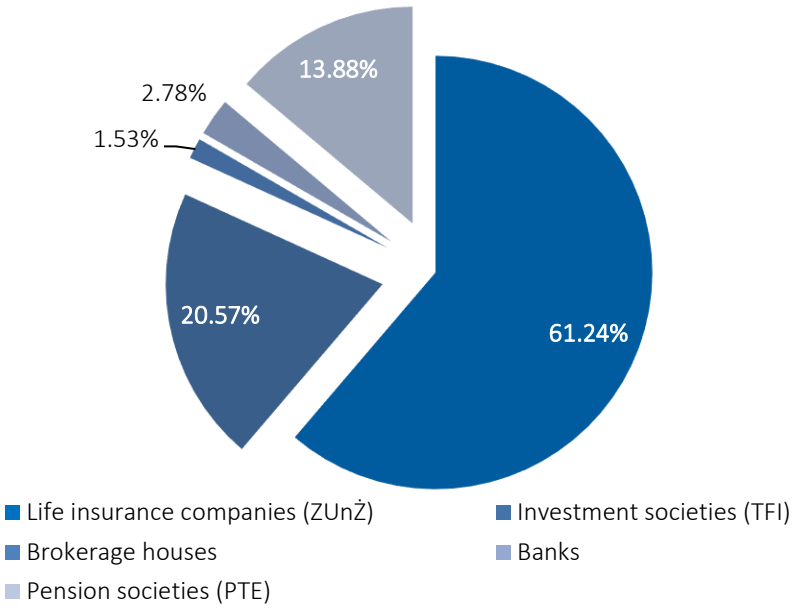
Table PL9. Number of Individual Retirement Savings Accounts (IKZE) by type of the product (2012-2018)							
Type of the product	2012	2013	2014	2015	2016	2017	2018
Unit-linked life insurance	363,399	388,699	418,935	442,735	446,054	448,881	447,303
Investment fund	5,202	9,565	17,510	54,471	87,510	121,269	150,217
Account in the brokerage house	559	1,012	2,797	4,325	6,201	8,478	11,172
Bank account	19	33	8,105	13,735	15,585	18,114	20,311
Voluntary pension fund	127,642	97,117	80,795	82,294	87,762	94,252	101,386
Total	**496,821**	**496,426**	**528,142**	**597,560**	**643,112**	**690,994**	**730,389**

Source: *Informacje liczbowe o rynku IKZE za 2018 rok, KNF, Warszawa 2019*

By the end of 2018, around 730,389 Poles opened individual retirement savings accounts. As shown on chart PL10, the IKZE market is dominated by insurance companies that run 61% of the accounts. Brokerage houses and banks do not show a lot of interest in providing this type of old-age pension provision, although some of them put IKZE in their offers.

The savings pot of IKZE is small compared to other elements of the Polish supplementary pension system. At the end of 2018, financial institutions managed funds amounting to PLN 2.3 billion (€0.53 billion). It is worth noting that this capital was raised through contributions in just seven years. The rapid growth of IKZE market in terms of coverage and the asset value is expected in the coming years. This growth could happen as a consequence of recent changes in IKZE taxation: a higher flat-rate contribution limit that can be deducted from the tax base and benefit payments subject to a reduced income tax rate.

Chart PL10. Structure of IKZE market by number of accounts and type of provider as of 31 December 2018



Source: Own elaboration based on: Informacje liczbowe o rynku IKZE za 2018 rok, KNF, Warszawa 2019

Table PL11. Assets of IKZE (in thousands PLN)

Product	2012	2013	2014	2015	2016	2017	2018
Unit-linked life insurance	36,393	75,117	167,737	281,946	398,589	545,374	635,146
Investment fund	7,973	23,371	63,559	193,099	407,884	719,630	1,083,451
Account in the brokerage house	1,673	4,815	14,638	30,268	57,045	93,780	119,354
Bank account	40	98	11,624	35,081	66,600	106,702	156,208
Voluntary pension fund	6,803	15,805	37,792	79,198	147,972	240,671	320,798
Total	**52,882**	**119,206**	**295,350**	**619,592**	**1,078,090**	**1,706,157**	**2,314,957**

Source: Informacje liczbowe o rynku IKZE za 2018 rok, KNF, Warszawa 2019

Charges

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

Employee Pension Programmes (PPE)

Data on PPE charges is hardly available. The Financial Supervisory Commission does not provide any official statistics on value or the percentage of deductions on assets of employee pension programmes. Some information can be found in the statutes of PPEs, but they describe rather the types of costs charged than the level of deductions. Employers must cover many administrative costs connected with PPE organisation (disclosure of information, collecting employees' declarations, transfer of contributions, etc.). The savings of participants are usually reduced by a management fee that varies from 0.5% p.a. to 4% p.a. of AuM and depend on the investment profile of funds chosen.

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

Employee Capital Plans (PPK)

Financial institutions offering PPK can charge management fee (max. 0.5% AuM) and success fee (max. 0.1% AuM and only if return is both positive and above the benchmark).

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

The type and level of charges depend on the type of product. There is a management fee for investment funds, voluntary pension funds and unit-linked insurances. In addition, for a unit-linked life insurance, a financial institution can charge an up-front fee, use different "buy and sell" prices for investment units (spread) and deduct other administrative fees from the pension savings accounts (such as conversion fees and fees) for changes in premium allocation in case changes occur more frequently than stipulated in the terms of the contract. Charges that are not connected with asset management and the administration of savings accounts cannot be deducted from IKZE (i.e. life insurance companies cannot deduct the cost

of insurance from the retirement account). The accumulation of pension savings through direct investments (accounts in brokerage houses) is subject to fees which depend on the type of transaction and the level of activity on financial markets (trading fees and charges). Banks do not charge any fees for the IKZEs they offer (apart from a cancellation fee).

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

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

Table PL12. Charges in IKE nad IKZE by type of provider

Type of financial institution	Up-front fee	Management fee (% of AuM)	Transfer fee
Life insurance companies	0% - 8%	0-4.5	10-50% of assets
Asset management companies	0% - 5.5%	0.8-4.0; success fee 0-30% of the return above the benchmark	0-PLN 500
Pension societies	0%-53.4%; quota limit may be applicable	0.6-3.5; success fee 0-20.0% of the return above the benchmark	10-50% of assets; min. PLN 50

Source: own elaboration based on www.analizy.pl

Taxation

Employee pension programmes (PPE)

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

Employee Capital Plans (PPK)

The employee and employer contribution is taxed. State kick-off payment and regular annual subsidies as well as investment returns and benefits are exempt. Therefore, it is a TEE regime with a state subsidy.

Individual Retirement Accounts (IKE)

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

Individual Retirement Savings Accounts (IKZE)

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

Pension Returns

Asset allocation

Employee Pension Programmes (PPE)

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

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

Table PL13. Portfolio of employees' pension funds (PFE) in years 2010-2018 (as % of assets)									
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Shares	14.19	14.90	19.49	29.86	33.00	34.09	29.62	32.91	30.77
Gov. bonds	1.48	2.14	1.53	2.01	1.05	2.27	63.00	64.31	67.22
Investment funds units	24.30	33.13	37.53	49.83	61.64	63.64	0	0	0
Bank deposits	58.78	48.90	40.91	17.91	4.30	0.00	6.70	1.86	1.62
Other investments	1.25	0.92	0.54	0.39	0.01	0.00	0.68	0.92	0
AuM (in PLN mln)	**1,543**	**1,559**	**1,873**	**2,039**	**1,75**	**1,797**	**1,767**	**1,857**	**1,740.38**

Source: Biuletyn Kwartalny. Rynek PFE 4/2018, KNF, Warszawa 2019

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

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

The only form of IKE and IKZE that is strictly separated from other funds and is dedicated solely to pension savings is a voluntary pension fund. These vehicles started operating in 2012. The table below shows the DFE's investment portfolios in years 2014-2018.

Table PL14. Portfolio of voluntary pension funds (DFE) offered as Individual Retirement Saving Accounts (IKZE) and Individual Retirement Accounts (IKE) in 2014-2018, as % of DFE assets							
Provider	**Year**	**Shares**	**Gov. Bonds**	**Non-gov. Bonds**	**Other**	**Assets under management (in PLN mln)**	**Market share (as % of total DFEs' assets)**
Allianz Polska DFE	**2014**	33.46%	32.43%	21.81%	12.30%	3.72	6.25%
	2015	35.12%	29.39%	28.60%	6.90%	5.60	5.28%
	2016	31.84%	22.54%	37.07%	8.54%	8.30	4.40%
	2017	53.62%	5.86%	34.17%	6.35%	11.90	3.87%
	2018	42.49%	17.33%	34.65%	5.53%	13,7	3.48%
DFE Pekao*	**2014**	43.83%	40.45%	2.86%	12.86%	13.18	22.16%
	2015	52.90%	30.95%	1.93%	14.21%	28.50	26.89%
	2016	57.41%	32.73%	4.78%	5.08%	52.20	27.65%
	2017	50.99%	43.12%	0.19%	5.70%	82.70	26.87%
DFE Pocztylion Plus	**2014**	24.62%	67.55%	0.00%	7.83%	0.55	0.92%
	2015	26.26%	67.64%	6.11%	0.00%	0.80	0.75%

	2016	34.83%	59.31%	0.00%	5.86%	1.10	0.58%
	2017	35.25%	55.08%	1.70%	7.97%	1.50	0.49%
	2018	35.38%	54.83%	1.00%	8.79%	2.5	0.64%
DFE PZU	2014	66.82%	13.94%	2.40%	16.84%	9.08	15.27%
	2015	73.26%	13.58%	1.45%	11.70%	14.80	13.96%
	2016	74.79%	17.64%	0.77%	6.80%	27.00	14.30%
	2017	72.84%	16.78%	0.42%	9.96%	47.80	15.53%
	2018	69.28%	9.55%	7.01%	14.16%	175.7	44.64%
ING DFE	2014	63.74%	0.00%	12.35%	23.92%	5.92	9.95%
Nordea DFE(D)	2014	37.44%	35.32%	10.44%	16.81%	1.63	2.74%
NN DFE	2015	57.45%	4.49%	10.50%	27.57%	15.20	14.34%
	2016	50.51%	18.75%	6.85%	23.89%	36.70	19.44%
	2017	56.36%	35.58%	0.01%	8.05%	0.30	0.10%
	2018	69.28%	9.55%	7.01%	14.16%	175.7	44.64%
MetLife Amplico DFE	2014	39.46%	40.26%	0.00%	20.27%	19.11	32.13%
	2015	61.24%	32.92%	0.00%	5.84%	24.20	22.83%
	2016	59.60%	32.60%	0.00%	7.80%	28.50	15.10%
	2017	56.99%	22.13%	12.91%	7.97%	73.50	23.88%
	2018	49.69%	43.78%	0.66%	5.87%	30.8	7.83%
PKO DFE	2014	35.29%	53.04%	0.00%	11.67%	6.29	10.57%
	2015	35.84%	51.51%	0.00%	12.65%	16.80	15.85%
	2016	26.26%	58.34%	0.00%	15.40%	34.80	18.43%
	2017	41.48%	48.64%	0.00%	9.88%	56.30	18.29%
	2018	37.75%	48.14%	1.44%	12.67%	69.8	17.73%
Generali DFE	2015	37.44%	48.61%	0.00%	13.95%	0.10	0.09%
	2016	68.60%	29.87%	0.00%	1.53%	0.20	0.11%
	2017	56.36%	35.58%	0.01%	8.05%	0.30	0.10%
	2018	43.4%	48.54%	0.04%	8.02%	0.5	0.13%

** Liquidated in 2018.*

Source: own elaboration based on http://www.analizy.pl.

Pension returns

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

Due to the shortage of detailed statistics the assessment of the efficiency of pension product investments is possible only for the vehicles dedicated solely to PPE, IKE or IKZE, namely employee pension funds (PFE) and voluntary pension funds (DFE).

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

During the period of 2002-2018 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative results appeared only in the years 2008, 2011, 2015 and 2018 when equity markets dropped significantly. After-charges real returns observed in 13 of 17 years and the average return in the 17-year period is highly positive as well. These satisfactory results were obtained due to proper portfolio construction, high quality of management and low costs.

Table PL15. Nominal and real after-charges returns of Employee Pension Funds in 2002-2018 (in %)

	PFE NESTLÉ POLSKA	PFE SŁONECZNA JESIEŃ	PFE ORANGE POLSKA	PFE UNILEVER POLSKA	PFE "NOWY ŚWIAT"	PFE DIAMENT	Nominal net return*	Inflation (HICP)	Real net return*
2002			11.35%		9.76%	-21.05%	7.88%	0.81%	**7.02%**
2003			10.28%		10.44%	8.71%	10.14%	1.73%	**8.26%**
2004	11.25%		12.30%	14.24%	13.64%		12.59%	4.32%	**7.93%**
2005	12.53%		14.82%	12.93%	13.81%		14.50%	0.75%	**13.65%**
2006	12.41%	10.60%	15.40%	13,41%	15.25%		14.99%	1.37%	**13.43%**
2007	5.10%	4.52%	6.10%	5.77%	6.23%		5.94%	4.30%	**1.58%**
2008	-10.10%	-11.33%	-13.54%	-6.34%	-13.86%		-13.14%	3.30%	**-15.91%**
2009	13.33%	14.83%	15.78%	12.74%	17.41%		15.85%	3.88%	**11.52%**
2010	9.98%	9.60%	10.33%	9.75%	10.52%		10.22%	2.85%	**7.16%**
2011	-5.05%	-3.10%	-4.75%	-3.59%	-5.20%		-4.51%	4.59%	**-8.70%**
2012	15.82%	13.60%	14.96%	15.01%	14.15%		14.57%	2.14%	**12.17%**
2013	5.19%	5.21%	3.45%	4.56%	5.71%		4.28%	0.60%	**3.66%**
2014	4.42%		3.91%	4.92%	2.56%		3.65%	-0.70%	**4.37%**
2015	-1.24%		-2.74%	-0.97%	-1.35%		-2.31%	-0.40%	**-1.92%**
2016			3.18%	4.88%	3.93%		3.44%	0.90%	**2.51%**
2017			8.24%	5.87%	8.88%		8.53%	1.69%	**6.67%**
2018			**-1.12%**		**-2.69%**			0.88%	**-2.33%**
Average 2002-2018	**5.84%**	**5.15%**	**6.03%**	**6.51%**	**6.11%**	**-7.36%**	**5.88%**	**1.93%**	**3.88%**

Source: own elaboration based on Eurostat (HICP; 2015=100; [prc_hicp_midx] for Poland) and Dane miesięczne PFE - maj 2019 r., UKNF, Warszawa 2019; *Weighted.

Voluntary pensions funds (DFE) have obtained extraordinary investment results from their start in 2012. The first years of their operation coincided with the time of the Polish financial market recovery and allowed the funds to maximise rates of return from the equity portfolios. The best DFEs reported more than 50% nominal return in 2013. But such returns were impossible to achieve in next years. In 2014, some of DFE even experienced slightly negative returns that were covered by returns in the following years. The worst investment returns were achieved in 2018 when all DFE made losses. The average real rate of return after charges in years 2013-2018 amounted to 5.22%.

Table PL16. Nominal and real returns of voluntary pension funds (DFE) in 2013-2018 (in %)

	2013	2014	2015	2016	2017	2018	Annual average 2013-2018
Allianz Polska DFE	7.80	2.03	-0.33	5.81	9.33	-8.32	**2.54**
DFE Pekao*	16.32	1.27	3.26	4.85	6.78		**6.37**
DFE Pocztylion Plus	6.93	-2.22	2.56	3.60	-0.98	-4.77	**0.77**
DFE PZU	32.75	3.64	9.07	16.19	14.67	-9.90	**10.31**
NN DFE	59.13	-0.73	16.21	13.26	9.01	-8.61	**12.90**
MetLife Amplico DFE	56.70	6.09	-1.89	3.76	6.65	-16.61	**7.05**
PKO DFE	16.87	2.54	-0.88	5.74	8.63	-8.51	**3.77**
Weighted nominal return before charges and inflation	40.57	3.15	3.90	8.14	8.92	-9.75	**8.16**
Weighted nominal return after charges**, before inflation	36.94	0.64	1.36	5.49	6.18	-12.28	**5.42**
Inflation (HICP)	0.60	-0.70	-0.40	-0.90	1.69	0.88	**0.19**
Weighted real return after charges	36.12	1.34	1.77	6.45	4.42	-13.04	**5.22**

* Liquidated in 2018.

**Returns after charges were calculated with an assumption that an individual pays one contribution of PLN 2.000 at the beginning of the year.

Source: own elaboration based on: www.analizy.pl; Harmonised index of consumer prices (HICP), Eurostat, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=prc_hicp_midx&lang=en

Table PL17. Nominal and Real Returns of Pillar III pension funds in Poland by product category						
A. Employee Pension Funds (PFE)						
2000	Weighted nominal return after charges, before inflation	-	Weighted real return after charges and inflation and before taxes	-	17-year nominal annual average (2002-2018)	5.88%
2001		-		-		
2002		7.9%		7.0%		
2003		10.1%		8.3%		
2004		12.6%		7.9%		
2005		14.5%		13.6%		
2006		15.0%		13.4%		
2007		5.9%		1.6%		
2008		-13.1%		-15.9%		
2009		15.8%		11.5%		
2010		10.2%		7.2%		
2011		-4.5%		-8.7%		
2012		14.6%		12.2%	17-year real annual average (2002-2018)	3.88%
2013		4.3%		3.7%		
2014		3.6%		4.4%		
2015		-2.3%		-1.9%		
2016		3.4%		2.5%		
2017		8.5%		6.7%		
2018		-1.47%		-2.3%		
B. Voluntary Pension Funds (DFE)						
2000	Weighted nominal return after charges, before inflation	-	Weighted real return after charges and inflation	-	6-year real annual average (2013-2018)	5.42%
2001		-		-		
2002		-		-		
2003		-		-		
2004		-		-		
2005		-		-		
2006		-		-		
2007		-		-		
2008		-		-		
2009		-		-		
2010		-		-		
2011		-		-		
2012		-		-	6-year nominal annual average (2013-2018)	5.22%
2013		36.9%		36.1%		
2014		0.6%		1.3%		
2015		1.4%		1.8%		
2016		5.5%		6.4%		
2017		6.2%		4.4%		
2018		-12.3%		-13.0%		

Note: "-" means data not available

Source: Tables PL11 and PL12.

Conclusions

Starting in 1999, with individual supplementary elements introduced in 2004, 2012 and 2019, the Polish supplementary pension market is still in its early stage of operation. The coverage ratios (2.6%, 5.8% and 4.3% respectively), show that only a tiny part of Poles decided to secure their future in old age by joining the occupational pension plan or purchasing individual pension products. This could be because of low financial awareness, insufficient level of wealth or just the lack of information and low transparency of pension products.

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

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

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

After-charges returns in the "youngest" pension products offered as a form of voluntary pension fund (DFE) were extremely high in 2013, both in nominal and real terms. The second series of products analysed, namely employee pensions funds (PFE), delivered significant profits as well, with the annual average real return of 3.88%. But other pension vehicles may turn out not to be so beneficial, especially when a wide variety of fees and charges are deducted from contributions which are paid to the accounts.

To sum up, the disclosure policy in supplementary pension products in Poland is not saver oriented. Individuals are entrusting their money to the institutions, but they are not getting clear information on charges and investment returns. Keeping in mind the pure DC character

of pension vehicles and the lack of any guarantees, this is a huge risk for savers. All this may lead to significant failures on the pension market in its very early stages of development. In the future, some changes in the law should be introduced, such as **imposing an obligation** on financial institutions **to disclose rates of return** to pension accounts holders. Moreover, there is **an urgent need for a full list or even ranking of supplementary pension products**, both occupational and individual ones, published by independent body. This would help individuals make well-informed decisions and avoid buying inappropriate retirement products.[219]

Bibliography

- *Biuletyn Kwartalny. Rynek PFE 4/2017*, UNKF, Warszawa 2018,
- *Biuletyn roczny. Rynek PPE 2010*, UKNF, Warszawa 2011.
- *Biuletyn roczny. Rynek PPE 2011*, UKNF, Warszawa 2012.
- *Biuletyn roczny. Rynek PPE 2012*, UKNF, Warszawa 2013.
- *Biuletyn roczny. Rynek PPE 2013*, UKNF, Warszawa 2014.
- *Biuletyn roczny. Rynek PPE 2014*, UKNF, Warszawa 2015.
- *Biuletyn roczny. Rynek PPE 2015*, UKNF, Warszawa 2016.
- *Biuletyn Roczny. Rynek PPE 2016*, UKNF, Warszawa 2017.
- *Biuletyn Roczny. Rynek PPE 2017*, UKNF, Warszawa 2018.
- Chłoń-Domińczak A., Strzelecki P., *The minimum pension as an instrument of poverty protection in the defined contribution pension system – an example of Poland*, "Journal of Pension Economics and Finance", Vol. 12, Issue 3, July 2013.
- *Dane miesięczne PFE - czerwiec 2018 r.*, UKNF, Warszawa 2018.
- European Commission, *The 2018 Ageing Report: Economic and Budgetary Projections for the EU Member States (2016-2070)*, Luxembourg, 2018
- *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2018 roku*, UKNF, Warszawa 2019,
- *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku*, UKNF, Warszawa 2018.
- *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2016 roku*, UKNF, Warszawa 2017.
- *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2015 roku*, UKNF, Warszawa 2016.

[219] Especially, taking into consideration very limited official information concerning supplementary pension products, as well as the extent of mis-selling of e.g. unit-linked insurances that took place in Poland and the subsequent enforcement action (as the sector's self-regulation failed) https://uokik.gov.pl/news.php?news_id=12776.

- *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2013 roku*, UKNF, Warszawa 2014.
- *Indywidualne konta emerytalne w 2011 roku*, UKNF, Warszawa 2012.
- *Informacja o indywidualnych kontach emerytalnych sporządzona na podstawie danych liczbowych za 2006 r.*, UKNF, Warszawa 2007.
- *Informacje liczbowe o rynku IKZE za 2018 rok*, KNF, Warszawa 2019.
- *Pracownicze programy emerytalne w 2016 roku*, UKNF, Warszawa 2017.
- *Pracownicze programy emerytalne w 2017 roku*, UKNF, Warszawa 2018.
- *Pracownicze programy emerytalne w 2018 roku*, UKNF, Warszawa 2019.
- *Rocznik Ubezpieczeń i Funduszy Emerytalnych 2004*, UKNUiFE, Warszawa 2005.
- *System emerytalny w Polsce,* Izba Gospodarcza Towarzystw Emerytalnych.
- www.analizy.pl

Pension Savings: The Real Return

2019 Edition

Country Case: Romania

Rezumat

Populaţia României emigrează, scade şi îmbătrâneşte într-un ritm accelerat, ceea ce pune presiune semnificativă asupra sistemului de pensii publice.

Deşi contribuţiile la fondurile de pensii ocupaţionale sunt obligatorii (Pilonul II), fără a distinge forma de angajare (salariaţi sau liber-profesionisti), cetăţenii români trebuie motivaţi să investească mai mult în planuri voluntare de pensie (Pilonul III).

Evoluţia randamentelor reale ale planurilor de pensii din România a înregistrat o evoluţie pozitivă până la sfârşitul anului 2017, moment din care tendinţa s-a inversat, ceea ce este de natură să genereze preocupări asupra capacităţii administratorilor de a menţine performanţele pozitive ale primilor 10 ani de funcţionare ai sistemului de pensii administrat privat din Romania.

Compunerea portofoliilor ambelor tipuri de scheme administrate privat este aproape identică şi, prin urmare, generează randamente brute similare. Cu toate acestea, randamentul net al Pilonului III este influenţat în mod semnificativ de structura comisioanelor substanţial mai mari (aproape de 4 ori mai mari) şi astfel, pe termen lung, va genera randamente mai mici decât cele aferente Pilonului II. Per total, randamentele produselor de pensie din Pilonul II şi Pilonul III au ramas pozitive şi deasupra nivelului inflaţiei.

O preocupare majoră o ridică şi posibilitatea adoptării unei decizii politice de renunţare la Pilonul II. Deja a fost adoptată o reglementare care permite participanţilor la Pilonul II să opteze pentru trecerea la Pilonul I, fără a fi însă explicate şi consecinţele acestei decizii pe termen mediu şi lung asupra patrimoniului participantului.

Asociaţia Utilizatorilor Români de Servicii Financiare (AURSF), membră BETTER FINANCE, a atras în permanenţă atenţia asupra riscurilor pe care le presupune o asemenea decizie. În plus, AURSF a criticat vehement decizia autorităţilor de a reduce contribuţiile virate în contul participanţilor de la 5,1% la 3,75%. De asemenea, AURSF consideră că trebuie identificate măsuri care să încurajeze opţiunea asumată a participanţilor pentru unul dintre fondurile administrate privat (în prezent, numărul celor care optează este extrem de redus, participanţii fiind distribuiţi printr-un mecanism aleatoriu)

Summary

Romania's population is rapidly decreasing, aging, and migrating, which puts considerable pressure on the State pension system.

Although occupational pensions are mandatory regardless of the work form (employees and self-employed), the Romanian households must be incentivised more to save in voluntary pension plans (Pillar III).

The evolution of the real returns of private pension schemes in Romania recorded a solid performance until 2017, but started the trend changed in 2018, which may generate concerns regarding the ability of pension managers to keep up with these positive performance of the first 10 years since the establishment of the private pension system in Romania.

Both schemes (occupational and private) have almost identical portfolio structures and thus generate similar gross returns. However, Pillar III net performance is significantly influenced by the high fee structure (almost 4-times higher) and will, in the long-run, deliver lower returns than Pillar II peers. Overall, the real return of pension funds in Pillar II as well as Pillar III are still positive and above the inflation.

A major concern is posed by the possible adoption of a political decision to "give up" Pillar II. A regulation allowing Pillar II participants to withdraw and move to Pillar I has already been adopted, but without explaining beforehand the medium- and long-term consequences of such a decision on the participant's savings.

The Romanian Financial Services Users' Association (AURSF), member of BETTER FINANCE, has constantly drawn attention to the risks entailed by such a decision. Moreover, AURSF has firmly criticised the public authorities' decision to reduce the contribution transfer rate to Pillar II from 5.1% to 3.75%. In addition, AURSF considers that measures incentivising an active choice of savers with regards to a mandatory privately administered funds must be found (currently, the number of those making an active choice is considerably low, the rest being randomly allocated).

Introduction

The Romanian old-age pension system is based on the World Bank's multi-pillar model, which consists of three main pillars:

- Pillar I – State pension organized as a mandatory Pay-As-You-Go (PAYG) scheme;
- Pillar II – Organised as a mandatory, funded and defined contribution pension scheme,
- Pillar III – A supplementary pension scheme, based on the principle of voluntary participation with the defined-contribution characteristic.

Romania's multi-pillar pension reform began in 2007, when Pillar III was added into the pension system (collecting the first contributions) and became voluntary for all persons earning any type of income. Pillar II was put into place in 2008 (collecting the first contributions) and became mandatory for all employees aged under 35.

Table RO1. Pensions system in Romania		
National House of Public Pensions	Private Pension System Supervisory Commission	
PILLAR I	PILLAR II	PILLAR III
State Pension	Funded pension	Voluntary pension
Law no. 263/2010 on the unitary public pension system	Law no. 411/2004 on the privately managed pension funds, republished, including subsequent amendments and additions	Law no.204/2006 on the voluntary pensions, including subsequent amendments and additions
Mandatory	Mandatory	Voluntary
Publicly managed	Privately managed pension funds	
PAYG	Funded	
DB (Defined Benefit scheme)	DC (Defined Contribution scheme)	
	Individual personal pension accounts	
The possibility of early and partially early retirement, contingent upon the fulfillment of the age conditions and the contribution stage provided by the law and the accumulated points.	Withdrawal from the system is only allowed through retirement.	The participant can, at any time, suspend or stop the contribution payment (they remain members in the system until retirement).
Quick facts		
Number of old-age pensioners: 4.7 mil. Number of insured: 6.01 mil. Average old-age pension: €241 Average salary (gross): €853 Net replacement ratio (state pension): 28.32%	Administrators: 7 Funds: 7 Custodians: 3 Brokers: 14 AuM: €10.21 bln Participants: 7.27 mil.	Administrators: 8 Funds: 10 Custodians: 3 Brokers: 21 AuM: €0.43 bln Participants: 0.47 mil.
Average pension replacement ratio (men/women): 51%		

Source: Own elaboration based on CNPP, ASF and INSSE data, 2019; Notes: Exchange rate RON/EUR = 4.6635; data on average old-age pension and gross salary and data on the number of old-age pensioner are as of December 2018; data on number of participants and assets under management as of December 2018

The overall coverage of Pillar II, measured as a ratio between the number of participants and the economically active population, was almost entire working population in 2018, while Pillar III covered only 6% of the economically active population. Thus, we can expect than future pension income stream will be influenced mostly by Pillar II pensions, while Pillar III will generate an insignificant part of individuals income during retirement.

Summary Return Table – Nominal and real returns in Romania				
	Pillar II		Pillar III	
	Nominal	Real	Nominal	Real
1 year	1.06%	-1.96%	-0.66%	-3.68%
3 years	3.02%	1.16%	2.05%	0.19%
7 years	6.18%	4.55%	5.29%	3.61%
10 years	7.83%	5.14%	6.46%	3.73%
Whole reporting period	7.70%	4.64%	5.67%	2.27%

Source: BETTER FINANCE own composition

Pillar I – State Pensions

The first pillar of the Romanian pension system is organized on the Pay-as-You-Go (PAYG) principle of redistribution, being funded on an ongoing basis and functioning on the defined-benefit rule.

The state (through the National House of Public Pensions, a public institution constituted for this purpose in particular[220]) collects the social pension contribution from the contributors[221] and immediately pays the pensions to the current retirees.[222] State pension in Romania is also based on the principle of solidarity between generations and gives the right to pension entitlement upon retirement age, following a minimum contribution period (15 years), as provided by law.

This compulsory system is closely connected to the economic activity and income of citizens. It is 88%[223] financed from social security contributions made by both employers and by employees, while generally consuming the biggest part (or entirety) of the social security budget.

Social security contributions are paid to the State's social security budget at a rate of 20.8% of payroll for employers and 10.5% of income (gross earnings) for employees. It should be noted that since 1 October 2014, the employer's contribution ratio has been reduced to

[220] In Romanian, „Casa Națională de Pensii Publice", hereinafter CNPP, as per Article 4.2 read in conjunction with Article 52 (Chapter IV, Section I) of Law no. 263/2010: http://legislatie.just.ro/Public/DetaliiDocument/124530.

[221] According to the principle of contributivity, as per Article 2.c) of Law no. 263/2010.

[222] According to the principle of redistribution provided in Article 2.e) of Law no. 263/2010.

[223] In 2017, 75% of the budget was constituted from social security contributions and 25% from the consolidated state budget – see Annex no. 1/03 to Law no.7/2017 concerning the social security budget for 2017; in 2018, 88% of the budget was financed from contributions and 12% from the consolidated state budget – see Annex no. 1/03 of Law no. 3/2018 concerning the social security budget for 2018.

15.8%. This pillar is financed by contributions of economically active individuals. These contributions are directed to the CNPP, which distributes the benefit to current pensioners (system beneficiaries).

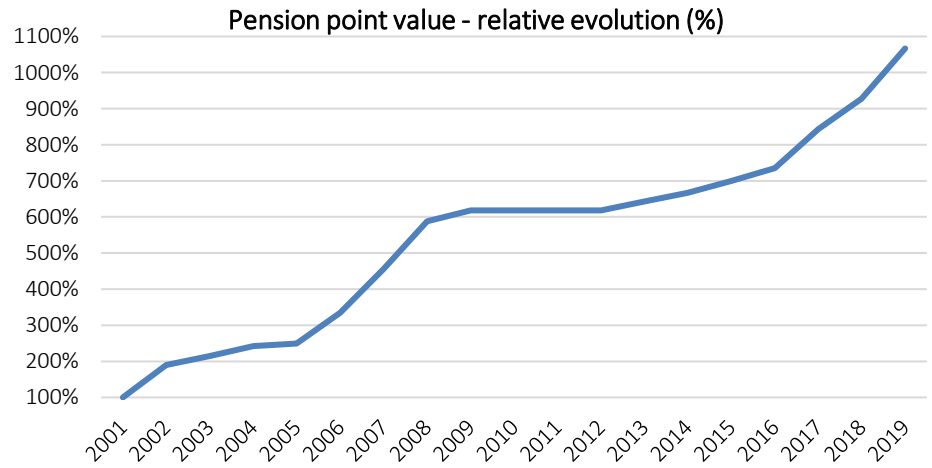
The pensions are calculated using a formula to an algorithm based on the mean salary score (which is calculated by comparing an individual's own salary to the average monthly salary), the correction coefficient, the full vesting period (35 years), and on pension points, which are expressed as a nominal value.

Therefore, the pension entitlement is calculated when the employee claims it and uses the values determined for that date (once), using the following formula:

Pension allowance =

Mean Salary Score x Correction Coefficient x Value of the Pension Point.

The most important variable is given by the value of the pension point, which continues to grow for the 18th year in a row.



Source: BETTER FINANCE own composition based on CNPP data

The main retirement income stream is generated by Pillar I and, on average, representing 28% of the mean annual salary during the economically active period of the retiree in December 2018, while the net replacement rate generated by Pillar I was 51%.[224] However, gross replacement ration continues to decline.

[224] See OECD, 'Pensions at a Glance 2017: OECD and G20 Indicators' (OECD Library, 2017), page 106, https://www.oecd-ilibrary.org/docserver/pension_glance-2017-en.pdf?expires=1533208010&id=id&accname=guest&checksum=D723E9620BBEC45B10FD

According to Romania's legislation, starting on 1 January 2011, the standard retirement age is 63 years for women and 65 years for men. These levels will be gradually reached as follow:

- between January 2011 and January 2015, the standard age for the pensioning of women will grow from 59 years to 60 years and for men from 62 years to 65 years;
- at the end of 2015 period retirement age will gradually increase only for women from 60 years to 63 years until 2030.

Early retirement - According to Law no. 263/2010 regarding the public pension schemes (in force since 1 January 2011) claiming early pension is possible as of a maximum 5 years before the standard retirement age, provided the worker has at least eight or more contribution years. The deduction made on early pension payment is fixed at 0.75% for each month (9% per year), which might bring a maximum deduction of 45% from the standard pension. The deduction is applied until the standard age limit is reached.

Pillar II – Funded pensions

Romania's mandatory private pensions system (Pillar II) is based on the World Bank's multi-pillar model. It is a fully funded scheme, with mandatory participation and distinct and private management of funds based on personal accounts and on the defined contribution (DC) philosophy with minimum return guarantees. The minimum return guarantee means that participants will receive at least the sum of contributions, net of fees, at retirement. Each fund has to comply, during the accumulation phase, with a minimum return mechanism that is set quarterly by national regulation and based on average market performance of all funds. Pillar II represents the privately managed mandatory pensions funds or schemes.

The beginning of Pillar II in Romania is connected with three important dates:

- January – July 2007 (Authorizing the administrators),
- 17 September 2007 – 17 January 2008 (Choosing pension fund by participants),
- 20 May 2008 (Collecting the first contributions to Pillar II).

Pillar II has been mandatory since its inception for all employees paying social security contributions under the age of 35 and voluntary (optional) for employees aged 35 to 45.[225]

Contribution collection is centralized by CNPP (The National House of Public Pensions), which collects and directs the contributions towards the mandatory pension funds.

956DCF9A420A, data accessible here https://data.oecd.org/pension/net-pension-replacement-rates.htm.

[225] Article 30 of Law no. 411/2004 regarding the privately managed pension funds.

A participant contributes during his active life and will get a pension when reaching the retirement age of 65 for men and 63 for women. The starting level of contribution was at 2% of the participant's total gross salary and it should go up by 0.5 percentage points a year, to reach 6% of total gross revenues in 2017. However, these values were never reached and the value for 2017 was 5.1 p.p. and in 2018 it was lowered to 3.75 p.p. The contribution level is fixed, with no possibility to contribute less or more based on individual preferences.

The contributions to a pension fund are recorded in individual personal pension account. The savings are invested by the pension fund administrator, according to the rules and quantitative limits generally set by the law regulating Pillar II vehicles.[226] Participants can choose only one pension fund.[227]

Mandatory pension funds are managed by their administrators - Pension Management Companies (PMCs). Each PMC can manage only one mandatory pension fund. Mandatory pension funds operations are similar to the investment funds. PMC must obtain several licenses from Romania's pension market regulatory and supervisory body, which is the Financial Supervisory Authority (in Romanian, *Autoritatea de Supraveghere Financiară*, 'ASF').

The ASF is in charge of control, regulation, supervision and information about private pensions as an independent administrative authority and legal entity under the control of the Romanian Parliament.

Withdrawal from the system is only allowed at the standard retirement age of participants in the private pension system.

Pillar III – Voluntary private pension

Romania's voluntary private pensions system Pillar III is also based on the World Bank's multi-pillar model. It is also a fully funded system, based on personal accounts and on the defined contribution (DC) philosophy. Pillar III represents privately managed supplementary, voluntary pensions.

The beginning of Pillar III in Romania is connected with two important dates:

- October 2006 – May 2007 (Authorizing the administrators),
- May 2007 (Collecting the first contributions to third Pillar).

[226] Article 23 defines the guiding principles and rules of conduct the fund administrator must follow, Article 25 defines the quantitative limits on asset allocations and Article 28(1) lists the ineligible investments (Law no. 411/2004).
[227] Article 31 of Law no. 411/2004.

Participation is open to everybody earning an income, either employees or the self-employed. Contributions are generally made through the employers in case of employees. In case of self-employed, the contributions are sent directly on the accounts managed by pension management companies. The contributions are made by the employee, with the possibility for employers to contribute a share.

Voluntary pension funds as a special purpose vehicle are managed by their administrators - Pension Management Companies (PMCs), Life Insurance Companies (LICs) or Asset Management Companies (AMCs). Each administrator is obliged to establish and operate at least one voluntary pension fund. However, in contrast to Pillar II, administrators can manage as many funds as they wish. A voluntary pension fund operates on a similar basis as investment fund. Pension fund administrators must get several licenses from Romania's Financial Supervisory Authority.

Participants to such a fund contribute during their active life and will get a pension at the age of 60 (both woman and men) if he had accumulated at least 90 contributions. The contribution is limited up to 15% of the participant's total gross income. The contribution level is flexible - it can be decided upon, changed, and even interrupted and resumed.

Pension Vehicles

Pillar II – Funded pensions

As indicated above, each PMC specifically authorized to provide Pillar II savings products in Romania is allowed to manage only one mandatory pension fund. At the introduction of the Pillar II, the total number of authorized administrators (funds) was 18. Consolidation started as early as 2009 and 2010. Currently (end of 2018), there are 7 administrators offering 7 pension funds. The two biggest mandatory pension funds (AZT and NN) serve almost 50% (according to number of participants) or 57% (according to AuM) of the market.

Each PMC is authorized and supervised by ASF. One of the most important conditions imposed on PMC is to attract at least 50,000 participants. ASF withdraws the fund's authorization if the number of participants drops below 50,000 for a quarter.

The structure of savers, assets under management and market share of respective mandatory pension fund (PMC) is presented in a table below.

Table RO2. Pension Management Companies market share in Romania (Pillar II)				
Mandatory Pension Fund (PMC)	Assets under management *(in €)*	Market share based on AuM	Number of participants	Market share based on participants
ARIPI	872,006,331	8.54%	735,499	10.03%
METROPOLITAN LIFE*	1,455,238,334	14.26%	1,012,614	13.97%
AZT VIITORUL TAU	2,213,403,148	21.68%	1,560,583	21.76%
BCR	670,202,145	6.57%	635,769	8.58%
BRD	371,617,775	3.64%	417,361	5.46%
NN	3,638,872,702	35.65%	1,986,101	27.79%
VITAL	985,762,262	9.66%	902,372	12.40%
TOTAL	**10,207,102,698**	**100.00%**	**7,042,179**	**100.00%**

Source: Own calculations based on ASF data, 2019 (data as of 31 December 2018)

Mandatory pension funds' investment strategy is very strictly regulated. The law imposes percentage limits for different asset classes.

