

PENSION SAVINGS

THE REAL RETURN

2018 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 2018 Edition

A Research Report by BETTER FINANCE

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Acronyms

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



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

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

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

Defined benefit (DB) occupational pension plans* – are occupational plans other than defined contributions plans. DB plans generally can be classified into one of three main types, “traditional”, “mixed” and “hybrid” plans. These are schemes where “the pension payment is defined as a percentage of income and employment career. The employee receives a thus pre-defined pension and does not bear the risk of longevity and the risk of investment. Defined Benefits schemes may be part of an individual employment contract or collective agreement. Pension contributions are usually paid by the employee and the employer”.³

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

² See European Commission, ‘Investment Funds’ (28 August 2018)

https://ec.europa.eu/info/business-economy-euro/growth-and-investment/investment-funds_en.

³ Werner Eichhorst, Maarten Gerard, Michael J. Kendzia, Christine Mayrhuber, Connie Nielsen, Gerhard Runstler, Thomas Url, ‘Pension Systems in the EU: Contingent Liabilities and Assets in the Public and Private Sector’ EP Directorate General for Internal Policies IP/A/ECON/ST/2010-26.



“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

EET 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

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).



basket of underlying assets, and are increasingly more used due to the very low management fees that they entail.

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

- a) for related employers i.e. companies that are financially connected or owned by a single holding group (group pension funds);
- b) for unrelated employers who are involved in the same trade or business (industry pension funds);
- c) for unrelated employers that may be in different trades or businesses (collective pension funds).

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 administered 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 fund.

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

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

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

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

Pension plan* – is a legally binding contract having an explicit retirement objective (or – in order to satisfy tax-related conditions or contract provisions – the benefits can not be paid at all or without a significant penalty unless the beneficiary is older than a legally defined retirement age). This contract

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



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

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Pension Savings: The Real Return

2018 Edition

Foreword

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

One of the worst European retail services market

Investment and private pension products are persistently rated among the worst performing retail services markets of all throughout the European Union according to the European Commission's consumer markets scorecards⁸.

The Commission also points 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"*⁹.

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.

These features of the pension savings markets may well be connected of course.

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

Indeed, apart from the OECD (the Organisation for Economic Co-operation and Development) publications on the real return of certain "pension funds"¹⁰, the contributors to this research report could not find any other more complete or more recent published comprehensive information on the net real pension savings returns for EU countries. Even the report produced for the European Commission on "the position of savers in private

⁸ Consumer Markets Scoreboard 2016 – Making markets work for consumers, European Commission, 2016

⁹ European Commission - Staff Working Document on long term financing of the EU economy (2013)

¹⁰ <http://www.oecd.org/finance/private-pensions/oecd-pensions-outlook-2012.htm> and <http://www.oecd.org/daf/fin/private-pensions/Pension-Markets-in-Focus-2015.pdf>



pension products”¹¹ relies only on the above-mentioned OECD report as far as returns and performances are concerned.

Moreover, as analysed in the previous editions of BETTER FINANCE’s research on the real return of pension savings, the extremely useful data reported by the OECD¹² are unfortunately quite incomplete:

- The most recent OECD publication on pension returns, “Pension Markets in Focus 2017”, 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 June 2016 is now two years old;
- Only eight of the fifteen 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.

This means the European financial supervisors - the European Commission and the European financial supervisory authorities (Securities and Markets, Insurance and Pensions, and Banking) – do not know the actual performance of the services they are supposed to regulate and supervise.

¹¹ Study on the position of savers in private pension products – prepared for the DG Internal Market of the European Commission and the Financial Services User Group (published in August 2013)

¹² Namely the OECD “Pension Markets in Focus 2017” (1-, 5- and 10-year data).



The failure of European supervisors to report “consumer” performance data

However, 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).

To our knowledge, neither the Banking¹³ nor the Insurance and Pensions¹⁴ Authorities provide any reporting on the performance of retail savings products in their fields of competence (respectively bank savings products, and life insurance and pension saving products up to now). The Securities and Markets authority includes “retail investor portfolio returns” in past “Trends, Risks and Vulnerabilities” reports, but stopped doing so in 2016¹⁵. In addition, these data are actually capital markets performance data, not retail investments performance ones, based on 5-year average monthly returns on a portfolio¹⁶ composed of:

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

Unfortunately, such a portfolio has little in common with average retail investor portfolios, which - according to ESMA (the European Securities and Markets Authority) itself is composed of¹⁷:

- 31% deposits (but for the vast majority certainly not returning the one-year “interbank” rate -Euribor- and not even benchmarked against it),
- 25% insurance and pension funds;
- 22% stocks (but a majority of unlisted ones);
- 12% mutual funds;
- and 7% bonds.

Performance: capital markets are not a proxy for retail investments

And indeed, our experience and findings clearly confirm that capital market performances have unfortunately very little to do with the performances of the actual savings products

¹³ EBA -

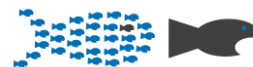
<http://www.eba.europa.eu/documents/10180/1360107/Consumer+Trends+Report+2016.pdf>

¹⁴ EIOPA – https://eiopa.europa.eu/Publications/Reports/EIOPA-BoS-15-233%20-%20EIOPA_Fourth_Consumer_Trends_Report.pdf

¹⁵ See for example ESMA – Trends, Risks, Vulnerabilities Report Nr. 1, March 2016 and Nr. 1, March 2015

¹⁶ ESMA – ‘Trends, Risks, Vulnerabilities Report Nr. 2, 2017, p.16

¹⁷ ESMA – Trends, Risks, Vulnerabilities Report Nr. 1, March 2014; this detailed breakdown of EU households’ financial assets was not longer published afterwards by ESMA.



distributed to EU citizens. And this is particularly true for long-term and pension savings. The main reason for this 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).

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.

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

Table FW1. Real case of a Belgian life insurance (branch 23)

Capital markets vs. Belgian Occupational pension insurance 2000-2017* performance

Capital markets (benchmark index) performance**

| | |
|-------------------------------|------|
| Nominal performance | 127% |
| Real performance (before tax) | 59% |

Pension insurance performance (same benchmark)**

| | |
|-------------------------------|-----|
| Nominal performance | 56% |
| Real performance (before tax) | 10% |

*To end of 2017

Sources: BETTER FINANCE, provider

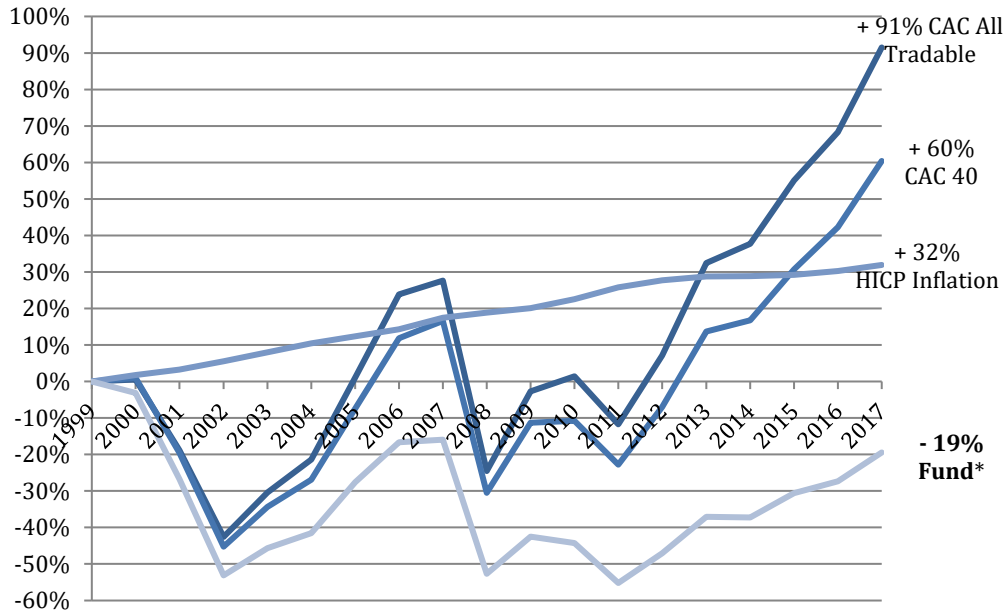
** Benchmark is composed of 50% bonds (LP06TREU) and 50% equity (2000 - 2017 FTSE AW TRI)

Note: LP06TREU is Bloomberg Barclays Pan-European Aggregate Bond Index; FTSE All-World TR EUR Index.

In the real case above, the pension product’s nominal return amounted to not even half of the return of its corresponding capital market benchmark.



Graph FW1. Real case of French retail equity fund



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

In the real case illustrated above, a so-called retail CAC 40 “index” fund¹⁸ actually underperformed the relevant equity index by 80 p.p. after 18 years of existence (loss of 19% instead of a 60% profit in 2000 to 2017), 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 in the Key Information Document (KIID) of the fund.

Another issue for European savers revealed in this graph 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%);

¹⁸ Wrapped in an insurance contract as suggested by the distributor.



- 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.

The ESMA approach of mistaking capital market returns for retail investment ones, is unfortunately widespread in available public research. This is, for example, the case of the latest research report published by the European Commission on this topic (see Study on the position of savers in private pension products, prepared for EC DG MARKT and FISMA, August 2013).

Following BETTER FINANCE's 2015 proposal, the European Union was right to legally require the Supervisory Authorities to collect, analyse and report on European savers "trends". We learn in business schools that one can manage and supervise only what one can measure. And one major legal responsibility assigned to the European supervisory authorities is to "take a leading role in promoting transparency, simplicity and fairness in the market for consumer financial products or services across the internal market, including by... collecting, analysing and reporting on consumer trends..."

2015: The European Commission to require an analysis of the actual net performance of long term and pension savings

On 30 September 2015, the European Commission released its Action Plan on building a Capital Markets Union ("CMU"). BETTER FINANCE was happy to see that the lack of transparency and of analysis of the real net performance of pension savings is addressed in this Action Plan: "To further promote transparency in retail products, the Commission will ask the European Supervisory Authorities (ESAs) to work on the transparency of long-term retail and pension products and an analysis of the actual net performance and fees, as set out in Article 9 of the ESA Regulations".

In October 2017, the EC issued the long-awaited request for "the European Supervisory Authorities (ESAs) to issue the current reports on the costs and past performance of the main categories of retail investment, insurance and pension products". Still, there are important omissions in the request that need to be addressed as soon as possible (for details see our recommendation number 2 on page 70). The first reports from the ESAs are expected by the end of the year (2018).

In addition, in the meantime, the European Commission has eliminated all disclosures on the past performance of investment funds and on their benchmarks in the Key Information Document (KID) in its "PRIIPs"¹⁹ delegated act of 8 March 2017. This severe step back in transparency and in investor information is totally inconsistent with the CMU initiative, and

¹⁹ PRIIPs: packaged retail and insurance-based investment products.



it will deprive 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 to monitor individual products' returns (such as the one illustrated on Graph FW1) in the future.

A customer-based approach to pension savings returns.

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 was updated for this much-expanded 2018 edition, covering 85% of the EU population.

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. This time, we were able to collect up to 18 years of performance data in most countries covered);
- 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).

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

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

In 2018, we find that Information on long term and pension savings returns is actually not improving but still deteriorating:

- less 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.

- later information: at the time of printing (September 2018), still a lot of 2017 return data have not been released by the national trade organisations or other providers.
- Unchecked information: the principal source remains the national trade organisations, their methodology is most often not disclosed, return data do not seem to be checked or audited by any independent party, and sometimes the are only based on sample surveys covering just a portion of the products.
- As already mentioned, the European Commission has eliminated the disclosure of past performance of UCITS investment funds and of their benchmarks in the Key Information Document starting at the latest at the end of 2019.

There is still a long way to go before achieving “*transparency, simplicity and fairness in the market for consumer financial products*” as engraved in EU Law.



Pension Savings: The Real Return

2018 Edition

Executive Summary

As stated by the European Commission in a 2013 staff working document, “*the crisis has increased savers’ distrust in financial institutions and markets*”²⁰. Similarly, the latest EU Consumer Markets Scorecard²¹ once again ranks pensions and investments as one of the worst consumer markets of all.

Coverage

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, and when compared to the relevant capital market benchmarks. It significantly broadens the geographical coverage of the initial research report by BETTER FINANCE entitled “The Real Return of Private Pensions”, first published in June 2013.²² Totalling 16 EU Member States under review, Belgium, Bulgaria, Estonia, Germany, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, Sweden, The Netherlands and the United Kingdom have been added to the initial group composed of Spain, France and Denmark. It also extends the period of time covered in order to now measure performance over the 18-year period ranging from 2000 to 2017, in as far as data was available. As such, the BETTER FINANCE research now covers 87% of the EU population.²³

The countries under review can be divided into four categories:

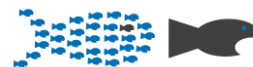
- At one end, we find countries like the Netherlands, Denmark, Sweden and the United Kingdom, where pension products’ assets represent far more than the

²⁰ 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>.

²¹ Consumer Markets Scoreboard 2016 – Making markets work for consumers, European Commission, 2016

²² EuroFinUse, ‘The Real Return of Private Pensions’ (June 2013) http://www.betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_Study_EN_website.pdf.

²³ 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>.



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;
- 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 EX1. Pension assets as % of GDP

| | Assets in % of GDP | Assets (in mil €) | Data source |
|-------------|--------------------|-------------------|-------------|
| Belgium | 18% | 75,210 | BF Report |
| Bulgaria | 13% | 6,475 | BF Report |
| Denmark | 205% | 591,255 | OECD Data |
| Estonia | 16% | 3,788 | BF Report |
| France | 10% | 222,295 | OECD Data |
| Germany | 7% | 226,136 | OECD Data |
| Italy | 10% | 166,543 | OECD Data |
| Latvia | 14% | 3,677 | BF Report |
| Lithuania | 7% | 3,008 | BF Report |
| Netherlands | 182% | 1,338,100 | BF Report |
| Poland | 9% | 42,370 | OECD Data |
| Romania | 5% | 8,918 | BF Report |
| Slovakia | 12% | 9,943 | BF Report |
| Spain | 14% | 158,258 | OECD Data |
| Sweden | 118% | 547,654 | BF Report |
| UK | 106% | 2,455,755 | OECD Data |

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):

- the need to start saving as early as possible;
- the need to save a significant portion of one’s income before retirement activity income: *“to support a reasonable level of income in retirement, 10%-15% of an average annual salary needs to be saved”*;²⁴

²⁴ World Economic Forum White Paper: We’ll live to 100 – How can we afford it?, May 2017



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*”²⁵.

BETTER FINANCE has continuously begged to disagree, something which is reiterated in this year’s report.

Indeed, contributing more and for longer periods is not enough if a herd 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). The initial BETTER FINANCE report on pension savings on a wider coverage (the 2014 Report)²⁶ first put forward the conclusion 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 four 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.**

| Annual net return | Replacement income |
|-------------------|--------------------|
| negative 1% | 10% |
| zero | 12% |
| 2% | 17% |
| 8% | 49% |

© BETTER FINANCE, 2017

Positive Capital market returns (1999- 2017)

We have chosen a period covering the last 18 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.

²⁵ OECD Pensions Outlook 2016 (Editorial, page 10, 2016)

²⁶ BETTER FINANCE, Pension Savings: The Real Return (2014 edition)



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.²⁷

To illustrate the impact of regular pension savings over 18 years versus a one-shot investment 18 years ago, we also measured the performance of the same investment repeated year after year over the last 18 years for one case (French corporate savings and pension plans; see French case section). However, the two are not fully comparable.

Since the beginning of the 21st century, capital market returns have been positive (moderately for equities while strongly for bonds):

- On a nominal basis (before taking inflation into account), world stock markets have grown in value (in €) by 93%,²⁸ where the US stock market has grown by 108%²⁹ and the European ones by 75%;³⁰
- On a real basis (net of inflation), European stock market (Stoxx All Europe) returned to positive cumulated performances by 2013, and once again reached significant levels by 2017 (+31%) as shown in the graph below. It is important to note, however, that some European countries, such as Greece and Italy, are still in negative territory (-80% and -23% respectively). Several large cap markets also continue to struggle with negative returns, and at the European level, the very narrow “Stoxx 50” index is still in negative territory after inflation (-10%) but includes only 50 European stocks.

²⁷ Ideally, one should look at even longer-term historical returns, but the data are, for the most part, not available for the earlier years.

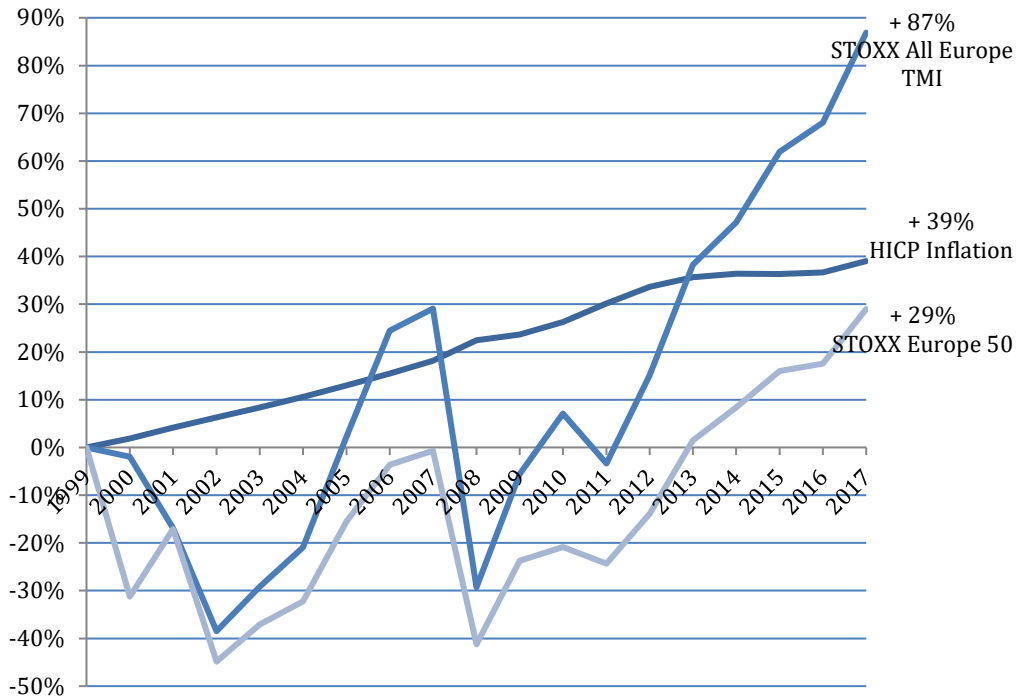
²⁸ As measured by the MSCI All Country World Index (ACWI) Gross Returns denominated in €.

²⁹ As measured by the MSCI USA Gross Returns Index, calculated in €.

³⁰ As measured by the MSCI Europe Gross Returns Index, denominated in €



Graph EX1. Cumulative performance of wide European equity index vs narrow index

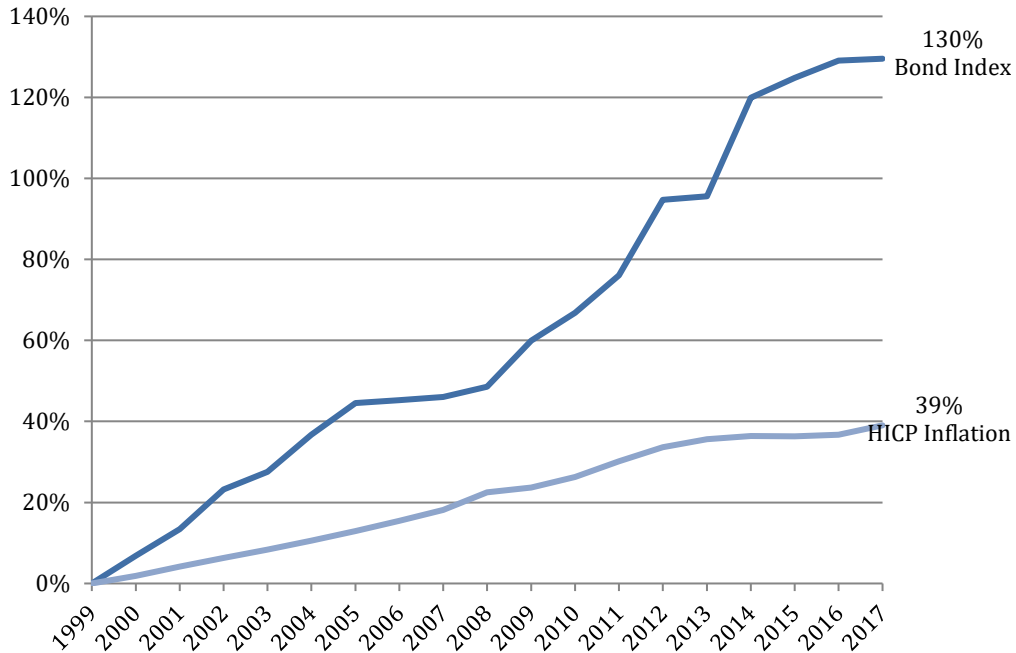


* We used the MSCI Europe GR index as a proxy for the 2000 and 2001 performances because we could not find those years for the STOXX All Europe Total Market index (these two indices are broad ones).

Bond markets enjoyed an exceptional phase and have performed extremely well thanks to the continuous decline of interest rates over the last 18 years: +130 % on a nominal basis, and +65% in real terms (inflation deducted).



Graph EX2. Cumulated Performance of European Bond Index



Sources: Barclays Pan-European Total Returns & Eurostat HICP Europe 28 Monthly

Overall, a direct balanced (50% in European equities / 50% in European bonds³¹) investment from a European saver in capital markets at the eve of the century³², would have returned a hefty +130% in nominal terms (gross of fees and taxes) and +60% in real terms, which means an annual average real return of +2.64% (+4.71% annual nominal return).

Most pension products recently improved but underperformed

Our research findings show that most long-term and pension savings products did not, on average, return anything close to those of capital markets, and in too many cases even destroying real value for European pension savers (i.e. provided a negative return after inflation). The returns, however, have improved in recent years, thanks to a long period of bullish capital markets from 2011 onwards, both for bonds and for equities. Of course, the capital market returns mentioned above are not taking any fees and commissions into account. Indeed, the attribution of performance shows that the level of fees and

³¹ Indices used are Stoxx All Europe Total Market (MSCI Europe for first 2 years) for equities and Barclays Pan European Aggregate for bonds.

³² Rebalanced every year.



commissions has been the main factor explaining long-term and pension savings' returns in Europe.

Pension returns drivers

Inflation has declined in recent years in a majority of countries, thus reducing the gap between nominal and real performance. The net real returns across countries are driven by:

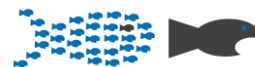
- **the asset allocation** of pension products,
- **the performance of capital markets** into which pension products are invested,
- **the asset managers' skills** in terms of picking securities and market timing,
- **the fees and commissions** charged by asset managers and other financial intermediaries,
- and ultimately **by inflation** and by the **tax burden**.

There are striking differences between **the asset allocation** of pension funds across countries and products. Mutual funds are the main component of investments in Belgium and in Germany. This is also the case for the United Kingdom, although to a lesser extent, where mutual funds tend to replace direct holdings of shares, whose weight fell from 57% to 20% between 2001 and 2014. Conversely, the preponderance of shares (especially from Danish companies) in Denmark to a large extent explains the good performance of pension products in this country. Equities also dominate in Sweden. Bonds dominate in France (life-insurance and public employee funds), Italy, Poland (employee pension funds), Spain, Romania and Latvia, with investments chiefly consisting of government bonds. Overall, the period 2000-2015 shows a decline of allocations to equities and an increase of public debt in pension funds allocation, a trend that could be said to disadvantage savers as it is likely to diminish return prospects with bond interest rates now at an all time low.

The decrease in government bond interest rates since 1999 has 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.

With regards to **asset managers' skills**, a majority of those underperform their capital market benchmarks over the long-term.

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.

You will find a more detailed analysis of return contributions in General Report section of this study.

European Pension returns outlook

The overall mid-term outlook for the adequacy of European pension savings in 2018 is worrying when one analyses it for each of these main return drivers:

- It is unlikely that the European bond markets will come any closer to the extraordinary returns of the last 18 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.
- 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.
- Fees and commissions do not show any significant downward trend, and the transparency of cost disclosures is not improving.³³
- Inflation – just like interest rates – seems to be picking up from all-time lows, and the consequences of the “non-conventional” monetary policies of central banks on possible market “bubbles” are still uncharted.
- Taxes on long-term and pension savings do not show any significant downward trend either.

Pension returns per country

The best performing national pension products over the last 18 years were the Dutch occupational pension funds (end of 1999 to end of 2017, +2.84% yearly average), even outperforming a direct balanced investment in European capital markets (+47%) at the time. Pension funds in the UK have shown positive returns, net of charges and inflation, over 17 years up to 2016 at an average rate of 3.10% (+68% cumulatively). The portfolio allocation of the British pension funds bears the heaviest weighting in mutual funds (34% in

³³ This has also been confirmed by the 2018 EC study on the distribution systems of retail investment products across the European Union: “some distributors do not display any or only partial information on applicable costs and charges”, p5.



2016), followed by securities issued by state authorities (24%, an increase from 2015), shares (16%) and corporate bonds (9%). Thus, this outstanding performance seems due to the high exposure to stock markets, either directly (share of equities) or indirectly through mutual funds.

However, on the full reporting period (2000-2017), Dutch pension funds remain the best performing with the highest average growth rate of 2.89% (+67%), followed by German pension insurances (2.21% annually and +48% cumulative) and Belgian occupational pension funds managed by IORPs (2.10% annually and +43% cumulative).

The average annual real returns of pension funds after charges and tax have slightly increased in Poland from 2016, reaching 4.27% over the period 2002-2017³⁴. The negative real returns in French unit-linked life insurance products have reached a negative real cumulative performance of -14% on 18 years (-0.82% annually). This makes them the worst performing retirement savings products. The pension products that have performed negatively as per our latest data are the Latvian state funded pensions reaching -2.63% and the Dutch life-insurance (-0.11%), but on a much shorter period (2003-2017), which is rather worrying considering that this data excludes the 2001-2003 dotcom bubble and starts with the 2003 market upturn.

The Romanian Pillar II products (occupational pension funds) have continued to increase in NAV, but at a lower rate, achieving a cumulative performance of +64% over 10 years (5.1% average). This is good considering that the launch of these funds coincided with the sub-prime crisis (2008), when most financial products lost between a third and a half of their cumulative performance, and in particular as it was followed by the sovereign debt crisis (2010).

Unit-linked insurance products seem to struggle to perform everywhere, mainly due to the high (most often undisclosed) overall level of multi-layered fees.

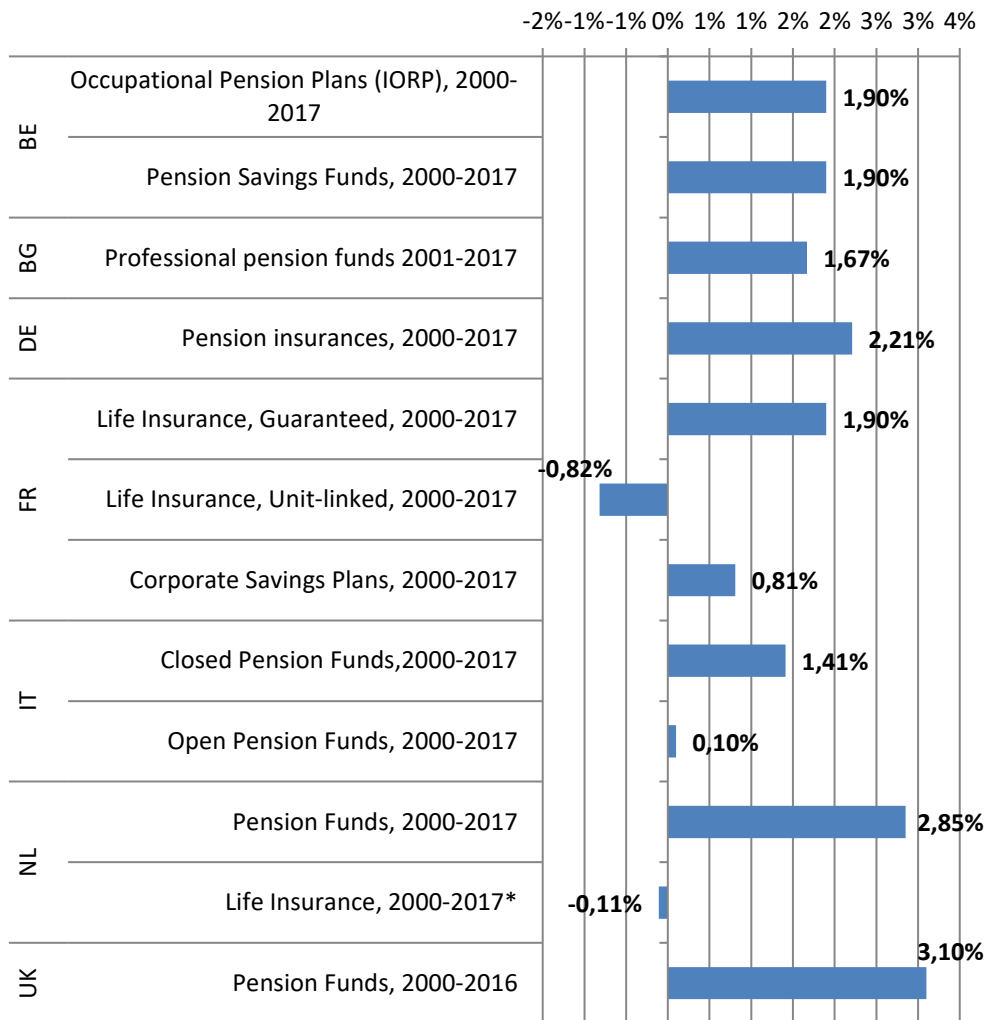
These poor or even negative real returns have led public authorities in some Member States to take measures in order to ensure transparency and cap the fees charged by certain pension providers (in countries such as the UK, Romania and Latvia). The issue is crucial, especially in countries like the United 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 16 European countries analysed.

³⁴ However, in both cases returns would most likely have been lower, but we have not been able to find return data for the earlier years, from 2000 to 2002, when equity markets declined strongly.



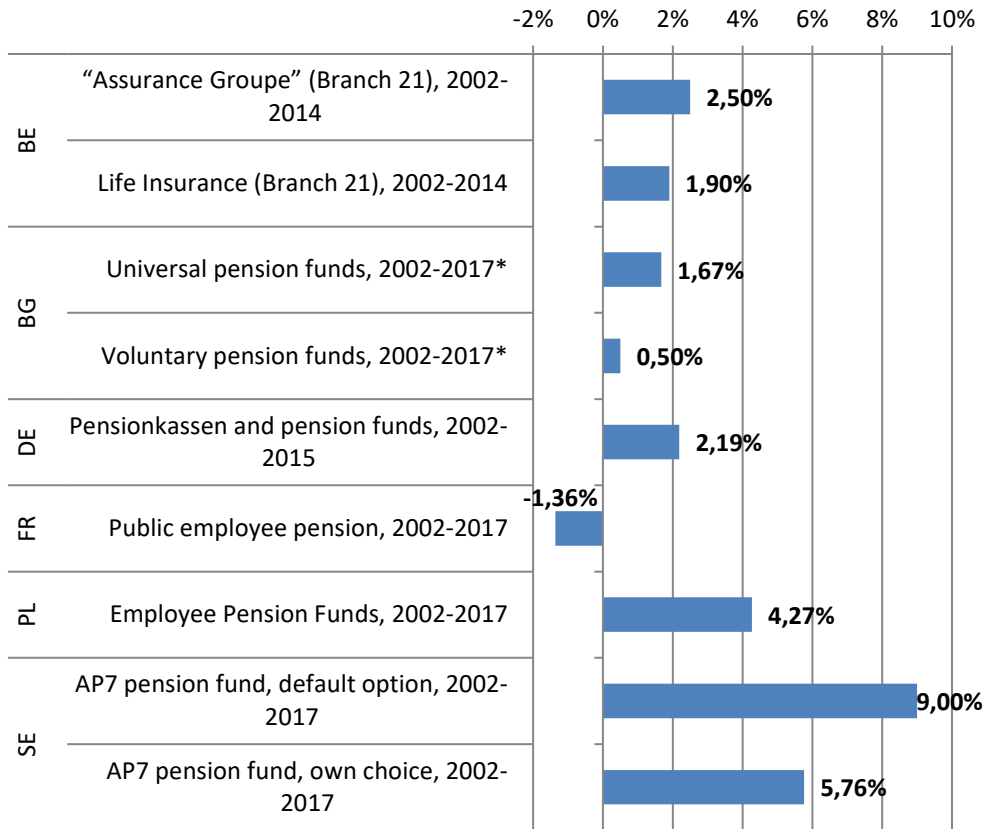
Graph EX3(A). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - FROM 2000/01



*Source: BETTER FINANCE Research; * Net of taxes, charges and inflation*



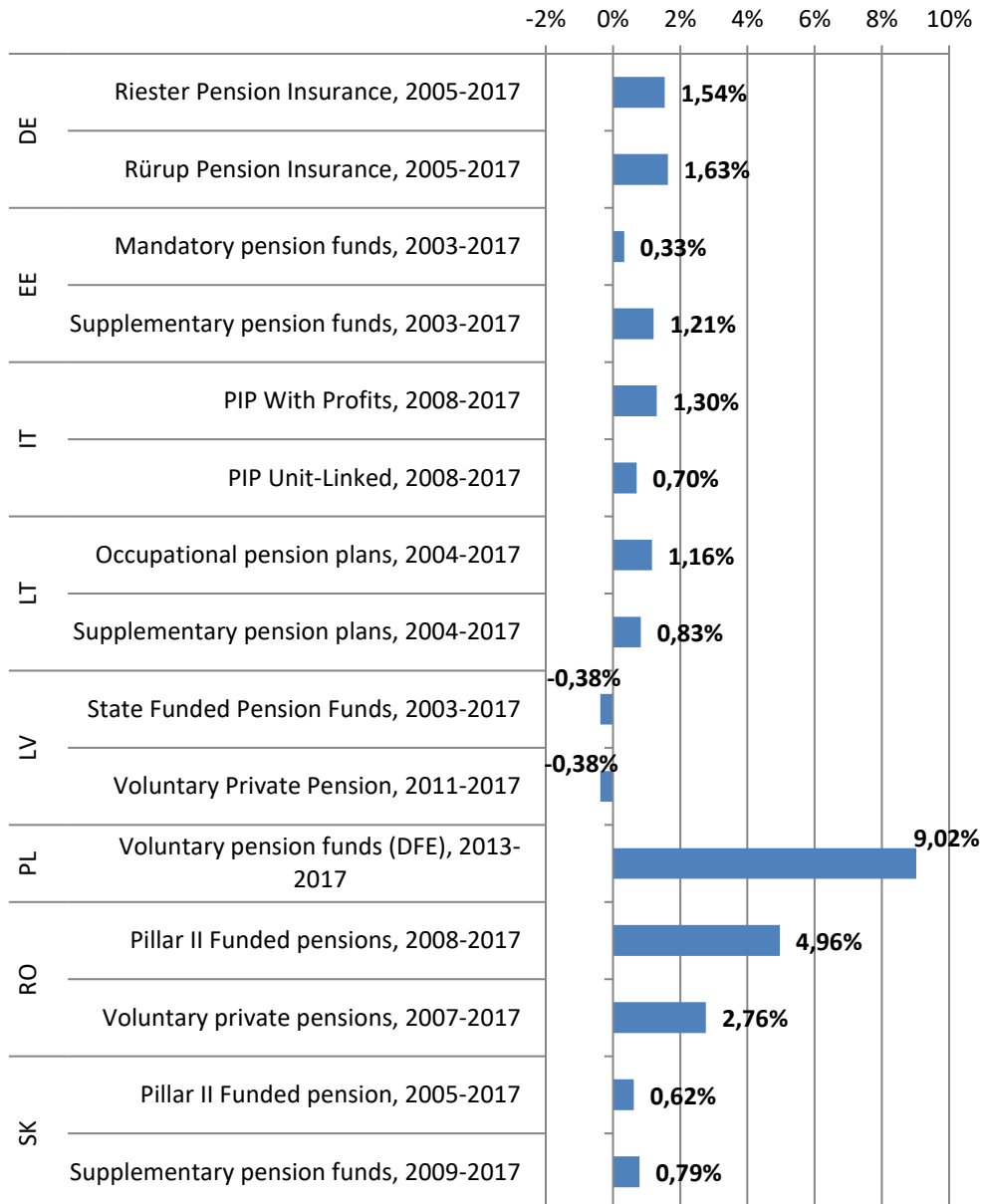
Graph EX3(B). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - FROM 2002



*Source: BETTER FINANCE Research; * Gross of fees*



Graph EX3(C). ANNUALISED REAL RETURNS OF PENSION SAVINGS - AFTER CHARGES & INFLATION - BEFORE TAX - LATER STARTING DATES



Source: BETTER FINANCE Research



Pension Savings: The Real Return

2018 Edition

General Report

Introduction

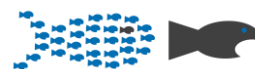
In June 2013, BETTER FINANCE published a research report entitled "[Private Pensions: The Real Return](#)" which evaluated the return of private pension products after charges, after inflation ("real" returns) and – where possible – after taxation. This first report furthermore identified the factors affecting these returns in Denmark, France and Spain, including an in-depth description of the pension savings vehicles available in these countries.

In September 2014, BETTER FINANCE published the 2014 edition of the "[Pension Savings: The Real Return](#)" research 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 edition of the BETTER FINANCE research report was aimed at updating the existing country cases and expanding the coverage to 15 European Union countries with the addition of Bulgaria, Estonia, Latvia, the Netherlands, Romania, Sweden and Slovakia. With the inclusion of these countries the research report reached a coverage of approximately 85% of the EU population.

The 2016, 2017 and 2018 editions are updates of the 15 existing country cases, with this year's edition also expanding the geographic scope to include Lithuania. 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 financial 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 on average, very low once charges, inflation and taxes have been taken into account. Measuring the impact of all these elements (inflation, charges and taxes) is especially important in a low interest rate environment because the real return for savers can be substantially negative. Since a comprehensive approach to provide this indispensable information to savers is not provided for the time being by Public Authorities or other independent bodies, this research report aims to improve transparency



on the real returns of long-term and pension savings in Europe. This is in line with the European Commission's current "Action" to improve the transparency of performance and fees in this area (as part of its Capital Markets Union – CMU - Action Plan). This CMU Action was proposed by BETTER FINANCE in 2015.

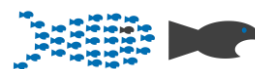
Country profiles

Table GR1 includes some key characteristics of the pension systems in the countries under review in this research report.

| Table GR1 - Country Profiles (at the end of 2017) | | | |
|--|-------|---|-------|
| Belgium | | | |
| Net equity of households in pension funds reserves (in € bn) | 100 | Net equity of households in pension funds reserves as % of GDP | 23% |
| Net equity of households in life insurance reserves (in € bn) | 201 | Net equity of households in life insurance reserves as % of GDP | 46% |
| Working population | 5 m | Old- Age dependency ratio, old (% of working-age population) | 28.9% |
| Population ageing trend | 21% | Projected old-age dependency ratio by 2030 | 39.8% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 66.1% |
| Bulgaria | | | |
| Net equity of households in pension funds reserves (in € bn) | 6.39 | Net equity of households in pension funds reserves as % of GDP | 13% |
| Net equity of households in life insurance reserves (in € bn) | 0.65 | Net equity of households in life insurance reserves as % of GDP | 1% |
| Working population | 3.2 m | Age dependency ratio, old (% of working-age population) | 32.0% |
| Population ageing trend | 20% | Projected old-age dependency ratio by 2030 | 44.0% |
| 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 | 65% |
| Net equity of households in life insurance reserves (in € bn) | 259 | Net equity of households in life insurance reserves as % of GDP | 90% |
| Working population | 3 m | Age dependency ratio, old (% of working-age population) | 30.8% |
| Population ageing trend | 16% | Projected old-age dependency ratio by 2030 | 39.2% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 80.2% |
| Estonia | | | |
| Net equity of households in pension funds reserves (in € bn) | 3.60 | Net equity of households in pension funds reserves as % of GDP | 16% |



| | | | |
|--|--------|---|-------|
| Net equity of households in life insurance reserves (in € bn) | 0.48 | Net equity of households in life insurance reserves as % of GDP | 2% |
| Working population | 0.7 m | Age dependency ratio, old (% of working-age population) | 30.3% |
| Population ageing trend | -5% | Projected old-age dependency ratio by 2030 | 41.4% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 57.4% |
| France | | | |
| Net equity of households in pension funds reserves (in € bn) | 205 | Net equity of households in pension funds reserves as % of GDP | 9% |
| Net equity of households in life insurance reserves (in € bn) | 1,724 | Net equity of households in life insurance reserves as % of GDP | 75% |
| Working population | 30.3 m | Age dependency ratio, old (% of working-age population) | 31.7% |
| Population ageing trend | 24% | Projected old-age dependency ratio by 2030 | 44.4% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 74.5% |
| 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) | 980 | Net equity of households in life insurance reserves as % of GDP | 30% |
| Working population | 43.4 m | Age dependency ratio, old (% of working-age population) | 32.8% |
| Population ageing trend | 23% | Projected old-age dependency ratio by 2030 | 47.1% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 50.5% |
| Italy | | | |
| Net equity of households in pension funds reserves (in € bn) | 249 | Net equity of households in pension funds reserves as % of GDP | 15% |
| Net equity of households in life insurance reserves (in € bn) | 714 | Net equity of households in life insurance reserves as % of GDP | 42% |
| Working population | 25.4 m | Age dependency ratio, old (% of working-age population) | 36.3% |
| Population ageing trend | 23.8% | Projected old-age dependency ratio by 2030 | 48.6% |
| 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 | 14% |
| Net equity of households in life insurance reserves (in € bn) | 0.39 | Net equity of households in life insurance reserves as % of GDP | 2% |
| Working population | 1 m | Age dependency ratio, old (% of working-age population) | 30.5% |



| | | | |
|--|--------|---|--------|
| Population ageing trend | 29% | Projected old-age dependency ratio by 2030 | 47.9% |
| 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% |
| Net equity of households in life insurance reserves (in € bn) | 0.84 | Net equity of households in life insurance reserves as % of GDP | 2% |
| Working population | 1.46 m | Age dependency ratio, old (% of working-age population) | 28.7% |
| Population ageing trend | 40% | Projected old-age dependency ratio by 2030 | 51.1% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 71.2% |
| Netherlands | | | |
| Net equity of households in pension funds reserves (in € bn) | 1,437 | Net equity of households in pension funds reserves as % of GDP | 195% |
| Net equity of households in life insurance reserves (in € bn) | 151 | Net equity of households in life insurance reserves as % of GDP | 21% |
| Working population | 9.1 m | Age dependency ratio, old (% of working-age population) | 29.0% |
| Population ageing trend | 28% | Projected old-age dependency ratio by 2030 | 42.5% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 100.6% |
| Poland | | | |
| Net equity of households in pension funds reserves (in € bn) | 48 | Net equity of households in pension funds reserves as % of GDP | 10% |
| Net equity of households in life insurance reserves (in € bn) | 19 | Net equity of households in life insurance reserves as % of GDP | 4% |
| Working population | 18.3 m | Age dependency ratio, old (% of working-age population) | 24.5% |
| Population ageing trend | 43% | Projected old-age dependency ratio by 2030 | 40.5% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 38.6% |
| Romania | | | |
| Net equity of households in pension funds reserves (in € bn) | 8.9 | Net equity of households in pension funds reserves as % of GDP | 4.80% |
| Net equity of households in life insurance reserves (in € bn) | 1.7 | Net equity of households in life insurance reserves as % of GDP | 0.90% |
| Working population | 8.8 m | Age dependency ratio, old (% of working-age population) | 26.7% |
| 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% |
| Working population | 2.8 m | Age dependency ratio, old (% of working-age population) | 21.7% |
| Population ageing trend | 44% | Projected old-age dependency ratio by 2030 | 35.9% |
| 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% |
| Working population | 22.9 m | Age dependency ratio, old (% of working-age population) | 29.5% |
| Population ageing trend | | Projected old-age dependency ratio by 2030 | 44.4% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 81.8% |
| Sweden | | | |
| Net equity of households in pension funds reserves (in € bn) | 405 | Net equity of households in pension funds reserves as % of GDP | 87% |
| Net equity of households in life insurance reserves (in € bn) | 112 | Net equity of households in life insurance reserves as % of GDP | 24% |
| Working population | 5.3 m | Age dependency ratio, old (% of working-age population) | 32.0% |
| Population ageing trend | 7.3% | Projected old-age dependency ratio by 2030 | 38.7% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 54.9% |
| United Kingdom | | | |
| Net equity of households in pension funds reserves (in € bn) | 3,471 | Net equity of households in pension funds reserves as % of GDP | 151% |
| Net equity of households in life insurance reserves (in € bn) | 743 | Net equity of households in life insurance reserves as % of GDP | 32% |
| Working population | 33.9 m | Age dependency ratio, old (% of working-age population) | 29.0% |
| Population ageing trend | 18% | Projected old-age dependency ratio by 2030 | 38.0% |
| Net pension replacement rates, Men, % of pre-retirement earnings, 2016 | | | 29% |

Source: OECD, Eurostat, World Bank, EC Ageing Report 2018

Out of the different factors that characterise a pension system, this report will focus on 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 of households* for life insurance and pension fund entitlements. The aim of this short analysis 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 in the short-term, providing a large portion of pensions at sufficient levels to ensure pension adequacy, and it is sustainable in the long-term, the need and incentive to save more in private pension products will be lower. At the same time, the level of actuarial provisions of pension funds and life insurances for future pension entitlements is very indicative of the reliance of the population on the public pension system.

Old-age dependency ratio

A useful indicator of the pressure on pension systems is the 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.³⁵ When the ratio is low (like in Slovakia with 22% or Poland with 24%, 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. The highest level among the countries in this report is found in Italy (36%), meaning that there is a lot of pressure on the Italian Pillar I. Bulgaria, Denmark, Estonia, France, Germany, Latvia and Sweden all maintain ratios of 30% or above.³⁶

Population ageing trend

Indicated as early as 2011, *“although each pension system differs from Member State to Member State, all of them face similar challenges in particular with regard to the phenomenon of an ageing population”*.³⁷ An ageing population means that the number of retirees increases relative to the number of workers. The effect is that the same pension

³⁵ Eurostat definition: <http://ec.europa.eu/eurostat/web/products-datasets/product?code=tsdde511>

³⁶ 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>.

³⁷ Werner Eichhorst, Maarten Gerard, Michael J. Kendzia, Christine Mayrhuber, Connie Nielsen, Gerhard Runstler, Thomas Url, ‘Pension Systems in the EU – Contingent Liabilities and Assets in the Public and Private Sector’ European Parliament Directorate General for Internal Policies (October 2011) P/A/ECON/ST/2010-26.



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. The European Commission's 2018 Ageing Report shows that in all countries in this Report the retired population (+65 years) will have increased by 2030 with respect to 2016. The countries where the forecasted situation is better are Estonia (+5%) and Sweden (+7.3%), whereas in Member States such as Poland, Lithuania or Slovakia there will be nearly 50% more retirees in 2030 compared to 2016. This also determined the *projected old-age dependency ratio*.

Projected old-age dependency ratio

As indicated above, the old-age dependency ratio determines how many workers contribute to the state pension of one current retiree. While at the time of writing, public pensions in the countries covered, on average, rely on three working-age individuals to provide for the pension entitlements of one pensioner, 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 pensions (Pillar I).

Net equity of households in pension fund 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) reserves of insurance and pension fund providers hold to pay future pension liabilities (entitlements), based on actuarial estimations.³⁸ 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 GR1) both in their nominal value (*in € billion*) and as a percentage of the GDP for 2017.

The net equity of households in pension fund reserves ranges from a minimum of 4.8% of GDP in Romania to a maximum of 195% in the Netherlands. With the exception of the Netherlands, United Kingdom (151%), Sweden (87%) and Denmark (65%), this ratio is inferior to 30% in all countries. This reflects the fact that only those four countries have been building pre-funded pension schemes for a long time, whereas other countries have widely relied on a publicly-managed PAYG scheme.

³⁸ 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.



Net equity of households in life insurance reserves

However, one should also take into account a second indicator to form a correct perception of savings accumulated for retirement: the ratio of the net equity of households in life insurance reserves and annuities as a percentage of GDP. Indeed, many pension arrangements are organised within the legal framework of life insurance contracts, both in Pillar II (occupational and company schemes) and Pillar III (individual private contracts) of the pension systems. For instance, the net equity of households in life insurance reserves grew to 90% of GDP in Denmark (from 87% in 2016) but decreased to 75% in France (from 77% in 2016). Moreover, in countries like France, life insurance is widely used by households in order to obtain additional resources at retirement age, even though most products offered by insurance companies are not specifically designed for retirement, i.e. subscribers can withdraw their savings at any moment even when they are not retired. It is not possible to know ex-ante which percentage of life insurance contracts will actually be used during the retirement period, but many polls confirm that this objective is a major motivation for subscribing to a life insurance contract. Less widespread in Eastern European countries, the weight of life insurance is equal or inferior to 5% of GDP in Bulgaria (1.30%), Poland (4%), Romania (the lowest at 0.9%), the Baltic States (between 1.50% and 2.10%).

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.³⁹ 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%). OECD reports the lower pre-retirement income replacement ratios for Romania (52%), Germany (50%) and Poland (39%).⁴⁰ Where this indicator is high, the incentive for the working population to save in supplementary pension products will be lower, but the pressure on the state system may become higher as public expenditure for Pillar I pensions will increase, based on the projected demographic figures.

Overall, the countries under review can be divided into three categories:

- In the first group of countries comprising Denmark, Sweden, the Netherlands, and the United Kingdom, the sum of pension and life insurance assets (and liabilities)

³⁹ Looking only at financial sources of pension income; property-related income is not in the scope of this study.

⁴⁰ OECD Data, Net pension replacement rates - <https://data.oecd.org/pension/net-pension-replacement-rates.htm>.



represents amounts superior to the annual GDP. In these countries, the issue of the real returns of private pensions is a crucial one for future retirees, especially for those who are members of defined contribution schemes.

- The situation is reversed in this group of countries where citizens have little pre-funded assets available for retirement. The sum of life insurance contracts and pension funds' assets represented about, or less than, 15% of GDP in Bulgaria, Estonia, Latvia, Poland, Romania and Slovakia. In these countries, citizens will predominantly depend on the quality and sustainability of arrangements within the framework of PAYG systems.
- The third group of countries is in an intermediate position. Pension funds and life insurance contracts represent 86% of GDP in France, 70% in Belgium, 57% in Germany, 55% in Italy and 30% in Spain. In these countries, citizens depend both on the sustainability of the PAYG systems and on the returns of private pension savings. Governments focus on strengthening the public pension system (in Italy for instance) and/or on raising savings levels in private pension products (as is the case for Germany). However, when private pension products deliver poor benefits, the legitimacy of such efforts is questioned in the public debate.

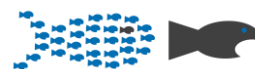
A limitation of the present report is that it does not take into account real estate as an asset for retirement. The proportion of households owning their residences varies greatly from one country to another. For example, it is especially low in Germany, where a majority of households rent their residences and where home loan and savings contracts have consequently been introduced as the most recent state-subsidised pension savings scheme. For the time being, returns on pension savings are all the more important since a majority of retirees cannot rely on their residential property to ensure a decent minimum standard of life.

However, residential property is not necessarily the best asset for retirement: indeed, it is an illiquid asset and it often does not fit the needs of the elderly in the absence of a broad use of reverse mortgages. The house might become too large or unsuitable in case of dependency. In that case, financial assets might be preferable, on the condition that they provide a good performance.

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.

Table GR2(A). Inflation in Eurozone Member States (in %)

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



Table GR2(B). 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% |
| AAVG | 4.0% | 1.6% | 2.6% | 9.6% | 1.5% | 2.0% |

Table GR2(C). EU 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% |
| Annual Average | | |
| 1.8% | | |

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



Over the last 18 years, from 2000 to 2017, 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 9.6%. 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 annual average rates for other Eastern European countries ranged in between 4.0% (Bulgaria) and 2.6% (Poland), with the latter being the country coming closest to the highest rate recorded in a Western European country: Spain, at 2.2%, which was also the European Union average. The countries with the lowest average inflation rate were Sweden and Germany at 1.5%, closely followed by France and Denmark (at 1.6% each).

While in the first nine years of the millennium no deflationary trends occurred, the year of 2009 saw the first negative inflation rates in the Baltic states: Estonia (-1.9%) and Latvia (-1.4%). The more recent years of 2014 and 2015 brought deflation to a large number of countries (7 countries in 2014 and 6 in 2015). 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. In 2017, inflation rates rose again for all countries except Germany and Spain (where deflation was reported) and Sweden, where inflation was constant at 1.7%, and with Belgium, Germany, Sweden and the United Kingdom measuring rates around 2%, and deflationary worries faded.

The low inflation rates of the recent years go hand in hand with a reduction in public sector deficits. See recent numbers in the following table:



Table GR3. Public sector deficit and debt (in %)

| | Public Sector Deficit as a % of GDP | | | Public Debt as a % of GDP | | |
|-------------|-------------------------------------|------|------|---------------------------|-------|-------|
| | 2015 | 2016 | 2017 | 2015 | 2016 | 2017 |
| Belgium | -2.5 | -2.6 | -1.0 | 106.0 | 105.9 | 103.1 |
| Bulgaria | -1.6 | 0.0 | 0.9 | 26.0 | 29.5 | 25.4 |
| Denmark | -1.3 | -0.9 | 1.0 | 39.5 | 37.8 | 36.4 |
| Estonia | 0.1 | 0.3 | -0.3 | 10.1 | 9.5 | 9.0 |
| France | -3.6 | -3.4 | -2.6 | 95.6 | 96.3 | 97.0 |
| Germany | 0.7 | 0.8 | 1.3 | 71.2 | 68.3 | 64.1 |
| Italy | -2.7 | -2.4 | -2.3 | 132.1 | 132.6 | 131.8 |
| Latvia | -1.3 | 0.0 | -0.5 | 36.5 | 40.5 | 40.1 |
| Lithuania | -0.2 | 0.3 | 0.5 | 42.6 | 40.1 | 39.7 |
| Netherlands | -2.1 | 0.4 | 1.1 | 64.5 | 61.8 | 56.7 |
| Poland | -2.6 | -2.4 | -1.7 | 50.2 | 53.8 | 50.6 |
| Romania | -0.8 | -3.0 | -2.9 | 37.3 | 37.2 | 35.0 |
| Slovakia | -2.7 | -1.7 | -1.0 | 52.5 | 51.9 | 50.9 |
| Spain | -5.1 | -4.5 | -3.1 | 99.8 | 99.4 | 98.3 |
| Sweden | 0.3 | 0.9 | 1.3 | 44.7 | 41.2 | 40.6 |
| UK | -4.3 | -3.0 | -1.9 | 88.0 | 85.4 | 87.7 |

Source: Eurostat: (1) Public Sector Deficit as a % of GDP -

<http://appsso.eurostat.ec.europa.eu/nui/show.do>; (2) Public Debt as a % GDP –

http://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=sdg_17_40.

In 2017, a surplus was observable in Bulgaria, Denmark, Germany, Lithuania, Netherlands and Sweden. Germany, in particular, recorded its fourth consecutive year with a surplus (+1.3%), while Estonia recorded a deficit (-0.3%) after recording a surplus for two years in a row. Spain remains the country with the highest public deficit at -3.1% of GDP, a breach of the Maastricht Treaty requirement⁴¹ (“-3% ratio of the planned or actual government deficit to gross domestic product at market prices”) for the third year in a row.

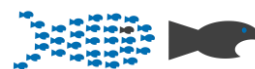
When it comes to the second criterion of the Maastricht Treaty concerning the theoretical ceiling of “60% for the ratio of government debt to gross domestic product at market prices”⁴², eleven countries had an outstanding level of debt below this threshold while seven countries, all of them from Western 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

⁴¹ 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.

⁴² Ibid.



from national regulators or representative/professional associations. Therefore, countries in the table below (GR4) indicated with an asterisk continue to report OECD Data, while the other 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:⁴³

| Table GR4. Pension funds' asset allocation, [in % of total assets] | | | | | | |
|--|---------|-------------------|-----------------|----------|-------|---------------------|
| Country | Year | Cash and deposits | Bills and bonds | Equities | Other | Data source |
| 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% | |
| Denmark* | 2005 | 1% | 57% | 29% | 14% | *OECD Data |
| | 2010 | 0% | 70% | 16% | 14% | |
| | 2015 | 0% | 63% | 18% | 19% | |
| | 2016 | 0% | 62% | 17% | 20% | |
| | 2017 | 1% | 59% | 19% | 20% | |
| Estonia | 2005 | 7% | 44% | 48% | 2% | BETTER FINANCE Data |
| | 2010 | 9% | 17% | 70% | 4% | |
| | 2015 | 20% | 22% | 58% | 0% | |
| | 2016 | 23% | 18% | 59% | 0% | |
| | 2017 | 4% | 46% | 49% | 0% | |
| 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% | |
| Italy | 2005[2] | 7% | 42% | 13% | 38% | COVIP Data |
| | 2010 | 6% | 58% | 12% | 24% | |
| | 2015 | 5% | 63% | 17% | 16% | |
| | 2016 | 7% | 58% | 18% | 17% | |
| | 2017* | 6% | 45% | 21% | 28% | |
| Latvia | 2015 | 19.3% | 45.7% | 34.6% | 0.5% | BETTER FINANCE Data |
| | 2016 | 12.7% | 47.2% | 39.4% | 0.7% | |
| | 2017 | 7.1% | 43.0% | 49.0% | 0.8% | |
| 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% | |

⁴³ We could not find any available data for France.



| | | | | | | |
|-----------|---------|-----|-----|-----|-----|------------------------|
| 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% | |
| Slovakia | 2005[1] | 51% | 11% | 5% | 0% | 67%[1] |
| | 2010 | 46% | 50% | 4% | 0% | BETTER FINANCE Data |
| | 2015 | 16% | 73% | 11% | 0% | |
| | 2016 | 11% | 75% | 15% | 0% | |
| | 2017 | 13% | 68% | 19% | 0% | |
| Spain* | 2005 | 5% | 64% | 21% | 10% | *OECD Data |
| | 2010 | 19% | 58% | 12% | 11% | |
| | 2015 | 17% | 62% | 11% | 9% | |
| | 2016 | 15% | 64% | 14% | 8% | |
| | 2017 | 11% | 47% | 13% | 28% | |
| 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 | |
| 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% | |
| Bulgaria | 2015 | 12% | 56% | 28% | 3% | BETTER FINANCE Data |
| | 2016 | 15% | 55% | 26% | 3% | |
| | 2017 | 7% | 61% | 29% | 3% | |
| Lithuania | 2015 | 12% | 40% | 47% | 1% | BETTER FINANCE Data |
| | 2016 | 9% | 46% | 45% | 1% | |
| | 2017 | 6% | 46% | 46% | 2% | |
| Romania | 2010 | 7% | 80% | 12% | 1% | BETTER FINANCE Data |
| | 2015 | 5% | 72% | 19% | 4% | |
| | 2016 | 7% | 70% | 19% | 4% | |
| | 2017 | 9% | 68% | 20% | 4% | |

Sources: OECD Pension Funds in Figures - 2016 and 2017 statistical tables on asset allocation (<http://www.oecd.org/pensions/private-pensions/pensionmarketsinfocus.htm>); BETTER FINANCE Pensions Report (2018);

[1] Data for a part of the asset allocation in 2015 is missing.

[2] 7.2% of the total were estimated with an equal weighting in asset classes

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 UCITS⁴⁴ or AIF⁴⁵). 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.

In Belgium, bills and bonds represented the main component of investments in 2017 (45%). This percentage has considerably evolved in just over a decade and more than doubled since 2005 (25%). All other asset categories, in return, saw their portion reduced with cash and deposits and other assets more than halved.

The specificity of Denmark is the predominance of corporate securities, both equity and bonds. Public bonds play a minor role because public deficits are small, as explained in the initial study. As of 2015, about 80% of Danish pension funds’ assets are allocated to bonds and equity whereas cash and deposits represent 1%. The overall asset allocation in 2017, and in particular the portion of bills and bonds and equity, resembled the one of the other Scandinavian country covered by this report: Sweden (about 65% in bills and bonds, about 18% in equities).

Estonian, Latvian, Slovakian and Spanish pension funds held relatively large portions of cash and deposits (around 20%) in the year of 2015. The situation has changed and the asset allocation in these countries dropped to around half of that in 2017. While the two Baltic states’ pension funds did also hold considerable parts in equities (Estonia: 31%, Latvia: 21%), Spanish pensions funds held less (10%) and Slovakian’s almost none in 2015 but evolved to a higher concentration in other securities.

In Germany, collective investment schemes play a predominant role in pension funds’ assets. An additional feature of German pension funds is the importance of loans in their assets with most of these loans attributed to employees in companies. The portion directed to equities continues to be the second lowest (6%) for the countries under review. One has to keep in mind that the OECD data aggregates Pensionskassen and the riskier but less distributed pension funds.

For Italy, the previous reports published data aggregated by OECD. However, this year’s edition uses the data published by the Supervisory Authority (Commissione di vigilanza sui fondi pensione – COVIP). According to the latter, in Italy, public bonds and bills represent almost half of the pension funds’ assets in 2015 and have had, at least since 2005, by far the highest weighting of the total. Households have traditionally been strong investors in Italian

⁴⁴ “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*.

⁴⁵ “AIFs” stand for Alternative Investment Funds, which are all the non-UCITS funds.



government bonds, but they have progressively diminished their exposure to these types of products and institutional investors, pension funds among others, have been compensating for their withdrawals.⁴⁶

In the Netherlands, assets are nearly equally divided between bonds and bills on the one hand and equities on the other. In 2017, slightly more bills and bonds are held (48%) while ten years ago equities were still a little below (46%).

In Poland, equity accounted for 82% of the PFE assets in 2015 with a huge increase in this asset class in recent years (from 32% in 2005 to 85% in 2017). Bills and bonds played the smallest role among the countries under review, and their decline ran counter to a trend that saw a rise in equities with cash and deposits and other assets being stable over time.

The United Kingdom has traditionally been the country where equities form a major part of the asset allocation of pension funds. Their share decreased from 47% to 20% between 2005 and 2015 and continued to fall to 13% in 2017, while other types of securities are massively included in pension savings products' portfolios (57%) which might partly still include equities, as well as a growing portion of bonds and bills.

For most countries, the period 2005-2017 shows a decrease in equities and an increase of investments in public debt in the asset allocation of pension funds, partially due to unrealised capital gains generated by the historical decrease of interest rates.⁴⁷

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 for inflation (**return net of inflation**).

⁴⁶ Zicchino, Lea; Alemanno, Andrea; "Italians are no Longer Bond People"; OEE Insights; No. 5; July 2017.

⁴⁷ 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 GR5. Historical Returns on Equity Markets, yearly average

| Country | Period | Nominal Return | Nominal return net of inflation [1] |
|-------------|-------------|----------------|-------------------------------------|
| Belgium | (2000-2017) | 3.5% | 1.46% |
| Bulgaria | (2005-2017) | -7.98% | -10.79% |
| Denmark | (2000-2017) | 9.95% | 8.18% |
| Estonia | (2002-2017) | 9.57% | 6.28% |
| Europe | (2001-2017) | 3.46% | 1.46% |
| France | (2000-2017) | 3.13% | 1.55% |
| Germany | (2000-2017) | 3.59% | 2.07% |
| Italy | (2000-2017) | 0.21% | -1.65% |
| Latvia | (2001-2017) | 11.53% | 6.38% |
| Lithuania | (2008-2017) | 6.72% | 3.77% |
| Netherlands | (2000-2017) | 3.95% | 2.05% |
| Poland | (2000-2017) | 4.62% | 1.95% |
| Romania | (2005-2017) | 3.39% | -0.65% |
| Slovakia | (2000-2017) | 7.82% | 4.23% |
| Spain | (2000-2017) | 3.56% | 1.34% |
| Sweden | (2000-2017) | 4.21% | 2.67% |
| UK | (2000-2017) | 2.33% | 0.29% |

Sources: MSCI Indices (Gross Returns) - <https://www.msci.com/end-of-day-data-search> (returns in €);

- Eurostat HICP (prc_hicp_aind);
- Bratislava Stock Exchange - <http://www.bsse.sk/bcpben/Trading/Indices/SAXIndex.aspx>;
- NASDAQ Nordic OMX Villnius, Tallinn, Riga –
 - http://www.nasdaqbaltic.com/market/?pg=charts&lang=en&idx_main%5B%5D=OMXV&add_index=OMXBBPI&add_equity=LT0000128696&period=other&start=18.12.2000&end=09.07.2018

[1] Annual average rate of change

Since not all equity indexes (MSCI) have data available for the entire 18-year period, it is difficult to perfectly compare the performances of the same stock market indicators between all the countries in the same time-frame.

However, most equity markets have regained their nominal levels from the beginning of the millennium and even recorded distinct positive returns. The only countries with a negative average nominal return over the full period was Italy, at -1.63% and Bulgaria, with a considerably low net annualized rate of return (-10.72%) In real terms, the best performing equity index is still the Danish market, with a +8.18% annual growth rate, followed by Latvia (+6.38%), Slovakia (+4.23%), and Estonia (+6.28%), but on 16 years. However, due to the strong inflation recorded at the beginning of the 21st century, Romania reports negative returns (-0.65% on average).



The other countries with positive nominal returns lagged behind by a large margin, and their averages ranged between 2.67% (for Sweden) and 0.29% (for the UK).

However, the equity indices used in Table GR5 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.

Only looking at the most recent year of 2017, European equity markets continued to progress taken as a whole. However, contrary to the long trend, Danish equities clearly slipped (-13.8%) in 2016 in real terms after a very strong year of 2015 (37.4%) but gained back and exceeded the cumulative level of 2015 (552% nominal and 418% real returns over 18 years).⁴⁸ In 2017 MSCI indices reported positive returns for all the countries in review. The strongest real performance was recorded for Danish equities in 2017, followed by Slovakian equities (+4.23%). The worst performing markets in real terms were still Romania, Bulgaria and Italy with negative returns ranging between -10.79% to -0.65%.

BETTER FINANCE tried to provide a harmonised base of comparison for all equity markets in focus over the same 18-year period (replacing missing MSCI data with the local indexes), but this was not possible.

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).

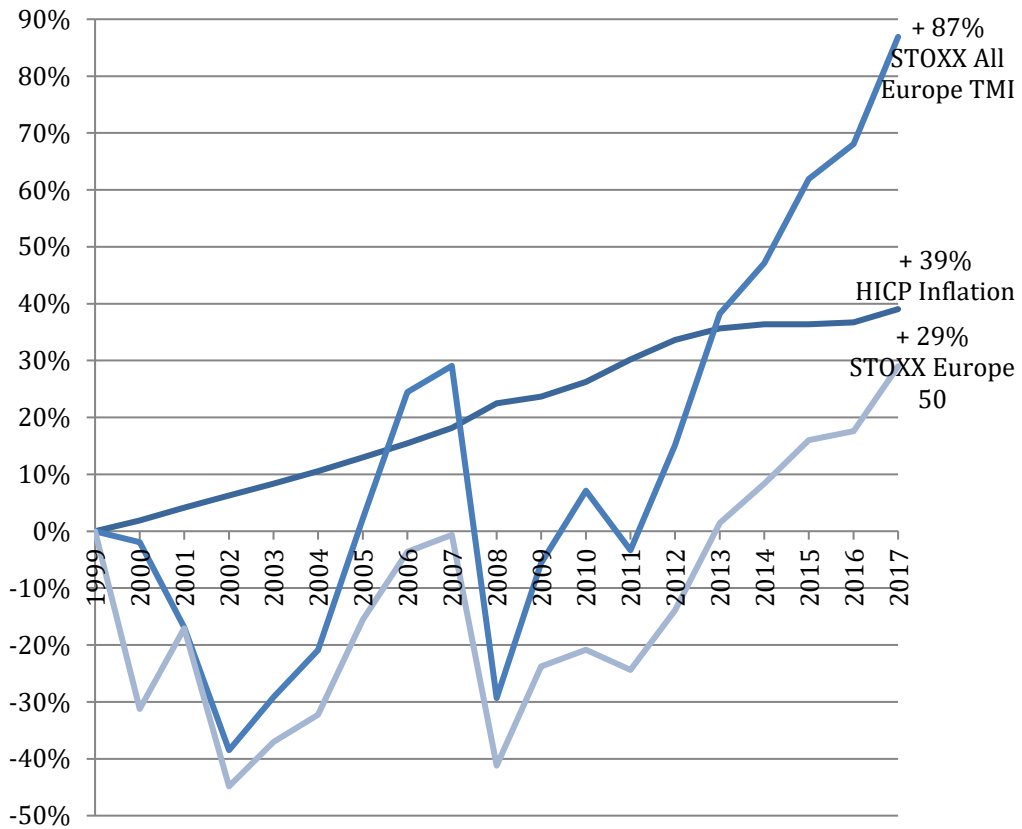
The following graph shows a comparison of the broad STOXX All Europe Total Market index which includes 1,466 European stocks (as of 23 June 2017)⁴⁹ and the much narrower Stoxx Europe 50.

⁴⁸ This means that the starting date of these calculations, 31/12/1999, represents the base value of 100%. Therefore, the profit in nominal terms would be 452% and in real terms only 318%.

⁴⁹ <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.



Graph GR1. Cumulative performance of wide European equity index (STOXX AETM) vs narrow index (STOXX 50)



Sources: BETTER FINANCE, Eurostat, STOXX

At European level, the difference at the end of our 18-year period is an astonishing 58% in favour of the broader stock market index in nominal terms. And whereas the performance of the narrow index (29% nominal) was heavily outmatched by inflation (39%) over the last 18 years, the broader European stock market recorded a positive real performance with a cumulated gain of 34%.

Government bond markets

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



The following table indicates the returns of thirteen major European bond markets for the period 2000-2017:

| Table GR6. Historical Returns on Bond Markets, yearly average | | | |
|---|-------------|----------------|-------------|
| Country | Year | Nominal Return | Real Return |
| Belgium | (2008-2017) | 1.61% | -0.21% |
| Denmark | (2008-2017) | 2.01% | 0.74% |
| Germany | (2008-2017) | 3.27% | 1.96% |
| Spain | (2008-2017) | 5.36% | 4.10% |
| France | (2008-2017) | 5.01% | 3.81% |
| Italy | (2008-2017) | 5.01% | 3.56% |
| Lithuania | (2008-2017) | 5.55% | 2.94% |
| Netherlands | (2008-2017) | 4.67% | 3.25% |
| Romania | (2008-2017) | 6.36% | 3.21% |
| Sweden | (2008-2017) | 3.90% | 2.55% |
| United Kingdom | (2008-2017) | 4.16% | 1.76% |
| EMU | (2008-2017) | 4.83% | 3.21% |

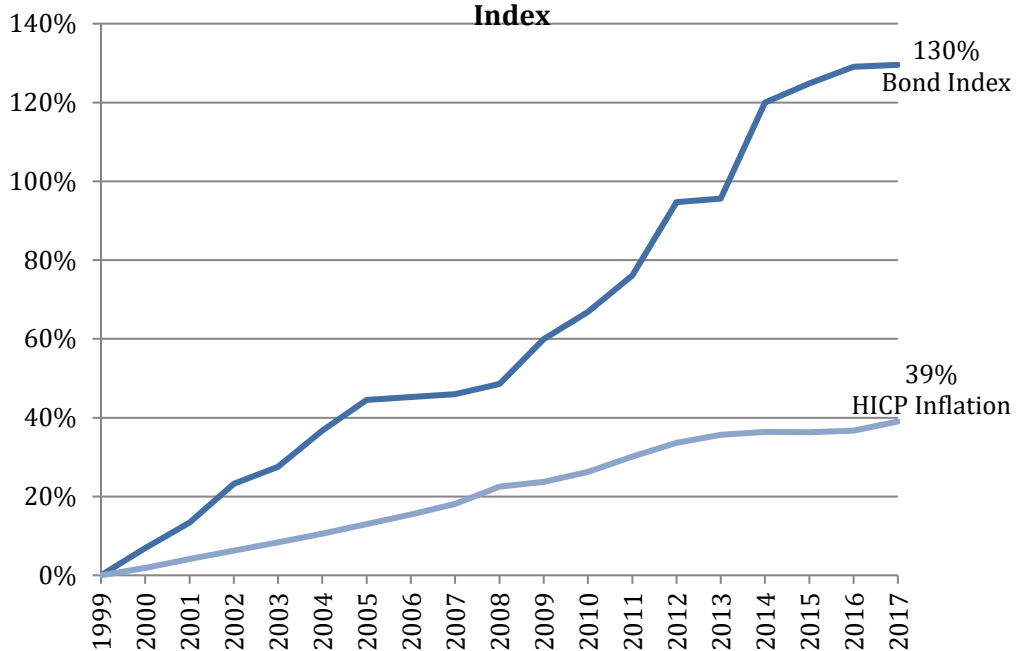
Sources: Morningstar, Eurostat HICP annual average

The European government bond markets all showed steady nominal average returns over the past 10 years, ranging between 6.36% (Romania) and 1.61% (Belgium). Real average returns ranged even closer together, with the highest in Spain at 4.10% and Belgium and Denmark at the bottom with -0.21% and 0.74% annually respectively. While equity markets usually perform better in the long run, the aggregate general bond market outperformed the corresponding equity markets from Table GR 5 in the period from 2000 to 2017.

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 GR2. Cumulated Performance of European Bond Index



Sources: Eurostat HICP (prc_HICP_aind), Bloomberg Barclays pan-European aggregate bond index

Over the last 18 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 2016-2017 this index almost stagnated, growing from 129.1% to 129.55% in nominal terms. Overall, the real cumulative growth of the broad bond index was of 65%.

Graph GR2 shows that this period has indeed been particularly favourable to bonds as an asset class as illustrated by the considerable outperformance versus European inflation over time.

Portfolio Manager / Advisor Competence

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



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

| Table GR7. Percentage of European Equity Funds Beating their Benchmarks | | | | | | |
|--|------------------------|---------------|--------------------|--------------------|---------------------|---------|
| Fund Category | Comparison Index | 1-year (2017) | 3-year (2015-2017) | 5-year (2013-2017) | 10-year (2008-2017) | 10y AVG |
| Percentages calculated in Euro | | | | | | |
| Europe Equity | S&P Europe 350 | 53 | 41 | 27 | 15 | |
| Eurozone Equity | S&P Eurozone BMI | 26 | 23 | 12 | 12 | |
| France Equity | S&P France BMI | 47 | 41 | 30 | 18 | |
| Germany Equity | S&P Germany BMI | 61 | 39 | 28 | 25 | 18 |
| Italy Equity | S&P Italy BMI | 72 | 60 | 58 | 29 | |
| Spain Equity | S&P Spain BMI | 32 | 46 | 28 | 21 | |
| Netherlands Equity | S&P Netherlands BMI | 25 | 22 | 7 | 6 | |
| Percentages calculated in local currencies | | | | | | |
| U.K. Equity | S&P United Kingdom BMI | 0 | 76 | 71 | 17 | |
| Denmark Equity | S&P Denmark BMI | 7 | 23 | 35 | 6 | 19 |
| Poland Equity | S&P Poland BMI | 62 | 66 | 47 | 27 | |
| Sweden Equity | S&P Sweden BMI | 51 | 54 | 46 | 24 | |

Sources: S&P Dow Jones Indices LLC, Morningstar; BETTER FINANCE own Computations - SPIVA Europe Scoreboard, Year-End 2017, Report 1, p.4

The latest findings for 2017 once again reveal that a large majority of funds do not outperform their respective benchmark, with Italy being the only exception. For funds investing in European equities, only 15% were able to outperform their benchmark, the S&P Europe 350. The worst results on a country basis were recorded in the Netherlands and in Denmark, where only 6% (for both) of the equity funds delivered a cumulative profit over 10 years above that of their benchmark. Germany and the UK, where only 25% and 17% respectively outperformed the respective country index. Funds investing in the Nordic countries compared better. While 51% of funds investing in Swedish equity in 2017 beat their benchmark, almost no funds investing in Danish equities outperformed their respective country index (6%).



The best performing equity funds market over the longer-term was in Italy, where almost a third of the equity funds have outperformed their benchmark.

For retirement savings products, consistent positive long-term returns are of particular importance. The SPIVA Europe Scorecard discloses outperformance over a ten-year period as the longest time horizon. The performance of funds in comparison to their benchmarks tends to worsen over the long run. Over 10 years, only 15% of the funds investing in equities in Europe outperform their benchmark and almost none of those investing in Dutch equities (3%). The SPIVA Scorecard furthermore reveals that active portfolio management did also largely underperform in less efficient markets⁵⁰. 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 June 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.⁵¹

For a longer time horizon and especially in the case of retirement savings, a recent study⁵² 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.

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

⁵⁰ S&P Dow Jones Indices (2017): SPIVA® Europe Scorecard, Year-End 2016, April 2017.

⁵¹ 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

⁵² 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.



charges on their pension product. Generally speaking, charges are heavier on personal pension products than on occupational pension funds, as employers are in better position to negotiate with competing providers than individuals are.

To tackle this complexity, some pension providers - for example, some auto-enrolment schemes in the United Kingdom – set up fixed costs per member, but this penalises low paid workers. 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 2015⁵³. 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.

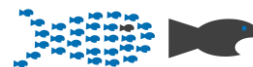
While not necessarily as advanced as in the United Kingdom, the introduction of transparent, limited and comparable charges is the subject of debates in several of the investigated countries.

Taxation

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 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

⁵³ <https://www.legislation.gov.uk/ukpga/2015/8/contents/enacted>



benefits are taxed from personal income taxation”⁵⁴, 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 Sweden 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.

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 are based on the most favourable taxation case and assume that the saver withdraws the maximum lump sum possible.

Savings products used as retirement preparation, 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:

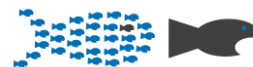
Table GR8. Overview of Main Taxation Rules Applied in the Country Reports

| | |
|-----------------|--|
| Belgium | <ul style="list-style-type: none"> • EET regime - only withdrawals are taxed; <ul style="list-style-type: none"> - Contributions are tax deductible up to prescribed limits; - Employees pay generally 2% solidarity tax and 3.55% INAMI tax on benefits; - Pillar II: Taxation in pay-out phase depending on origin of contribution, local taxes to be added; - Pillar III: Taxation in pay-out phase at the age of 60, local taxes to be added. |
| Bulgaria | <ul style="list-style-type: none"> • EEE regime; <ul style="list-style-type: none"> - Annual contributions of up to 10% of annual taxable income is tax free; |
| Denmark | <ul style="list-style-type: none"> • TTT regime (combination of ETT and TTE); <ul style="list-style-type: none"> - Annuities, periodic instalments, and lump-sum pensions under the form of kapitalpension are income tax deferred and follow an ETT regime; - Lump-sum pensions under the form of alderopsparing are taxed TTE; |
| Estonia | <ul style="list-style-type: none"> • EET regime for taxation: |

⁵⁴ OECD definition: <https://stats.oecd.org/glossary/detail.asp?ID=5225>



| | |
|----------------|--|
| | <ul style="list-style-type: none">- Contributions paid towards the pension schemes are tax-exempt.- Returns achieved by respective pension funds are tax-exempt. Benefits paid out during the retirement are subject to the income tax taxation. |
| France | <ul style="list-style-type: none">• EET regime;<ul style="list-style-type: none">- PERP, Prefon, Corem, CRH contributions are income tax deductible;- 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;- social levies of employers' contributions to corporate savings plans (PEE and PERCO) and defined contribution plans ("Article 83") increased from 8% to 20%.- the minimum tax rate on life insurance income is now 23%- pay-outs are taxed in the retirement phase (sometimes with tax reductions). |
| Germany | <ul style="list-style-type: none">• EET regime, taxation divides retirement savings into three groups:<ul style="list-style-type: none">- 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.- 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- Occupational pensions and the Riester pension: deferred taxation; contributions up to a deduction cap are exempted from taxation and generally subject to tax in its entirety during the pay-out phase. |
| Italy | <ul style="list-style-type: none">• ETT regime, contributions are tax deductible up to prescribed limits;<ul style="list-style-type: none">- Accruals are taxed at 20% (12.5% on income derived from public bonds) in the capital accumulation phase;- Taxation in the pay-out phase varies from 9-15%. |
| Latvia | <ul style="list-style-type: none">• EET regime;<ul style="list-style-type: none">- 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.- 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;**
 - 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);
 - benefits are taxed with a reduced flat-rate income tax (10%)

Romania

- **EET regime** applies for both mandatory and voluntary pensions;
 - 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.
 - 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

- **EEE regime**, funded pensions are usually not taxed;
- 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;
 - 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
 - Investment return is subject to tax rate on standard earnings at 15%;
 - 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.



UK

- 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

Conclusion

The objective of this research report is an evaluation of the real return of private pensions in the 16 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. 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 as presented in each individual country case.

Table GR9. Yearly Real Returns of Private Pension Products

| | |
|----------|--|
| Belgium | Occupational Pension Plans (IORP [1]), 2000-2017: +1.90% "Assurance Groupe" (Branch 21), 2002-2014: + 2.50% Pension Savings Funds, 2000-2017: +1.90% Life Insurance (Branch 21), 2002-2014: +1.90% Life Insurance (Branch 23), 2005-2014: +1.60% |
| Bulgaria | Universal Pension Funds*, 2002-2017: +1.67% Professional pension funds*, 2001-2017: +1.70% Voluntary Pension Funds*, 2004-2017: +0.50% |
| Denmark | N/A [1] |
| Estonia | Mandatory Pension Funds, 2003-2017: +0.33% Supplementary Pension Funds, 2003-2017: +1.21% |
| France | Life Insurance, Capital guaranteed, 2000-2017: +1.90% Life Insurance, Unit-linked, 2000-2017: -0.82% |



| | |
|-----------------|---|
| | Corporate savings plans, 2000-2017: +0.81% |
| | Public Employee Pension, 2002-2017: -1.36% |
| Germany | Pensionskassen and Pension Funds, 2002-2015: +2.19% |
| | Riester Pension Insurance, 2005-2017: +1.54% |
| | Rürup Pension Insurance, 2005-2017: +1.63% |
| Italy | Closed Pension Funds, 2000-2017: +1.41% |
| | Open Pension Funds, 2000-2017: 0.10% |
| | PIP with Profits, 2008-2017: +1.30% |
| | PIP Unit-Linked, 2008-2017: +0.70% |
| Latvia | State Funded Pension Funds, 2003-2017: -0.38% |
| | Voluntary Private Pension, 2011-2017: +1.87% |
| Lithuania | Occupational pensions (2004-2017): +1.16% |
| | Supplementary pensions (2004-2017): +0.83% |
| Poland | Employee Pension Funds, 2002-2017: +4.27% |
| | Voluntary Penion Funds, 2013-2017: +9.02% |
| Romania | Pillar II Funded Pensions, 2008-2017: +4.96% |
| | Voluntary Pension Funds, 2007-2017: +2.76% |
| Slovakia | Pillar II Pension Funds, 2005-2017: +0.62% |
| | Supplementary Pension Funds, 2009-2017: +0.79% |
| Spain | Pension funds (weighted average), 2000-2017: +0.05% |
| Sweden | AP7 Occupational pension fund, default option 2000-2017: +9.00% |
| | Occupational pension funds, own choice: 2000-2017: +5.70% |
| The Netherlands | Pension Funds, 2000 - 2017: +2.85% |
| | Life Insurance**, 2000 - 2017: -0.11% |
| United Kingdom | Pension Funds, 2000-2016: +3.10% |

*Gross of fees; ** Net of inflation, charges and tax

Source: Own Research, BETTER FINANCE Research

Occupational pension funds as per the definition and scope of the EU "Institutions for Occupational Retirement Provision Directive" (IORP).

[1] 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.

This update of the annual research by BETTER FINANCE highlights an improvement of the real returns of pension savings over the period 2000-2017 as compared to 2002-2011, in the context of upwards equity markets and declining inflation rates. We also tried to extend calculations to the longer period of time that we are considering, from 2000 to 2017, where data were available. Over the long run, real returns were on average quite low and below those of capital markets (equities and bonds).

In France, retirement provision through the widely used life-insurance showed positive returns for guaranteed contracts and negative returns for unit-linked ones. The corporate (occupational) pension plans were the best performing of all voluntary pension schemes in France, returning an average annual real growth rate of 0.81% over the long-term. Other



types of occupational or personal pension products (for self-employed, agricultural sector), also had a modest profit, but on a very short period according to latest data (2011-2017).

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 2017 GDP reached 106%, which is modest compared to the Netherlands or Denmark, but more than twice higher than the average in the 16 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 to improve transparency and to limit the fees charged by pension providers.

Like in Italy, demographic trends in Germany (by 2030 the retired population – aged 65 or above – will be 23% higher compared to the total population) are very unfavourable and the Government ran several reforms to promote private pension savings, with the latest reforms aimed mainly at occupational provision but also impacting the continuously criticised Riester regime through higher allowances.

In Spain, the promotion of occupational and personal pension schemes has only recently been established. Personal pension provisions and pension funds are taxed according to the beneficial EET formula; however, pension disclosures to individuals are broadly inadequate. The 18-year period provides around zero returns in real terms for pension funds.

Only a small minority of Poles participate in employee pension schemes and personal pension products because they have only recently been set up. Those who participated in employees' pension funds benefitted from a very substantial annual real rate of return of 4.27%. However, the disclosure policy of pension providers is far from being satisfactory, especially as there is no guarantee: a market downturn would severely impact the wealth of pension fund participants, a risk that few of them may be aware of.



Pension funds in the Netherlands were among the better performers at 2.89% over the long 18-year period, while insurance companies lost -0.07% in real terms over the same period, having picked up since the last reporting period and trending to positive real returns.

The best results for funded (occupational) pension schemes were recorded in Romania with a strong real return of 5.1% before taxation, but over a 10-year period only. Albeit performing only half as strong as the funded ones, voluntary pensions did also clearly perform positively (2.8%) over 10 years.

Funded pensions in Slovakia lost in real terms (-0.2%) up to 2016 but grew in NAV to reach positive figures by 2017 with 0.62% on an annual basis over a 13-year period, while supplementary pensions performed somewhat more positive and continued to grow at 0.79% over 9 years.

In Bulgaria, universal, occupational and professional pension funds all could record positive real returns between 0.5% and 1.7% supported by the very favourable EEE formula.

In the Baltic States, supplementary pensions could register positive returns (Estonia 1.21%, Lithuania 0.83% and Latvia 1.87%) before taxation, while funded pensions were close to zero in Estonia, performed slightly better in Lithuania and were negative in real terms in Latvia.



Recommendations

Unfortunately, most of the BETTER FINANCE's 2017 recommendations remain valid in 2018.

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

- 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 funds in the UCITS IV Directive and in the KIID Regulation of 2010⁵⁵): long term historical returns after inflation; after all charges to 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 funds⁵⁶ from the PRIIPs Regulation by a minimum of three years as the elimination of the requirement for the disclosure of past performance of the PRIIPs and their chosen benchmarks in favour of ‘four future performance scenarios’ without any benchmarks, and with non-standardized durations (10 year minimum in the UCITS KIID Regulation) leaves retail investors confused and in the dark as they will not know whether these products met their investment objectives or made any money in the past or not. They will also de facto no longer be able to compare the performances and fees of similar products.
- 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 PRIIPs⁵⁷ ' KID⁵⁸ 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 targeted review of the PRIIPs Regulation no later than this year.

⁵⁵ But abrogated on 8 March 2017 by the Commission delegated regulation (EU) 2017/653, supplementing Regulation (EU) No 1286/2014 on key information documents for PRIIPs

⁵⁶ 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.**

⁵⁷ PRIIPs: Packaged Retail and Insurance-based Investment Products

⁵⁸ KID: Key Information Document (the existing summary document for UCITS funds is the “KIID”: Key Investor Information Document).



- Eliminate future performance scenarios or at the very least make the PRIIPs KID compliant with MIFID II rules on performance disclosure, in particular by adding to the future performance “information” a prominent warning stating that such forecasts are not reliable indicators of future performance.
- 2. Address important omissions in the scope of the EC’s 2017 request for “the European Supervisory Authorities (ESAs) to issue recurrent reports on the cost and past performance of the main categories of retail investment, insurance and pension products”⁵⁹.** It seems that insurance-based occupational pension products are not included. It would be also important that Defined Contribution (DC) non-insurance-based Occupational Pension Schemes (“IORPs”) be included in the scope from the start. As it stands, the Commission’s request seems to exclude all occupational pension products, leaving plenty – if not most - long-term savers in the dark.
- 3. After the vote of the ECON Committee report⁶⁰ on the Pan-European Personal Pension Plan (PEPP) proposal, the co-legislators entering now (September 2018) the crucial trialogue phase of the negotiations should make sure to, at least, protect the long-term purchasing power of the life-time savings of EU citizens in the default investment option:**
- With a default option that is really simple (enough to be subscribed without advice and related fees), low cost and really safe;
 - With a “capital protection” that really protects EU savers’ money. Therefore, 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 will have on the real net value of the “protected” capital over time. If adopted without these conditions, the

⁵⁹ Since early 2015, BETTER FINANCE has been calling on the European Commission (EC) to address the lack of information on the past performance and costs of the financial products (please see our recommendation no. 2 on page 27 of our 2015 briefing paper: “An EU Capital Market Union for Growth, Jobs and Citizens”) and therefore we welcomed this Action being announced as part of the Capital Markets Union Action Plan as well as, 2 years later, in October 2017 the related EC’s request to the ESAs.

⁶⁰ Please see the Recital 39 and Article 2.21 in the ECON Committee report <http://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&mode=XML&reference=A8-2018-0278&language=EN> as well as BETTER FINANCE’s press release <http://betterfinance.eu/media/press-releases/press-release-details/article/econ-meps-adopt-a-final-report-on-a-basic-pepp-that-will-hurt-pension-savers/>



so-called “capital protection will very seriously mislead consumers and make the PEPP’s default option (called in the ECON report a “basic PEPP”) not recommendable.

- With a clear, simple and standardised life-cycle “de-risking” approach supervised at EU level⁶¹
- With the disclosure of the provider’s benchmark(s) and their past performance alongside the PEPP’s past performance since the inception of the product.
- Benefiting from an equivalent tax regime, at least as attractive as for existing national personal pension products, in order to allow a real European coverage.

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

- Seize the opportunity brought by ESAs Review for ESAs⁶² to strengthen their consumer protection, simplification and supervisory convergence mandates as well as to make full use of their new product intervention powers in order to ban any toxic investment product targeted at individual investors⁶³
- 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 the excessive number of UCITs on offer in the EU.

⁶¹ 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%.

⁶² Please BETTER FINANCE’s press release on the ECON report http://betterfinance.eu/fileadmin/user_upload/documents/Joint_Open_Letters/en/ESAs_reform_ECON_report_Joint_Statement.pdf as well as ECON studies on mis-selling of financial products [http://www.europarl.europa.eu/RegData/etudes/ATAG/2018/626061/IPOL_ATA\(2018\)626061_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/ATAG/2018/626061/IPOL_ATA(2018)626061_EN.pdf)

⁶³ ESAs are already empowered by MiFIR (applicable since 3/01/2018) and PRIIPs (1/01/2018) to ban certain financial products/activities when, *inter alia*, those products/activities cause or may potentially cause a significant concern regarding the protection of consumers or other users of financial services (articles 40(2) and 41(2) MiFIR and article 16 (2) PRIIPs KID). This should ensure better prevention of consumer detriment caused by toxic, overly risky products and business models. However, this power should be straightforward, and not be conditional on a specific mandate granted by sectoral legislation MiFIR, MiFID, IDD etc. which may restrict the ESAs’ leeway to take action where needed.



- 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).
5. **Better align the pricing of investment products with the interests of savers and end biased advice at the point of sale**⁶⁴ and guarantee competent advice on long-term investments, including equities and bonds. Address the lack of consistency as regards 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".
 6. **Improve the governance of collective schemes:** at least half of the schemes' supervisory bodies should be designated directly by the pension schemes' participants;
 7. **Establish EU-wide transparent, competitive and standardised retail annuities markets;** and 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);
 8. **Grant special treatment by prudential regulations to all long-term & pension liabilities** allowing for an adequate asset allocation (in particular the solvency II⁶⁵ requirements should be recalibrated as to eliminate the penalisation of equity holdings by insurers when covering long term and pension liabilities).
 9. **Taxation to incentivise Pan-European long-term retirement savings and investments over consumption and short-term savings;** 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;

⁶⁴ 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).

⁶⁵ Solvency II Directive (Directive 2009/138/EC [recast])



10. For the EC to follow up on their “Consumer Financial Services Action Plan”⁶⁶ released in 2017 and go beyond the non-binding “Key Principles for Comparison Tools” - in light of BETTER FINANCE’s findings⁶⁷ as well as the Commission’s study⁶⁸ 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 costs. It should be accessible via **independent web-based comparison tools for retail long term and pension savings products**. Moreover, data should be made accessible to independent non-profit online tools providers via modern standardized and documented API frameworks.
11. **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**.

⁶⁶ The EC’s Financial Services Action Plan - https://ec.europa.eu/info/publications/consumer-financial-services-action-plan_en

⁶⁷ Please also see BETTER FINANCE’s Robo-Advice Report - http://betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Robo_Advice_Report_2018_-_for_website.pdf

⁶⁸ The 2018 EC Study on retail investment products



Pension Savings: The Real Return

2018 Edition

Country Case: Belgium

Resumé

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 18 ans (2000-2018), 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 1,48% et 1,58% 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 amongst the three pillars and provides, on average, a replacement rate of 66% in 2016. Pillar II and Pillar III are both based on voluntary contributions. The number of individuals covered



by Pillar II and Pillar III pension schemes continues to grow rapidly. Respectively, 75% and 66% of the active population is covered by these pillars. In both Pillar II and Pillar III, pension schemes 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 an 18-year period (2000-2018), occupational pension funds managed by IORPs (Pillar II) and pension savings funds (Pillar III) had real annual average returns after charges and taxation of 1.48% and 1.58% 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 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 difficult to provide information on returns for individual life-insurance contracts subscribed in the framework of Pillar III.



Introduction

The Belgian pension system is divided into three pillars:

| Table BE1. Multi-pillar pension system in Belgium | | |
|---|---|--|
| PILLAR I | PILLAR II | PILLAR III |
| State Pension | Funded pension | Voluntary pension |
| | <i>The Supplementary Pension Law (the Vandebroucke Law) implemented in 2003</i> | |
| 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: 2,098,197 | IORP: 199 | Pension savings funds: 19 |
| Average old-age pension: €1,065 | AuM: €97.7 bn | AuM: €50.2 bn |
| Average income (gross): €3,345 | Participants: 3.7 million | Participants: 3.3 million |
| Average replacement ratio: 66% | Coverage ratio: 75% | Coverage ratio: 66% |

Source: Own composition

Pillar I

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 to the age of 67 by 2030. The 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 €1,525.60 if he/she lives within a household or € 1,220.86 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%.⁶⁹

Pillar II

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). Within Pillar II, company pension plans have traditionally dominated as opposed 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 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

⁶⁹ OECD, Pension at Glance 2017 Country Profiles – Belgium, <https://data.oecd.org/pension/net-pension-replacement-rates.htm>.

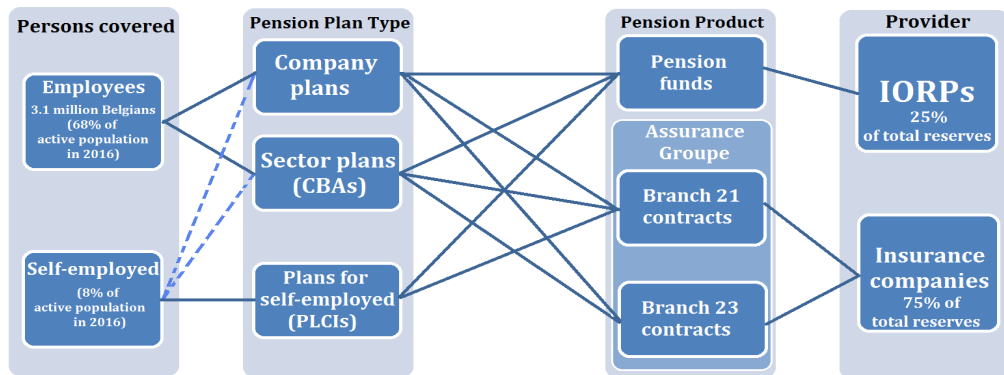


sum payments or annuities from supplementary pension could be paid from the age of 60. Conversely, employees who decide to postpone their effective retirement when having reached the legal pension age have the possibility to claim their supplementary pension or to continue to be affiliated to the pension scheme until their effective retirement.

Moreover, many occupational pension plans provided financial compensations to offset the income loss that employees may have when they end prematurely their career. As of January 1st, 2016, all these aforementioned 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 2017, approximately 3.7 million Belgians (75% of the active population⁷⁰) were covered by occupational pension plans:

- 3.1 million employees were covered either by their company or by their sector of activity;
- 367,586 self-employed individuals were covered by supplementary pension plans;
- 182,691 individuals were covered both by their company or by their sector of activity and by a supplementary pension plan dedicated to self-employed.⁷¹

BELGIAN PILLAR II STRUCTURE



⁷⁰ According to Statista, the active population of Belgian in 2016 was of 4,586,662 people – see Statista, ‘Active population in Belgium in 2016, by sector and gender’ (27 July 2018), available at: <https://www.statista.com/statistics/538618/active-population-in-belgium-by-sector-and-gender/>.

⁷¹ Source: DB2P’s website:

http://www.db2p.be/fr/resources/7432001d-a14d-4d1b-a76f-2816601e2c07/Cijfers%20persmap%20mijn%20aanvullend%20pensioen_%20FR.pdf?1531387379408

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.



Pillar III

Pillar III's purpose is to provide Belgians with individual private and voluntary pension products, which allow them to have tax reliefs on 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. Pillar III 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 Pillar III.⁷² Pillar III covered two thirds of the active population of Belgium in 2017,⁷³ with 34% of workers subscribed to a life insurance retirement savings product (1.7 million Belgians) and 32% being covered by pension savings funds (1.6 million Belgians), leaving 34% of the working population without a supplementary Pillar III savings coverage.⁷⁴

Pension Vehicles

Pillar II: Occupational pension plans

Pillar II 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:

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

In the following section devoted to occupational pension plans, available information reported in Tables BE2 to BE5 was 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

⁷² The lowering of the tax rate does not apply to long-term savings products.

⁷³ 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>.

⁷⁴ Considering that the average unemployment rate in 2017 was 7.16% - see Ibid.



pension products provider⁷⁵). 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).

Data for the whole year 2017 is missing as the bi-annual survey regarding 2017 figures will be published in 2019. Annual statistics for the whole year 2017 for occupational pension plans managed by IORPs and “Assurance Groupe” contracts will unfortunately be published only by the end of this year.

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 linked to other funds’ units (unit-linked).

In 2016, IORPs managed 199 occupational pension plans. The number of affiliates to IORPs increased to 1,980,200 in 2016.⁷⁶ This is mainly due to the counting of dormant affiliates that were not counting until now.

In 2016, affiliates to sector pension plans through IORPs still represented the largest part in the number of total affiliates to IORP plans (76%), whereas their reserves represented only 18% of the total (€5.3billion). The number of affiliates to sector pension plans managed by IORPs continued to increase from 1,120,157 in 2015 to 1,507,893 in 2016.

Company pension plans managed by IORPs represented 72% of total reserves (€19.4 billion) with 22% of affiliates. Three supplementary pension plans for self-employed individuals (€2 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 27%, the rest being managed by insurance companies through Branch 21 and Branch 23 contracts, described below.

⁷⁵ 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.

⁷⁶ Source: FSMA.

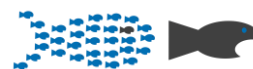


“Assurance Groupe” (Branch 21 and Branch 23 contracts)

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% in 2016. In case of a shortfall on the individual account when paying a benefit or a transfer of reserves, the employer must pay the difference. This kind of occupational plans is 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 2016, these contracts accumulated €2.4 billion in reserves, representing 2.5% of the total reserves managed within “Assurance Groupe” contracts (see Table BE1).

Table BE2. Total reserves in pillar II (€ billion)⁷⁷

| | 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 | 52.7 | 1.7 | 54.4 | 70.8 |
| 2013 | 18.0 | 56.0 | 1.9 | 57.9 | 75.9 |
| 2014 | 20.7 | 60.2 | 2.1 | 62.3 | 83.0 |
| 2015 | 21.9 | 63.9 | 2.1 | 66.0 | 87.9 |
| 2016 | 26.8 | 68.5 | 2.4 | 70.9 | 97.7 |

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 available⁷⁸.

Sector pension plans⁷⁹

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-

⁷⁷ Table 1 represents reserves managed only within the second pillar. Data does not include the insurance dedicated to managing directors that represented around €3.1 billion of assets under management in 2016.

⁷⁸ FSMA reports on sector pension and PLCI are published every two years. The next edition of these reports will be published in mid-2019.

⁷⁹ All data provided comes from plans for which information is available.



committee. In the joint committee/sub-committee, a sectorial organiser responsible for the pension commitment is appointed.

Sector pension plans represent 6% of the total reserves in Pillar II. They are mainly managed by IORPs. Reserves managed by IORPs amounted to €3.4 billion and represented around two thirds of their total reserves in 2015. This amount increased to reach €5.3 billion in 2016 which represents 19% of total reserves managed by IORPs within the second pillar. Sector pension plans managed by insurance companies through Branch 21 contracts are less numerous. In 2015, they represented €1.9 billion of reserves, being 3% of the total reserves managed through “Branch 21 contracts” within the second pillar.

| Table BE3. Total reserves in sector pension plans (€ billion) ⁸⁰ | | | |
|--|-------------|---|--------------|
| | 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 | na | na |

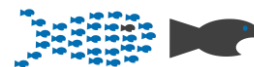
Source: FSMA

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.

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

⁸⁰ Data for 2006 and 2008 was not available. FSMA publishes a report on sector pension funds every two years.



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 funding of the PLCI in the case of inactivity and/or the payment of an annuity in case of income loss. Self-employed individuals can save up to 8.17% of their income, without exceeding a maximum annually indexed amount (€3,187.04 in 2018). These ceilings can be increased up to 9.40% and €3,666.85 when a social convention is subscribed.

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

| 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 |

Sources: FSMA, own calculations

Company pension plans

Company pension plans are prevalent within the Pillar II. 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 1, 2 and 3.



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 |

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 forms:
 - 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.

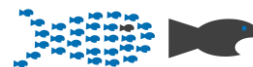
Belgians can benefit from a tax relief based on their contributions made to pension savings products or long-term savings products. At their retirement, individuals are free to choose how to liquidate the products: lump sum payment, periodic annuities or life annuity from invested benefits.

In 2017, 1.6 million Belgians saved through pension savings funds. The number of participants in these products is 20% higher than in 2012. When adding up pension savings insurance contracts and long-term savings products, 2 out of 3 Belgians in the active population are covered by pension plans within the third pillar.⁸¹

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

⁸¹ BeAma, Press Release, April 18, 2018.



products were available for subscription at end-2017. Pension savings funds hit a record high, with €232 million net sales over 2017 and €19.64 billion net assets under management at end-2017.

| 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 |

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;
- 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 2017 is unfortunately missing and will be published only by the end of 2018.

Assuralia also reports data on contributions and reserves managed through pension savings insurance and long-term savings products within Pillar III. In 2016, reserves managed within the framework of Pillar III represented 21.4% 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 BE6).

Table BE7. Contributions and reserves in individual life-insurance products within Pillar III in 2016 (€ billion)

| | Contributions | Reserves | Pillar III reserves in % of total individual life insurance reserves |
|--|---------------|-------------|--|
| Pension savings insurance (Branch 21 contracts) | 1.2 | 14.5 | 10.3% |
| Long-term savings products (Branch 21 and Branch 23 contracts combined) | 1.1 | 16.1 | 11.4% |
| Total | 2.3 | 30.6 | 20.7% |

Source: "Assuralia"

Charges

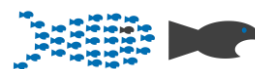
Pillar II: Occupational pension plans

Charges in IORPs

There is no general data or available information on IORP charges. The only available information is for sector pension funds managed by IORPs⁸²: operating expenses ranged from 0.01% to 1.02% of assets, with an average of 0.15% in 2015 (0.16% in 2013 and 0.17% in 2011).

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

⁸²Source: FSMA, Report on sector pensions plans, June 2017.