Mandatory pension funds can invest:

- up to 20% in money market instruments;
- up to 70% in State bonds of Romania, the EU or EEA;
- up to 30% in bonds and other transferable securities issued by the local public administrations in Romania, the EU or EEA, traded on a regulated market in RO, EU or EEA;
- up to 50% in securities traded on a regulated market in Romania. the EU or EEA;
- up to 15% in bonds issued by third-party states, traded on a regulated market in Romania, the EU or EEA;
- up to 10% in bonds and other transferable securities issued by the local public administration in third-party states, traded on a regulated market in Romania. the EU or EEA;
- up to 15% in bonds issued by the World Bank. the European Bank for Reconstruction and Development and the European Investment Bank, traded on a regulated market in Romania, the EU or EEA;
- up to 5% in bonds issued by Non-governmental Foreign Bodies, traded on a regulated market in Romania, the EU or EEA;
- up to 5% in units issued by Undertakings for Collective Investment in Transferable Securities – UCITS, including ETF in Romania, the EU or EEA;
- up to 3% in ETC`s and equity securities issued by non UCITS set up as closed investment funds, traded on a regulated market in Romania, the EU or EEA;
- up to 10% in private equity - only for voluntary pension funds.

There is no explicitly defined general quantitative limit on equity investments.

Aside from the quantitative restrictions by asset class, fund managers have quantitative limits by type of issuer:

- 10% of the total number of shares issued by one issuer;
- 10% of the preferential shares issued by one issuer;
- 25% of the equity securities issued by an UCITS, ETF, non UCITS closed investment fund or ETC;
- 10% of an issuer's bonds, with the exception of the state bonds.

Mandatory pension funds can invest all their assets abroad. There are no explicit restrictions regarding investments made abroad.

Pension funds can have one of three possible risk profiles, which are calculated on a daily basis according to a formula established by ASF regulations:

- low risk (risk level up to and including 10%),
- medium risk (risk level between 10%, exclusively, and 25%, inclusively),
- high risk (risk level between 25%, exclusively, and 50%, inclusively).

Pillar III – Voluntary private pensions

The Romanian Pillar III allows each administrator (PMC, LIC or AMC) to manage as many voluntary pension funds as they prefer. At its inception, there were only four providers and six voluntary pension funds. Currently (at the end of 2018), there was 8 providers offering 10 voluntary pension funds. Only two administrators (NN and AZT) are currently offering more than one voluntary pension fund.

Each administrator in Pillar III (PMC, LIC or AMC) is authorized by ASF and must get several licenses from ASF. ASF withdraws the fund's authorization if the number of participants drops below 100 for a quarter.

Voluntary pension funds are also constituted by civil contract and authorized by ASF. Accounting of the voluntary pension fund is separated from the administrator.

Investment rules in the voluntary private pension pillar are the same as in the mandatory pillar (see quantitative and restriction limits for different asset classes in the text above), with less strict limits on private equity (5%) and commodities (5%).

The structure of savers, assets under management and market share of respective voluntary pension fund is presented in a table below.

Table RO3. Voluntary pension funds market share in Romania (Pillar III)					
Risk profile	Voluntary pension fund	Assets under management (in €)	Market share based on AuM	Number of members	Market share based on participants
High	FPF AZT VIVACE	18,141,450	4.75%	20,386	4.57%
	FPF NN ACTIV	42,569,365	11.14%	43,299	9.71%
Medium	FPF AZT MODERATO	45,632,260	11.94%	38,381	8.60%
	FPF BCR PLUS	68,404,744	17.90%	130,347	29.22%
	FPF BRD MEDIO	20,509,346	5.37%	23,994	5.38%
	FPF NN OPTIM	153,038,922	40.04%	159,438	35.74%
	FPF PENSIA MEA	12,973,791	3.39%	9,839	2.21%
	FPF RAIFFEISEN ACUMULARE	15,713,989	4.11%	11,442	2.56%
	FPF STABIL	3,768,964	0.99%	5,185	1.16%
	FPF AEGON ESENTIAL	1,468,050	0.38%	3,82	0.86%
	TOTAL	382,220,880	100.00%	446,131	100.00%

Source: Own calculations based on ASF data, 2019 (data as of 31 December 2018)

Charges

Pillar II – Funded pensions

According to the Mandatory Pensions Law, the fund manager's income resulted from the administration of privately administrated pension funds are composed of:

- management fees and commissions;
- transfer penalties (covered from personal assets, in case of moving to another fund/PFC earlier than in 2 years – between 3.5% and 5%);
- tariffs for additional information services, in particular:
    - Depositary commission (depository fee);
    - Transaction costs (trading fees);
    - Bank commissions (banking fees);
    - Fund auditing taxes (pension fund auditing fees).

The administration fee is established by:

a) deducting an amount from the contributions paid, but not higher than 2.5%, before the conversion of contributions into fund units (Management commission);
b) deducting a percentage from the total net assets of the fund, but not higher than 0.05% per month (up to 0.6% per year) established by the pension scheme's prospectus (Management fee).

The transfer penalty represents the amount paid by the participant in the event of a transfer to another administrator, occurring within two years of the subscription date to the private pension fund, with the maximum ceiling of this penalty being established by ASF and set at maximum 5% of assets (Norm CSSPP 12/2009 for Pillar II and Norm 14/2006 for Pillar III).

The fund also pays for the annual auditing fee (Fund auditing taxes) and the rest of the fund's expenses (custody, depositary, transaction/trading expenses) must be supported by the pension company (the administrator).

The next table compares effective charges of mandatory pension funds in Pillar II over time (calculated via total and net NAV).

Table RO4. Effective annual charges in mandatory pension funds (Pillar II) in %

Mandatory pension fund	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
ARIPI	1.23	0.86	0.75	0.68	0.63	0.62	0.62	0.63	0.61	0.58	0.63
METROPOLITAN LIFE	0.54	0.70	0.65	0.61	0.62	0.60	0.59	0.60	0.58	0.56	0.61
AZT VIITORUL TAU	0.56	0.69	0.66	0.60	0.61	0.61	0.60	0.60	0.58	0.56	0.61
BCR	1.69	0.93	0.75	0.64	0.63	0.62	0.63	0.61	0.58	0.56	0.62
BRD	2.04	1.11	0.87	0.75	0.70	0.62	0.62	0.64	0.60	0.56	0.61
NN	0.55	0.62	0.61	0.58	0.62	0.60	0.60	0.60	0.58	0.56	0.61
VITAL	0.00	0.58	0.79	0.70	0.65	0.64	0.61	0.61	0.58	0.56	0.61
EUREKO	*0.36*	*0.12*	*0.84*	*0.60*	*0.60*	*0.60*					
PENSIA VIVA	*0.12*	*0.60*	*0.60*	*0.60*	*0.60*						
BANCPOST	*8.04*										
KD	*5.88*	*0.60*									
OMNIFORTE	*2.04*										
OTP	*14.6*	*6.00*									
PRIMA PENSIE	*8.88*	*6.72*									
TOTAL	**0.77**	**0.70**	**0.66**	**0.61**	**0.62**	**0.61**	**0.60**	**0.60**	**0.58**	**0.56**	**0.61**

Source: Own calculations based on CSSPP data, 2019 (data as of December 2018)

Pillar III – Voluntary private pensions

According to the Voluntary Pensions Law,[228] the administrator shall charge a fee from participants and beneficiaries for the management of a pension fund.

- The levels of fees shall be established in the pension scheme prospectus and shall be the same for all participants and beneficiaries;
- Participants shall be notified of any change to the fees at least 6 months before it is applied.

[228] Law number 204/2006 concerning voluntary pensions

The administrator's revenue will come from:

- management commission (up to 5% from the contributions) and management fee (up to 0.2% monthly from total gross assets in pension fund);
- transfer penalties (covered from personal assets, in case of moving to another fund/PFC earlier than in 2 years – 5%);
- fees for services requested by participants:
  - Depositary commission (depository fee);
  - Transaction costs (trading fees);
  - Bank commissions (banking fees);
  - Fund auditing taxes (pension fund auditing fees).

Management fees are made up of:

a) deduction of a percentage from contributions paid by participants; this percentage cannot be higher than 5% and must be made before contributions are converted into fund units (Management commission);

b) deduction of a negotiated percentage from the net assets of the voluntary pension fund; this percentage cannot be higher than 0.2% per month and shall be mentioned in the pension scheme prospectus (Management fee).

A transfer penalty is applicable (paid by the participant) in the event of a transfer to another fund within two years of having joined the previous fund; its upper limit is established by Commission norms. The next table compares effective charges of voluntary pension funds in pillar III over time (calculated via total and net NAV).

Table RO5. Effective annual charges of voluntary pension funds (Pillar III) in %

Voluntary pension fund	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
AZT VIVACE	1.05	1.47	2.83	2.83	2.52	2.06	2.00	1.91	1.84	1.74	1.67	1.79
NN ACTIV	0.04	1.64	1.85	2.38	2.19	2.34	2.14	2.09	2.17	2.10	1.95	2.11
AZT MODERATO	0.99	1.83	2.16	1.86	1.66	1.41	1.33	1.28	1.24	1.18	1.13	1.21
BCR PLUS	5.61	2.38	2.28	2.77	2.44	2.40	2.23	2.27	2.16	2.03	1.97	2.16
BRD MEDIO	0.00	0.00	0.85	1.90	1.56	2.86	2.18	2.14	2.20	2.11	1.91	2.18
*CONCORDIA MODERAT**	0.00	*0.00*	*1.47*	*1.47*	*1.43*	*1.46*	0.00	0.00	*0.00*	*0.00*	*0.00*	*0.00*
*EUREKO CONFORT**	0.00	0.00	*0.05*	*0.00*	*0.18*	*0.06*	*0.14*	*0.07*	*0.00*	*0.00*	*0.00*	*0.00*
NN OPTIM	0.09	1.58	1.68	2.09	1.97	2.05	1.99	1.97	2.00	1.94	1.85	2.00
PENSIA MEA	3.22	3.17	2.85	2.66	2.66	2.70	2.66	2.66	2.64	2.43	2.37	2.56
RAIFFEISEN ACUMULARE	0.00	0.15	2.93	2.40	2.23	2.15	2.43	2.26	2.47	2.16	2.06	2.19

STABIL	0.00	0.00	2.26	1.61	1.50	1.65	1.63	3.16	3.71	3.37	2.80	2.99
AEGON ESENTIAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87	3.15	2.99	3.12
*BRD PRIMO**	0.00	0.00	*0.83*	*1.57*	0.00	0.00	0.00	0.00	*0.00*	*0.00*	*0.00*	*0.00*
*OTP STRATEG**	*N/A*	*19.10*	*3.80*	*2.91*	0.00	0.00	0.00	0.00	*0.00*	*0.00*	*0.00*	*0.00*
TOTAL	4.72	1.91	2.12	2.30	2.09	2.10	1.99	1.99	2.01	1.92	1.83	1.99

Source: Own calculations based on CSSP data, 2019 (data as of December 2018)

* Closed

The year 2018 brought smaller increase in effective annual charges, and the Pillar III confirmed that the Pillar III pension funds remain expensive pension vehicles.

Taxation

Pillar II – Funded pensions

Romania applies an EET system for the taxation of future mandatory accounts. Employee contributions are tax-deductible and investment income on the level of the pension fund is tax-exempt. 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.

Pillar III – Voluntary private pensions

The amount of contributions to voluntary pension funds is fiscally deductible from each subscriber's gross monthly wage or any other assimilated revenue if the total amount is not greater than the equivalent in RON of €400 in a fiscal year. The same rule applies to the employer, meaning that the employer can deduct the amount paid to the employee's voluntary pension account up to €400 annually.

The investment returns achieved by the third pillar fund are tax exempt until the moment of payments toward subscribers' start. The pension benefits paid from Pillar III are subject to personal income tax, thus representing an 'EET' regime.

Pension Returns

Pillar II – Funded pensions

Seven asset managers offer seven mandatory pension funds in Romania. Performance analysis reveals similarities in their investment strategy, implying similarity in the pension funds' portfolio structure.

Table RO6. Pillar II pension vehicles			
Risk Profile	Mandatory pension fund	Fund Inception Day	Fund closing date
High	FPAP ARIPI	May 2008	Open
Medium	FPAP METROPOLITAN LIFE	May 2008	Open
	FPAP AZT VIITORUL TAU	May 2008	Open
	FPAP BCR	May 2008	Open
	FPAP BRD	May 2008	Open
	FPAP ING	May 2008	Open
	FPAP VITAL	May 2008	Open
No longer in operation	FPAP EUREKO	May 2008	Closed September 2014
	FPAP PENSIA VIVA	May 2008	Closed January 2013
	FPAP BANCPOST	May 2008	Closed May 2009
	FPAP KD	May 2008	Closed March 2010
	FPAP OMNIFORTE	May 2008	Closed June 2009
	FPAP OTP	May 2008	Closed January 2010
	FPAP PRIMA PENSIE	May 2008	Closed January 2010

Source: Own elaboration based on CSSPP data, 2019 (data as of 31 December 2018)

According to CSSPP database, all mandatory pension funds can invest into 16 asset classes:

Table RO7. Allowed asset classes for Pillar II pension funds	
Allowed asset classes for Pillar II pension funds	Asset classes used for the purpose of the study
Bank deposits	Bank deposits
Government Securities / Municipal Bonds	Government Securities and Bonds
Government Securities	
Corporate Bonds	
Supranational Bonds	
Shares	Stocks
Undertakings for Collective Investment in Transferable Securities – UCITS	Collective Investments
Other Collective Investment Undertakings – non UCITS	
Commodities and Precious Metals	Commodities and Precious Metals
Commodities and Precious Metals Funds	
Instruments for hedging risk	Other
Private Equity	
Infrastructure	
Other financial instruments	
Amounts in settlement at the end of reporting date	
Instruments for hedging risk	

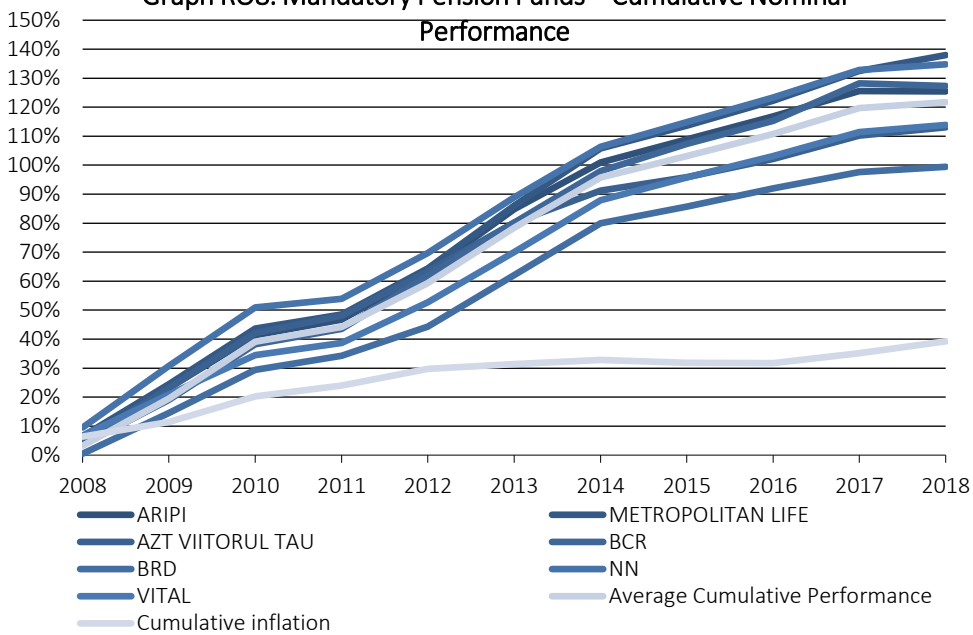
Source: Own elaboration, 2018

For the purpose of this study, we simplified the portfolio structure to only six main asset classes (see the table above). Romanian mandatory pension funds invest mostly in government securities and bonds asset classes. The second most important asset class (from

the portfolio structure point of view) are equities and the third most important are bank deposits. Three other classes have minimal impact on pension fund's performance.

Mandatory Pension Funds' performance compared to the inflation index is presented below.

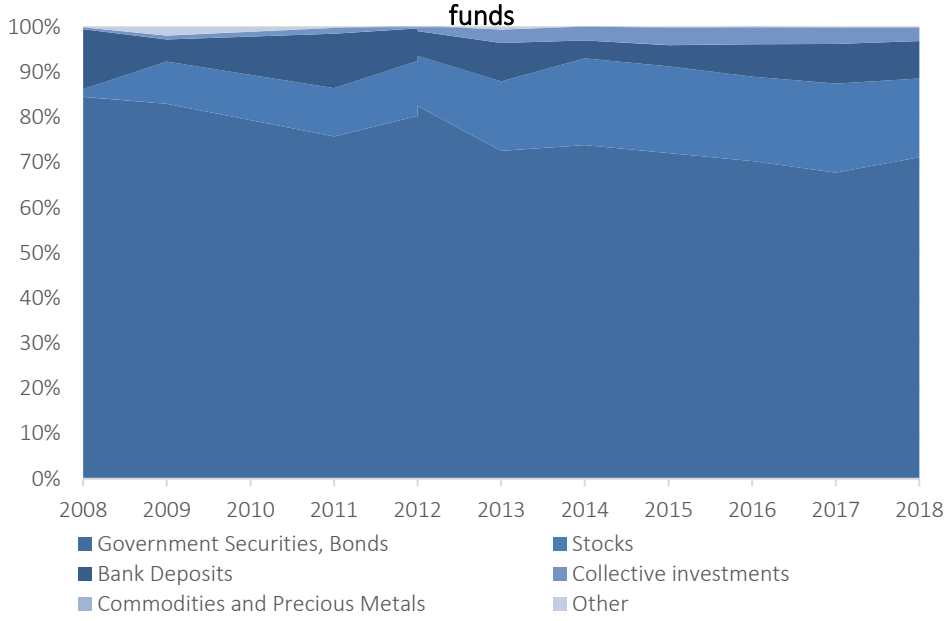
Graph RO8. Mandatory Pension Funds – Cumulative Nominal Performance



Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

The portfolio structure of the Romanian Pillar II is presented below. According to the data available, currently almost 71% of all investments in Pillar II pension funds are bond investments and less than 17% is invested in equities. More detailed data on Pillar II portfolio structure is presented below.

Graph RO9. Portfolio structure of Pillar II mandatory pension funds



Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

Nominal as well as real returns of Pillar II pension funds in Romania, weighted by AuM, are presented in a summary table below.

Table RO10. Nominal and Real Returns of II. Pillar in Romania						
2008	Nominal return after charges, before inflation and taxes	6.40%	7.70%	Real return after charges and inflation and before taxes	0.02%	4.64%
2009		17.57%			12.88%	
2010		15.04%			7.09%	
2011		3.22%			0.05%	
2012		10.55%			5.98%	
2013		11.48%			10.16%	
2014		8.92%			7.88%	
2015		3.69%			4.7%	
2016		3.76%			3.85%	
2017		4.26%			1.67%	
2018		1.06%			-1.96%	

Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

Pillar III – Voluntary private pensions

The eight asset managers offer 10 voluntary pension funds in Romania. AZT and NN are the only providers which offer two voluntary pension funds. The performance of all pension funds shows the same finding as with Pillar II mandatory pension funds - there is similarity in voluntary pension funds' investment strategy. Performance results also imply a similarity in pension funds' portfolio structure.

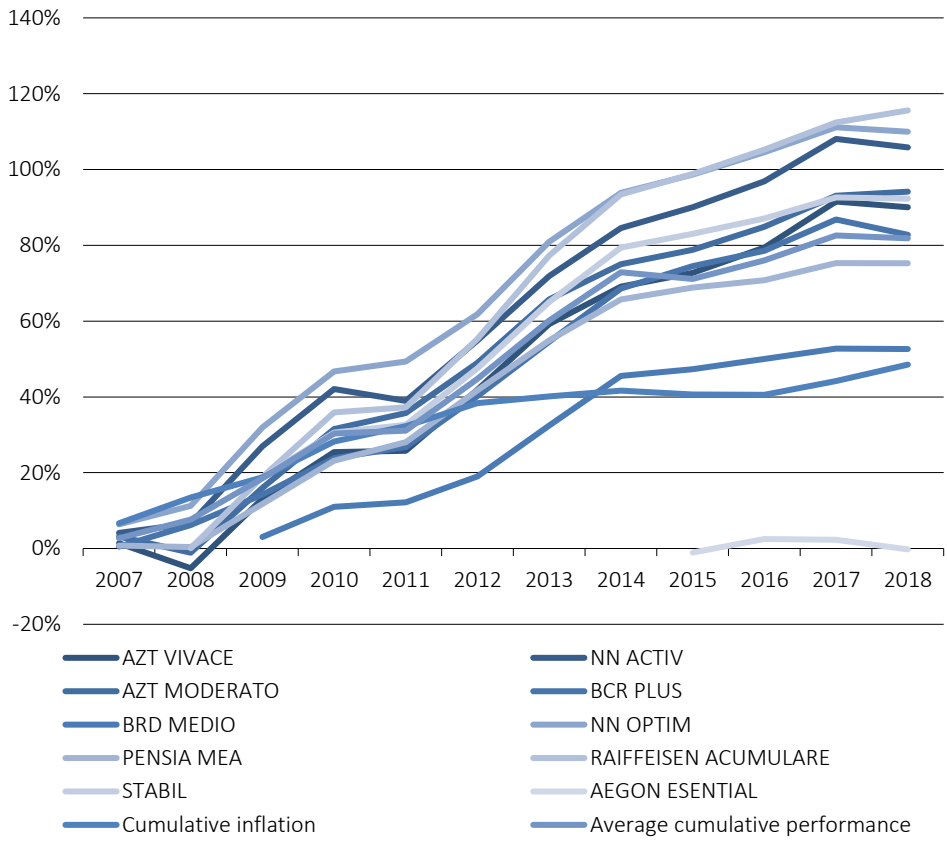
Table RO11. Pillar III pension vehicles

Risk Profile	Voluntary pension fund	Fund Inception Day	Fund closing date
High	FPF AZT VIVACE	May 2007	Open
	FPF NN ACTIV	May 2007	Open
Medium	FPF AZT MODERATO	May 2007	Open
	FPF BCR PLUS	May 2007	Open
	FPF BRD MEDIO	July 2009	Open
	FPF CONCORDIA MODERAT	*September 2008*	*Closed February 2013*
	FPF EUREKO CONFORT	*February 2009*	*Closed in June 2015*
	FPF NN OPTIM	May 2007	Open
	FPF PENSIA MEA	May 2007	Open
	FPF RAIFFEISEN ACUMULARE	July 2008	Open
	FPF STABIL	April 2009	Open
	FPF AEGON ESENTIAL	May 2015	Open
Low	*FPF BRD PRIMO*	*July 2009*	*Closed December 2011*
	FPF OTP STRATEG	*December 2007*	*Closed December 2011*

Source: Own elaboration based on CSSPP data, 2019 (data as of 31 December 2018)

All voluntary pension funds' performance on a cumulative basis compared to the inflation index is presented in the graph below.

Graph RO12. Voluntary Pension Funds – Cumulative Nominal Performance

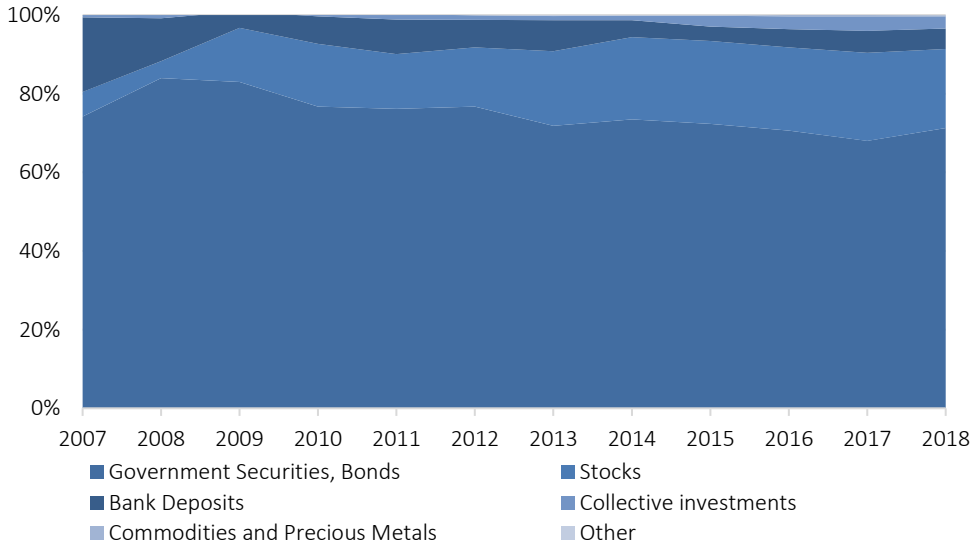


Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

Analyzing the portfolio structure of voluntary pension funds based on CSSPP data, we can conclude that most of the performance is tied to the Government Securities and Bonds asset classes. The second most important asset class (from the portfolio structure point of view) is equities and the third most important is bank deposits. The three other classes have minimal impact on pension fund's performance results.

Portfolio structure of Romanian Pillar III voluntary pension funds is presented below. According to the data for 2018, around 70% of all investments in Pillar III pension funds are bond investments and about 20% is invested in stocks with rising portion of collective investment vehicles (UCITS funds). Overall, Pillar III portfolio structure is very similar to that of Pillar II over the whole analysed period. The difference in the performance could therefore be devoted to the negative impact of fees, which are significantly higher in Pillar III.

Graph RO13. Portfolio structure of Pillar III voluntary pension funds



Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

Nominal as well as real returns of voluntary pension funds in Romania, weighted by AuM, are presented in a summary table below.

Table RO14. Nominal and Real Returns of III. Pillar in Romania						
2007	Nominal return after charges, before inflation and taxes	1.86%	5.67%	Real return after charges and inflation and before taxes	-4.80%	2.27%
2008		1.72%			-4.66%	
2009		15.51%			10.82%	
2010		11.14%			3.19%	
2011		1.59%			-1.59%	
2012		9.96%			5.40%	
2013		11.36%			10.05%	
2014		7.48%			6.44%	
2015		2.55%			3.22%	
2016		2.91%			3.00%	
2017		3.96%			1.38%	
2018		-0.66%			-3.68%	

Source: Own calculations based on CSSPP data, 2019 (data as of 31 December 2018)

Conclusions

Romania's population is rapidly decreasing and aging, which – unless they adopt the necessary reforms - will lead to the explosion of the demographic bomb in a few decades. That is why Romania introduced the private pensions system in 2007, which is based on the model tested and recommended by the World Bank. The multi-pillar private pensions system includes Pillar II (mandatory schemes) and Pillar III (voluntary schemes).

In the public PAYG pensions system, the state collects contributions from employees and redistributes the money among existing pensioners. Demographics show that this redistribution logic is no longer viable, as contributors' numbers will fall, and the number of pensioners is already going up. The departure from this dilemma takes the form of the private pensions system, allowing each active person to save for their own future retirement.

Romanian pillar II is a fully funded system based on personal accounts and on the defined contribution (DC) philosophy. Pillar II is mandatory for all employees aged under 35 years and voluntary (optional) for employees aged 35 to 45. The starting level of contribution was set at 2% of the participant's total gross income and increases by 0.5 percentage points annually until it reaches 6 of total gross income in 2017. However, this level has not been reached, and the contribution system has inversed.

Mandatory pension funds are managed by their administrators - Pension Management Companies (PMCs). Each PMC is obliged by respective law to administrate and manage just one mandatory pension fund. Currently, there are seven PMCs managing seven mandatory funds on the Romanian Pillar II market. The market is dominated by two PMCs (AZT and NN).

Romanian pillar III is also a fully funded system based on personal accounts and on the defined contribution (DC) philosophy. Pillar III represents privately managed supplementary pensions. This system is opened to all income cohorts. The tax advantage contribution is limited to 15 of participant's total gross income.

Voluntary pension funds in Pillar III are managed by their administrators - Pension Management Companies (PMCs), Life Insurance Companies (LICs) or Asset Management Companies (AMCs). Each administrator is obliged to establish and operate at least one voluntary pension fund. Currently, there are eight providers offering 10 voluntary pension funds. Pillar III market is fairly concentrated, where three dominant players cover almost 90 of the market.

Mandatory as well as voluntary pension funds' investment strategy is strictly regulated. The law imposes percentage limits and restrictions for different asset classes. It must be noted that investment rules in mandatory and voluntary system are very similar. This fact logically

causes implications on portfolio structure, thus also on performance of mandatory and voluntary pension funds in Romania. Currently about 70 of all investments in Pillar II as well as Pillar III pension funds are bond investments (Romanian Government Money market instruments and Bonds) and only about 19 is invested in equities.

Overall, the real return of pension funds in Pillar II as well as Pillar III are positive and well above the inflation. However, considering the fee structure, Pillar II savers are better positioned as the charges are almost 4-times lower than the fees applied in Pillar III.

Policy considerations

We strongly advise Romanian public authorities to not destroy the private managed pensions system, considering that for 11 and, respectively, 12 years privately managed pension schemes in Romania have functioned quite well and returned performances above inflation. However, considering the "lucky timing" of their start, i.e. after the market downfall of the 2008 crisis, some may argue that Romanian private pension plans must pass a market correction to prove their resilience. Therefore, these policy considerations are forward looking and meant to further enhance this system.

First, bearing in mind the general and constant research results on the correlation between cost and performance in investment funds, one consideration would be to further cap the total costs for privately managed occupational pension funds (Pillar II).

Second, considering the concentrated market for Pillar II funds and the fact that enrolment is mandatory, the Romanian public authorities should consider including a mandatory minimum rate of return for these plans (e.g. inflation + 1%), in order to ensure that this well performing track record is maintained.

Last, Romanian citizens should be further incentivised through financial education and fiscal stimulents to increase their savings rate into voluntary pension plans (Pillar III).

Bibliography

- CENAR. I. 2010. The Financial - Accounting Image for The Public Benefits Of Retirement. In: Annals of the University of Petrosani. Economics. 10(3). 2010.
- FRUNZARU. V. Romanian pension system. An evaluation from the European Perspective. Economic Publishing House. 2007.
- MUNTEAN. L. – STANCIU. A. P. 2011. Deductibility of Contributions to Voluntary Private Pensions. In: Annals of the University of Petroşani. Economics. 11(4). 2011.
- NOVAC. L. E. – BADEA. D. G. 2007. The Evolution of Pension Funds on the Romania market. In: Review of Management and Economical Engineering. Vol. 6. No. 6. 2007

Pension Savings: The Real Return

2019 Edition

Country Case: Slovakia

The Zhrnutie

Zhrnutie

Slovenský dôchodkový systém je typickým modelom Svetovej banky založenom na viac-pilierovom (troj-pilierovom) systéme s individuálnymi (osobnými) účtami sporiteľov. V roku 2018 bol zavedený výkaz dôchodkových dávok v III. pilieri. Zároveň sa začali debaty o stropovoaní dôchodkového veku, ktorý potenciálne zníži očakávané dôchodky z I. piliera a tak zvýši nutnosť dodatočného sporenia na dôchodok. Pokračovali analýzy nákladovej efektívnosti dôchodkových fondov v III. pilieri a nevhodnej alokácie úspor sporiteľov v II. pilieri. Rok 2018 priniesol celkove negatívne zhodnotenie úspor v sporivých schémach poznačených pádom akciových trhov v závere roka 2018

Summary

The Slovak Pension system is a typical World Bank multi-pillar (three pillar) system based on individual (personal) pension savings accounts. The year 2018 brought first pension benefit statement for savers in Pillar III. At the same time, debates on the fixing retirement age that could lower the expected benefits from Pillar I increases the necessity of additional private forms of savings. Relevant ministries started works on the cost-effectiveness of Pillar III funds and the solutions ineffective allocation of Pillar II savings, where almost 80% of savings are allocated into the low-yielding bond funds. Year 2018 brought negative returns to almost all types of pension funds due to the decline on equity markets at the end of year.

Introduction

The Slovak old-age pension system is based on the multi-pillar approach, which consists of three main pillars:

- Pillar I – State pension organized as a mandatory Pay-As-You-Go (PAYG) scheme;
- Pillar II – Funded pension organized as voluntary funded DC based scheme; and

- Pillar III – Supplementary pension organized as a voluntary individual pension DC based scheme.

The Slovakian pension reform started in 1996 with the introduction of Pillar III, which at that time (and until 2009) was organized as voluntary pension pillar offering life insurance contracts and as an occupational pillar as well. Since July 2009, the system was changed to funded saving schemes and voluntary Pillar III pension funds are offered to the savers (members). The organization of Pillar III started to become more personal with the financial support of employers.

The World Bank's approach has been fully implemented by introducing Pillar II at the beginning of 2005, and, from a terminological point of view, it should be called the "1bis pillar", as individual retirement accounts are funded via partial redirection of social security contributions on individual pension savings accounts.

For a person who works a full career (42 years) and retires in 2018, the main income stream derives from the PAYG (Pillar I) pension scheme. On average, the individual replacement ratio of such a person could reach 50% of his gross salary. If the person would have participated since 1996 in Pillar III and contributed on average 3% of his salary into a Pillar III pension scheme, having also entered Pillar II (1bis pillar) in 2005, his income stream during retirement would have been slightly different and his replacement ratio would have been a little higher than 50%. However, still more than 90% of the retirement income stream is provided via the PAYG scheme (Pillar I), around 5% from Pillar II (1bis pillar) and 5% from Pillar III.

Introductory Table - SK Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
State pension (almost 100% coverage) - Mandatory (PAYG)	Occupational pensions - Mandatory DC (funded schemes) - coverage 60%	Individual pensions - Voluntary fully funded DC - coverage 27%
Managed by the Social Insurance Company	Managed by Pension Asset Management Companies	
Contribution rate: 13.50%; Replacement ratio: 46%; Average pension: €455	Contribution rate: 4.50%; 19 pension funds offerred	15 pensions funds offered
Quick facts		
Retirement age – 62.4 years		
A relatively high old-age dependency ratio of 23.4%		
An average net pre-retirement income replacement ratio of 83.8%		

Source: authors´ composition, data valid for the year 2018

Pillar I – State Pensions

Pillar I is a state organized Pay-As-You-Go (PAYG) pension scheme, managed by the State Social Insurance Company. Pensions are funded on an ongoing basis and benefits are calculated based on the number of insured years and paid contributions. The PAYG principle of financing is supplemented by the redistribution principle, where the lowest income groups receive higher replacement ratios and higher income groups (due to the solidarity mechanisms) receive lower replacement ratios.

Pillar I is closely connected to the economic activity and income of the citizens. This pillar is financed by contributions of economically active individuals, amounting to 13.50% (18% if the saver is not participating in Pillar II) of their base income (gross salary). These contributions are directed to the Social Insurance Company, which distributes the allowance to the beneficiaries (current pensioners).

Although Pillar I is a typical PAYG scheme, it has many NDC (notional defined-contribution) scheme features with a certain income solidarity element. The old-age pension of the insured person depends on three parameters:

1. The insurance period (number of insured years with active contribution);
2. The average personal wage point (a ratio representing the contribution base of an individual is compared to the average salary in Slovakia); and
3. The value of the pension unit (this value is annually defined by the Slovak Government to mimic the increase in the average salary in Slovakia).

However, an individual is entitled to an old-age pension only after the statutory retirement age is reached. The pension insurance is comprised of two independent, separately funded sub-schemes managed by the Social Insurance Agency:

- the old-age pension insurance: insurance to secure income in retirement and in the event of death; and
- the disability insurance: insurance in the event of a reduced ability to work due to long-term illness of the insured and in the case of death.

Pension insurance is mandatory; statutory insurance and participation in this scheme is a legal obligation for all eligible persons. However, the Act on Social Insurance also enables voluntary pension insurance participation.

The basic pension insurance parameters that make up the content of the benefit scheme and affect the entitlement to individual pension benefits are: the insurance period, the average personal wage point, the value of pension unit and the retirement age, defined as follows:

- **Number of insured years (insurance period):** given by the number of working years of an individual during which social insurance contributions were paid;
- **Average personal wage point (APWP):** determined as the ratio of the sum of personal wage points calculated for each calendar year of the reference period and the period of pension insurance in the relevant period. The average personal wage point shall be rounded up to four decimal points;
- **Value of pension unit:** the monetary value of one personal wage point. The pension value is adjusted on 1 of January each year through indexation, which is determined as the ratio of the average wage calculated in the third quarter of the previous calendar year and the average wage calculated in the third quarter of the calendar year two years preceding the calendar year on which the pension value is calculated. This way the determined pension value is always valid from 1 January to 31 December of the calendar year. The current pension value, which is used to calculate pension benefits, is the pension value valid at the time of a claim for payment of the pension benefits;
- **Retirement age** – 62 years and 139 days in 2018, valid for both men and women. In order to increase the sustainability of Pillar I pension scheme, the retirement age increases both for men and women from 2017 onwards. The increase in retirement age is reflective of the increase in life expectancy of the retiring population. The first increase in retirement age was at the beginning of 2017 and accounted for additional 76 days. Further increases in retirement age are expected and should rise on average by 2 months every year. However, there are strong political debates on the fixing retirement age at 64 for men and bonification for women that raised children.

To illustrate the calculation of an old-age pension, let us assume that an individual has the following individual parameters and reached the statutory retirement age of 62.4 years in 2018:

1. Number of insured years (N) = 42 (full working career);
2. Average personal wage point (APWP) = 1 (for the entire working career, an individual has been earning on average 100% of average salary in Slovakia)
3. Value of pension unit (VPU) = €11.9379 (for persons retiring in the year 2018).

The old-age pension is then calculated using the following formula: N x APWP x VPU.

Therefore, considering the abovementioned individual parameters of a person claiming old-age pension, he/she will be entitled to a monthly pension equal to: 42 x 1 x €11.9379 = €501.40.

If an individual has earned on average 100% of an average salary during his entire working career and the average salary in 2018 was €1,013, then the individual replacement ratio of such an individual would be: €501.4 / (1 x €1,013) = 49.50%.

Pillar II – Funded pensions

The Slovak Pillar II was established as a defined contribution (DC) pension saving scheme in 2005. Since September 2012, the enrollment is fully voluntary (until September 2012 it was a mandatory one) and eligible for persons up to 35 years of age. The principle of funded pension is based on the accumulation of savings during employment and investing savings in financial markets via special purpose vehicles - pension funds, which are managed and administrated by Pension Fund Management Companies (PFMCs), licensed by National Bank of Slovakia.

The role of old-age pension saving, along with old-age social insurance (Pillar I), is to ensure retirement income for savers and their survivors in the case of his/her death.

The Pillar II market is fairly concentrated. Each saver can choose one out of six currently existing providers (PFMCs) on the Slovak market. The PFMCs are private joint-stock companies with a minimum capital requirement of €10 million and established in the territory of the Slovak Republic. Their exclusive business is the creation and administration of pension funds. As a further condition, they must attain at least 50,000 members within a period of 18 months from the establishment of the pension fund.

According to the applicable law (the Act on Old-Age Saving), each PFMC is obligated to operate at least two pension funds. We can divide these pension funds into two main groups:

1. Bond guaranteed pension fund (Guaranteed scheme);
2. Equity non-guaranteed pension fund (Non-guaranteed scheme).

Each PFMC is free to choose (mostly based on their business model) wether it operates additional pension funds, which are optional. These legislative changes entered into force on 30 April 2013. Before this date, each PFMC had to operate three (respectively four) obligatory pension funds:

1. Bond (Conservative) pension fund (since March 2005);
2. Mixed (Balanced) pension fund (since March 2005);
3. Equity (Growth) pension fund (since March 2005);
4. Index pension fund (since April 2012).

After the legislative changes became effective in May 2013, mixed and index pension funds became optional, and some of PFMCs merged these pension funds with obligatory Equity non-guaranteed pension funds. It is important to say that the first three categories of pension funds are (from an asset management point of view) actively managed pension funds, and Index pension funds are the only funds managed entirely passively. However, changes in the fee policy (strictly regulated) forced providers to change the investment strategy of pension funds towards being passively managed using mostly ETFs as main financial instruments.

PFMCs are subject to a variety of regulations. The Old-age Pension Savings Act defines the range of allowed investment instruments and sets maximum limits for portfolio allocations (quantitative limits). Investment procedures and valuation of investments (daily at market prices) are also regulated. Thus, each category of pension funds has their own investment strategy, as well as general or special quantitative limits and operating conditions. PFMCs and managed pension funds are supervised by the National Bank of Slovakia.

Pillar II as a voluntary DC scheme allows savers to enter the system whenever they wish before the age of 35. In general, pension fund members (Pillar II savers) are free to choose one or two of the aforementioned pension funds provided by the same PFMC.

Each saver has an individual retirement account (IRA). His contributions (savings) are redirected from the Social Insurance Company to the chosen PFMC on his IRA at a rate of 4% of gross salary. However, since 2017, the contributions have started to increase from 4% to 4.25% and will continue to grow by 0.25% annually until they reach the final level of 6% in 2024.

With the possibility to save in one or two pension funds at the same time, it is completely up to a saver how much of his own savings would be invested in one pension fund or another. He can invest, for example, 70% in a Bond guaranteed pension fund and another part (30%) in an Index non-guaranteed pension fund. There is no fee or charge to change this allocation ratio or switch pension funds managed by the same PFMC - even on a daily basis. Switching providers (PFMCs) for free is possible for savers if the change is made after one year, otherwise a fee of €16 is applied.

The reform of the pay-out phase, introduced in 2015, stipulates the following types of pension products that are allowed for the pay-out phase:

1. single annuity (for most cases) with guaranteed payment period for 84 months;
2. single indexed annuity;
3. single annuity with survivorship benefits (for up to 2 years);
4. programmed withdrawal (phased withdrawal);
5. perpetuity (withdrawal of only annual gains).

Products 1, 2 and 3 are provided by insurance companies, products 4 and 5 by PFMCs.

Pillar III – Supplementary pensions

The Supplementary pension is a voluntary funded DC-based pension saving scheme in which the funds of the participants are administered by Supplementary Pension Fund Management Companies (SPFMCs). The SPFMCs are private joint stock companies established under the Slovak law and able to only provide services tied to the management of supplementary pension funds. SPFMCs and their supplementary pension funds are supervised and regulated by the National Bank of Slovakia.

The purpose of supplementary pension saving is to allow participants to obtain supplementary pension income in old-age and the whole Pillar is mostly oriented towards employers and their employees. However, the coverage ratio is rather low (28% in 2018).

Currently there are four providers (SPFMCs) operating on the market, which could be considered concentrated. Each SPFMC is obliged by law to operate at least one contributory and one "pay-out" supplementary pension fund. The legislation does not determine specific types of contributory pension funds; however, we can divide all existing contributory pension funds according to the portfolio structure into 3 main groups:

- Conservative supplementary pension funds (no equity investments);
- Balanced supplementary pension funds (small portions of equity investments);
- Growth supplementary pension funds (highest portions of equity investments).

Company "NN" has launched the first passively managed equity fund within the Pillar III in July 2018. There are no specific investment restrictions regarding asset classes in supplementary pension funds, but there are some general quantitative limits to restrict the concentration risk of the fund.

The following benefits are paid from the supplementary pension saving upon the completion of the saving period:

- supplementary old-age pension in the form of lifelong or temporary supplementary annuity;
- supplementary pension in the form of programmed withdrawal;
- lump-sum settlement;
- redundancy pay.

Pension Vehicles

Pillar II – Funded pensions

There are six providers - Pension Asset Management Companies (PFMCs) - operating on the market. According to the Assets under Management (AuM) measure, the two biggest, Allianz Slovenska and AXA, represent nearly 60% of the market. More details on the market share of particular providers are presented in the table below.

Table SK1. Pension Asset Management Companies market share (Pillar II)

Pension Fund Management Company	AuM *(in millions €)*	Market share based on AuM
AEGON	694.87	8.62%
Allianz – Slovenska	2,563.02	31.80%
AXA	2,140.79	26.56%
DSS Postovej banky	428.09	5.31%
NN	840.59	10.43%
VUB - Generali	1,392.51	17.28%
TOTAL	**8,059.87**	**100.00%**

Source: Own calculations based on ManazerUspor.sk data, 2019 (data as of 31 December 2018)

The table below (Table SK2) presents the market share of Pillar II pension funds according to their dominant investment strategy and asset allocation. The dominant part of savings is allocated into bond pension funds that invest conservatively and mainly in short-term bonds.

Table SK2. Pillar II Market share by group of pension funds

Scheme	Type of voluntary pension fund	AuM *(in millions €)*	Market share based on AuM
Guaranteed PFs	Bond guaranteed pension funds (6 funds)	6,266.70	77.75%
Nonguaranteed PFs	Mixed non-guaranteed pension funds (2 funds)	81.13	1.01%
	Equity non-guaranteed pension funds (6 funds)	951.52	11.81%
	Index non-guaranteed pension funds (5 funds)	760.52	9.44%
TOTAL	**19 Pension funds**	8,059.87	100.00%

Source: Own calculations based on ManazerUspor.sk data, 2019 (data as of 31 December 2018)

The increase in assets under management was caused mainly by the stabilization of the market and higher returns of Index pension funds. We see increased number of savers, who mix two funds on their individual retirement savings accounts.

However, the structure of investments does not match the age profile of Slovak savers and thus increases the risk of lower replacement ratio for most of the savers in the future. After the Governmental intervention in 2013, the number of savers in equity pension funds has dropped significantly. Currently, still 78% of all savings in Pillar II are allocated into the Bond guaranteed pension funds and it does not correspond to the age profile of savers. This fact might cause more problems and increase the political risk in the future, as many savers still believe that they save in equity pension funds.

Asset allocation of Pillar II pension funds is regulated by law (Act on Old-Age Saving), laying down the general quantitative investment limits on all pension funds – for example:

- max. 3% of AuM into one financial instrument (does not apply on bond investments or in case of passively managed pension funds);
- max. 10% of AuM into one UCITS fund;
- max. 15% of the whole pension fund portfolio into one issuer (does not apply on bond investments or in case of passive managed pension funds);
- bond investments must have investment grade rating (does not apply in case of passively managed pension funds).

Pillar II savers can choose from two main types of obligatory and two types of optional voluntary pension funds.

Obligatory - Bond guaranteed pension funds are actively managed pension funds and are obliged to invest 100% of the assets into bonds, money market instruments, deposits, investment funds in which assets must be invested in the above securities and deposits and other similar assets. Bond guaranteed pension funds are not allowed to invest in equities and real estate, nor respective investment funds. This conservative strategy focuses on bonds, and its objective is the preservation of capital and moderate growth primarily on shorter horizons. Bond guaranteed pension funds are obliged to hedge at least 95% of the whole portfolio against currency exposure. That means that if the pension fund allocates the assets into the financial instruments that are denominated in a currency other than Euro, fund managers must open the position (usually swaps or other hedging instrument) that fixes the value of such investment in Euro.

Obligatory - Equity non-guaranteed pension funds are actively managed pension funds and proceed in investing in different types of assets from the objective under quantitative limits:

- up to 80% of the assets of the funds can be invested in equities, equity funds and other instruments similar to equity;
- at least 20% of the whole portfolio has to be hedged against currency risks;

- max. 20% of the whole portfolio can be invested in precious metals.

Optional - Mixed non-guaranteed pension funds are actively managed pension funds and they invest in different types of assets, according to their objective and under general quantitative limits. There are no specific limitations applicable.

Optional - Index non-guaranteed pension funds, introduced in April 2012, are the only passively managed pension funds in Slovak pillar II. There are no general nor specific quantitative limits, because of the nature of investing. Slovak Index non-guaranteed pension funds track respective stock market benchmarks (such as MSCI World, Eurostoxx 50, MSCI ACWI, MSCI Euro).

Pillar III – Supplementary pensions

There are four providers – Supplementary Pension Fund Management Companies (SPFMCs) - operating on the market. According to Assets under management, the two biggest, NN Tatry – Sympatia and DDS Tatra banky, represent nearly 70% of the whole market.

DDS Tatra banky has introduced TDFs (target date funds) in 2015, with the aim to provide age specific investment strategy for its members saving for retirement in Pillar III pension vehicles.

Table SK3. Pillar III Supplementary Pension Companies market share

Supplementary Pension Company	Assets under management *(in millions €)*	Market share based on AuM
DDS Tatra banky	622.12	30.97%
AXA	290.19	14.44%
NN Tatry – Sympatia (ING before 2015)	776.47	38.65%
STABILITA	320.30	15.94%
TOTAL	**2,009.08**	**100%**

Source: Own calculations based on ManazerUspor.sk data, 2019 (data as of 31 December 2018)

Under the law, each SPFMC must operate at least two types of pension vehicles for supplementary pension (Pillar III):

1. contributory pension fund; and
2. "pay-out" pension fund.

Although the law does not determine specific types of contributory pension funds, we can divide all existing contributory pension funds according to the portfolio structure into three main groups:

- Conservative supplementary pension funds (no equity investments);

- Balanced supplementary pension funds (small portions of equity investments);
- Growth supplementary pension funds (higher portions of equity investments).

For supplementary pension funds, there are no special investment restrictions regarding asset classes, but there are some general quantitative limits, i.e. no more than:

- max. 5% of AuM in one financial instrument;
- max. 30% of AuM in securities and money market financial instruments from one issuer (does not apply to instruments issued by the EU Member States);
- max. 35% of AuM in securities and money market financial instruments issued by the EU Member State, the EU, ECB, MMF or World bank;
- max. 20% of AuM in one standard mutual fund (UCITS compliant);
- max. 10% of AuM in one alternative investment fund (AIF);
- max. 40% of AuM in mutual funds.

Table SK4. Supplementary Pension vehicles market share by group of funds

Type of the pension fund	Supplementary pension vehicles	AuM *(in millions €)*	Market share, based on AuM
Contributory	Conservative supplementary pension funds (3 funds)	704.49	35.06%
	Balanced supplementary pension funds (4 funds)	883.67	43.98%
	Growth supplementary pension funds (4 funds)	353.10	17.58%
Pay-out	Pay-out supplementary pension funds (4 funds)	67.83	3.38%
TOTAL	**17 Pension funds**	**2,009.08**	**100.00%**

Source: Own calculations based on ManazerUspor.sk data, 2019 (data as of 31 December 2018)

In general, the Pillar III scheme covers only 27% of economically active population, while only 70% of them actively contribute to the scheme. At the same, most of the retirement savings are directed into balanced supplementary pension funds, which apply rather conservative investment strategy with limited long-term investments.

Charges

Pillar II – Funded pension

Charges are highly regulated and capped in the Pillar II scheme by the Old-Age Pension Saving Act.

PFMCs can apply the following types of charges at the expense of the pension funds:

- Management fee (as percentage of NAV in respective pension fund);
- Performance fee (as percentage of new highs reached in performance of respective pension fund –High Water Mark[229] 'HWM' principle);
- Administration fee - Administration of Personal pension account (as percentage of new contributions);
- Depository fee (as percentage of NAV in the respective pension fund); and
- Other charges (mostly trading charges).

It must be mentioned that on top of these charges, each saver in Slovak Pillar II also has to pay an Administration fee to the Social Insurance Company that administers the central collection system, central information, and offering system for annuities. The Social Insurance Company collects the social security contributions and transfers part of savers´ contributions to his personal pension account managed by the Pension Asset Management Company.

The following table compares applied charges in Pillar II.

Table SK5. Pillar II Pension Funds´ Fees

Fee type	Since 2005	as of 31 December 2018
Management fee (for PFMC)	max 0.8% p.a., NAV	max 0.3% p.a. based on AuM *(since 1 April 2012)*
Success Fee (for PFMC)	0%	max 10%, HWM *(since 1 July 2013)*
Administration of Personal pension account (for PFMC)	1% of new contributions	1% of new contributions
Administration fee (for Social Insurance Agency)	0.50% of new contribution	0.25% of new contributions *(since 1 January 2013)*

Source: Own research, data as of 31 December 2018

[229] Slovak legislation defines the HWM method for calculating the success fee as a comparison of new highs of respective pension fund to its historical performance achieved 3 years ago. If today´s closing price is higher than historical highs achieved 3 years ago, the provider has the right to charge 10% success fee from the difference between today's pension unit price and highest historical price. If the difference is negative no success fee can be charged.

Pillar III – Supplementary pensions

Charges in Pillar III are capped by law. Supplementary Pension Fund Management Companies are (since 1 January 2014) allowed to apply the following types of charges:

- Management fee (as percentage of AuM in a respective supplementary pension fund),
- Performance fee (as percentage of new highs reached in performance of a respective supplementary pension fund – High Water Mark principle),
- Depository fee (as percentage of AuM in a respective pension fund),
- Other charges (Switching fee).

The Following table compares charges applied in the Pillar III.

Table SK6. Supplementary Pension Funds´ Fees

	since 2009	Since 1 January 2014
Management Fee *1. contributory SPF*	max **2.5%** AuM (2010) => max **1.98%** (2019+)	max **1.2%** NAV (2018 = 1,4% AuM and each following year decreases by 0.1%)
2. payout SPF	max **0.996%** AuM	max **0.6%** AuM (2018 = 0.70% and each following year -0.05%)
Performance Fee *1. contributory SPF*	max **10%** (2010) => max **20%** (2020+); HWM principle	max **10%**; HWM principle
2. payout SPF		**0%**
Switching Fee	**0%** more than 3 years	**0%** more than 1 year / max **5%** less than 1 year
Early Exit Fee	**20%** (5% SPC + 15% SPF)	**0%**

Source: Own research based on Supplementary pension saving Act, data as of 31 December 2017

Taxation

The Act on Income Tax recognizes two different of income tax rates in Slovakia that apply to pension saving schemes.

Personal income tax rate has been set at 19% since 2005. Since 2013, there is higher tax rate of 25% for higher earners, whose monthly income in 2018 was higher than €2,939 (around 4% of working population in 2018).

Corporate income tax rate for 2018 was 21%.

Pillar II – Funded pensions

Pillar II should be viewed as a 1bis pension pillar that is basically a derivate of the basic old-age security scheme, as a part (4.50% in 2018) of the overall (18%) old-age social insurance contributions are diverted from a PAYG pillar into funded DC scheme. Understanding this principle, Pillar II taxation is similar to the PAYG pillar, meaning that an "EEE" taxation regime is applied.

Taxation of contributions

Contributions paid to Pillar II are tax deductible. However, a saver can add voluntary contributions on top of the 4.50% contributions redirected from PAYG pillar. Since 2017, voluntary contributions on top of redirected social insurance contributions are subject to the personal income tax (19%) as well as social and health insurance. Thus, the "T" regime applies for voluntary contributions.

Taxation of the Fund

Fund returns are not subject to Slovak income taxes at the fund level.

Taxation of pay-out phase income

Income generated via purchased pillar II pay-out phase products (annuity, perpetuity, programmed withdrawal) are not subject to personal income tax. In case of heritage, the amount the successor receives as inherited (accumulated) savings is not subject to personal income tax.

Thus, we can say that for Pillar II the "EEE" taxation regime applies in general. However, for voluntary contributions, the "TEE" regime applies.

Pillar III – Supplementary pensions

Taxation of Pillar III differs from the Pillar II taxation approach significantly. There are different taxation treatments of contributions as well as different treatments of the pay-out phase. It is rather difficult to generalize the regime. However, the "EET" regime can be used with several exceptions and specifications.

Taxation of contributions

When considering the taxation treatment of contributions, a slightly different regime is used for savers´ (employees´) contributions and a different regime for employer´s contributions.

Generally, both contributions are income-tax deductible; however, for employees (savers) there is a ceiling of €180 per year. This means that the monthly contributions to the Pillar III

supplementary pension fund up to €15 are income tax base deductible. Above this amount, the contributions made to the individual saving account are subject to personal income tax. Considering that the average salary (€1,013 in 2018), employee contributions up to 1.48% of the gross average salary can be deducted from the personal income tax base.

Employer contributions are treated in a slightly different way. Contributions are tied to the monthly salary of employees. Employer´s contributions up to 6% of monthly salary are treated as tax expenses. Therefore, employers are motivated to contribute on behalf of employees up to this tax favorable ceiling. Taking into account the average salary in Slovakia, contributions up to €60.78 per employee per month are considered as tax expenses for contributing employers in 2018. Taking into account the poor supplementary pension funds´ performance and the relatively high level of charges, favorable tax treatment of employer´s contributions are the key drivers for the participants. At the same time, this favorable treatment of employer´s contributions paid on behalf of its employees exclusively in the Pillar III scheme creates an administrative monopoly in form of preferred supplementary retirement product in Slovakia.

Taxation of the Fund returns

Fund returns are exempt from income taxes at the fund level.

Taxation of pay-out phase

There are three different types of products used for the Pillar III pay-out phase (according to the Act on Supplementary Pension Saving):

1) Lump-sum – paid out through SPFMC at maximum of 50% of accumulated savings;
2) Annuities – paid out through insurance company in form of a single annuity;
3) Phased (Programmed) withdrawal – paid out through SPFMC for at least 5 years.

There are 3 general conditions, where at least one should be met when entering the pay-out phase in order to achieve more favorable tax treatment of income stream from Pillar III savings. They concern the member´s age, the entitlement for state retirement pension benefits or the entitlement for early state retirement pension benefits.

When considering the tax treatment of the pay-out phase income stream from the saver's point of view, there is a possible way to adjust the personal income tax base. The Act on Income Tax stipulates that the deduction from income tax base will be applied to the income stream from Pillar III benefits and life insurance contracts. Personal income tax base shall be lowered by the paid contributions (Pillar III) or paid premiums (life insurance contract). The Act on Income Tax also defines the income tax base adjustments in case of paid monthly benefits according to the following formulas:

- In the case of temporary annuity, the income tax base is calculated as positive balance between sum of already received benefits and sum of paid contributions;
- In the case of single annuity, the income tax base is calculated as paid monthly benefits and total paid contributions (or premium) divided by the number of remaining years calculated as life expectancy and the age of the taxpayer (beneficiary) at the moment of the first paid benefit.

Therefore, we can conclude that the income tax treatment of pay-out phase is, in fact, a deferred taxation of investment returns applied not to the supplementary pension fund, but directly to the saver during the pay-out phase. In general, we can say, that the tax regime for Pillar III is "EET".

Pension Returns

Pillar II – Funded pensions

The six asset managers offer 19 pension funds in Slovakia (see table below). Pension funds are divided into 2 main groups:

1. obligatory pension funds
   a) bond guaranteed pension funds (6 offered)
   b) equity nonguaranteed pension funds (6 offered)
2. optional pension funds
   c) mixed nonguaranteed pension funds (3 offered)
   d) index nonguaranteed pension funds (5 offered)

Groups a), b) and c) were launched onto the market by the beginning of Pillar II. Index nonguaranteed pension funds (only passively managed pension funds) were launched in 2012.

Table SK7 Pension vehicles in Pillar II		
Pension vehicle	Fund Name	Fund Inception Day
Bond guaranteed pension funds (obligatory)	AEGON d.s.s. – BGPF (Solid)	*22 March 2005*
	Allianz - Slovenska d.s.s. – BGPF (Garant)	*22 March 2005*
	AXA d.s.s. – BGPF (Dlhopisovy)	*22 March 2005*
	DSS Postovej banky d.s.s. – BGPF (Stabilita)	*22 March 2005*
	NN d.s.s. – BGPF (Tradícia)	*22 March 2005*
	VUB Generali d.s.s. – BGPF (Klasik)	*22 March 2005*
Mixed non-guaranteed pension funds (optional)	NN d.s.s. – MNGPF (Harmónia)	*22 March 2005*
	VUB Generali d.s.s. – MNGPF (Mix)	*22 March 2005*
Equity non-guaranteed pension funds (obligatory)	AEGON d.s.s. – ENGPF (Vital)	*22 March 2005*
	Allianz - Slovenska d.s.s. – ENGPF (Progres)	*22 March 2005*
	AXA d.s.s. – ENGPF (Akciovy)	*22 March 2005*
	DSS Postovej banky d.s.s. – ENGPF (Prosperita)	*22 March 2005*
	NN d.s.s. – ENGPF (Dynamika)	*22 March 2005*
	VUB Generali d.s.s. – ENGPF (Profit)	*22 March 2005*
Index non-guaranteed pension funds (optional)	AEGON d.s.s. – INGPF (Index)	*2 April 2012*
	AXA d.s.s. – INGPF (Indexovy)	*2 April 2012*
	DSS Postovej banky d.s.s. – INGPF (Perspektiva)	*2 April 2012*
	NN d.s.s. – INGPF (Index)	*2 April 2012*
	VUB Generali d.s.s. – INGPF (Index)	*2 April 2012*

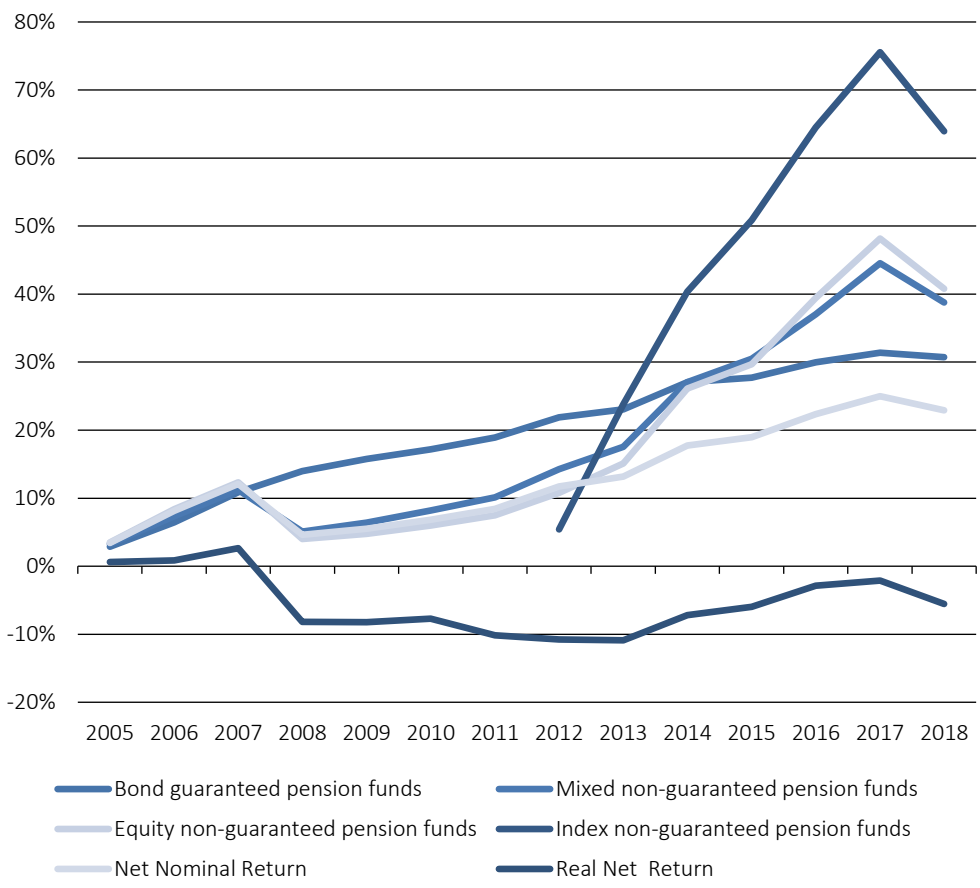
Source: Own elaboration based on Manazeruspor data, 2018

The performance (returns and respective volatility) differs in all four types of pension funds. This is caused by the portfolio structure and different investment strategies.

Bond guaranteed pension funds do not invest in equity investments. Mixed non-guaranteed pension funds invest a small portion in equity investments (currently less than 40% of AuM on average) and equity non-guaranteed pension funds invest higher portion in equity investments (currently more than 50% of AuM on average). Optional Index non-guaranteed pension funds possess the highest level of equity investments (nearly 100% of AuM), because their fully passive investment strategy focusing on the replication of benchmark (various equity market index) performance.

The following graph presents the cumulative performance of Pillar II Pension Funds. At the same time, we present the nominal as well as real cumulative performance, where the returns are weighted by funds´ AuM.

Graph SK8. Cumulative Performance of Pillar II pension funds



Source: Own calculations based on Manazeruspor data, 2019 (data as of 31 December 2018)

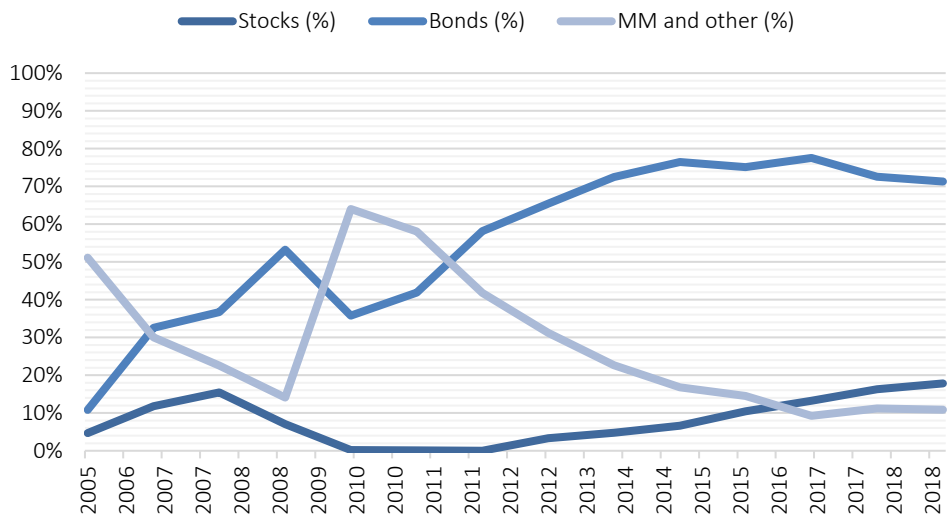
From the view of a saver, one could present the performance using various holding periods. The table below presents the AuM weighted performance of Pillar II pension funds net of fees in nominal as well as real terms.

Table SK9. Pillar II Pension funds Nominal and Real Performance according the holding period		
Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1 year	-1.65%	-3.52%
3 years	1.09%	0.15%
5 years	1.66%	1.17%
7 years	1.81%	0.72%
10 years	1.62%	0.28%
Since inception	1.49%	-0.41%

Source: Own calculations, 2019 (data as of 31 December 2018)

The portfolio structure of Pillar II pension funds according to the classes (bonds, equities, money market instruments) is presented in the graph below. According to our analysis, currently about 71% of all investments in Pillar II pension funds are bond investments. On the other hand, only 18% of all investments are equity investments. The portfolio structure does not correspond to the age profile of Pillar II savers, which causes overall low returns of Pillar II savings.

Graph SK10 Pillar II Pension funds´ Portfolio Structure



Source: Own calculations based on Manazeruspor data, 2019 (data as of 31 December 2018)

The portion of equities in Pillar II Pension funds´ portfolios is rising constantly, however the overall portfolio structure does not correspond the age profile of existing savers. On the other hand, younger savers who joined the Pillar II voluntarily after 2012 invest more aggresivelly in line with conventional knowledge.

Nominal as well as real returns of Pillar II pension funds in Slovakia weighted by AuM are presented in a summary table below.

Table SK11 Nominal and Real Returns of Pillar II Pension Funds in Slovakia					
2005	Nominal return after charges, before inflation and taxes	3.42%	1.49%	Real return after charges and inflation and before taxes	0.62%	-0.41%
2006		4.54%			0.24%	
2007		3.67%			1.77%	
2008		-6.65%			-10.55%	
2009		0.84%			-0.06%	
2010		1.26%			0.56%	
2011		1.48%			-2.62%	
2012		3.03%			-0.67%	
2013		1.34%			-0.16%	
2014		4.03%			4.13%	
2015		1.04%			1.34%	
2016		2.82%			3.32%	
2017		2.17%			0.77%	
2018		-1.65%			-3.52%	

Source: Authors´ calculations, 2019 (data as of 31 December 2018)

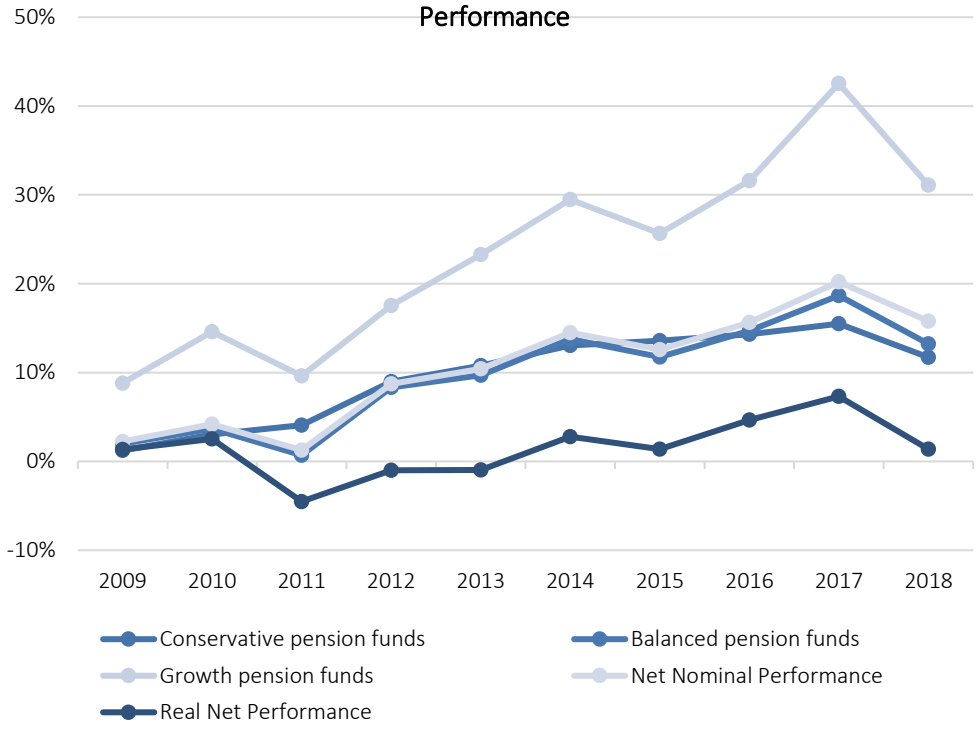
Negative real returns between years 2008 and 2013 were caused by inappropriate legislative changes that came into effect in July 2009 after stock market turmoil. These changes forced portfolio managers to sell off all equities and hold cash in portfolios. Year 2018 brouhght overall decline on equity markets, which has negativelly influenced the performance of mixed, equity and index pension funds.

Pillar III – Supplementary pensions

Supplementary pension funds differ in strategy and portfolio structure. Conservative pension funds do not invest in equity investments. Balanced pension funds invest a small portion in equity investments (currently less than 20% of AuM in average) and growth pension funds invest a higher portion in equity investments (currently more than 40% of AuM in average).

Supplementary pension funds' performance on a cumulative basis accompanied by the calculated net nominal as well as real cumulative performance is presented in the graphs below.

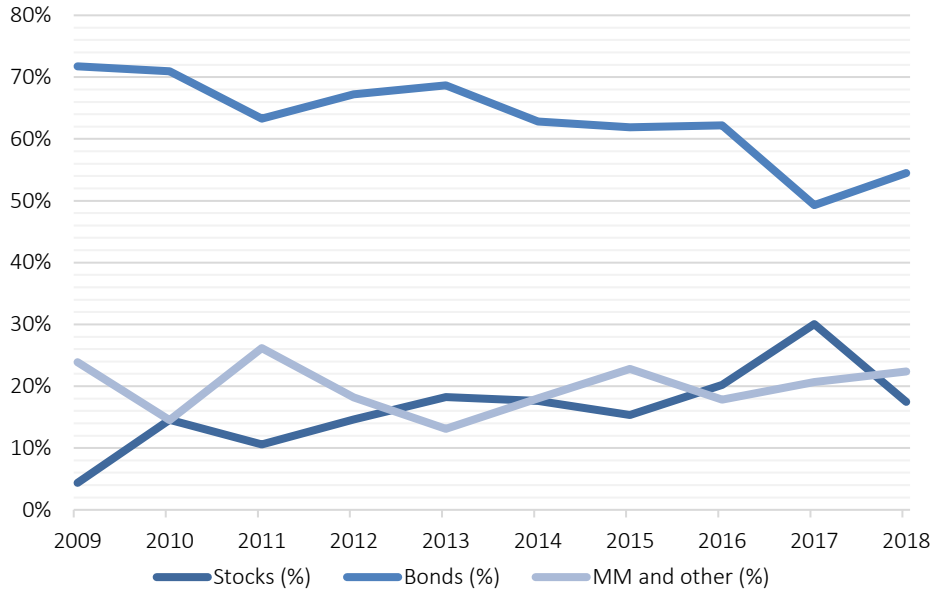
Graph SK12. Supplementary Pension Funds Cumulative Performance



Source: Authors´ calculations, 2019 (data as of 31 December 2018).

Balanced and Conservative supplementary pension funds have achieved very similar returns over the analysed period. This could be explained by similar portfolio structure. The portfolio structure of Pillar III is presented in the graph below.

Graph SK13. Supplementary Pension Funds´ Portfolio Structure



Source: Own calculations based on www.manazeruspor.sk data, 2019 (data as of 31 December 2018)

Currently, more than 50% of all investments in Pillar III pension funds are bond investments. In 2018 we could have seen rather rapid portfolio changes in favour of bonds and sharp decrease of equity investments. However, this active intervention of fund managers came too late and did not help to protect positive returns of funds.

Looking at the performance from a saver´s point of view, where various holding periods are considered, we present the net of fees nominal as well as real returns.

Table SK14. Supplementary Pension funds Nominal and Real Performance according the holding period

Holding Period	Net Nominal Annualized Performance	Real Net Annualized Performance
1 year	-3.67%	-5.54%
3 years	0.94%	0.00%
5 years	0.95%	0.46%
7 years	1.93%	0.86%
10 years	1.48%	0.14%
Since inception	1.48%	0.14%

Source: Own calculations, 2019 (data as of 31 December 2018)

Nominal as well as real returns of supplementary pension funds in Slovakia weighted by AuM are presented in a summary table below.

Table SK15. Nominal and Real Returns of Supplementary Pension Funds in Slovakia						
2009	Nominal return after charges, before inflation and taxes	2.25%	1.48%	Real return after charges and inflation and before taxes	1.35%	0.14%
2010		1.88%			1.18%	
2011		-2.78%			-6.88%	
2012		7.37%			3.67%	
2013		1.56%			0.06%	
2014		3.69%			3.79%	
2015		-1.68%			-1.38%	
2016		2.72%			3.22%	
2017		3.95%			2.55%	
2018		-3.67%			-5.54%	

Source: Authors´ calculations, 2019 (data as of 31 December 2018)

Supplementary pension funds have achieved negative returns in 2018 mainly due to the higher portion of equities in their portfolios. However, relatively high fees played their role and contributed negatively to the overall low performance.

Conclusions

The Slovak multi-pillar pension system is not quite favorable for savers. Pillar II suffers from constant changes and significant political risk therefore not only arises from diverging political opinions on the pension system. The new phenomena in Slovak pension system is the pension populism, where political parties tries into revert stabilization features and weaken the pension savings schemes in favour of PAYG scheme.

Even though there have been negative interventions in Pillar II from 2008 to 2012 (significant investment restrictions, a decrease in contributions from 9% to 4%), several positive features have been introduced in Pillar II. However, unprofessional move of transferring savers´ assets from equity-based pension funds into bond ones have had detrimental effect on savings, which could lead to low pension pots and further political pressures on decreasing importance of private pension savings in Slovakia.

Pillar III pension vehicles are generally poorly performing, costly and without significant tax benefits for employees´ contributions; Pillar III would never survive competition from Pillar II pension funds and typical investment funds. The debate on finding an appropriate regime for the Pillar III scheme is still ongoing, while there are several different views on how to make Pillar III more favorable for savers. Major governmental spending review in this area is expected to provide a clearer way forward.

Policy Recommendations

Slovak Pillar II suffers from the misalignment between the remaining saving horizon of savers (age profile) and applied investment strategy or allocation of savings. Most of the savers allocate their savings into the bond funds even if their remaining saving horizon is far longer than 15 years. Pension asset managers and regulators should therefore acknowledge inertia of savers and imply default investment strategy that would at least recognize the remaining saving horizon of savers and thus allocate the savings accordingly.

Pillar III faces two main limitations that are in fact deeply interconnected. The first problem is the small coverage of economically active population, which disqualifies the pillar from being recognized as universal pension pillar. This problem is however connected to the high fees that effectively refrain larger participation of employers and employees in this pillar. Regulators should scrutinize the possibilities to lower the management fees with rising assets under management, which would show the clear and transparent road map towards the development of supplementary pension schemes in Slovakia.

Bibliography

Internet sources:

- Eurostat (http://epp.eurostat.ec.europa.eu/)
- National bank of Slovakia (http://nbs.sk)
- Analytical web for savers in Slovak pillar II
- Project of Virtual pension management company (http://www.virtualnadss.umb.sk/)
- Ministry of Labour, Social Affairs and Family SR (http://www.employment.gov.sk/)
- Old age pension saving Act No. 43/2004 (http://www.zakonypreludi.sk/zz/2004-43)
- Supplementary pension saving Act No. 650/2004 (http://www.zakonypreludi.sk/zz/2004-650)

Pension Savings: The Real Return

2019 Edition

Country Case: Spain

Resumen

Los trabajadores españoles no ahorran para su pensión. Más del 70% de sus activos totales son "ladrillos y cemento", que de ninguna manera puede considerarse un "activo previsional". Cuando las pensiones de Seguridad Social sustituyen más del 80% del salario previo a la jubilación, ¿por qué deberían ahorrar para ello? Como resultado de estos y otros factores, la "industria de las pensiones" (Pilares II y III) en España es pequeña y menos eficiente que si fuese tan grande como las de Holanda, Dinamarca o el Reino Unido. Los activos previsionales de los Planes de Pensiones no llegaban en 2018 al 9% del PIB, y los activos y compromisos de una amplia gama de productos asegurados para la jubilación (o similares) apenas alcanzaban el 15% del PIB. Por estas razones, la gestión de estos activos no es barata, aunque puede llegar a serlo, y mucho, en los esquemas del Pilar II. La Fiscalidad de los activos y rentas de ambos pilares en España responde al régimen EET común en la mayor parte de los países. El rendimiento cumulativo medio general de los esquemas del sistema de Planes de Pensiones una vez descontada la inflación, ha sido del 0,0% en el periodo 2000-2018. Poco se sabe de los rendimientos medios de los esquemas asegurados y su estimación no ha sido el objeto de este informe. Todos los datos utilizados provienen de las fuentes oficiales habituales (INVERCO, DGSFP, INE y Banco de España).

Summary

Spanish workers don't save for their retirement. "Bricks & Mortar" make more than 70% of a typical Spanish household's portfolio. And there is no way to think of this asset as a retirement one. As Social Security old-age benefits replace more than 80% of lost labour income at retirement, why Spanish workers should save with this purpose? As a result, Spanish Pensions Industry (Pillars II and III) is small and less efficient as that of Denmark, Nederland or the UK. Retirement assets in 2018 hardly reached 9 percentage points of GDP, and if insured retirement or retirement-like vehicles were added to this, an extra 15 percentage points could be found. These and other reasons imply that asset management in this industry is not cheap. To be sure, Pillar II assets are as cheap to manage as in advanced countries, but this is not the case with Pillar III assets. Taxation of retirement assets and income in Spain responds to the EET regime, as in most countries. Average cumulative returns since 2000, in the standard Pension Plans system, once inflation adjusted, has been

just 0.0%. Little is known about average returns to insured vehicles' assets, albeit its computation has not been the purpose of this report. All data used can be found on readily available official sources' web sites (INVERCO, DGSFP, Spanish Statistical Office -INE- and Bank of Spain).

Introduction

The Spanish pension system is composed of three pillars:

- Pillar I – Public, with a pay-as-you-go major branch of compulsory, contributive pensions (old-age, invalidity and survivors' benefits) and a minor, means-tested assistance branch for over 65 years old individuals (old-age and invalidity).
- Pillar II – Voluntary, defined benefit and defined contribution employer-sponsored pension plans (restricted de facto to large companies).
- Pillar III – Voluntary, personal (or associated) defined benefit pension plans and a variety of other qualified retirement savings vehicles.

A more detailed structure of these three pillars is presented in the following table.

Introductory Table. Multi-pillar pension system in Spain (2018)			
	Pillar I National Social Security	**Pillar II Employer-Sponsored Pension Plans**	**Pillar III Personal Pension Plans**
Participation	Mandatory	Voluntary	Voluntary
Type of funding	Financed by social contributions (Insured persons 4.7%, employers 23.6%)	Fully funded. Financed normally by employers' contributions (no standard rate)	Fully Funded. Financed by insured persons
Type of benefit entitlement	Accumulation of pensionable wage pension points	DB and DC	DC
Management	Publicly managed; Benefits paid via State Social Insurance Agency (INSS)	Managed by independent bodies under Companies' Social Partners supervision	Managed by Plan's Promoters (Financial, Insurers or Associations)
Products	Contributory state pension, Non-contributory state pension	Pension Plans (dominant product), Insured Pension Plans (PPA), Life Insurance, Individual Saving Plan (PIAS) and Long-term Individual Saving Insurance (SIALP).	
Average pension	Contributory pension (14 payments per year): € 1,420 (old-age, newly retire red workers, General Regime) Non-contributory pension (14 payments per year): € 367 (average, old-age and invalidity)	Pension Plans (12 payments per year): € 403,17 (old-age, income only plans, 2017)	
Coverage	Social Insurance is compulsory for all workers. All persons 65 and over are eligible for Social Assistance.	Barely 8.8% of active population are covered by Employer-sponsored Pension Plans	Slightly above 15% of population aged 16 and more is covered by Individual Plans
Net replacement ratio (2016)	81.8% (both sexes, average wage)	20.0% (both sexes, average wage) (a)	

(a) This ratio is a net "benefit ratio" rather than a carefully computed replacement ratio. Own estimation based on data from DGSFP. Only 186,000 beneficiaries are currently entitled to obtain monthly Pillar II and III old-age benefits. A large number of beneficiaries opt for lump-sum payments at retirement, thus disappearing from beneficiaries' records.