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”.

| | Administrative & management costs (% of reserves) | Contributions (% 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 |
| 2013 | 0.7 | 1.5 |
| 2014 | 0.7 | 1.6 |
| 2015 | 0.6 | 1.6 |
| 2016 | 0.6 | 1.6 |

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.⁸³

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 (KIIDs) must provide investors with information on all

⁸³ Source: FSMA, Report on sector pensions plans, June 2017.



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 2017:

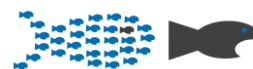
- Entry fees: 2.21% of initial investment;
- Management fees: 0.94% of total assets under management;
- Total Expenses Ratio represented on average 1.26% of total assets under management;
- No exit fees.

The following table summarises the Total Expenses Ratio (TER) of 19 available funds for subscription in the Belgian market from 2013 to 2016. The average TER slightly decreased due to the lowering in some fund's TER in 2017.

| Table BE9. Historical Total Expense Ratio from 2014 to 2017 (% of assets under management) | | | | |
|---|-------------|-------------|-------------|-------------|
| | 2014 | 2015 | 2016 | 2017 |
| Accent Pension Fund | 1.30 | 1.31 | 1.31 | 1.29 |
| Argenta Pensioenspaarfonds | 1.36 | 1.34 | 1.34 | 1.34 |
| Argenta Pensioenspaarfonds Defensive | 1.38 | 1.35 | 1.35 | 1.33 |
| Belfius Pension Fund High Equities Cap | 1.33 | 1.32 | 1.32 | 1.32 |
| Belfius Pension Fund Low Equities Cap | 1.16 | 1.60 | 1.16 | 1.16 |
| Belfius Pension Fund Balanced Plus | - | 1.63 | 1.61 | 1.61 |
| BNP Paribas B Pension Balanced | 1.29 | 1.25 | 1.25 | 1.24 |
| BNP Paribas B Pension Growth | 1.28 | 1.26 | 1.25 | 1.25 |
| BNP Paribas B Pension Stability F Cap | 1.28 | 1.25 | 1.25 | 1.24 |
| Hermes Pension funds | 1.08 | 1.07 | 1.07 | 1.06 |
| Interbeurs Hermes Pensioenfond | 1.03 | 1.03 | 1.03 | 1.03 |
| Metropolitan-Rentastro Growth | 1.28 | 1.26 | 1.25 | 1.24 |
| Pricos | 1.27 | 1.25 | 1.25 | 1.24 |
| Pricos Defensive | 1.25 | 1.25 | 1.24 | 1.24 |
| Record Top Pension Fund | 1.32 | 1.32 | 1.32 | 1.32 |
| Star Fund | 1.09 | 1.17 | 1.18 | 1.18 |
| Crelan pension funds Stability | - | 1.29 | 1.29 | 1.29 |
| Crelan pension funds Growth | - | 1.29 | 1.29 | 1.29 |
| Crelan pension funds Balanced | - | 1.29 | 1.29 | 1.29 |
| Total Expenses Ratio (simple average) | 1.25 | 1.29 | 1.27 | 1.26 |

Source: BETTER FINANCE research

On January 12, 2018, Record Top Pension merged with Star Fund. 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).⁸⁴ 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).

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 does not include fees charged on the underlying units (investment funds).⁸⁵

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 |

Sources: “Assuralia”, BETTER FINANCE calculations

⁸⁴ BeAma published a methodology guide on the SRI UCITs in 2013. <http://www.beama.be/fr/duurzame-icbs-fr/beama-isrd-methodologie/view>

⁸⁵ The reader can refer to the case analysis in the annex.



Taxation

Pillar II: Occupational pension plans

Regarding the Pillar II 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 11 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 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 annuities⁸⁶

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 must 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 Pillar III 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 pension savings products and with an additional limited ceiling on the maximum tax benefit, depending on the level of the saver's yearly earnings for long-term savings products.

⁸⁶ 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 (fund or life insurance contracts)

➤ Tax relief on contributions during the accumulation phase (“E” regime)

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 (€960 in 2018). Since 2012 and until 2018, a tax relief rate equal to 30% of the contributions was applied, regardless of the taxpayer’s income. It resulted in a maximum tax benefit of €288 per year;

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

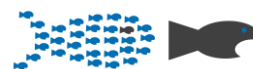
- the previous tax relief rate continues to be applied for any contribution less or equal to €960. Individuals still benefit from a 30% tax relief rate on their contributions.
- for any contribution above €960 and up to €1,230, a new tax relief rate equal to 25% is applied. This new tax relief rate is more advantageous for a saver, only if his /her contribution is higher than €1,153, as the tax benefit will be higher than €288 in this particular case. However, if a saver contributes less than €1,153, the tax benefit will be lower than €288. For example, if a saver contributes €1,000, it will result in a tax benefit of €250, which is less advantageous than if he/she invests a contribution of €960. If a saver invests the maximum contribution of €1,230, the new tax relief system will result in a maximum tax benefit of €307.50, which is €19,50 more compared to the traditional formula.

To benefit from the new tax relief system, the taxpayer must communicate his/her choice to the financial institution; otherwise, the lower ceiling for contribution (€960) will apply and any contribution above €960 will be refunded to taxpayer’s bank account.

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 | <ul style="list-style-type: none"> • 8% of the accumulated capital is levied (excluding participation to annual earnings); • The taxation is based on a theoretical return of 4.75%⁸⁷; • The saver can continue investing and enjoy 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 10 th birthday) | <ul style="list-style-type: none"> • 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 must stay at least 10 years in the fund and make at least five contributions. |
| <i>Sources: "Assuralia", Wikifin.be</i> | |

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 €2,310 in 2018. 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.

⁸⁷ 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 guaranteed return was lowered to 1.75% for both employee and employer contributions. Its level is now 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.⁸⁸

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

⁸⁸ 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 each year by FSMA (1.75% since 2016).

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 2016, among the 199 pension plans managed by an IORP, 84 had a promise of returns (DB plans), 28 were DC plans and 87 were hybrid plans (Cash Balance, DC + rate). While newly opened plans are always DC plans, a large part of assets are still managed in plans offering promises of returns.

PensioPlus,⁸⁹ the Belgium's occupational pension plans association, reported an average return of 5.99% in 2017. 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 2017.⁹⁰

⁸⁹ The Belgian Association of Pension Institutions (BAPI) changed its name in 2015 to PensioPlus

⁹⁰ 58 IORP participated in the annual PensioPlus' survey. They represented 17.618 billion euros under management (60% of the market share)



Table BE13. Returns of occupational pension plans managed by IORPs (%) (2000-2017)

| | 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 |
| 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 |

Table BE14. Annual average return of occupational pension plans managed by IORPs (%) (2000-2017)

| | |
|---|------------|
| 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 | 1.5 |
| <i>Sources: PensioPlus, BETTER FINANCE calculations</i> | |



Over an 18-year period (2000-2017), occupational pension plans managed by IORPs experienced negative nominal returns before charges three times: in 2001, 2002 and 2008. Over the period 2000-2017, the annual average return after charges, tax and inflation is positive (1.48%). PensioPlus reported the average asset allocation of IORP at end-2017, as follows: 38% in equities, 43% in Fixed Income securities, 6% in Real Estate, 10% in cash and 3% in other asset classes. The proportion of fixed income assets continued to decrease in 2017, while the proportion of equities in the total assets remained high when compared to other countries.

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 report⁹¹. 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 of 2015 and 2016.

Nevertheless, Assuralia provided information on “Assurance Groupe” contracts on its website⁹². At the end of 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. In addition, FSMA reported a return of 3.12% for sector pension funds managed through “Assurance Groupe” contracts in 2015.⁹³

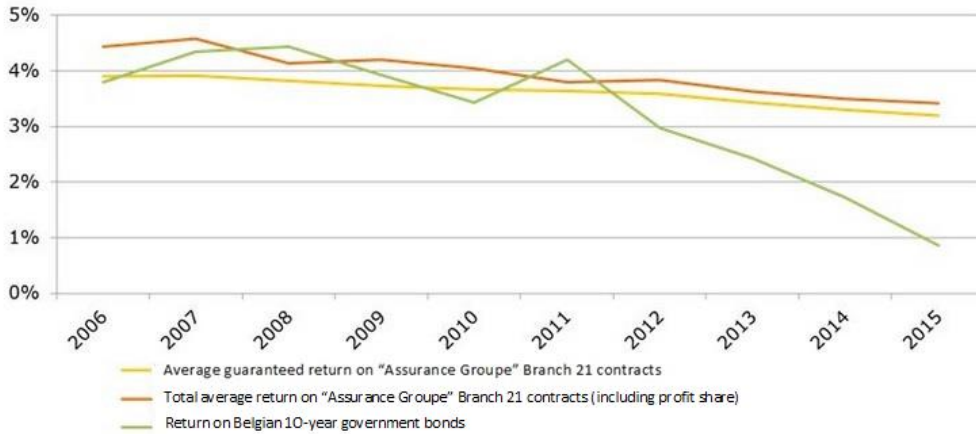
⁹¹ In November 2017, Assuralia published its annual report including Statistics for the whole year 2016 .

⁹² <http://assuralia.be/fr/infos-secteur/publications-secteur/775-l-assurance-de-groupe-un-tour-d-horizon-au-niveau-du-secteur>

⁹³ FSMA, Report on sector pension funds, June 2017



Graph BE1: 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 BE15. 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 BE16. 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 |

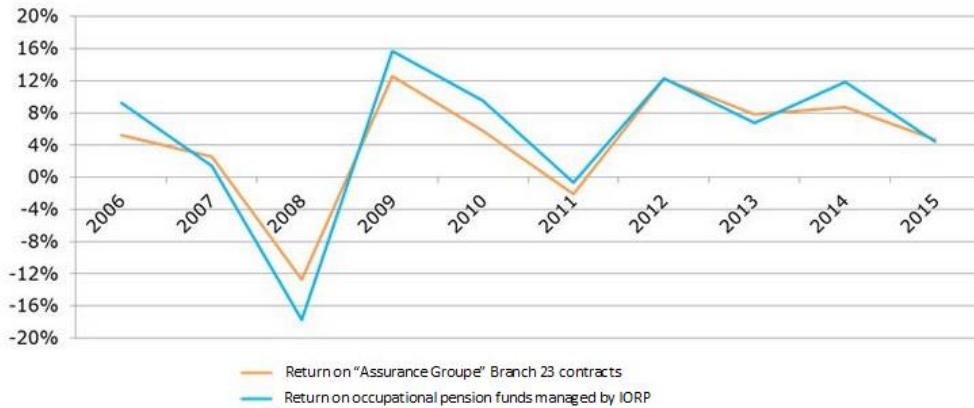
Source: “Assuralia”, own calculations

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 years⁹⁴. In addition, Assuralia provides some information on “Assurance Groupe” Branch 23 contracts on its website. 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 makes a claim for its pension rights, the employer has to pay the difference if the final payment is less than the amount including the minimum guaranteed return.

Graph BE2. Average return on “Assurance Groupe” Branch 23 contracts



Source: Assuralia

⁹⁴ See Annex: Case analysis of a Branch 23 “Assurance Groupe” occupational pension plan.



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 recorded on an annual basis at end-2017.

Table BE17: Annual average returns of pension savings funds

| Over 1 year | Over 3 years | Over 10 years | Over 25 years |
|--------------------|---------------------|----------------------|----------------------|
| 6.6 | 6.0 | 3.5 | 7.0 |

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 2017.

From 2013 to 2017, TER was expressed as a percentage of total assets under management that was collected and has been 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 BE18. 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 | 21.3 | 19.8 | 17.5 |
| 2005 | 18.7 | 17.2 | 14.1 |
| 2006 | 11.0 | 9.6 | 7.4 |
| 2007 | 3.8 | 2.5 | -0.6 |
| 2008 | -24.7 | -25.7 | -27.6 |
| 2009 | 19.6 | 18.2 | 17.8 |
| 2010 | 8.3 | 7.0 | 3.5 |
| 2011 | -4.1 | -5.3 | -8.2 |
| 2012 | 12.8 | 11.4 | 9.1 |
| 2013 | 12.8 | 11.4 | 10.1 |
| 2014 | 8.6 | 7.2 | 7.7 |
| 2015 | 9.6 | 8.2 | 6.7 |
| 2016 | 4.2 | 2.9 | 0.7 |
| 2017 | 7.9 | 6.6 | 4.3 |

Sources: BeAma, Morningstar, BETTER FINANCE calculations

| Table BE19. Annual average return of pension savings funds (2000-2017) (%) | |
|--|-----|
| Nominal return before charges, tax and inflation | 5.2 |
| Nominal return after charges, before tax and inflation | 3.9 |
| Real return after charges and inflation, before tax | 1.9 |
| Real return after charges, tax and inflation | 1.6 |

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 and 2011. Unlike occupational pension plans, these pension savings funds are not obliged to pay a guaranteed return to retirees. Over the 18-year period (2000-2017), they delivered relatively similar nominal returns to occupational pension plans managed by IORPs. Benefits are taxed at a flat rate of 8%⁹⁵, considering an

⁹⁵ To calculate the taxation, the following assumptions are made: the saver subscribes to the product before the age of 55 and claims for his capital at 60 years old. The tax flat rate of 8% is applied to accrued benefits in 2016. In 2015, 1% of the accrued benefits as of 31 December 2014 was levied and then deduced from the tax allowance calculated in 2016.



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, Belgians 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, inflation and taxation remained positive to 1.67% for Branch 21 contracts and to 1.30% for Branch 23 contracts.

| Table BE20. 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



Table BE21. 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 BE22. Returns of individual Branch 23 contracts (%)

| | 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 BE23. 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 which will consider 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 an 18-year period (2000-2018), occupational pension funds managed by IORPs (pillar II) and pension savings funds (Pillar III) had annual average returns of 1.48% and 1.58% 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.

Unfortunately, we were only able to update returns for “Assurance Groupe” occupational pension plans and individual life-insurance contracts for the years 2015 and 2016. Nevertheless, Assuralia reports some information on “Assurance Groupe” contracts on its website. In 2015, “Assurance Groupe” Branch 21 offered on average nearly 3.5% of return (including profit share) and “Assurance Groupe” Branch 23 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.

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 - 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
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ANNEX: Case analysis of a Belgian Branch 23 - “Assurance Groupe” occupational pension plan

This individual “Branch 23” (unit-linked) insurance pension plan offers three investment options: low, medium and high depending on the equity/bond asset allocation.

The “medium” investment option provides the returns of an investment fund that can be assigned to following benchmark:⁹⁶

- 50% equity (FTSE AW TR);
- 50% bonds (Barclay’s Pan-European Aggregate Bond Index).

| Real case of a Belgian life insurance (branch 23) | |
|--|------|
| Capital markets vs. Belgian Occupational pension insurance 2000-2017* performance | |
| Capital markets (benchmark index⁹⁷) performance | |
| Nominal performance | 127% |
| Real performance (before tax) | 59% |
| Pension insurance performance | |
| Nominal performance | 56% |
| Real performance (before tax) | 10% |
| <i>*End of 1999 to end of 2017</i> | |
| <i>Source: BETTER FINANCE own computation</i> | |

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.

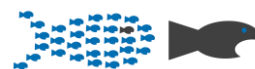
What are the reasons for such a bad performance?

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

⁹⁶ As rated by Morningstar.

⁹⁷ Benchmark is composed of 50% bonds (Bloomberg Barclays Pan-European Aggregate Bond Index - LP06TREU) and 50% equity (2000-2017 FTSE All-World TR EUR Index - AW01), yearly re-balanced.



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.⁹⁸

⁹⁸ 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 Largest 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

2018 Edition

Country Case: Bulgaria

Summary

The results can be summarised as follows:

- 1) *Nominal performance*: All three major pension fund categories in Bulgaria have recorded higher nominal returns in 2017 in comparison with the average for the trailing 3, 7 and 10-year periods, ending in 2017. All pension funds have underperformed a simple benchmark portfolio, consistent with their level of risk, over the longer term, between 2004 and 2017.
- 2) *Real performance*: Pension savers on average have enjoyed positive, albeit modest, real returns across all three major pension fund categories for the 16-year period from 2001 through 2017. This means that the purchasing power of their contributions has been preserved and fees and charges paid have been compensated for between 2001 and 2017.
- 3) *Fees and charges*: These have reduced pension savers' nominal returns by between 29% (voluntary pension funds) and 42% (universal pension funds) per annum over the 2001-2017 period.
- 4) *Real pension returns of universal pension funds*: UPFs have been grossly insufficient in order to allow a pension from this fund category to fully compensate for the reduction of the state pension for those, who have contributed to UPFs. Considering long-term capital market assumptions, real returns in the future are likely to continue trailing the expected growth of the average insurable income in Bulgaria and thus ensure inadequate "second" pensions. Contributing to a universal pension fund damages pension savers' interests as it is likely to cause a reduction of their pension income.
- 5) Pension companies in Bulgaria are required by law to offer a single fund (portfolio) of each type to all its customers. As a result, the majority of pension savers are likely invested in unsuitable portfolios.



Bulgarian Summary

- 1) *Номинална доходност*: И трите основни типа пенсионни фондове в България отчитат по-висока номинална доходност през 2017 г. в сравнение със средната през предходните 3, 7 и 10 години, завършващи през 2017 г. Пенсионните фондове средно отчитат по-ниска доходност от тази на прост портфейл-еталон (бенчмарк) за целия период 2004-2017 г.
- 2) *Реална доходност*: Осигурените са получили, средно взето, скромна положителна доходност във всеки от типовете пенсионни фондове в последните 16 години (2001-2017). Така покупателната способност на осигурителните им вноски е запазена, а получената доходност е компенсирала платените такси за периода като цяло.
- 3) *Таксите* са намалили средногодишната номиналната доходност, реализирана от осигурените с между 29 % (при доброволните пенсионни фондове) и 42 % (при универсалните) в периода 2001-2017 г.
- 4) *Реалната доходност*, получена от осигурените в универсални пенсионни фондове (УПФ) през периода 2001-2017 г. е значително по-ниска от реалния темп на прираст на средния осигурителен доход за страната (СОДС). Тя се очаква да не надхвърли достатъчно прогнозния темп на прираст на СОДС и през следващите 20 години. Това означава, че пенсията от УПФ ще бъде недостатъчна за да компенсира намалението на държавната пенсия на осигурявалите се в УПФ и техните две пенсии ще бъдат по-малко от една – държавна пенсия в пълне размер. Осигуряването в УПФ уврежда интереса на бъдешите пенсионери като намалява пенсията, на която биха имали право, ако не се осигуряват в УПФ.
- 5) Пенсионните компании са ограничени от Кодекса за социално осигуряване да предлагат само по един фонд (портфейл) от всеки тип на всичките си клиенти. В резултат, вероятно вноските на мнозинството от осигурените са инвестирани в неподходящи за тях портфейли.



ТАБЛИЦА БГ01. ПЕНСИОННАТА СИСТЕМА ОТ ПТИЧИ ПОГЛЕД

| | Първи стълб | Втори стълб | | Трети стълб | |
|--|---|---|--|--|--|
| | Държавна, дефинирани пенсии, разходо-покривна | Универсални пенсионни фондове, дефинирани вноски | Професионални пенсионни фондове, дефинирани вноски | Доброволни пенсионни фондове, дефинирани вноски | Доброволни пенсионни фондове по професионални схеми, дефинирани вноски |
| 1. Участие | Задължително | По избор ⁹⁹ | По избор ¹⁰⁰ за заети I и II категория труд | По избор | По избор за заети I и II категория труд |
| 2. Право на пенсия | Осигурителен стаж и възраст | Пенсионна възраст по КСО или пет години преди това, ако партидата позволява | Специфични възраст и осигурителен стаж | Пенсионна възраст по КСО или пет години преди това | 60 годишна възраст |
| 3. Вид пенсия | Пожизнена пенсия | Пожизнена пенсия, ако остатъкът по партида позволява или срочна пенсия | Срочна пенсия | Пожизнена или срочна пенсия | Срочна пенсия |
| 4. Участници / Брой партиди ¹⁰¹ | 2,802,898 | 3,667,851 | 297,323 | 614,761 | 7,788 |
| 5. брой пенсионни фондове | 1 | 9 | 9 | 9 | 1 |

⁹⁹ Осигуреното лице може да се откаже от осигуряване в УПФ/ППФ след като се е осигурявало в пенсионен фонд минимум една година и до пет години преди навършване на пенсионна възраст.

¹⁰⁰ Идем.

¹⁰¹ Към 31.12.2017 г.



| | | | | | |
|--|---|--|-----------|-----------|--------|
| 6А. Активи под управление (хил. лв.) ¹⁰² | -- | 10,535,983 | 1,057,566 | 1,055,468 | 14,137 |
| 6В. Активи под управление (хил. евро) ¹⁰³ | -- | 5,386,963 | 540,725 | 539,652 | 7,228 |
| 7. Такси като % от номиналната доходност (2002-2017) | -- | 0 | 0 | 0 | - |
| 8. Данъчно облагане | Осигурителните вноски и пенсии са необлагаеми | Осигурителните вноски, капиталовата печалба, дивидентите и пенсиите са необлагаеми | | | |
| <p><i>Източници:</i> Редове 1, 2, 3, 7 - Кодекс за социалното осигуряване http://noi.bg/images/bg/legislation/Codes/KCO.pdf; Ред 4 - Първи стълб - НОИ. (2017). "Икономически и социални показатели " 2017", Sofia http://www.nssi.bg/images/bg/about/statisticsandanalysis/statistics/pokazатели/ECON2017_XII.pdf; Редове 4, 5А, 5В - Втори и трети стълбове - Комисия за финансов надзор http://www.fsc.bg/bg/pazari/osiguritelen-pazar/statistika/statistika-i-analizi/2017/; Ред 6 - Изчисления на автора по данни на Комисията за финансов надзор.</p> | | | | | |

¹⁰² Ibid

¹⁰³ Ibid



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).

It is a result of a far-reaching pension reform undertaken in 1999-2000 to strengthen the fiscal sustainability of the PAYG public social security system inherited from the pre-1990 period and to transfer the longevity risk in part from the state to private pension providers.

The publicly managed PAYG Pillar I still plays a major role in the Bulgarian pension system, as pay-outs from Pillar II have not yet started “en masse” and pay-outs from Pillar III are quite limited. As of 2015 (the most recent year for which data is publicly available) the accumulated pension rights in the public Pillar I are estimated at BGN 140.5 billion, as opposed to just BGN 9.3 billion of assets accumulated in Pillar II and Pillar III combined¹⁰⁴ (€71.8 billion and €4.8 billion or 159% and 11% of GDP respectively). On average, 2.8 million individuals contributed to the public Pillar I in 2017, while over 3.6 million accounts were reported in Universal Pension Funds (UPFs - part of Pillar II, see Table BG1 below). Since one cannot contribute to a UPF without contributing to the Pillar I pension fund, we infer that about 800,000 UPF accounts are dormant and belong to individuals who have emigrated and stopped contributing to their UPF account.

The number of retirees in 2017 was 2.2 million people.¹⁰⁵ The average replacement ratio of the median pension in 2015 was 41% (of which 47% for men and 38% for women).¹⁰⁶

Participants, born prior to 1960 contribute only to the public Pillar I. Those born after 1960 were required to split their mandatory pension insurance contributions between Pillars I and II between 2002 and 2015. A major parametric pension reform was enacted in 2015, whereby:

¹⁰⁴ National Statistical Institute. (2018). “Pension Entitlements in the Bulgarian Social Insurance – 2015” - <https://goo.gl/v9p7VC>

¹⁰⁵ National Social Security Institute. (2018). “Economic and Social Indicators – 2017”.

http://www.nssi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/ECON2017_XII.pdf

¹⁰⁶ National Statistical Institute. (2018). “Total Replacement Ratio” (In Bulgarian).

http://www.nsi.bg/sites/default/files/files/data/SDI/SDI%204.4_bg.doc



- a) Pension eligibility age was scheduled to increase gradually to 65 years for both women and men;
- b) Mandatory pension insurance contributions increased to 18.8% of insurable income in 2017 and to 19.8% in 2018 from 17.8% in 2016;
- c) Pension entitlements from the public PAYG system were being stepped up by gradually increasing the accrual rate for each year of contribution from 1.1% in 2015 to 1.5% of the pre-retirement adjusted average insurable income;
- d) Caps on fees and charges, collected by pension companies, were being reduced for each year between 2016 and 2019.

In addition, the pension regime was changed. Under the new regime the Supplementary Mandatory Pension Schemes became optional. While new entrants in the labour market continue to be automatically placed into Pillar II pension funds, a year later, they and all other universal and professional pension funds' participants can elect to:¹⁰⁷

- a) continue splitting their mandatory pension insurance contribution between Pillars I and II (the default option); or
- b) contribute their entire mandatory pension insurance to Pillar I only, should they actively request so in writing.

In the former case they will be entitled to two pensions from both the public pension system and the SMPS. Their public pension, however, will be reduced commensurate to the lower pension insurance contribution they make to the public system. This opens the possibility of their total pension income being lower than the pension they would have been entitled to from Pillar I only. This will be the case if the pension from the SMPS is insufficient to compensate for the reduction of the public pension. Whether or not this is the case crucially depends on the return from universal pension funds, comprising the largest part of SMPS.

¹⁰⁷ Those who had opted at one point for only the state pension insurance scheme may elect to revert to participation in Pillar II pension funds later. The insured can exercise their election rights multiple times back and forth up to five years before the minimum required retirement age.



The Bulgarian Pension system at a glance:

| TABLE BG1. Pensions at a glance | | | | | |
|---|-------------------------------------|--|---|--|---|
| | Pillar I | Pillar II | | Pillar III | |
| | Public, DB, PAYG | Universal Funds, DC | Professional Funds, DC | Voluntary Funds, DC | Voluntary professional Funds, DC |
| 1. Participation | Mandatory | Optional ¹⁰⁸ | Optional ¹⁰⁹ for eligible ¹¹⁰ employees | Voluntary | Voluntary for eligible ¹¹¹ employees |
| 2. Pension eligibility | Statutory Age and Length of Service | Statutory Age or 5 years earlier with sufficient account balance | Reduced statutory age | Statutory Age or 5 years earlier | 60 years |
| 3. Type of pension | Lifetime pension | Lifetime pension, the account balance permitting | Fixed term pension | Fixed term pension or Lifetime pension | Fixed term pension |
| 4. Participants/Accounts (Number) ¹¹² | 2 802 898 | 3,667,851 | 297,323 | 614,761 | 7,788 |
| 5. Number of pension funds | 1 | 9 | 9 | 9 | 1 |
| 6A. Assets Under Management (BGN '000) ^{***} | N/A | 10,535,983 | 1,057,566 | 1,055,468 | 14,137 |
| 6B. Assets Under Management (€ '000) ¹¹³ | N/A | 5,386,963 | 540,725 | 539,652 | 7,228 |

¹⁰⁸ Optional - employees can opt out of Universal pension funds after at least one year of contributing and up to five years before reaching statutory retirement age.

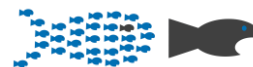
¹⁰⁹ Idem.

¹¹⁰ Eligible - strenuous & hazardous working conditions as defined by law.

¹¹¹ Idem.

¹¹² As of end-2017.

¹¹³ Idem.



| | | | | | |
|--|---|--|-----|-----|---|
| 7. Charges as % of nominal returns (2002-2017) | N/A | 42% | 33% | 30% | - |
| 8. Taxation | Contributions and pensions are tax exempt | EEE - contributions, capital gains and dividends and pensions are tax exempt | | | |

Sources: Rows 1, 2, 3, 7, 8 - Social Insurance Code (in Bulgarian), Row 4 - Pillar I - NSSI. (2017). "Economic and Social Indicators 2017", Sofia; Row 4, 5, 6A, 6B - Pillars II and III - Financial Supervisory Commission; Row 7 – BETTER FINANCE's calculations, based on Financial Supervisory Commission data.

Legend: DB - Defined Benefit; DC - Defined Contribution; PAYG - Pay-as-you-go

Pension Vehicles

The privately managed pension funds in Bulgaria come in four varieties. 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 2017, a total of nine companies 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 2017, just one company offers all four pension fund vehicles and the remaining eight companies offer three pension funds 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 those investing in a voluntary pension fund (investment of up to 10% of the annual income is tax exempt), Life Insurance does not play a significant role in the pension system in Bulgaria.

Universal pension funds

The universal pension funds are by far the most important pension vehicle in Bulgaria with over 3.6 million individual pension accounts and BGN 10.5 billion (€5.4 billion¹¹⁴) in assets

¹¹⁴ 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 section.



under management (as of end 2017). Until August 2015 participation in the universal funds was mandatory for employees born in 1960 or later, and it has been optional ever since for those who participated for at least one year in a universal pension fund. Participation in universal pension funds is tied to the employment 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 income¹¹⁵, which in 2017 was capped at BGN 2,600 (€1,329.36) per month. This ceiling remains in effect in 2018.

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 the preceding 24 months. The minimum return is equal to either 60% of the average for all universal pension funds or 300 bp (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 basis points, whichever is larger.

Reserves

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

¹¹⁵ 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.

Professional pension funds

Only those employees who work under strenuous and hazardous conditions such as miners, air pilots or 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 BGN 1 billion (€540 million) in assets under management and 297 thousand participants (as of end 2017), 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 basis points 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 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 / her 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 614 thousand individual accounts with BGN 1 billion (€540 million) in assets (as of end 2017). 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. In practice, voluntary pension funds have currently only accumulated such reserves 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 7,788 participants and BGN 14.1 mln (€ 7.2 mln) in assets under management as of end-2017, 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. Employers may choose 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 for the insured. All clients of the respective types of funds offered by a pension company, receive the same portfolio irrespective of 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 2017 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 equities;
- No more than 5% in REITs (Real Estate Investment Trusts) and
- No more than 5% directly in investment property.¹¹⁶

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 BG2 below. Over the last three 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.

¹¹⁶ Art. 176-178. Social Insurance Code. <http://noi.bg/images/bg/legislation/Codes/KCO.pdf>

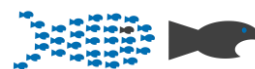


Table BG2. Asset Allocation of the main pension vehicles in Bulgaria (%)

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

Source: BETTER FINANCE calculations, based on data published by the Financial Supervisory Commission <http://www.fsc.bg/bg/pazari/osiguritelen-pazar/statistika/statistika-i-analizi/2017/>

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 retirement income. 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 the stock market recoveries that have occurred since 2009 and their long-term performance still lags behind the market return as shown on Graph BG1 below.



Amendments to the Social Security Code, adopted in 2017 and effective as of 18 November 2018, have relaxed some of the investment restrictions for Universal and Professional funds as follows:

- Equities – from 20% to 25%;
- Collective Investment Schemes – from 15% to 20%
- REITS – from 5% to 10%.¹¹⁷

Charges¹¹⁸

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 (2017):

| Table BG3. Legal caps on fees and charges in 2017 | | |
|--|--|--------------------------------|
| Fees | Universal/ Professional Pension Funds | Voluntary Pension Funds |
| Entry fee | 4.25% | up to 7% |
| Management fee | 0.85% | 10% ¹¹⁹ |
| Transfer fee | BGN 10.00 | BGN 20.00 |

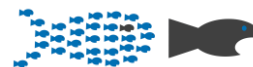
Source: Art. 201, Art. 256, Social Insurance Code, <http://noi.bg/images/bg/legislation/Codes/KCO.pdf>

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.

¹¹⁷ Art. 176-178. Social Insurance Code. <http://noi.bg/images/bg/legislation/Codes/KCO.pdf>

¹¹⁸ 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.

¹¹⁹ 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 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 usually one-time and nominal.

As of 2016 the law mandates a reduction on fees and charges for the Pillar II funds according to the following schedule:¹²⁰

| Table BG4. 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, <http://noi.bg/images/bg/legislation/Codes/KCO.pdf>

Taxation - EEE

Individual contributions to pension funds are income-tax exempt. An annual 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.

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.

¹²⁰ National Assembly, (2015), Social Insurance Code, State Gazette, No. 61, 11.08.2015 (In Bulgarian)



Pension Returns

Pension funds returns can be calculated using one of two methods: time-weighted or money-weighted returns.¹²¹ While time-weighted returns are useful when evaluating pension funds' performance against a benchmark, it is only money-weighted returns that matter to participants, since their accumulated capital before retirement depends on the contributions, fees and charges, the length of the contributory period and the average return, calculated using the money-weighted method.

The Financial Supervisory Commission regularly reports the time-weighted returns of pension funds over the preceding 24-month period for regulatory purposes. Neither the Commission, nor pension companies publish money-weighted returns. However, the Financial Supervisory Commission makes sufficiently detailed data public to calculate money-weighted returns as well.

We report both time-weighted returns (2004-2017) and money-weighted returns (2002-2017) per pension vehicle.

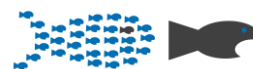
Time-weighted Returns (TwR)

Time-weighted returns of Bulgarian pension funds are reported in tables BG04 and BG05 below. Time-weighted returns are calculated for the 1 July 2004 – 31 December 2017 period, in order to compare with data on the performance of pension saving products of other countries in this report, given that this is the chosen methodology here, as explained at the beginning of the book.

From 1 July 2004 onwards, Bulgarian pension funds started calculating the “pension fund share” (also referred to as a “unit”) price on a daily basis. This data is used to calculate time-weighted returns. Investment returns are reported net of fees.

Pension funds report decent real annualised real time-weighted returns for 2017 as well as for the last three and seven years. These results were helped by low inflation and outward deflation in the 2014-2016 period. Real returns for the whole period 2004-2017 are less impressive with only voluntary pension funds recording above 1% real average annual returns.

¹²¹ Feibel, Bruce J., (2003), “Investment Performance Measurement”, John Wiley & Sons, Inc., Hoboken, New Jersey, p. 53



| Table BG5. Nominal Annualized Time-Weighted Returns (net of fees) | | | | | |
|---|--------|-----------|-----------|-----------|-----------------|
| | 1 year | 3 years | 7 years | 10 years | Since inception |
| | 2017 | 2014-2017 | 2010-2017 | 2007-2017 | 1.07.2004 |
| Universal Pension Funds | 6.1% | 3.8% | 4.0% | 3.1% | 4.0% |
| Professional Pension Funds | 6.5% | 4.1% | 4.1% | 1.2% | 3.7% |
| Voluntary Pension Funds | 8.2% | 5.4% | 5.3% | 2.0% | 4.4% |

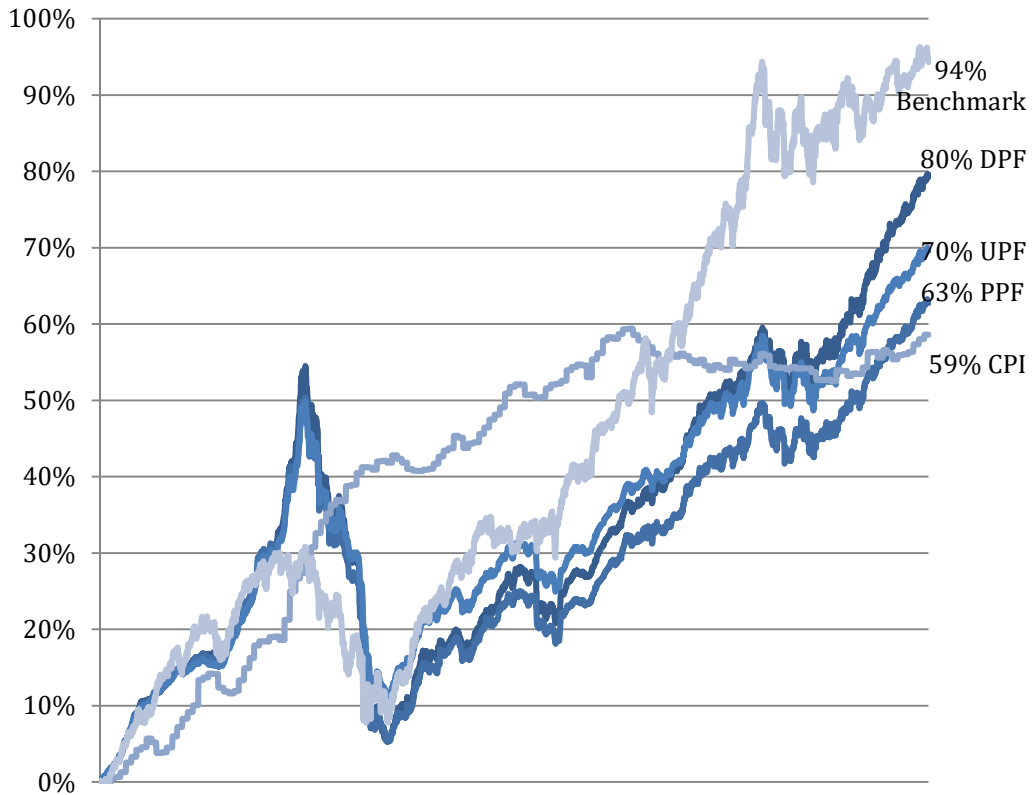
| Table BG6. Real Annualized Time-Weighted Returns (net of fees) | | | | | |
|--|--------|-----------|-----------|-----------|-----------------|
| | 1 year | 3 years | 7 years | 10 years | Since inception |
| | 2017 | 2014-2017 | 2012-2017 | 2007-2017 | 1.07.2004 |
| Universal Pension Funds | 4.2% | 3.7% | 3.7% | 1.6% | 0.7% |
| Professional Pension Funds | 4.6% | 4.0% | 3.8% | -0.3% | 0.4% |
| Voluntary Pension Funds | 6.3% | 5.3% | 5.0% | 0.5% | 1.2% |
| Inflation (HICP) | 1.8% | 0.1% | -0.5% | 1.5% | 3.2% |

Sources for tables BG5 and BG6: BETTER FINANCE calculations based on UNIDEX, PROFIDEX and VOLIDEX Unit values, published by the FSC (<http://www4.fsc.bg/units.asp>) and HICP, published by Eurostat (http://ec.europa.eu/eurostat/data/database?node_code=prc_hicp_midx)

The performance of pension funds is best assessed against a benchmark. Pension companies in Bulgaria, however, do not announce benchmarks against which they manage funds. To address this information gap, we put together a crude benchmark based on a combination of 35% of the STOXX Europe 600 index of large and medium sized companies to represent equities and 65% of the Euro Government Bond 10Yr Term Index, to represent fixed income investments. The combination is consistent with the legal investment restrictions for universal pension funds. The results are reported in Graph BG1.



**Graph BG1. Pension funds' performance vs. Benchmark
(1.07.2004-29.12.2017)**



Sources: BETTER FINANCE's own calculations based on:

1. Financial Supervisory Commission, Unit values of pension funds
2. STOXX Europe 600 Index EURSXXP
3. Euro Government Bond 10Yr Term Index (BCEX4T)
4. National Statistical Institute, Consumer Price Index, 1995=100

Graph BG1 depicts the daily performance of both the benchmark portfolio and the pension funds between 1 July 2004 and 31 December 2017.

The green line represents the benchmark portfolio (Benchmark); the blue, orange and grey lines depict the performance of the aggregate pension fund indexes (DPF – voluntary pension funds index; UPF – universal pension funds index and PPF – professional pension funds index) as reported by the Financial Supervisory Commission; the red line is the Bulgarian consumer price index (CPI).



The results show that while pension funds have outperformed the simple benchmark in the last three years, all of them have underperformed the benchmark over the whole period between 2004 and 2017.

Pension funds' deviation from the benchmark can be accounted for by two main factors:

- the investment home bias,¹²² and
- the active management, which failed to adhere to a disciplined strategic investment policy as shown in the next section on asset allocation.

While the benchmark portfolio is overly simplified as it does not include all the asset classes that pension funds in Bulgaria invest in, the comparison is revealing in that the benchmark portfolio is investable and the returns could have been obtained with just two ETFs,¹²³ each charging 0.20% or less in annual management fees – much cheaper than Bulgarian pension funds fees.

Money-weighted Returns

As mentioned, the actual returns the pension savers receive on their accounts are the money-weighted returns. The balance of the account of pension savers before retirement depends on their contributions, the length of the contributory period and the return on their investments, calculated as an internal rate of return (money-weighted returns). We report the annual money-weighted returns of pension funds in Bulgaria, breaking the gross nominal return into its constituent parts, namely: a) the real return; b) inflation and c) fees and charges. The returns are reported in tables BG7-BG9 and are illustrated in Graphs BG2 and BG3.

¹²² The benchmark portfolio does not contain securities by Bulgarian issuers.

¹²³ For example Source STOXX Europe 600 UCITS ETF

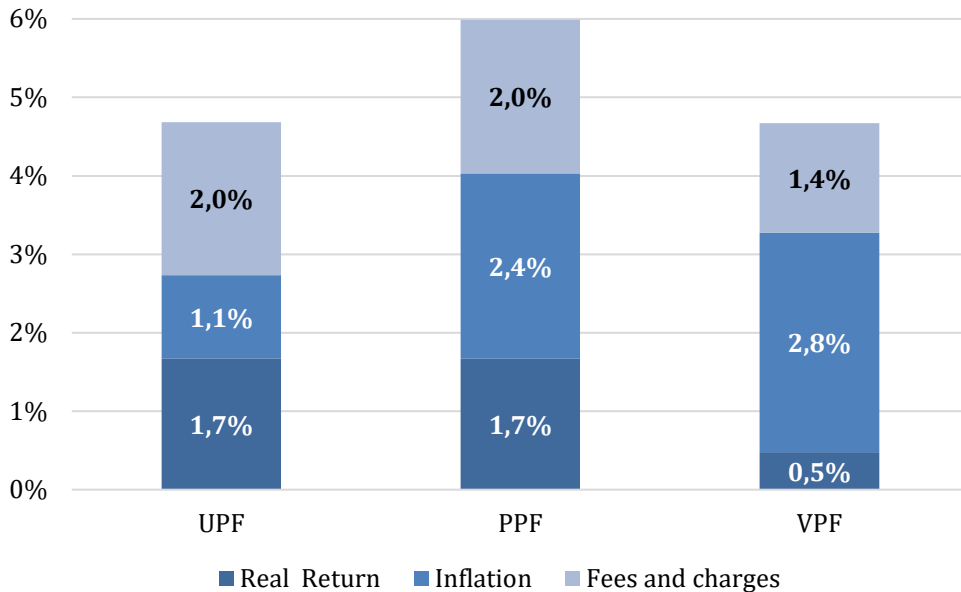
<https://www.powersharesetf.com/gb/institutional/en/product/source-stoxx-europe-600-ucits-etf/index-components>

and iShares € Govt Bond 7-10yr UCITS ETF

https://www.ishares.com/uk/individual/en/products/251738/ishares-euro-government-bond-710yr-ucits-etf?siteEntryPassthrough=true&locale=en_GB&userType=individual



Graph BG2. Breakdown of Nominal Returns by Component and Type of Pension Fund (2002-2017)

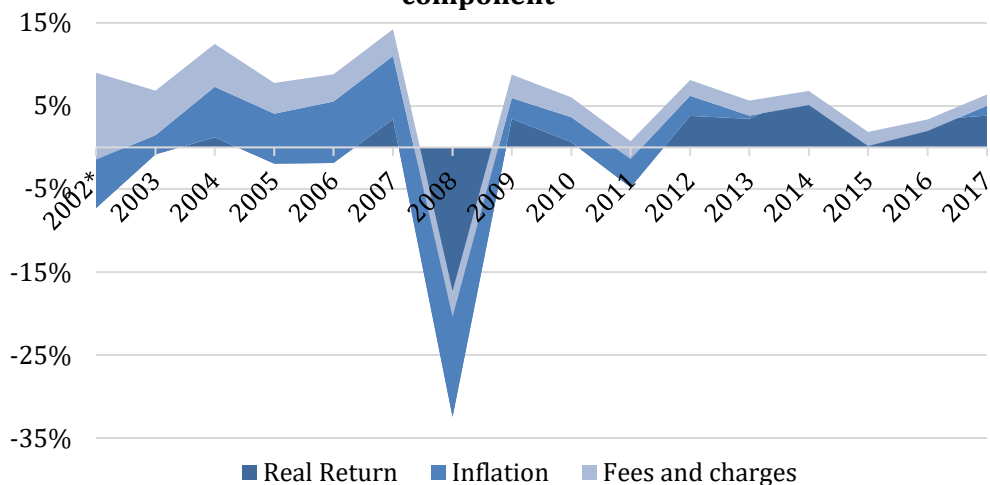


Source: BETTER FINANCE's own calculations based on data in Tables BG7-BG9

As shown in Graph BG2 nominal returns across all pension funds fully compensate for fees and charges and inflation. Participants in universal pension funds (UPF) and professional pension funds (PPF) had an average positive real return of 1.7% annually, while participants in voluntary pension funds (VPF) received a 0.5% annual real return over the 2002 to 2017 period.



Graph BG3. UPF - Breakdown of nominal returns by component



Source: BETTER FINANCE's own calculations based on data in Table BG7

Graph BG3 shows the breakdown of annual returns on a year-on-year basis for the universal pension funds, the largest and most important pension vehicle in Bulgaria. It is clear that while prior to the 2008 crisis fees and inflation were “eating” the bulk of the nominal returns (investors received slightly positive real returns only in 2004 and 2007), in the years following the crisis investors have enjoyed positive real returns more consistently. This is due to three factors: a) the bull market after 2011, b) a decelerating inflation (and outright deflation in 2014-2016) and c) the decreasing impact of entry fees on returns as assets under management grow.



Annual data is shown in Tables BG7-BG9 below:

Table BG7. 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) |
|---------------------------|---|-------------------------------|---|-----------------------------|--|
| 2001 | na | na | na | na | na |
| 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% |
| Annual Average | 4.7% | 2.0% | 2.7% | 1.1% | 1.7% |

*Universal Pension Funds were launched in April 2002

**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 BG8. 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 BG9. 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) |
|---------------------------|---|-------------------------------|---|-----------------------------|--|
| 2001* | | | | | |
| 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% | -110.0% | 2.5% |
| 2016 | 5.6% | 0.8% | 4.8% | -1.3% | 6.1% |
| 2017 | 7.6% | 1.1% | 6.5% | 1.2% | 5.2% |
| Annual Average | 4.7% | 1.4% | 3.3% | 2.8% | 0.5% |

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

**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



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

- 1) Fees and charges have eaten between 30% (for Voluntary pension funds) and 42% (for universal pension funds) of the nominal returns;
- 2) Nevertheless, all pension funds have yielded positive real returns for the 2002-2017 period, which means that they have fully compensated for the fees, charges and inflation;
- 3) Savers in professional and voluntary pension funds would be able to receive back as pensions their (and their employers') contributions in real terms;
- 4) The recorded returns for Universal pension funds are grossly insufficient for pension savers to actually receive a "supplementary" pension from these funds.

The last point requires some elaboration. While contributions to Professional and 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 Fund¹²⁴. 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 a 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 a UPF will be entitled to a proportionately reduced state pension, compared to those who do not participate in a UPF.

Therefore, for a UPF pension to be truly "supplemental", it would need to first compensate for the reduction of the state pension. The question arises as to the circumstances under which an expected "supplemental" pension from a UPF will be able to exactly compensate for the reduction of the state pension?

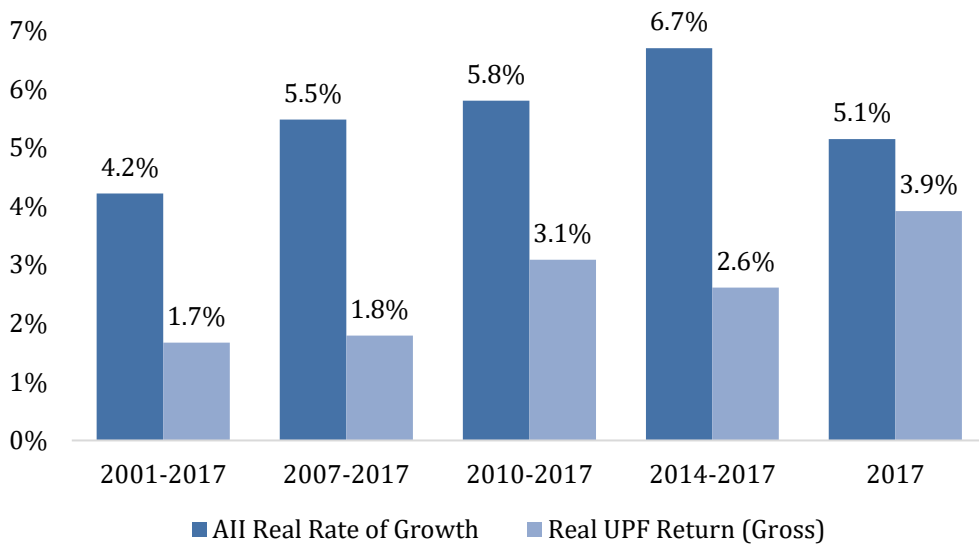
The author has researched this question elsewhere¹²⁵ and reached the conclusion that the necessary and sufficient condition for a UPF pension to fully compensate for the reduction of the state pension is for the actual real return on a UPF account to exceed the annual real rate of growth of the average insurable income in Bulgaria over the whole contributory period. In fact, as illustrated on Graph BG4 below, the situation in 2002-2017 has been exactly the reverse – the average annual rate of growth of the insurable income in Bulgaria has consistently outpaced the annualized return, received by pension savers in UPFs.

¹²⁴ 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>

¹²⁵ Christoff, Lubomir, (2016), "Pension (In)Adequacy in Bulgaria". (In Bulgarian). Available at SSRN: <https://ssrn.com/abstract=2825011>



Graph BG4. Real UPF Return vs. All Real Rate of Growth



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

Legend: *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.

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.¹²⁶ Under this assumption, an insured person, who has contributed to a UPF since 2002 and will retire in 2042 after 40 years of uninterrupted contributions, will need to receive a 4.5%¹²⁷ real annual rate of return between 2018 and 2041 in order for his “supplemental” UPF pension to just replace the reduction of his state pension. The 4.5% real return not only exceeds the realized real return of only 1.7% significantly over the 2001-2017 period, but is also unrealistic to expect, given the long-term capital market expectations by asset class.¹²⁸

¹²⁶ 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>

¹²⁷ Christoff, Lubomir. (2018) / Pension (In)adequacy in Bulgaria (2018 Edition) (March 27, 2018). p. 18, Available at SSRN: <https://ssrn.com/abstract=3150489>

¹²⁸ 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”,



Thus, participating in a 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 a 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 capital¹²⁹ and, hence, for the size and adequacy of pensions to be expected from defined contribution schemes. Yet, pension savings 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 2001-2017 period.

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 2017 illustrates, with modest real returns, 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 worker. The relaxed investment restriction on Universal and Professional funds, to come into effect 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.

McKinsey & Company, p. IX

<https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/why-investors-may-need-to-lower-their-sights>

¹²⁹ Assuming a given size and length of contributions.



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

Furthermore, the short-term minimum (nominal) return requirement, while intended to protect the insured, may actually be backfiring as it creates a perverse incentive for pension fund managers to “fail collectively” rather than to take the risk of achieving better long-term outcomes for their clients at the risk of a possible short-term underperformance compared to their peers.

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. Under these 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.



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Pension Savings: The Real Return

2018 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 overstiger 4000 mia. DKK eller mere end det dobbelte af BNP.

De danske pensionskasser har klarer 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. Også i 2017 blev der opnået solide nominelle investeringsafkast på omkring 8 pct.– nogen lunde samme niveau som i 2016. Næsten alle aktivklasser gav et positivt afkast, og især aktier i emerging markets og det danske aktiemarked bidrog til det positive resultat. Forskellen i afkast mellem på den ene side garanterede gennemsnitsrenteprodukter med et afkast på 5,5 pct. og på den anden side markedsrenteprodukter med 8,5 pct. var betydelig i 2017, hvilket illustrerer en mere forsigtig investeringspolitik for de garanterede produkter. Mange pensionselskaber måtte også foretage yderligere hensættelser i 2017 til forventet længere levealder.

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 ¾.

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 €540 billion, 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). In addition, 2017 was a year of substantial nominal investment return at around 8% – approximately the same level as in 2016. Almost all types of assets had positive yields, and equities in emerging markets as well as in the Danish market contributed to a positive result. The difference in return between guaranteed DC schemes with 5,5% and market rate-based schemes with no guarantee at 8,5% was substantial in 2017, illustrating a more cautious investment policy for guaranteed products. In addition, many pension funds had to increase provisions for longevity risk in 2017.