Source: Own elaboration based on INSS, DGSFP, INE and OECD

Average nominal and real net returns of Spanish pension funds					
	1 year	3 years	7 years	10 years	
	2018	2016-2018	2012-2018	2009-2018	since 2000
nominal	-4.08%	0.20%	3.41%	3.04%	2.22%
real	-5.82%	-0.97%	2.46%	1.87%	0.001%

Source: Table ES19, own computations

Pillar I

The National Institute for Social Security (INSS, in its Spanish acronym) is the national agency for pensions run by the central government. The Spanish Social Security protects all workers against old-age, invalidity and (their dependants) survivorship (widowhood and orphanhood). It has two separate branches: the insurance branch and the assistance branch sharply differentiated by its size, nature and functions.

The insurance branch of Social Security is, by far, the dominant scheme in the Spanish pension's arena. It is contributory, compulsive for all workers and firms and is financed through social contributions that, within each current year, are used to pay for current pensions. The financial method of the system is thus of the Pay-As-You-Go variety. As of 31st December 2018, The INSS was paying 9.7 million pensions (to about 8.8 million beneficiaries) at a rate of € 961 each per month (14 payments in a year, all pension categories, all beneficiaries). Of that total, 6 million pensions were old-age at a rate of € 1,107 per beneficiary and month (14 payments in a year).

As for workers' coverage, as of 31st December 2018, 18.9 million workers were affiliated to the national Social Security scheme. Out of these, 14.4 million (76.2%) were wage earners covered by the General Regime of SS and 3.3 million (17.5%) independent workers covered by the Self-employed Special Regime. The remaining few, a mere 6.3% of workers, belonged to different sub-regimes within Social Security. Around half of unemployed workers continue to be covered under Social Security through social contributions paid on their behalf by the Spanish Employment Agency for as long as they receive unemployment benefits.

Besides social insurance pensions, the Spanish Social Security, through its assistance branch, as of 31st December 2018, paid 451.8 thousand pensions of which 257 thousand pensions were old-age and the rest were invalidity pensions. Non-contributory (assistance) pensions are subject to means tests and are clearly a minor scheme since autonomous regions in Spain offer a wide range of basic benefits to those individuals and households in need. This type of pensions are paid by Social Security although fully financed out of general taxation.

Within the contributory pensions class, social contributions provide, as of 2018, for 98.5% of total financing of Social Security pensions. The total contribution rate is 28.3% of gross

pensionable wage. This rate splits in 23.6 pp paid by employers and 4.7 pp paid by workers. The self-employed must pay the whole 28.3% rate on their pensionable earnings. Pensionable wage (and earnings) track effective wages closely through a scale with a minimum pensionable wage (as of 2018) of € 858.6 and a maximum pensionable wage of € 3,806.7 per month. Employees cannot choose their contribution base but self-employed can do it and the majority of them do choose the minimum pensionable earnings base which results in their retirement pensions being too small. Many of these benefits will have to be latter complemented with an assistance top in order to reach the statutory minimum retirement pension. This resulting, paradoxically, in a larger internal rate of return over their past contributions compared to the higher or maximum pensions payable by Social Security.

Pillar II

As shown in the Introductory Table above, Social Security old-age benefits in Spain replace pre-retirement wages with one of the highest rates in the world and against a rather high pay-roll tax mostly paid by employers[230]. So, there is little margin left for occupational and personal retirement accounts to step substantially into the retirement arena[231]. And, indeed, what we observe in Spain is a very limited landscape for marketed retirement solutions despite the fact that the modern regulation for these products was enacted around 1987 last century.

Pillar II in Spain embraces employer-sponsored retirement accounts for wage earners and other occupational pensions for the self-employed (and associate pension plans, a minor category). These products are financed through contributions by employers and workers themselves, sometimes on a matching basis and/or with direct or indirect government help. There is a variety of retirement vehicles that employers may offer their employees, or available for self-employed workers as well. Amongst them, tax-qualified Pension Plans are the standard and most prevalent vehicle. These Pension Plans are capitalisation retirement accounts of either Defined Benefit or Defined Contribution class to which employers contribute with a percentage of wage. Workers can also contribute. Contribution rates may vary considerably, but their average rate can be estimated at around a modest 2.5% of average gross wage[232], or around € 635 per account and year (2018). Employers are not obliged by law to offer these accounts, although some may be obliged by Collective Bargaining agreements in an industry or sector. And indeed, very few companies, but the large ones, offer them to their workers as only 2 million accounts of this type where

[230] This said, however, pay-roll taxes to Social Security or other welfare programs are deferred wages and, were they to be entirely supported by employees, gross wages should be accordingly updated to accommodate this wedge.
[231] See Introductory Table above.
[232] Estimation based on data from INVERCO and INE.

registered through 2018, to a total active population of 22.8 million that same year (a mere 8.8%, many of them non active). As of 31st December 2018, total assets under management (AuM, in what follows) to these accounts totalled € 34 billion (down from € 35.8 bn one year earlier), that is, a small 2.8% of Spanish GDP.

Pillar II retirement accounts are fiscally qualified by the government. Contributions by employers or employees are tax free up to a general limit of €8,000 per person per year. Benefits, no matter whether retrieved in form of monthly income or as a lump-sum, are taxed under the existing personal income taxation rules (a dual personal income taxation system). When benefits are retrieved in form of an income stream, beneficiaries are obliged to buy an annuity.

Often in Spain and in many other countries, and this is a crucial issue of understanding for our industry, layman savers and even experts refer to this fiscal treatment as "incentives" or even "a fiscal gift". The truth is that not taxing contributions and taxing benefits is the world standard for tax deferral, rather than the opposite or, even worst, double taxation of pensions. Tax deferral, as opposed to an "incentive", is not a gift from government or from the rest of society is a just treatment for income won after decades of efforts and frugality.

Pillar III

Pillar III embraces personal, or individual Pension Plans, the latter being again the dominant type within a large variety of types (see the Introductory Table above). These plans are personal, voluntary and "complementary" to both Pillar I and Pillar II arrangements. These accounts are equally treated, as Pillar II accounts, from the tax point of view or, in what concerns other features, are virtually the same product as employer-sponsored Pension Plans. As of 31st December 2018, Pillar III accounts included 7.6 million accounts that belonged to around 6.5 million individuals. Total AuM for these plans totalled € 73 billion (slightly € 0.1 Bn up from one year earlier), that is, a mere 6.1% of Spanish GDP.

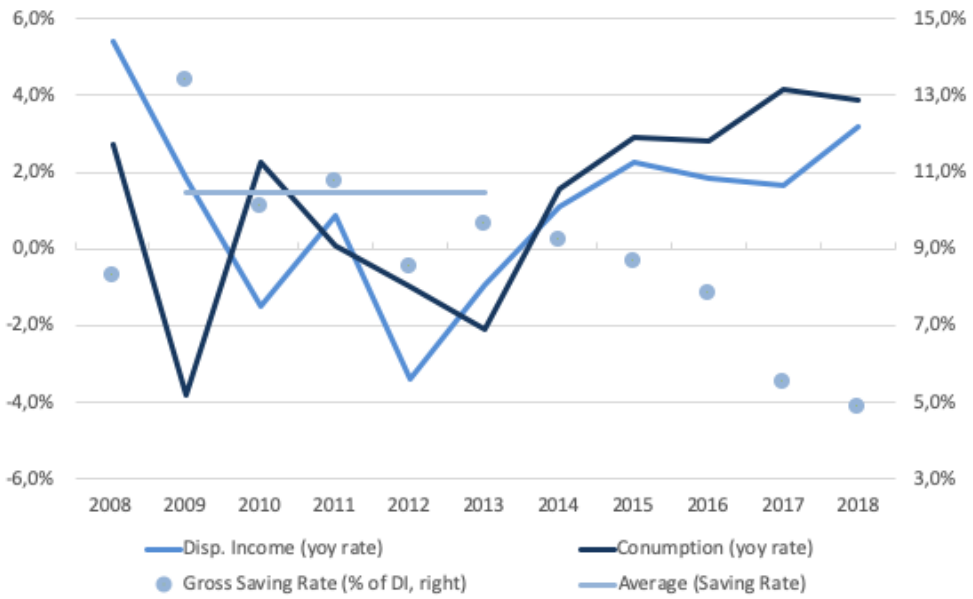
Household Savings

Personal (financial) saving in Spain is not a salient feature of its economy's financial side. But for the fact that it is so low because Spaniards love to save "*autrement*", in "bricks & mortar". This said, households are still able to spare some money by the end of the year and have so far managed to accumulate a financial buffer. Only a small part of these assets, however, are dedicated to retirement purposes. The reason for this is that Social Security forces Spanish workers to save through pay-roll taxes paid in large part by their employers. This reduces the disposable income households could save. Besides, in exchange for heavy pay-roll taxation (28.3% of gross -pensionable- wages only for retirement and associated contingencies), public pensions replace lost wages due to retirement at a higher than 80% net rate. This, definitely, reduces to ashes the desire and/or capacity to save for retirement of Spanish households.

As for real estate, it is well known that it is hardly a retirement asset at all. Yet many owners, that in Spain tend to own more than one house or apartment, think that eventually they could use their houses as a source of retirement income. However realistic this may be, the fact is that an astonishing three fourths of Spanish households' total wealth is made of "bricks & mortar", its value representing around four times the value of Spanish GDP. So, housing is "the" retirement asset in Spain and retirement solutions providers would better think on how to develop sound retirement income products based on housing rather than hope for households to start accumulating proper retirement assets, at least for a while.

The overall picture on households' Gross Disposable Income (year-on-year change), Consumption (year on year change) and Gross Savings (rate over Disposable Income) is shown in Graph ES1 below. During the crisis (2009-2013), the savings rate oscillated amply around an average of 10.5% of Gross Disposable Income. 2009 and 2013 were precisely the most recessive years of the period. Pre-crisis years (since mid-90s in the last century) savings rate was low reflecting the strong dynamics of private consumption, fuelled by cheap debt and intense employment creation coupled with wage increases. After 2008, the big recession and a twin recession in 2011-2013, lead Spanish households to increase their savings ratio to the top, above 13% in 2009, and keep it close to 10% in the following recessive years. Meanwhile, wages stagnated, and employment continued to fall bringing the unemployment rate above 25% in the through of the second recession, at mid-2013.

Graph ES1. Evolution of household spending and (financial) savings rate



Source: own elaboration based on Banco de España data bank from Boletín Estadístico

By the end of 2018, financial assets owned by Spanish households (and non-profit institutions serving households - NPISH) amounted to € 2.15 trillion, according to the Spanish Central Bank financial balance sheets statistics. That amount represented three times households' Gross Disposable income and almost two times Spanish GDP. They also decreased their investments in financial assets by € 34.5 billion, representing a fall of 1.6% compared to 2017.

If we take a closer look at the distribution of financial assets owned by households in 2017-2018, as shown in Table ES1 below, one can immediately observe that the "cash and bank deposits" class of assets, with € 880.6 billion, takes up to 40.9% of all financial assets held by Spanish households. "Equity" being the second most important financial asset in households' portfolios at € 543.4 billion and 25.3% of total financial assets.

Table ES2. Financial assets held by Spanish households 2018							
	2017			2018			Change (%)
	€ Bn	%	% of GDI	€ Bn	%	% of GDI	
Cash and bank deposits	856.4	39.2%	120.4%	880.6	40.9%	120.0%	2.8%
Investment Fund shares	312.4	14.3%	43.9%	304.6	14.2%	41.5%	-2.5%
Equity	601.8	27.5%	84.6%	543.4	25.3%	74.1%	-9.7%
Pension entitlements	169.2	7.7%	23.8%	163.6	7.6%	22.3%	-3.3%
Insurance schemes	186.8	8.5%	26.3%	193.1	9.0%	26.3%	3.4%
Other	59.2	2.7%	8.3%	66.2	3.1%	9.0%	11.8%
Total	**2,185.8**	**100%**	**307.4%**	**2,151.5**	**100%**	**293%**	**-1.6%**
Pro-memoria: GDI (a)	**711.3**		**100.0%**	**733.8**		**100%**	**3.2%**

(a) GDI: Gross Disposable Income
Source: Banco de España

Spanish households suffered a sharp decline in their equity holdings in 2018 (a fall of 9.7% with respect to 2017) and kept their pension entitlements (apart those included in insurance contracts, *vid infra*) slightly below 8% of their total financial assets.

With respect to households' Gross Disposable Income, that increased at a healthy 3.2% in the year, total financial assets decreased their amount by 1.6 pp, keeping notwithstanding their relative nominal size at around three times that magnitude.

Pension Vehicles

Even if, due to the overwhelming presence of Social Security, the room for Pillars II and III is not a very large one in Spain, there is a variety of marketed retirement products. The most standard retirement vehicles are Pension Plans and Insured Pension Plans. Normally, retirement vehicles are provided by financial entities and insurers although a number of professional associations have since long created *Mutualidades* (Mutual Funds) some of which operate even as official alternatives to Social Security for these occupational groups.

Current laws regulating modern Pillars II and III were enacted around 1987-1988. Occupational pensions, that were directly provided by employers to their employees before then, were gradually taken out of company books and entrusted to newly created operators

(*Planes de Pensiones*) and/or integrated into standard vehicles also created by those laws (*Fondos de Pensiones*).

Notwithstanding the fact that Spanish households choose to hold their financial assets in form of bank deposits (and cash, see Table ES2 above), collective investment vehicles kept their place in 2018 at a 26% share of total financial assets, slightly above equity. In 2018, however, total investment in this class of assets diminished for the first time after almost a decade. Holdings of all sub classes, within the broad collective investments class, decreased with pension funds giving a 3.6% of their value away to other investment vehicles and/or to losses.

Table ES3. Total assets managed by *Instituciones de Inversión Colectiva* 2009 – 2018 (€ Mn)

	Investment Funds					Pension Funds	Total
	Investment Funds		Investment Companies				
	Financial	Real Estate	Financial	Real Estate	Foreign Inv. Funds		
2009	163,243	6,774	25,925	309	32,200	84,920	313,371
2010	138,024	6,123	26,155	322	48,000	84,750	303,374
2011	127,731	4,495	24,145	316	45,000	83,148	284,835
2012	122,322	4,201	23,836	284	53,000	86,528	290,171
2013	153,834	3,713	27,331	868	65,000	92,770	343,516
2014	194,818	1,961	32,358	826	90,000	100,457	420,420
2015	219,965	421	34,082	721	118,000	104,518	477,707
2016	235,437	377	32,794	707	125,000	106,845	501,160
2017	263,123	360	32,058	620	168,000	111,123	575,284
2018	257,514	309	28,382	555	168,000	107,033	561,793

Source: INVERCO report on Investment Funds and Pension Funds 2018

Spanish households continue to increase their financial savings, albeit at a slower rate since 2016 when net flows reached levels unseen since 2010. In 2018, particularly, it was deposits, investment funds and insurance (this order) that took the lead while direct investments (for a sixth year in a row) and pension savings (for a fourth year in a row) continued their decline as a preferred saving option. Annual flows for a variety of assets, however, display some

volatility in the decade, but pension funds, and more risky assets like direct investments, seem to be losing ground in a more structural way.

Table ES4. Annual flows into financial investments by class 2010 – 2018 (€ Mn)						
	Deposits	Direct investments	Investment Funds	Insurance	Pension Funds	Total
2010	22,897	10,042	-14,603	6,057	2,695	27,088
2011	-1,251	20,618	-4,494	-0,033	-1,697	13,143
2012	3,470	6,707	-8,794	2,843	0,410	4,636
2013	22,072	-39,971	21,140	7,809	0,770	11,820
2014	-11,791	-34,974	36,676	8,638	0,982	-0,469
2015	-3,944	-25,913	34,561	4,129	-0,039	8,794
2016	11,494	-13,738	14,330	10,003	-0,258	21,831
2017	-1,549	-17,667	28,171	5,516	-0,120	14,351
2018	13,000	-16,500	11,000	5,000	-0,500	12,000

Source: INVERCO report on Investment Funds and Pension Funds 2018

Pension Plans

Pension Plans (Planes de Pensiones) are the standard retirement saving vehicle in Spain, albeit only one of many different retirement vehicles. They can be promoted by employers on behalf of their workers, professional associations on behalf of their members or financial institutions for the general public (workers included, of course). Insurance companies also promote Insured Retirement Plans (Planes de Previsión Asegurados, PPA) for the general public and Insured Employers Retirement Plans (Planes de Previsión Social Empresarial, PPSE). These vehicles are basically equivalent to their non-insured counterparts.

Pension Plans are voluntary and complementary to Social Security benefits. They are not integrated in whatsoever way with Social Security. Plans created after 1987 legislation are DC plans but many of previously existing occupational plans, that had to be latter segregated from their parent companies, continue to be DB plans.

Pension Plans may integrate into Pension Funds (Fondos de Pensiones) to reach scale and financial synergy. This is the case of small II Pillar plans and of III Pillar or personal plans. Pension Funds are legal entities, linked or not to financial institutions, obliged by law to contract out their managing and a depositary functions with specialized agents.

Pension Plans in Spain, like in most countries, are tax qualified retirement vehicles. All payments by participants (or in their behalf) are tax-exempt up to a limit, so that compounded interest may play its full magic over larger savings during many years. Benefits are taxed (vid infra). In exchange for this tax treatment, funds cannot be cashed in in advance of retirement, unless some major contingencies happen (redundancy, sickness or long-term unemployment), albeit some extra flexibility has been added recently (*vid infra*). Accrued rights, however, can be switched between managing institutions and/or depositaries at no cost within the individual accounts scheme.

Table ES5 below presents the number of participants (accounts, see note at the bottom of the table) to Pension Funds as of 31st December 2010 and 2018. That decade sums up the recent trajectory of this important complementary retirement income institution in Spain. As of December 2018, slightly more than 9.6 million accounts were integrated in the whole scheme. The individual accounts sub scheme totalled almost 7.6 million accounts, 78.6% of total number of accounts.

Table ES5. Number of participants* (thousands) to Pension Funds 2010-2018

Type of scheme	December 2010		December 2018		
	Accounts*	% of total	Accounts*	% of total	Change 10-19
Associate	78.1	0.7%	62.3	0.6%	-20.2%
Employer-sponsored	2,149.3	19.8%	1,999.8	20.8%	-7.0%
Individual*	8,601.8	79.4%	7,568.8	78.6%	-12.0%
Total	**10,829.2**	100%	**9,631.0**	100%	**-11.1%**

** In the Individual scheme a number of participants tend to have more than one accounts*
Source: INVERCO

The most salient feature displayed in the above table is the drop in the number of accounts since 2010, an 11.1%, shared by all sub schemes but especially relevant (in absolute terms) in the individual accounts sub scheme, that lost more than 1 million accounts in the period.

Correspondingly, as Table ES6 shows, the number of pension plans displays an almost regular decrease al through the present decade. Total number of plans totalled 2,964 in 2010 and 2,523 at the end of 2018, a 14.9% decrease averaging over sub schemes, but most relevant again (in absolute terms) for the individual accounts sub scheme.

Combining these data tells us that the average size of Pension Plans increased in the period from 3.2 thousand accounts per plan to 3.8 thousand, likely making the system more efficient. Even if one cannot get rid of the feeling that the whole scheme has in a way reached a ceiling.

Table ES6. Number of Pension Plans by type of scheme				
As of December 31st	Individual schemes	Employer-sponsored schemes	Associate schemes	Total
2010	1271	1484	209	2964
2011	1342	1442	198	2982
2012	1385	1398	191	2974
2013	1384	1350	187	2921
2014	1320	1330	178	2828
2015	1257	1312	172	2741
2016	1189	1305	164	2658
2017	1107	1291	156	2554
2018	1079	1293	151	2523
Change 2010-2017	-15,1%	-12,9%	-27,8%	-14,9%

Source: INVERCO

If Pillar II schemes (employer-sponsored and associate) represented, as of December 2018, 21.4% of total accounts and 57% of total plans, implying that individual accounts sub schemes are considerably larger than Pillar II plans in terms of number of accounts managed, the former had 32.5% of AuM (Table ES7). This, in turn, implies that average retirement assets per account are also larger within the Pillar II schemes than within Pillar III. Actually, € 9,386 per account in the latter versus € 16,860 per account in the former.[233]

[233] Using standard mortality tables for Spain and assumptions about returns, these amounts yield very low pure lifetime annuities. The annuity a typical individual account could buy retiring at 65 amounts to around € 47 per month and increases up to € 84 in the case of the typical occupational account. This said, retirement savings under these two modalities tend to be larger at retirement age and, within the occupational variety, around half a million

Coming to total AuM for the whole Pension Plans and Funds industry, as of December 2018, this indicator showed a worrying decline, at 3.7% over the preceding year after six consecutive years of increase (Table ES7 below). First, note that a decline has only happened three times in the present decade, now and in 2010-2011, a couple of very critical years. Second, that That AuM for Pension Plans today barely represents 8.9% of GDP.

It can also be seen that around 67.5% of total AuM in these retirement vehicles belong to the Individual accounts sub scheme, representing a mere 6% of GDP. This category of assets has given away a 2.86% of its value over the previous year, compared to a -5.26% for occupational pensions assets.

accounts belong to civil servants and these accounts have almost no vested assets. On the other hand, some associate and employer-sponsored plans, covering dozens of thousands of employees in industry and advanced services, notably in the Basque Country (industry), but also all across Spain for certain services (lawyers or engineers), hold large average retirement accounts.

Table ES7. Evolution of Pension Plans' AuM by scheme (31st December, 2009-2018)							
	Individual schemes		Employer sponsored schemes		Associate schemes		Total
	AuM (Mn)	%	AuM (Mn)	%	AuM (Mn)	%	AuM (Mn)
2009	53.227,99	62,62%	30.783,76	36,21%	992,24	1,17%	85.003,99
2010	52.551,99	62,01%	31.271,99	36,90%	926,27	1,09%	84.750,25
2011	51.141,92	61,51%	31.170,27	37,49%	835,43	1,00%	83.147,62
2012	53.159,83	61,44%	32.572,45	37,64%	795,45	0,92%	86.527,73
2013	57.953,93	62,47%	33.814,83	36,45%	1.000,78	1,08%	92.769,54
2014	64.254,37	63,96%	35.262,11	35,10%	940,16	0,94%	100.456,64
2015	68.011,51	65,07%	35.548,45	34,01%	958,37	0,92%	104.518,33
2016	70.487,41	65,97%	35.436,96	33,17%	920,63	0,86%	106.845,00
2017	74.377,84	66,93%	35.842,91	32,26%	902,53	0,81%	111.123,28
2018	72.247,30	67,50%	33.956,67	31,73%	828,70	0,77%	107.032,67

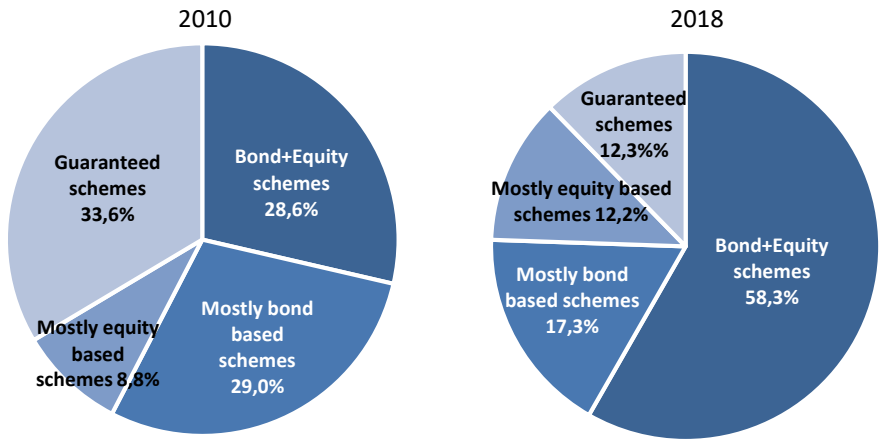
Source: INVERCO

Even if the type of assets in which Pension Funds' assets are invested vary regularly with time, in an effort to increase overall returns for participants, the primary objectives of managers is to do their best respecting the choices of participants concerning the class of assets fonds are invested in.

Typically, Pension Funds offer a variety of risk profiles that participants generally adhere to for some time until they decide to switch their risk profile. This is generally the case of individual schemes, where participants can switch regularly between schemes albeit these schemes remain relatively specialized as for their risk profile as participants come and go. The above implies that all standard asset class must be present in overall portfolios at minimum and maximum thresholds, ranging from mostly bond based schemes to mostly equity-based schemes. Occupational schemes, however, are set with the risk profile established (if at all) by their sponsors and fund managers (or control boards, where employers and workers representatives sit) will have certain freedom to change the risk profile of the fund according to market conditions. Over large period of time then, both participants, with their regular scheme choices, and managers and social partners may induce relevant changes in the asset allocation of pension funds.

Graph ES8 below shows that Spanish Pension Funds are relatively conservative, as one should expect, and allocate more than half their assets to a combination of mostly bond-based and mixed (equity + bond based) schemes. Mostly equity-based schemes have a reduced stance, however.

Graph ES8. Individual scheme's Pension Funds' Investments by asset class 2010 - 2018



Source: *INVERCO*

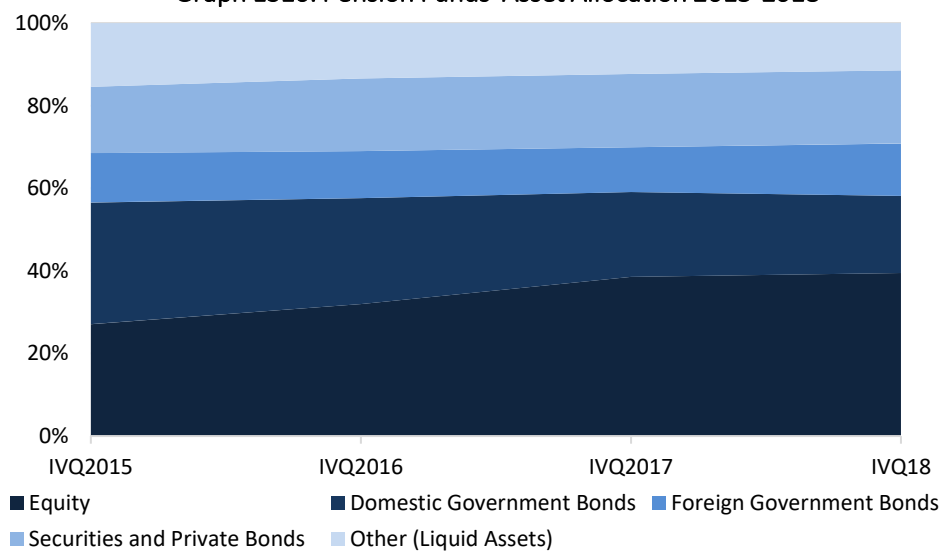
On a shorter-term perspective, asset allocation structure of Pension Funds (all schemes) is more stable and even if relatively biased towards equity (than Individual schemes Funds) as a single asset class, less risky investments continued to dominate the allocative structure by around 60% during 2018.

Table ES9. Pension Funds' Asset Allocation 2018				
	IQ	IIQ	IIIQ	IVQ
Equity	39,8%	40,2%	41,2%	39,5%
Domestic Government Bonds	20,6%	20,1%	18,8%	18,7%
Foreign Government Bonds	11,1%	11,6%	12,1%	12,7%
Securities and Private Bonds	17,2%	17,4%	17,6%	17,7%
Other (Liquid Assets)	11,4%	10,8%	10,2%	11,4%
Total	100%	100%	100%	100%

Source: DGSFP

Even if, as shown in Graph ES10, as a mid-term perspective is adopted, this relative dominance of equity in Pension Funds' allocation is the result of a gradual switch from bonds in the last few years after sovereign debt became less and less rewarding in an ultra-low interest rate scenario. A switch that given 2018 trends in stock markets performance still remains to be seen as a good bet (*vid infra*).

Graph ES10. Pension Funds' Asset Allocation 2015-2018



Life Insurance

Measured by own AuM, the Insurance Industry is a major retirement income vehicles provider in Spain, both for Pillars II and III. Also, a substantial part of Pension Funds' assets is managed by insurers. A salient feature of this trade is the large variety of retirement vehicles that are marketed by the industry. Some of these vehicles are indistinguishable from genuine retirement or pension plans, but for their insurance side, and quite a few are genuine life-saving insurance solutions marketed since old times by the industry and turned into retirement vehicles through a progressive assimilation with the standard vehicle (Pension Plans) firstly regulated in Spain some thirty years ago (*vid supra*). This assimilation has been fuelled by converging fiscal treatments for all these products even if some of them continue to have distinctive features of their own also in this realm.

According to UNESPA, the Spanish Insurers Association, the total life and saving assets under management of the entire insurance sector at the end of 2018 amounted to € 229.65 bn, representing a 1.38% increase over 2017. As for the number of insured persons, 2018 ended with 33.11 million. Not all insured persons and assets under management were covered by retirement and/or pension vehicles, as about 14.7 million insured persons and € 4.7 bn worth of assets were covered by life and savings products not strictly related to retirement. Still, within the retirement and pensions category, around 3.3 Mn insured persons belonged to Pension Plans whose assets, around 41.1 bn, were managed by insurance companies albeit they did not own direct insurance vehicles. Most of the details of these gross numbers can be seen in Table ES11 below.

Table ES11. Insured Retirement and other Retirement-like vehicles 2018							
	Type of Vehicle*	Number of Persons insured (x000)			Assets and technical provisions (Mn Euros)		
		Pillar II	Pillar III	Both Pillars	Pillar II	Pillar III	Both Pillars
Deferred capital	Insured Pension Plans (PPA)		959.9	959.9		12,522.1	12,522.1
	Company Retirement Plans (PPSE)	33.5		33.5	319.2		319.2
Pension Accruals and Insured Saving Vehicles	Life (risk) insurance	2,210.0		2,210.0	506.6		506.6
	Regular Individual Saving Plans (PIAS)		1,679.9	1,679.9		13,161.1	13,161.1
	Individual Long-term Saving Insurance (SIALP)		608.3	608.3		3,769.1	3,769.1
	Deferred capital	267.5	2,833.5	3,101.0	2,817.9	44,376.3	47,194.2
	Annuities**		1,597.2	1,597.2		63,685.1	63,685.1
	Deferred Annuities	215.6		215.6	10,737.6		10,737.6
	Instant Annuities	307.4		307.4	11,651.6		11,651.6
	Unit/Index- Linked	24.6	626.1	650.6	1,351.2	10,169.2	11,520.4
Other Group Insurance Arrangements (retirement-like)	Life (risk) Insurance	3,275.3		3,275.3	1,074.4		1,074.4
	Deferred capital	256.2		256.2	2,311.0		2,311.0
	Life-savings (acc. phase)	21.5		21.5	1,314.6		1,314.6
	Life-savings (pay-out phase)	55.7		55.7	3,275.5		3,275.5
	Unit/Index-Linked	19.8		19.8	699.4		699.4
Total		**6,687.2**	**8,304.8**	**14,992.0**	**36,059.2**	**147,682.8**	**183,742.0**
YoY change		**-3.15%**	**0.10%**	**-1.35%**	**-1.79%**	**3.65%**	**2.58%**
Pro-memoria	Standard Pension Plans (Accounts and AuM)	3,335.09 (YoY change: -5.52%)			41,178.29 (YoY change: -3,91%)		

Note: Individual life insurance and long-term care insurance are not included in these figures.

** Major categories are explained below in the main text*

*** Pillar III Life and Term Annuities, including tax-qualified asset's conversions into annuities in the year*

Source: UNESPA. https://unespa-web.s3.amazonaws.com/main-files/uploads/2019/05/NdP-Seguro-de-Vida-Q1-2019-FINAL.pdf

Table ES11 above also shows indeed a large variety of retirement and pension vehicles offered by the insurance industry and, it can be seen, that even as they share an insurance feature that makes then quite different from the purely financial vehicles (as they try to cope with death uncertainty through actuarial techniques) each vehicle responds to a different

need by consumers concerning their risk profiles, fiscal rules applying to them, etc. In what follows, some of these different products are explained.

Insured Retirement Plans (PPA)

The Insured Retirement Plans (PPA or *Planes de Previsión Asegurados*, in Spanish) are the insured counterpart of standard Pension Plans previously discussed. Among all insured retirement (or retirement-like) vehicles, PPAs are the most proper for this purpose. Their features concerning taxes, redeemability or other are thoroughly the same as with Pension Plans, but for the fact that interest and principal risks are taken by the insurer, at a cost naturally. In particular, a known and certain interest rate is attached to this product. Once retirement happens, the insured person gets a life annuity (a lump-sum is also an option). In a way, technically at least, a PPA is basically a pure deferred annuity. Table ES8 shows that almost 1 million individuals have adopted this Pillar III retirement vehicle, with assets amounting to 12.5 bn, a mere 12.5 thousand euros per account.

Company Retirement Plans (PPSE)

Employer-sponsored Group Insurance aiming a complementary retirement benefit, basically deferred capitals type. They are the insured counterpart to the Employer-sponsored Pension Plans (Pillar II), albeit more flexible as they adapt better to SMEs conditions. Table ES8 shows that only 33 thousand workers have been opted in this Pillar II retirement vehicle by their employers, with assets amounting to 319.2 Mn, again a mere 9.5 thousand euros per account.

Regular Individual Savings Plan (PIAS)

Regular Individual Saving Plans (PIAS or Planes Individuales de Ahorro Sistemático, in Spanish) are, again, insured saving plans to which individuals can contribute regularly. If certain conditions are met and savings are not removed after a long period of time, accumulated assets must be converted into a permanent income at very low (and decreasing with age) fiscal cost (interest or capital gains). Table ES11 shows that almost 1.7 million individuals have adopted this Pillar III retirement vehicle, with assets amounting to 13.2 bn, again a mere 7.8 thousand euros per account.

Long-Term Individual Saving Plans (SIALP)

Long-term Individual Saving Plans (SIALP or Seguro Individual de Ahorro a Largo Plazo, in Spanish) are PIAS-like retirement vehicles. The major difference with a PIAS being that they can be cashed both as an annuity or as a lump-sum. 608 thousand individuals have this product totaling € 3.8 bn assets, barely € 6,250 per account.

Charges

Since inception (19987/1988), the current Pension Plans market in Spain has been characterized by large average charges. This said, there are three aspects that need to be cleared right away: (i) the market has always been and continues to be very small and this entails a cost, (ii) Pillar II schemes bear internationally competitive low fees that, given market size, must be cross subsidized with significantly higher fees charged in Pillar III markets, and (iii) fees have been decreasing in the last years due to regulatory pressure on companies.

Data discussed below is eloquent enough about the consequences for savers that stem out of these market conditions. Average fees[234] have been oscillating in the last decade at around 1% of assets under management. Using this figure as a proxy for Total Expense Ratio (TER or total cost ratio for investors), and under basic assumptions, typical investors could bear a Reduction in Yield (RIY) rate of 13%.[235]

As for the insurance part of the retirement market, little is known referring to data directly usable for harmonized comparison, although all relevant data are available in raw from the regulators and the industry itself. The large variety of retirement and pension products available in this market segment, and their varied features complicates enormously the task, however. The work to be done in order to produce directly comparable data cannot be made in the context of this chapter and any initiative to reach that goal should be most welcomed.

Even if regulation itself accounts for part of the extra burden that management and depositary fees pose on consumers, the fact is that a too large chain of intermediaries (managers, commissioners and retailers) end up by adding to the overall cost for the participant. Recently, and regularly, management and depositary fees have been limited by law.[236] These regulations however allow variable fees to be set based on yields, within certain limits.

Table ES12 and Graph ES13 show the evolution of effective average fees charged on Pillars II and III Pension Funds to Plan participants by both managers and depositaries. Note that

[234] management and depository, all classes combined, weighted by market shares

[235] It is assumed that a typical investor increases his or her annual savings in retirement assets at 2% per year, for 35 years; total annual fees (TER) are 1% of AuM at the end of the year. Gross yields of AuM are assumed at 2% per year. Total Expenses (TE) from previous year are detracted from AuM for the next year. RIY ratio is then computed as accumulated TC at year 35 as a percentage of gross AuM at year 35.

[236] Royal Decree 304/2004 established specific limits to management and depositary fees. Royal Decree 681/2014 modified this.

within management fees, as said before, non-straight management fees, but rather retailing fees, may also be included.

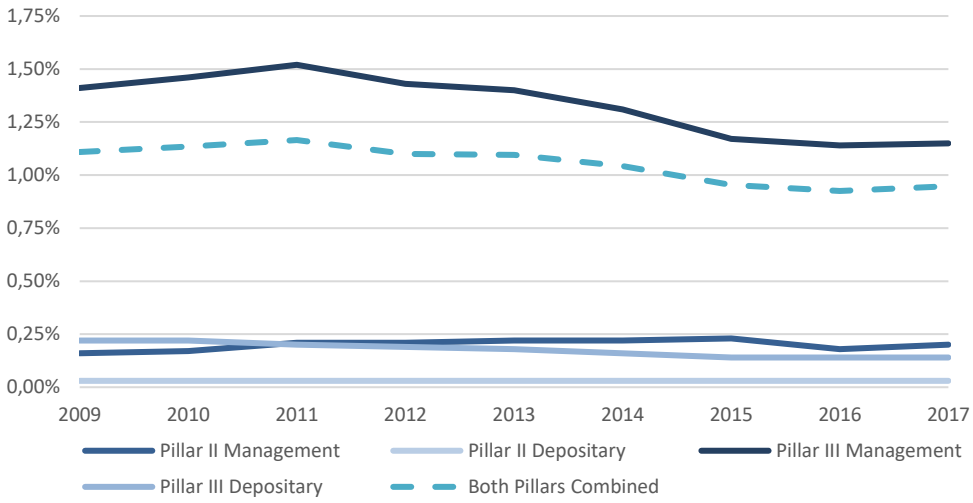
The most salient feature of the data below is, clearly and immediately appreciated at first sight. Pillar II assets (employer-sponsored pension plans) are considerably cheaper to manage. Up to almost 6 times cheaper in recent years, whereas depositary fees, that are comparatively lower in both pillars, continue to be 5 times cheaper in Pillar II as compared to Pillar III. The question remains whether just market scale grants such a seemingly large differences and, ultimately, large fees.

Table ES12. Charges in Pension Funds (as a % of AuM)

	Pillar II		Pillar III		Both Pillars (Weighted average)		
	Manage-ment	Deposi-tary	Manage-ment	Deposi-tary	Manage-ment	Deposi-tary	Both Charges
2009	0,16%	0,03%	1,41%	0,22%	0,96%	0,15%	1,11%
2010	0,17%	0,03%	1,46%	0,22%	0,98%	0,15%	1,13%
2011	0,21%	0,03%	1,52%	0,20%	1,03%	0,14%	1,17%
2012	0,21%	0,03%	1,43%	0,19%	0,97%	0,13%	1,10%
2013	0,22%	0,03%	1,40%	0,18%	0,97%	0,13%	1,10%
2014	0,22%	0,03%	1,31%	0,16%	0,93%	0,11%	1,04%
2015	0,23%	0,03%	1,17%	0,14%	0,85%	0,10%	0,95%
2016	0,18%	0,03%	1,14%	0,14%	0,82%	0,10%	0,93%
2017	0,20%	0,03%	1,15%	0,14%	0,84%	0,10%	0,95%
2018	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: DGSFP, Annual Report 2017 (latest available)

Graph ES13. Charges in Pension Funds (as a % of AuM)



Source: Table ES12.

Within this context, industry transparency requirements at the international scale are starting to provide a framework within which generate a comprehensive understanding and common ground for comparison about the cost and the advantages of retirement vehicles as they become increasingly necessary to help cushion the hard landing of Social Security benefits everywhere.

All Pillar III vehicle providers are obliged to advance a Key Information Document (KID) package to their customers. These KID packages are firmly rooted on PRIIPS regulation that is not binding however for pension products. Pillar II products are not obliged to advance a KID package to their customers, albeit they must of course provide information akin to this package.

Taxation

With charges and returns (*vid infra*) taxation is one of the hottest issues around retirement products. But it shouldn't be, think twice. Income must be taxed, but not double taxed. This is unjust and inefficient. One could also admit easily that labor and capital income can be differently taxed, or that tax bases can convey certain policy objectives. But definitely not that the same income concept is taxed twice.

In the absence of ordinary tax allowances for retirement vehicles, as practiced by virtually all countries, that part of income saved for years for future retirement, and the interest earned on that income, would be taxed twice.

This treatment is often referred to as “tax incentives” or “tax gifts”, an also often questioned by certain social or political agents as unjust or regressive tax benefits. Nothing less true. The conventional tax treatment to which pension assets and products are subject is generally and admittedly the best way to avoid what otherwise would be a case of odious double taxation of personal income.

The pensions industry must be clear and strong on this if their members want to be perceived as truly looking after the best interest of those who entrust their savings to them. As much as they must be clear and strong, by the way, on transparency, open competition and best efforts concerning charges and returns.

Normally, taxing retirement vehicles means exempting income as it is saved (as well as interest earnings on this income) and taxing benefits as they are cashed. That’s the “Exempt-Exempt-Tax” or EET paradigm, the most commonly used in the world. Another way to avoid double taxing of income is to tax contribution and interest and make benefits tax exempt (TTE), but this paradigm is rarely used. In truth, neither pure extreme is actually being used as all countries have some limits to contributions exemption and also some limits to benefits exemption.

Normally too, tax allowances at accumulation of savings are justified because these retirement savings can’t be cashed or converted into non-retirement savings before retirement age. Yes, this a legitimate way to justify EET schemes. But again, tax authorities only have to claim unpaid taxes back when savings conversion occurs instead of forcing savers to stay fixed on their products.

Taxing retirement savings and benefits remains in the literature and in practice a much debated issue, just because we don't realize that the best and most fair taxing schedule for these bases should be exactly the same tax regime that Social Security social contributions and benefits enjoy, that is full (or almost full) EET.

Even if standard Pension Plans set the tax norm for many other retirement vehicles, there remain important differences, especially at the pay-out phase, among the pension plans and insurance vehicles. Some of these peculiarities are analyzed below.

Pension Plans

The fact that tax exemptions during accumulation are important is well reflected in the Spanish market as most of the payments into these vehicles happen at the end of the year when investors seek to improve their tax bills by deciding up to what limit bring their contributions to retirement saving plans. This has contributed to locate the only and most important attractive of saving for retirement into the tax treatment of this kind of investments. The limit up to which income saved for retirement under a Pension Plan is free to pay taxes in Spain is currently € 8,000.

When withdrawal of benefits at retirement occurs, there are three possible cases:

(i) Retirement income is retrieved as a lump-sum: after a deduction of 40% from this sum the rest is taxed at the marginal personal income tax rate. No distinction is made between principal and interest earned during accumulation phase.

(ii) Retirement income is retrieved as a life (or term) annuity: this income is considered as wages or labour income and taxed at the marginal personal income tax rate.

(iii) Retirement income is retrieved both as a lump-sum and an annuity ("mixed income"): both tax regimes apply, each of them to the corresponding part of the retirement benefit in the first year.

This said, depending on where each retiree has his or her fiscal residence, the tax bill may change. Spain has its Personal Income Tax scheme split between the Central Government and its seventeen Autonomous Regions. While the Central Government sub scheme applies uniformly for the whole nation, the regional sub schemes have different income brackets and marginal tax schedules, as it is shown in Tables ES14 and ES15.

Table ES14. Personal Income Tax scale and rates - Central Government*		
Tax Base (€)		Nominal Tax Rates**
From	To	
€ 0,000	€ 12,450	9,50%
€ 12,450	€ 20,200	12,00%
€ 20,200	€ 35,200	15,00%
€ 35,200	€ 35,200	18,50%
€ 60,000	-	22,50%

* Spain has several government levels and PIT is roughly split in half between Central and Regional Governments (See Table ES11)

** Only Central Government, only labor income. Interests and dividends are thoroughly taxed at 19%. Effective rates are sensibly lower

Source: Spanish Tax Office (AEAT):
https://www.agenciatributaria.es/static_files/AEAT/DIT/Contenidos_Publicos/CAT/AYUWEB/Biblioteca_Virtual/Manuales_practicos/Renta/ManualRentaPatrimonio2018_V7_es_es.pdf

Table ES15. Personal Income Tax - Autonomous Regions		
Region*	Top Income Bracket (ordered)	Top Marginal Tax Rate beyond Top Income Bracket
Madrid	53,407.20	21.00%
Castila y León	53,407.20	21.50%
Catilla-La Mancha, Galicia, Ceuta y Melilla	60,000.00	22.50%
Murcia	60,000.00	23.50%
Canarias	90,000.00	24.00%
Cantabria	90,000.00	25.50%
Extremadura	120,000.00	25.00%
Andalucía, La Rioja, C. Valenciana	120,000.00	25.50%
Aragón	150,000.00	25.00%
I. Balears	175,000.00	25.00%
P. de Asturias, Cataluña	175,000.00	25.50%

* Two historical Autonomous Regions (Navarra and The Basque Country) are exempted from the Common Tax Regime. Two Autonomous Towns are included (Ceuta and Melilla)

Source: Spanish Tax Office (AEAT, See Table ES14 for reference link)

Life insurance products

Since 1999 premiums paid into insured saving are not tax exempt. Retirement capitals or income from these vehicles are not taxed except in its interest and capital gains part. These capital gains are integrated into the savings tax base and subject to a tax rate schedule of

19% up to the first € 6,000, 21% from € 6,000 to € 50,000 and 23% beyond € 50.000. When benefits are paid as annuities, the tax rate depends on the life of the annuity and the age of the annuitant when payments began. In case of death of the annuitant, with remaining capital reverting to them, heirs will have to pay inheritance tax, which may vary considerably depending on the region they have their fiscal residence, as this tax lies within the regional jurisdiction.

Insured Retirement Plans (PPA)

This vehicle has a similar tax treatment as standard Pension Plans, Contributions to these plans are tax exempted up to an annual limit of € 8,000 and benefits are taxed as labor income taking into account the recipients age at retirement. Capital gains are subject to a dual income tax scheme. The tax regime of this vehicle thus can be said to be of the EET kind.

Regular Individual Savings Plan (PIAS)

PIAS are a more flexible vehicle than Pension Plans and PPAs, also from the point of view of taxation. As a retirement saving vehicle, annual contributions to it are fully tax deductible up to a limit of € 8,000 per year, as with Pension Plans and PPAs. There is also a global limit for this type of saving plan: € 240,000. Savers can only own one PIAS. At the pay-out phase, if income is received as a lump-sum, taxation intervenes as usual through the dual income tax for labour income (principal) and capital gains income (returns).

But if retirement income is retrieved as a life annuity, capital gains are 100% exempt and principal is taxed according to a rapidly diminishing rates schedule. PIAS can be cashed in well before ordinary retirement age, but when cashed after age 65 the tax rate is 20% falling to 8% when cashed after age 70.

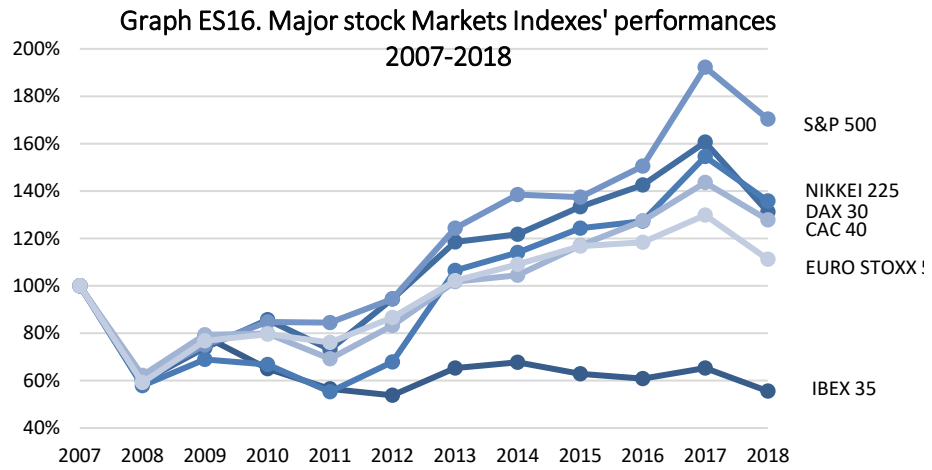
The € 240,000 limit for total saving under a PIAS is relevant here for as from 2015 individuals aged 65 or more who liquidate any asset they may own (financial, real estate, art works, etc) to buy a life annuity have related capital gains fully exempted from the dual income tax.

Returns

Spanish capital and debt markets returns

In 2008 major world stock indexes suffered a 40% loss with respect to the previous year. That was a catastrophe. All asset classes linked to stock suffered accordingly. Hundreds of thousands of workers in advanced countries had to postpone their retirement because these losses would mark the value of their retirement incomes for the rest of their lives nearing them to poverty at old age. Most of these stock markets recovered the 2007 line by 2012-

2013, But the Spanish stock market has not yet recovered even the 2008 bottom-line. This can be seen in Graph ES16 below.



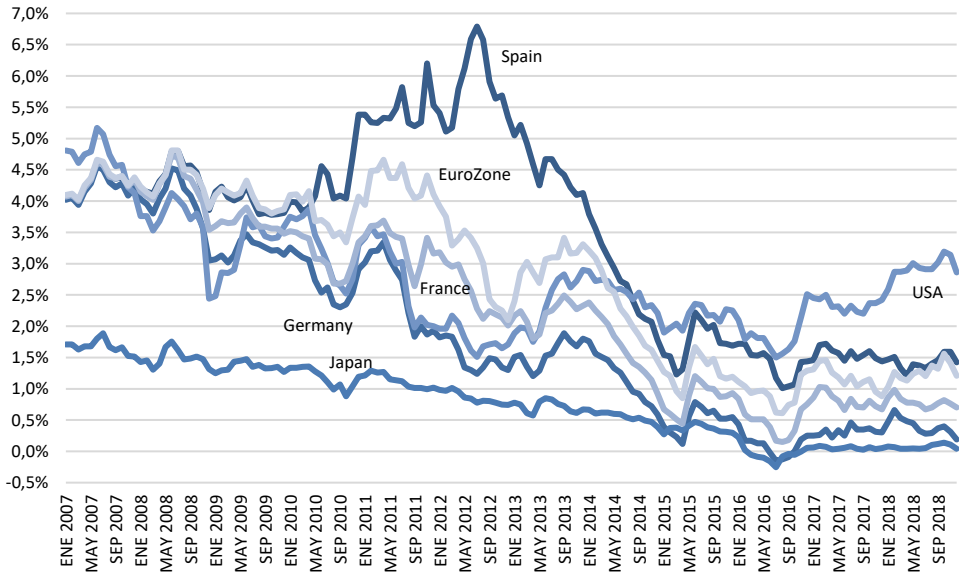
Source: INVERCO and WSJ Database

Happily enough (unfortunately), Spanish workers have their retirement savings well away from the stock market. In fact, Spanish workers have no (relevant) retirement assets at all as we have been arguing so far. Spanish workers have no relevant retirement savings because they have large Social Security implicit wealth as pension benefits replace gone labour income above 80%. But that's a mere expectation.

In the period 2007-2018 the S&P 550, for instance, grew by around 70%, or 30% in the case of the German DAX 30. The Spanish IBEX 35, in 20118, stood on average at 55% of its 2007 value.

Sovereign debt markets in advanced countries, on the other hand, haven't been less turbulent. Provoking real roller coaster effects in associated assets and savings. Spanish 10y bond yields, in particular, reached intervention levels in 2012, at 679 bpts in August. Only a financial sector rescue package saved the sovereign market from Brussels intervention, at a cost naturally. See Graph ES17 below.

Graph ES17. Major Sovereign Bond Yields (10 years) 2007-2018



Source: Bank of Spain

Since May 2015, the ECB succeeded calming lenders and sovereigns entered into a considerably quieter environment. As for now (June 2019) USA, Japanese and German 10y bonds are quoted at around 2.0%, -0.14 and -0.32% respectively. Spanish 10y bonds are quoted at 0.4%.

All in all, any retirement vehicle has to be invested in a mix of stocks, debt and monetary assets and the performance of these underlying assets determines the returns of those savings. As for vehicles set in advanced countries, the recovery of Stock markets and the strong appreciation of bonds has undoubtedly been a blessing provided that management has profited efficiently from these conditions. In Spain, stock and bond markets have performed quite differently than elsewhere and retirement savings returns have followed suit. The hope, and rather the hope, for the Spanish market is that stocks initiate a clear recovery soon and the challenge is that the recovery of debt yields, if it comes at all in the foreseeable future, do not take bond investments to a crash. Some degree of non-cushioned hard landing lies ahead.

Retirement assets' performance (standard Pension Funds)

One of the salient features of the Spanish retirement vehicles market is the large variety of solutions marketed and the small size of the overall market, let apart the small significance

of some of its segments. This may seem hard saying, but a way must be found to substantially enlarge the number of workers covered and the size of per account assets.

So far, as it is shown in the tables below, savings have managed to maintain their purchasing power with few exceptions performing better. Undoubtedly, even if a crude one, the key factor calling into or keeping Spaniards in the complementary retirement savings system is tax deferral (and the locking-in effect it creates), and not as much the real, after fees yields of these assets.

However, all the evidence produced below belongs to the standard Pension Plans system, not to insured retirement vehicles, due to data limitations. All data comes basically form the web site of INVERCO, the Spanish body representing Mutual Investment Institutions and Pension Funds.

Notice, nevertheless, that retirement products insurance comes at an additional cost (with respect to purely financial vehicles) due to the intrinsic nature of both guaranteeing assets' value, on the one hand, and mutualising longevity, on the other. Even if insurers are good performers also in terms of assets management and enjoy the very long-term premiums of the underlying matching assets they invest in, they need to beat the insurance extra cost that these products embody.

Table ES18 contains the basic information concerning Pillars II and III Pension Funds. Returns are labelled "gross", "net" and "real". Gross means before management and depositary fees and commissions (retailing and other transaction costs are disguised here), net means after management and depositary fees and commissions, being nominal returns, and real means after fees and inflation. At first glance, positive net nominal returns dominate the landscape, and even net real returns, with some years at really good returns on assets invested. On historical basis, average cumulative real returns continue to be clearly positive (INVERCO).

2018, however, was a bad year for investments returns of all sorts, particularly the stock market, with two digits negative returns in some classes, but debt markets also performed on the negative (*vid infra*).

Table ES18. Returns of Spanish Pension Funds (before taxes)						
	Pillar II			Pillar III		
	Gross Return	Net Return	Net Real Return	Gross Return	Net Retrn	Net Real Return
2009	9.47%	9.28%	8.38%	10.39%	8.76%	7.86%
2010	2.21%	2.01%	-0.86%	0.25%	-1.43%	-4.30%
2011	0.24%	0.00%	-2.35%	0.50%	-1.22%	-3.57%
2012	8.28%	8.04%	5.03%	7.29%	5.67%	2.66%
2013	7.95%	7.70%	7.39%	10.30%	8.72%	8.41%
2014	7.39%	7.14%	8.27%	7.77%	6.30%	7.43%
2015	3.14%	2.88%	3.01%	2.52%	1.21%	1.34%
2016	2.95%	2.74%	1.33%	2.97%	1.69%	0.28%
2017	3.42%	3.19%	1.97%	3.85%	2.56%	1.34%
2018	-2.96%	-3.19%	-4.42%	-3.19%	-4.48%	-5.71%

Note: Gross Returns are returns before management and depositary charges, Real Returns are computed using the Spanish HCPI published by Eurostat. See Table ES19 for cumulative and average returns

Source: INVERCO

A more vivid landscape emerges when overall returns are followed through time with the help of average cumulative returns computations as presented in Table ES19. This time overall returns for the entire Pension Funds' system are presented and the cumulative perspective is based in 2000. Average cumulative returns at any particular year are thus for the period "2000-that year".[237]

In the period 2000-2018, cumulative nominal returns for Pension Funds reached a 151.66 level (base 100 in 2000) and an annual cumulative nominal return of 2,34%. This return is net (after charges) for savers, but inflation must be taken into account. When this is done, cumulative real returns are virtually equal than the base (100 in 2000) so that nominal returns just helped to match inflation since 2000 to present. The corresponding average cumulative real rate is thus 0,06% for the period. Note that inflation has been negative in four years in the period and moderate over the rest of years. Actually, at an average rate of exactly 2.34%, that is the average net nominal rate of return in the period previously discussed.

[237] Average cumulative returns for the last 3, 5, 10 or 15 years at 2018 or at any other year can be easily computed using the cumulative return data in the corresponding column in Table ES13.

Table ES19. Returns of Spanish Pension Funds (after charges and before taxes)							
	Nominal Returns*			Real Returns*, **			Harmonised Consumer Price Index
	YoY Return	Cum. Return	Average since 2000	YoY Return	Cum. Return	Average since 2000	
2000	2.95%	102.95	2.95%	-1.05%	98.95	-1.05%	4.00%
2001	-2.07%	100.82	0.82%	-4.58%	94.41	-5.59%	2.51%
2002	-4.77%	96.01	-2.02%	-8.78%	86.12	-7.20%	4.01%
2003	5.79%	101.57	0.52%	3.10%	88.79	-3.89%	2.69%
2004	4.51%	106.15	1.50%	1.23%	89.88	-2.63%	3.28%
2005	7.21%	113.80	2.62%	3.49%	93.02	-1.44%	3.72%
2006	5.23%	119.75	3.05%	2.51%	95.36	-0.79%	2.72%
2007	2.08%	122.25	2.91%	-2.20%	93.25	-0.99%	4.28%
2008	-8.07%	112.38	1.47%	-9.52%	84.38	-2.10%	1.45%
2009	7.70%	121.03	2.14%	6.80%	90.11	-1.15%	0.90%
2010	-0.13%	120.88	1.91%	-3.00%	87.42	-1.34%	2.87%
2011	-0.76%	119.96	1.67%	-3.11%	84.70	-1.50%	2.35%
2012	6.59%	127.86	2.07%	3.58%	87.73	-1.08%	3.01%
2013	8.36%	138.55	2.54%	8.05%	94.80	-0.41%	0.31%
2014	6.92%	148.14	2.85%	8.05%	102.44	0.17%	-1.13%
2015	1.78%	150.78	2.78%	1.91%	104.39	0.29%	-0.13%
2016	2.04%	153.85	2.73%	0.63%	105.05	0.31%	1.41%
2017	2.77%	158.11	2.73%	1.55%	106.68	0.38%	1.22%
2018	-4.08%	151.66	2.34%	-5.31%	101.02	0.06%	1.23%

* *Cummulative and average returns (since 2000) are non-weighted.*

** *Real Returns are computed using the Spanish HCPI published by Eurostat*

Source: INVERCO

The overall picture shown in the table above, however, hides a much richer detail of returns by type of retirement scheme and asset class it is invested in. Tables ES20 to ES22 offer this detail.

Pillar II Pension Funds are much cheaper to manage, as seen before, and obtain a larger net nominal return as seen in Table ES20. Particularly those of the associate segment, a minor one, nevertheless. Average cumulative nominal returns are 1.67, 2.91% and 2.70% over the 2000-2018 period for, respectively, individual, associate and employer-sponsored plans. A 34.61%, 67.64% and 61.60% cumulative return over the entire period. Once inflation

adjusted, average real returns are only slightly above overall system return, namely 0.39, 0.63% and 0.41% for, respectively individual, associate and employer-sponsored plans.

Table ES20. Returns of Spanish Pillars II and III Schemes (after charges and before taxes)						
	Individual PLANS		ASOCIATE PLANS		OCCUPATIONAL PLANS	
	Nominal	Real	Nominal	Real	Nominal	Real
2000	-2.70%	-6.70%	0.93%	-3.07%	-3.62%	-7.62%
2001	-3.36%	-5.87%	0.10%	-2.41%	0.64%	-1.87%
2002	-5.45%	-9.46%	-3.84%	-7.85%	-3.72%	-7.73%
2003	5.10%	2.40%	5.61%	2.92%	6.73%	4.04%
2004	3.78%	0.50%	6.56%	3.28%	5.52%	2.24%
2005	6.41%	2.69%	9.49%	5.77%	8.39%	4.67%
2006	5.04%	2.32%	8.16%	5.44%	5.36%	2.64%
2007	1.80%	-2.48%	3.05%	-1.23%	2.44%	-1.84%
2008	-6.44%	-7.89%	-11.10%	-12.55%	-10.50%	-11.95%
2009	8.76%	7.86%	9.23%	8.33%	9.28%	8.38%
2010	-1.43%	-4.30%	0.95%	-1.92%	2.01%	-0.86%
2011	-1.22%	-3.57%	-1.11%	-3.46%	0.00%	-2.35%
2012	5.67%	2.66%	6.94%	3.93%	8.04%	5.03%
2013	8.72%	8.41%	9.51%	9.20%	7.70%	7.39%
2014	6.30%	7.43%	6.88%	8.01%	7.14%	8.27%
2015	1.21%	1.34%	2.57%	2.70%	2.88%	3.01%
2016	1.69%	0.28%	2.45%	1.04%	2.74%	1.33%
2017	2.56%	1.34%	2.99%	1.77%	3.19%	1.97%
2018	-4.48%	-5.71%	-4.32%	-5.55%	-3.19%	-4.42%
Cum. 2000-2018	34.61%	7.33%	67.64%	11.95%	61.60%	7.70%
Average 2000-2018	1.67%	0.39%	2.91%	0.63%	2.70%	0.41%

Source: INVERCO

Given the performance of Pillar II pension funds and the overall system performance just discussed, the conclusion emerges that Pillar III funds must have performed in the period at below zero rates of return once inflation properly factored in in the corresponding computations.

Being this, indeed, the case, it is interesting to look at the asset class these funds are invested in as these schemes' managers have more flexibility than occupational schemes' managers, rather more constrained by social partners' presence in control boards of these Plans.

Table ES21 shows returns of debt-based Individual Funds (Pillar III). Due to higher charges (already netted out in table's data), net returns are sensibly poorer to those of occupational funds, were charges are typically 6 times lower. After inflation adjustment, real returns show a dominant negative pattern that, in averaged cumulative terms over the 2000-2018 period, translate into real investment returns that range between -0.4% for Long-term debt-based funds to -1.54% mixed debt-based funds. Average nominal returns cannot beat the 1.8% mark in the best performing case, that od the long-term debt-based funds. Before charges, however, returns for Pillar III funds' investments aren't that different from returns for Pillar II funds' investments.

Table ES21. Returns of Individual Pension Plans - (After charges and before tax)						
	Short-Term Debt		Long-Term Debt		Mixed Debt	
	Nominal	Real	Nominal	Real	Nominal	Real
2000	3.83%	-0.17%	0.68%	-3.32%	-2.20%	-6.20%
2001	3.64%	1.13%	0.62%	-1.89%	-2.41%	-4.92%
2002	3.83%	-0.18%	0.73%	-3.28%	-5.16%	-9.17%
2003	1.95%	-0.74%	2.62%	-0.07%	3.92%	1.23%
2004	1.77%	-1.51%	1.92%	-1.36%	3.16%	-0.12%
2005	1.04%	-2.68%	1.78%	-1.94%	5.33%	1.61%
2006	1.26%	-1.46%	0.34%	-2.38%	3.58%	0.86%
2007	1.94%	-2.34%	0.75%	-3.53%	1.32%	-2.96%
2008	2.13%	0.68%	2.03%	0.58%	-8.79%	-10.24%
2009	1.80%	0.90%	3.96%	3.06%	6.05%	5.15%
2010	0.64%	-2.23%	0.47%	-2.40%	-1.54%	-4.41%
2011	1.38%	-0.97%	1.39%	-0.96%	-2.21%	-4.56%
2012	3.47%	0.46%	4.79%	1.78%	5.41%	2.40%
2013	2.08%	1.77%	4.66%	4.35%	6.11%	5.80%
2014	1.37%	2.50%	8.93%	10.06%	3.61%	4.74%
2015	-0.20%	-0.07%	-0.46%	-0.33%	0.78%	0.91%
2016	0.20%	-1.21%	1.25%	-0.16%	0.71%	-0.70%
2017	-0.11%	-1.33%	0.11%	-1.11%	1.50%	0.28%
2018	-1.79%	-3.02%	-2.01%	-3.24%	-4.78%	-6.01%
Cum. 2000-2018	134.72	89.85	140.15	93.14	113.57	75.18
Average 2000-2018	1.58%	-0.56%	1.79%	-0.37%	0.67%	-1.49%

Source: INVERCO

As for Pillar III funds mostly invested in stock, Table ES22 contains further and final evidence telling us that by no means returns for this category can be said to be better than those of debt-based investments. Indeed, average real returns to mostly stock-based investments, as shown in Table ES22 below, border the -2% threshold over the 2000-2018 period. Only guaranteed funds manage to obtain a healthy 1.09% real return in the last two decades, a 3.28% nominal return and a cumulative 84.7% cumulative nominal return over the entire period.

Table ES22. Returns of Individual Pension Plans - (After charges and before tax)

	Stocks Mixed		Stocks		Guaranteed	
	Nominal	Real	Nominal	Real	Nominal	Real
2000	-4.97%	-8.97%	-10.60%	-14.60%	9.22%	5.22%
2001	-7.73%	-10.24%	-16.30%	-18.81%	0.35%	-2.16%
2002	-17.20%	-21.21%	-30.10%	-34.11%	5.04%	1.03%
2003	8.70%	6.01%	16.18%	13.49%	5.67%	2.98%
2004	5.60%	2.32%	8.88%	5.60%	4.66%	1.38%
2005	12.16%	8.44%	18.73%	15.01%	4.64%	0.92%
2006	10.09%	7.37%	18.30%	15.58%	1.44%	-1.28%
2007	2.96%	-1.32%	3.93%	-0.35%	1.48%	-2.80%
2008	-23.80%	-25.25%	-38.40%	-39.85%	0.68%	-0.77%
2009	14.21%	13.31%	27.20%	26.30%	3.77%	2.87%
2010	-0.82%	-3.69%	1.63%	-1.24%	-3.96%	-6.83%
2011	-7.01%	-9.36%	-10.40%	-12.75%	1.15%	-1.20%
2012	8.62%	5.61%	10.43%	7.42%	5.48%	2.47%
2013	12.51%	12.20%	22.19%	21.88%	9.41%	9.10%
2014	4.77%	5.90%	7.63%	8.76%	11.37%	12.50%
2015	2.50%	2.63%	5.58%	5.71%	0.27%	0.40%
2016	2.70%	1.29%	4.34%	2.93%	2.12%	0.71%
2017	4.54%	3.32%	8.83%	7.61%	0.41%	-0.81%
2018	-6.55%	-7.78%	-10.10%	-11.33%	0.41%	-0.82%
Cum. 2000-2018	111.97	73.74	72.42	70.19	184.70	123.62
Average 2000-2018	0.60%	-1.59%	-1.68%	-1.85%	3.28%	1.12%

Source: INVERCO

Investment strategies

Returns discussed in the previous section are indeed varied. Their diversity, of course, is rooted in a couple of basic factors: (i) the assets in which retirement funds are invested in and (ii) the strategies managers deploy, given the portfolio, in order to get a high return for

their customers. In general, few facts can be established concerning the data described above:

- For the for the 2000-2018 period, overall nominal (after charges) returns for Pillars II and III pension funds combined have been 2.34% and real returns have been 0.06%, nominal and real respectively, that is, a 228 basis points difference given to inflation.
- In the last decade (2009-2018), for Pillar II pension funds, with (unweighted average) gross nominal returns of 4.21%, net returns of 3.98% and real returns of 2.28%, 23 basis points have been given to management and depositary costs and 120 basis points to inflation.
- For Pillar III pension funds, in the same period, with (unweighted average) gross real returns of 4.27%, net returns of 2.78% and real returns of 1.58%, 149 basis points have been given to management and depositary costs and 120 basis points to inflation. So that charges have been 126 basis points larger for Pillar III vehicles than for Pillar II ones.
- Normally, in Spain, up to six different regular portfolio classes exist ranging from almost-only debt to almost-only stocks and guaranteed funds. Returns (net of charges) within these broad categories, for the 2000-2018 period, (annual cumulative) nominal returns have been 1.58%, 1.79% and 0.67% for, respectively, short-term, long-term and mixed debt vehicles and 0.60%, -1.85% and 3.28% for, respectively, mixed stocks, almost-only stocks and guaranteed funds.

As a clue for the reasons behind the widely varied results just discussed, several ones are rather canonical irrespective of managers' success. Long-term debt yields more than long-term debt, debt is less volatile than stocks and thus less risky and managers' fees are smaller for Pillar II vehicles than for Pillar III ones. The superior returns of guaranteed funds however defy common sense as these should bear some extra cost due to the guaranty they embody.

So, to what extent managers have been responsible for the less than mild results that pension funds have obtained in Spain in the last two decades since 2000? To answer this question, one should go fund by fund and manager by manager, which is not the purpose of this chapter[238], but few general comments can be made. Guaranteed funds, that accounted for 12.3% of Pillar III total assets in 2018 (33.6% in 2010) have been much more profitable for participants than the rest, while assumedly they are more expensive to run due to the insurance coverage they embody. On the other hand, Pillar III vehicles are considerably more charged by management fees than their Pillar II counterparts.

Managers in Spain may be restricted by the rigid asset structure in the established portfolios within Pillar III, but they are rather more free (within the limits set by internal control bodies)

[238] See Fernández y Fernández-Acín (2019). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3319461

in what concerns Pillar II vehicles, and indeed, yields in this two broad categories differ by 103 basis points in favour of the latter. All categories or retirement vehicles invest rather shyly in foreign assets with only few funds specialising in these assets. Superior returns in foreign assets however are by no means assured and this investment strategy has extra costs anyway. Guaranteed funds' managers, finally, which are considerable more free than their non-guaranteed counterparts (being the same managers eventually) and, besides, do not have to face internal control bodies like their Pillar II counterparts, seem to have profited from this conditions to obtain a considerably larger returns for their vehicles' participants.

Conclusion

Spanish retirement assets, through standard Pension Plans are a mere 8.9% of GDP. Insurance retirement (and retirement-like) assets and provisions, a large array of different products not equally qualified as retirement vehicles) could add another 15% GP points to standard Pension Plans. This, by all standards, is a small pensions industry even if some 9 million individuals participate in Pension Plans and some 15 million individuals are covered by insurance vehicles. Assets, technical provisions or other retirement rights barely reach € 10,000 per person making the whole system an insufficient complement, let alone an alternative, to Social Security pensions. Unfortunately, this state of affairs is common to many other European countries.

The retirement vehicles market in Spain, however, has a rich structure of agents, products and retirement schemes that, on paper, should be able to cover the entire work force and beyond. Two tightly related factors prevent this to happen: the pervasive presence of Social Security pensions, whose old-age variety replaces lost labour income at retirement by above 80% and the reluctancy of employers to sponsor retirement schemes for their employees because of costs reasons.

This Spanish pension report, apart general descriptions of the landscape, has gone with a certain detail through some of the most salient features of our Pillars II and III arrangements on, basically, three crucial dimensions: (i) charges, (ii) taxes and (iii) returns.

On charges, we find that these are rather large on average, only because the Individual schemes are considerably costlier to manage than occupational ones. The latter keep their charges very low in line with what is observed in other more advanced countries. Actually, thanks to intense regulatory effort in the last few years, charges to the Pillar III schemes have decreased clearly. A continuation of this trend, without a significant increase in market size, seems far less clear.

On taxation, Spain has an EET tax regime for retirement assets and incomes, which is the standard in most countries in the world. This is the right way to avoid odious double taxation and no tax expert would have any doubt about its convenience. This means that tax treatment of pensions should not be seen as gifts or favours, but as mere tax deferral. And also, it means that some ceilings to tax deductibility may be too low or even arbitrary. Less understandable is still the push among political and social agents to dismantle this deferral. This said, tax deferral in Spain is seen by most agents participating in the system, be they workers, insured persons or even managers and retailers, as the only reason to buy/sell these products. A cultural trait that may explain, jointly with the abovementioned ones, the poor development of Pillars II and III in our country.

On returns, it has to be admitted that performance to date, since 2000, has been barely enough to just beat inflation. A result that many will find poor. Nominal returns are loaded with heavy charges, as mentioned before, but before charges returns are not that terrible. Again, it is taxes that come in to help many participants to reach the conclusion that it is still worth putting their money into this vehicle, despite the illiquid nature of most of these schemes. Participants' *revanche*, however, takes the form of a strategic game in which they allocate just enough money every year to these investments as to exhaust the fiscal way, no more. And this just for some of them, as the rest of participants cannot perhaps afford to put more money into their complementary pension pots.

Pension Savings: The Real Return

2019 Edition

Country Case: Sweden

Swedish summary

Det svenska pensionssytemet består till stor del av avgiftsbestämda/fonderade pensioner. Totalt förvaltas över 5800 miljarder SEK (€565 miljarder) i pensionskapital. I det allmänna pensionssystemet sätts 2,5% av lönen av till den så kallade premiepensionen. I premiepensionen har förvalsalternativet, AP7 Såfa, haft en genomsnittlig realavkastniing på 8,0% sedan 2002, jämfört med 5,4% för alla andra valbara fonder. Tjänstepensionssystemet domineras av fyra stora avtal som täcker över 90% av alla arbetstagare. Tjänstepensionerna har till största del gått från att vara PAYG till fonderade pensionssystem.

Summary

The Swedish pension system contains a great variety of different retirement savings products with over SEK 5.8 trillion (€565 billion) in managed capital. There are funded components in each of the three pillars. In the public pension system, 2.5% of earnings are allocated to the *premium pension*, whereas the default fund, AP7 Såfa, has had an average real rate of return of 5.8% compared to the 2.9% of all other funds over the last 17 years. The second pillar is dominated by four large agreement-based pension plans, covering more than 90% of the workforce. These have largely transitioned from a pay-as-you-go (PAYG) system to a funded system.

Introduction

The Swedish pension system is divided into three pillars:

- Pillar 1 - The national pension
- Pillar 2 - Occupational pension plans
- Pillar 3 - Private pension

The Swedish pension system is a combination of mandatory and voluntary components. Table 1 shows how the pension capital is distributed between the different types of providers in the pension system. In 2017, the total pension capital was estimated at SEK 5,900 billion, which corresponds to thriteen times the size of outgoing pension payments. A share of 48% of the capital is accounted for by the occupational pension system. The fully funded

component in the public pension system, the *premium pension*, accounts for 44% of the pension capital in the first pillar. The remaining 56% is managed by the buffer funds (see next section).

Introductory Table - Pension system in Sweden		
Pillar I	**Pillar II**	**Pillar III**
State pension	Occupational pension	Voluntary pension
Mandatory	Mandatory*	Voluntary
PAYG/funded	Funded	Funded
DC/NDC	DC/DB**	DC
Flexible retirement age 61-67	ERA of 55 or 61, usually paid out at 65	Tax rebate abolished in 2016***
No earnings test	Normally a restriction on working hours	
Quick facts		
Number of old-age pensioners: 2.2 million	Coverage: >90%	Contribution (2015): 24.2%
Coverage: Universal	Pension plans: 4 major plans (agreement-based)	Funds: >300
Average monthly pension: 1,878 EUR	Average monthly pension: €447	Average nonthly pension: €98
Average monthly salary (gross, age 60-64): €2,900	AuM: €271 billions	
Average replacement rate: 65%		

** Occupational pension coverage is organized by the employer*

*** The defined benefit components are being phased out*

**** Self-employed and employees without occupational pension still eligible*

Source: BETTER FINANCE own composition

Introductory table - Nominal returns in Pillar I and Pillar II (%)						
	Public pension		**Occupational pension***			
	AP7 Såfa	Other funds	ITP1	SAF-LO	PA-16	AKAP-KL
2018	-2.7	-2.8	-0.2	-1.97	-3.2	-2.12
3-year AVG	9.6	5.1	6.6	6.03	6.14	6.13

* For each occupational pension plan, the return is an unweighted average among the available funds.

Note: The set of funds in each occupational pension plan might change when there is a procurement. This makes it difficult to calculate average returns further back in time.

Average real net returns on Capital in the Premium Pension System (Pillar I)		
	AP 7 Real net	Other funds
2018	-4.83%	-6.13%
2016-2018	7.53%	2.97%
2012-2018	14.71%	8.03%
2009-2018	13.21%	8.11%
2002-2018	5.77%	2.93%

Source: BETTER FINANCE own composition

The average pension in Sweden was €1,878 EUR (SEK 19,265) per month before taxes in 2018; whereof €1,332 (SEK 13,675) came from the national pension, €447 (SEK 4,582) from occupational pensions and €98 (SEK1,004) derived from private pension savings. The outcome furthermore differed quite significantly between genders. For women, the average total pension was €1,600 (SEK16,417) per month before taxes and for men €2,202 (SEK 22,597) per month before taxes[239]. Although a lot of money is locked in the pension system in Sweden, the Swedish household's savings rate is quite high.

Table SE1. - Capital Managed (billions SEK/EUR)										
		2010	2011	2012	2013	2014	2015	2016	2017	2018
Income-based pension	SEK	895	873	958	1058	1185	1230	1322	1412	1383
	€	87.3	85.1	93.4	103	116	120	129	138	135
Premium pension	SEK	443	434	515	648	812	896	1024	1182	1180
	€	43.2	42.3	50.2	63.2	79.2	87.4	99.9	115	
Occupational pension	SEK	1509	1705	1795	1948	2227	2369	2567	2787	
	€	147	166	175	190	217	231	250	272	
Private pension	SEK	423	406	412	433	465	478	478	484	586
	€	41.2	39.6	40.2	42.2	45.3	46.6	46.6	47.2	57.1

Source: Sveriges Pensioner 2005-2016, Orange Report 2018. EUR 1 = SEK 10.26 in 2018.

In Sweden there is no set age at which people must retire, but the national pension can be drawn from the age of 61 onwards. Nor is there an upper age limit on how long a person may work, and everyone is entitled to work until the age of 67. The Swedish Pensions Agency administers the national pension and related pension benefits and provides information

[239] The Swedish Pensions Agency, *Så blir pensionen 2018*.

about them. The Swedish Social Insurance Inspectorate ensures that the Swedish Pensions Agency conducts its administration with due process and efficiency. The occupational and the private pension can be drawn from the age of 55 onwards.

The new national pension system in Sweden was introduced in 1999. The most important change in the reform was going from a defined benefit system to a defined contribution system. Before the reform, pensions were considered a social right and people were guaranteed a certain percentage of the wage before retirement. Following the reform, the outcome of the pension now consists of the pension savings accumulated during active employment before retirement. In this system, pensions depend on economic and financial development, which means that it is not possible to know in advance how much a retiree's pension will be. With the new pension system, the need for information about pensions is even more important. The occupational pension system has developed in the same direction; most of the occupational pension plans are now defined contribution systems or hybrids with both defined contribution and defined benefit components.

Pillar I: The national pension

The national pension consists of an *income-based pension*, a *premium pension* and a *guarantee pension*. A share of 18.5% of the salary and other taxable benefits up to a maximum level of 7.5 income-base amount[240] per year is set aside for the national retirement pension. A share of 16% is set-aside for the income pension, where the value of the pension follows earnings trends in Sweden. The income-based pension is financed on a pay-as-you-go (PAYG) basis, which means that pension contributions paid in are used to pay retirees the same year. The remaining 2.5% of the salary and other taxable benefits are set-aside for the premium pension, for which the capital is placed in funds. The individual can either choose what fund or funds to place their savings with or, if no choice is made, contributions will be made in the default alternative fund. This system is unique to Sweden and the first individual choices (allocations) were made in 2000. The aim was to achieve a spread of risk in the pension system by placing a part of the national pension on the capital market, enhance the return on capital and enable individual choices in the national pension system.[241] The Swedish pensions Agency calculates that by 2030 the premium pension will constitute 20% of the total pension.

The capital for the income-based system is deposited in five buffer funds: the first, second, third, fourth and sixth national pension funds. The result of the income-based pension system is affected by several key economic and demographic factors. In the short-term, the development of employment is the most important factor, but the effect of the stock and

[240] 49,159EUR (504,375 SEK) for 2018.
[241] Vägval för premiepensionen, Ds 2013:35

bond markets is also of significance, particularly in case of major changes. In the long-term, demographic factors are most relevant.