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 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 the Danish unions who have given priority to this development – who in the beginning only reluctantly supported by their own members who preferred higher wages to pension contributions – the occupational pension schemes have turned out to be the biggest achievement for many years. Today, the members support the system.

For 6 years in a row, the Danish pension system has been ranked number 1 in the Melbourne Mercer Global Pension Index. This 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 4000 billion (€540 bln), or more than twice the Danish GDP.

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 enrollment 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.

| Table DK1. 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 enrollments are diminishing |
| Compulsory and regulated by law | Mandatory for the individual members based on the employment contract, but enrollment is not statutory by law | Voluntary |

Quick facts

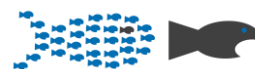
Danish pension system has been ranked no. 1 in the Melbourne Mercer Global Pension Index

The average replacement ratio is expected to increase in the years to come at around 75%

The total value of funded pension schemes exceeds 540 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% | 79% | 22% | 88% |
| Retirees (as % of retirees) | 86% | 99% | | | 54% |

Source: Forsikring Pension DK - Folkepension og ATP

Table DK2. Total value of funded pension schemes 2000-2016 (in DKK bln)

| | Life insurance companies | Industry wide pension funds | Company pension funds | Banks | ATP | Total |
|------|--------------------------|-----------------------------|-----------------------|-------|-----|-------|
| 2000 | 650 | 270 | 43 | 215 | 247 | 1,424 |
| 2001 | 650 | 272 | 40 | 215 | 247 | 1,423 |
| 2002 | 669 | 277 | 37 | 198 | 243 | 1,424 |
| 2003 | 732 | 302 | 38 | 215 | 263 | 1,550 |
| 2004 | 810 | 339 | 39 | 244 | 307 | 1,740 |
| 2005 | 953 | 381 | 42 | 298 | 365 | 2,040 |
| 2006 | 1,010 | 402 | 43 | 347 | 372 | 2,174 |
| 2007 | 1,054 | 412 | 43 | 369 | 389 | 2,268 |
| 2008 | 1,119 | 396 | 44 | 308 | 678 | 2,545 |
| 2009 | 1,212 | 436 | 45 | 378 | 609 | 2,680 |
| 2010 | 1,351 | 478 | 51 | 405 | 758 | 3,043 |
| 2011 | 1,496 | 556 | 53 | 399 | 776 | 3,279 |
| 2012 | 1,682 | 565 | 57 | 438 | 791 | 3,533 |
| 2013 | 1,757 | 585 | 53 | 445 | 677 | 3,517 |
| 2014 | 2,013 | 646 | 59 | 424 | 812 | 3,955 |
| 2015 | 2,074 | 672 | 60 | 446 | 781 | 4,033 |
| 2016 | 2,289 | 692 | 59 | 460 | 870 | 4,369 |

Source: ForsikringogPension.dk



The statutory retirement age in Denmark is at present 65 years, while the average life expectancy after retirement is 20 years. Since life expectancy is continuously increasing,¹³⁰ the standard retirement age will be increased to 68 years from 2019 for savers born after 1962, while it is expected to be further raised for those born after 1967.

| 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 | 65.2 |

Source: ForsikringogPension.dk

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.¹³¹

¹³⁰ For retirees aged 65, the average life expectancy has raised by 1.5 years over the past 5 years. This topic is discussed every 5 years and the increase is decided by the Danish Parliament. Discussions on increasing the statutory retirement age for those born after 1967 have already started.

¹³¹ 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>).



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 73,920 a year (€9,929).¹³² 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 78,612 (€10,559) – 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 69,800 (€9,372), and if your income exceeds DKK 324,000 (€43,519) 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.¹³³ Self-employed and people who receive some kind of social benefits – e.g. temporarily unemployed people and people who are currently 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 23,600 (€3,170). If the beneficiary dies before reaching retirement age, the saved amount is paid out to the heirs.

¹³² 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>

¹³³ The pension contribution is nominal (fixed) and equally applicable for all workers, therefore the contribution rate (%) will vary depending on the income.



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.¹³⁴ 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 enrollment either through general agreements in the labor market or through employment contracts.

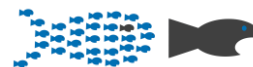
Within the last 25 years, we have seen a major expansion of Pillar II. Before 1990, Pillar II schemes were almost exclusively for civil servants and white-collar workers in the private sector. But since then, Pillar II schemes have been established for a very large majority of the labor market- more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

Total contributions to occupational pension schemes amounted to DKK 104 billion (€14 billion) in 2017, 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).

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

¹³⁴ 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.



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 2001-2016

| 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 2016,¹³⁵ pension funds and life insurance companies had a total of 4,028,000 contracts concerning 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.

¹³⁵ Data for 2017 were not available as of August 28th, 2018. Therefore, wherever the text of this analysis or the tables or graphs refer to 2016 figures, it means that the research team could not find the necessary updates.



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 3,000 persons made contributions in 2016, whereas benefits were paid out to a little more than 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.

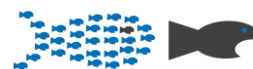
The strong growth of Pillar II schemes has, to some degree, diminished the interest for individual savings. Also, changes in tax regulation have negatively influenced the demand for Pillar III schemes.

In 2000, approximately 1 million persons contributed to an individual scheme. In 2016, the number had decreased by one third to 650,000.

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 | | | | | | Not working before retirement |
| | Education | | | | | | |
| | Unskilled workers | Skilled workers | Short cycle higher education | Medium cycle higher education | Long cycle higher education | All | |
| 2004 | 72.2 | 71.2 | 73.9 | 82.9 | 88.2 | 73.5 | 88.5 |
| 2005 | 71.9 | 71.5 | 75.2 | 82.1 | 89.3 | 73.7 | 91.4 |
| 2006 | 69.6 | 69.4 | 72.7 | 79.9 | 84.6 | 71.4 | 95.3 |
| 2007 | 68.1 | 67.7 | 70.8 | 77.3 | 83.3 | 69.7 | 96.0 |
| 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 |

Source: Forsikring & Pension

The average net replacement rate is 74%. 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.¹³⁶ Therefore, the ratio for people with lower education is expected to grow in the forthcoming years relative to the average. The replacement rate¹³⁷ is measured as the income in the first year after retirement relative to the income in the last year before

¹³⁶ 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.

¹³⁷ This replacement rate is provided from a different source than the one in the General Report.



retirement. For people who were not working in the year before retirement, the replacement ratio is naturally very high, since they are entitled to pension from the state and sometimes even from private pension schemes. Since their income before retiring was typically very low, one can draw their own conclusions on how much pension they receive.

Today, the most important source of income for pensioners is Pillar I. Approximately 50% of all current pensioners have little or no private pension. Payouts from the *folkepension* amounts to DKK 115 billion per year (€15.5 billion). The ATP pays out around DKK 16 billion per year (€2.2 billion). Total pay-outs from private pensions schemes to pensioners were around DKK 66 billion (€8.9 billion) in 2016.

For the 50% of today's pensioners with the lowest income, 90% of their income is *folkepension* (thus, from Pillar I). Even for the 10% with the highest income, *folkepension* accounts for 20% of their total income.

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).¹³⁸

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.

¹³⁸ 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.¹³⁹

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. 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 non-guaranteed scheme etc. Therefore – as a general trend – the insurance companies have more costs related to acquisition and to individual counseling, whereas the industry-wide pension schemes are often cheaper.

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.

¹³⁹ 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 deductible 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 deductible in the income tax base up to a maximum of DKK 53,500 (€7,200). 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. 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 deductible. 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 recently been changed (see section 4).



Table DK6 (A). Number of persons contributing to one or more private pension schemes, 1998-2016

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

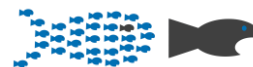


Table DK6 (B). Number of persons contributing to one or more private pension schemes, 1998-2016

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

Table DK7. Total pension contributions to one or more private pension schemes (1998-2016)

| Year | Amount (in DKK millions) |
|-------------|--------------------------|
| 1998 | 2,228,000 |
| 1999 | 2,212,000 |
| 2000 | 2,280,000 |
| 2001 | 2,309,912 |
| 2002 | 2,317,990 |
| 2003 | 2,324,123 |
| 2004 | 2,345,824 |
| 2005 | 2,370,145 |



| | |
|-------------|------------------|
| 2006 | 2,414,219 |
| 2007 | 2,520,216 |
| 2008 | 2,558,437 |
| 2009 | 2,538,436 |
| 2010 | 2,355,686 |
| 2011 | 2,499,862 |
| 2012 | 2,499,161 |
| 2013 | 2,444,461 |
| 2014 | 2,490,418 |
| 2015 | 2,519,795 |
| 2016 | 2,557,880 |

Source for Tables DK6 and DK7: 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 installment or a lump sum payout. There are three ways in which pension savings in banks can be invested:

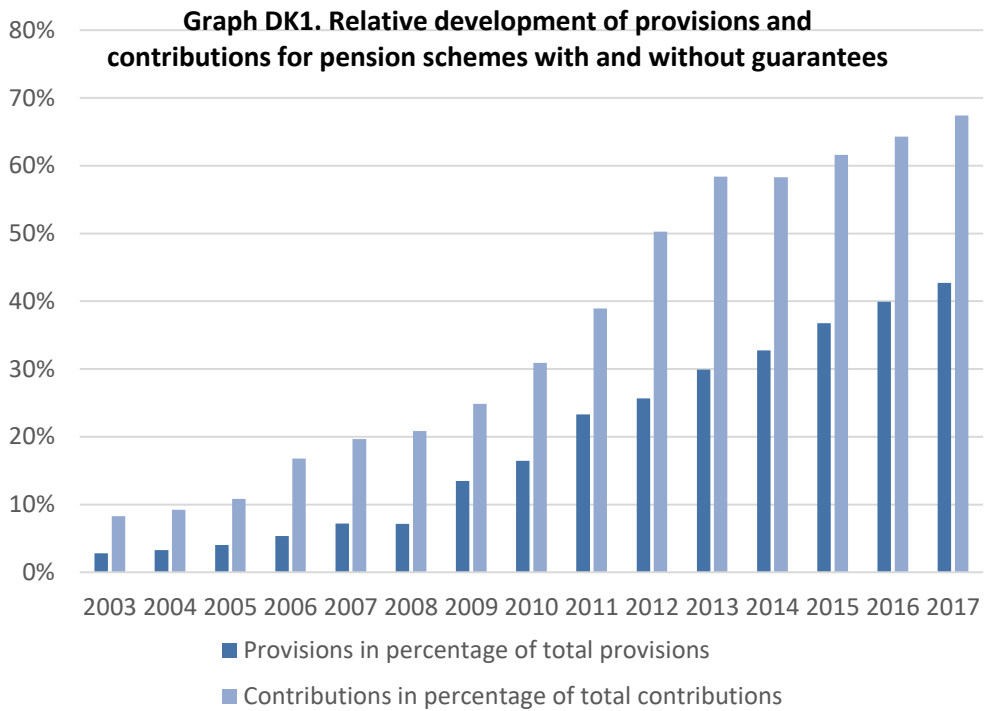
- as an ordinary deposit with the interest rate offered by the bank;
- in investment funds of the customers own choice; or
- in listed equities, bonds and other financial assets owned directly by the customer.

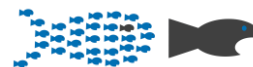
The Danish private pension schemes are DC schemes (with a very few Pillar II exceptions). The system has gradually changed from a guarantee-based insurance approach into a market rate-based approach. Until 1994, the schemes followed a DC hybrid model. According to this model, the life insurance company 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 costumers 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



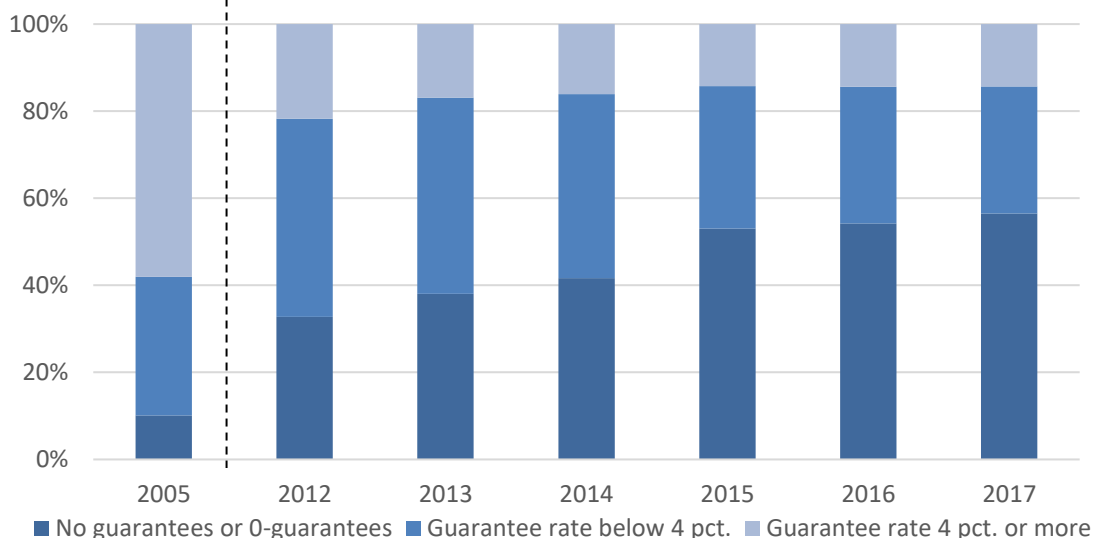
guarantees. The guarantees are often binding for the insurance company/pension fund. However, some occupational pension schemes have been able to decide collectively to cancel the guarantees and change to a classical DC model. Others have offered their customers compensation if they were willing to cancel 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 2016, 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 still constitute around half of total provisions. But the figure has decreased from 90% in 2006 to 46% in 2016. In addition, the high-rate guarantees – above 4% in interest rate – have decreased even more, from 58% in 2005 to 14% in 2016.





Graph DK2. Provisions for guaranteed and non-guaranteed schemes



Source for Graphs DK1 and DK2: 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 2016 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 2016.



Table DK8. Administration costs in DKK and in percentage of total provisions and contributions, 2007 -2017

| | Costs/customer | | Costs in percentage of total | Costs in percentage of total |
|-------------|----------------|---------|------------------------------|------------------------------|
| | in DKK | in euro | provisions | contributions |
| 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 DK9 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.¹⁴⁰

¹⁴⁰ 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. 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 DK9. 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 | 4.0 | 1.108 (149) | 732 | 208 | 168 |
| Person2 | 1.6 | 8.732 (1.175) | 1,104 | 4,212 | 3,416 |
| Person 3 | 1.5 | 15.732 (2117) | 1,104 | 8,077 | 6,551 |
| Danica | | | | | |
| Person 1 | 4.3 | 1.169 (157) | 780 | 226 | 163 |
| Person 2 | 1.6 | 8.695 (1.170) | 780 | 4,594 | 3,321 |
| Person 3 | 1.5 | 15.995 (2.153) | 780 | 8,808 | 6,367 |
| Sampension | | | | | |
| Person 1 | 2.0 | 556 (75) | 420 | 136 | 0 |
| Person 2 | 0.6 | 3.148 (424) | 420 | 2,728 | 0 |
| Person 3 | 0.5 | 5.648 (760) | 420 | 5,228 | 0 |
| DC -no guarantee | | | | | |
| PFA | | | | | |
| Person 1 | 2.0 | 571 (77) | 345 | 226 | |
| Person 2 | 0.9 | 5.102 (687) | 575 | 4,527 | |
| Person 3 | 0.7 | 7.663 (1.031) | 575 | 7,088 | |
| Danica | | | | | |
| Person 1 | 4.0 | 1.096 (148) | 780 | 316 | |
| Person2 | 1.2 | 6.505 (876) | 780 | 5,725 | |
| Person 3 | 1.1 | 11.296 (1.520) | 780 | 10,516 | |
| PensionDanmark | | | | | |
| Person 1 | 1.5 | 433 (58) | 297 | 136 | |
| Person 2 | 0.5 | 2.915 (392) | 297 | 2,618 | |
| Person 3 | 0.4 | 4.628 (623) | 297 | 4,331 | |
| Sampension | | | | | |
| Person 1 | 2.0 | 569 (77) | 420 | 149 | |
| Person 2 | 0.5 | 2.980 (401) | 420 | 2,56 | |
| Person 3 | 0.4 | 4.417 (594) | 420 | 3,997 | |
| Industriens Pension | | | | | |
| Person 1 | 1.3 | 361 (49) | 228 | 133 | |
| Person 2 | 0.9 | 4.912 (661) | 228 | 4,684 | |
| Person 3 | 0.7 | 7.637 (1.028) | 228 | 7,409 | |

Source: faktaompension.dk



There are a number of general conclusions to be made from the examples in Graph DK9.

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. Administration costs 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) which are most exposed to competition – though PFA is very close to the non-market-oriented companies.
4. For PFA and Danica, the 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 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 still, a lower taxation of investment return constitutes the major tax incentive to pension savings.

In general, pension contributions are tax-deductible 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 (arbejdsmarkedetsbidrag). 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 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 like in other schemes. So, the main difference is that income taxation is no longer deferred.

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 DK10. 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) |
| Aldersopsparing | 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 do not concern the tax rules directly, but rather the total impact of tax and social benefits. Lately, the existence of a political dilemma has become more and more clear. On the one hand, society wants the Danes to save for their old age. Therefore, we need tax incentives to save for pensions. On the other hand, it is generally expected that the welfare system takes care of elderly citizens with little income. Therefore, we have social benefits directed towards old aged people with little or no private pension. Thus, the interaction between the tax system and earnings-related social benefits results in extremely high implicit marginal tax rates for pension saving, even higher than 100%. Instead of a tax incentive, some people lose money on their marginal pension contributions. This is particularly a problem for contributions made in the last 5-15 years before retirement age. As pensions in Pillar II schemes increase, it becomes a problem for more and more people.

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 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.

For DC schemes without guarantee, the major market-oriented insurance companies offer unit-linked products. But, 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.

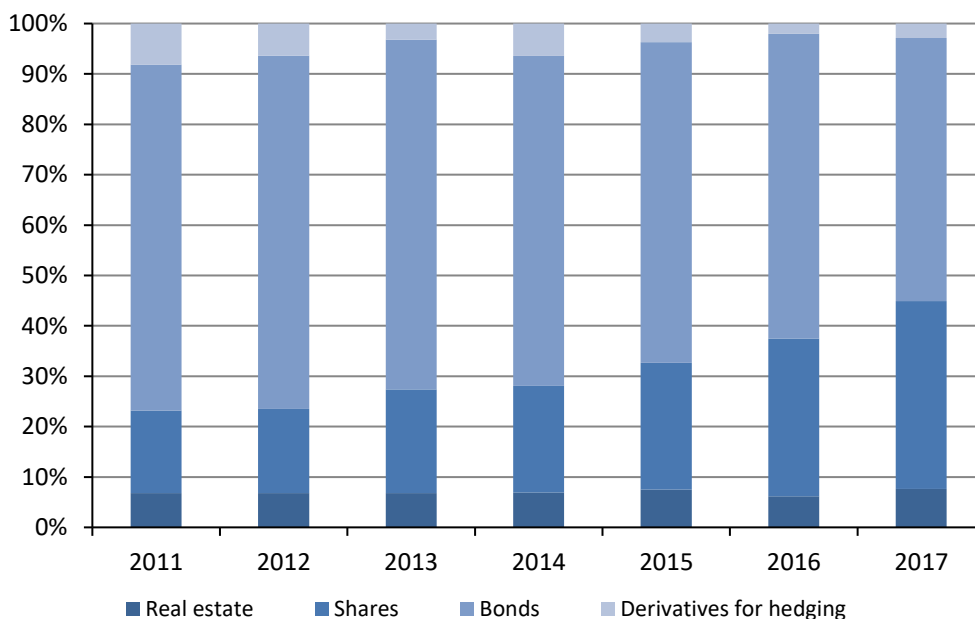
Pension savings in banks give the individual customer the opportunity to make his own investment decisions. Savings can be invested in investment funds of the customers own



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.

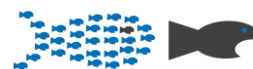
Graph DK3. Investment assets



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).

Table DK11. Nominal and real return of private pension schemes in Denmark 2007-2016 (in %)

| | Nominal return before taxes and inflation | | Nominal return after taxes | | Real return after taxes and inflation | |
|------|---|----------------------|----------------------------|----------------------|---------------------------------------|----------------------|
| | Hybrid DC with guarantee | DC with no guarantee | Hybrid DC with guarantee | DC with no guarantee | Hybrid DC with guarantee | DC with no guarantee |
| 2007 | 0.89 | | 0.75 | | 0.74 | |
| 2008 | -3.09 | | -2.62 | | -2.65 | |
| 2009 | 7.57 | | 6.41 | | 6.40 | |
| 2010 | 10.13 | | 8.58 | | 8.56 | |
| 2011 | 9.12 | | 7.72 | | 7.70 | |
| 2012 | 10.47 | | 8.87 | | 8.84 | |
| 2013 | 1.88 | | 1.59 | | 1.59 | |
| 2014 | 12.95 | | 10.97 | | 10.96 | |
| 2015 | 1.8 | | 1.52 | | 1.52 | |
| 2016 | 7.58 | 6.16 | 6.42 | 5.22 | 6.42 | 5.22 |
| 2017 | 5.45 | 8.54 | 4.62 | 7.23 | 4.60 | 7.22 |

Source: Danish FSA; **Note:** at the time of writing the source contained returns for 2016-17, however, at a later stage the returns were probably deleted for revision

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 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.

The interaction between tax and means-tested social benefits has led to very high implicit tax rates. The incentives for private pension saving has become negative for a large fraction of tax payers. This problem seems to have been solved by the legislators. But the price for this is even more complicated and two-fold: regulation of pension saving and less transparency. How people will react to the new amendments is yet to be seen.



Pension Savings: The Real Return

2018 Edition

Country Case: Estonia

Estonian Summary

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 solidsed 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. The year 2017 saw positive returns for both pillars, even though Pillar III outperformed Pillar II with a solid 2.35% real return vs only slightly positive real returns for Pillar II pension funds of 0.06%.

The highlight was the introduction of low-cost passively managed pension funds into both pillars. Introduction of low-cost competition has forced the 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 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 legislation that the third voluntary pension pillar. The second or “mandatory” pension pillar, which funds individual private retirement accounts with worker contributions and government matching contributions, was legislated 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: own elaboration, 2018

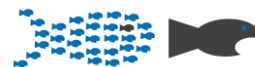
The basic pension system had an average replacement ratio in 2017, calculated by dividing the average old-age pension with the average salary in Estonia of 33.2%. The coverage ratio of the Pillar I pension comprises nearly 100% of the economically active population. Coverage for Pillar II is nearly 96%, whereas for Pillar III the coverage ratio is close to 17%.

Pillar I – State Pension

The state pension (Pillar I) should guarantee the minimum income necessary for subsistence. It is based on the Pay-As-You-Go principle of redistribution, i.e. the social tax paid by today’s employees covers 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.¹⁴¹ Someone is 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 € 175.94 in 2017).

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 2018 is €189.31 (up from €175.94 on 1 April 2017). Generally, no additional benefits are provided via the state pension scheme.

The old-age pension, for those who contributed for 15 years or longer, takes into account a solidarity part (national pension) plus 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 € 175.94 – national pension);
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 entitle 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 in 2017. 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

¹⁴¹ The difference is in 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 its career compared to the average salary in the country.



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 €6,161 in 2017, 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 life of employment. Thus, Pillar I limits the solidarity among individuals.

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 to 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.

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 the 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 be 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 that 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 2017 was €405.40 (€386 in 2016).



Pillar II – Funded pension

The funded pension and supplementary funded pension puts 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.

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 unit-holder.

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. 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.

Pillar III – Supplementary pension

The supplementary funded pensions scheme, or Pillar III, is a part of the Estonia 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 of helping 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:

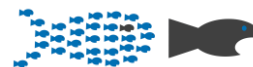
1. Pension insurance with guaranteed interest,
2. Pension insurance with investment risk (unit-linked),
3. Pension fund.

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 EE2. 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 | 223.70 | 6.16% | 43,650 | 6.60% |
| Balanced funds | 454.07 | 12.47% | 68,144 | 10.30% |
| Progressive funds | 2,413.75 | 66.43% | 379,230 | 57.32% |
| Aggressive funds | 542.78 | 14.94% | 170,571 | 25.78% |
| TOTAL | 3,633.30 | 100.00 | 661,595 | 100.00% |

Source: own calculations based on pensionikeskus.ee data, 2018 (data as of 31 December 2017)

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 and 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.

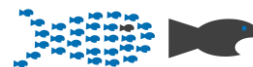


Table EE3. Supplementary Pension vehicles market share

| Supplementary pension vehicles | AuM / Reserves (in €) | Market share based on AuM / reserves |
|---|--------------------------|--------------------------------------|
| Voluntary pension funds | 154,979,066 | 39.71% |
| Supplementary pension insurance contract | 235,270,000 | 60.29% |
| TOTAL | 390,249,066 | 100.00% |

Source: own calculations based on pensionikeskus.ee data, 2018 (data as of 31 December 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 a 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 unit-holder 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. A slight decrease in management fees in 2016 compared to the 2015 can be observed.



Table EE4. Mandatory Pension Funds' Fees

| Fund / Charge type | | Management Fee 2015 | Management Fee 2016 | Management Fee 2017 |
|---------------------------|--|---------------------|---------------------|---------------------|
| Conservative funds | Pension Fund LHV XS | 0.74% | 0.72% | 0.63% |
| | Pension Fund Danske Pension Interest | 0.65% | N/A | N/A |
| | SEB Conservative Pension Fund | 0.95% | 0.95% | 0.49% |
| | Swedbank Pension Fund K1 | 0.62% | 0.61% | 0.29% |
| | Nordea Pension Fund C | 0.85% | 0.84% | 0.75% |
| | Pension Fund LHV S | 0.98% | 0.96% | 0.80% |
| | Tuleva World Bonds Pension Fund | N/A | N/A | 0.34% |
| Balanced funds | Pension Fund LHV M | 1.31% | 1.28% | 1.06% |
| | Pension Fund Danske Pension 25 | 1.35% | N/A | N/A |
| | Swedbank Pension Fund K2 | 0.97% | 0.94% | 0.87% |
| | Nordea Pension Fund B | 1.42% | 1.40% | 1.37% |
| | SEB Optimal Pension Fund | 1.30% | 1.30% | 1.01% |
| Progressive funds | Pension Fund Danske Pension 50 | 1.72% | N/A | N/A |
| | Pension Fund LHV L | 1.64% | 1.59% | 1.33% |
| | Nordea Pension Fund A | 1.51% | 1.50% | 1.47% |
| | SEB Progressive Pension Fund | 1.50% | 1.50% | 1.17% |
| | Swedbank Pension Fund K3 | 1.03% | 1.00% | 0.92% |
| Aggressive funds | Pension Fund LHV XL | 1.64% | 1.59% | 1.33% |
| | SEB Energetic Pension Fund | 1.70% | 1.70% | 1.32% |
| | Swedbank Pension Fund K4 | 1.03% | 1.00% | 0.92% |
| | Nordea Pension Fund A Plus | 1.60% | 1.56% | 1.57% |
| | Pension Fund LHV Index | N/A | 0.39% | 0.39% |
| | SEB Energetic pension fund index | N/A | 0.29% | 0.29% |
| | Swedbank Pension fund K90-99 (Life-Cycle Strategy) | N/A | 0.49% | 0.49% |
| | Tuleva World Stocks Pension Fund | N/A | N/A | 0.34% |

Source: Own research based on the terms of pension funds, 2018

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 and respective 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 EE5. 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% |

Source: Own calculations based on data from pensions' Prospectuses, Terms and Monthly Reports, 2018

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.

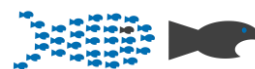
From 1 January 2011 onward, there is no minimum limit for units upon changing a fund (before 1 January 2011 the minimum requirement was 500 units). Since 1 August 2011, it is possible to transfer to a new pension fund all or only a part (e.g. 25%, 50% or 75%) of the assets collected in the former pension 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. 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.

| Table EE6. Supplementary Pension Funds' Fees | | | | |
|--|-----------------|-------|-------|-------|
| Fund | Type of the fee | 2015 | 2016 | 2017 |
| LHV Supplementary Pension Fund | Management fee | 1.00% | 1.00% | 1.00% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 0.00% | 0.00% | 0.00% |
| | Depositary fee | N/A | N/A | N/A |
| Nordea Pension Fund Equity 100 | Management fee | 1.50% | 1.50% | 1.50% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 1.00% | 1.00% |
| | Depositary fee | 0.19% | 0.19% | N/A |
| Nordea Pensionifond Intress Plus | Management fee | 1.20% | 1.20% | 1.20% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 1.00% | 1.00% |
| | Depositary fee | 0.15% | 0.15% | N/A |
| SEB Active Pension Fund | Management fee | 1.50% | 1.50% | 1.50% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 1.00% | 1.00% |
| | Depositary fee | 0.10% | 0.10% | N/A |
| SEB Balanced Pension Fund | Management fee | 1.00% | 1.00% | 1.00% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 1.00% | 1.00% |
| | Depositary fee | 0.10% | 0.10% | N/A |
| Swedbank Pension Fund V1 | Management fee | 1.20% | 1.20% | 1.20% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 0.00% | 0.00% |
| | Depositary fee | N/A | N/A | N/A |
| Swedbank Pension Fund V2 | Management fee | 1.30% | 1.30% | 1.30% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 0.00% | 0.00% |
| | Depositary fee | N/A | N/A | N/A |
| Swedbank Pension Fund V3 | Management fee | 1.40% | 1.40% | 1.40% |
| | Redemption fee | 1.00% | 1.00% | 1.00% |
| | Entry fee | 1.00% | 0.00% | 0.00% |
| | Depositary fee | N/A | N/A | N/A |
| LHV Pension Fund Index Plus | Management fee | | 0.39% | 0.39% |
| | Redemption fee | | 0.00% | 0.00% |
| | Entry fee | N/A | 0.00% | 0.00% |
| | Depositary fee | | 0.00% | N/A |

Source: Own research based on pension funds' documentation, 2018 (data as of 31/12/2017)



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 unit-holders

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 unit-holder 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 unit-holder 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

2017 was characterized by the entry of a new player on the market – Tuleva, coupled 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 uncontested leaders (Swedbank and SEB) absorb 60-70% of the market, with exceptionally strong positions in Estonia.

Five asset managers offer 22 pension plans in Estonia, which is an increase of 2 passively managed pension funds offered by the new player “Tuleva”. 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 (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.

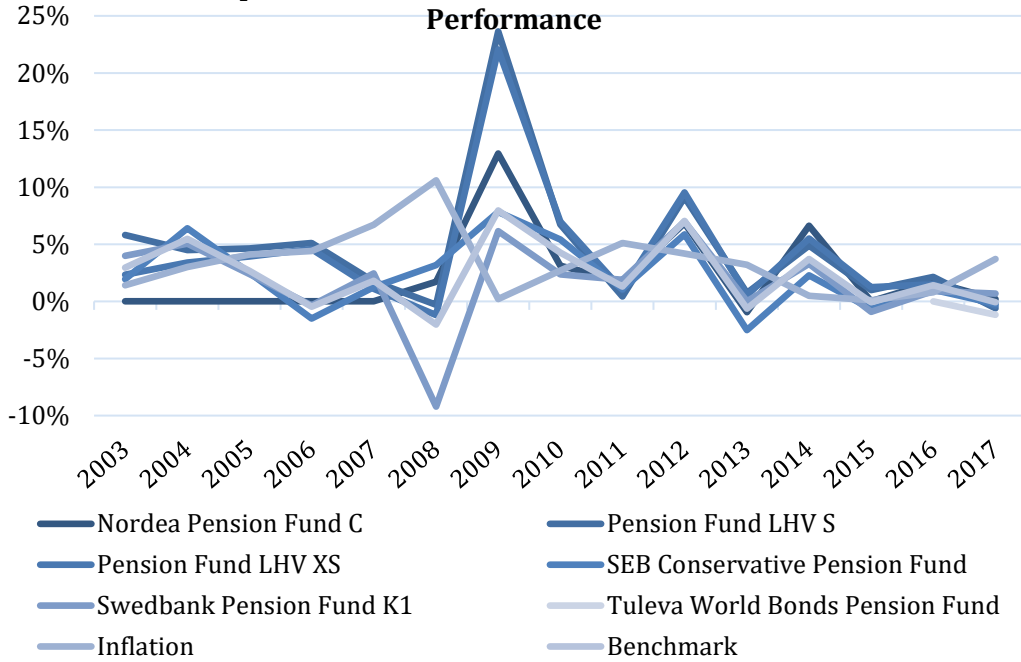
It should be noted that the performance (returns and respective volatility) is closely tied to the structure of the portfolio and the level of active asset management. Active asset management should be able to lower the overall volatility of the returns while maintaining at least the same level of return 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 an annual basis as well as cumulative basis compared to their respective benchmark and inflation is presented in the graphs below.

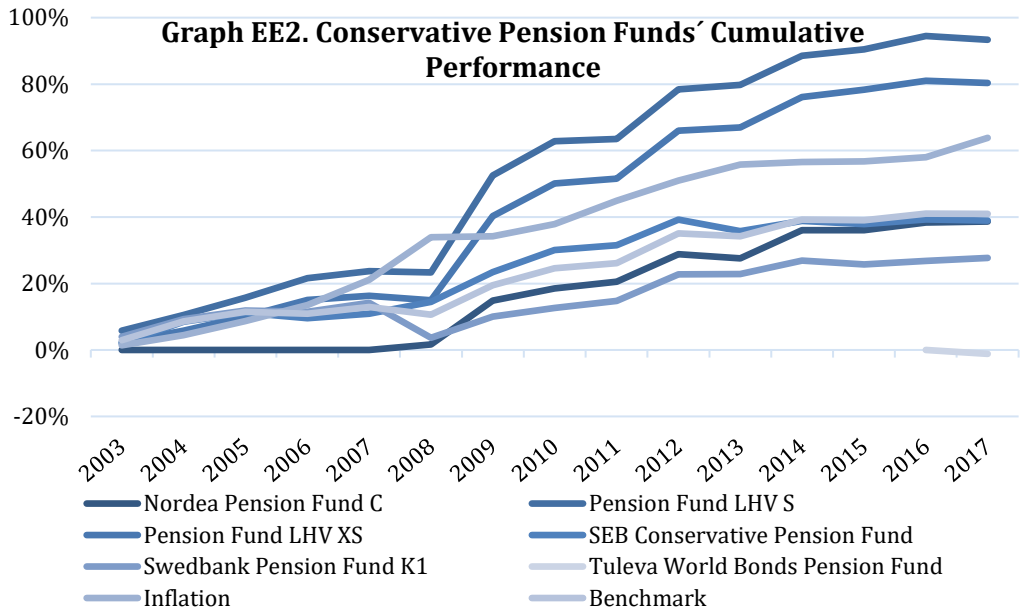


Graph EE1. Conservative Pension Funds' Annual Performance



Source: Own calculations based on Pensionikeskus data, 2018

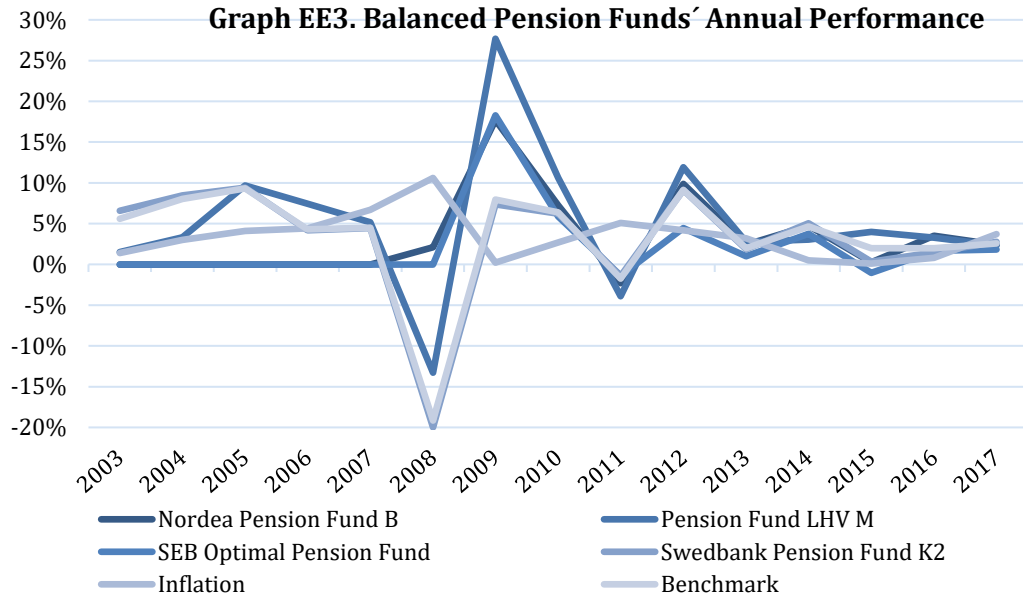
Graph EE2. Conservative Pension Funds' Cumulative Performance



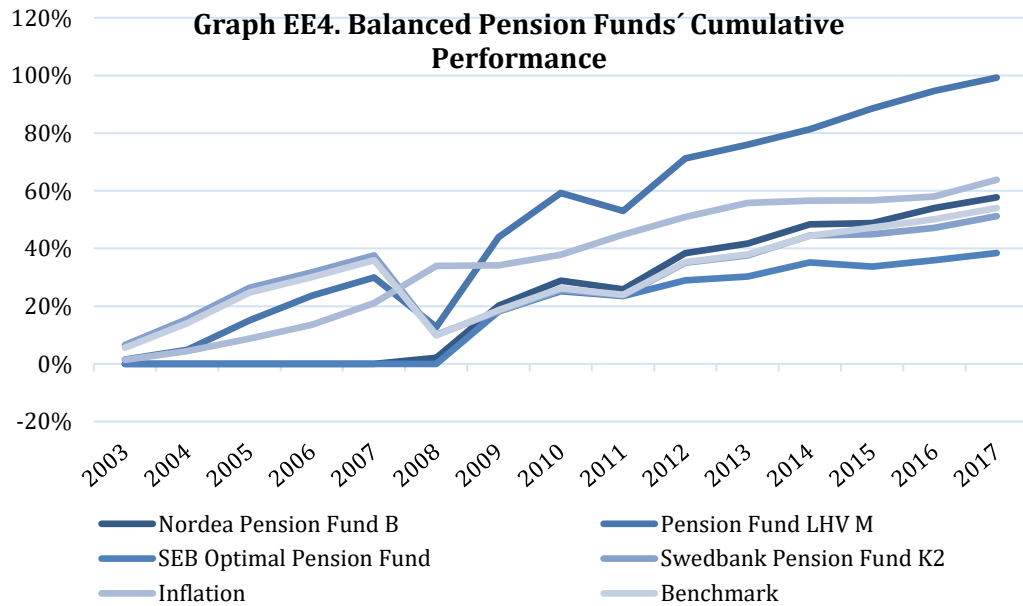
Source: Own calculations based on Pensionikeskus data, 2018



Balanced Mandatory Pension Fund's performance (annual and cumulative) comparing to the respective benchmark is presented in graphs below.



Source: Own calculations based on Pensionikeskus data, 2018

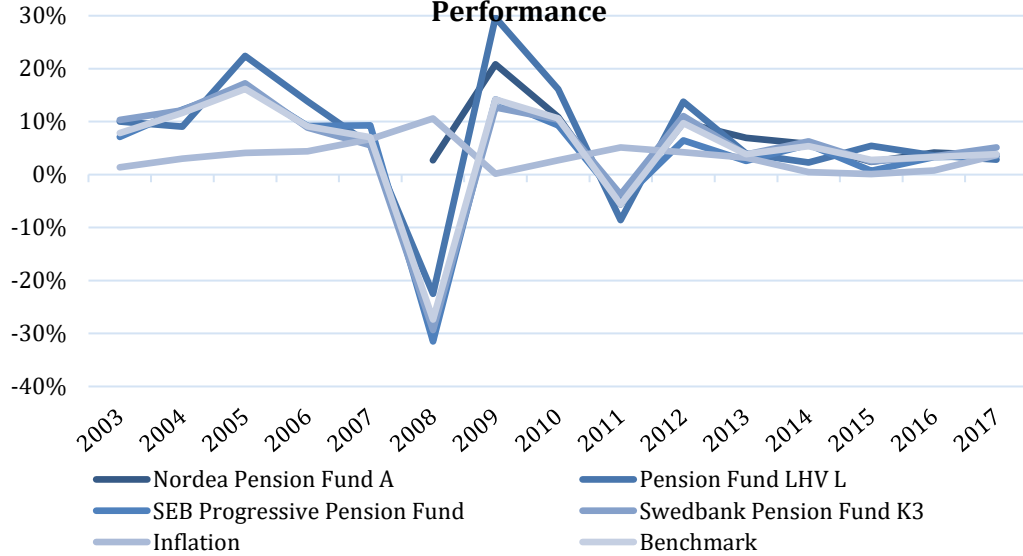


Source: Own calculations based on Pensionikeskus data, 2018



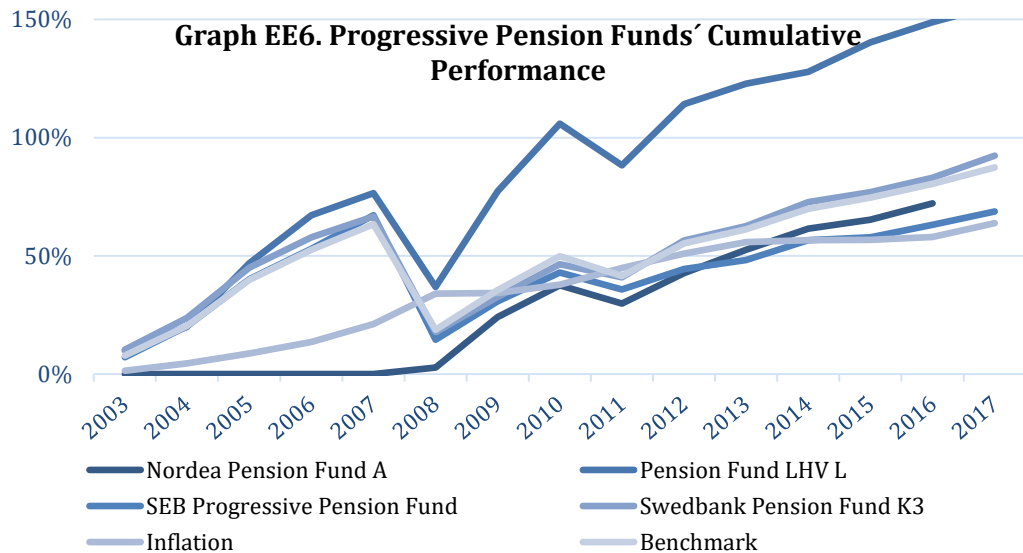
Progressive mandatory pension funds' performance on an annual as well as cumulative basis compared to their respective benchmark is presented in the graphs below.

Graph EE5. Progressive Pension Funds' Annual Performance



Source: Own calculations based on Pensionikeskus data, 2018

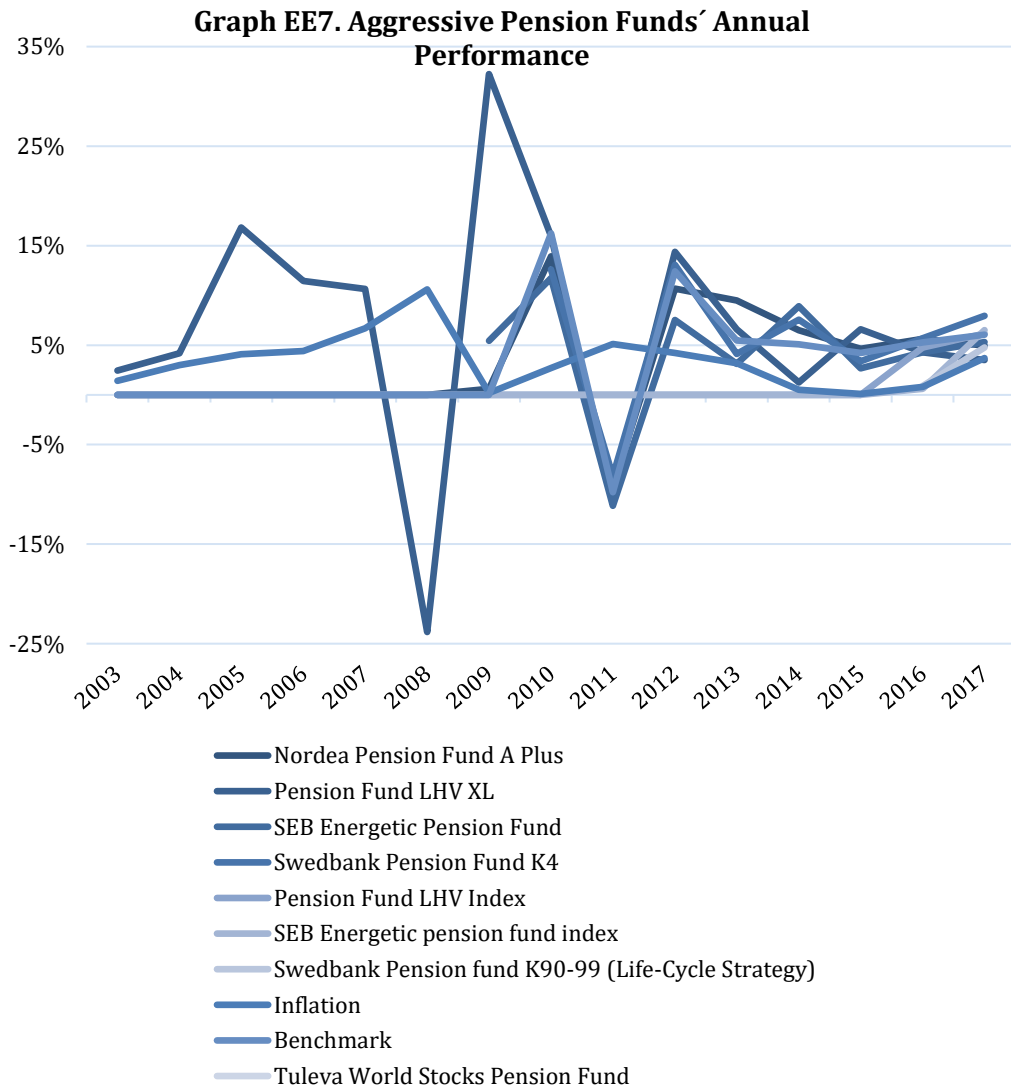
Graph EE6. Progressive Pension Funds' Cumulative Performance



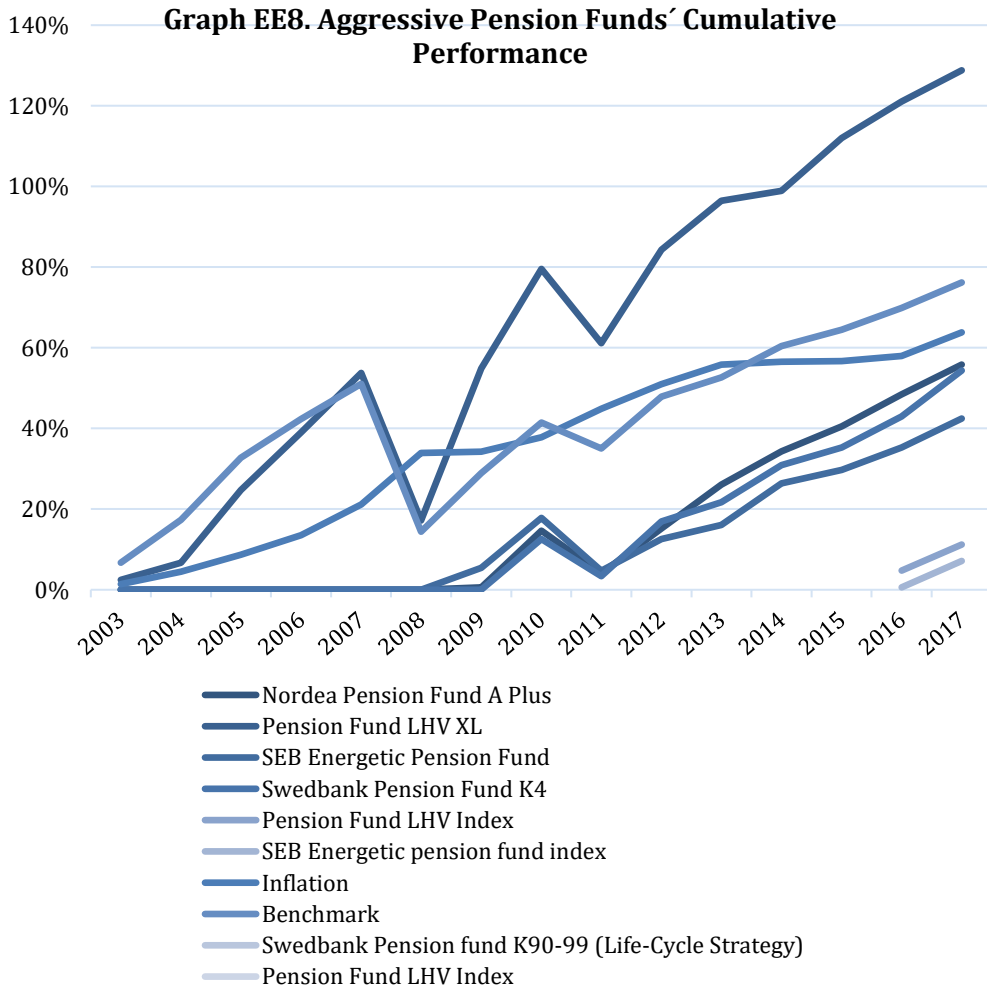
Source: Own calculations based on Pensionikeskus data, 2018



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' performance on an annual basis as well as cumulative basis compared to their respective benchmark is presented in the graphs below.



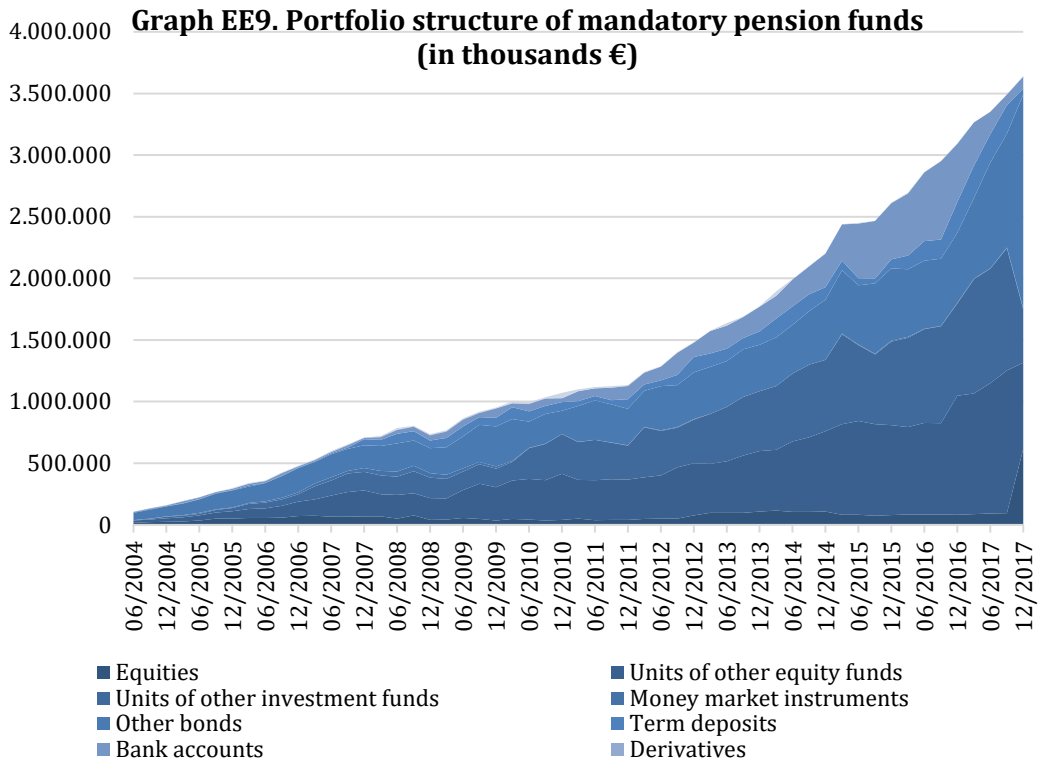
Source: Own calculations based on Pensionikeskus data, 2018



Source: Own calculations based on Pensionikeskus data, 2018

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.