Accumulated pension rights and current benefits in the income-based system grow with the increase in the level of earnings per capita. If the rate of growth of one salary would be slower than that of the average salary, for instance as a result of a fall in the size of the work force, total benefits would grow faster than the contributions financing them, which could induce financial instability. If the ratio of assets to liabilities in the income-based system falls below a certain threshold, the automatic balancing mechanism is activated and abandons the indexation by the level of average salaries.

The third element of the national pension is the *guarantee pension*. It is a pension for those who have had little or no income from employment in their life. It is linked to the price base amount calculated annually by Statistics Sweden. The size of the guarantee pension depends on how long a person has lived in Sweden. Residents of Sweden qualify for a guaranteed pension from the age of 65. To receive a full guaranteed pension, an individual must in principle have resided in Sweden for 40 years after the age of 25. Residence in another EU/EEA country is also credited toward a guaranteed pension. In addition to the national pension, pensioners with low pensions may be entitled to a housing supplement and maintenance support.

There is agreement in the Swedish Parliament to raise the different statutory retirement ages in the public pension system (Pillar I). First, the earliest eligibility age will be raised from 61 to 62 in 2020, to 63 in 2023 and to 64 in 2026. Second, the eligibility age for the minimum guarantee will be raised from 65 to 66 in 2023 and is then expected to increase to 67 in 2026. Those who have worked for 44 years or longer will be exempt from these changes. Third, the mandatory retirement age will be raised from 67 to 68 in 2020, and then to 69 in 2023. There is also a plan to index these retirement ages to a so-called "target age". The target age will be based on remaining life expectancy, although the details are yet to be laid out.

For administering the income-based pension system, a fee is deducted annually from pension balances by multiplying these balances by an administrative cost factor. In 2017, the fee amounted to 0.03%[242]. The deduction is made only until the insured begins to withdraw a pension. At the current level of cost, the deduction will decrease the income-based pension by approximately 1% compared to what it would have been without the deduction.

The premium pension system is a funded system for which the pension savers themselves choose the funds in which to invest their premium pension savings. By 2018 there were 802 eligible funds registered in the premium pension system, managed by 94 different UCITS.

[242] *The Swedish Pensions Agency, Orange report 2018*

The premium pension can be withdrawn, in whole or in part, from the age of 61. The pension is paid out from selling off the accumulated capital. The individual choice in the premium pension system furthermore results in a spread on return on the pension capital depending on the choice of fund or funds. Table SE2 shows the allocation of assets in the premium pension.

Table SE2. Funds in the Premium Pension System in 2018 and Capital Managed 2009–2018, December 31, billions of SEK/EUR

		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Equity fund	SEK	179	214	159	193	240	295	347	388	441	407
	€	17.5	20.9	15.5	18.8	23.4	28.8	33.8	37.8	43	39.7
Mixed funds	SEK	12	17	41	51	63	77	67	69	70	66
	€	1.17	1.66	4	4.97	6.14	7.51	6.53	6.73	6.83	6.44
Generation funds	SEK	38	43	60	71	90	114	128	147	166	167
	€	3.71	4.19	5.85	6.92	8.78	11.1	12.5	14.3	16.2	16.3
Interest funds	SEK	21	24	28	24	27	27	25	127	26	30
	€	2.05	2.34	2.73	2.34	2.63	2.63	2.44	12.4	2.54	2.93
AP7 Såfa (default)	SEK	90	110	105	132	182	246	272	328	407	433
	€	8.78	10.7	10.2	12.9	17.7	24	26.5	32	39.7	42.2
Total:	SEK	**340**	**408**	**393**	**471**	**602**	**759**	**839**	**959**	**1110**	**1103**
	€	**33.2**	**39.8**	**38.3**	**45.9**	**58.7**	**74**	**81.8**	**93.5**	**108**	**108**

Source: The Swedish Pensions Agency, Orange report 2018, p.17. EUR 1 = SEK 10.26 in 2018.

The premium pension has been criticized for having too many selectable funds and for generating large variation in pension outcomes. In December 2017, the government announced that it will implement the changes that have been proposed by the Pensions Agency to enhance the quality and regulation of the participating companies.[243] The new rules were implemented on 1 November 2018, and include, among other things, that the participating fund companies manage at least SEK 500 millions outside the Premium Pension, have three years of operating history, act in the best interest of the retirement savers, fulfill minimum sustainability requirements, and establish one contract per fund (rather than one contract per company) with the Pensions Agency.[244]

[243] The Swedish Pensions Agency, Stärkt konsumentskydd inom premiepensionen
[244] https://www.pensionsmyndigheten.se/nyheter-och-press/pressrum/nytt-avtal-klart-for-premiepensionens-fondtorg

The new rules also meant that companies that wished to be part of the Premium Pension had to (re)submit an application to the Pensions Agency. In early 2019, 70 companies had submitted an application covering 553 funds. This means that 269 funds will be deregistered from the Premium Pension during the course of 2019. As a result, the pension capital of around 630,000 retirement savers will be moved to the default fund, AP7 Såfa. The primary purpose of the new rules is to prevent dishonest and fraudulent companies. The alleged fraud of the fund companies Falcon Funds in 2016, Allra in January 2017, and Solidar in 2018[245] sparked discussions on the issue.

More structural changes of the Premium Pension are likely to follow in the near future. The aim is to make it easier for retirement saves to get an overview of and select funds, and for the authorities to exercise control and transparency. The number of funds is expected to fall considerably as a result of these changes. A government report on future changes is expected in November 2019, and the new system should be in place during 2020.[246]

Pillar II: Occupational pensions

The occupational pension system in Sweden is mainly driven by collective agreements. A Swedish company is not required by law to pay a pension to its employees, but an occupational pension plan is mandatory if there is a collective agreement at the workplace. The occupational pension system covers over 90% of the workforce. The self-employed are excluded from occupational pension plans and it is mostly smaller companies in new sectors of business that do not have collective agreements.[247] There are four main collective agreements for the different sectors and each agreement has its own pension plan. The four collective agreements are: the SAF-LO Collective Pension (blue-collar workers) with 2.8 million members, the Supplementary Pension Scheme for Salaried Employees in Industry and Commerce ITP (white collar employees) with 2 million members, the Collectively Negotiated Local Government Pension Scheme (KAP-KL) with 1 million members and the Government Sector Collective Agreement on Pensions PA-03 with 500,000 members[248].

In all four collectively negotiated pension schemes, the employees are allowed to choose a fund manager for at least part of the pension amount. To ensure that the employees receive an occupational pension that is as high as possible there is a 'choice centre' for each collective pension plan. The 'choice centre's' task is to contract good managers for the employee's occupational pension. The employees can choose between different types of traditional

[245] See Cronqvist et al. (2018) for a discussion of the Allra case.
[246] Finansdepartementet, Ett upphandlat fondtorg för premiepension, Dir 2018:57
[247] AMF, "Tjänstpensionerna i framtiden – betydelse, omfattning och trender", p. 17.
ISF Rapport 2018:15, "Vem får avsättningar till tjänstepension".
[248] www.pensionsmyndigheten.se/tjanstepensionen-thml

insurance and/or unit-linked insurance. The size of this individual portion depends on the size of the premiums paid by the employer in the form of an annual pension provision, the length of the period during which they are paid, and how the funds are managed. For two of the collective pension schemes, KAP-KL and SAF-LO, the employees can choose a fund manager for the whole amount. If the individual does not choose a fund manager, the pension capital will be placed in the default alternative, which in all four agreements is a traditional insurance procured by the choice centre of the occupational pension plan.

If there is no collective agreement at the workplace, the company can choose to have an individual occupational pension plan for their employees. Among the companies that do not have a collective agreement, some have chosen to have an occupational pension plan, and some do not pay out any pensions at all to their employees. These individual pension plans can vary in shape and level but common to them all is that they often have worse provisions and higher costs compared to the collectively negotiated pension schemes.

In 2017, the Ministry of Finance published a report with several proposals on how to make it easier and cheaper to move occupational pension capital across pension companies and pension plans.[249] Today, the right to move occupational pension is, with some exceptions, limited to pension capital that has been accumulated after 2007 and that has not started to be paid out. There is typically also a fee associated with moving the pension capital to another company, especially in the individual occupational pension plans. Critics argue that this leads to lower competition, lower returns for retirement savers and lock-in effects. Because of the parliamentary situation, it is not clear when these changes will be implemented.

In December 2016, Sweden transposed the IORP II Directive. The purpose of the new Directive is to ensure the soundness of occupational pensions and better protect pension scheme members by means of stricter capital solvency requirements. The new directive also clarifies the legal framework for actors in the occupational pension business. The new rules have been subject to much discussion. Critics argue that they distort competition in the occupational pension arena because not all companies would be affected. The new rules only apply to pension companies that only provide occupational pension insurance, as opposed to pension companies that also provide other insurance services. The government is currently trying to supplement the EU Directive with new national legislation, and a proposal is expected during 2019.[250]

[249] Konkurrensverket, Flyttavgifter på livförsäkringsmarknaden – potentiella inlåsningseffekter bland pensionsförsäkringar, Rapport 2016:12.
[250] See https://www.fi.se/sv/forsakring/iorp2/ for more information on IORP II.

Pillar III: Private pensions

Private pension saving is voluntary, but it is subsidized via tax deductions. In 2014, 34.5% of those aged 20 to 64 made contributions to a private pension account.[251] The tax deduction for private pension savings is only profitable for high-income earners.

Private pension savings can be placed in an individual pension savings account (IPS) or in private pension insurance. Money placed in an IPS and in private pension insurance is locked until the age of 55. After that the individual can choose over how many years the pension should be paid out. The minimum payout is 5 years in both IPS and private pension insurance. However, only money in private pension insurance can be paid out for life (annuity).

Unlike the national pension plan and the occupational pension plans, private pension plans are individual. This results in less transparency both when it comes to offered products within the private pension plans and the charges on these products.

The deduction for private pension savings has been reduced over the years. From 1 January 2015 it was reduced from €1,169 to €175 (SEK12,000 to SEK 1,800) per year, equivalent to €15 (SEK 150) in monthly savings. On 1 January 2016 the deduction was abolished. The motive for this is that the deduction favours high-income earners. In 2015, the share of private pension savers dropped to 24.2 %. Those who still contribute to private pension accounts are thus subject to double taxation.

Several actors in the pension industry advocate the need for new incentives for people to save privately for retirement. One suggestion is that the government match private contributions, similar to what is already in place in Germany,[252] matching benefits, in particular, for low- and medium-income earners as opposed to tax subsidies which tend to favor the rich. The problem is of course that the government has to bear the costs of matching in the future when the contributors retire.

ISK

With the abolishment of tax-deductible pension accounts, retirement savers need to find new ways to save for retirement that are not directly related to the pension. The most popular savings vehicle today is called "*Investeringssparkontot*" (Investment and savings account - ISK) and was introduced in January 2012. The purpose of the new account is to make it easier to trade in financial instruments. Unlike an ordinary securities account, there

[251] http://www.statistikdatabasen.scb.se/
[252] OECD Pension Outlook 2018.

is no capital gains tax on the transactions. Capital gains tax has been replaced by an annual standardised tax (more on this in the Taxation section).

After the lowering of the deduction for private pension savings, ISK is now regarded as a low tax alternative to private pension savings. ISK has enjoyed widespread popularity and the number of ISK accounts has increased dramatically. In 2017, the number of unique account holders exceeded 2.1 million (see Table 3). In 2017, ISK funds accounted for 8% of the households' total fund assets as compared to 24% for private pension insurance. The relative importance of ISK is however likely to increase in the future; 32% of net savings in funds in 2017 was allocated to ISK accounts. The Premium Pension (1st pillar) is the most important saving vehicle in funds accounting for 33% of net savings and 28% of total fund assets (see Table 4).

Cash, securities traded on a regulated market or an MTF, and fund shares are the permitted holdings for this type of account. The cash holdings are covered by the deposit guarantee. The securities and the fund shares are covered by the investor protection guarantee. The account is not an insurance product. It is not possible to name a beneficiary, and standard inheritance laws apply.

Table SE 3. ISK accounts

Year	Number of accounts	Number of account holders
2012	222 664	210 895
2013	493 221	453 911
2014	891 550	788 201
2015	1 840 152	1 528 939
2016	2 305 137	1 853 227
2017	2 818 490	2 163 762

Source: Swedish Tax Agency

Table SE 4. Household fund assets 2018				
Fund type		Fund assets	Net saving (%)	Share of assets (%)
Direct fund investments	SEK	424,846	-41	11
	€	41,429		
ISK	SEK	319,310	36	8
	€	31,138		
IPS	SEK	96,636	-7	2
	€	9,423		
Private pension insurance	SEK	930,735	28	24
	€	90,761		
Premium Pension (1st pillar)	SEK	1,104,498	54	28
	€	107,705		
Trustee-registered funds	SEK	403,882	-1	10
	€	39,385		
NGOs	SEK	94,316	-2	2
	€	9,197		
Swedish companies	SEK	414,650	17	11
	€	40,435		
Others	SEK	115,053	16	3
	€	11,219		
Total	SEK	**3,903,926**	**100**	**100**
	€	380,693		

Source: Swedish Investment Fund Association

Pension vehicles

Occupational pension plans

ITP

The ITP agreement consists of two parts: defined contribution pension ITP 1 and defined benefit pension ITP 2. Employees born in 1979 or later are covered by the defined contribution pension ITP 1. In ITP 1 the employer makes contributions of 4.5 percent of the salary per year, up to a maximum of 7.5 income base amounts. If the salary exceeds this level, the amount of the contribution is also 30% of the salary above 7.5-income base amount. There is also an additional contribution that the employer organizations can choose to include, the so-called partial pension contribution. This contribution currently varies between 0.2%-1.5%.

Half of the ITP 1 pension must be invested in traditional pension insurance, but the individual can choose how to invest the remaining half. It can be placed in traditional insurance and/or unit-linked insurance. The premiums of those who do not specify a choice are invested in traditional pension insurance with Alecta. The eligible insurance companies for traditional

insurance are Alecta, AMF, Folksam, Skandia and SEB and for unit-linked insurance they are Danica Pension, SPP, Handelsbanken, Movestic and Swedbank.

SAF-LO

The SAF-LO occupational pension plan is a defined contribution plan by definition. The terms of the plan were improved in 2007, mostly in response to perceived unfairness in the terms of the pension provisions for blue-collar and white-collar workers. Like for ITP 1 the employer now makes contributions of 4.5 percent of the salary, up to a maximum of 7,5 income base amounts. If the salary exceeds this level, the amount of the contribution is also 30 percent. SAF-LO also contains a partial pension contribution that the employer can choose to add. The additional contribution is currently ranging between 0.7. and 1.7 percent.

The individual can choose how to invest the pension capital and it can be placed in traditional insurance and/or unit-linked insurance. The eligible insurance companies for traditional insurance are Alecta, AMF, Folksam and SEB and for unit-linked insurance they are AMF, Danica Pension, Folksam, Handelsbanken, Länsförsäkringar, Movestic, Nordea, SEB, SPP and Swedbank.

PA 03

The pension plan for central government employees, PA 16 – Avd II (formerly PA 03), is a hybrid of defined contribution and defined benefit. The defined contribution component in PA 03 consists of two parts: individual old age pension and supplementary old age pension. The total premium amounts to 4.5% of the pensionable income up to a ceiling of 30 income base amounts. Of the total premium, 2.5% and 2% is allocated to the individual pension and the supplementary pension respectively. The individual can choose how the contribution of the individual retirement pension should be placed and managed. Contributions to the supplementary pension cannot be invested by the employee and are instead automatically invested in a traditional low-risk pension insurance fund.

The defined-benefit pension applies to those who earn more than 7.5 income base amounts. If the individual earns between 7.5 and 20 income-base amounts, the defined-benefit pension comprises 60% of the pensionable salary on the component of pay that exceeds 7.5 income base amounts. If the individual earns between 20 and 30 income-base amounts, the defined-benefit pension comprises 30% of the pensionable salary on the component of pay that exceeds 20 income base amounts. There is also a defined benefit pension on income less than 7.5 income base amounts in accordance with transitional provisions due to the implementation of PA 16 – Avd I (below).

In 2016, a new pension plan, PA 16 – Avd I , for central government employees was implemented. PA 16 covers those born in 1988 or later. Just like PA 16 – Avd II, PA 16 – Avd

I has two defined contribution components. The individual pension (2.5 % of income up to 7.5 income base amounts) can be invested by the employee, whereas the supplementary pension (2% of income up to 7.5 income base amounts) is invested in a low-risk pension insurance fund. The contribution for earnings above the ceiling amounts to 20% and 10%, respectively. PA 16 also contains a mandatory partial pension contribution amounting to 1.5%. These contributions are invested in a low-risk pension insurance fund.

The eligible insurance companies providing individual retirement pension in the shape of traditional insurance are Alecta, AMF, Kåpan, and as unit-linked insurance they are AMF, Danica Pension, Handelsbanken, Länsförsäkringar, SEB and Swedbank.

KAP-KL

The KAP-KL agreement consists of two parts: the defined contribution pension AKAP-KL and defined benefit pension KAP-KL. Employees born in 1986 or later are covered by the defined contribution pension AKAP-KL. In AKAP-KL, the employer pays in an amount of 4.5% of the salary towards the occupational pension. If the salary exceeds 7.5 income base amounts, the amount is increasing with 30% of the salary that exceeds 7.5 income base amounts up to a maximum of 30 income base amounts. Employees covered by KAP-KL get 4.5% of the salary contributed to their occupational pension. For a salary over 30 income base amounts, no premium is paid. Instead there is a defined benefit old age pension that guarantees a pension equivalent to a certain percentage of the final salary at the age of retirement.

The individual can choose how to invest the pension capital and it can be placed in traditional insurance and/or unit-linked insurance. The eligible insurance companies for traditional insurance in AKAP-KL are Alecta, AMF and KPA, and for the unit-linked insurance in AKAP-KL they are AMF, Danica, Folksam, Handelsbanken, KPA, Lärarfonder, Nordea and Swedbank.

Charges

Pillar I

The costs associated with the administration and management of the funds affect the size of outgoing pension payments.

To reduce the costs in the premium pension system, the capital managers associated with the premium pension system are obliged to grant a rebate on the ordinary management fee of the funds. In 2018, the rebates to pension savers were equivalent to a discount in fund management fees of about 0.38 percentage points. The rebates on the ordinary management fees in the premium pension system are of great importance; without them pensions would be approximately 12 % lower. Furthermore, the pension savers are in a

position to influence the costs of their premium pensions by choosing funds with lower management fees.

The net charges (after rebates) in the premium pension pension system are reported in the upper part of Table 5. The total cost deduction in the premium pension capital is about 0.25% per year. At this level of cost the deduction will decrease the premium pension by an average of about 9% from what it would have been without any cost deduction. The deduction is expected to decrease in the future.

The costs in the income pension are shown in the lower part of Table SE5. Management fees in the income pension cover the costs of the buffer funds. The capital managed by the buffer funds still exceed the capital managed in the premium pension (SEK 1,398 billion in 2018). However, returns to scale in the buffer funds imply lower costs than in the premium pension.

Table SE 5. Net charges 1st pillar (%)							
	2012	2013	2014	2015	2016	2017	2018
Premium pension	0.37	0.36	0.33	0.3	0.28	0.27	0.25
- Adminstrative fee	0.1	0.1	0.09	0.07	0.07	0.06	0.07
Income pension	0.19	0.2	0.2	0.21	0.19	0.18	0.16
- Adminstrative fee	0.03	0.031	0.03	0.028	0.03	0.03	0.03

Source: The Orange Report, 2018

To meet the new need of information in the new pension system, the orange envelope was introduced in 1999. It contains information about contributions paid, an account statement, a fund report for the funded part and a forecast of the future pension. The purpose of the orange envelope is to get more people interested in their pension and get more attention with the help of the special design, the orange colour and a big concentrated distribution once a year. The orange envelope has now become a brand, a trademark for pensions. Banks and insurance companies use it in their sales campaign and in media the orange envelope is used to illustrate pensions.

Pillar II

Legislation from 2007 implies that individuals can choose which company should manage their occupational pension capital. The so-called portability right accrues to capital earned after July 1, 2007. Capital earned before this date can be moved if the default managing company itself has agreed to give their investors this right. It is estimated that around 44 percent of the occupational pension capital today is covered by the portability right.[253] Thus, the share of pension capital that can be moved will increase over time, which will further

[253] SOU 2012:64, page 466

strengthen the competition and keep the fees low. As discussed in the background section, there are also policy proposals to extend the portability rights. However, it is unclear when, and if at all, these changes will be put in place.

The selectable companies within each pension plan are included through a procurement procedure which, especially in the last years, have kept the fees down. The companies and the corresponding charges within each pension plan are listed in Table SE6.

The disclosure of charges in the occupational pension system is quite good, although it can be difficult for the average citizen to understand the information that is available. In the occupational pension system, there is typically a yearly fixed fee and a percentage fee on the capital (i.e. management fee). The fixed fee is usually low and covers administrative costs of the pension company. Table SE6 shows the current fee structure in each of the four major occupational pension plans. The charges are relatively low and range between 0.1% and 0.5%.

Table SE6. Pillar II charges		
ITP 1		
Traditional insurance	**Fixed fee, SEK**	**Management fee, %**
Alecta (default)	0	0.11
AMF	50	0.20
Folksam	0	0.20
SEB	48	0.19
Skandia	65	0.195
Unit-linked insurance		
Danica Pension	0	0.11-0.19
Handelsbanken	0	0.07-0.14
Movestic	0	0.12-0.22
SPP	0	0.08-0.14
Swedbank	0	0.17-0.18
SAF LO		
Traditional insurance	**Fixed fee, SEK**	**Management fee, %**
Alecta	65	0.19
AMF	40	0.18
Folksam	65	0.18
AMF (default)	40	0.18
SEB	65	0.20
Unit-linked insurance		
AMF	60	0.13-0.20
Danica Pension	65	0.16-0.36
Folksam LO	50	0.21-0.35
Handelsbanken	65	0.29-0.42
Länsförsäkringar	65	0.12-0.20
Movestic	65	0.11-0.20

Nordea	65	0.29-0.36
SEB	45	0.13-0.35
SPP	65	0.14-0.28
Swedbank	65	0.27-0.34
PA 03 & PA 16		
Traditional insurance	**Fixed fee, SEK**	**Management fee, %**
Alecta	75	0.19
AMF	75	0.18
Kåpan Pensioner (default)	6	0.11
Unit-linked insurance		
AMF	75	0.13-0.20
Danica Pension	65	0.39
Handelsbanken	75	0.35
Länsförsäkringar	75	0.51
SEB	75	0.14-0.4
Swedbank	75	0.33-0.4
AKAP-KL		
Traditional insurance	**Fixed fee, SEK**	**Management fee, %**
Alecta	65	0.19
AMF	65	0.18
KPA (default)	48	0.11
Skandia	65	0.195
Unit-linked insurance		
AMF	65	0.13-0,20
Danica Pension	65	0.44
Folksam LO	65	0.22-0.34
Handelsbanken	65	0.30
KPA Pension KPA SmartPension	65	0.30
Lärarfonder	65	0.35
Nordea	65	0.34-0.36
SEB	65	0.31-0.34
Swedbank	65	0.30

Source: The Swedish Consumers' Insurance Bureau, 2018

Pillar III

For the private pension system, however, it is difficult to get a good overview of the available pension products and hence the charges on these products. There are two tax-favored (pre-2016) private pension veichles: IPS and private pension insurance. The majority of pension providers of IPS and private pension insurance charge a fixed fee (see Tables 7 and 8). These typically range between €10 and €40 per year and are hence higher than in the occupational pension system. In IPS, only two out of eleven providers charge a management fee. Instead, the individual is subject to fund fees which vary substantially by fund type and pension provider. It is also relatively expensive to move the IPS capital to another company. This fee typically amounts to €50, which in relation to the invested capital can be sizable.

In private pension insurance accounts, the fee structure depends on whether the capital is unit-linked or traditional. Traditional insurance only imposes a management fee whereas unit-linked insurance both contains management and fund fees. In some cases, investors also pay a deposit fee of 1% - 2%. The savings invested in these products will decrease since the deduction for private pension savings was abolished in January 2016.

In many private pension products (including individual occupational pension plans), there is a cost to move the capital to another company (not reported here). These fees typically range between 0%-2%, reaching 0% after a specific number of years of investment. These fees have been criticized for causing serious lock-in effects. For many it is simply not worth moving the capital, despite high management fees.

Table SE7. Individual Pension Savings Account (IPS)– Fees			
	Fixed fee. SEK	Management fee. %	Fund fee (mixed funds). %
Aktieinvest	0	0,00	0.10-1.90
Avanza Bank	0	0,00	0.20-2.00
Danske Bank	150	0,00	1.00-1.40
Handelsbanken	0	2 (max SEK 125)	0.50-1.50
Indecap	125	2 (max SEK 125)	1.34-1.66
Länsförsäkringar Bank	125	0,00	0.40-2.20
Nordea	140	0,00	0.40-2.75
Nordnet Bank	0	0,00	0.20-2.20
SEB	150	0,00	1.10-1.35
Skandiabanken	0	0,00	0.20-2.50
Swedbank	0	2 (max SEK 125)	0.20-1.60

Source: The Swedish Consumers' Insurance Bureau, 2018

Table SE8. Pension Savings Insurance – Fees			
Traditional insurance	**Fixed fee. SEK**	**Management fee. %**	*Deposit fee. %*
Folksam Pensionsförsäkring	288	0.8	1,00
Nordea Ålderspension	146	0.75	0,00
SEB Traditionell Försäkring	184	0.95	0,00
Skandia Framtid Internet	0	0.6	2,00
Skandia Framtid Rådgivning	0	0.8	2,00
SPP PLUSpension Traditionell	0	0.35	0,00
Unit-linked			*Fund fee. %*
Avanza Pension PrivatPension Depå	0	0	0.1
Brummer Life PrivatPension	0	0.25-0.65	0.02
Danica Pension PrivatPension Fond	120	0.5	0.54
Danica Pension PrivatPension Netto Fond	0	0	0.54
Folksam Pensionsförsäkring Fond	295	0.7	0.33
Handelsbanken Privatpension	60	0.75	0.28
Länsförsäkringar Privatpension Fond	240	0.5	0.29
Movestic Pension Privat Fond	273	0.4-0.55	0.52
Nordea Ålderspension Fond	146	0.4	0.42
Nordnet Privatpension Depå	0	0	0.1
SEB Privat Pensionsförsäkring Fond	304	0.65	0.48
SEB Svensk Depåförsäkring	304	0.9	0.48
Skandia Privatpension Depå	0	0.75	0.37
Skandia Privatpension Internet Fond	0	0.10-0.65	0.43
Skandia Privatpension Rådgivning Fond	360	0.65	0.43
SPP PLUSpension Fond	0	0	0.26
Swedbank Pensionsförsäkring Depå	240	0.65	0.15
Swedbank Pensionsförsäkring Fond	240	0.65	0.15

Source: The Swedish Consumers' Insurance Bureau, 2018

ISK

On ISK there is an annual standard rate tax, based on the value of the account as well as the government-borrowing rate. The financial institutions report the standard rate earnings to the tax authorities and there is no need to declare any profit or loss made within the account.

The calculation of the standard rate earnings is based on the average value of the account as well as the government-borrowing rate. The average value of the account is calculated by the account value of the first day of each quarter added together, divided by four, and the

sum of all deposits during the year divided by four. The average value of the account multiplied with the government borrowing rate as of 30 November the previous year, plus 1 percentage point (0.75 percentage points before Jan 1, 2018), gives the standard earnings. The standard earnings are reported to the tax authority by the financial institutions. The standard earnings are taxed at 30%. In 2018, the government borrowing rate was 0.51%, which means that the calculated average value of an account is taxed with 0.453%. The table below reports the total and average standard earnings for years 2012-2017, re

Table SE9. ISK standard earnings				
Year	Standard earnings (msek)	in €	Average standard earning per account holder	in €
2012	714	70	3,388	330
2013	2,024	197	4,458	435
2014	5,467	533	6,937	676
2015	3,952	385	2,585	252
2016	7,646	746	4,126	402
2017	8,852	863	4,091	399

Source: The Swedish Tax Agency

In contrast to individual pension savings accounts, the investment and savings accounts are free from management fees. The taxation of the accounts is very favourable, and the Swedish Pensions Agency considers the investment and savings account a great alternative to the individual pension savings account. There is no binding period, and withdrawals can be made free of charge at any given time. The taxation of the account is more favourable during periods with low borrowing rates, as the standard rate earnings are based partially on the government-borrowing rate.

Since ISK was introduced in 2012, the economy has been characterized by low interest rates and a positive stock market development. This, in combination with the abolishment of the deduction for private pension savings, has contributed to the rapid spread of ISK accounts. Some argue that ISK will replace the old tax-favored private pension savings accounts. However, critics argue that ISK is more of a regular savings vehicle; ISK capital cannot be withdrawn as a life annuity, and it does not mandate the account holder to save long-term.

Taxation

Taxation during the accumulation phase looks different in the different pillars. In the public pension, individual contributions are deductible from the tax base and there is no tax on

returns. Employers can partially deduct contributions to the second pillar.[254] When it comes to private pension savings, there was a tax deduction of 1,800 SEK per year available, but it was abolished in January 2016. There is no tax on returns in the first pillar. In contrast, returns in the occupational pension system and in the private pension vehicles are subject to an annual standard rate tax based on the value of the account and the government-borrowing rate. Specifically, the value of the account on January 1st multiplied by the government borrowing-rate gives the standard earnings which are then subject to a 15% tax rate.

During the decumulation phase, all pension income in Sweden is taxed as earned income. The rate varies depending on the size of the pension payment due to the progressive income taxation in Sweden. The Swedish income tax is even higher for pensioners than workers because of the earned income tax credit.[255] The Swedish tax system works as follows. A proportional local tax rate applies to all earned income, including pension income. Furthermore, for income above a certain threshold, the taxpayer also has to pay central government income tax. The government income tax consists of two brackets. The marginal tax rates in each bracket are 20% for incomes between €44,376 and €64,552 (455,300 SEK and 662,300 SEK) and 25% for incomes thereabove.[256]

Table SE10. Taxation on pension schemes

	National pension	Occupational pension	Private pension
Contributions	Individual contribution deductible, not employer's part	Partially deductible	Non-deductible from January 1 2016.
Tax on investments	Not subject to tax, instead the capital is taxed with income tax when payed out.	Subject to tax rate on standard earnings (15% in 2018)	Subject to tax rate on standard earnings (15% in 2018)
Pay-out	Income tax	Income tax	Income tax

From a phase taxation point of view, Pillar I can be described as EET (contributions exempt-capital gains exempt- pay-outs taxed) and Pillars II and III ETT (contributions exempt – capital gains taxed – pay-outs taxed).

[254] Deductible contributions amount to maximum 35% of the wage of the employee. However, the deduction cannot exceed 10 prise base amounts.
[255] The Swedish earned income tax credit is a refundable tax credit for all individuals aged below 65.
[256] Financial year 2018, https://www.skatteverket.se/download/18.4a4d586616058d860bcf5b/1535456086712/beloppochprocentkort2018.pdf

Pension Returns

This section reports on returns on pension capital in the first and second pillars. There are no readily available data on returns in the private pension system (Pillar III) – one would have to turn to the homepage of each pension provider for this information.

Pillar I

Table SE11 shows average annual returns for default investors and those who opted out of the default. The average fee for the default fund and for "active" investors over this period is 0.1% and 0.3%, respectively.

Since the start of the premium pension in 2000, the default fund has on average performed better than the average "active" investor. It is important to remember that the "active" investors also include inert investors, i.e. investors that at some point made active contributions but then remained passive. The average returns for the "truly" active investors are therefore underestimated. In fact, Dahlquist et al. (2016) find that investors who are actively involved in managing their pension accounts earn significantly higher returns than passive (inert) investors.

The level of acticity has changed significantly since the launch of the Premium Pension in year 2000. A total of 67% of those who entered the system in year 2000 chose their own portfolio of funds. Among those, as many as 32% have not made any subsequent choice. This can be compared with individuals that joined the system in 2010, for example. Of those only 1.6% opted out of the default in the first year. Five years later only 10% had made an active choice. The fact that the default fund on average has outperformed the active investors in most years is probably one explanation why an increasingly larger share chooses to stick with this option.

Table SE11. Average return (%) on Capital in the Premium Pension System

	AP7 Såfa (default)			Other funds		
Year	Nominal	After charges	Net return	Nominal	After charges	Net return
2002	-27.3	-27.4	-29.1	-33.3	-33.9	-35.5
2003	18.4	18.2	16.4	17.3	16.7	14.9
2004	10.1	10	9.1	8.1	7.6	6.7
2005	24.9	24.8	23.5	33	32.4	31.2
2006	10.5	10.4	8.9	12.9	12.3	10.9
2007	4.6	4.5	2.0	6	5.6	3.1
2008	-36.1	-36.3	-38.4	-33.4	-33.8	-35.9
2009	35.0	34.8	32.1	34.5	34.1	31.3
2010	14.6	14.4	12.3	11.3	10.9	8.8

2011	-10.7	-10.9	-11.3	-10.8	-11.1	-11.6
2012	17.6	17.4	16.4	10.2	9.8	8.8
2013	31.8	31.7	31.4	16.8	16.4	16.1
2014	28.9	28.8	28.5	17	16.6	16.3
2015	6.3	6.2	5.4	6.5	6.2	5.4
2016	15.2	15.1	13.4	8.6	8.3	6.6
2017	16.4	16.3	14.6	10.5	10.2	8.5
2018	-2.7	-2.8	-4.9	-3.8	-4.1	-6.2
Average return	**7.4**	**7.2**	**5.8**	**4.8.**	**4.4**	**2.9**

Source: The Swedish Pensions Agency

Pillar II

Table SE12 shows returns for the occupational pension system. The first column shows the average return over the last 3 years. The next three columns display the nominal return, the nominal return net of charges, and the real return (net of charges and inflation) for year 2018, respectively. The inflation (measured by CPI) in 2018 was 1.95 percent.[257] In 2018, a year characterized by falling stock markets, the traditional insurance funds have in most cases yielded better returns than the unit-linked insurance funds. The 3-year average of unit-linked insurance in most cases still exceeds that of traditional insurance funds, however.

Table SE12. Return on capital in Pillar II, %

ITP1				
Traditional insurance	**Av. return 3 yrs**	**Return 2018**	**Net of charges**	**Net return**
AMF	6.20%	1.10%	1.00%	-1.20%
Folksam	6.00%	0.80%	0.60%	-1.60%
Alecta (default)	3.80%	-3.30%	-3.50%	-5.50%
SEB	4.00%	4.00%	3.80%	1.80%
Skandia	6.40%	8.40%	8.20%	6.20%
Unit-linked insurance				
Danica Pension	7.80%	-1.50%	-1.70%	-3.80%
Handelsbanken	8.10%	-5.20%	-5.30%	-7.50%
Movestic	9.00%	-2.80%	-3.00%	-5.20%
SPP	7.60%	-2.20%	-2.30%	-4.50%

[257] https://www.scb.se/hitta-statistik/statistik-efter-amne/priser-och-konsumtion/konsumentprisindex/konsumentprisindex-kpi/pong/tabell-och-diagram/konsumentprisindex-kpi/kpi-faststallda-tal-1980100/

Swedbank	7.20%	-1.30%	-1.50%	-3.60%
SAF-LO				
Traditional insurance	**Av return 3yrs**	**Return 2018**	**Net of charges**	**Net return**
Alecta	3.80%	-3.30%	-3.50%	-5.60%
AMF	6.20%	1.10%	0.90%	-1.20%
Folksam	6.00%	0.80%	0.60%	-1.50%
AMF (default)	6.20%	1.10%	0.90%	-1.20%
SEB	4.00%	4.00%	3.80%	1.60%
Unit-linked insurance				
AMF	5.30%	-4.80%	-5.00%	-7.20%
Danica Pension	7.60%	-1.70%	-2.10%	-4.20%
Folksam LO	5.60%	-4.70%	-5.10%	-7.20%
Handelsbanken	7.50%	-2.70%	-3.10%	-5.30%
Länsförsäkringar	6.70%	-1.60%	-1.80%	-4.00%
Movestic	5.30%	-4.90%	-5.10%	-7.30%
Nordea	6.80%	-5.50%	-5.90%	-8.00%
SEB	4.10%	-5.50%	-5.90%	-8.00%
SPP	7.40%	-2.40%	-2.70%	-4.80%
Swedbank	7.90%	0.60%	0.30%	-1.90%
PA-16 - Avd I				
Traditional insurance	**Av return 3yrs**	**Return 2018**	**Net of charges**	**Net return**
Alecta	3.80%	-3.30%	-3.50%	-5.60%
AMF	6.20%	1.10%	0.90%	-1.20%
Kåpan (default)	5.30%	-0.10%	-0.20%	-2.40%
Unit-linked insurance				
AMF	5.30%	-4.80%	-5.00%	-7.20%
Danica Pension	8.30%	-3.10%	-3.50%	-5.60%
Handelsbanken	6.50%	-3.40%	-3.80%	-5.90%
Länsförsäkringar	6.40%	-2.70%	-3.20%	-5.40%
SEB	6.50%	-5.10%	-5.50%	-7.70%
Swedbank	6.90%	-7.40%	-7.80%	-10.00%
AKAP-KL				
Traditional insurance	**Av return 3yrs**	**Return 2018**	**Net of charges**	**Net return**
Alecta	3.80%	-3.30%	-3.50%	-5.60%
AMF	6.20%	1.10%	0.90%	-1.20%
KPA (default)	4.00%	0.50%	0.40%	-1.80%

Skandia	6.40%	8.40%	8.20%	6.10%
Unit-linked insurance				
AMF	5.30%	-4.80%	-5.00%	-7.20%
Danica Pension	8.30%	-3.10%	-3.50%	-5.70%
Folksam LO	5.60%	-4.70%	-5.00%	-7.20%
Handelsbanken	6.60%	-3.40%	-3.70%	-5.90%
KPA Pension	5.90%	-0.90%	-1.20%	-3.40%
Lärarfonder	6.30%	-3.80%	-4.20%	-6.30%
Nordea	6.80%	-5.50%	-5.90%	-8.00%
SEB	7.70%	-3.10%	-3.40%	-5.60%
Swedbank	6.70%	-5.00%	-5.30%	-7.50%

Source: The Swedish Consumers' Insurance Bureau, 2018

Conclusion

The Swedish pension system is considered robust and sustainable. The balancing of the income-based system contributes to preserving the system's debt balance and secures the long-term nature of the system. The premium pension, which is a system unique to Sweden, also contributes towards spreading the risk in the system and enhancing the return on capital by enabling people to place part of their national pension capital on the stock market. As a result of the change in the Swedish pension system, individual responsibility will increase, and the occupational pension will constitute a bigger part of the total pension in the future.

The occupational pension system in Sweden covers more than 90 percent of the working population. The collectively negotiated pension schemes are procured for a large number of workers, which leads to lower costs, and more transparent pension plans. Individual occupational pension plans and third-pillar pension accounts are, however, often characterized by higher management fees, deposit fees and less transparency.

The statistics on net returns in the second and third pillar pension plans are quite cumbersome to collect. The Swedish Consumers' Insurance Bureau reports fees and returns in most pension plans, but there is no immediately available information on net returns. It is also difficult to calculate historical returns in the second pillar because the set of funds that the retirement savers can choose from might change, for example due to procurement.

A source of concern is that the pension system is becoming increasingly complex. The number of occupational pension plans per individual is increasing both because job switches across sectors become more common and because pension capital can be moved between companies. The ongoing transitions between old and new occupational pension plans also contribute to the increased complexity of the second pillar. All three pillars also contain

many elements of individual choice both during accumulation and decumulation phase. Pension systems that are too complex risk leading to inertia and distrust, which in turn could lead to worse saving and retirement outcomes. Well-designed default fund options with low fees and appropriate risk exposure as well as comprehensive, user-friendly information/choice centers are necessary features in a complex pension system.

Although the Swedish pension system is considered robust and sustainable there is reason to be concerned. As life expectancy increases, the gap between wages and pensions will increase. The total pension amount for people born between 1938 and 1946 shrank from 86 % to 77 % of the final salary. And the public pension, which every Swedish citizen with a salary or another taxable benefit is entitled to, shrank from 61 % to 49 % of the final salary for the same age groups. The average exit age from the labour force has been increasing ever since the new public pension system was implemented in the late 1990s and is currently 64. However, the average claiming age has been fairly constant.[258] The combination of constant claiming age, later labour force entry among youths, and indexation of pension benefits to life expectancy unavoidably means lower pension benefits.

To encourage later retirement, policy makers have agreed to raise various retirement ages in a stepwise manner. By 2026, the minimum claiming age, the eligibility age for the minimum guarantee, and the mandatory retirement are expected to have increased to 64, 67 and 69, respectively (currently at 61, 65 and 67, respectively). The 65-norm is still strong in the second pillar, however. Pensions are usually paid out automatically at this age, and pension rights are in most cases not earned after this age. As replacement rates fall, individuals also need to take more responsibility for their private pension savings. This makes accessible good pension savings products with low fees even more important.

Policy recommendations:

- Expand the portability right of second pillar pension capital.
- Improve information on historical net returns and other fund characteristics in second and third pillar pension plans.
- The digital pension tool www.minpension.se makes it possible for individual retirement savers to collect information on their total pension savings. A useful extension would be to allow users to execute their pension fund choices from this site.

[258] This is mainly due to reduced disability pension rates (through stricter eligibility rules), which affects the exit age but not necessarily the claiming age if people claim their pension instead. Another explanation is that individuals who work past the age of 65 do not postpone the withdrawal of their pension.

- Replace automatic payment of occupational pensions at a certain age (usually 65) with a claiming requirement (as in the public pension system).

Bibliography

- AMF (2018), Viktiga frågor som påverkar pensionsområdet,
- Cronqvist, H., Thaler, R. H., & Yu, F. (2018). When Nudges Are Forever: Inertia in the Swedish Premium Pension Plan. In AEA Papers and Proceedings (Vol. 108, pp. 153-58).
- Dahlquist, M., Martinez, J. V., and Söderlind, P. (2016). Individual investor activity and performance. The Review of Financial Studies, 30(3), 866-899.
- ISF (2018) ISF Rapport 2018:15, ”Vem får avsättningar till tjänstepension”
- Konkurrensverket, Flyttavgifter på livförsäkringsmarknaden – potentiella inlåsningseffekter bland pensionsförsäkringar, Rapport 2016:12.
- Ministry of Finance, Ett upphandlat fondtorg för premiepension, Dir 2018:57
- Ministry of Finance, Vägval för premiepensionen, DS 2013:35,
- Orange Report 2018 – Annual Report of the Swedish Pension System,
- OECD Pension Outlook 2018
- Pensionsmyndigheten, Sveriges pensioner 2005 – 2016
- Pensionsmyndigheten, Stärkt konsumentskydd inom premiepensionen
- Pensionsmyndigheten, Så blir pensionen 2018
- SOU 2012:64, Förstärkt försäkringsskydd, Ministry of Finance
- Swedish Investment Fund Association,
- The Swedish Consumers' Insurance Bureau
- The Swedish Tax Agency

Pension Savings: The Real Return

2019 Edition

Country Case: The Netherlands

Samenvating

In veel opzichten verkeren inwoners van Nederland in een luxepositie, als we het over hun pensioenvoorziening hebben. In het meest recente jaarlijkse onderzoek naar pensioenstelsels wereldwijd, uitgevoerd door Mercer in 2018, komt het Nederlandse pensioenstelsel als beste uit de bus. Toch maken veel Nederlanders zich zorgen over hun pensioen. Uit recent onderzoek, eveneens van Mercer, bleek dat één op de vijf denkt dat zijn/haar pensioen voldoende inkomen zal opleveren als ze met pensioen gaan.

Een belangrijke reden waarom een grote meerderheid van de Nederlanders zich zorgen maakt over zijn pensioen is omdat de historisch lage rentes in de wereld Nederland, in pensioenopzicht, relatief hard raken vergeleken met andere landen. Dat komt niet alleen doordat de Nederlanders de grootste pensioenspaarpot hebben maar ook omdat de helft daarvan belegd is in obligaties, een belegging die al jarenlang heel weinig oplevert. Uit een rapport van Thinking Ahead Institute blijkt dat waar 27 procent van het pensioengeld in de wereld in obligaties is belegd, dat aandeel bij de Nederlandse pensioenfondsen bijna het dubbele bedraagt, namelijk 53 procent. Het Nederlandse driepijler pensioenstelsel biedt voldoende mogelijkheden voor iedereen om voor aanvullend pensioen te zorgen. De belangrijkste zaak voor de vraag of de pensioenregelingen voldoende inkomen zullen genereren wanneer iemand met pensioen gaat, is echter het rendement. Behalen de Nederlandse pensioenaanbieders voldoende rendement daarvoor?

Summary

In many ways, the Dutch are in an enviable position as far as their pension is concerned. In the most recent *Melbourne Mercer Global Pension Index*, for 2018, the Dutch pension systems ranks highest out of 34 examined pension systems around the world.[259] Still, many Dutch people worry about the future of their old-age income. A recent Mercer study shows that only one in five think their pension scheme will provide them with enough income by the time they have to use their pensions.

[259] https://australiancentre.com.au/wp-content/uploads/2018/10/MMGPI-Report-2018.pdf.

An important reason why a large majority of the Dutch worry about their retirement income is the fact that the historically low interest rates worldwide are causing, relatively speaking, more harm to the Dutch pension system than to other countries' pension systems. This is due not only to the fact that the Dutch only boast the world's largest pension reserves, but also to the fact that some 50% of those reserves are invested in bonds, which have yielded very low returns over the past several years. A recent study on global pension assets, by the Thinking Ahead Institute,[260] showed that where on average 27% of pension fund assets in the world are invested in bonds, in the Netherlands the percentage is almost double that: 53%. Still, the Dutch three-pillar pension system does provide every individual with ample opportunity to increase his/her retirement income. True as that might be, at the end of the day it all boils down to the all-important question of real return. Are the Dutch pension funds earning enough to provide a decent income to Dutch retirees in the future?

In this report we will provide an outline of the Dutch pension system, take a look at the annual returns on investment of pension funds and calculate the real return, adjusting the nominal return for various charges, taxes and inflation.

Introduction

The Dutch pension system rests on three pillars, which will be described in what follows:

- Pillar I – the contributory scheme that provides the Dutch state pension, organised as a social insurance system and implementing the Pay-As-You-Go (PAYG) principle;
- Pillar II –fully funded and mostly defined-benefit (DB) pension schemes comprising investment funds and life insurance contracts, for which participation is mandatory in sectors in which representative trade associations that cover more than half of the sector have agreed a specific sector-wide scheme with relevant labor unions, which by law then become mandatory for the entire sector at hand. In practice this means that most sectors of the economy are covered by these (sector-specific) mandatory schemes;
- Pillar III – composed of pre- and post-retirement fully funded and completely defined-benefit (DB) pension saving products, for which participation is voluntary.

[260] https://www.willistowerswatson.com/en/insights/2018/02/global-pension-assets-study-2018

Table NL1. The Dutch pension system			
Pillar	**Characteristics**	**Coverage**	**Replacement ratio**
Pillar I	PAYG, DB, social insurance, taxed as income on pay out	100%	Average household: 86% (gross) and 105% (net);[261] for both Men and Women: 96.9% (gross) and 101% (net).[262]
Pillar II	Funded by the employer and employee, (mostly) DB, investment plan, contributions tax exempted, return on investment tax exempted, pay-out taxed at progressive income tax rates	Approx. 90% coverage	
Pillar III	Funded by individual, DC, contributions subject to a limit, contributions tax exempted, pay-out taxed at progressive income tax rates	n.a.	

Source: BETTER FINANCE own composition; other sources in footnotes 214 and 215.

Summary Return Table - Pensions in the Netherlands					
	1 year	3 years	7 years	10 years	whole reporting period
	2018	2016-2018	2012-2018	2009-2018	2000-2018
Pension funds	-3.55%	2.53%	4.32%	5.21%	2.21%
Life insurances	1.96%	1.87%	0.48%	0.01%	0.03%

Source: based on Table NL15

Pillar I

Pillar I is a social insurance scheme and consists of the Dutch state pension, called AOW (*Algemene Ouderdomswet* or General Old-Age Law). It provides a state pension for all elderly inhabitants of the Netherlands, regardless of their nationality and employment history. For a long time, 'elderly' (for the purpose of this law) meant 65 years or older. Recently the age

[261] Marike Knoef, Jim Been, Koen Caminada, Kees Goudswaard, Jason Rhuggenaath, 'De Toereikendheid van pensioenopbouw na de crisis en pensioenhervormingen' Netspar Industry Paper Series, Design Paper 68, 7, https://www.netspar.nl/assets/uploads/Netspar-Design-Paper-68-WEB.pdf.

[262] OECD Data, Gross and Net pension replacement rates (2016) available here: https://data.oecd.org/pension/gross-pension-replacement-rates.htm#indicator-chart.

was increased beyond 65 (68 to 71 depending on date of birth, with a 'transition age' of retirement between 66 and 68 for people who reach those ages over the next few years), mainly to maintain the system's viability in the future as, due to ageing, the costs threaten to reach unsustainable levels. The reason for this is that AOW is a pay-as-you-go (PAYG) system: this part of the retirement income is financed by those in the workforce at that particular moment in time. Each person between 16 and 66 years of age, either working, self-employed or on benefits, contributes to the AOW-financing via a deduction (social premium) on the salary or benefit. In addition, the AOW is partially financed by taxes collected by the government every year. Every inhabitant of the Netherlands is automatically enrolled in the AOW-system in such a way that he or she is entitled to 2% of the maximum monthly allowance for each year he/she has lived in the Netherlands between the ages of 16 and 66 (so someone living in the Netherlands that entire period is entitled to a full monthly AOW-allowance as 66-16 = 50 x 2% = 100% of the allowance). On a side note: A large share of those who immigrated to the Netherlands in the 1970s are in for an unpleasant surprise when they reach retirement age, since they will be entitled to less than expected and will not be able to count on full AOW monthly benefits. It is expected to create financial difficulties for several of those affected.

A single person is entitled to a monthly allowance (gross) of €1,228.22. People who are married, or couples living together, receive (gross) EUR 843.78/month each. In addition, 8% of the monthy allowance is set aside by the Government to be paid out in May as a holiday allowance. Typically, women are more dependent than men on Pillar I, the AOW, due to the fact that in the past and to some extent still in the present, women are employed less often then men, less often have full-time jobs and generally have lower incomes.

Pillar II

Pillar II is a system of collective pension schemes operated by pension funds, entities which are legally independent from their (often corporate) sponsors, or by insurance companies. Little over a decade ago, there were over 1,000 pension funds operating in the Netherlands. Over the years, several of these pension funds merged or were liquidated (with their assets and liabilities transferred to other pension funds or insurance companies). As a consequence, the number of pension funds (active and dormitory) under supervision (DNB) declined to 213 as of April 2019 (the last available count in the pension funds database available from the DNB, the Dutch central bank).[263] It is expected that the number of active pension funds will further decline in the years to come.

Whereas Pillar I (AOW) is a PAYG scheme, the Pillar II is financed by capital funding. Each person enrolled in a pension fund contributes directly or indirectly to it (with the employer

[263] Dutch Central Bank statistics

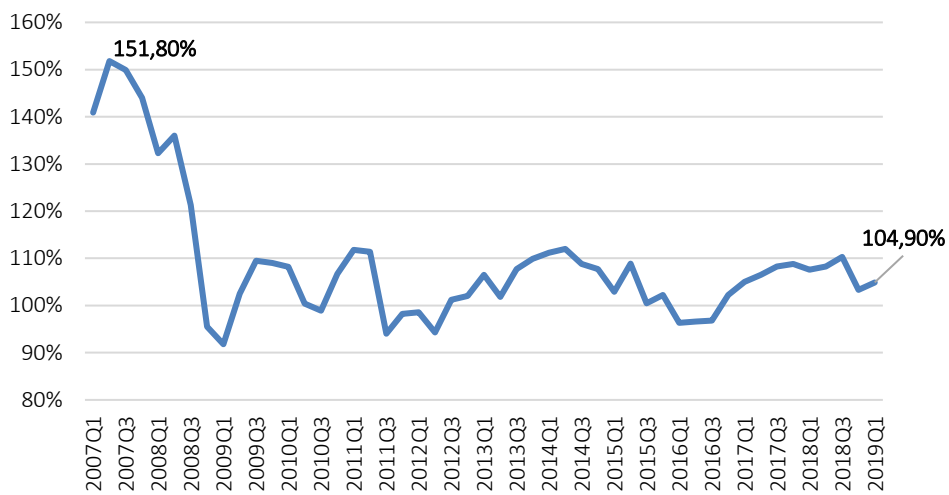
paying the lion's share contribution, often 50% to 70%). The money is subsequently invested in order to fund retirement payouts.

Although enrollment in a Pillar II scheme is not compulsory as such, in many cases it in fact is. The reason for this is that if labur unions and employers in the Netherlands decide to set up a pension scheme for a company or a sector, the government can make enrolment mandatory for everyone working in that company or sector. In practice this means that almost every working person is enrolled in a pension scheme. The government makes it mandatory in order to achieve economies of scale that, in turn, makes it possible for pension funds to operate more efficiently in terms of costs and fees. In addition, mandatory sectoral enrollment prevents a 'race to the bottom' in paid pension premiums - an expensive but notoriously oblique wage element - through labor cost competition between rival companies. In practice, more than 90% of Dutch employees are enrolled in one or more pension funds.[264] An employee can be enrolled in more than one pension fund if he/she, for example, moves to another job in another sector. In such cases he/she starts building his/her pension with the pension fund of the new sector or company. The old pension capital can be left in the former pension fund or, subject to specific rules, transferred to the new pension fund. By law, pension funds are (for many purposes) required to maintain a funding ratio of at least 105% (approximately). Called the "coverage ratio" ("dekkingsgraad" in Dutch), the funding ratio is calculated by discounting the future pension liabilities (i.e. future nominal retirement outflows) with the use of an interest rate curve mandated and regularly updated by the Dutch Central Bank. The current value of pension liabilities up to 20 years in the future are determined by using the actual market-based interest swap curve. The discount interest rates for periods from 20 years onwards are calculated by the Dutch central bank. The interest rates calculated in this way are called Ultimate Forward Rates (UFR) and the Dutch Central Bank imposes a UFR on Dutch pension funds that is more 'prudent' than the European UFR determined by EIOPA. Until recently, this UFR was fixed at 4.2%. Starting from mid July 2015, the UFR is a 120-month moving average of the 20-year forward rate which, in effect, means that it is much lower than the 4.2% used previously. Hence, the funding ratio of the Dutch pension funds fell. The UFR has been lowered even further as of June 2019 to mirror more closely the trend of falling market rates. The lower the interest rates on financial markets, and hence the UFR, the higher the value of future liabilities and the greater the chance that the required coverage ratio (in Dutch "*dekkingsgraad*") will be lower than 105%. When this cover ratio falls below the 105% threshold, the pension fund involved is required to submit a plan detailing how to restore the coverage ratio to above 105% in in a future period between three and five years. It must also submit contingency plans in case the coverage ratio does not rise above 105% in that period of time. If (in DB schemes at least)

[264] Statistics Netherlands (CBS), *Pensioenaansprakenstatistiek 2015. Verantwoording en de eerste resultaten*.

the funding ratio has not recovered up to the 105% threshold within a period five years, a pension fund is obliged to lower pensions. Furthermore, indexation by pension funds is not allowed if the funding ratio is lower than 110% and only fully allowed when the funding ratio has reached the level of a fund-specific "sustainable indexation funding ratio" ("toekomstbestendige indexatie dekkingsgraad"), which usually falls somewhere between 120% and 130%. These indexation-constraining regulations are designed to minimize the risk of future insolvency, thereby protected younger members within pension funds from the risk of large pension cuts in the future. However, these regulations are very controversial – both politically and among Dutch pension experts/professionals – as large financial "buffers" have to be maintained to the detriment of current pensioners.

Graph NL2. Funding ratio of Dutch pension funds



Source: DNB Dutch central bank

Pillar III

Pillar III is made up of individual pension products sold by insurance companies. Life insurance is one example. Another product used in the Netherlands is the so-called "*pensioensparen*", a special-purpose savings account, with the purpose of accumulating supplementary income after retirement. Anyone in the Netherlands can enroll in this pillar, either to save for retirement (there are those who do not fall in Pillar II scheme described above, for example entrepreneurs or those working in a sector or a company without a pension fund of its own) or to supplement the retirement income from Pillar I and II. Purchasing Pillar III products is attractive due to particular tax benefits associated with them.

Research shows that the retirement income from Pillar I and II, on average, equals 70% of the average income before retirement. Statistics Netherlands paints a similar picture for

2014 (the most recent year it provides such data on). When we take into account the third pillar and various other assets, such as savings and the excess value of one's own home (i.e. value of the home minus mortgage) and adjust for the fact that the income tax for retired persons in the Netherlands is lower than tax before retirement, we get the average net replacement ratio of 105%.[265]

Pension vehicles

Second pillar

Note on Premium Pension Institutions (PPIs): *Premium Pension Institutions are not analysed seperately in this report (in particular under Pension Returns) for several reasons. First, the share of those pension schemes in the second pillar is negligible and, more importantly, it is not possible to calculate the return. In addition, the regulator, the Dutch Central Bank, only reports the balance sheet of those schemes, and there are no other yearly figures. According to the leading Dutch outlet for pension-related news* (PensioenPro)*, which based it's figures on DNB sources, there were approximately 770,000 workers enrolled in PPIs (out of some 13 million enrolled in pension funds) as of April 2019 and the schemes had invested assets of some 9.7 billion EUR (the total invested by pension funds is around 1,428 billion EUR).[266] This share is so small because it is only offered by firms that do not have their own or sectoral pension arrangement (if there is one, it is mandatory to enrol and almost every sector has its pension scheme). In practice, this means that such schemes are offered by a small number of companies employing between 20 or 40 persons. Nevertheless, PPIs have been growing fast over recent years so may start to play a bigger role in the future.*

As mentioned, there are many pension funds operating in the Netherlands. However, their number has declined in recent years and is expected to decline even further. Some of the funds are financial giants, with millions of people enrolled and hundreds of billions of euros in assets, while others have just a few (hundreds) participants and a few tens of millions of euros invested. In the table below, we provide some statistics for the 5 largest pension funds in the Netherlands.

[265] https://www.netspar.nl/assets/uploads/Netspar-Design-Paper-68-WEB.pdf and https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71763ned/table?ts=1567116265753.
[266] https://pensioenpro.nl/pensioenpro/30034504/belegd-vermogen-ppis-nadert-10-mrd

Table NL3. Largest Pension Funds in the Netherlands		
Pension fund	**Sector / company**	**Assets (€ bln)***
ABP	Civil service	448.7
Zorg en Welzijn	Medical services	217.8
Metaal en Techniek	Metal	73.2
Bouwnijverheid	Building companies	74.4
Metalelektro	Electrometal sector	48.4

**Assets at the end of 2018, as reported in annual reports for the year 2018*

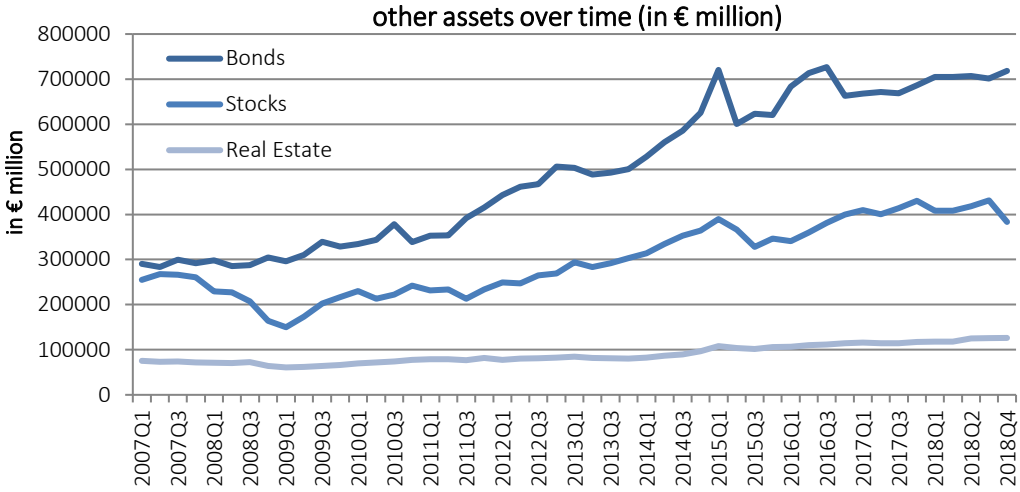
There are three different kinds of pension funds in the Netherlands. First, we have the industry-wide pension funds. Those administer and operate the pensions for an entire sector, such as food companies or civil service. The civil service pension fund, ABP, is by far the largest in the country with assets worth €448,7 billion and 2.97 million people enrolled. Second, there are corporate pension funds, administrating and operating pension schemes for companies. Finally, there are pension funds for independent professionals, for example medical specialists.

Pension funds are independent entities, i.e. they are strictly separated from the company (if applicable) on whose behalf they administer and run the pension scheme. One of the consequences is that if a company files for bankruptcy, employees know that their pensions are not affected.

By the end of 2018, Dutch pension funds in Pillar II had assets worth €1,322.6 billion in total, representing a slight dip compared to the year before. But by Spring 2019, the value of the assets had risen to €1,428.3 billion. To put that in perspective: the Dutch gross domestic product is approximately €745 billion, in other words, the pension assets at the pension funds alone (i.e. ex third pillar assets) are valued at almost 200% of Dutch GDP.[267] The five largest Dutch pension funds combined managed approximately 65% of all Pillar II pension assets in the Netherlands.

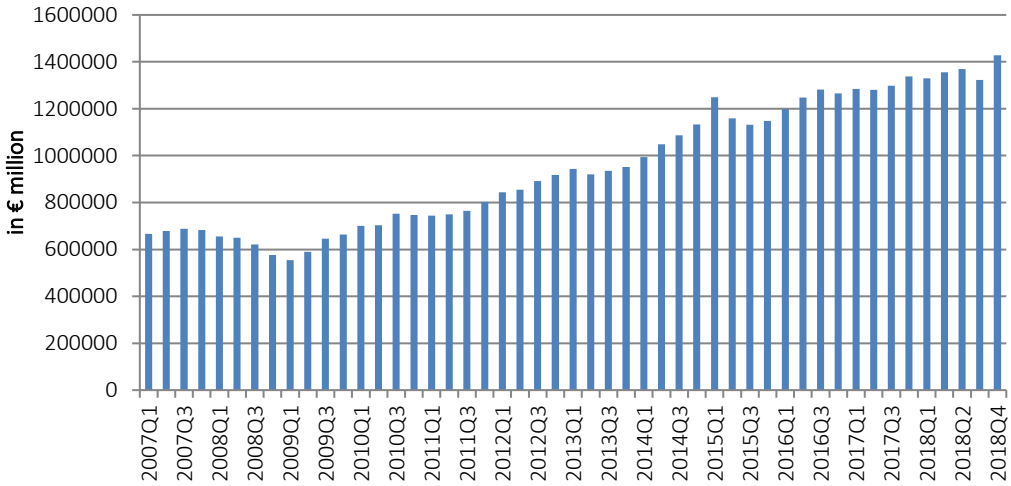
[267] Statistics Netherlands (CBS) estimates that Dutch GDP in 2018 was €744.5 billion (https://opendata.cbs.nl/Statline/#/CBS/nl/dataset/84087NED/table?ts=1566996775641)

Graph NL4. Pension fund assets invested in stocks, bonds, real estate and other assets over time (in € million)



Source: DNB - Dutch central bank

Graph NL5. Pension funds' assets



Source: DNB Dutch central bank

Third pillar

The third pillar is not mandatory and is run by private insurance companies offering various pension-like products such as life insurance. Every employee can choose whether or not to take part in it, sometimes provided he/she fulfills the conditions to enroll as stated by the law. The most important condition in order to benefit from tax benefits associated with these products is that one has to have a shortfall in his/her pension (called *pensioentekort* in

Dutch). There is an annual maximum amount any Dutch inhabitant can pay in towards his/her retirement income. This maximum, determined by the Dutch tax authority on an annual basis, ensures an acceptable retirement income. If for any reason contributions fall under the maximum amount allowed, the contributor is considered to have a pension shortfall and can deposit the amount equal to the difference between the maximum allowed retirement contribution and the paid contributions into a savings account for retirement income. This difference is subject to a maximum. In 2018 the maximum amounted to €12,362 ("lijfrente jaarruimte"). There is a tax benefit involved since contributions can be deducted from the taxable income, effectively reducing the income tax one has to pay. Moreover, the pay-off upon retirement is taxed at a lower tax rate than the current income. Once a pension shortfall has been identified, and the decision has been taken to deposit the difference on a special-purpose savings account, the deposit(s) cannot be withdrawn before retirement.

The share of those third-pillar products in the retirement mix of the Dutch households is relatively low. According to Statistics Netherlands, Pillar III products only account for 6% of the accrued pension rights of Dutch households. In comparison, Pillar I accounts for 54% with the Pillar II taking a share of 40%.

Charges

Obviously, in order to make money, pension funds must spend money, i.e. there are various fees and other costs involved with investing their assets on the financial markets.

However, information on these costs was difficult to obtain and where available, they must still be interpreted with a great deal of caution. For example, even the Dutch central bank stated in an article from May 2014 that 'there are reasons to believe that not all costs are reported'. The reason is not that the pension funds do not want to report them, but rather that even they are not able to determine them. For example, some companies investing assets of pension funds do not report all costs separately, because it is not in their interest to do so. The Dutch financial markets supervisor (*Autoriteit van Financiële Markten*, AFM) has called upon these companies to disclose all costs. Another difficulty is that information on transaction costs, i.e. costs associated with transactions in the financial markets such as purchase or sale of stocks and bonds or shares in investment funds for example, is not always available.

The consequence is that in previous years when DNB asked the Dutch pension funds to provide the supervisor with, among others, an analysis and details of all the costs they incur, 70 pension funds were not able to report all costs associated with their investments. According to the AFM, 'readers of annual reports are not able to get a clear picture of the

relationship between costs, returns and risks pension funds are taking[268]. Just to illustrate how important costs are in the big picture: according to the AFM, lowering costs by a 0.1 percentage point (pp) leads to a 3 pp higher retirement income in the medium-term (25 years).

Recently, much effort has gone into making sure all costs are accounted for. The first results are already observable. Recently, the Dutch central bank has started to publish a new data set, containing total charges – that is including transaction costs – for individual pension funds under its supervision. This will help various stakeholders to get a much clearer picture of the performance of the Dutch pension funds than they do currently. Sadly, the data is only available starting from 2015. For 2017 and 2018 we have used the data that The Pension Rating Agency (TPRA) has collected from the annual reports of more than 80% of Dutch pension funds, as the data in annual reports has all been validated by an accountant.

In the previous edition, the real returns for the period 2000 up to and including 2014 were calculated using the, incomplete, data the Dutch central bank reported for 2007 and onwards. These have not been recalculated. However, the estimate provided in the previous edition for the year 2017 (which was based solely on the largest pension fund ABP has been revised downwards in view of the current availability of annual report data for nearly all Dutch pension funds.

[268] Research report by AFM on information on various charges pension funds incur and how they report those in their annual reports, entitled 'Op naar een evenwichtige verantwoording over deze kosten in jaarverslagen van pensioenfondsen', July 2014

Table NL6. Pension fund charges – Pillar II (RiY - % of total assets)	
Year	Charges
2007	0.20
2008	0.24
2009	0.19
2010	0.15
2011	0.19
2012	0.21
2013	0.23
2014	0.17
2015	0.50
2016	0.50
2017	0.55
2018	0.52

** Weighted average of the total investment costs (including direct and indirect costs, transaction costs and performance fees) as % of average AuM reported by 172 pension funds for 2017 and 174 pension funds for 2018. The average AuM (belegd vermogen voor risico fonds) over the course of a year was estimated by taking the average between the AuM at the start and end of the year.*

Source: DNB Dutch Central Bank / TPRA data derived from annual reports of pension funds

We would like to remark that the real annual return in the years prior to 2015 is most likely lower than calculated, given the fact that the new data set shows that total charges were significantly higher than in previous years. For example, the new data set shows that average charges were 0.5% of total assets, more than double the charges the central bank reported for previous years. Another indicator is some sporadically conducted research on total charges undertaken in previous years. For example, in 2012 reasearchers at consultancy bureau Lane, Clark & Peacock put those costs for the Dutch pension funds at 0.53% of their assets. CME Benchmarking, a Canadian global benchmarking company, calculated that the average cost of the Dutch pension funds in 2012 amounted to, on average, 0.44% of their assets, with the median being 0.41%.

Taxation

Pension funds are exempted from company taxes in the Netherlands[269]. The money Dutch employees pay into their pension funds during their working life is deducted from their gross income and therefore not taxed. In this sense, they enjoy a tax subsidy as their taxable income decreases and, hence, they fall into a lower tax bracket. As stated, pension funds then invest these funds in order to be able to pay an income upon reaching retirement age. The returns, i.e. the increase in pension rights, is not taxed either. When the Dutch reach

[269] Article 3 of the law, available via (in Dutch) http://www.rijksoverheid.nl/documenten-en-publicaties/besluiten/2009/12/15/vennootschapsbelasting-subjectieve-vrijstellingen-artikel-5.html.

retirement, however, their pension is subject to the personal income tax rates in the pay-out phase. This so-called deferred taxing of pensions means that the Dutch get another tax benefit as tax rates are lower for retirees than taxes on non-retiree income.

In the Netherlands, income is taxed at various rates, progressively relative to the level of income. The tax rates are lower for those aged 66 and older. Just as an example, in the table below, we provide the tax rates for the persons older and younger than 66 years of age in 2018, as provided by the Dutch Tax Authority.

In short, contributions to pension savings products are exempt from tax, investment returns are also exempt, but investment pay-outs are subject to income tax, thus rendering an "EET" taxation regime.

Table NL7. Income tax brackets for various age cohorts		
Income bracket / age	Younger than 66	66 and older
€0 – €20,142	36.55 %	18.65 %
€20,143 – €33,994	40.85 %	22.95 %
€33,995 – €68,506	40.85 %	40.85 %
over €68,507	51.95 %	51.95 %

Source: Dutch Tax Authority

This means that the tax deferral of pensions constitutes an advantage to an individual, as his/her tax rate is lower when he/she turns 66. The average tax tariff in 2018 for those age 66 and older was 27.48%. We have used the tariffs for the first three brackets on income tax as these are the tax brackets that apply to the vast majority of Dutch retirees in practice (the fourth bracket only applies for income over €68,507).

As stated earlier, contributions towards pensions are deducted from the gross income. In order to calculate the net tax advantage, we have to compare the average tax rate applied to pensions (as stated: 27.48%) and the average tax rate that would have applied if contributions towards pension income was not tax exempt. We can estimate this average tax rate by computing the average of the first three brackets for people younger than 66 years of age and then compare it with the average tax rate for those 66 and older. The average for those younger than 66 years of age in 2018 was 39.42% meaning than the average person in the Netherlands enjoys nearly 12 pp tax advantage on his/her pension scheme due to pension contributions being tax exempt and only pension income is taxed.

Pension returns

As stated, the pensions Dutch employees receive upon reaching the statutory retirement age depend on their pension funds achieving enough return on their investments. We will report

nominal annual, aggregate returns for all Dutch pension funds from 2000 onwards. This is done by using the statistics available at the Dutch central bank, which supervises pension funds and insurance companies. Annual returns will be reported for life insurance companies as well.

We will then focus on various charges and fees pension funds must pay. These costs must be subtracted from the returns, as only net return is available for retirement income. In order to calculate the real rate of return, we will deduct the annual inflation in the Netherlands, as reported annually by Statistics Netherlands (CBS). Statistics Netherlands publishes two different inflation measures. One is calculated according to the EU-method (Harmonized Index of Consumer Prices, which is developed in order to be able to compare inflation rates in the EU-nations); the other is the traditionally used Dutch method of inflation calculation. Although the latter matters for the annual indexation of Dutch pensions, we will use the EU-method of calculation of the real rate of return later on, in order to make the Dutch results comparable with the results from other European countries[270].

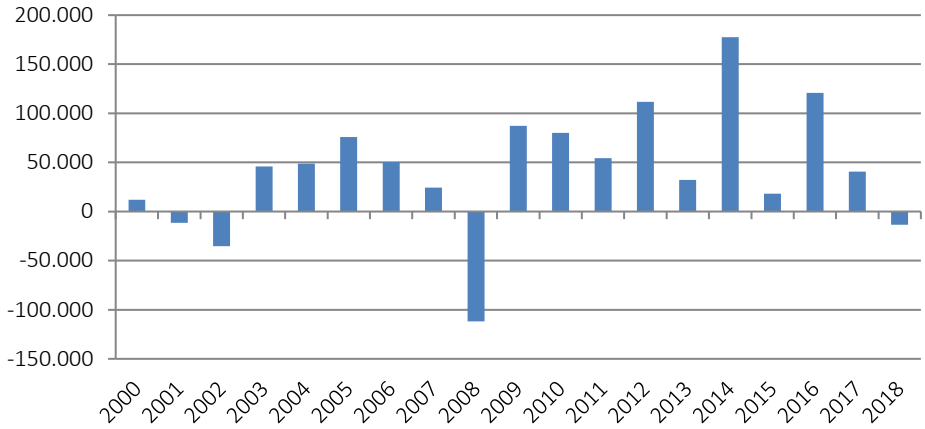
Pension funds

The Dutch supervisor of pension funds, the Dutch central bank, provides investment return figures, in billion euros, for aggregate pension funds[271]. However, the data for 2017 and 2018 were not available as of August 29th, 2019. Therefore, we have determined the investment returns over both 2017 and 2018 using the TPRA dataset based on the 2018 annual reports of 178 Dutch pension funds (missing data are of relatively small pension funds).

[270] As a check, in the last edition the calculations of the real return were performed using the Dutch method for inflation calculation as well. The average real return of pension funds did not change. The average real return for insurance companies did change slightly, from 0,05% to 0,03%.

[271] http://www.statistics.dnb.nl/financieele-instellingen/pensioenfondsen/index.jsp

Graph NL8. Investment returns of Pillar II (in € mln)



Source: DNB Dutch Central Bank

Compared to the previous edition, the return for 2017 has been adjusted downwards. The proxy used in the previous edition extrapolated from the investment returns of the 5 largest funds, but the much larger dataset used in this edition shows a different aggregated picture of the nominal investment returns.[272]

At this stage, we have calculated nominal return on investment for each year between 2000 and 2018. Using the quarterly returns reported by the Dutch regulator DNB we have determined the weighted overall investment return of all pension funds for 2017 and 2018. For 2017 this leads to an incongruity with the total investment returns (in € millions) reported in the annual reports (and presented in Graph NL8) compared to the asset totals at the start of that year (presented in Graph NL5). The result derived from the quarterly returns is significantly higher (5.8% instead of 3.2%) which can be in part explained by the fact that indirect investment costs have already been subtracted from the overall 2017 returns value in Graph NL8 and the fact that the returns of approximately 40 relatively small pension funds have not been included in that value.

Table NL9. Annual nominal return of all Dutch pension funds	
Year	Return as % of total assets
2000	2.70
2001	-2.48
2002	-8.12
2003	9.40

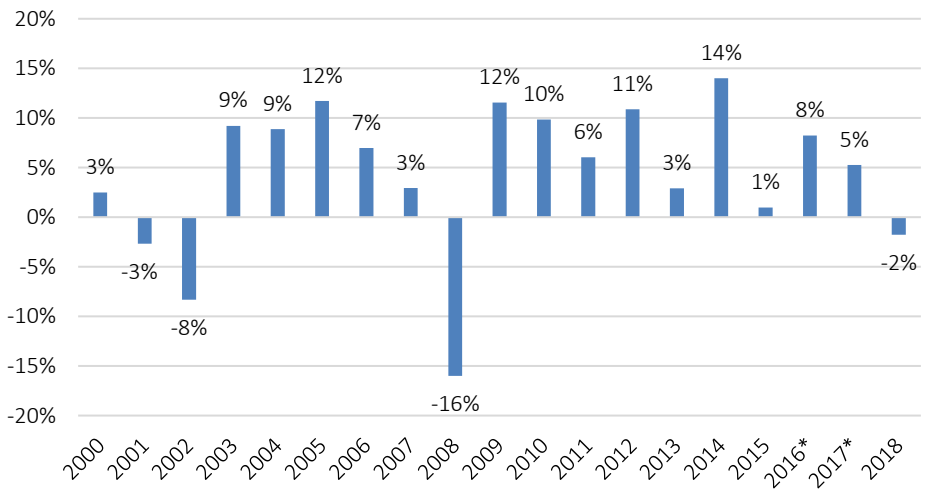
[272] The balance sheets that pension funds publish in their annual reports show the nominal investment returns (in €) after subtracting indirect investment costs (such as transaction costs). In the balance sheets, only the direct charges are revealed. In other sections of most annual reports, however, the indirect investment costs are also reported.

2004	9.06
2005	11.92
2006	7.16
2007	3.14
2008	-15.76
2009	11.73
2010	9.98
2011	6.23
2012	11.1
2013	3.15
2014	14.18
2015	1.47
2016	8.74
2017	5.81
2018	-1.26
Average 2000-2018	4.37

Source: DNB Dutch Central Bank

After this, we have subtracted the average charges from the average return (which are generally exempted from taxation). The results are visible in the graph below.

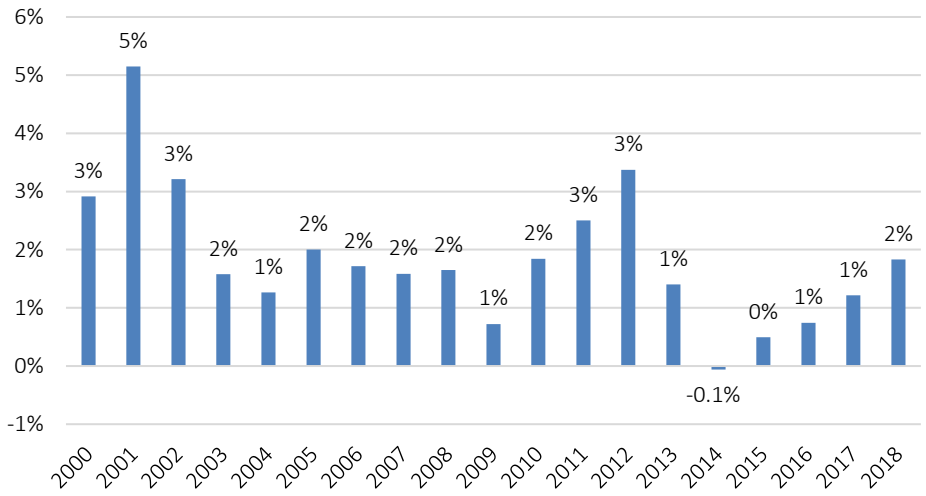
Graph NL10. Returns after charges and before inflation



Source: own calculations

The next step on the way to calculating the real return on investment of the Dutch pension funds is to subtract the annual inflation rate from the nominal returns after charges. As already mentioned, Statistics Netherlands publishes two inflation statistics, one based on the EU-harmonized method and one on the Dutch method. We will use inflation figures calculated using the EU-harmonized method.

Graph NL11. Annual inflation rate in the Netherlands

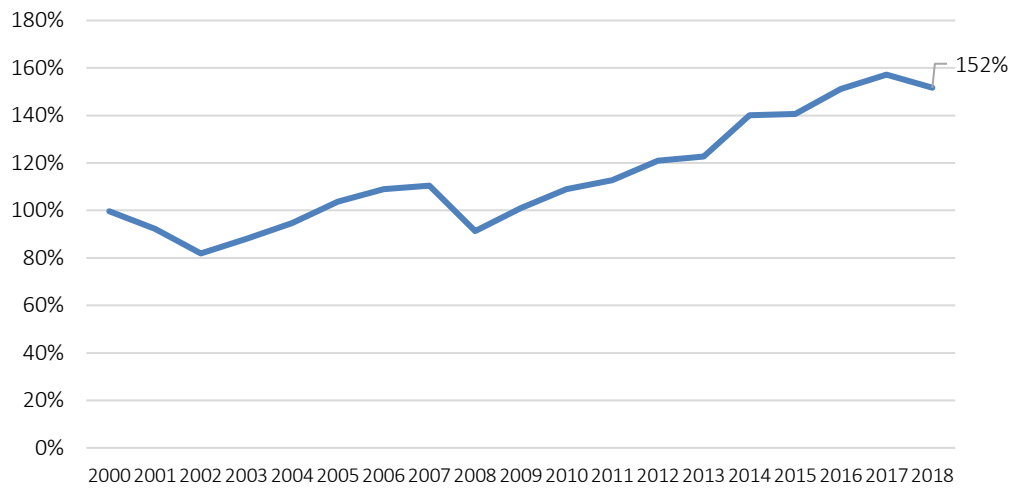


Source: Eurostat HICP (annual average)

When we use the annual inflation data from 2000 and adjust the return after charges for inflation, we get the following outcome:

Table NL12. Return after charges and inflation	
2000	-0.40%
2001	-7.45%
2002	-11.17%
2003	7.50%
2004	7.50%
2005	9.53%
2006	5.15%
2007	1..33%
2008	-17.36%
2009	10.74%
2010	7.84%
2011	3.45%
2012	7.27%
2013	1.50%
2014	14.08%
2015	0.47%
2016	7.44%
2017	3.99%
2018	-3.55%
Average 2000-2018	**2.21%**

Graph NL13. Cumulative real net performances



Source: Own calculations, Statistics Netherlands

Based on these data we can observe that Dutch pension funds have had both good and bad years with regard to their annual real returns. Especially during the aftermath of the dotcom bubble in the early 2000s, in 2008 when the financial crisis was at its height and during the most recent completed year, 2018, real returns have been disappointingly negative. Over the entire period 2000-2018, however, the yearly (geometric) average real return has been a respectable 2.21%. In terms of cumulative real net returns of Dutch pension funds, the first decade of the 21st century proved to be a lost decade, but since 2010 cumulative real yields have added over 50% to the real value of pension savings.