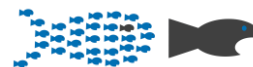
Portfolio structure of all mandatory pension funds is presented in the graph below.



Source: Own calculations, 2018

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 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.



| Year | Nominal return after charges, before inflation and taxes | Real return after charges and inflation and before taxes |
|------|--|--|
| 2003 | 6.84% | 5.44% |
| 2004 | 10.07% | 7.07% |
| 2005 | 13.43% | 9.33% |
| 2006 | 7.40% | 3.00% |
| 2007 | 6.25% | -0.45% |
| 2008 | -23.43% | -34.03% |
| 2009 | 12.52% | 12.32% |
| 2010 | 9.42% | 6.72% |
| 2011 | -4.44% | -9.54% |
| 2012 | 9.70% | 5.50% |
| 2013 | 3.28% | 0.08% |
| 2014 | 5.10% | 4.60% |
| 2015 | 2.49% | 2.39% |
| 2016 | 3.35% | 2.55% |
| 2017 | 3.76% | 0.06% |
| | 3.98% | 0.33% |

Source: Own calculations based on Pensionikeskus data, 2018

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.

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.

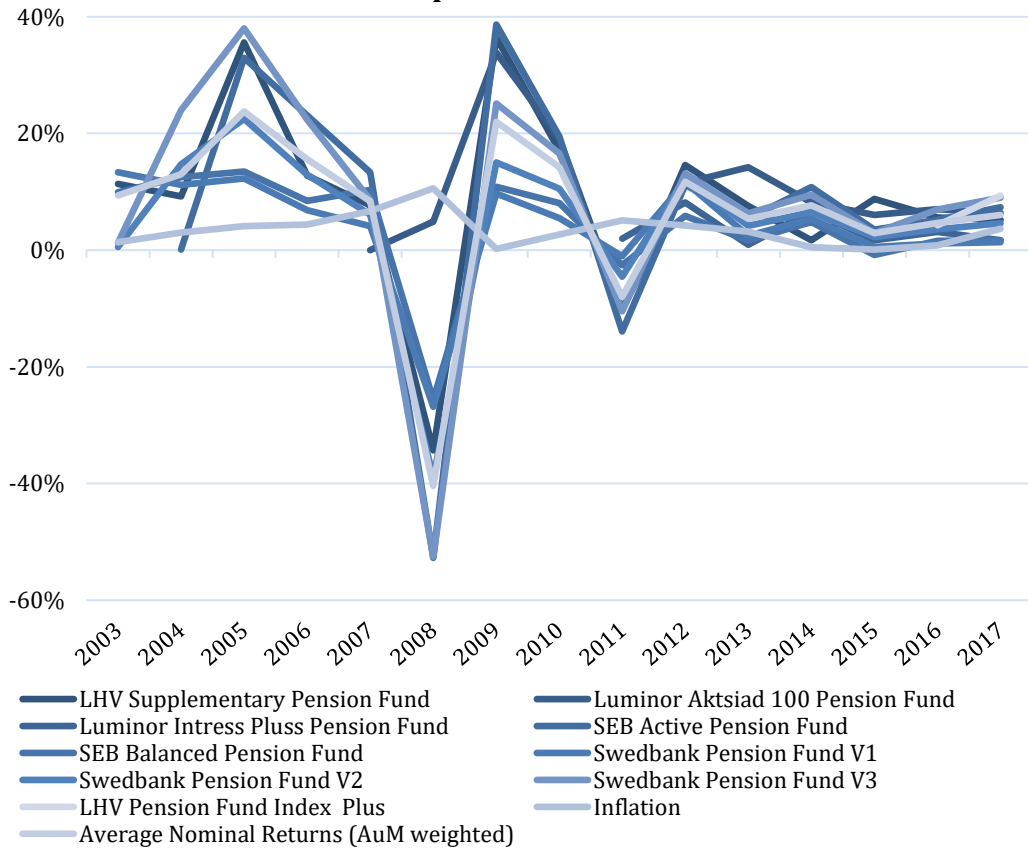
Supplementary pension funds do differ in their strategy, mostly based on the volatility of their portfolios. In most cases and compared to mandatory pension funds, the investment strategies of supplementary pension funds' portfolio managers are far more aggressive. By large, the investment strategies 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

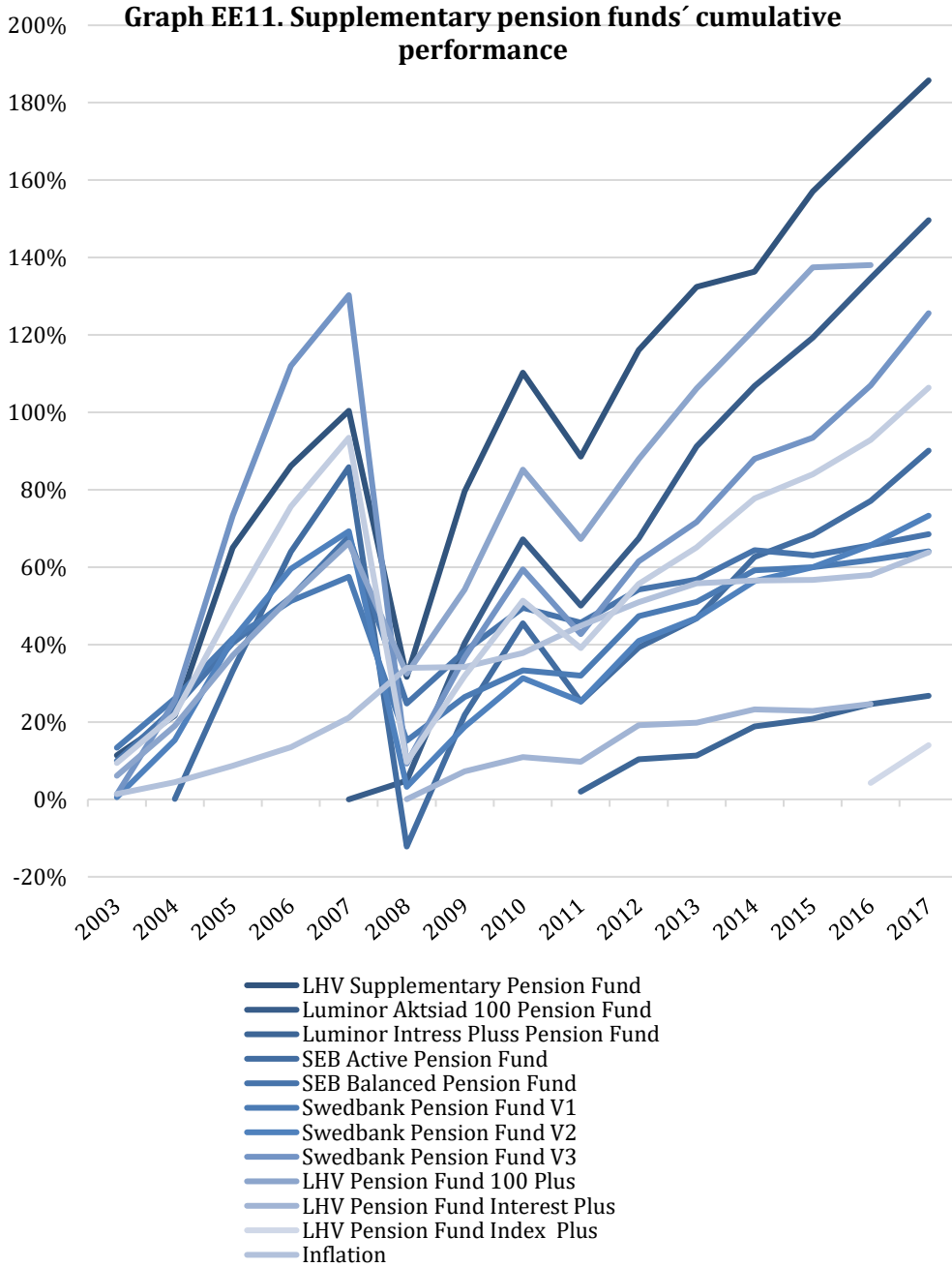


supplementary pension funds on an annual as well as cumulative basis is presented in the graphs below.

Graph EE10. Supplementary pension funds' annual performance



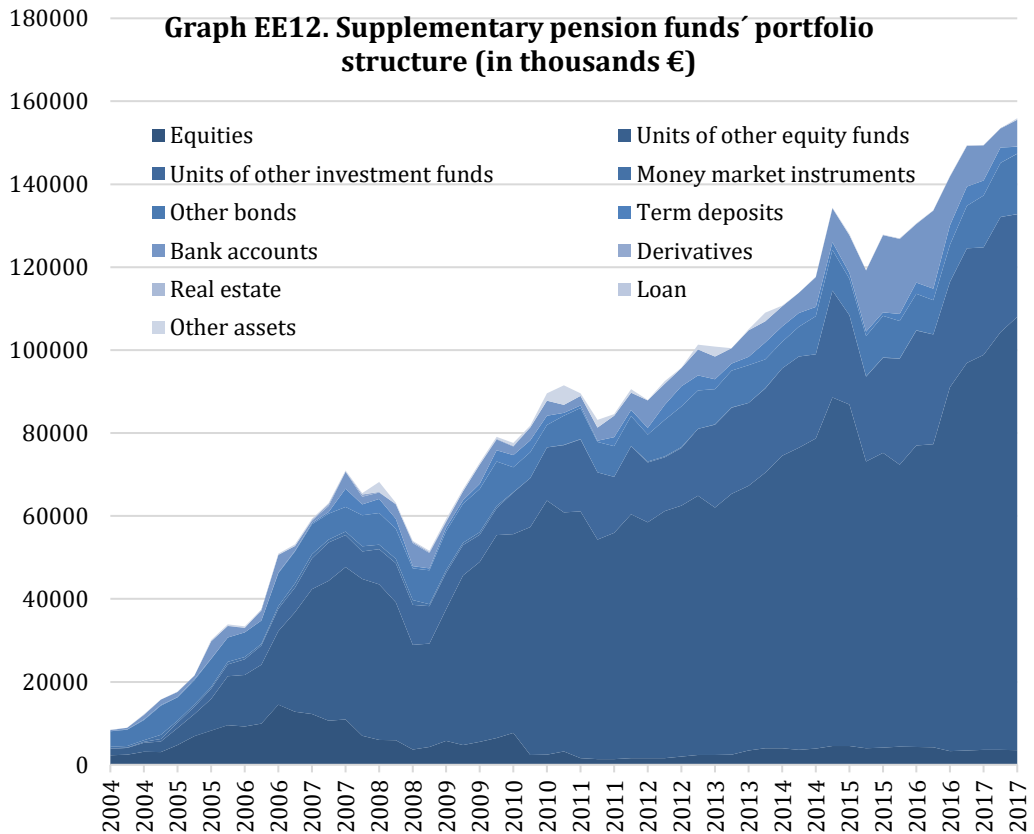
Source: Own calculations based on Pensionikeskus data, 2018



Source: Own calculations based on Pensionikeskus data, 2018



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).



Source: Own calculations, 2018

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.



| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|-------|--|-------|
| 2003 | 9.40% | | 8.00% | |
| 2004 | 13.03% | | 10.03% | |
| 2005 | 23.78% | | 19.68% | |
| 2006 | 15.57% | | 11.17% | |
| 2007 | 8.37% | | 1.67% | |
| 2008 | -40.40% | | -51.00% | |
| 2009 | 21.99% | | 21.79% | |
| 2010 | 14.21% | 5.15% | 11.51% | 1.21% |
| 2011 | -8.00% | | -13.10% | |
| 2012 | 11.76% | | 7.56% | |
| 2013 | 5.41% | | 2.21% | |
| 2014 | 7.69% | | 7.19% | |
| 2015 | 2.93% | | 2.83% | |
| 2016 | 4.68% | | 3.88% | |
| 2017 | 6.05% | | 2.35% | |

Source: Own calculations based on Pensionikeskus data, 2018

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 results contrasts with the high transparency of performance disclosed on a daily basis. The exception are 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 what is concerning their savings. Pillar III vehicles are a typical example of high volatile pension vehicles. But after the financial crisis, pension asset management companies started to offer also 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 2017 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.

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Pension Savings: The Real Return

2018 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%,¹⁴² and a total value of assets of 10% of the French GDP in 2017. Despite the rather aggressive asset allocation of corporate pension plans, these pension products have an 18-year average annual real net return of +0.8% (+15.6% 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% (+1.9% annual average) for the still dominant capital guaranteed ones, but -14% (-0.8%) for the 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 often poor.

Résumé

Le système français d'épargne-retraite continue à reposer majoritairement sur les régimes d'assurance vieillesse de base et complémentaire (Piliers 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. Les plans d'épargne-retraite entreprise ont eu un rendement annualisé réel de +0.8% en 18 ans (+15.6% cumulativement). 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% (+1,9% en moyenne annuelle) pour les fonds en euros (à capital garanti) encore dominants, mais -14% (-0,8%) pour les contrats en unités de compte qui 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 souvent mauvaises.

¹⁴² 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 products |
| 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

Average state pension was € 1532 (net) in 2016, significant gender gap: €1760 for men - €1332 for women.

A relatively high old-age dependency ratio of 31.7%

An average pre-retirement income replacement ratio of 60.5%

Source: BETTER FINANCE own composition

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.¹⁴³ On aggregate, the French social insurance system supported approximately 10 million retirees in 2017, compared to a total economically active population of 30.2 million, thus a relatively high old-age dependency ratio of 31.7%. Out of the total number of retirees, 4.8 million benefited from the minimum allowance in 2017 (a component of pillar 0).¹⁴⁴

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.¹⁴⁵

The full pension entitlement from Pillar I will be calculated by multiplying the mean annual gross income,¹⁴⁶ by the correction coefficient,¹⁴⁷ 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).¹⁴⁸

¹⁴³ <https://www.la-retraite-en-clair.fr/cid3190613/information-retraite-retraite-france-quelques-chiffres.html>.

¹⁴⁴ Caisse Nationale d'Assurance Vieillesse, "Minimum contributif" <https://www.statistiques-recherches.cnnav.fr/le-minimum-contributif.html>.

¹⁴⁵ 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' <https://droit-finances.commentcamarche.com/contents/1163-age-de-depart-a-la-retraite-en-2018>.

¹⁴⁶ Which is the average of the highest 25 annual gross salaries.

¹⁴⁷ The correction coefficient, in fact, referred to as a *rate* which can represent a maximum of 50% of the social security income limit.

¹⁴⁸ CNAV, "Elements de calcul de la pension" <https://www.statistiques-recherches.cnnav.fr/les-elements-de-calcul-de-la-pension.html>.



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.¹⁴⁹

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 Public Health sector,) *Préfon* (mainly accessible to public employees), *Fonpel*, *Carel-Mudel* and *RMC*¹⁵⁰.
- B. Personal pension products unrelated to occupation

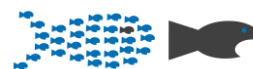
PERP (People's Retirement Saving Plans), mainly sub-divided into contracts with capital guarantee and contracts linked to units in collective investment schemes (UCITS or AIFs), and *Corem*.

Voluntary pension products are tax-incentivised in order to support participation in the third pillar and are mostly defined contribution.

In 2017, the value of financial assets held by French households increased by 4.6%. Life insurance contracts and bank accounts still represent the two largest blocks of financial

¹⁴⁹ 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%.

¹⁵⁰ The *Fonpel*, *Carel-Mudel* and *RMC* are special pension vehicles and not covered by this report.



savings products in portfolios held by French households. Total outstanding life insurance contracts grew by 1% in 2017 and reached €1,724 billion, whereas deferred annuity plans¹⁵¹ grew by 3.2% to €205 billion, still only a very small portion of the financial assets of households:

Table FR1. Financial assets of French households at the end of 2017

| | % of total financial savings | 2017/2016 |
|--|---------------------------------|--------------|
| Currency and bank deposits | 29.89% | 4.58% |
| Investment funds | 6.45% | 11.46% |
| Life insurance | 34.37% | 0.95% |
| Pension funds | 4.08% | 3.25% |
| Direct investments (direct holdings of bonds & shares) | 25.21% | 7.13% |
| Total | 100.00% | 4.28% |

Source: Banque de France, « National Financial Accounts »

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 2017, mathematical reserves related to unit-linked contracts rose more than those of “*contrats en euros*” (capital guaranteed contracts) and their share in total mathematical reserves increased from 17% to 22%. This increase is due to both capital gains and net inflows (contributions minus benefits). Unit-linked contracts accounted for 30% of net inflows to life insurance in France in 2013 and 29% in 2017.

Table FR2. Mathematical provisions (in € billion)

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2017/2016 |
|------------------------------|--------------|--------------|--------------|--------------|--------------|-----------|
| Capital-guaranteed contracts | 1,195 | 1,235 | 1,269 | 1,282 | 1,280 | -0.16% |
| Unit-linked contracts | 239 | 259 | 282 | 309 | 352 | 14% |
| All contracts | 1,433 | 1,494 | 1,549 | 1,591 | 1,632 | 3% |

Source: FFA-Assurance

¹⁵¹ 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).



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 2017, insurers had signed only 183,000 contracts for €2.2 billion of mathematical provisions,¹⁵² 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 gains from their general assets to the *Eurocroissance* contracts to boost returns.

Personal deferred annuity plans

“People pension savings plan” (PERP¹⁵³)

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 €18.5 billion in 2017. 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 2017 from 2.1 to 2.5 million, (+18%), and only +1% in 2017 alone.

“Contrats Madelin” (for self-employed individuals)

Mathematical provisions related to “*contrats retraite Madelin*” increased by 6.6 % in 2017 to 35.9 billion.¹⁵⁴ There were 1.251 million outstanding contracts at the end of 2017 (+2.8%). 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 3.7% in 2017, to €5.4 billion. 320,000 farmers had an open contract at the end of 2017.

Préfon

Préfon, a deferred annuity plan open to all current and former public employees and their spouses, had 400,000 participants at the end of 2015 (+1.6% from 2014). Its assets under

¹⁵² Source : FFA

¹⁵³ “*Plan d'épargne retraite populaire*”. Figures source: FFA, French Federation of Insurance.

¹⁵⁴ Source: FFA



management reached €16.3 billion (market value) at the end of 2016¹⁵⁵, up from €12.9 billion at the end of 2012.

Corem

Corem, a deferred annuity plan mainly subscribed to by civil servants, had 392,519 participants at the end of 2017 (down from 397,515 in 2016). Its assets under management grew from € 7.6 billion at the end of 2012 to € 10.4 billion (market value) at the end of 2017¹⁵⁶.

CRH

CRH (“*Complémentaire Retraite des Hospitaliers*”), a deferred annuity plan open to all public employees from the health sector and their spouses, had 360,500 participants in 2017 (1,3% from 2016). Its technical reserves amount to €4 billion (same as in 2016).¹⁵⁷ We could not find more precise publicly available information.

Collective deferred annuities

In total, mathematical reserves grew by 5%, from €114.3 billion to €118.8 billion, from the end of 2016 to the end of 2017.

For insurance-regulated corporate defined contribution plans under “Article 83” of the French tax code (“*PER Entreprises*” or *PERE*), mathematical reserves stood at €57 billion at the end of 2017.

For insurance-regulated defined benefit plans (“Article 39” of the French tax code), mathematical reserves stood at €42.8 billion at the end of 2017.

Corporate long-term savings plans

The total assets of French defined contribution corporate savings plans (*PEE*¹⁵⁸ + *PERCO*) continued to grow in 2017 to 131.5 billion by the end of 2017 (+7 % over previous year). The number of members in those plans is stable (more than 10.3 million people) but the average contribution increased, and the plans again benefitted from favourable market trends in 2017.

¹⁵⁵ As of August 2018, *Préfon* had not released its 2017 results, and has not published the number of its participants since 2015.

¹⁵⁶ Combined participants and assets of *Corem* and “*R1,R3 and Corem Co*”, closed pension plans managed by the same provider (*UMR*).

¹⁵⁷ Source: *Guide d’information CRH* du CGOS – 2018.

¹⁵⁸ *PEE*: « *Plan d’épargne entreprise* » is a corporate savings plan where savings are typically blocked for a minimum of five years.



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 to grow rapidly. Assets under management amounted to 14 billion at the end of 2016, and to 15,9 billion at the end of 2017 (+14.5 %). 2.4 million employees had a PERCO at the end of 2017 (an annual growth of +9%) and 212,000 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 not invested in general purpose investment funds like UCITS, but only in specifically dedicated alternative investment funds (AIFs) called *Fonds Communs de Placement d’Entreprise* (FCPEs).

Charges

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 2013¹⁵⁹. 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).¹⁶⁰

Insurance capital-guaranteed with profit contracts (“*fonds en euros*”) bear an average annual fee of around 0.8%,¹⁶¹ but that does not include underlying fees and profit sharing.

Unit-linked insurance contracts 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 assets¹⁶². 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.

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.

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 tells us that they are on

¹⁵⁹ 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>

¹⁶⁰ Source: UK Financial Conduct Authority – Asset Management Market Study, November 2016
<https://www.fca.org.uk/publication/market-studies/ms15-2-2-interim-report.pdf>

¹⁶¹ Source: toutsurmesfinances.com, November 2016

¹⁶² Source: dossiers de l’épargne n°152, 2014



average rather high. For example, Préfon charged 0.54% on assets for asset management plus 5.22% of contributions for administration in 2016.

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%¹⁶³. 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 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 is abrogated on all financial assets from 2018 on.

¹⁶³ Loi de Finance rectificative du 29 Février 2012 : LOI n° 2012-354 du 14 mars 2012 de finances rectificative pour 2012

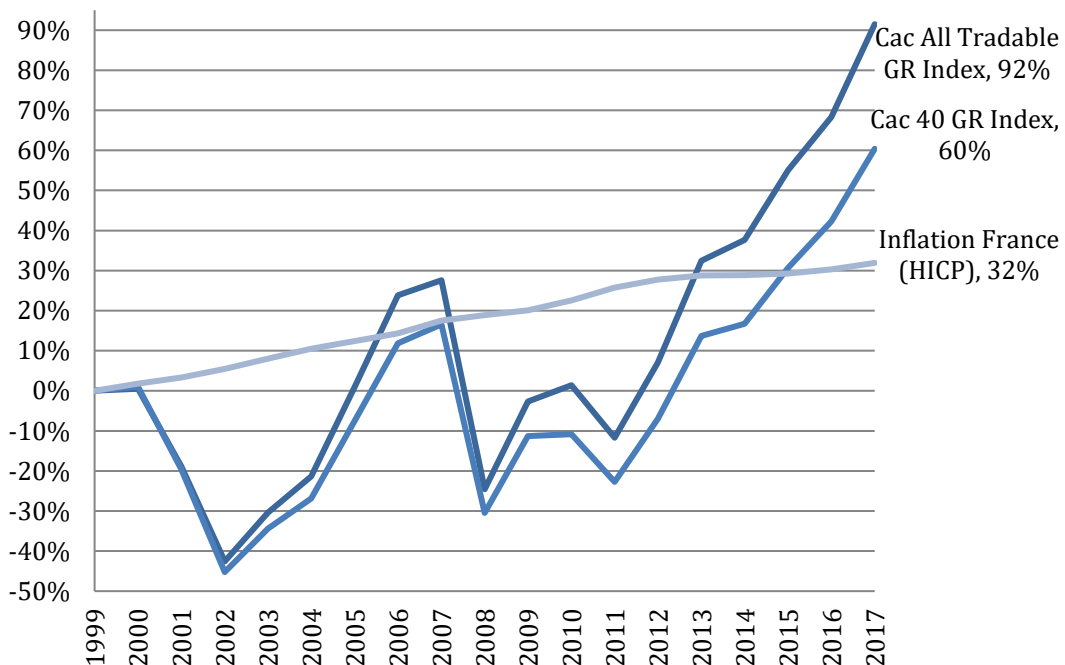


Pension Returns¹⁶⁴

Shares and bonds (direct investment in securities)

In 2017, the French equity market (dividends reinvested) returned 13.75% (CAC all tradable GR index). Over the last 18 years (end 1999 to end 2017), it returned a total of (all shares) 91.5 % (3.68% annual average), while large capitalisations (CAC 40 index, dividends reinvested as well) returned less, only 60.4% (2.65% annual average), demonstrating the very strong over-performance of small and mid-cap equities. Inflation over the same period was 32% (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 most liquid stocks started to be positive since 2015.

Graph FRI - French Equity market performance: broad market vs. big caps market - 18 years (2000-2017)

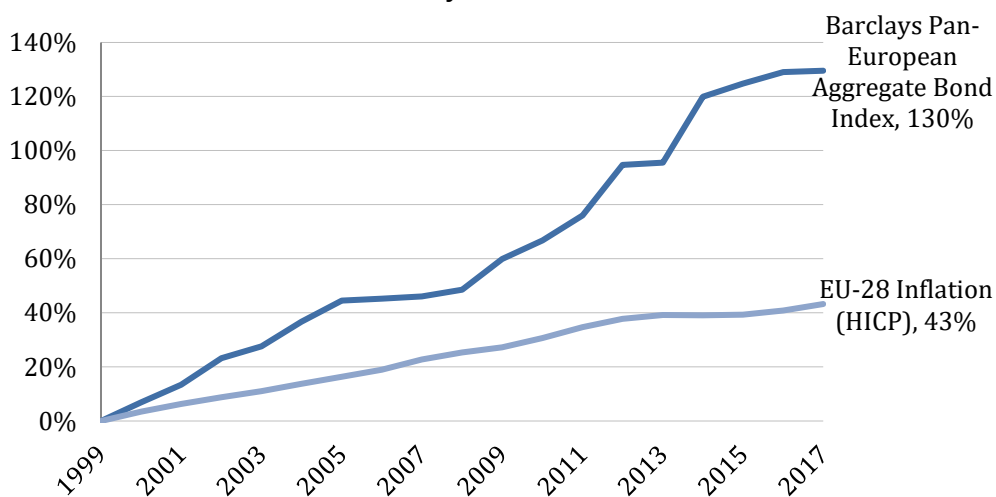


Sources: Euronext, Eurostat 2018

¹⁶⁴ Real Returns in the French case are calculated using Eurostat HICP monthly index annual rate of change (December to December)



Graph FR II. Cumulated Performance of European Bond Index - 18 years 2000-2017



Sources: Barclays Pan-European Total Returns & Eurostat HICP Europe 28

Euro Bond markets continued to perform positively in 2017, although at a rate close to stagnation (0.2%), thanks to the quantitative easing policy of the European Central Bank. Overall, capital markets delivered significant positive returns¹⁶⁵ over the last eighteen 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 almost zero (0,1%) in 2017 in real terms, due to the combined effect of very low interest rates, a resurgence of inflation, and because of ongoing very low average allocation of undelying investments to equities (below 10%). Such returns should be assessed from a long-term perspective: the last data available from the wealth survey by INSEE indicates that outstanding life insurance contracts were open for 10 years on average and 32% were open for more than 12 years¹⁶⁶.

¹⁶⁵ Of course, these market returns are without charges and without taxes. The closest retail investment products would be 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.

¹⁶⁶ Christophe Benne, Alain Peuillet, "L'assurance-vie en 2010 : Une composante majeure du patrimoine des ménages", INSEE Première n° 1361, July 2011.



Over an 18-year period, cumulated after-tax real returns of guaranteed life-insurance contracts reached 24%, and varied from a maximum annual performance of 3.1% in 2001 to a negative performance of -0.3% in 2011.

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 (0.3% in 2017 and 31% cumulated over the last 18 years).

A negative after-tax real performance could occur in 2018 as interest rates are still very low, inflation is currently (August 2018) at 2% in annual terms and at best tax rates will increase to 24.7%.

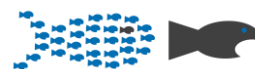
| Table FR 3. The returns of French life insurance contracts – capital guaranteed (%) | | | | |
|--|-------------------------|-------------------------------|------------------------------|-------------------------------|
| | Disclosed return | Real return before tax | Real return after tax | Real return 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 |

Source: Source: FFA, Eurostat (HICP inflation index);

**for redemptions below €4600 p.a.*

Once again, contradictory factors impacted real returns after tax in 2017:

- Nominal returns decreased again, 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.

In 2012, taxation increased by 200 basis points, as a result of the rise in social contributions from 13.5% to 15.5%. As taxation is applied to nominal returns, any rise in inflation increases the effective tax rate which reached 76% in 2017, and was almost 200% in 2011, as shown in the table below. It will likely rise again in 2018.

Table FR 4. French nominal and effective tax rates on capital guaranteed life insurance returns (%)

| | Inflation | Nominal tax rate | Effective* 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 |

Source: Eurostat (HICP index 2015 base), BETTER FINANCE computation;

*Effective 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 2016 average nominal return was only 1.73%¹⁶⁷, whereas the return of contracts subscribed by independent associations was 2.64%¹⁶⁸. Considering that contracts distributed by banks represent 62% of the French with-profit life insurance market (€ 1,282 billion at the end of 2016), this return gap of 0.91% in

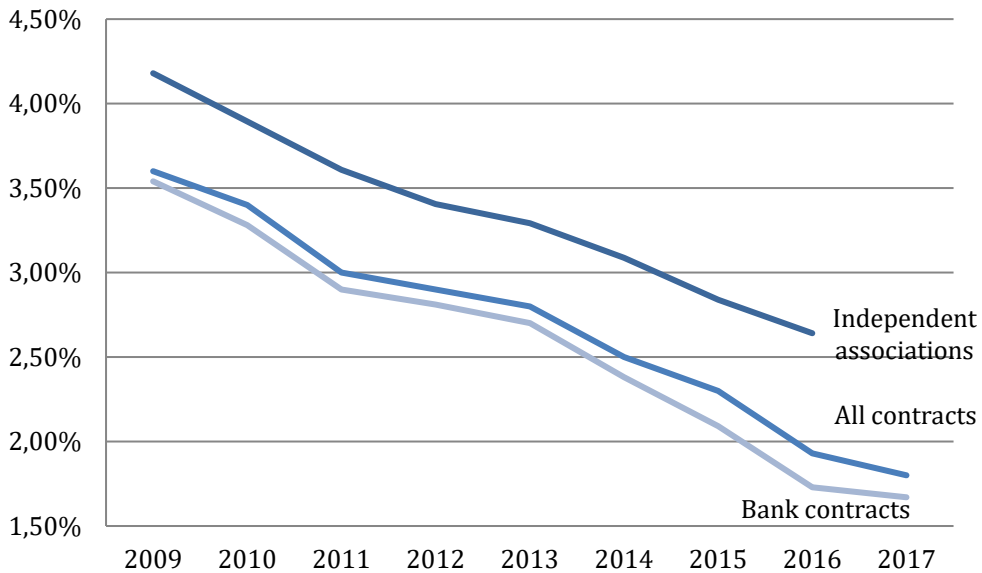
¹⁶⁷ Source: ACPR

¹⁶⁸ 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.



2016 constitutes an opportunity cost of €7 billion for that year alone for savers getting their capital-guaranteed life insurance contracts from their bank instead of independent savers' associations. At the time of printing, the 2017 average return for contracts subscribed by independent associations was not available, but the trend is very similar considering that, for example, GAIPARE contracts returned 2.65% and those of ASAC-FAPES 2.58%, compared to the average return of banks' contracts of 1.67%.

Graph FR III. 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 FR 5. The returns of French life insurance contracts – unit-linked (%)

| | Disclosed Return | Real return before tax | Real return after tax |
|-------------|-------------------------|-------------------------------|------------------------------|
| 2000 | <u>-2</u> | <u>-4.6</u> | <u>-4.6</u> |
| 2001 | <u>-9.5</u> | <u>-11.7</u> | <u>-11.7</u> |
| 2002 | <u>-15.2</u> | <u>-17.8</u> | <u>-17.8</u> |
| 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 | <u>-2.2</u> | <u>-2.2</u> |
| 2008 | <u>-22.3</u> | <u>-23.9</u> | <u>-23.9</u> |
| 2009 | 14.4 | 12.2 | 12.2 |
| 2010 | 5.2 | 2.1 | 2.1 |
| 2011 | <u>-7</u> | <u>-10.3</u> | <u>-10.3</u> |
| 2012 | 11 | 8.3 | 8.3 |
| 2013 | 8.2 | 6.3 | 4.4 |
| 2014 | 5.9 | 4.8 | 3.4 |
| 2015 | 4.1 | 2.8 | 1.9 |
| 2016 | 3.9 | 2.1 | 1.2 |
| 2017 | 6.1 | 3.8 | 2.4 |

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 – 18 years returns (2000-2017)

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 18 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. 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. We estimate that entry costs in 2000 represented 2.76%¹⁶⁹ of the investment, to be deducted from real returns that year.

¹⁶⁹ Source: OEE



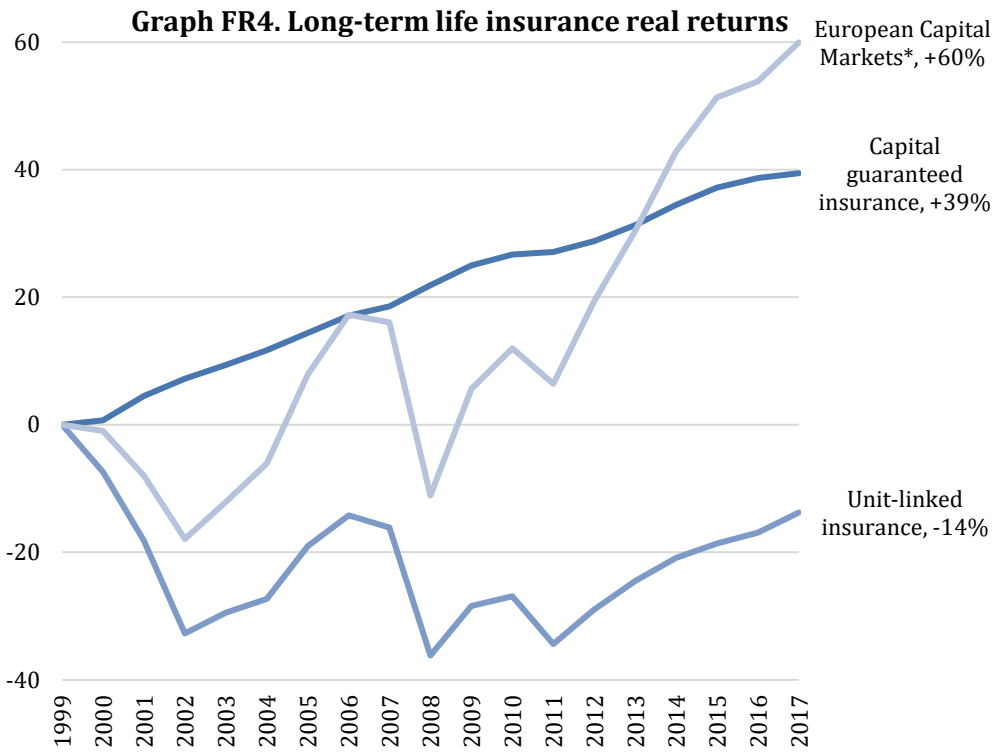
| Table FR 6. Real returns of all life contracts 2000-2017 | | |
|---|-----------------------|------------------------------|
| | 18-year return | Average yearly return |
| Before tax returns | | |
| Capital guaranteed contracts | 39.4% | 1.9% |
| Unit-linked contracts | -13.8% | -0.8% |
| All contracts (avg.) | 28.8% | 1.4% |
| After tax returns | | |
| Capital guaranteed contracts | 24.4% | 1.2% |
| Unit-linked contracts | -19.1% | -1.2% |
| All contracts (avg.) | 15.9% | 0.8% |

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 24.4%¹⁷⁰ for this 18-year period of investment on guaranteed contracts, and a negative one of -19,1% on unit-linked contracts. On a yearly basis, the rates of returns would be 1.2% and -1,2% 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 18 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). However - like the capital markets' - the performance of unit-linked contracts is very sensitive to the period of reference.

¹⁷⁰ +30,6 % with the most favourable tax treatment, see table FR 3 above



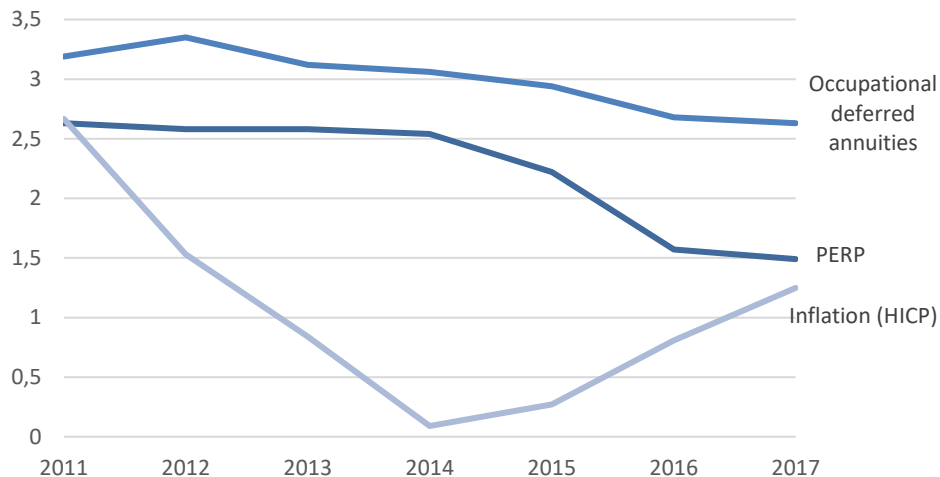
*Benchmark composed of 50% European equities and 50% European Bonds

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

Graph FR5 - Nominal returns of PERP* and of occupational deferred annuities 2011 -2017 in %**



* Capital guaranteed funds ("fonds en euros") only

** Those include PERE, Madelin and Article 39 contracts

Source: ACPR, 2018

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 1.49% in 2017, lower than the return of ordinary capital guaranteed life insurance contracts. This can be surprising as PERPs enjoy a much longer duration of their liabilities, which should allow for a higher allocation 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 PERP personal pensions are likely to be negative on average, as in 2011. They are already negative after tax in most cases in 2017.

Madelin, PERE and Article 39

The nominal returns of occupational deferred annuities were much higher (2.63% in 2017) 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 for these pension products.

Unfortunately, the French supervisor does not identify separately the historical returns 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 for public employees (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 Law¹⁷¹ 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 2016¹⁷² of 3.23% versus 3.51% in 2015. However, as mentioned above, the accounting return does

¹⁷¹ Law n° 2010-737 of 1 July 2010 - art. 35 (V), which modified Article L441-3 of the French Insurance Code.

¹⁷² For the first time, Préfon also disclosed a “cumulated portfolio performance” of 5.78% for 2016.



not take into account the changes in the market value of assets. Figures for 2017 had not been released at the time of print (September 2018). In addition, most of the investment return is currently set aside in order to replenish reserves. In 2010, the French Supervisor (ACPR) decided this was still 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 liabilities¹⁷³. At the end of 2016, this contribution from the insurers amounted to €333 million¹⁷⁴ despite the massive cuts in pension rights for those who retire after age 60 decided in 2014 and 2017 (see below Graph FR7). 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"¹⁷⁵. 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.

Another difficulty for deferred annuity products is to translate the impact of investment 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 years¹⁷⁶ (see graph FR6). Since the end of 2002, Préfon participants who will retire at the age of 60 have lost 17% of the real value of their pensions (before tax¹⁷⁷). The publicized objective of Préfon to maintain the purchasing power of pensions has not been fulfilled since 2002 and given the amount of the provisions that insurers had to contribute from their own funds since 2010, it is unfortunately unlikely that Préfon will reduce this loss of the real value of pensions any time soon. This key performance information is not disclosed to new participants¹⁷⁸.

¹⁷³ "Les Echos" 27 December 2010. This information was not disclosed by *Préfon* to the participants.

¹⁷⁴ Source : Rapport de gestion Préfon Retraite 2016

¹⁷⁵ 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.

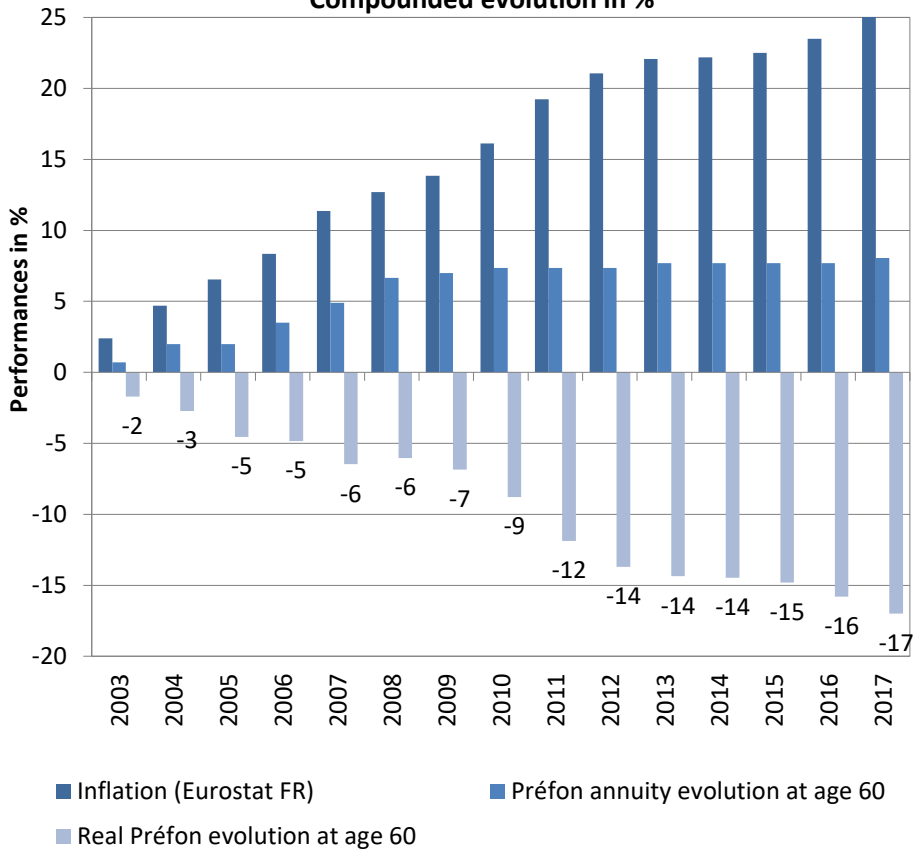
¹⁷⁶ This key data is not publicly disclosed.

¹⁷⁷ Savings into Préfon (like into PERPs and into Corem) are income tax deductible, but the annuities are taxable. Both savings and annuities bear social levies ("prélèvements sociaux").

¹⁷⁸ ARCAF, 2016



**Graph FR6 - Préfon annuities real value : retirement at age 60 -
Compounded evolution in %**



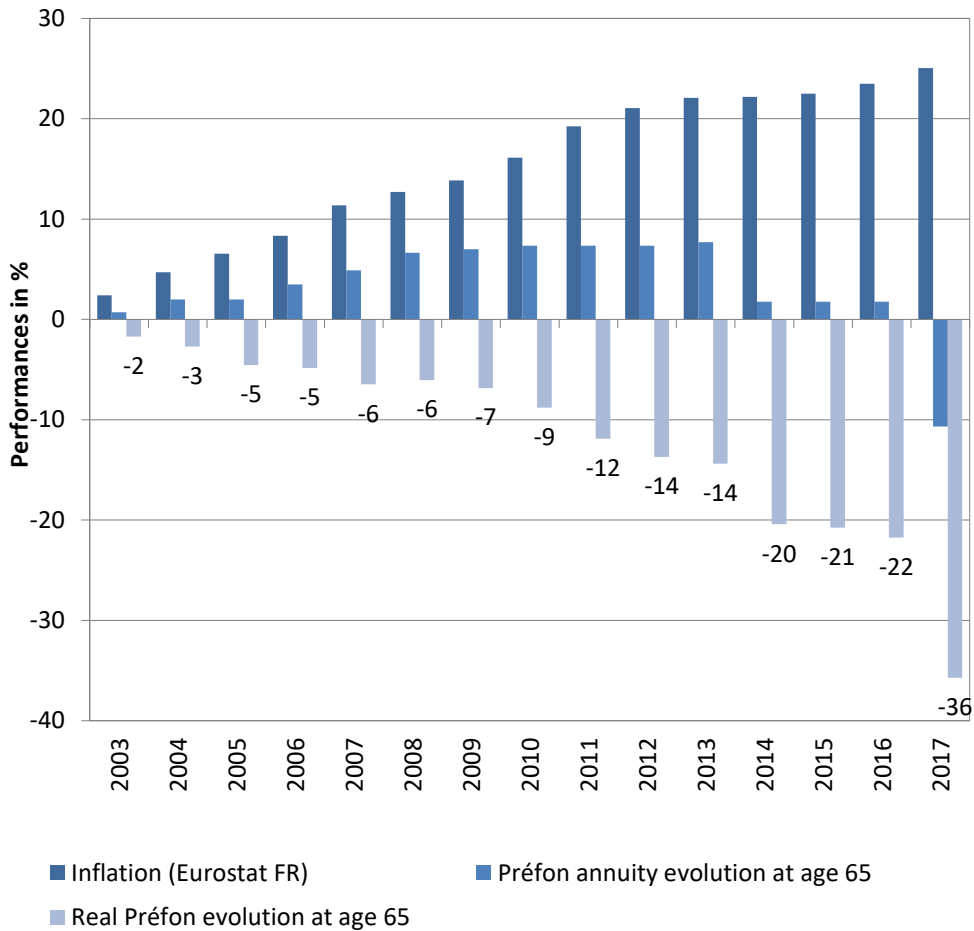
Source: ARCAF, 2018

This return indicator, however, does not include the discount rate embedded in the conversion ratio of accumulated 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. 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. In real terms it is much worse, as shown by the graph below.



Graph FR7 - Préfon annuities real value: retirement at age 65 (from 2026) - Compounded evolution



Source: ARCAF, 2018

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 2017 was +3.92%, slightly down from +4.04 % in 2016. 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 FR8 below). Corem has been in deficit; 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 21% of their real value before tax (purchasing power) over the last 15 years (see graph FR5), 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 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 (you now need to be 62 years of age to get the full pension rights instead of 60 years of age, and there has been a lowering of the minimum guaranteed return on pension contributions 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 time¹⁷⁹. 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.

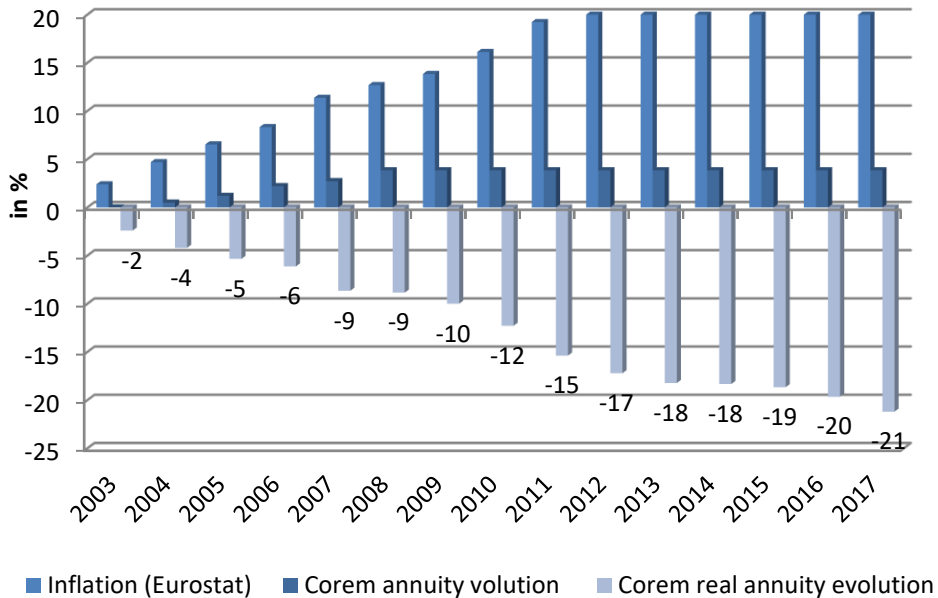
In 2017, the French Government allowed deferred annuity schemes such as Corem to use the market value of assets instead of the accounting (acquisition cost mostly) one, to compute its assets/liabilities coverage ratio. This new rule changed its coverage ratio from only 86.2% to 100.6 % at the end of 2017. 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.

¹⁷⁹ 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 FR8. Corem annuities real value, compounded evolution
in %**



Source: ARCAF 2018

Overall, BETTER FINANCE estimates the loss of purchasing power over the last fifteen years (2002-2017) of participants to the French Public Employee Pension Schemes to be at -18.6% (-1.4% 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 any 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 three years, CRH annuities value has grown by 0.8%, against an inflation of 2.3%.



Defined contribution corporate plans

Table FR 7. French corporate savings plans - Average 18-year returns before tax 2000-2017

| Fund ("FCPE") category | Equity | Bond | Money market | Diversified | All funds |
|---------------------------|--------|-------|--------------|-------------|-----------|
| 18Y Nominal return | 39.4% | 70.5% | 28.9% | 54.9% | 52.5% |
| Yearly average | 1.9% | 3.0% | 1.4% | 2.5% | 2.4% |
| 18Y Real return | 4.8% | 29.5% | -2.4% | 17.2% | 15.6% |
| Yearly average | 0.3% | 1.4% | -0.1% | 0.9% | 0.8% |

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 weight¹⁸⁰ to estimate the overall returns of corporate savings.

Real returns of corporate DC-based (Defined Contribution) plans before tax over an 18-year period, from the end of 1999 to the end of 2017, were overall positive: the yearly average real performance before tax of the aggregate of all funds was 0.8%, 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 returns before tax are influenced predominantly by the surprisingly heavy weight and slightly negative return of money market funds (25% of assets; -2.4%), and the modest real return of DC equity funds (despite a 9.7% real return in 2017 alone). Equity funds, which account for about 19% of total outstanding assets (excluding company stock), greatly underperformed equity markets over the last 18 years: 39% versus 91% for French equities for example; see graph FR1 above). Also, DC Bond funds (around 21% of total assets) returned a 70% in nominal terms over the period versus 130% for the European bond market (see graph FR2).

Returns are slightly better overall for the segment of corporate savings plans that are solely dedicated to retirement - the PERCO, as they are more invested in equity funds (27%) and less in money market ones (22%).

¹⁸⁰ 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.



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.¹⁸¹ Unlike the US corporate DC 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), and the average size of these AIFs is quite small. 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 38.5% (€ 50.7 billion end of 2017) 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 2017. 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 2017 for the same amount invested every year over the last 18 years. This provides a higher annualised before tax return of 0.9% instead of 0.8%. 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 15.5% 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.

¹⁸¹ 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.

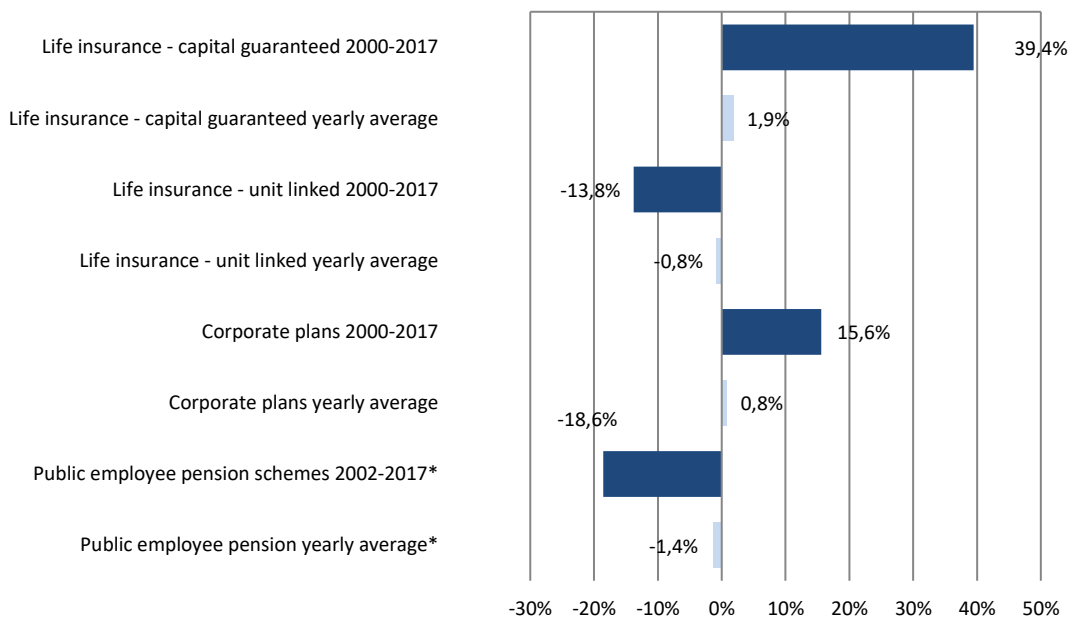


Conclusions

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 for the last six years. However, their 18-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 reduced it to almost zero in 2017. This does not bode well for 2018.