Pillar III vehicles

It is currently impossible to calculate the real rate of return on many products that fall into this Pillar III category. In 2006, it emerged that companies providing these products have charged costs that are much higher than real, disclosed, costs. Those who purchased such products were not fully informed about costs, such as entry costs and various annual fees. Moreover, many costs were hidden in the value of the product, making it next to impossible to disentangle the full extent of the costs. In fact, it was revealed that, in some cases, as much as 50% of the amount paid in, was not used towards investments to achieve targeted retirement income, but instead went towards covering various costs of the issuer. In turn, this meant that people were in for a shock when they learned just how much extra retirement income they would get from this third pillar: it was significantly less than they were counting on and often significantly less than what they were told it would be upon their retirement.

This *woekerpolis-affair,* as it is known in the Netherlands (woekerpolis can best be translated as exorbitant profit affair), is an ongoing affair with households and insurance companies engaging in talks with each other in order to compensate the Dutch households for damages resulting from incorrect information on, among others, costs. There have even been cases that were brought before Dutch courts. The affair has already been dubbed the largest financial scandal in Dutch history.

In 2008, another product was launched (partly in reaction to the *woekerpolis-affair)* called *banksparen* (saving for retirement). One has to have a pension shortfall, as mentioned earlier, to be able to purchase this tax-preferential product. The interest rate depends on the plan one chooses and varies from a variable interest rate to a fixed rate for 30 years and also differs depending on which company one chooses to purchase this product from. Currently, the interest rate falls between 0% for variable rate to 2.0% for 20-year fixed interest rate[273]. Adjusted for inflation, the real return on this product lies generally under 0% (for variable rates) and just slightly above 0% for fixed interest rate schemes (assuming the inflation rate will remain below but close to 2% during the 20-year period). This is before charges, which as stated, cannot really be computed due to the *woekerpolisaffair.*

When it comes to life insurance schemes, which form a large part of the third pillar products and hence can be used as a proxy for the returns in this pillar, we used the total return after charges and taxes, but before inflation, and the amount invested on behalf of owners of life insurance policies. It is important to note that an unknown percentage of the pension plans executed by life insurance companies fall under Pillar II (employer-related pension) rather than Pillar III (personal pension). So, as stated, the returns of the life insurance companies are merely a proxy for Pillar III returns (data on the returns of another pension vehicle active in both the second and third pillar, the PPI, are missing entirely).

Table NL14. Real Return of Life Insurance Companies in the Netherlands

Year	Investment result (after charges and taxes)	Investments on behalf of policy holders	Nominal return (net of charges and taxes)	HICP Inflation	Real return (net of charges, inflation and taxes)
2000	2,771	70,928	4%	2%	2%
2001	2,593	76,960	3%	5%	-2%
2002	240	68,535	0%	4%	-4%
2003	2,793	76,814	4%	2%	1%
2004	2,306	82,755	3%	1%	1%
2005	3,322	95,972	3%	2%	2%

[273] Various interest rates available from website www.homefinance.nl

2006	3,935	99,693	4%	2%	2%
2007	6,951	100,755	7%	2%	5%
2008	-5,580	87,460	-6%	2%	-9%
2009	2,070	101,246	2%	1%	1%
2010	180	106,624	0%	1%	-1%
2011	-460	105,555	0%	3%	-3%
2012	360	110,790	0%	3%	-2%
2013	2,208	106,480	2%	3%	-1%
2014	-2,988	111,112	-3%	1%	-4%
2015	3,547	104,934	3%	0%	3%
2016	2,819	110,160	3%	0%	2%
2017	3,179	103,093	3%	1%	2%
2018	3,280	85,634	4%	2%	2%
	AVERAGE 2000-2018		1.87%	1.85%	0.03%

Source: Own calculations, Statistics Netherlands

The average annual return after charges and taxes, but before inflation, for life insurance companies in the Netherlands between 2000 up to and including 2018 amounts to 1.87%. The average annual inflation rate in the Netherlands over the same period was 1.92%. Therefore, the average real annual return of insurance companies in the Netherlands for the period between 2000 and 2017 stands at virtually nil (0.03%).

Presenting all these calculations together, we get the following table:

Table NL15. Average real return of pension funds and insurance companies in the Netherlands

	Nominal return pension funds (1)	Return insurance companies after charges (2)	HICP annual inflation rate (3)	Charges pension funds (4)	Real return pension funds	Real returns insurance companies
2000	2.70	3.91	2.92	0.20	-0.40	0.96
2001	-2.48	3.37	5.15	0.20	-7.45	-1.69
2002	-8.12	0.35	3.21	0.20	-11.17	-2.77
2003	9.40	3.64	1.58	0.20	7.50	2.03
2004	9.06	2.79	1.27	0.20	7.50	1.50
2005	11.92	3.46	2.00	0.20	9.53	1.43
2006	7.16	3.95	1.72	0.20	5.15	2.19
2007	3.14	6.9	1.58	0.20	1.33	5.24

2008	-15.76	-6.38	1.65	0.24	-17.36	-7.90
2009	11.73	2.04	0.72	0.19	10.74	1.31
2010	9.98	0.17	1.84	0.15	7.84	-1.64
2011	6.23	-0.44	2.50	0.19	3.45	-2.87
2012	11.1	0.32	3.37	0.21	7.27	-2.95
2013	3.15	2.07	1.40	0.23	1.50	0.66
2014	14.18	-2.69	-0.06	0.17	14.08	-2.63
2015	1.47	3.38	0.49	0.50	0.47	2.88
2016	8.74	2.56	0.74	0.50	7.44	1.81
2017	5.81	3.08	1.22	0.55	3.99	1.84
2018	-1.26	3.83	1.83	0.52	-3.55	1.96
Avg.	**4.37**	**1.87**	**1.85**	**0.27**	**2.21**	**0.03**

Source: *Data reported by the Dutch Central Bank.*

Conclusion

Dutch employees are far less dependent on a State pension compared to other Europeans since their individual pension plans account for the main part of their retirement income.

Generally speaking, the pension funds that invest the largest share of pension contributions tend to provide decent returns after taxes, charges and inflation. For the period considered here, 2000-2018, the average annual real return is 2.52%. The pension vehicles in the third pillar, such as life insurance companies, return far less, practically nil over the same period. However, one must note that the third pillar is relatively small, and a relatively small number of individuals are enrolled in it.

Historically, in the postwar period, Dutch employers and employees have invested much in pension schemes and premiums, with the traditional rule of thumb being that one-fifth of wage benefits were dedicated to pension investments. Also, the Dutch pension system has maintained an exceptional degree of compulsion, submitting most sectors of the economy to mandatory sectoral pension schemes. This, combined with a regulatory framework which utilizes discount rates that are more prudent (many argue that these are too prudent) than those used by EIOPA, for example, explains why the Dutch pension system is consistently judged to be (one of the) strongest in the world.

Like other pension systems in OECD countries and elsewhere, however, Dutch pensions have come under strain by the combination of an aging population and historically low interest rates. Also, as the labor market has become increasingly flexible, generational conflict has increased within pension funds (which utilize cross-generational subsidies in the traditional

expectation that employees spend their entire working lives within a single sectoral or company-based pension fund) and a growing part of the work force does not fall under any Pillar II pension scheme at all.

The Dutch government, trade unions, and employers' organizations have signed an accord (*Pensioenakkoord*) aimed to address the issue of intergenerational subsidies which ultimately points towards a (slow) general move away from DB towards DC. So far, however, little has been done to address the growing Pillar II 'blind spot' (*witte vlek*) which may lead to strongly declining average replacement rates in the future and to growing elderly poverty rates. On a brighter note, Dutch pension regulators and pension funds, have pioneered a focus on cost-related transparancy over the last few years. Due to the financial clout of Dutch pension funds, this has forced many (internationally operating) investment firms to clarify the structure of fees and charges. Obviously, the governance and performance of pension funds themselves has become more transparent as well, increasing accountability. This welcome development towards greater transparency may benefit institutional investors elsewhere and may surge ahead towards new terrains such as ESG performance.

Pension Savings: The Real Return

2019 Edition

Country Case: United Kingdom

Summary

U.K. private pension funds have performed best both in real terms and on the longer investment horizon, returning an average annual growth rate of +3.1% (+73% cumulative) in 2000-2017. This is partly due to the "auto-enrollment" regime in private pension funds implemented by the British Government as of 2012, which boosted competition on the market and allowed players to benefit from economies of scale which, coupled with a close supervision of the FCA, lowered fees and charges on pension products. Unfortunately, data later than 2017 is not yet available for this country.

Introduction

The pension system in the UK is based on three pillars:

- Pillar I – the public pension scheme, comprising two components: the basic pension and the additional pension;
- Pillar II – gathering the occupational pension plans, sub-divided into two categories: the defined-benefit plans (salary-related) and the defined-contribution plans (money purchase arrangements);
- Pillar III – composed of the individual (voluntary and supplementary) pension savings products

It should be noted that the U.K. pension system is strongly defined by its funded, privately managed pension products' market, and thus the public pension component generates just a modest part of the British reitree's pension. From a portfolio composition point of view, U.K.-domiciled pension funds have the highest allocation in alternative securities (57% in collective investment schemes, real estate and REITs and derivatives) and one of the lowest general holding rates in money market instruments (less than 2% in cash and deposits).

In 2017, to every retiree there were 3.4 economically active people (old-age dependency ratio of 29%), while projections show that the dependency ratio will go up to 44% by 2030 and to 50% by 2070.

The total market size of private pension schemes (Pillars II & III) was estimated at approximatively £3 trillion (€3.38 trillion) at the end of 2017, out of which 63% were held by defined-benefit occupational pension schemes. Of the entire working population, almost 76% are enrolled in an occupational pension scheme, mainly due to the automatic enrolment regime implemented as of 2012.

Table UK1. UK Pension System Overview		
PILLAR I	**PILLAR II**	**PILLAR III**
Public pension scheme	Occupational pension schemes	Personal pensions: Group Personal Pension or Individual contracts (Stakeholder and Self-Invested Personal Pensions)
For men born before 1951 and women born before 1953: Basic & Additional State pensions **Since April 2016, for men born after 1951 and women born after 1953**: new State pension	Defined Benefits and Defined Contributions pension schemes	Defined Contributions pension schemes
Mandatory	Since 2012, auto-enrolment or explicit op-out. Since 2019, compulsory contribution equal to 8% of earnings	Voluntary
PAYG	Unfunded (DB schemes) / Funded (DC and other schemes)	Funded
	Quick facts	
The full new State Pension is £168.60 per week.	AuM: £2.3 trillion	Individual personal pensions AuM: £320 billion
Average net replacement rate (men): 29%	Active participants: 17.3 million / 76% of working population	Number of individuals contributing to Personal pension: 8.5 million

Source: Better Finance, own composition

Summary Table - Rate of return of UK pension funds		
	Nominal	Real
2017	5.78%	2.26%
2015-2017	7.81	5.67%
2011-2017	8.23%	5.61
2008-2017	7.12%	4.10%
2000-2017	5.83%	3.06%

Source: BETTER FINANCE own calculation based on data of Table UK7

Pillar I

Pillar I is a social insurance program consisting of two elements:

- The Basic State Pension; and
- The Additional State Pension.

The Basic State Pension (Old State Pension)

Every employee or self-employed person is required to contribute to this plan and each person can receive their basic pension upon reaching the age of retirement (State pension age). The "default retirement age" has been eliminated and now it varies depending on the birth date.[274] The basic pension depends on the number of years of contributions to National Insurance. To qualify for a full pension, thirty years of contributions are necessary. The perceived pension at the full rate since April 2019 for a single person amounts to £129.20[275] (€144.43[276]) per week. It increases every year according to the following components, with the largest figure being considered:

- the average percentage growth in wages;
- the Consumer Price Index increase;
- and 2.5%.

The Basic State Pension increased by 2.5% in 2017 and 3% in 2018.

[274] The British Government offers an online tool to calculate the retirement age for men and women, as well as the pension entitlement at retirement – see https://www.gov.uk/state-pension-age.

[275] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/792946/Benefit_and_pension_rates_2019.pdf

[276] All currency conversions are made at the rate of 31.12.2018 published by the European Central Bank, 1 GBP = 1.1179 EUR; 1 EUR = 0.89453 GBP; https://sdw.ecb.europa.eu/curConverter.do?sourceAmount=1.0&sourceCurrency=GBP&targetCurrency=EUR&inputDate=31-12-2018&submitConvert.x=45&submitConvert.y=5

The Additional State Pension

The Additional State Pension is an extra amount of money employees can get on top of their basic State Pension if they are a man born before 6 April 1951 or a woman born before 6 April 1953. The Additional State Pension depends on the number of years of contribution and earnings.

Anyone wishing to save for retirement under Pillar II and III may leave the Additional State pension. If the employee opts-out towards an occupational scheme, the employer and the employee pay lower contributions and the employee cannot qualify for the Additional State pension.

The new State Pension

From 6 April 2016 onwards, a single-tier State pension replaced the basic and additional State pensions. Since April 2019, the full new State Pension is £168.60 (€188.48) per week, but the actual (personalised) amount depends on the *National Insurance record*, which represents how many contributory years somebody has accumulated. In addition to the State Pension, Bristish individuals have also access to two other types of pension:

- Occupational Pensions (Pillar II);
- Personal Pensions (Pillar III).

Occupational Pensions and Personal Pensions are both private pensions which represent an arrangement to provide an individual with a regular income when they retire.

Pillar II

Pillar II is a system of occupational/company pension plans. There are two categories of schemes:

- Salary-related schemes (Defined benefit)
- Money purchase schemes (Defined contribution)

The number of employees saving in a pension plan has risen from 10.7 million in 2012 (55% of eligible employees), to 18.7 million in 2018 (87%)[277]. Between 2008 and 2012 there was a general downward trend in workplace pension participation, from 59 % (11.8 million eligible employees) to a low of 55 % (10.7 million eligible employees) in 2012.

[277] Source: Department for Work and Pensions, *Workplace Pension Participation and Savings Trends of Eligible Employees Official Statistics: 2008 to 2018*, 5 June 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806513/workplace-pension-participation-and-saving-trends-2008-2018.pdf

Public Authorities sought to ensure that part of the population does not fall into poverty in retirement by establishing a safety net at the professional level. The Pension Act of 2008 aims to solve the pension problem facing people whose savings are not enough to ensure a decent retirement[278]. The purpose of this legislation was to protect the 13.5 million UK employees who were not affiliated to any pension plan (other than the basic plan that offers a very low pension level). The automatic enrolment of employees into a qualifying workplace pension scheme began in October 2012 and has been rolled out gradually until February 2018.

Employers are required to automatically enroll to a basic scheme to which they contribute for all employees, who are aged at least 22 and under State Pension age (SPa), who earn over £10,000 (€11,179) per year in 2018/19 terms (these thresholds are reviewed annually); and who normally work in the UK and do not currently participate in a qualifying workplace pension scheme.. Since October 2017, all businesses employing someone for the very first time have to provide a workplace pension from the first day of their service.

Employees must explicitly opt out of it if they do not wish to contribute. Minimum compulsory contributions that the employer must pay into staff's pension scheme are currently[279] (since April 2019) a total contribution of 8% with at least 3% employer contribution. In practice, most employers use defined-contribution schemes for this purpose. Any British employers who don't have their own scheme have the opportunity to join a national multi-employer scheme or to contribute to an individual retirement savings plan contracted by the employee. In these cases, the employer contribution mus be at least equal to 3% of paid salary.

Since the start of automatic enrolment in 2012, more than 9.9 million workers have been automatically enrolled[280]. The total amount saved by eligible savers was £90.4 (€101.06) billion in 2018.

Pillar III

Pillar III consists of individual retirement savings plans.

Anyone participating in the Pillar I State Pension scheme also has the opportunity to participate to a Personal Pension Plan that can be either established by an employer (Group

[278] According to the Department for Work and Pensions (2013), 12 million people were not saving enough to ensure an adequate income in retirement.
[279] Source: The Pensions Regulator
[280] Source: Department for Work & Pensions, *Automatic Enrolment evaluation report 2018*, December 2018: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/764964/Automatic_Enrolment_Evaluation_Report_2018.pdf

Personal Pension (GPP)) or be subscribed individually. There are two types of individual contracts: Stakeholder Pensions and Self-Invested Personal Pensions.

Personal Pension Plans are managed and run by a bank, an insurance company, a building society or other financial intermediaries. The offer of individual retirement savings products in the UK is highly standardised and supervised by the State.

A Personal Pension is a defined-contribution scheme. The accumulated savings can be withdrawn at any age between 55 and 75 (in practice, it is between 60 and 65 in most pension schemes), even if the beneficiary is still employed.

The savers normally convert the accumulated rights into an annuity for life, which is subject to taxation. However, they may withdraw a non-taxable lump sum of a maximum of 25% of the accumulated savings from the scheme. Beyond this threshold, withdrawals are taxed at the income tax marginal rate of the retiree. Another alternative to the annuity for the subscribers is to quit their retirement savings plan and to receive taxable income from it (called Unsecured Pension – USP). After turning 75 years old, they are able to make annual withdrawals. USP can be transmitted to heirs.

Since April 2015, new flexibilities are available to members of defined-contribution pension funds. Pension funds members can keep a portion of their rights invested in the fund, with a drawing right ("flexi-access Drawdown") on the amounts concerned, and an additional tax exemption on the amounts withdrawn up to one third of the envelope of these drawing rights.

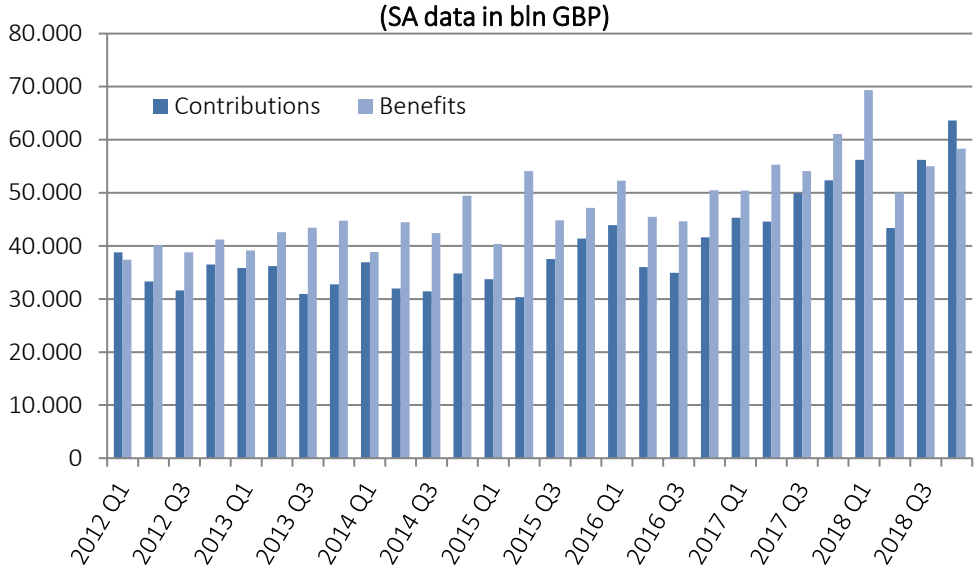
As the retirement system in the United Kingdom is predominantly a pre-funded one, life insurance and pension funds represent the majority of total assets held by UK households (57.5%).

Table UK2. Financial Savings of UK households at the end of 2018 (non-real estate)

	% of total assets	2018/2017 (%)
Currency and bank deposits	25.7	4.0
Investment funds	5.3	5.1
Direct investments (debts products, shares and other equity)	11.4	-3.4
Life insurance and annuity entitlements	10.5	3.7
Pension schemes	47.0	-0.7
Total	100	0.9

Source: Bank of England, Households and NPISH Financial Accounts, OEE Caculations

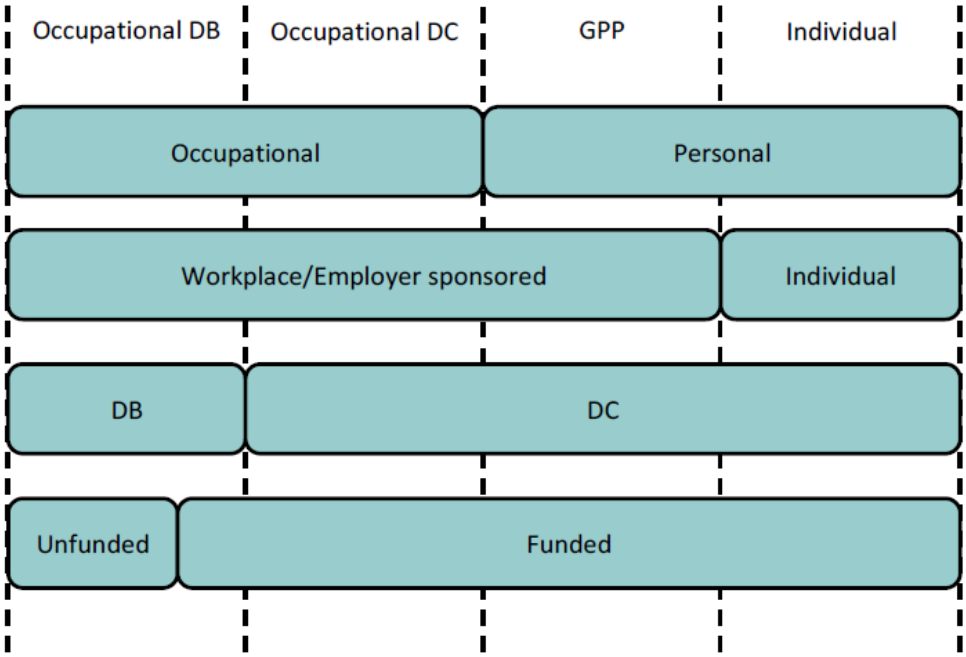
Graph UK3. Contributions and benefits of pension funds in the UK
(SA data in bln GBP)



Source: Office for National Statistics. Data includes self-administered pension funds and pension fund management by insurance companies

Many occupational and individual pension funds have reached maturity and the gap between benefits and contributions widens.

Types of private pension provision (Pillar II & Pillar III)



Source: Personal Pensions Statistics, HM Revenue & Customs, April 2019

Pension Vehicles

Pillar II

There are several types of pension schemes, including defined-contribution and defined-benefit schemes.

Defined-benefit schemes

Defined-benefit schemes are protected by the Pension Protection Fund (PPF). PPF pays some compensation to scheme members whose employers become insolvent and where the scheme doesn't have enough funds to pay members' benefits. The compensation may not be the full amount and the level of protection varies between members already receiving benefits and those who are still contributing to the scheme.

- Final salary schemes

Trustees are responsible for paying retirement and death benefits. The pension depends on the number of years the employee belonged to the scheme (pensionable service), the final pensioner salary and the scheme's accrual rate.

- Career average revalued earnings (CARE) schemes

CARE schemes are similar to final salary schemes, apart from the fact that pensions depend on the employee's average earnings over their career (the pensionable earning) instead of the last salary before retirement. Pensions are indexed on price inflation.

The DB pension schemes are predominant in the UK pension market with £1.9 trillion of assets under management at the end of December 2017.[281]

Defined contribution schemes

The amount of pension depends on contributions paid by the employer and the employee, the fees charged for the management of the scheme and the performance of investments. £400 billion were managed by DC schemes end of 2017.[282]

Small self-administered pension schemes (SSAS)

SSASs are pension schemes whose members are normally company directors or key staff. The investment policy of SSASs is more flexible than the common law system. The fund may lend money to the employer and it may borrow and invest in a broad range of products, including the employer's shares.

SSASs are managed by insurance companies, pension consultants and fund managers.

Hybrid schemes

The sponsor of a hybrid scheme commits on a minimum pension amount. The pension can be higher depending on the outcome of the investment policy of the fund.

Cash balance plans

In cash balance schemes, the employer is committed to a minimum amount of pension savings from the scheme for each period of service of his/her employees. At retirement, the accumulated capital is converted into an annuity.

Multi-employer schemes

Multi-employer schemes have been around for a long time and are common in the public sector.

[281] ASSET MANAGEMENT IN THE UK 2017-2018, The Investment Association Annual Survey, September 2018 / https://www.theia.org/sites/default/files/2019-04/20180913-fullsummary.pdf
[282] Ibid.

The National Employment Savings Trust (NEST), established in 2011 by the government, is one of the schemes complying with the legislation on auto-enrolment. It is a low-cost pension scheme and is required to accept membership from any employer. On March 31st, 2018, NEST managed £2.7 billion on behalf of approximately 6.4 million members (4.5 million as at 31 March 2017) and 616,000 employers (327,0000 as at 31 March 2017).

Since 2017, there is no longer any restriction on the amount of annual contribution, but most employees do not go beyond the annual tax-free allowance (currently £40,000 / €44,716).

Since the implementation of the auto-enrolment legislation, other inter-fund companies have been created and are in competition with NEST.

NOW: Pensions, a UK subsidiary of the Danish national pension fund ATP, offers a workplace pension as a creative auto-enrolment solution.

Pillar III

Self-invested personal pensions

Self-invested personal pension plans are a type of Personal Pension Plan where the subscriber decides its own investment strategy or appoints a fund manager or a broker to manage investments. A large range of investments are allowed, although some of them (notably, residential property) support heavy tax penalties and are, therefore, excluded in practice.

Group personal pension plans

Group personal pension plans are defined-contribution plans arranged by the employer. The liability lies on an independent pension provider, usually an insurance company.

Charges

Annual Management Charges (AMC) are usually the main charges levied on pension funds. They are applied as a percentage of the assets of the fund. However, some schemes charge additional fees, for example a contribution charge or a flat fee. In some cases, audit, legal, custodial or consultancy fees are added to the AMC and deducted from members' pension pot[283]. In its Defined-contribution workplace pension market study[284] published in

[283] Department for Work & Pensions (2013,2).
[284] Defined contribution workplace pension market study – September 2013 – OFT https://webarchive.nationalarchives.gov.uk/20131101172428/http://oft.gov.uk/shared_oft/market-studies/oft1505

September 2013, the Office of Fair Trading (OFT)[285] also showed that some providers do not include the costs of administering schemes, of IT systems or of "investment management services" in AMC. Moreover, transaction costs are never included in the AMC, but this latter practice can be justified by the fact that a major part of trading costs is the bid-ask spread of quotes or orders in order-driven markets, a cost that should be considered as an inherent component of investment returns.

To summarise, there are some operational expenses that are not included in AMC, but to which extent is unknown. Fees charged to members may be significantly higher than the average, depending on, among other things, the size of the scheme. It has also been noted by OFT[286] that some providers charged higher AMC to deferred members than active members. In order to protect members of pension funds against the most abusive practices, a stakeholder pension scheme cannot charge an AMC superior to 1.5% and it cannot charge its members for starting, changing or stopping contributions, nor for transferring funds.

A cap on the charges within default funds in the framework of the automatic enrolment obligation, equivalent to 0.75% of assets under management, was introduced from 6 April 2015 by the Financial Conduct Authority (competent for contract-based workplace pension schemes) and the Department for Work and Pensions (competent for trust-based pension schemes). The same regulation also prevents firms from paying or receiving consultancy charges and from using differential charges based on whether the member is currently contributing or not. In November 2017, the Government said that the charge cap was working "broadly as intended" and that it had decided not to change its level or scope at this stage[287].

In February 2019, the Government proposed to bring more flexibility on the 0.75% cap in order to allow for investments with performance-related fees and investments in more illiquid assets. The Association of Investment Companies (AIC) pushed to go further by only keeping the cap for investments in listed securities. In its consultation, the government said average workplace pension charges were between 0.38% and and 0.54%, a level that was well within the current cap. There are various estimations available on the average weight of charges levied on pension funds in the UK. According to the 2016 Pension Charges Survey of the Department for Work and Pensions[288], average charges in schemes qualifying for

[285] The OFT was responsible for protecting consumer interests until 2014. Its responsibilities have now been passed to different bodies.
[286] Office of Fair Trading (2013).
[287] HCWS 249, 16 November 2017
https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2017-11-16/HCWS249/
[288] DWP, "Pension Charges Survey 2016: Charges in defined contribution pension schemes"

automatic enrolment, after the implementation of the charge cap, were 0.38% in surveyed trust-based schemes (as compared to 0.42% prior implementation of the charge cap) and 0.54% in contract-based schemes (as compared to 0.55% prior implementation of the charge cap). In schemes non-qualifying for automatic enrollment, average charges continued to increase to 0.70% in trust-based schemes and 0.86% in contract-based schemes.

Both latter sources are the most consistent and recent ones and we use them below to calculate investment returns before and after charges, all the while taking into account that only AMC underestimates the actual level of charges.

The fall in average AMC is attributed to several factors by OFT: the growing size of assets under management generated economies of scale and increased the bargaining power of employers. The AMC cap on stakeholder pensions created a new competitive benchmark. Advisers' remuneration has been excluded from AMC by some providers ahead of the regulation preventing this method of adviser remuneration from January 2013 onwards (The Retail Distribution Review, RDR).

In order to calculate the average weight of charges in total outstanding assets from the year 2000 to 2012, we used assumptions of the OFT on the average annual rate of switching providers (6.7% of assets) and the average annual rate of successful re-negotiations (3.6% of assets). Since no data is available on average AMC in 2000, we assumed that average AMC represented 0.79% of managed assets in 2000, as in the following three years which are documented by OFT.

Data from 2014 was estimated using the Department for Work and Pensions (DWP) survey.

Based on these hypotheses, we find that the average AMC decreased from 0.79% in 2000 to 0.57% of the outstanding assets of pension funds in 2016. On average, AMC represented 0.7% of assets over the eleven years from 2000 to 2016. At the time of writing this report, data for 2017 and 2018 has not been published yet by the DWP (last report was on 26 October 2017).

Table UK4. Average AMC on schemes set up by existing contract-based and bundled trust-based pension providers in each year (%)

2000	2002	2004	2006	2008	2010	2012	2014	2016	Annual average 2000-2016
0.79	0.79	0.79	0.76	0.73	0.69	0.65	0.55	0.57	0.70

Source: OFT, DWP, BETTER FINANCE own calculation

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 to members who joined that scheme after 10 October 2017.

Taxation

Tax relief on contributions

Contributions to personal pension plans are deducted from the taxable income, subject to an annual allowance of £40,000 (€44,716).

Non-taxable persons benefit from a tax relief at 20% of the first £2,880 (€3,238) of individual contributions per year.

Moreover, there is a lifetime allowance of £1 million (€1.12 million). Pension savings are tested against the lifetime allowance when the beneficiary receives their pension benefits. The income tax is paid on any excess over the lifetime allowance limit. If the amount over the lifetime allowance is paid as a lump sum, the rate is the marginal rate applicable to the taxpayer. If it is paid as a pension or by cash withdrawals, the rate is 25%.

Generally speaking, the "E" regime with the ceiling can be applied to the contribution phase.

Taxation of the funds

Pension funds do not pay any tax on the income of their assets (interest, dividends, rents) nor on capital gains. "E" regime applies on the investment phase.

Taxation of pensions

Pensions are included in the income tax base. There are currently[289] (for the tax year from 6 April 2019 to 5 April 2020) three marginal rates[290] in the UK: 20% on income from £12,501 (€13,975) to £50,000 (€55,895), 40% up from £50,001 to £150,000 (€167,685) and 45% above. The "T" regime applies on the pay-out phase.

Pension Returns

When looking into Pension Returns, we will consider the returns of private pension funds as the most descriptive proxy as other options such as life insurance have marginal weight in the British market. As for other instruments such as shares, bonds and packaged products we do not have statistics that show on which proportion these products are used for purely private pension provision.

[289] https://www.gov.uk/income-tax-rates
[290] This amount applies to people born after 6 April 1938.

Asset allocation

Pension fund returns depend on their asset allocation.

Table UK5. Breakdown of self-administered pension fund asset holdings (%)						
	Public sector securities	Equities	Corporate bonds	Mutual funds	Other	Total assets
2000	15	59	4	10	12	100
2001	15	56	5	12	12	100
2002	17	49	7	13	13	100
2003	16	46	7	17	13	100
2004	14	43	8	19	16	100
2005	13	43	8	21	16	100
2006	13	41	9	22	16	100
2007	14	33	10	26	18	100
2008	15	29	12	25	19	100
2009	13	29	13	30	15	100
2010	13	26	11	34	17	100
2011	16	22	10	33	18	100
2012	18	21	10	34	17	100
2013	18	20	9	34	18	100
2014	20	20	10	32	17	100
2015	21	17	10	34	18	100
2016	24	16	9	34	17	100
2017	25	14	9	34	18	100

Source: ONS, "MQ5: Investment by Insurance Companies, Pension Funds and Trusts", various years

***Note**: The balance sheet data comes from the ONS MQ5 report that was published in March 2019 and does not contain data for 2018.*

The share of direct holdings of corporate securities (shares and bonds) consistently decreased from 63% in 2000 to 23% in 2017. British pension funds remain among the most exposed to the stock market, either directly or through investment funds[291]. However, faced with the uncertainty of returns achieved by the stock market and the weak performance of

[291] Equity funds assets represent more than two thirds of total UCITS assets in the United Kingdom. Since pension funds hold a major portion of total outstanding mutual funds in the UK, we consider that equity funds are also predominant in holdings of mutual funds by pension funds in the UK.

government bonds, managers reallocated part of their investments to alternative asset classes.

The amount of tax depends on the income-tax rate of each retiree. We assume that the pensioner withdraws the maximum tax-free lump sum, 25% of the accumulated savings. In other words, we multiply the applicable tax rate by 0.75. The retiree will pay an amount of income tax on their nominal investment return, which depends on their applicable marginal tax rate and their tax allowance, in relation to their total income.

We calculated the real investment return for four cases:

Table UK6. Case description (Tax year 2018/2019)				
	Tax allowance (£)	Marginal Tax rate	Income tax	Average tax rate
Case 1: An annual income of £10,000	12,500	20%	0	0%
Case 2: An annual income of £20,000	12,500	20%	1,500	8%
Case 3: An annual income of £50 000	12,500	40%	7,500	15%
Case 4: An annual income of £150,000	-	40%	50,000	35%

Source: *https://www.gov.uk/income-tax-rates*

Nominal investment returns

We calculated nominal investment returns using data on autonomous pension funds available from ONS (MQ5: Investment by Insurance Companies, Pension Funds and Trusts).

Nominal investment returns for a given year are calculated according to the following formula:

$$R = \frac{Income + capital\ gains}{(Assets\ at\ year\ end + assets\ at\ begining\ of\ the\ year)/2}$$

Capital gains are estimated using the following formula:

$$CG = Assets\ at\ year\ end - assets\ at\ begining\ of\ the\ year - Net\ investments\ of\ the\ year$$

Income includes following components:

$$Income\ of\ investment = Rents\ from\ properties + Dividends\ received + Interest\ earned$$

Real investment returns after charges, inflation and taxes

Option 1

We apply the average tax rate to the nominal investment return and calculate the resulting real investment return after taxes. Returns rise to 3.1% per year in the most favourable case and 1.7% in the worst case.

Table UK7. Pension funds' average annual rate of investment returns (%)

	Nominal return before charges, before inflation, before tax	Nominal return after charges before inflation, before tax	Real return after charges, after inflation, before tax		*Case 1*	*Case 2*	*Case 3*	*Case 4*
2000	-3.5	-4.3	-5.1					
2001	-5.3	-6.1	-7.2					
2002	-13.3	-14.1	-15.8					
2003	15.5	14.7	13.4					
2004	12.1	11.3	9.7	Real return after charges, after inflation, after tax		OPTION 1		
2005	19.9	19.1	17.2					
2006	11.4	10.6	7.6					
2007	1.8	1.1	-1.0		3.1	2.8	2.5	1.7
2008	-11.4	-12.1	-15.1					
2009	13.5	12.8	9.9			OPTION 2		
2010	13.6	12.9	9.3					
2011	12.3	11.6	7.3					
2012	10.5	9.9	7.3		3.1	2.3	1.5	1.5
2013	6.4	5.7	3.7					
2014	5.1	4.6	4.1					
2015	4.2	3.5	3.4					
2016	13.7	13.1	11.5					
2017	5.8	5.2	2.3					
Avg / Year	5.8	5.1	3.1					

Sources: GAD (nominal returns in 2000), ONS, OFT, DWP, OEE calculation; Data for 2018 has not yet been published by the ONS.

Option 2

We apply the marginal tax rate to the nominal investment return and calculate the resulting real investment return after taxes. In the most favorable case, the average annual return is 3.1%.

Conclusions

The United Kingdom is one of the European countries with the most developed and mature pension funds. Workers cannot rely solely on the social insurance program (Pillar I) that provides only a very limited income. On the other hand, British households save less than other Europeans on average and they do not rely much on alternative assets to prepare for their retirement. Hence, the government has implemented a compulsory framework of "auto-enrolment" in occupational schemes that should, in theory, extend the safety net to most employees.

But these initiatives can only be positive if the new money channelled to pension funds is efficiently managed and generates significant and sustainable revenues. The issue of the real returns of private pensions is thus crucial in the UK.

However, it is not easy to calculate these returns and identify its positive (managers' skills and asset allocation) or negative components (charges and taxation). This is surprising in a country which has been experiencing pre-funded retirement schemes for a long time.

Like in other countries, the financial crisis that started in 2008 resulted in changes in asset allocation that are probably generating lower returns, with more cash and less corporate equity.

Charges negotiated by employers with pension providers in the framework of new contracts or re-negotiations decreased on average since 2005. But there was a lack of transparency and comparability of charges disclosed by pension providers. Public authorities have taken initiatives to standardise and limit the fees paid to pension providers to avoid abusive practices. The Annual Management Charges, which are the main focus in the public debate, decreased from 0.79% in 2000 to 0.57% in 2016.

Another negative factor is the inflation rate, which is higher in the UK, at 2.9% in 2017, than the EU average at 1.6%.

In total, the nominal average annual performance of employees' and employers' contributions to pension funds from year 2000 to 2017 was positive by 5.8%. When taking into account inflation, charges and taxes, the investment returns are estimated at +1.5% to +3.1%, depending on the personal tax rate of the retiree.

Policy Recommendations

Due to the high number of various occupational pension plans in the UK, that are not standardised, it's difficult to get aggregated information about costs and charges. Given the

importance of the second pillar in this country, in particular since the introduction of “auto-enrollment” regime, this information is very valuable for savers.

In the past there was a Survey that was conducted by Department for Work & Pensions namely the "Pension Charges Survey". The last published Survey provides data for the year 2016. This Survey should be conducted again on order to get aggregated information about pension charges on an annual basis.

Imprint

Editor and Publisher
The European Federation of Investors and Financial Services Users
Rue du Lombard 76
1000 Brussels
Belgium
info@betterfinance.eu

Coordinators

Ján Šebo
Ştefan Dragoş Voicu

Contributors

Carsten Andersen
Edoardo Carlucci
Lubomir Christoff
Michel Deinema
Laetitia Gabaut
Timothée Galvaire
Johannes Hagen
José Antonio Herce
Arnaud Houdmont
Aleksandra Mączyńska
Alessandra Manis
Michal Mešťan
Grégoire Naacke
Lina Strandvåg Nagell
Guillaume Prache
Joanna Rutecka-Góra
Dr. Thomas Url
Aiste Vysniauskaite

BETTER FINANCE

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

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.