Over an 18-year period, from the end of 1999 to the end of 2017, capital-guaranteed life-insurance contracts show on average a positive yearly after-tax performance of +1.2% in real terms, while the unit-linked contracts show a negative yearly return of -1.2%. Corporate DC plans delivered +0.8% on an annual basis before tax. After-tax return would typically be higher for those due to a favourable tax treatment.

Graph FR9. French Pension Savings Real Returns before tax, 2000-2017



* Purchasing Power of Pensions Before Tax



Pension Savings: The Real Return

2018 Edition

Country Case: Germany

Summarisch

Das deutsche Rentensystem gehört zu denjenigen, in denen der öffentliche Sektor (Säule I) eine wichtige Rolle für die deutschen Alterseinkünfte spielt, d.h. er repräsentiert 51% des Nettoeinkommens vor Rentenbeginn, währenddessen Säule II und Säule III zusammen für nur 16% der durchschnittlichen Rente stehen. Mit einem relativ niedrigen Niveau der akkumulierten Ansprüche der Sparer (26% des Bruttoinlandsproduktes in Pensionsfonds und Pensionskassen und 30% in Lebensversicherungen) waren die Riester- und Rürup-Reformen des Jahres 2005 darauf ausgerichtet, die Teilhabe der deutschen Arbeitnehmer an der privaten und betrieblichen Altersvorsorge zu erhöhen. Die Gewinnbeteiligung der Riester-Rentenversicherung lag bei durchschnittlich 1.54% jährlich (22% kumulativ) und der Rürup-Rentenversicherung bei 1.63% (23% kumulativ) in den letzten 13 Jahren (2005-2017).

Summary

The German pension system is among those where the public scheme (Pillar I) plays an important role for German retirees' old-age income, representing 51% of the pre-retirement net income, while Pillar II and Pillar III together provide only 16% of the average pension. With a relatively low level of accumulated entitlements (26% of GDP in pension funds reserves and 30% for life insurances), the 2005 *Riester* and *Rürüp* reforms were aimed at increasing participation in occupational and individual pension schemes for German workers. Riester Pension insurance returned 1.54% annually (22% cumulatively) and 1.63% for Rürüp Pension insurance (23% cumulative) over the last 13 years (2005-2017).

Introduction

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



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 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 63.3 years for men in 2016 and 63.2 for women, both below the normal pension age and the OECD average¹⁸².

The Mandatory State Pension Insurance (*“gesetzliche Rentenversicherung”*), structured as a PAYG scheme going back more than 110 years, is the largest social security scheme in Germany, covering approximately 53.8 million people.¹⁸³ The German public spending on old-age benefits is amongst the highest in OECD countries. In 2016, all persons subject to social security charges contributed 18.7% of their gross income to the scheme, with contributions divided equally between employer and employee¹⁸⁴. At 51% in the year of 2016, the net pension replacement rate for average-wage workers was considerably lower than the OECD average at 60%.¹⁸⁵ 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.

¹⁸² OECD (2017).

¹⁸³ Bundesministerium für Arbeit und Soziales (2016)

¹⁸⁴ All social security contributions are usually (and historically) divided equally. There might be exceptions, e.g. in the case of marginal employment (*“Minijobs”*). The variable contribution cap (*“Beitragsbemessungsgrenze”*) for 2017: €76,200 for the old *“Bundesländer”* (*“Beitragsbemessungsgrenze West”*) and €68,400 for the new *“Bundesländer”* (*“Beitragsbemessungsgrenze Ost”*).

¹⁸⁵ OECD (2017), Net pension replacement rates (indicator). doi: 10.1787/4b03f028-en (Accessed on 14 June 2017).



Table Introductory Table DE - 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 | Voluntary | Voluntary |
| PAYG | DB | DC |

Quick facts

Statutory retirement age is set to 67

The average effective age of labour market exit was about 63.3 years for men in 2016 and 63.2 for women

For individuals with 45 years of contributions, the pension age had been lowered to 63 years

At 45% in the year of 2016, the net pension replacement rate for average-wage workers was considerably lower than the OECD average at 60%

The mandatory State Pension covers approximately 53.8 million people

About half of today's retirees receive income from a private pension

Only 16% (8% from occupational pension and 8% from personal pension) of a retiree's gross income comes from private pension scheme

Source: BETTER FINANCE own composition

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 low¹⁸⁶.

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

¹⁸⁶ Bundesministerium für Arbeit und Soziales (2016).



payments, such as vocational benefits or salary increases for up to 4% of a variable contribution cap¹⁸⁷, 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 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 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 death¹⁸⁸.

Book reserves ("Direktusage")

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

¹⁸⁷ "*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.

¹⁸⁸ <http://www.aba-online.de/glossar.html> (Accessed on 14 June 2017).



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 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 granted¹⁸⁹ 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.

¹⁸⁹ 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.



“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 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 provision¹⁹⁰.

¹⁹⁰ Bundesministerium für Arbeit und Soziales (2016).



Table DE1. 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

The *Riester* support is rarely used within the framework of occupational pension schemes. It is registered in only 1-2% of cases¹⁹¹.

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.¹⁹²

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 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*¹⁹³ products are formally certified personal pension plans with the objective of building up a funded retirement pension supplement. They are subject to deferred taxation,

¹⁹¹ Bundesministerium für Arbeit und Soziales (2012).

¹⁹² <http://dip21.bundestag.de/dip21/btd/18/112/1811286.pdf> (Accessed on 14 June 2017).

¹⁹³ Named after former Federal Minister for Labour and Social Affairs: Walter Riester.



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 85.¹⁹⁴

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 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.

¹⁹⁴ Bundesministerium für Arbeit und Soziales (2014).



At the end of 2017, about 16.5 million *Riester* contracts had been subscribed to. After steady increases in the early periods following its establishment, considerably fewer contracts have been subscribed to annually since 2012. The number of open contracts has been stable since 2015. 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 doubt¹⁹⁵ 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 subscription decline since 2015. Only the number of investment fund savings plans and home loan agreements increased in the course of the last three years, the latter thanks to a booming real estate market over the last few years in a low interest environment. According to BaFin, every fifth *Riester* contract is currently put on hold - meaning that savers are suspending their contributions.¹⁹⁶

Table DE2. 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 |
| 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 | 633 | 2,629 | 197 | 13,454 |
| 2010 | 10,484 | 703 | 2,815 | 460 | 14,462 |
| 2011 | 10,998 | 750 | 2,953 | 724 | 15,426 |

¹⁹⁵ Evidence of this can be found in Hagen, Kleinlein (2012).

¹⁹⁶ <http://www.bmas.de/DE/Themen/Rente/Zusaetzliche-Altersvorsorge/statistik-zusaetzliche-altersvorsorge.html>.



| | | | | | |
|------|--------|-----|-------|-------|--------|
| 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 | 10,903 | 774 | 3,174 | 1,691 | 16,542 |
| 2017 | 10,791 | 748 | 3,245 | 1,751 | 16,535 |

Source: BMAS (Accessed on 26 July 2018).

Rürup Pensions

Introduced in 2005, the *Rürup*¹⁹⁷ 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 guarantees¹⁹⁸.

Life insurance and pension insurance contracts

Retirement provision in Germany is also carried out through classic pension insurance products or life insurance products, possibly 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

¹⁹⁷ Named after German economist Bert Rürup.

¹⁹⁸ <http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Steuern/Weitere/Steuerthemen/Produktinformationsblatt/2016-12-12-Produktinformationsblatt-Basisrente.html>



with about 67.3 million contracts concluded at the end of 2017¹⁹⁹. 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 (administrative charges) for both *Pensionskassen* and pension funds supervised by BaFin are expressed as a percentage of the funds' total assets²⁰⁰. We did not find any data on acquisition costs which are opaque in the case of occupational schemes and even prohibited by law for traditional *Pensionskassen*.

¹⁹⁹ <https://www.gdv.de/de/zahlen-und-fakten/versicherungsbereiche/renten--und-kapitalversicherungen-24038>

²⁰⁰ We did not find any charges data shown separately for occupational direct insurances.

**Table DE3. Operating expenses as % of total assets for *Pensionskassen* & pension funds**

| | Administrative charges |
|------|------------------------|
| 2002 | 0.254 |
| 2003 | 0.756 |
| 2004 | 0.980 |
| 2005 | 0.585 |
| 2006 | 0.427 |
| 2007 | 0.314 |
| 2008 | 0.276 |
| 2009 | 0.257 |
| 2010 | 0.237 |
| 2011 | 0.219 |
| 2012 | 0.211 |
| 2013 | 0.208 |
| 2014 | 0.196 |
| 2015 | 0.211 |
| 2016 | 0.211 |
| 2017 | 0.200 |

Source: OECD (2017), Global Pension Statistics 2017 data: GDV (2018)

Table DE4 details information on charges for all types of life insurance contracts.

| | Acquisition charges (as % of total premiums for new policies) | Administrative charges (as % of mean capital 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 |

Source: GDV (Accessed on 16 July 2018).



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 since²⁰¹. Our own research shows that estimations of total charges of, on 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 contracts²⁰².

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 period²⁰³, 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

²⁰¹ Rürup-Kommission (2003).

²⁰² Gasche, Bucher-Koenen, Haupt, Angstmann (2013).

²⁰³ ZEW (2010).



2017, now subject to hard caps such as distribution cost application to only 50% of the transferred subsidised capital²⁰⁴.

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*²⁰⁵ calculated average effective costs of about 0.8%²⁰⁶ 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 insureds and €40,000 for spouses will be exempt from initial taxation.

²⁰⁴ <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).

²⁰⁵ "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.

²⁰⁶ Assekurata (2017).



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-outs²⁰⁷.

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)²⁰⁸. 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

²⁰⁷ Deutsche Rentenversicherung (2017).

²⁰⁸ If the limits have not already been reached by employers' contributions.



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.

| Table DE5. Tax exemptions for <i>Rürup</i> 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 taxed²⁰⁹.

| Table DE6. Taxation of <i>Rürup</i> 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

²⁰⁹ Bundesministerium der Finanzen (2016).



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%.

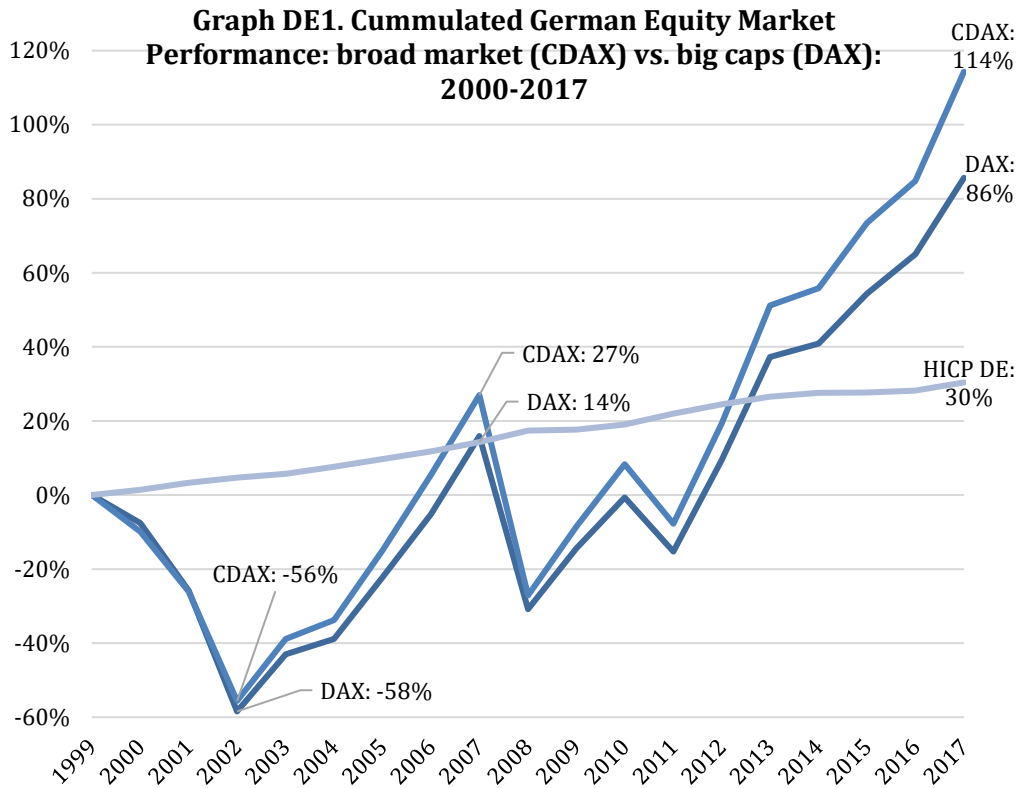
German capital market returns

Like we have done for certain major EU capital markets in this Report, we will look at the returns of the German stock markets to judge how well capital markets performed over the period we are considering.

To this end, we based ourselves on the most widely used indexes for German stocks: the DAX (*Deutscher Aktienindex*), covering 30 major companies trading on the *Frankfurt Stock Exchange* as a blue chip stock market index, and the CDAX, containing all German equities listed on the *Frankfurt Stock Exchange* in the *General Standard* and in the *Prime Standard* (425 companies at the end of 2016) as a “broad” index. Data for both indices are presented as total returns in order to properly illustrate the overall performance compared to that of other pension savings products.

It is not surprising to observe that, like for the rest of the countries in this report for which we made a similar analysis, the performance of the “broad” index was superior to the performance of the “narrow” index, with a cumulative difference of about 27% over an 18-year period. Both indices managed to considerably outperform inflation, though this overperformance mainly took place over the last four years. The distinct outperformance for the whole period, from 2000 to 2017, can partly be explained by the fact that German inflation has traditionally been very low, although it rose significantly in 2016 and 2017.

Comparing the annualised real performances of both indices (3.6% for the DAX and 4.3% for the CDAX) with the after-tax performance of state-sponsored packaged products is nearly impossible, since the periods for which we have data available are different. Moreover, the portfolios of these products include bonds (which in the concrete period from 2000 to 2016 performed better than stocks, contrary to what tends to happen in the long-run) and foreign stocks.



Source: STOXX indices (DAX; CDAX) and Eurostat (HICP Annual average inflation for Germany).

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.

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 available²¹⁰ - 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 available for a longer time span, so the results cannot be directly compared to *Riester* and *Rürup* insurance contracts.

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

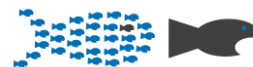
The following table shows real return calculations for Pillar II aggregate *Pensionskassen* as well as pension funds supervised by BaFin.

| Table DE7. <i>Pensionskassen</i> and pension funds' 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 |
| 2002 | 2.81 | 2.55 | 1.30 |
| 2003 | 4.58 | 3.79 | 2.67 |
| 2004 | 4.94 | 3.91 | 1.72 |
| 2005 | 4.89 | 4.27 | 2.00 |
| 2006 | 4.60 | 4.15 | 2.74 |
| 2007 | 4.16 | 3.84 | 0.75 |
| 2008 | 1.62 | 1.34 | 0.24 |
| 2009 | 4.76 | 4.49 | 3.48 |
| 2010 | 4.94 | 4.69 | 2.92 |
| 2011 | 3.01 | 2.79 | 0.45 |
| 2012 | 4.82 | 4.60 | 2.59 |
| 2013 | 4.29 | 4.08 | 2.72 |
| 2014 | 4.61 | 4.41 | 4.41 |
| 2015 | 3.25 | 3.04 | 2.83 |
| Annual average | 4.09 | 3.71 | 2.19 |

* Nominal return after investment management costs

Source: OECD (2016), *OECD Main Economic Indicators database* (Accessed on 14 June 2017); *Global Pension Statistics* (Accessed on 17 July 2018); Eurostat; Own Research.

²¹⁰ 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.



To simulate the impact of taxation on the real return of *Pensionskassen* and pension funds, the average income tax rate for retirees has been applied to the 70% of the pay-outs that were subject to deferred taxation in the year of 2015.

Table DE8. The real return of *Pensionskassen* and pension funds

Real return after charges, inflation, tax (14-year average, in %)

2002-2015

| | |
|--|------|
| <i>Pensionskassen</i> and pension funds | 1.82 |
|--|------|

Source: Bundesministerium der Finanzen; Own Research

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 poorly²¹¹.

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*")²¹². Furthermore, the return figures provided are related to the investment part of the gross premium which is only about 60% to 90% of the

²¹¹ OECD (2016)

²¹² 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. Similarly, 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.



total premium depending on not only deductions of distribution and administrative charges, but also risk premium²¹³.

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.

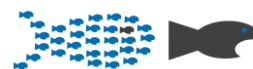
Riester pension

| Year | Nominal return before charges, inflation, tax | Nominal return after charges and before tax, inflation | Real return after charges, inflation and before tax |
|-----------------------|---|--|---|
| 2005 | 4.24 | 2.82 | 0.58 |
| 2006 | 4.18 | 2.79 | 1.39 |
| 2007 | 4.18 | 2.81 | -0.24 |
| 2008 | 4.36 | 2.99 | 1.87 |
| 2009 | 4.27 | 2.92 | 1.92 |
| 2010 | 4.19 | 3.91 | 2.15 |
| 2011 | 4.05 | 3.79 | 1.43 |
| 2012 | 3.92 | 3.66 | 1.66 |
| 2013 | 3.56 | 3.31 | 1.97 |
| 2014 | 3.35 | 3.11 | 3.11 |
| 2015 | 3.11 | 2.88 | 2.68 |
| 2016 | 2.78 | 2.56 | 0.85 |
| 2017 | 2.5 | 2.29 | 0,71 |
| Annual average | 3.74 | 3.07 | 1.54 |

Source: Assekurata; Eurostat; GDV; Own Research

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

²¹³ 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.



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 |
|----------------|--|---|--|
| 2005 | 4.31 | 2.89 | 0.65 |
| 2006 | 4.20 | 2.81 | 1.41 |
| 2007 | 4.21 | 2.84 | -0.22 |
| 2008 | 4.37 | 3.00 | 1.88 |
| 2009 | 4.27 | 2.92 | 1.92 |
| 2010 | 4.21 | 3.93 | 2.17 |
| 2011 | 4.07 | 3.81 | 1.45 |
| 2012 | 3.90 | 3.64 | 1.64 |
| 2013 | 3.57 | 3.32 | 1.98 |
| 2014 | 3.36 | 3.12 | 3.12 |
| 2015 | 3.13 | 2.90 | 2.70 |
| 2016 | 2.81 | 2.59 | 0.88 |
| Average | 3.87 | 3.15 | 1.63 |

Source: Assekurata; Eurostat; GDV; Own Research

As discussed in the Pension Vehicles chapter, the contributions to *Rürup* pensions are, in contrast to *Riester* pensions²¹⁴, 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 incomes may vary considerably from year to year, in particular in times of crises. 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 centres²¹⁵ usually only advice *Rürup* pensions if consumers are professionally established and if the payments of contributions are secured in the long-run²¹⁶.

²¹⁴ Contributions (gross premiums) and state subsidies for all kinds of *Riester* contracts are guaranteed.

²¹⁵ Such as Verbraucherzentrale Hamburg e. V.

²¹⁶ Gasche, Bucher-Koenen, Haupt, Angstmann (2013).



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.

| Table DE11. The real return of <i>Riester</i> and <i>Rürup</i> pensions | |
|--|------|
| Real return after charges, inflation, tax (12-year average, in %) | |
| 2005-2016 | |
| <i>Riester</i> pension | 1.26 |
| <i>Rürup</i> pension | 1.28 |

Source: Bundesministerium der Finanzen; Own Research

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 phase²¹⁷ 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.

²¹⁷ It can be considered that the contribution and the accumulation phase 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.



Table DE12. 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 | 5.63 | 3.40 |
| 2001 | 7.10 | 5.59 | 4.17 |
| 2002 | 6.12 | 4.64 | 3.37 |
| 2003 | 4.84 | 3.39 | 2.27 |
| 2004 | 4.43 | 3.00 | 0.83 |
| 2005 | 4.31 | 3.94 | 1.68 |
| 2006 | 4.24 | 3.90 | 2.48 |
| 2007 | 4.25 | 3.93 | 0.84 |
| 2008 | 4.39 | 4.08 | 2.95 |
| 2009 | 4.28 | 3.98 | 2.97 |
| 2010 | 4.20 | 3.92 | 2.16 |
| 2011 | 4.07 | 3.81 | 1.45 |
| 2012 | 3.91 | 3.65 | 1.65 |
| 2013 | 3.61 | 3.36 | 2.02 |
| 2014 | 3.40 | 3.16 | 3.16 |
| 2015 | 3.16 | 2.93 | 2.73 |
| 2016 | 2.86 | 2.64 | 0.93 |
| 2017 | 2,56 | 2,35 | 0.77 |
| Annual average | 4.37 | 3.77 | 2.21 |

Source: Assekurata; Eurostat; GDV; Own Research.

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 2002-2015, with an annualised average return of 1.8% 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 2.2% for classic pension insurances over an 18-year span. Only the *Riester* and *Rürup* pensions recorded a year with negative real performances in 2007 (-0.2% each) 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 1.3% 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.



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Pension Savings: The Real Return

2018 Edition

Country Case: Italy

Sommario

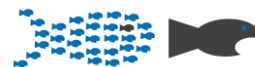
Con una spesa pubblica (in % al PIL) del 16.5%, la riforma del sistema pensionistico italiano ha determinato un solido Pillar I, in particolare il rapporto di sostituzione tra il reddito pensionistico e quello da lavoro si attesta a 93%, confermandosi uno dei più alti tra i Paesi studiati nel presente 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 investimento 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 (18.7%) e del Pillar III (13.5%).

Per quanto riguarda i rendimenti: i fondi pensione chiusi hanno avuto una performance media di 1.3% (+14% cumulativa) e di 0.9% (+18% cumulativa) rispettivamente negli ultimi 10 e 18 anni; nei fondi pensione aperti la media è stata 1% (+10% cumulativa) e 0.2% (-0.4% cumulativa) con riferimento nel primo caso agli ultimi 10 anni nel secondo agli ultimi 18; i PIP unit-linked hanno avuto una performance media dello 0.4% (+4% cumulative) negli ultimi 10 anni – tutti i rendimenti sono espressi al netto di inflazione, commissioni e tasse.

Summary

The Italian Pension System currently has a public expenditure of 16.5% 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%, 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 18.7% and Pillar III of 13.5% of the economically active population. With regards to performances, closed pension funds returned 1.3% (+14% cumulative) on average over the past 10 years and 0.9% (+18% cumulative) over the past 18 years. Open



pension funds returned 1% (+10% cumulative) on average over the past 10 years and -0.20% (-4% cumulative) over the past 18 years, while PIP (*piani individuali pensionistici*) showed profits of 0.9% (+9% cumulative) on average over the past 10 years and PIP unit-linked 0.4% (+4%) on average over the past 10 years - all returns are expressed net of inflation, charges and taxes on benefits.

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.

First Pillar

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 (state and mandatory) pillar 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 for the newest generations, constitutes a notional defined contribution system.²¹⁸

Italy spends 16.7% of its GDP on pension-benefit expenditures, while the average OECD level is at about 9.4%. 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). 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.

²¹⁸ 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.



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 €500m.

Given the increase in retirement age (66.6 years for men and 65.6 years for women compared with the OECD averages of 64.3 and 63.7, respectively), the future gross replacement rate for an Italian worker who had a full career will be relatively at 83%, compared to the OECD average of 53% - still one of the highest in Europe (replacement rates are only higher in the Netherlands, Portugal and Turkey). Although comparable with previous replacement rates, this level was obtained through a substantial increase in the pension age. In this context, with a substantial replacement rate obtained through high mandatory contributions (33%) and a high retirement age, the income-drop at retirement is not as worrisome as in other countries, such as, for instance, the UK.

Second Pillar

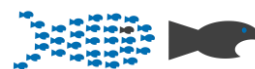
The second pillar is made up of collective complementary pension plans. These can be closed occupational pension funds (managed by social partners) or open pension funds linked to collective affiliations (managed by financial institutions).²¹⁹ *The Trattamento di Fine Rapporto* (TFR) is also part of 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.

Third Pillar

The third pillar is made up of voluntary contributions to individual complementary pension schemes, *Individual Pension Plans* (PIP), as well as by contributions to open funds for individual affiliations.

Given this strong component of mandatory contributions within the state pension system, one would expect both collective and individual complementary pension plans to play a small role, which should, in turn, be driven by a foreseen reduction in income levels, such as during retirement. While the savings in collective complementary pension funds are

²¹⁹ 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



rather small, private savings are still consistent. If all pension contributions and home ownership were transformed into an annuity, the corresponding stream of generated incomes at retirement would be very high.

To summarize 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 IT. 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: 17,018,670 | Funds: 337 | Funds: 77 |
| Average old-age pension: €1,195 | AuM: €127.6 bn. | AuM: €34.6 bn. |
| Monthly household average income (net): €2,500 | Participants: 4.8 million | Participants: 3.5 million |
| Average replacement ratio (gross): 83.1% | Coverage ratio: 18.7% | Coverage ratio: 13.5% |

Source: Covip, INPS, OECD²²⁰

²²⁰ <https://www.oecd.org/els/public-pensions/PAG2017-country-profile-Italy.pdf>
<https://www.oecd.org/els/public-pensions/PAG2017-country-profile-Italy.pdf>
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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 (Commission of Vigilance on Individual Pension funds - COVIP).

Following the signature of an agreement, all complementary pension funds are managed by an external financial institution that can only be an insurance company, a bank or a registered asset management company (Legislative Decree 252/2005).

All complementary pension funds now operate on a defined contribution (DC) basis, as this is the only permitted type of pension plan. Defined benefit (DB) plans are restricted to pre-existing funds.

At the end of 2016, the total workers enrolled into collective and individual pension plans amounted to 8.3 million (COVIP, annual report 2017). As in previous years, PIPs subscriptions contributed to the increase in membership, but at a slower rate. Up until 2014, the number of new members into pension plans was only increasing slowly and was driven by insurance companies and banks.

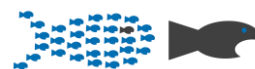


Table IT1. Number of subscribers in Complementary Pension Funds (in thousands)²²¹

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|--------------|--------------|--------------|--------------|--------------|
| Pillar II: Collective complementary pension plans | | | | | |
| Closed Pension Funds | 1 951 | 1 944 | 2 419 | 2 597 | 2 805 |
| Open Pension funds | 985 | 1 053 | 115 | 1 259 | 1 374 |
| Pre-existing Closed Pension Funds | 655 | 654 | 645 | 654 | 643 |
| Pillar III: Private and individual complementary pension plans | | | | | |
| New PIP | 2 134 | 2 454 | 2 601 | 2 869 | 3 104 |
| Old PIP | 505 | 505 | 434 | 411 | 390 |
| Total | 6 204 | 6 585 | 7 227 | 7 790 | 8 299 |

Source: Covip, annual reports 2013, 2014, 2015, 2016, 2017²²²

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 employers' contributions, not to employees'. It is worth noting that about 200,000 individuals hold a small outstanding amount in complementary pensions, around € 100.

The vast majority of the members of the complementary pension funds 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 income from a part of or the whole of their accumulated savings (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). RITA is experimental until end of 2018. It is anticipated that this new flexibility will be an incentive to save in pension funds.

Second Pillar

Contractual funds or Closed funds (Investment portfolio at the end of 2017: € 49.5 billion)

Contractual funds are also called closed funds as only certain groups of people can join. As an example, amongst employees, subscription is reserved to those whose contracts are

²²¹ 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.

²²² Commissione di Vigilanza sui fondi pensione (COVIP), Annual Reports (Relazione annuale), 2013-2017, <https://www.covip.it/?cat=35>.



regulated by a collective agreement. As for the self-employed, contractual agreements are usually provided by professional associations; and only their members can subscribe.

They are defined contribution schemes and the contribution amount is established by the fund's bylaws.²²³ All complementary pension 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.

At the end of 2017, assets managed by contractual funds amounted to €49 billion.

Since the end of 2016, employees in the automobile sector and the highway sector are automatically affiliated to a pension fund. Employers contribute 1% of the salary in the automobile sector and 0.5% in the highway sector.

Open funds (*Investment portfolio at the end of 2017: € 19 billion*).

In contrast to closed funds, membership is not restricted to certain groups. Also, the 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 2017, assets managed by open funds amounted € 19 billion.

The TFR, Severance Payment

During his/her whole career, an employee perceives severance payments, which are paid upon work termination. They represent a peculiar 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 annual remuneration. The TFR rate of return was 1.5% in 2016. 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 end of the contract, but only under very special need-based circumstances, including health problems, first-house purchases

²²³ Paci S., P. Contaldo, C. Fiorentino, G. Nocera, L. Spotorno, F. Vallacqua, 'Carefin Report: Pension Funds in Italy' (2010) Bocconi University.



and parental leave. Moreover, the stability law of 2015 enabled employees in the private sector to receive their severance payment in advance with a State guarantee on bank loans to companies. This innovation, put into effect on an experimental basis from March 2015 to June 2018, reduces the money available to employees at retirement.

The TFR represents a huge savings pot and its management underwent heavy changes from January 2007 onwards. Since then, each worker can opt to accumulate their TFR by joining a complementary pension system. If a worker does not make such a decision, tacit consent applies for the TFR to be transferred to a sector fund; funds are transferred to collective pension funds, if such exist for the specific sector.

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 join pension funds (Cannata and Settimo, 2007). If an employee opts-out from complementary pension 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 work in firms with less than 50 employees and who does not opt for complementary pension funds, his/her TFR remains in the firms they work in, acting, de facto, as a loan to the firm.

If employees decide to opt for the complementary pension funds, they can choose among open pension funds, closed pension funds or even PIPs (Individual Pension Plans). An important aspect of this is that, if opting for PIPs, workers can decide the amount they contribute, a new element in the Italian framework, with no discretion in terms of pension contributions.

Third Pillar

PIP, individual pension funds (Investment portfolio at the end of 2017: € 27.6 billion)

They are subscribed to 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 is possible achieve a more flexible risk-profile.

The with-profits policies guarantee a minimum interest rate (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 unit where contributions are invested.



Public employees

Public employees deserve a special mention, as the law introducing pension funds excluded them. Up to now, coverage of public employees is limited. Contractual pension funds are only possible for school personnel (Espero) and the National Health, as well as regional or local authorities (Perseo and Sirio).

The legislation putting pension funds into place dates to 1993. Pension Funds that existed before the implementation of the law, are the most numerous, and benefit from a more favourable treatment than new ones. Created before the 1993 law, they were semi-autonomous in their management, which they still benefit from. They can collect money directly from subscribers without intermediaries.

Life Insurance (Total technical reserves at the end of 2017: € 714 billion)

Despite having the potential of being a great channel for savings and replacement of traditional pension channels, the life insurance market in Italy is larger than the private pension market, but smaller than in other European countries.

Asset allocation of complementary pension plans

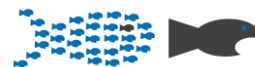
Looking at the portfolio composition of the complementary pension system as a whole, “safe” assets constitute the majority. Treasury bonds are still the main investment although their share in total portfolio declined from 49.1% to 41.5%. The relative weight of corporate bonds continues to increase. The share of direct holdings of equities is 17.7%. According to COVIP calculations, considering equities held through investment funds, the exposition to equities was 25.3% in 2017.

| Table IT2. Asset allocation of pension funds (end-2017, in %) | |
|--|------|
| Treasury bonds | 41.5 |
| Corporate bonds | 16.6 |
| Equities | 17.7 |
| Mutual funds | 14.4 |
| Real estate | 1.6 |
| Alternatives | 0.9 |
| Cash | 7.2 |
| Total | 100 |

Source: COVIP Annual Report for 2017²²⁴

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.

²²⁴ COVIP (n 8) - <https://www.covip.it/?cat=35>



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 has recently been revised by COVIP in order to eliminate distortions between the categories of funds. Since 2014, the tax rates on investment revenues have been dependent on the assets included in their portfolio (see below). In compliance with a decision of March 2015, the cost indicator is now calculated gross (no longer net) of the tax paid by pension funds on their revenues.

The average cost indicator in 2017 remained stable.

However, there is 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.

| Table IT3. Average costs at the end of 2017 (in %) * | | | | |
|--|------------|------------|------------|------------|
| | 2 years | 5 years | 10 years | 35 years |
| Closed Funds | 1.0 | 0.6 | 0.4 | 0.3 |
| <i>Min</i> | 0.5 | 0. | 0.2 | 0.1 |
| <i>Max</i> | 3.0 | 1.4 | 0.9 | 0.6 |
| Open Funds | 2.3 | 1.5 | 1.3 | 1.2 |
| <i>Min</i> | 0.5 | 0.5 | 0.5 | 0.1 |
| <i>Max</i> | 5.1 | 3.4 | 2.8 | 2.4 |
| PIP (new) | 3.9 | 2.7 | 2.2 | 1.8 |
| <i>Min</i> | 1.0 | 0.9 | 0.6 | 0.4 |
| <i>Max</i> | 6.5 | 4.9 | 4.1 | 3.5 |

Source: COVIP Relazione annuale 2017²²⁵

* Simple arithmetic averages within each category. Costs differ depending on the number of contribution years

²²⁵ Covip (n 9) https://www.covip.it/index.php?cat=35&R_pagina=1.



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 stage 1, contributions paid benefit from a favourable tax treatment. Contributions can be deducted from taxable income up to € 5,164.57 per year (the calculation includes employer's contributions).

In stage 2, accruals are taxed. 11.5% of tax was applied on the accrued income paid by the insurer or by the pension fund until 2014. From 1 January 2015, the rate had increased to 20%. However, tax payable on income derived from public bonds is limited to 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. That being said, the budget law of 31 December 2016 foresees that assets invested in European shares or European investment funds (up to 5% of the fund's total assets) are exempted from income tax.

In order to avoid double taxation, benefits are taxed only corresponding to the shares not taxed during the accumulation phase. Hence, contributions that have not been deducted, and thus already taxed, will not be taxed again.

In stage 3, the corresponding benefits are taxed. Benefits taxation varies from 9 to 15% according to the duration of membership. Income received before retirement age in the framework of the RITA scheme (see above) is taxed at 15%, reduced by 0.3% for each year over the fifteenth year of participation in supplementary pension schemes, with a maximum reduction limit of six percentage points. If years of enrolment in the supplementary pension scheme are prior to 2007, those years can be considered up to a maximum of 15 years.

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

Pensions Returns

Below we illustrate returns broken down by type of activities. Returns are calculated net of taxes paid by the pension funds on investment revenues.

Returns of all categories of funds fell sharply in 2015 as a consequence of historically low interest rates paid on bonds. In 2017, except open pension funds; a large majority of funds experienced on average lower returns when compared to 2016 and 2015.


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

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|-------------|------------|-------------|-------------|-------------|------------|-------------|------------|-------------|------------|------------|------------|------------|
| Closed Funds | 7.5 | 3.8 | 2.1 | -6.3 | 8.5 | 3.0 | 0.1 | 8.2 | 5.4 | 7.3 | 2.7 | 2.7 | 2.6 |
| Guaranteed | - | - | | 3.1 | 4.6 | 0.2 | -0.5 | 7.7 | 3.1 | 4.6 | 1.9 | 0.8 | 0.8 |
| Bonds Only | 2.1 | 2.6 | 2.2 | 1.6 | 2.9 | 0.4 | 1.7 | 3.0 | 1.2 | 1.2 | 0.5 | 0.2 | -0.2 |
| Bonds Mixed | 6.9 | 2.7 | 2.1 | -3.9 | 8.1 | 3.6 | 1.1 | 8.1 | 5.0 | 8.1 | 2.7 | 3.2 | 2.6 |
| 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 |
| Equity | 14.9 | 8.2 | 1.3 | -25.0 | 16.1 | 6.2 | -3 | 11.4 | 12.8 | 9.8 | 5.0 | 4.4 | 5.9 |
| Open Pension Funds | 11.5 | 2.4 | -0.4 | -14 | 11.3 | 4.2 | -2.4 | 9.1 | 8.1 | 7.5 | 3.0 | 2.2 | 3.3 |
| Guaranteed | 2.9 | 1.0 | 1.9 | 1.9 | 4.8 | 0.7 | -0.3 | 6.6 | 2.0 | 4.3 | 0.9 | 0.7 | 0.6 |
| Pure Bonds | 3.3 | -0.2 | 1.6 | 4.9 | 4.0 | 1.0 | 1.0 | 6.4 | 0.8 | 6.9 | 0.9 | 1.3 | -0.3 |
| Mixed | 6.4 | 1.0 | 0.3 | -2.2 | 6.7 | 2.6 | 0.4 | 8.0 | 3.6 | 8.0 | 2.2 | 1.4 | 0.4 |
| 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 |
| 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 |
| PIP new: with Profits - Separate Mgmt | | | | 3.1 | 3.1 | 3.2 | 3.2 | 3.3 | 3.2 | 2.9 | 2.5 | 2.1 | 1.9 |
| PIP new: Unit-linked | | | | -22 | 14.5 | 4.7 | -5.2 | 7.9 | 10.9 | 6.8 | 3.2 | 3.6 | 2.2 |
| Bonds | | | | 2.4 | 3.7 | 0.6 | 0.8 | 4.9 | -0.3 | 3.3 | 0.6 | 0.4 | -0.7 |
| Balanced | | | | -8.3 | 7.8 | 2.5 | -3.5 | 6.4 | 5.8 | 8.2 | 1.9 | 1.5 | 2.3 |
| Stocks | | | | -32 | 20.6 | 6.7 | -7.9 | 9.6 | 17.2 | 7.1 | 4.5 | 6.0 | 3.2 |

Source: COVIP Relazione Annuale 2017

Closed funds

Table IT5 reports the net returns for closed pension funds.

Column (2) reflects nominal returns before charges. It adds the synthetic cost indicator for a 35-year subscriber 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. Hence, we added 11.5% to the cost indicator of the positive nominal return before charges (11.5% was the tax rate on investment returns until 2014). From 2015, the cost indicator was calculated gross of these taxes, hence a correction is no longer needed.

Column (4) records the nominal returns after charges and before taxes on investment revenues calculated by COVIP (see table 4).

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 - 2017 and on the period 2008 – 2017 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 can be reduced for each year after the 15th by 0.3%, for a maximum of 6 percentage points of reduction in taxation of the benefit.

Between the end of 1999 and the end of 2017, the annual real return of closed funds after deduction of inflation, charges and taxes was 0.90%. On the most recent period 2008-2017, it increased to 1.3%.

| Table IT5.1. Closed pension funds' average annual rate of investment returns (in %) | | | |
|--|-----------------------|--------------------------------------|--|
| Year | Nominal return | Nominal Return, after charges | Real Return, net of inflation and charges, before taxes on benefits |
| 2000 | 3.9 | 3.6 | 1.0 |
| 2001 | 3.7 | 3.4 | 1.1 |
| 2002 | -3.2 | -3.4 | -5.8 |
| 2003 | 5.3 | 5.0 | 2.1 |
| 2004 | 4.9 | 4.6 | 2.2 |
| 2005 | 7.8 | 7.5 | 5.2 |
| 2006 | 4.1 | 3.8 | 1.6 |
| 2007 | 2.4 | 2.1 | 0.1 |
| 2008 | -6.0 | -6.3 | -9.5 |
| 2009 | 8.7 | 8.5 | 7.6 |
| 2010 | 3.2 | 3.0 | 1.4 |
| 2011 | 0.3 | 0.1 | -2.7 |
| 2012 | 8.4 | 8.2 | 4.7 |
| 2013 | 5.6 | 5.4 | 4.2 |
| 2014 | 7.5 | 7.3 | 7.1 |
| 2015 | 3.0 | 2.7 | 2.6 |
| 2016 | 3.0 | 2.7 | 2.8 |
| 2017 | 2.9 | 2.6 | 1.3 |
| Annual average return 2000-2017 | 3.6 | 3.3 | 1.4 |
| Annual average return 2008-2017 | 3.6 | 3.3 | 1.8 |



Table IT5.2. Closed pension funds' average annual rate of investment returns (in %)

| | 2000-2017 | 2008-2017 |
|---|-------------|-------------|
| Real Return, net of inflation, charges and taxes on benefits | 0.92 | 1.33 |

Source: BETTER FINANCE calculations based on COVIP,²²⁶ Eurostat²²⁷

Open funds

We now proceed to calculate the returns for open funds, using the same methodology as for closed funds. The only difference lies in the synthetic cost indicator that is different for open funds. Between the end of 1999 and the end of 2017, the real return of open funds after deduction of inflation, charges and taxes has been negative (-0.2% per year on average). It was positive (1% per year on average) in the period 2008-2017.

Table IT6.1 Open pension funds' average annual rate of investment returns (in %)

| Year | Nominal return | Nominal Return, after charges | Real Return, net of inflation and charges, before taxes |
|------------------------------|----------------|-------------------------------|---|
| 2000 | 4.2 | 3.0 | 0.4 |
| 2001 | -4.7 | -5.6 | -7.7 |
| 2002 | -12.3 | -13.1 | -15.3 |
| 2003 | 6.9 | 5.7 | 2.8 |
| 2004 | 5.5 | 4.3 | 2.0 |
| 2005 | 12.7 | 11.5 | 9.1 |
| 2006 | 3.5 | 2.4 | 0.2 |
| 2007 | 0.7 | -0.4 | -2.4 |
| 2008 | -13.0 | -14.0 | -16.9 |
| 2009 | 12.5 | 11.3 | 10.4 |
| 2010 | 5.4 | 4.2 | 2.6 |
| 2011 | -1.3 | -2.4 | -5.2 |
| 2012 | 10.3 | 9.1 | 5.6 |
| 2013 | 9.3 | 8.1 | 6.8 |
| 2014 | 8.7 | 7.5 | 7.3 |
| 2015 | 4.3 | 3.0 | 2.9 |
| 2016 | 3.4 | 2.2 | 2.3 |
| 2017 | 4.6 | 3.3 | 2.0 |
| Annual avg. 2000-2017 | 3.1 | 2.0 | 0.1 |
| Annual avg. 2008-2017 | 4.2 | 3.0 | 1.5 |

²²⁶ COVIP, Annual Report (various years), including latest data from Annual Report 2017 (n 9), Table 1.23.

²²⁷ 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.



Table IT6.2 Open pension funds' average annual rate of investment returns (in %)

| | 2000-2017 | 2008-2017 |
|---|--------------|-------------|
| Real Return, net of inflation, charges and taxes on benefits | -0.20 | 1.04 |

Source: BETTER FINANCE calculations based on COVIP,²²⁸ Eurostat²²⁹

Individual Pension Plans

Individual Pension Plans have the highest costs on the pension product market in Italy. The charges applied to PIPs were 1.8% for long-term subscribers in 2017.

The performance of the PIPs differs according to type. With-profits policies have a comparable performance to closed funds, while unit-linked PIPs have a lower average return on the market comparable to open funds. However, performances are highly volatile, potentially associated with the relative 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 2017, the returns of unit-linked PIPs were lower compared to 2015 and 2016, and they were slightly higher to those of with-profit PIPs.

Table IT7. PIP With-Profits: Average annual rate of investment returns (in %)

| Year | Nominal return | Nominal Return, after charges | Real Return, net of inflation and charges, before taxes |
|---------------------------------|----------------|-------------------------------|---|
| 2008 | 4.7 | 3.1 | -0.4 |
| 2009 | 4.7 | 3.1 | 2.3 |
| 2010 | 4.8 | 3.2 | 1.6 |
| 2011 | 4.8 | 3.2 | 0.3 |
| 2012 | 4.8 | 3.2 | -0.1 |
| 2013 | 4.8 | 3.2 | 2.0 |
| 2014 | 4.5 | 2.9 | 2.7 |
| 2015 | 4.4 | 2.5 | 2.4 |
| 2016 | 4.0 | 2.1 | 2.2 |
| 2017 | 3.8 | 1.9 | 0.6 |
| Annual average 2008-2017 | 4.5 | 2.8 | 1.3 |

²²⁸ Covip (n 9) Table 1.23.

²²⁹ Eurostat HICP (n 15).

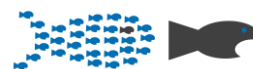


Table IT7.2 PIP With-Profits: Average annual rate of investment returns (in %)

2008-2017

| | |
|---|------------|
| Real Return, net of inflation, charges and taxes on benefits | 0.9 |
|---|------------|

Table IT8.1 PIP Unit-Linked: Average annual rate of investment 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 |
| Annual 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,²³⁰ Eurostat.²³¹

²³⁰ Covip (n 9), Table 1.23.

²³¹ Eurostat HICP (n 15).



Conclusion

The Italian Pension System has a strong State component, which is likely to displace Complementary Pension Funds. 8.3 million individuals are enrolled in 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. Experience from the automatic enrolment implemented by labour agreements in 2015 and 2016 shows that this did not fundamentally change this framework, as employers' contributions were still low, and few employees voluntarily contributed to the new schemes.

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

Over the 2000-2017-year range, we calculated the return rate associated to Open Funds and Closed funds. We calculated returns over the 2008-2017 period for all types of pension funds available in Italy. Over the ten-year period, all types of pension funds experienced positive annual average return. Closed funds experienced the highest annual average return (+1.3%), PIP unit-linked policies experienced the lowest one (+0.4%).

Since 2000, closed funds recorded a positive annual average return (0.90%), while open funds recorded a negative one of -0.20%.



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Pension Savings: The Real Return

2018 Edition

Country Case: Latvia

Latvija

2017.gadā 2.pensiju līmeni (vidējā gada nominālā peļņa 3.31%) un 3.pensiju līmeni (vidējā gada nominālā peļņa 4.70%) raksturo stabile izaugsme. Šo tendenci pavadīja arī pieaugums 3.pensiju līmeņa dalībnieku skaitā. Mazāk pozitīvs fakts ir izmaksu pieaugums un pastāvošā sarežģīta maksu struktūra 3.pensiju līmeņa fondos, kas nesniedz skaidru priekšstatu par to cik lielu daļa no pensiju fondu peļņas aiziet komisijas maksās.

Summary

2017 can be viewed as a year of solid returns for Pillar II (average annual nominal return of 3.31%) and Pillar III funds (average annual nominal return of 4.70%). This trend has been accompanied by a continuous growth of savers in Pillar III. The less positive feature is the increase of charges and remaining complex fee structure of Pillar III pension funds, which limits the possibility of seeing the overall impact of fees on accumulated savings.

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 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 1998.²³²

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.

Pension 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.

²³² 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>



Introductory table LV - Multi-pillar pension system in Latvia

| Pillar I | Pillar II | Pillar III |
|---|--|---|
| State Pensions | State Funded pensions | Voluntary private pensions |
| Mandatory | Mandatory | Voluntary |
| NDC PAYG | Funded | Funded |
| Financed by social insurance contributions | DC | DC |
| 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: 23.5% of working population (in 2017) |

Gross replacement ratio: 31%

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 2017, 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.

Statutory retirement age in Latvia in 2017 is 63 years 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) the saver is at least 61 years old (gradually rising by three months a year until 2025) and 2) the saver has at least 30 years of contribution.

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% |

Source: Own calculations based on Central Statistical Bureau of Latvia (<http://data.csb.gov.lv>), 2018
http://data.csb.gov.lv/pxweb/en/Sociala/Sociala_ikgad_inenumi/I10010_euro.px/?rxid=16744538-cfbc-4791-959d-41ac400179ee

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).

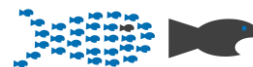


Table LV2. Minimum Old-age Pension in Latvia

| 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, 2018 (<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.vsa.lv/en/services/for-employees/2-nd-tier-mandatory-state-funded-pension-scheme/>, 2018

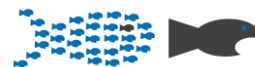
Contributions into Pillar II were raised continuously with the adopted reforms. However, during the financial crisis, the contributions into Pillar II were reduced to 2% with gradual growth since 2012. It should be mentioned that the largest part of contributions (8% of salary) had flown into the pension 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 2017), 23 state-funded pension schemes have been operational on the Pillar II market. Three new funds emerged during 2017, of which two



funds present their investment strategy as “passive”. 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 an equity share of up to 15% and a 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 50% and no limits on investments in bonds and money market instruments.

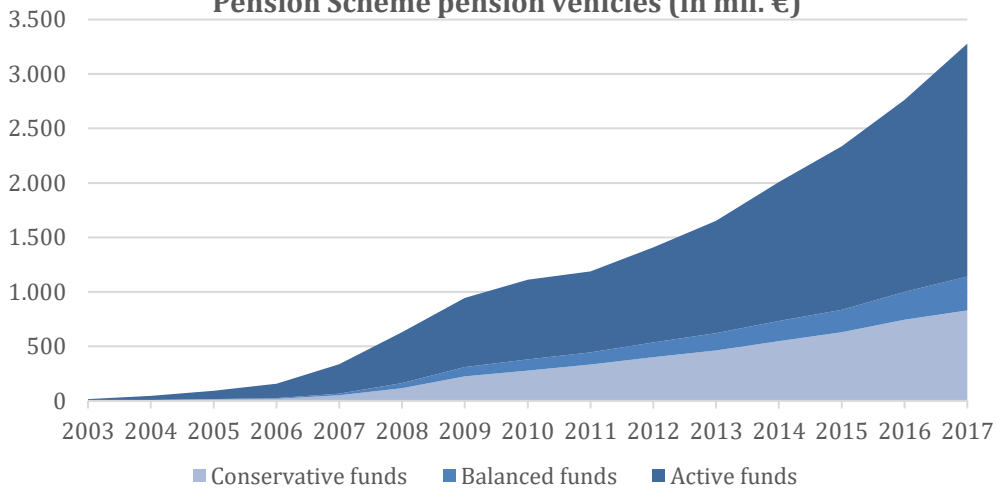
The legislation sets relatively strict quantitative investment limits for pension funds, trying to supplement the prudent principle.

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.



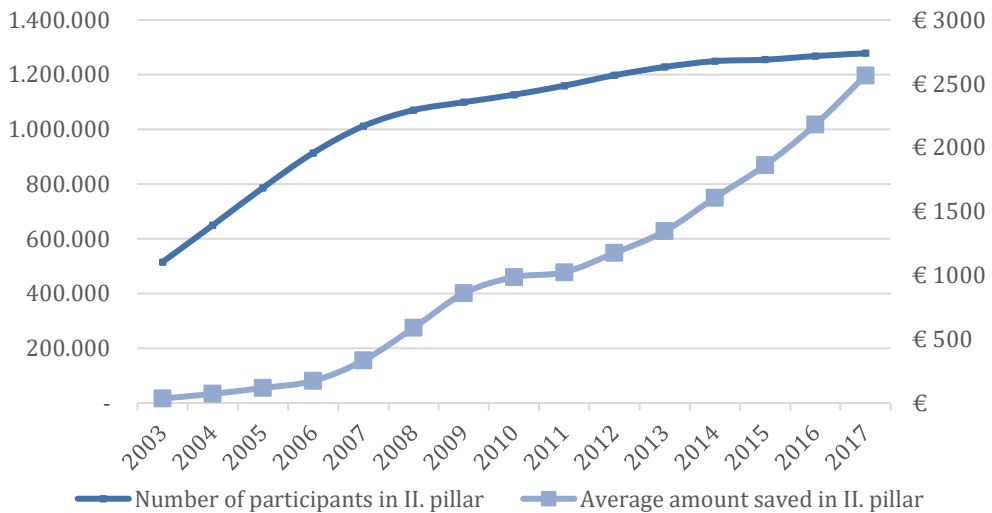
Graph LV1. Assets under Management in State Funded Pension Scheme pension vehicles (in mil. €)



Source: Own calculations (<http://www.manapensija.lv/en/2nd-pensionpillar/statistics/data>), 2018

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 LV2. Number of participants and average size of individual accounts in Latvian Pillar II



Source: Own calculations (<http://www.manapensija.lv/en/2nd-pensionpillar/statistics/data>), 2018



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.

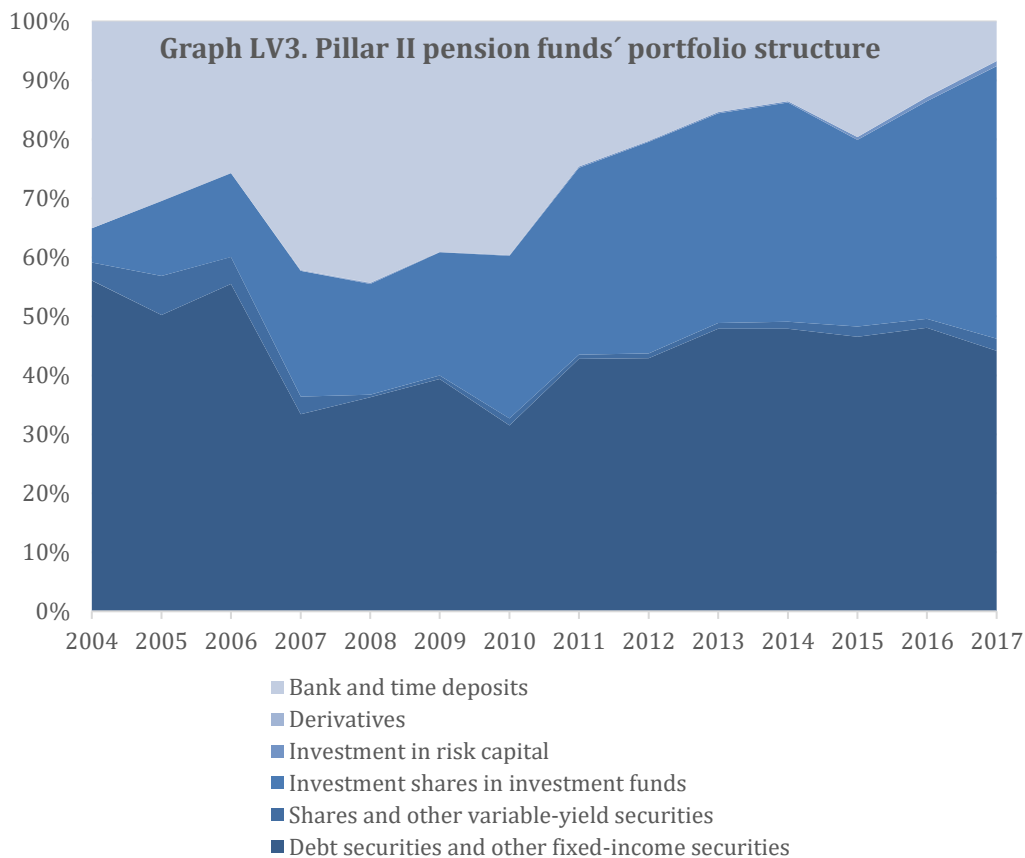
There are 23 pension funds operating on the market in 2016. There was no change in the number of pension funds offered in Pillar II. The list of Pillar II pension funds is presented in the table below.

| Table LV5. List of State Funded Pension Funds | | |
|--|---|----------------------|
| Pension Fund Name | Investment style of the pension plan | Inception day |
| ABLV ACTIVE INVESTMENT PLAN | Active | 02.08.2017 |
| CBL Aktīvais ieguldījumu plāns | Active | 07.01.2003 |
| CBL Universālais ieguldījumu plāns | Conservative | 07.01.2003 |
| Ieguldījumu plāns "INDEXO Izaugsme 47-57" | Passive | 21.06.2017 |
| Ieguldījumu plāns „INVL Ekstra 16+” | Active | 08.08.2006 |
| Ieguldījumu plāns „INVL INDEX DIRECT” | Passive | 14.08.2017 |
| Ieguldījumu plāns „INVL Komforts 47+” | Balanced | 08.08.2006 |
| Ieguldījumu plāns „INVL Konservatīvais 58+” | Conservative | 07.01.2003 |
| Luminor (D) Aktīvais ieguldījumu plāns | Active | 21.02.2005 |
| Luminor (D) Konservatīvais ieguldījumu plāns | Balanced | 21.02.2005 |
| Luminor (N) aktīvais ieguldījumu plāns | Active | 02.02.2009 |
| Luminor (N) konservatīvais ieguldījumu plāns | Conservative | 02.02.2009 |
| Luminor Sabalansētais ieguldījumu plāns | Conservative | 21.02.2005 |
| NORVIK Aktīvais ieguldījumu plāns "GAUJA" | Active | 14.10.2003 |
| NORVIK Konservatīvais ieguldījumu plāns "DAUGAVA" | Conservative | 07.01.2003 |
| NORVIK Sabalansētais ieguldījumu plāns "VENTA" | Balanced | 14.10.2003 |
| SEB aktīvais plāns | Active | 07.01.2003 |
| SEB Eiropas plāns | Active | 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 | 07.01.2003 |
| Swedbank pensiju ieguldījumu plāns "Stabilitāte" | Conservative | 07.01.2003 |

Source: <http://www.manapensija.lv/en/2nd-pension-pillar/statistics/>, 2018



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.



Source: Own elaboration based on Financial and Capital Market Commission data, 2018 (available at: <http://www.ftkk.lv/en/statistics/pension-funds/quarterly-reports.html>).

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 2017) 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 2017), 17 open private pension funds and one closed private pension fund exist on the market. A new company (“INVL”) entered the market in 2015 and took over existing funds from the exiting company “Finasta”. At the same time, in 2015 INVL started offering two new target date funds (conservative and balanced one).

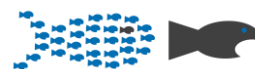
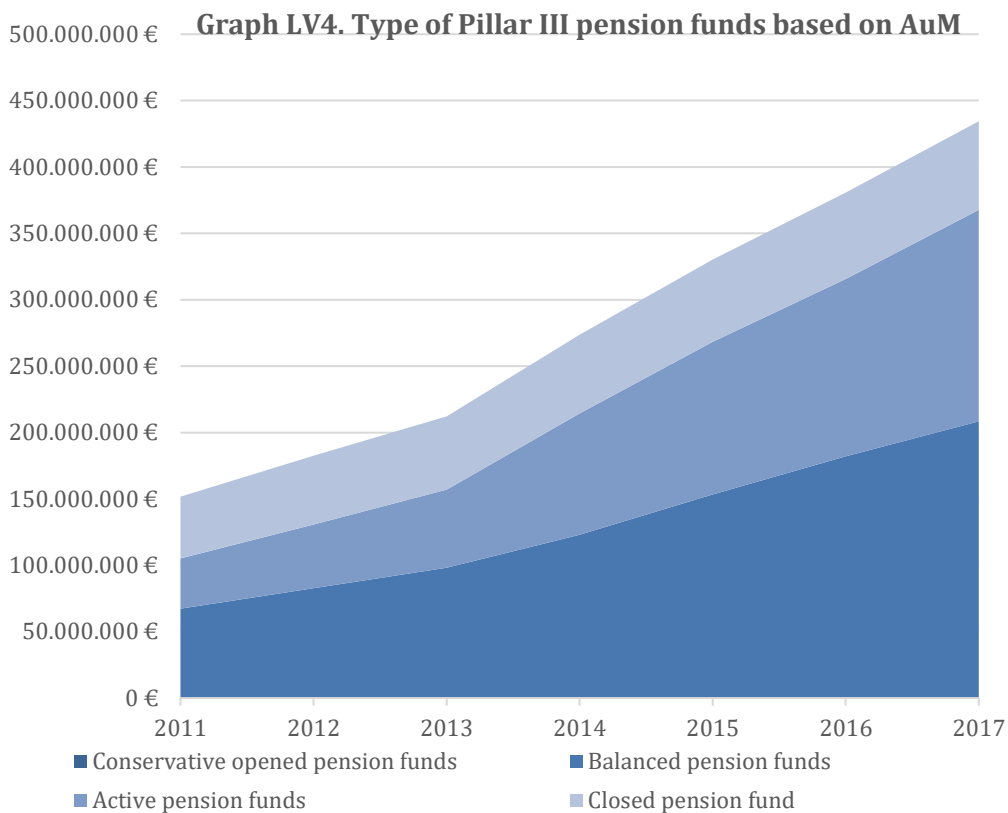


Table LV6. List of Pillar III Supplementary pension funds

| Pension Fund Name | Investment style of the pension plan | Inception day |
|---------------------------------------|---|----------------------|
| INVL Konservatīvais 58+ | Conservative opened pension funds | 08.10.2015 |
| CBL Sabalansētais | Balanced opened pension funds | 30.09.1999 |
| Luminor sabalansētais pensiju plāns | Balanced opened pension funds | 18.10.2011 |
| "SEB - Sabalansētais" pensiju plāns | Balanced opened pension funds | 31.07.2000 |
| Swedbank pensiju plāns Stabilitāte+25 | Balanced opened pension funds | 14.07.2003 |
| CBL Aktīvais | Active opened pension funds | 21.03.2000 |
| INVL plāns Aktīvais 16+ | Active opened pension funds | 08.10.2015 |
| INVL "Dzintars - Konservatīvais" | Active opened pension funds | 23.10.1998 |
| INVL "Jūra - Aktīvais" | Active opened pension funds | 07.03.2008 |
| INVL "Saule - Sabalansētais" | Active opened pension funds | 07.03.2008 |
| INVL Sabalansētais 47+ | Active opened pension funds | 08.10.2015 |
| Luminor progresīvais pensiju plāns | Active opened pension funds | 18.10.2011 |
| "SEB Aktīvais" pensiju plāns | Active opened pension funds | 15.09.2004 |
| Swedbank pensiju plāns Dinamika+60 | Active opened pension funds | 01.08.2003 |
| Swedbank pensiju plāns Dinamika+100 | Active opened pension funds | 27.12.2006 |
| CBL Aktīvais USD | Active opened pension funds | 01.04.2006 |
| Swedbank pensiju plāns Dinamika+(USD) | Active opened pension funds | 14.07.2003 |
| "Pirmais Pensiju Plāns" | Closed pension fund | 01.12.1999 |

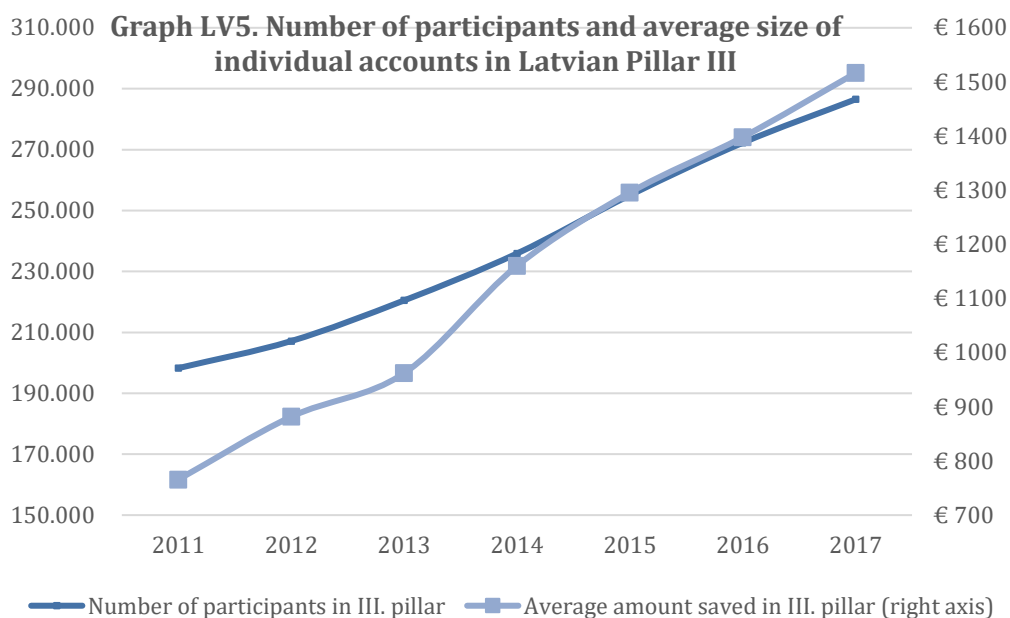
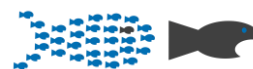
Source: Own elaboration based on Financial and Capital Market Commission data, 2018

The structure of the pension vehicles according to the type of the fund and investment strategy offered is presented in the figure below.



Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/>), 2018

The number of participants as well as the average amount saved in Pillar III saving accounts rises steadily. As of 31 December 2017, there has been almost 287,000 Pillar III saving accounts with an average amount of € 1,516 saved in them. The developments of these parameters are presented on the figure below.

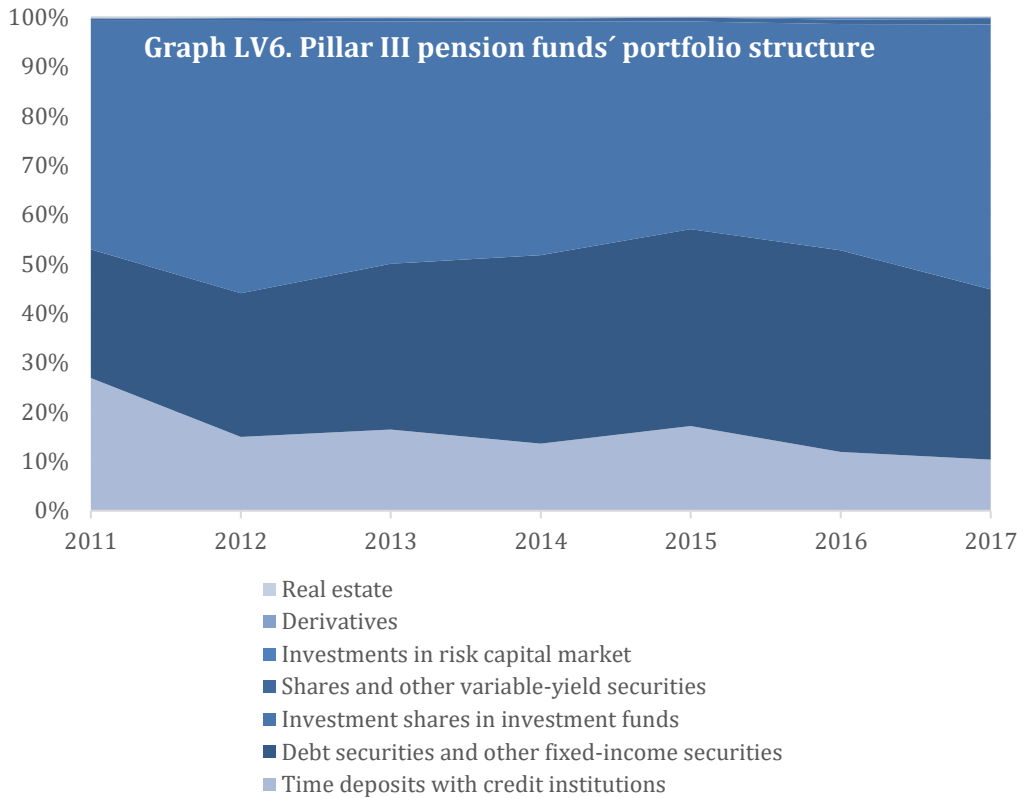


Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/>), 2018

It should be noted that balanced pension funds accounted for about 50% of market share based on AuM in 2017, 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 36.6% in 2017). It should be noted that conservative funds have market share close to 0%.

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 15% of market share based on assets under management (data as of 2017), 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 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.



Source: Own elaboration based on Financial and Capital Market Commission data, 2018 (available at: <http://www.fktk.lv/en/statistics/pension-funds/quarterly-reports.html>)

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.

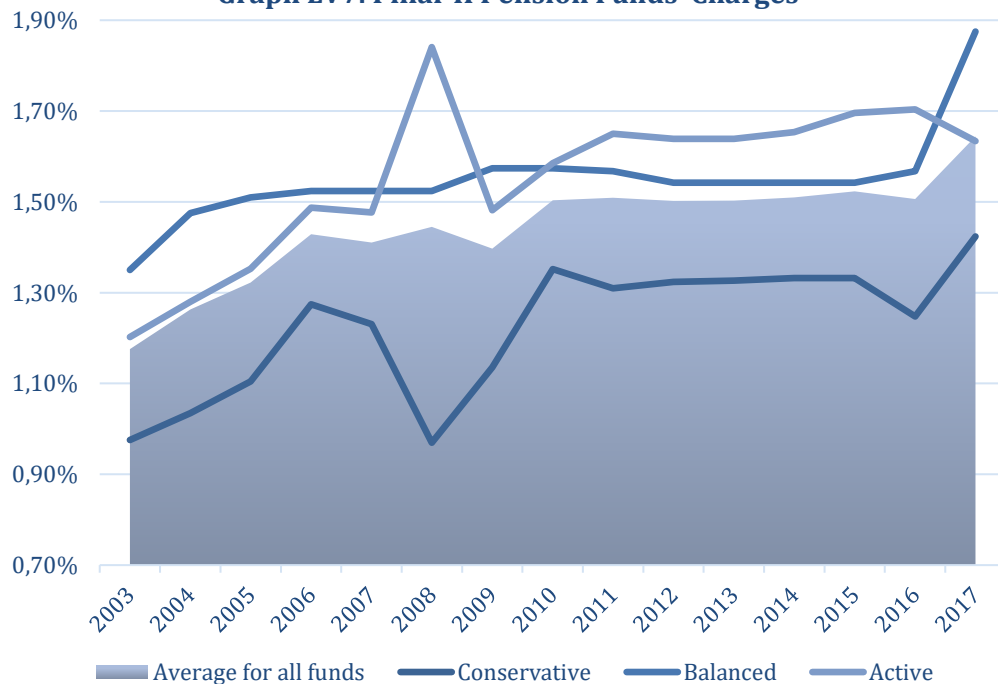


Fees that can be charged to pension funds by fund managers are recognized by law as having a fixed and variable part. The law stipulates that payment for the management of an investment plan shall include:

- 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.

The average level of fees charged to the pension funds are increasing, both on a relative as well as absolute level, which might be detrimental to the long-term savings of Latvian savers. Generally, the fees applied to the pension funds in Pillars II and III are among the highest. Several Pillar II pension funds now apply performance-based fees, where this additional fee is charged if the fund manager reaches a positive return.

Graph LV7. Pillar II Pension Funds' Charges



Source: Own research based on the most recent terms of respective pension funds, 2018

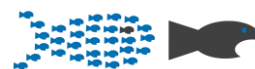


Pillar III – Voluntary private pensions

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. However, the portal Manapensija (<http://www.manapensija.lv/en/>) has significantly enhanced the information on actual charges and fees applied by Pillar III pension funds and their administrators in 2016.

Charges of voluntary private pension funds for the years 2015 and 2016 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 uses mixed Administration costs, which are a combination of entry fees (fees on contributions paid) and ongoing charges (AuM based). CBL funds uses also a performance fee if the fund returns outperform the benchmark (12-month RIGIBID). Aggressive fee policy is applied for INVL funds (Sabalansētais 47+, Aktivais 16+ and Konservatīvais 58+), where the participant only pays fees on first year contributions. Otherwise, no additional charges are applied.

| Table LV7. Voluntary Private Pension Funds' Fees and Charges | | | | |
|--|-----------------------------|---------------|---------------|---------------|
| Voluntary Private Pension Funds | Type of the Charges | Year 2015 | Year 2016 | Year 2017 |
| CBL Aktīvais | Administration Cost | 1.50% | 1.50% | 1.50% |
| | Fund Manager's Commission | 0.9% | 0.9% | 0.9% |
| | Custodian bank's commission | 0.2% | 0.2% | 0.2% |
| | Performance fee | 10% (RIGIBID) | 10% (RIGIBID) | 10% (RIGIBID) |
| CBL Aktīvais USD | Administration Cost | 1.50% | 1.50% | 1.50% |
| | Fund Manager's Commission | 0.9% | 0.9% | 0.9% |
| | Custodian bank's commission | 0.2% | 0.2% | 0.2% |
| | Performance fee | 10% (RIGIBID) | 10% (RIGIBID) | 10% (RIGIBID) |
| CBL Sabalansētais | Administration Cost | 1.50% | 1.50% | 1.50% |
| | Fund Manager's commission | 0.75% | 0.75% | 0.75% |



| | | | | |
|---|---|---------------|---------------|---------------|
| | Custodian bank's commission | 0.20% | 0.20% | 0.20% |
| | Performance fee | 10% (RIGIBID) | 10% (RIGIBID) | 10% (RIGIBID) |
| INVL plāns "Dzintars - Konservatīvais" | Administration Cost | 2.00% | 2.00% | 2.00% |
| | Fund Manager's commission | 0.70% | 0.70% | 0.70% |
| | Custodian bank's commission | 0.50% | 0.50% | 0.01% |
| INVL plāns "Jūra - Aktīvais" | Administration Cost | 1.00% | 1.00% | 1.00% |
| | Fund Manager's commission | 1.00% | 1.00% | 1.00% |
| | Custodian bank's commission | 0.50% | 0.50% | 0.01% |
| INVL plāns "Saule - Sabalansētais" | Administration Cost | 1.00% | 1.00% | 1.00% |
| | Fund Manager's commission | 1.00% | 1.00% | 1.00% |
| | Custodian bank's commission | 0.50% | 0.50% | 0.01% |
| INVL Sabalansētais 47+ | Administration Cost | | 0.00% | 0.00% |
| | Fund Manager's commission | | 0.00% | 0.00% |
| | Custodian bank's commission | | 0.00% | 0.00% |
| | Fee from contributions during the first year of participation | | 30.00% | 30.00% |
| INVL Aktīvais 16+ | Administration Cost | | 0.00% | 0.00% |
| | Fund Manager's commission | | 0.00% | 0.00% |
| | Custodian bank's commission | | 0.00% | 0.00% |
| | Fee from contributions during the first year of participation | | 30.00% | 30.00% |



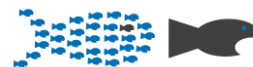
| | | | | |
|--|---|--|--|--|
| INVL Konservatīvais 58+ | Administration Cost | | 0.00% | 0.00% |
| | Fund Manager's commission | | 0.00% | 0.00% |
| | Custodian bank's commission | | 0.00% | 0.00% |
| | Fee from contributions during the first year of participation | | 30.00% | 30.00% |
| Luminor progresīvais pensiju plāns | Administration Cost | 2% from each contribution + 0.75% per year from average assets | 2% from each contribution + 0.75% per year from average assets | 0.75% per year from average value of assets |
| | Fund Manager's commission | 1.60% | 1.60% | 1.60% |
| | Custodian bank's commission | 0.15% | 0.15% | 0.15% |
| Luminor sabalansētais pensiju plāns | Administration Cost | 1% from each payment + 1% per year from average assets | 1% from each payment + 1% per year from average assets | 0.75% per year from average value of assets |
| | Fund Manager's commission | 1.10% | 1.10% | 1.10% |
| | Custodian bank's commission | 0.15% | 0.15% | 0.15% |
| "Pirmais Pensiju Plāns" | Administration Cost | 1.50% | 1.50% | 1.50% |
| | Fund Manager's commission | 1.30% | 1.30% | 1.30% |
| | Custodian bank's commission | 0.20% | 0.20% | 0.20% |
| "SEB Aktīvais" pensiju plāns | Administration Cost | 1.50% | 1.50% | 0.90% - 3.00% (in accordance with the amount of savings at SEB pension fund) |



| | | | | |
|--|-----------------------------|-------|-------|---|
| | Fund Manager's commission | 0.90% | 0.90% | 0.60% (The commission fee will be reduced by 25% if customer uses at least one other pension savings product offered by the SEB Group administrated by SEB Investment Management: life insurance with saving of funds for at least 10 years or Lifetime pension insurance. If the amount of customer's savings in SEB Pension Fund is 100 000 EUR or more, the commission rate for the asset manager is 0.35%) |
| | Custodian bank's commission | 0.20% | 0.20% | 0.10% |
| "SEB - Sabalansētais" pensiju plāns | Administration Cost | 1.50% | 1.50% | 0.90% - 3.00% (in accordance with the amount of savings at SEB pension fund) |



| | | | | |
|--|-----------------------------|--|--|--|
| | Fund Manager's commission | 0.90% | 0.90% | 0.6% (The commission fee will be reduced by 25% if customer uses at least one other pension savings product offered by the SEB Group administrated by SEB Investment Management: life insurance with saving of funds for at least 10 years or Lifetime pension insurance. If the amount of customer's savings in SEB Pension Fund is 100 000 EUR or more, the commission rate for the asset manager is 0.35%) |
| | Custodian bank's commission | 0.20% | 0.20% | 0.10% |
| Swedbank pensiju plāns Dinamika+(USD) | Administration Cost | 2% from payments + 0.6% from assets per year | 2% from payments + 0.6% from assets per year | 0.60% |
| | Fund Manager's commission | 1.25% | 1.25% | 0.90% |
| | Custodian bank's commission | 0.20% | 0.20% | 0.18% |
| Swedbank pensiju plāns Dinamika+100 | Administration Cost | 2% from payments + 1% from assets / yr | 2% from payments + 1% from assets / yr | 0.60% |



| | | | | |
|--|-----------------------------|--|--|-------|
| | Fund Manager's commission | 1.60% | 1.60% | 0.90% |
| | Custodian bank's commission | 0.20% | 0.20% | 0.10% |
| Swedbank pensiju plāns Dinamika+60 | Administration Cost | 2% from payments + 0.6% from assets per year | 2% from payments + 0.6% from assets per year | 0.60% |
| | Fund Manager's commission | 1.25% | 1.25% | 0.90% |
| | Custodian bank's commission | 0.20% | 0.20% | 0.10% |
| Swedbank pensiju plāns Stabilitāte+25 | Administration Cost | 2% from payments + 0.6% from assets per year | 2% from payments + 0.6% from assets per year | 0.60% |
| | Fund Manager's commission | 0.90% | 0.90% | 0.50% |
| | Custodian bank's commission | 0.20% | 0.20% | 0.10% |

Source: Own research based on Manapensija data and supplementary pension funds' Prospectuses and Terms, 2017

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.

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.

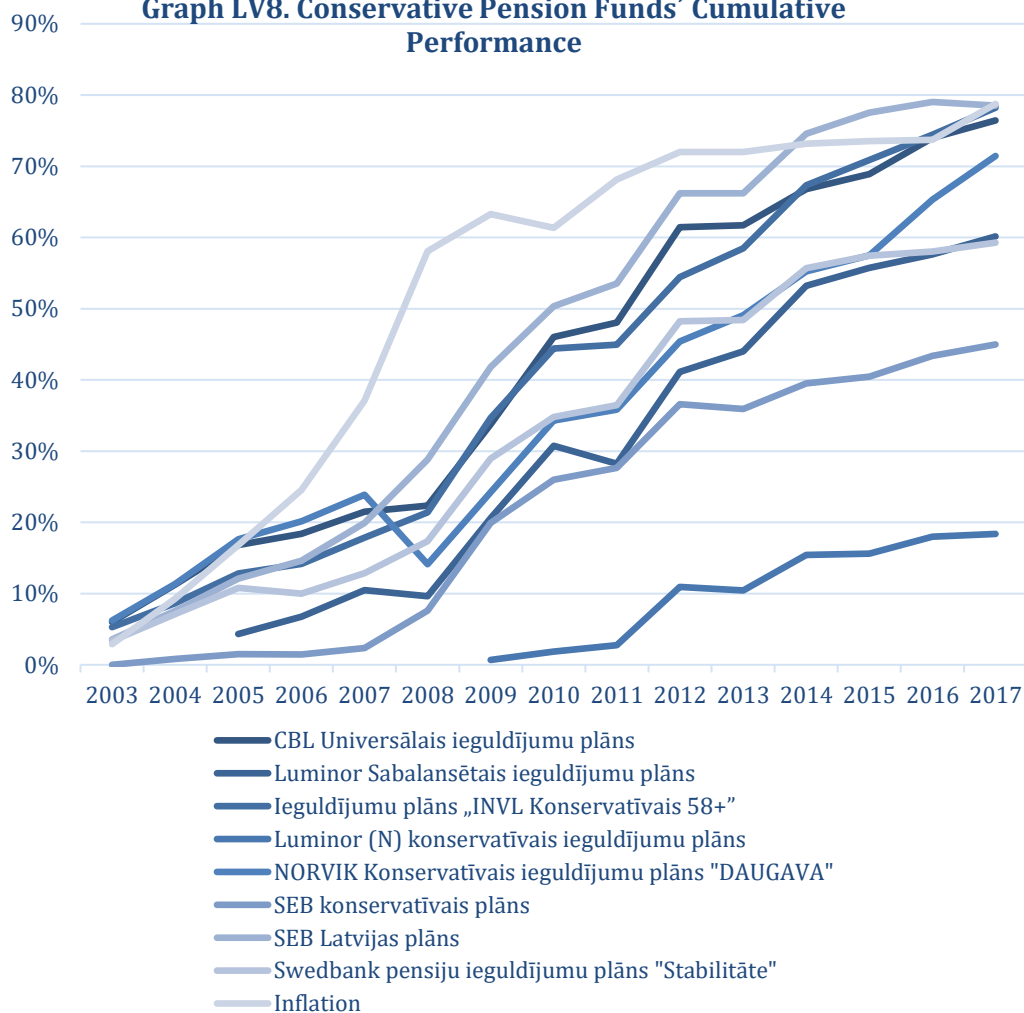
All data presented on the pension funds' returns are presented in net values, i.e. after all fees charged to the fund portfolio. The graphs contain also inflation on an annual as well as cumulative basis.

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 2017 is presented.

Conservative mandatory pension funds' performance on a cumulative basis compared to the inflation is presented below.

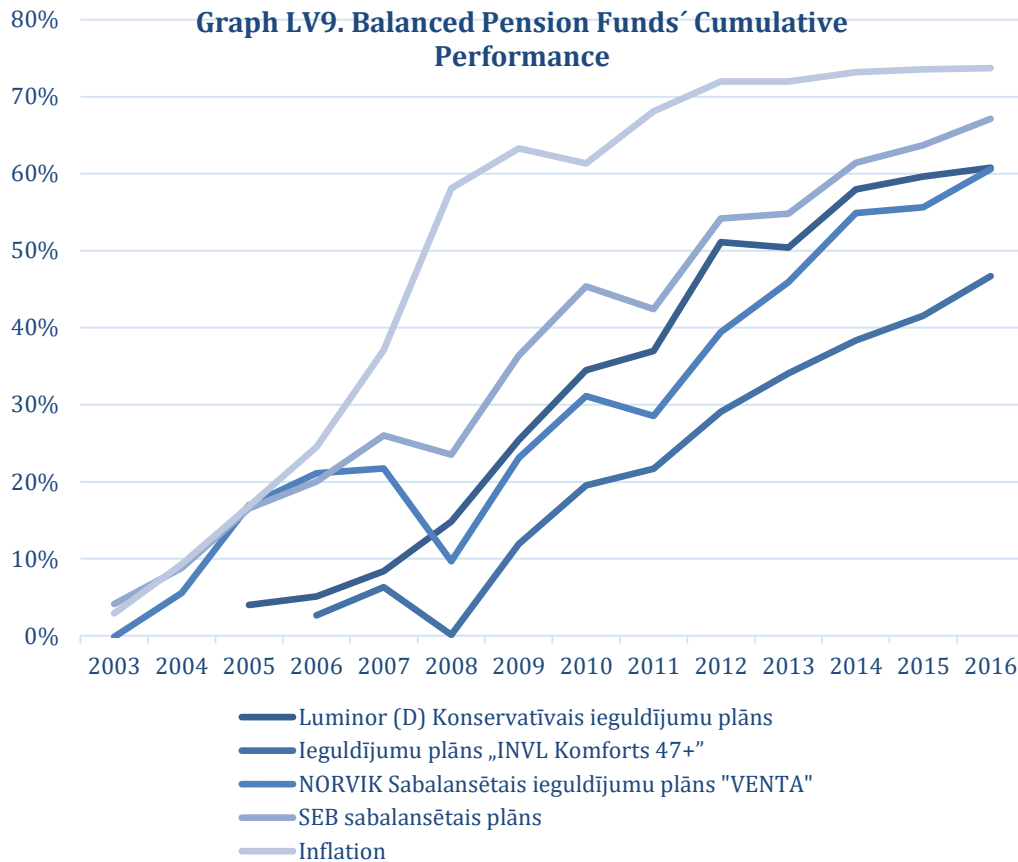


Graph LV8. Conservative Pension Funds' Cumulative Performance



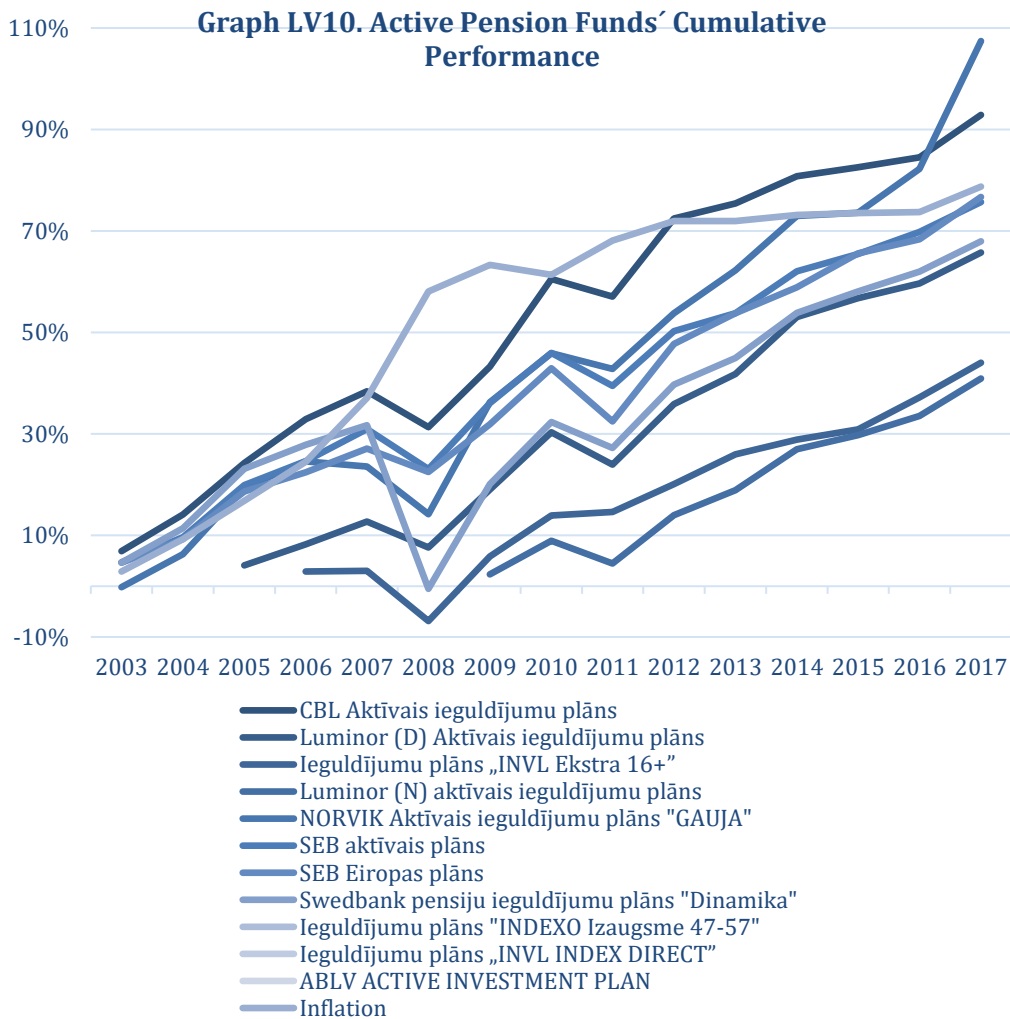
Source: Own calculation based on <http://www.manapensija.lv/en/2nd-pension-pillar/statistics/> and supplementary pension funds' Prospectuses and Terms, 2018

Balanced pension funds' cumulative performance comparing to the Latvian inflation is presented in graphs below.



Source: Own calculation based on <http://www.manapensija.lv/en/2nd-pension-pillar/statistics/> and supplementary pension funds' Prospectuses and Terms, 2018

Active pension funds' performance on a cumulative basis compared to the inflation is presented in the graphs below.



Source: Own calculation based on <http://www.manapensija.lv/en/2nd-pension-pillar/statistics/> and supplementary pension funds' Prospectuses and Terms, 2018

It should be noted that only two active pension funds (out of 23) existing since the start of Pillar II 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.



| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|--------------|--|---------------|
| 2003 | 4.86% | | 1.96% | |
| 2004 | 5.69% | | -0.51% | |
| 2005 | 8.93% | | 2.03% | |
| 2006 | 3.91% | | -2.69% | |
| 2007 | 3.51% | | -6.59% | |
| 2008 | -10.04% | | -25.34% | |
| 2009 | 13.51% | | 10.21% | |
| 2010 | 8.45% | 3.90% | 9.65% | -0.38% |
| 2011 | -2.10% | | -6.30% | |
| 2012 | 9.06% | | 6.76% | |
| 2013 | 2.32% | | 2.32% | |
| 2014 | 5.25% | | 4.55% | |
| 2015 | 1.93% | | 1.73% | |
| 2016 | 2.02% | | 1.92% | |
| 2017 | 3.26% | | 0.36% | |

Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/2nd-pension-pillar/statistics/>), 2018

Pillar III – Voluntary private pensions

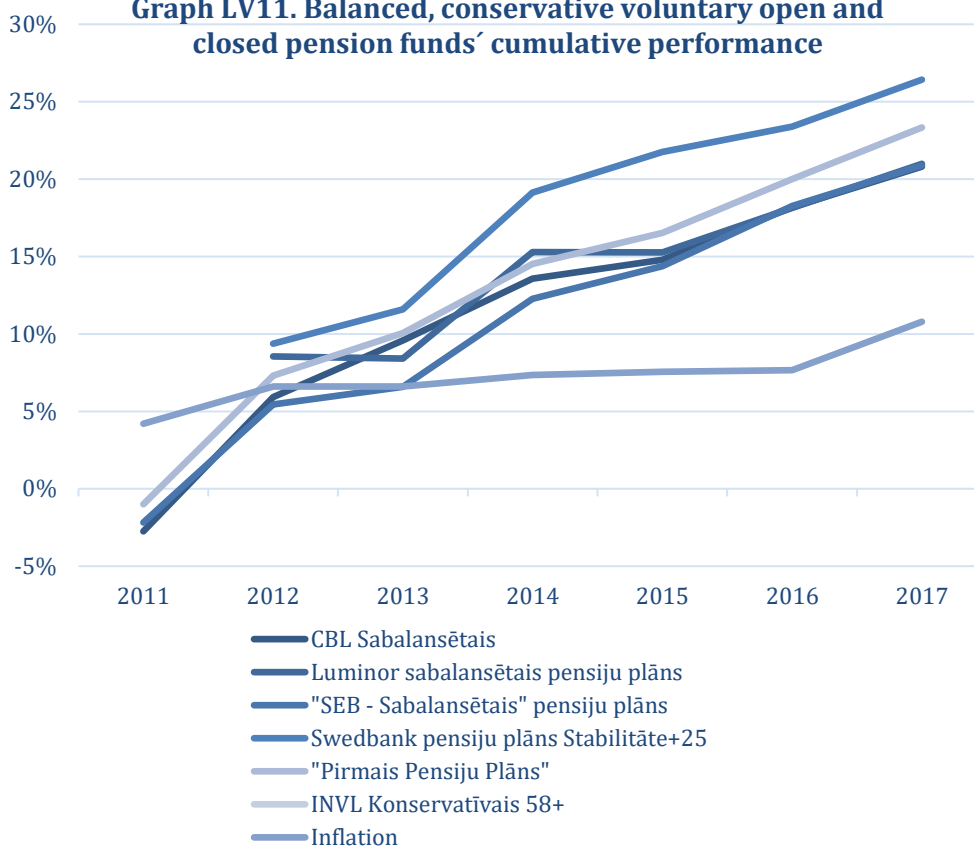
The analysis of voluntary pension funds' performance uses annual approaches as well as cumulative approaches, peer comparison and inflation.

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.



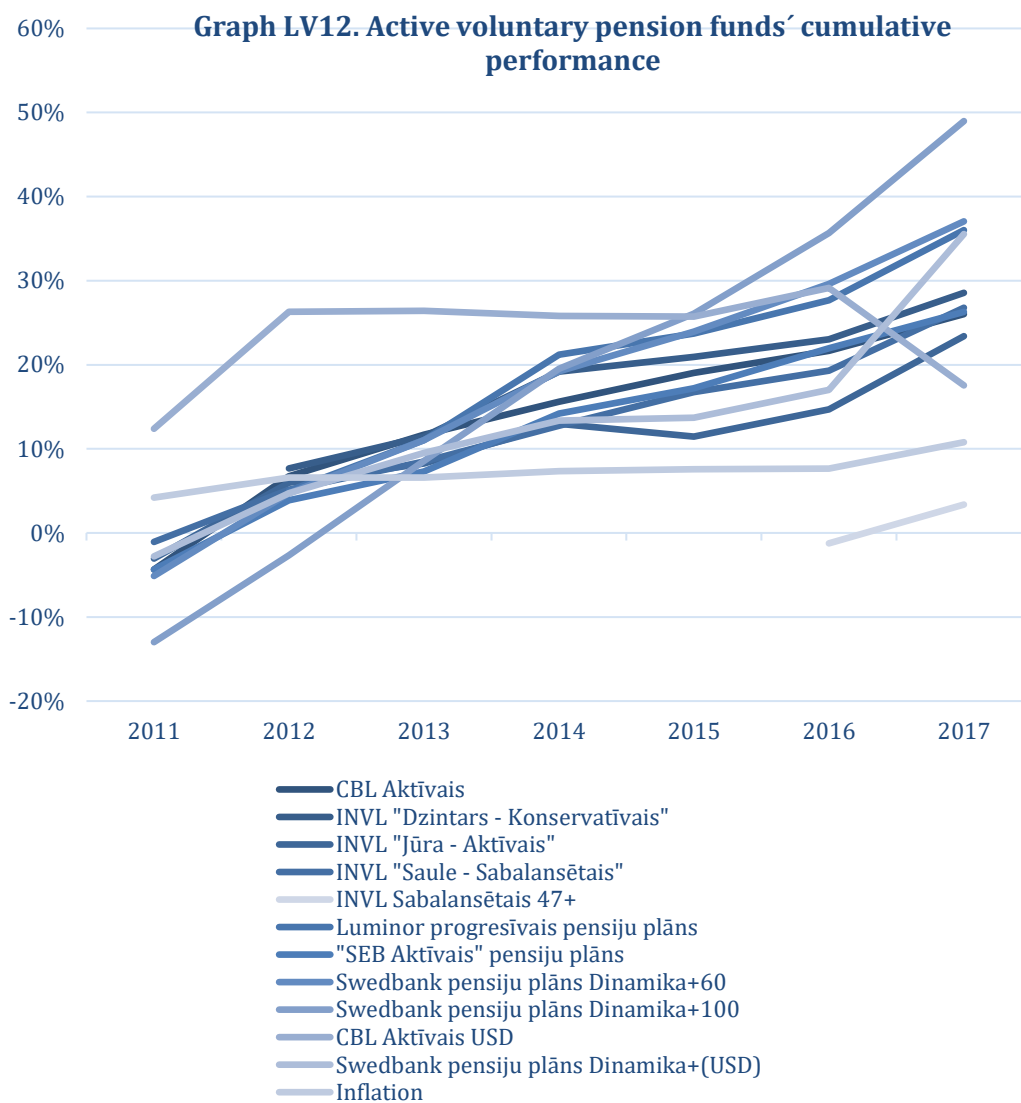
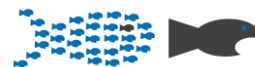
Graph LV11. Balanced, conservative voluntary open and closed pension funds' cumulative performance



Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/>), 2018

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 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.



Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/>), 2018

Nominal as well as real returns of voluntary pension funds in Latvia weighted by AuM are presented in a summary table below.



| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|--------------|--|--------------|
| 2011 | -2.61% | | -6.81% | |
| 2012 | 8.77% | | 6.47% | |
| 2013 | 3.08% | | 3.08% | |
| 2014 | 5.56% | 3.38% | 4.86% | 1.87% |
| 2015 | 2.28% | | 2.08% | |
| 2016 | 3.35% | | 3.25% | |
| 2017 | 3.62% | | 0.72% | |

Source: Own calculation based on Manapensija data (<http://www.manapensija.lv/en/3rd-pension-pillar/history-and-statistics/>), 2018

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 and 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.



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Pension Savings: The Real Return

2018 Edition

Country Case: Lithuania

Reziumė

Nauja valstybė, įtraukta į šių metų tyrimą, yra Lietuva; jos pensijų sistema yra tipiška Pasaulio banko daugiapakopė sistema, kurioje vis dar dominuoja einamasis finansavimas. Tačiau II pakopos pensijų fondai, apimantys daugiau negu 92 % ekonomiškai aktyvių gyventojų, tampa svarbesni. Nors III pakopos fondai savo ypatybėmis yra labai panašūs į II pakopos, tačiau jie turi ribotas galimybes konkuruoti su II pakopos fondais.

Abiejų pakopų pensijų fondų rezultatai 2017 m. buvo teigiami. Pensijų fondų grąža labai skyrėsi skirtingos rizikos profilių atveju. Jeigu taupantysis investuotų į konservatyvius pensijų fondus, jis / ji gautų neigiamą vardinę grąžą (-0,06 %) už 2017 m. Kita vertus, pensijų fondai, kuriuose didesnę dalį sudaro nuosavas kapitalas, pasiekia teigiamą nuo 6 % (II pakopos fondai) iki 8,65 % (III pakopos fondai) grąžą. Lietuvoje laukiama reikšmingų įstatymų pakeitimų, turinčių įsigalioti nuo 2019 m. Tikimasi, kad atsiras „gyvenimo trukmės“ fondų ir sumažės II pakopoje taikomi mokesčiai. Tuo pačiu metu tęsiasi diskusijos dėl II ir III pakopų sujungimo vienoje privačioje pensijų sistemoje.

Summary

Lithuania is the latest country case to be added to this annual study and its pension system is a typical World-bank multi-pillar system, where the PAYG pillar still plays the dominant part. 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.

Pension funds' performance in both pillars were positive in 2017. There were significant differences among the pension funds' returns with different risk-return profiles. If a saver would invest into the conservative pension funds, he/she would achieve a negative nominal return of -0.06% for 2017. On the other hand, pension funds with higher proportion of equities have achieved a positive return of 6% (Pillar II funds) up to 8.65% (Pillar III funds).

There are significant legislative changes expected in Lithuania that should come into effect in 2019. "Life-cycle" funds are expected to emerge, 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:²³³

- **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, the 2nd pillar 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 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

²³³ BITINAS, A. (2011). Modern pension system reforms in Lithuania: Impact of crisis and ageing. *Jurisprudence*, 18(3), 1055–1080.



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.

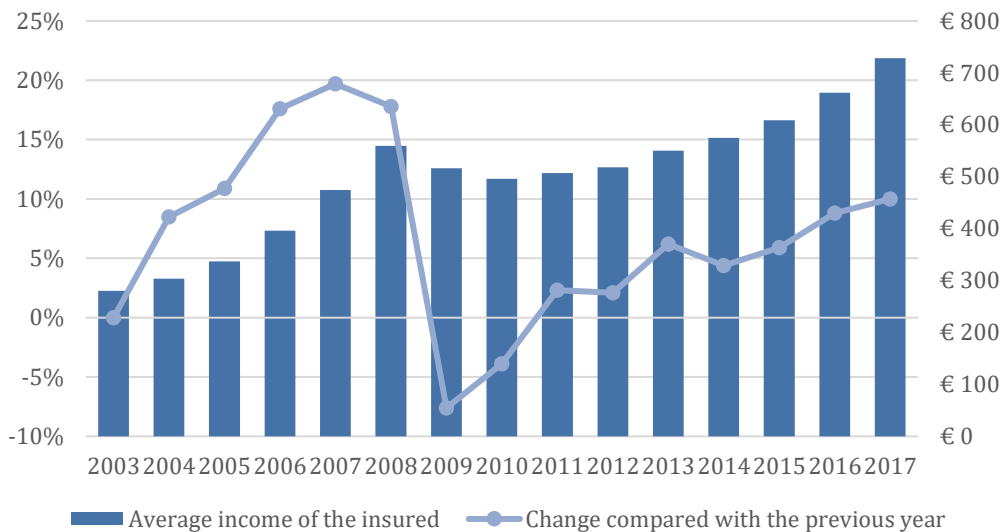
| Table LT1. Multi-pillar pension system in Lithuania | | |
|---|--|---|
| PILLAR I | PILLAR II | PILLAR III |
| State Pension | Funded pension | Voluntary pension |
| Law on State Social Insurance Pensions | Law on the Reform of the Pension System (effective till 2019); Law on Pension Accumulation | 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: 592,300 | Administrators: 5 | Administrators: 4 |
| Average old-age pension: €287.1 | Funds: 26 | Funds: 12 |
| Average income (gross): €728.5 | AuM: €2,911.09 mil. | AuM: €96.55 mil. |
| Average replacement ratio: 39.41% | Participants: 1,289,284 | Participants: 57,780 |
| Number of insured persons: 1,406,500 | Coverage ratio: 91.67% | Coverage ratio: 4.11% |
| <i>Source: Own elaboration based on SoDra data, 2018</i> | | |

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 92% in 2017, while Pillar III covered only little more than 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). However, the overall income level is well below the EU average (€728.5 in 2017).

Graph LT1. Average income and annual changes in income of insured persons



Source: Own elaboration based on SoDra data, 2018

Pillar I – State Pensions

The first pillar of the Lithuanian pension system is organized on the PAYG principle of redistribution, being funded on an ongoing basis, functioning on the pointing system, and taking into account the duration of insured 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 (63.5 years for men and 62 years for women in 2017). 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 will increase. In 2018 the mandatory record will be 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:

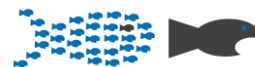
β represents the ratio of the insurance record of the person and the obligatory insurance record effective in the year of the pension entitlement (for example, if the obligatory insurance record at year of retirement is 30 years and the person's insurance record is full career of 40 years, then the value 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 $40 \times 1 \text{ point} = 40 \text{ points}$. If the value of one pension point at moment of retirement is, for example, €10, then the individual part of old-age pension is: $40 \times 10 = 400 \text{ Eur}$.

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

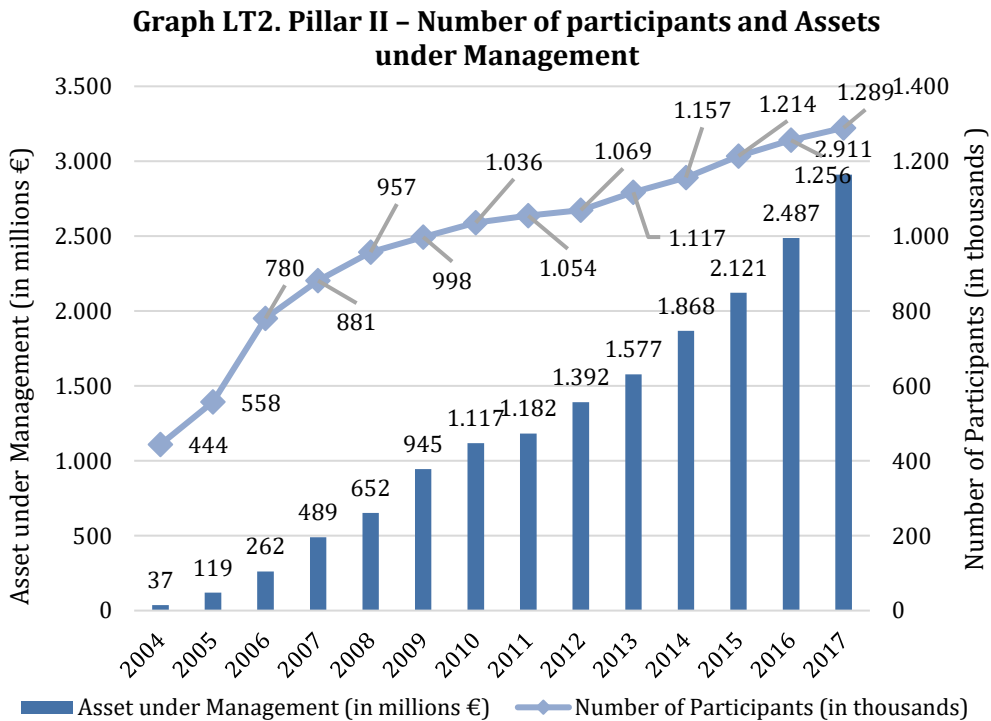


Pillar II – Funded pensions

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).

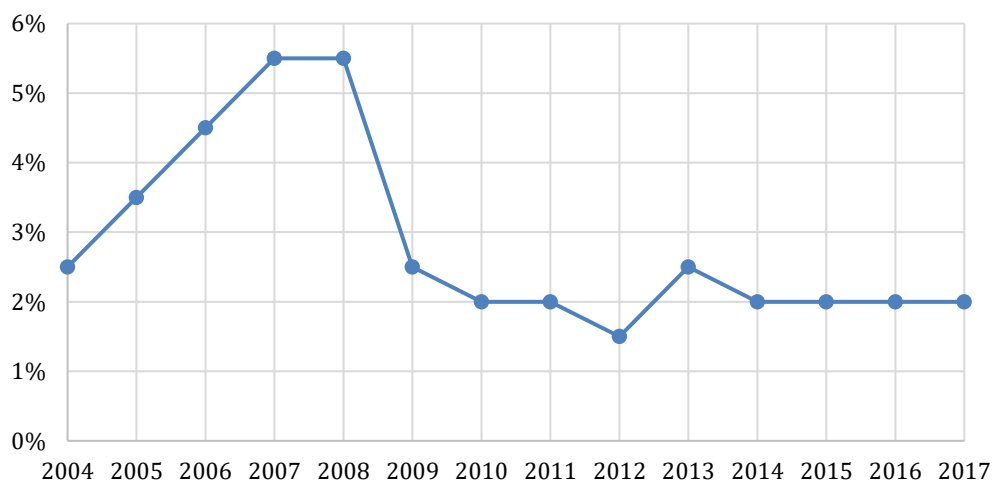


Source: Own calculations based on Bank of Lithuania data



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. The level of the base rate contribution is presented on the graph below.

Graph LT3. Level of “base rate” contributions towards Pillar II



Source: Own elaboration based on the Law on Reform of the Pension System, 2018

As seen in the graph above, since 2009 the level of contributions towards Pillar II have been changing every year. 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 age. More than two-thirds are passive investors 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, mis-allocation 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.

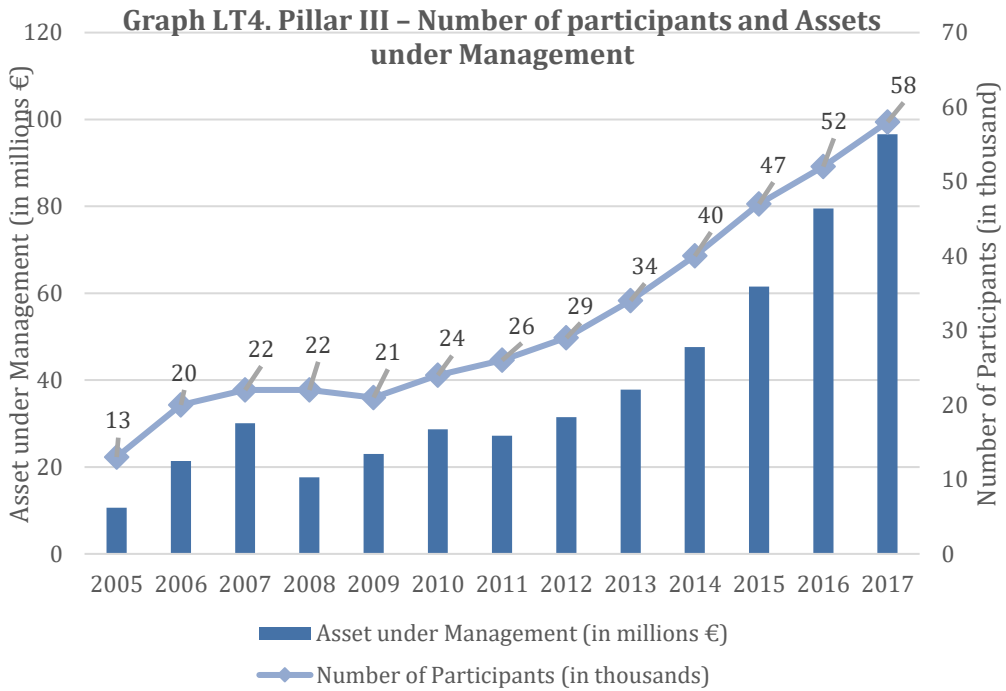
The contributions to Pillar II are recorded on individual personal pension account at selected providers (Pension Accumulation Companies). Contributions and accumulated savings are invested by the companies into managed pension funds. Pension Accumulation Companies (PACs) can manage multiple pension 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 based on Bank of Lithuania data, 2018.

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 2017, 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 2017, assets managed by funds grew by 21.45% (€17.05 million) and amounted to €96.55 million. Number of participants accumulating their pension in Pillar III pension funds increased by 11.97% (6,176 participants) and amounted to 57,780.

Pillar III providers cover only an insignificant part of the working population (4.12%) and the average value of savings per member is only €1,670.



Pension Vehicles

Pillar II – Funded pensions

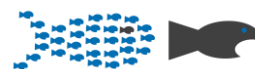
As indicated above, each provider (PAC) can offer more than one pension fund. Currently, 20 pension funds are offered by 4 management companies and 1 life insurance undertaking. Offered pension funds according to their investment strategy (risk profile) are presented in the table below.

| Table LT2. 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 |
| SMALL EQUITY SHARE PENSION FUNDS (up to 30%) | Swedbank Pension pay-out fund | 14.06.2004 |
| | 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 (from 30% up to 60%) | 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 |
| EQUITY PENSION FUNDS (up to 100%) | Swedbank Pensija 4 | 18.12.2005 |
| | 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 |

Source: Own elaboration (<https://www.lb.lt/en/fs-pension-funds>), 2018.

As of 1 January 2017, deductions from the contributions paid in the name of the participant were abolished; as a result, the amount of contributions transferred to Pension Funds increased by € 1.7 million.

At the beginning of the year 2017, 'UAB Swedbank investicijų valdymas' took the management control of 'Konservatyvaus valdymo Danske pensija'. 'UAB DNB investicijų valdymas' changed its name to 'Luminor investicijų valdymas, UAB'; therefore, the names of PFs managed by this company changed as well. In the middle of the year 2017, a new pension fund ('Luminor pensija 4') was established.



At the end of 2017, 79% of assets were concentrated in pension funds managed by 3 PACs: 63% of assets were managed by 2 MCs ('UAB Swedbank investicijų valdymas' – 37%, and 'UAB SEB investicijų valdymas' – 25.98%), and 15.55% by 'UAGDPB Aviva Lietuva', which is the third largest pension fund in terms of the size of managed assets.

80% of all participants that signed pension accumulation agreements accumulated their pension in pension funds managed by 3 PACs. Most participants chose pension funds managed by 'UAB Swedbank investicijų valdymas' (39.94%), 'UAB SEB investicijų valdymas' (22.38%), and 'UAGDPB Aviva Lietuva' (17.53%).

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.

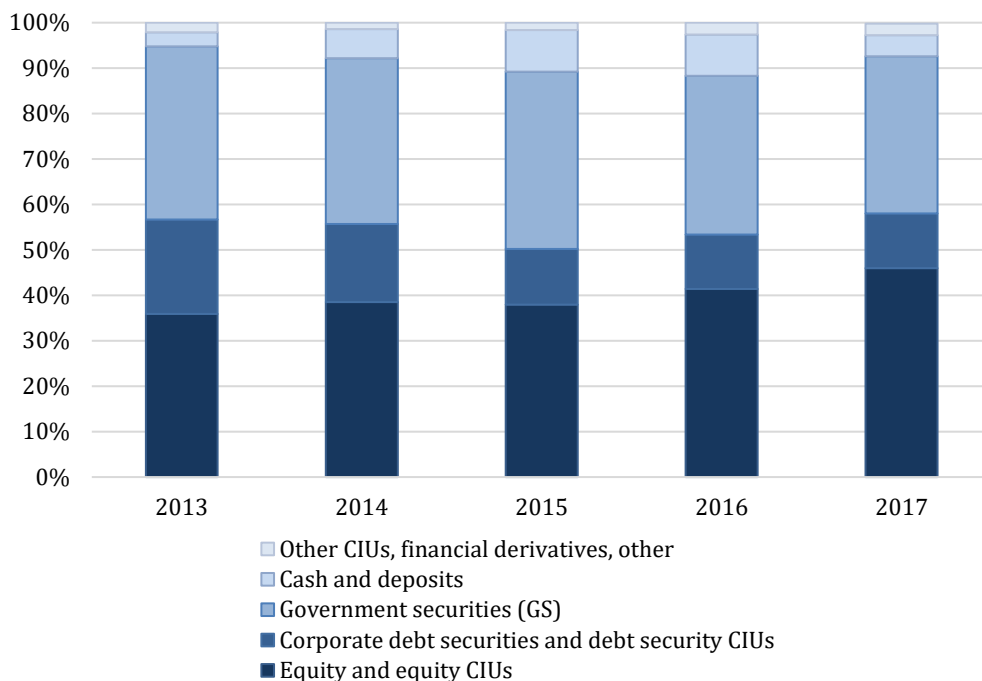
| Table LT3. Pillar II Market share based on AuM and Number of participants | | | | |
|---|---------------------------|----------------|------------------------|----------------|
| Investment strategy | AuM | Market share | Number of Participants | Market share |
| Conservative | 238,766,047.84 € | 8.20% | 96,718 | 7.50% |
| Small Equity share (up to 30%) | 698,399,351.20 € | 23.99% | 291,427 | 22.60% |
| Average Equity share (from 30% up to 60%) | 1,503,648,347.39 € | 51.65% | 651,031 | 50.50% |
| Equity (up to 100%) | 470,280,790.95 € | 16.15% | 250,101 | 19.40% |
| TOTAL | 2,911,094,537.38 € | 100,00% | 1,289,277 | 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.



Graph LT5. Pillar II Portfolio structure



Source: Own elaboration based on Bank of Lithuania data, 2018

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 2017), there are 4 providers offering 12 voluntary pension funds. The list of Pillar III pension funds is presented below.

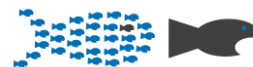


Table LT4. List of Pillar III Pension Funds

| Investment style of the pension plan | 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 |
| | Luminor pensija darbuotojui 1 plius | 20.11.2014 |
| | Luminor pensija darbuotojui 2 plius | 20.11.2014 |
| | Luminor pensija 3 plius | 01.10.2007 |
| EQUITY PENSION FUNDS | Swedbank papildomas pensijos fondas | 13.05.2013 |
| | INVL III akcijų pensijų fondas | 20.12.2004 |
| | INVL Extremo III 16+ | 24.09.2007 |
| | SEB Pensija 2 plius | 27.10.2004 |

Source: Own elaboration based on Bank of Lithuania data (<https://www.lb.lt/en/fs-pension-funds>), 2018.

The Pillar III market is highly concentrated, where around 76% of assets were concentrated in the funds of 2 PACs: 45.11% of assets were managed by 'UAB Luminor investicijų valdymas' and 31.09% by 'UAB SEB investicijų valdymas'. The distribution of participants by PAC was similar to the asset distribution: funds managed by 'UAB Luminor investicijų valdymas' and 'UAB SEB investicijų valdymas' attracted the most participants (66.29% and 19.86% respectively). Almost 47% of all participants save in one specific fund ('Luminor pensija 2 plius'). The market share according to the AuM and number of participants is presented in the table below.

Table LT5. Pillar III Market share based on AuM and number of participants

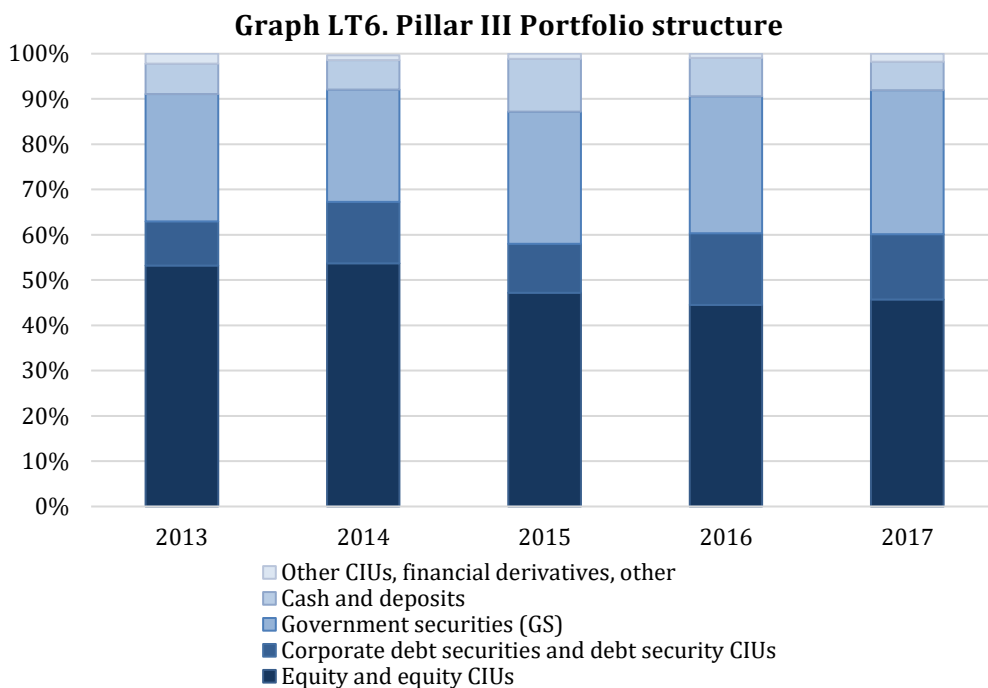
| Investment strategy | AuM | Market share | Number of Participants | Market share |
|---------------------------------------|------------------------|----------------|------------------------|----------------|
| Bond Pension Funds | 25,251,131.17 € | 26.15% | 10,372 | 17.95% |
| Mixed Investment Pension Funds | 34,721,975.91 € | 35.96% | 29,446 | 50.96% |
| Equity Pension Funds | 36,581,401.80 € | 37.89% | 17,962 | 31.09% |
| TOTAL | 96,554,508.88 € | 100.00% | 57,780 | 100.00% |

Source: Own elaboration based on Bank of Lithuania data, 2018

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, 2018

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.

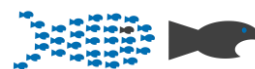


Table LT6. Pillar II Pension Funds' Fees and Charges

| Pension Fund | Type of fee | Year 2017 |
|----------------------------------|----------------------|---|
| 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 | NONE |
| INVL MEDIO II 47+ PENSION FUND | Contribution fee | 0.00% |
| | Asset management fee | 0.65% |
| | Company Change fee | NONE |
| INVL MEZZO II 53+ PENSION FUND | Contribution fee | 0.00% |
| | Asset management fee | 0.99% |
| | Company Change fee | NONE |
| INVL STABILO II 58+ PENSION FUND | Contribution fee | 0.00% |
| | Asset management fee | 0.99% |
| | Company Change fee | NONE |
| Luminor pensija 1 | Contribution fee | 0.00% |
| | Asset Management Fee | 0.65 % of the average annual value of pension saving in the account |
| | Company change fee | Up to 0.05 % of transferred savings |
| Luminor pensija 2 | Contribution fee | 0.00% |
| | Asset Management Fee | 1 % of the average annual value of pension saving in the account |
| | Company change fee | Up to 0.05 % of transferred savings |
| Luminor pensija 3 | Contribution fee | 0.00% |
| | Asset Management Fee | 1 % of the average annual value of pension saving in the account |
| | Company change fee | Up to 0.05 % of transferred savings |
| Luminor pensija 4 | Contribution fee | 0.00% |
| | Asset Management Fee | 1 % of the average annual value of pension saving in the account |
| | Company change fee | Up to 0.05 % of transferred savings |
| 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 | 1.00% |
| | Company change fee | 0.5% |
| | Fund change fee | NONE |
| Swedbank Pensija 3 | Contribution fee | 0.00% |
| | Asset management fee | 1.00% |
| | Company change fee | 0.05% |
| | Fund change fee | NONE |
| Swedbank Pensija 4 | Contribution fee | 0.00% |
| | Asset management fee | 1.00% |
| | Company change fee | 0.05% |
| | Fund change fee | NONE |
| Swedbank Pensija 5 | Contribution fee | 0.00% |
| | Asset management fee | 1.00% |
| | 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 plus | Contribution fee | 0.00% |
| | Asset Management fee | 1.00% |
| | Company change fee | 0.05% |
| | Fund change fee | NONE |
| Aviva Europensija ekstra | Contribution fee | 0.00% |
| | Asset Management fee | 1.00% |
| | Company change fee | 0.05% |
| | Fund change fee | NONE |

Source: Own calculations based on Bank of Lithuania data (<https://www.lb.lt/en/fs-pension-funds>), 2018

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.

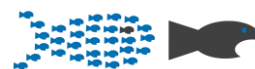
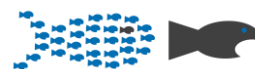


Table LT7. Pillar III Pension Funds' Fees and Charges

| Pension Fund | Type of the Charges | Year 2017 |
|--|------------------------------|--|
| SEB Pensija 1 plus | Contribution fee | 2.00% |
| | Asset management fee | 0.65% of the average annual value of pension savings |
| | Switching fee | NONE |
| SEB Pensija 2 plus | Contribution fee | 3.00% |
| | Asset management fee | 1.00% of the average annual value of pension savings |
| | Switching fee | NONE |
| INVL III akciju pensiju fondas | Contribution fee | NONE |
| | Entry fee | NONE |
| | Asset management fee | 1.50% |
| | Performance Fee | NONE |
| | Switching fee | NONE |
| Swedbank papildomas pensijos fondas | Partial Withdrawal Fee | 10.00% |
| | Contribution fee | NONE |
| | Entry fee | NONE |
| | Asset management fee | 1.50% |
| | Performance Fee | NONE |
| INVL STABILO III 58+ | Switching fee | NONE |
| | Partial Withdrawal Fee | 10.00% |
| | Contribution fee | NONE |
| | Entry fee | NONE |
| | Asset management fee | 1.00% |
| INVL Medio III 47+ Pension fund | Performance Fee | NONE |
| | Switching fee | NONE |
| | Partial Withdrawal Fee | 10.00% |
| | Contribution fee | NONE |
| | Entry fee | 30.00%* |
| INVL Extremo III 16+ Pension Fund | Asset management fee | 0.80% |
| | Performance Fee | NONE |
| | Switching fee | NONE |
| | Partial Withdrawal Fee | 10.00% |
| | Entry fee | 30.00%* |
| Luminor pensija 1 plus | Minimum investment amount | NONE |
| | Contribution Fee >= 1 mil. € | 0.50% |



| | | |
|---|---|-------------------------------|
| | Contribution Fee €10 000 – 9 999.99 € | 0.70% |
| | Contribution Fee €1,500 - 9 999.99€ | 1.00% |
| | Contribution Fee 250 – 1,499.,99 € | 1.50% |
| | Contribution Fee < 250 € | 2.00% |
| | Asset Management Fee | 0.65% |
| | Depository Fee | 0.15% |
| | Change of fund | free of charge |
| | Switching fee | free of charge |
| | Withdrawal from pension funds | 1.00 % of transferred savings |
| | Withdrawal from pension fund (in pension age) | free of charge |
| | Contribution Fee >= 1 mil. € | 0.50% |
| | Luminor pensija 2 plus | |
| Contribution Fee €10 000 – 99 999.99 € | 0.70% | |
| Contribution Fee €1,500 - 9 999.99€ | 1.00% | |
| Contribution Fee €250 – 1,499.99 € | 1.50% | |
| Contribution Fee < 250€ | 2.00% | |
| Asset Management Fee | 1.00% | |
| Depository Fee | 0.15% | |
| Change of fund | free of charge | |
| Switching fee | free of charge | |
| Withdrawal from pension funds | 1.00 % of transferred savings | |
| Withdrawal from pension fund (in pension age) | free of charge | |
| Luminor pensija 3 plus | | |
| Contribution Fee >= 1 mil. € | 0.50% | |
| Contribution Fee €10,000 – 99 999.99€ | 0.70% | |



| | | |
|--|---|-------------------------------|
| Luminor pensija darbuotojui 1 plius | Contribution Fee 1,500 - 9 999.99€ | 1.00% |
| | Contribution Fee 250 – 1,499.99 € | 1.50% |
| | Contribution Fee < 250 € | 2.00% |
| | Asset Management Fee | 1.00% |
| | Depository Fee | 0.15% |
| | Switching fee | free of charge |
| | Withdrawal from pension funds | 1.00 % of transferred savings |
| | Contribution Fee >= 1 mil. € | 0.50% |
| | Contribution Fee €10,000 – 99,999.99 € | 0.70% |
| | Contribution Fee < 10,000 € | 1.00% |
| Luminor pensija darbuotojui 2 plius | Transfer of funds from other fund or Management company | Free of charge |
| | Asset Management Fee | 1.00% |
| | Depository Fee | 0.15% |
| | Change of fund | free of charge |
| | Switching fee | free of charge |
| | Withdrawal from pension funds | 1.00 % of transferred savings |
| | Contribution Fee >= 1 mil. € | 0.50% |
| Luminor pensija darbuotojui 2 plius | Contribution Fee €10,000 – €99,999.99€ | 0.70% |
| | Contribution Fee < 10,000 € | 1.00% |
| | Asset Management Fee | 1.00% |
| | Depository Fee | 0.15% |
| | Switching fee | free of charge |
| Withdrawal from pension funds | 1.00 % of transferred savings | |

Source: Own calculations (<https://www.lb.lt/en/fs-pension-funds>), 2018.

* 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



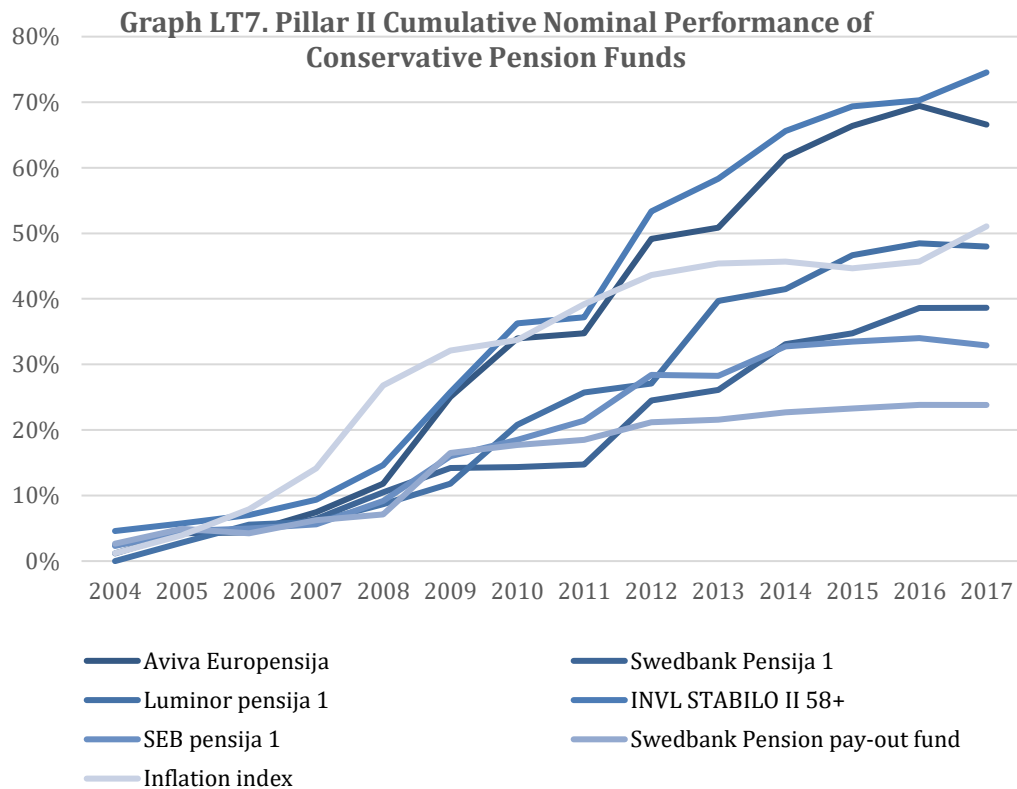
payment of the benefit (if the pension savings agreement was concluded after 1 January 2013).

Under the optimum set-up, the “EEE” tax regime can be achieved on Pillar III savings.

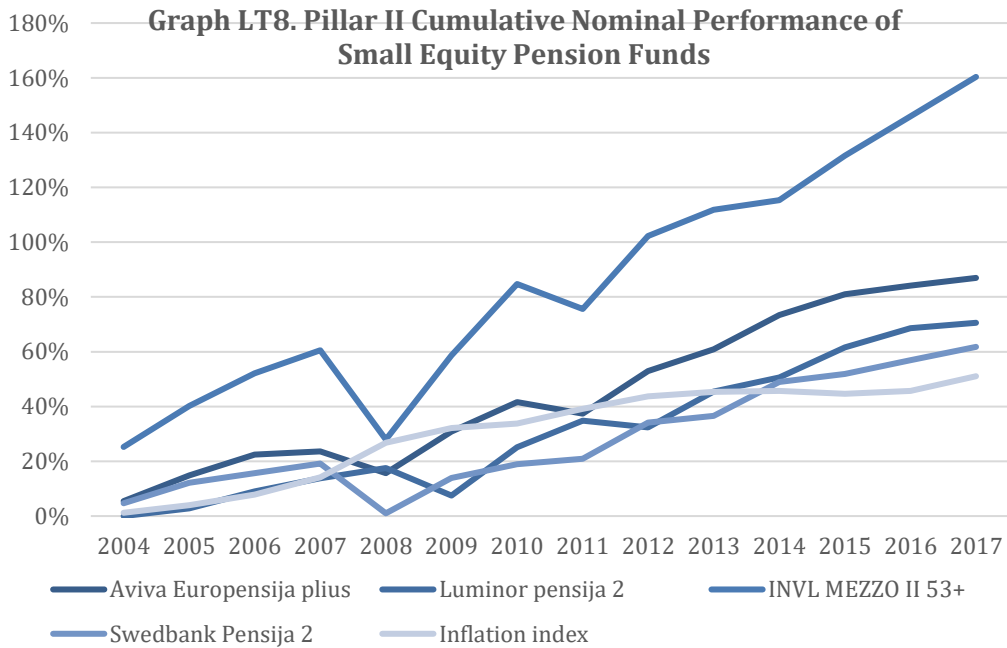
Pension Returns

Pillar II – Funded pensions

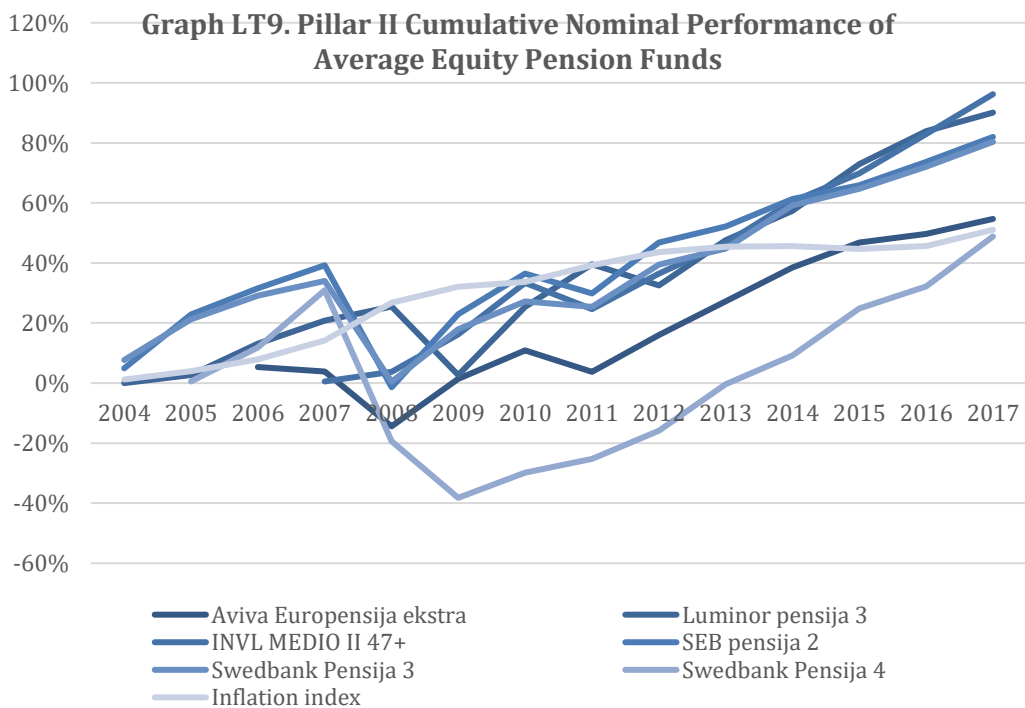
Pension returns of Pillar II pension funds differ according to the investment strategy applied. In order to see the differences among pension funds’ past performance, we present the returns according to the 4 defined groups of pension funds based on their investment strategy. Each graph below contains comparison to the inflation index.



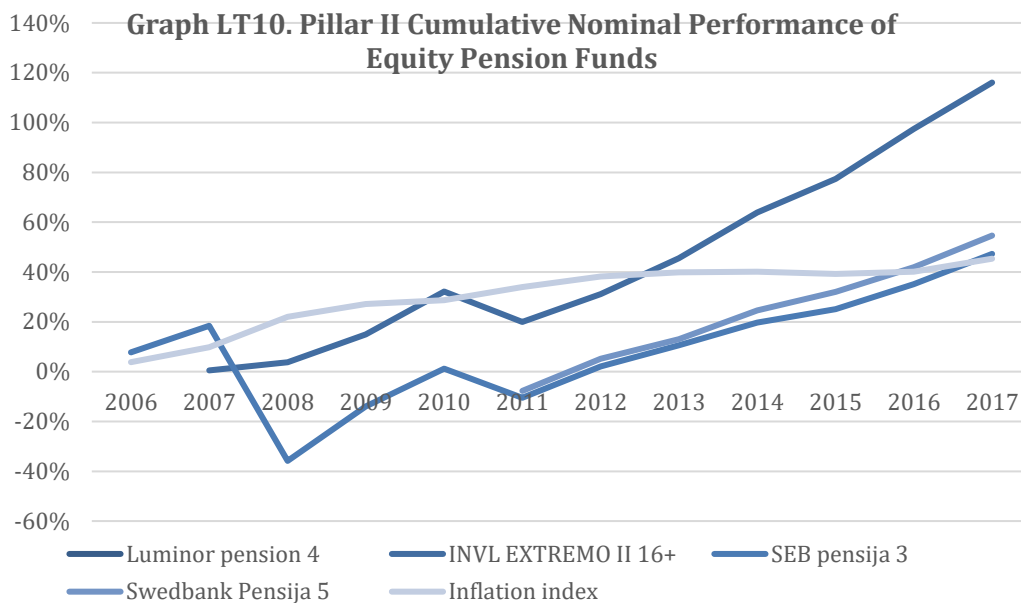
Source: Own elaboration based on Bank of Lithuania data, 2018



Source: Own elaboration based on Bank of Lithuania data, 2018



Source: Own elaboration based on Bank of Lithuania data, 2018



Source: Own elaboration based on Bank of Lithuania data, 2018

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.

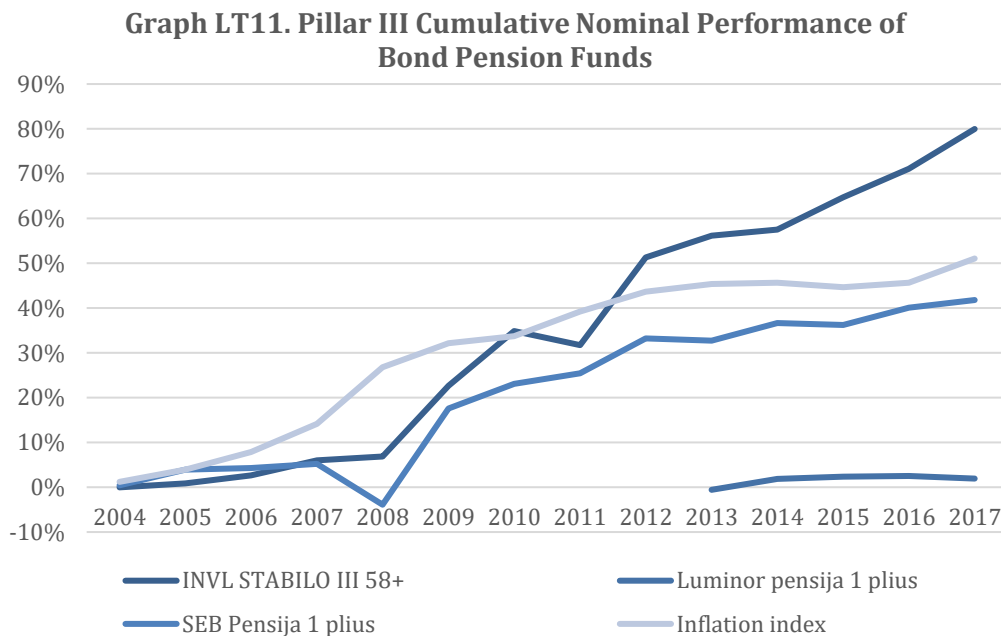
| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|--------------|--|--------------|
| 2004 | 4.71% | | 3.51% | |
| 2005 | 5.49% | | 2.79% | |
| 2006 | 4.76% | | 0.96% | |
| 2007 | 3.72% | | -2.08% | |
| 2008 | -9.16% | | -20.26% | |
| 2009 | 8.89% | | 4.69% | |
| 2010 | 10.19% | 4.35% | 8.99% | 1.16% |
| 2011 | -1.04% | | -5.14% | |
| 2012 | 8.74% | | 5.54% | |
| 2013 | 6.24% | | 5.04% | |
| 2014 | 6.67% | | 6.47% | |
| 2015 | 4.92% | | 5.62% | |
| 2016 | 4.25% | | 3.55% | |
| 2017 | 4.01% | | 0.31% | |

Source: Own elaboration based on Bank of Lithuania data, 2018



Pillar III – Voluntary private pensions

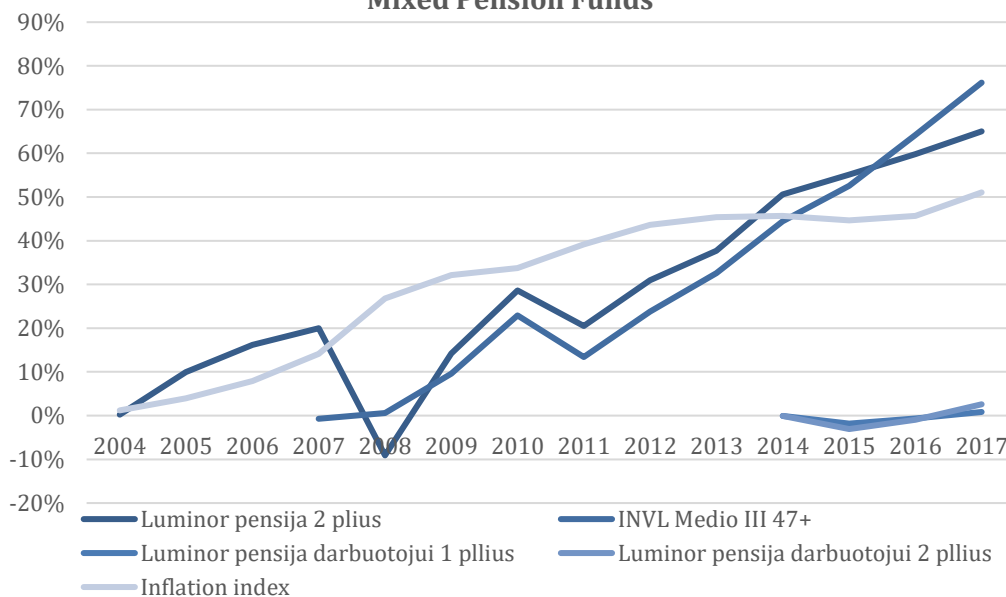
Pillar III pension funds' performance is presented according to their investment strategy, where 3 groups are formed. The graphs below present the pension funds' performance on a nominal cumulative basis compared to inflation.



Source: Own elaboration based on Bank of Lithuania data, 2018

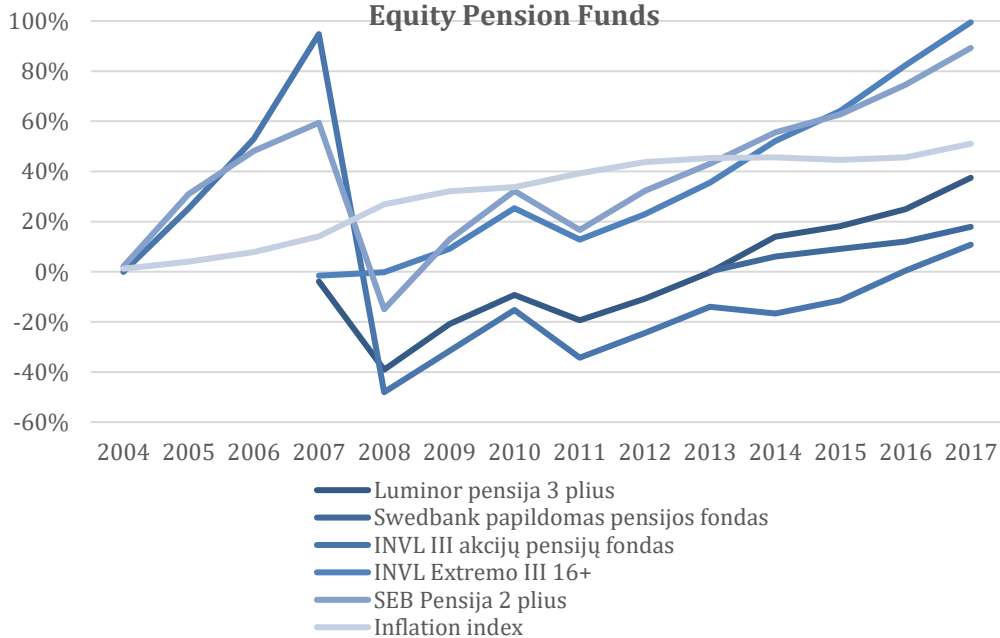


Graph LT12. Pillar III Cumulative Nominal Performance of Mixed Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2018

Graph LT13. Pillar III Cumulative Nominal Performance of Equity Pension Funds



Source: Own elaboration based on Bank of Lithuania data, 2018



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.

| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|-------|--|-------|
| 2004 | 0.53% | | -0.67% | |
| 2005 | 13.52% | | 10.82% | |
| 2006 | 8.64% | | 4.84% | |
| 2007 | 4.51% | | -1.29% | |
| 2008 | -23.27% | | -34.37% | |
| 2009 | 21.94% | 4.16% | 17.74% | 0.83% |
| 2010 | 13.74% | | 12.54% | |
| 2011 | -8.73% | | -12.83% | |
| 2012 | 10.86% | | 7.66% | |
| 2013 | 5.88% | | 4.68% | |
| 2014 | 5.19% | | 4.99% | |
| 2015 | 2.86% | | 3.56% | |
| 2016 | 5.09% | | 4.39% | |
| 2017 | 5.40% | | 1.70% | |

Source: Own elaboration based on Bank of Lithuania data, 2018

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.

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Pension Savings: The Real Return

2018 Edition

Country Case: Poland

Streszczenie

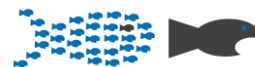
Dodatkowy system emerytalny w Polsce, który został wprowadzony w 1999 roku, a następnie był dwukrotnie reformowany (w 2004 oraz 2012 roku), jest nadal w początkowej fazie rozwoju. Obecnie składa się z trzech elementów: 1) pracowniczych programów emerytalnych (PPE), 2) indywidualnych kont emerytalnych (IKE) oraz indywidualnych kont zabezpieczenia emerytalnego (IKZE). Poziom uczestnictwa w grupowych i indywidualnych planach oszczędzania na starość (odpowiednio 2,41%, 5,8% i 4,2%) 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 zarządzania zewnętrznego. Na koniec 2017 roku w PPE zgromadzono 12,6 mld zł (3,03 mld €).

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 2017 roku wyniosły odpowiednio 7,96 mld zł (1,91 mld €) oraz 1,7 mld zł (0,41 mld €).

Pracownicze programy emerytalne (PPE) 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 (2002-2017) pracownicze fundusze emerytalne (PFE) wypracowały dość wysokie stopy zwrotu sięgające 17,41% w skali roku. Straty pojawiły się jednak w latach 2008, 2011 i 2015 w czasie załamania na rynkach finansowych. Realne stopy zwrotu uwzględniające opłaty potwierdzają osiągnięte w 13 z 16 lat są pozytywne. Średnia realna stopa zwrotu za cały analizowany okres wyniosła 4,27%.



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 2013-2017 wyniosła 9,02%.

Summary

Starting in 1999, with individual supplementary elements introduced in 2004 and 2012, the Polish supplementary pension market is still in its early stage of operation. Pillar III, which supplements the basic, mandatory pension system, consists of three different elements: 1) employee (occupational) pension programmes (pracownicze programy emerytalne, PPE), 2) individual retirement accounts (indywidualne konta emerytalne, IKE); 3) individual retirement savings accounts (indywidualne konta zabezpieczenia emerytalnego, IKZE). The coverage ratios (2.41%, 5.8% and 4.2% 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 12.6 bln (€3.03 bln) at the end of 2017.

IKE and IKZE 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 (dobrowolny fundusz emerytalny, DFE). The total amount of IKE assets amounted to PLN 7.96 billion (€1.91 billion) and IKZE assets amounted to PLN 1.7 billion (€0.41 billion) at the end of 2017.

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

During the period of 2002-2017 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative results appeared only in the years 2008, 2011 and 2015 when equity markets dropped significantly. After-charges real returns were observed in 13 of 16 years and the average return over the 16-year period is highly positive as well (4.27%).

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 2013-2017 amounted to 9.02%.

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 ²³⁴ | Voluntary |
| PAYG | PAYG/Funded (opt-out) | Funded |
| NDC | NDC/DC (opt-out) | DC |
| Basic benefit | Basic benefit | Complementary benefit |
| <u>Publicly managed:</u> | <u>Publicly/Privatey managed:</u> | <u>Privately managed:</u> |
| 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

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 a 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

²³⁴ The second pillar is still mandatory, although open pension funds (OFE) have been made voluntary since 2014 (partial opt-out for funded system).



by the Social Insurance Institution (NDC system). If he/she has opted out for the funded element (open pension funds, OFE), 4.38 p.p. are recorded on a sub-account and 2.92 p.p. are allocated to an account in a chosen open pension fund.²³⁵

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.²³⁶ Prior to retirement the member's assets gathered in OFE (if one opted out for funded element) are transferred to

²³⁵ 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" will open every four years.

²³⁶ 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.²³⁷ 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).²³⁸

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

- employees (occupational) pension programmes (pracownicze programy emerytalne, PPE);
- individual retirement accounts (indywidualne konta emerytalne, IKE);
- individual retirement savings accounts (indywidualne konta zabezpieczenia emerytalnego, IKZE).

Pension programmes for employees (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 19,993.50 - €4,802.32²³⁹ - in 2018). PPE's returns are exempt from capital gains tax. Benefits are not taxable and can be paid as a lump sum or as a

²³⁷ 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).

²³⁸ 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.

²³⁹ 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 2nd January 2018: 1 EUR = PLN 4.1633), <http://www.ecb.europa.eu/stats/exchange/eurofxref/shared/pdf/2018/01/20180102.pdf>



programmed withdrawal after the saver reaches 60 years. PPEs cover 395,800 employees which represents only 2.41% of the working population in Poland.

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 13,329 - €3,201.55 - in 2018). 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 a programmed withdrawal. At the end of 2017 only 951,576 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) are the most recent products within the voluntary pension sector. They 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 5,331.6 - €1,280.62 in 2018). Only about 4.2% of the Polish working population (2017) is covered by this type of supplementary old-age provision.



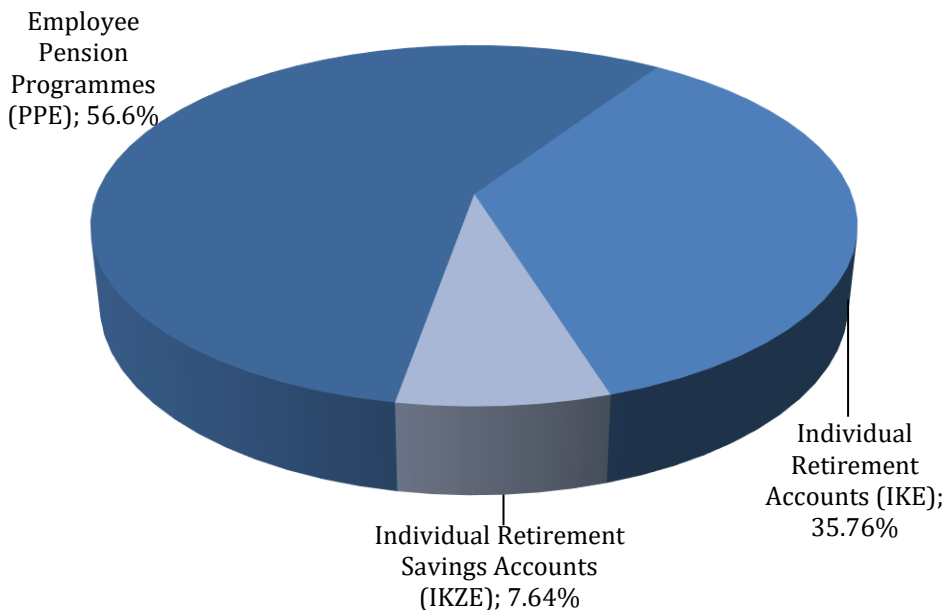
Table PL2. Architecture of voluntary pension system in Poland (Pillar III) at the end of 2017

| Name of the pension system element | Employee Pension Programmes (PPE) | Individual Retirement Accounts (IKE) | Individual Retirement Savings Accounts (IKZE) |
|---|--|---|---|
| Types of pension vehicles | <ul style="list-style-type: none"> · Unit-linked life insurance · Investment fund · Employee pension fund | <ul style="list-style-type: none"> · Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund | <ul style="list-style-type: none"> · Unit-linked life insurance · Investment fund · Account in the brokerage house · Bank account · Voluntary pension fund |
| Assets under management in PLN bln (€ bln) | 12.6 | 7.96 | 1.7 |
| | (3.03) | (1.91) | (0.41) |

Source: own collaboration based on: *Pracownicze programy emerytalne w 2017 roku*, UKNF, Warszawa 2018, p. 4, https://www.knf.gov.pl/knf/pl/komponenty/img/RAPORT_PPE_w_2017.pdf; *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku*, UKNF, Warszawa 2018, p. 12 & 25, https://www.knf.gov.pl/knf/pl/komponenty/img/IKE_IKZE_12_2017_61392.pdf



Chart PL1. Market share of Polish voluntary pension system elements by assets under management as of 31 December 2017



Source: own collaboration based on: *Pracownicze programy emerytalne w 2017 roku*, UKNF, Warszawa 2018, p. 4, https://www.knf.gov.pl/knf/pl/komponenty/img/RAPORT_PPE_w_2017.pdf; *Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku*, UKNF, Warszawa 2018, p. 12 & 25, https://www.knf.gov.pl/knf/pl/komponenty/img/IKE_IKZE_12_2017_61392.pdf

Pension Vehicles

Employee pension programmes

PPEs can be offered in four forms:

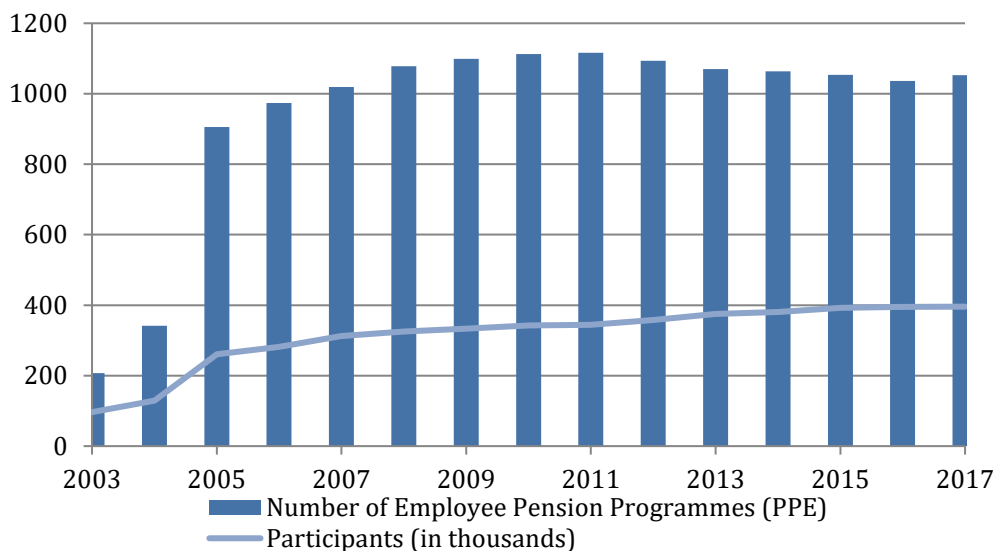
- as a contract with an asset management company (investment fund);
- as a contract with a life insurance company (group unit-linked insurance);
- as an employee pension fund run by the employer; or
- through external management.

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 1,053 programmes operating in Poland at the end of 2017 (see Graph PL1 below).

Graph PL1. Number of Employee Pension Programmes and the number of PPE participants in 1999-2017



Source: Pracownicze programy emerytalne w 2017 roku, UKNF, Warszawa 2018, p. 13.

The most popular forms of PPE are group unit-linked life insurances and investment funds. These two forms represent more than 95% of PPEs (see table below). The proportion is lower when taking into consideration the number of participants (90.1%) and the level of assets (84.5% of total PPEs' assets are invested in insurance funds and investment funds).

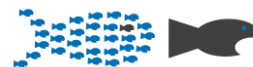


Table PL3. Number and assets of Employee Pension Programmes (PPE) by form of the programme in 2016

| | 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 | 645 | 61.2% | 27.5% | 3,338 | 26.4% |
| Investment fund | 382 | 36.3% | 63.7% | 7,434 | 58.8% |
| Employee Pension Fund | 26 | 2.5% | 8.8% | 1,871 | 14.8% |
| Total | 1,053 | | | 12,644 | |

Source: Pracownicze programy emerytalne w 2017 roku, UKNF, Warszawa 2018, p. 9-10

The average basic contribution paid in 2017 amounted to PLN 3,827 (€919.22). The average additional contribution financed by the employee amounted to PLN 1,209 (€290.39) on average. PPE assets amounted to PLN 12.6 bln (€3.03 bln) and the average account balance equaled PLN 31,951 (€ 7,674.44) at the end of 2017. No data is available on the average percentage level of contributions paid to the programmes.

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.

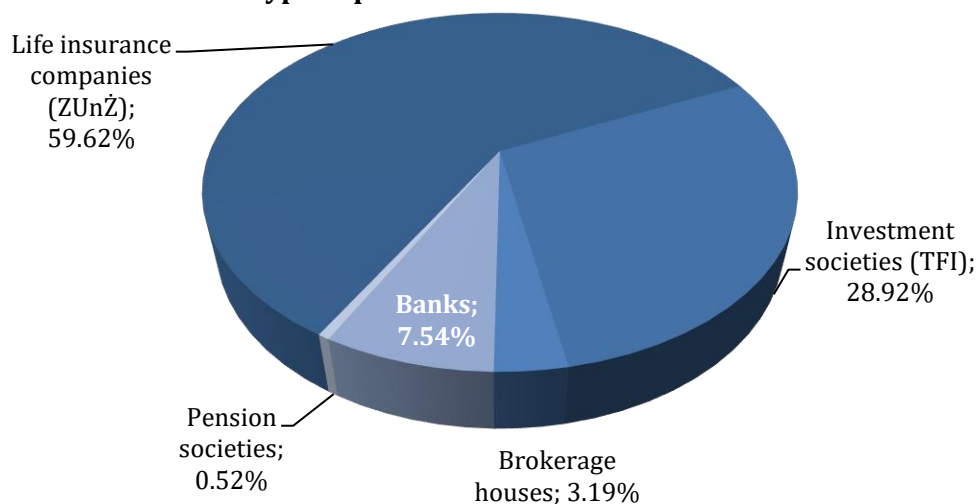
A voluntary pension fund is an entity established with the sole aim of gathering savings of IKE (or IKZE) holders. Pension assets are managed by a pension society (powszechnie towarzystwo emerytalne, PTE) that also manages one of the open pension funds (OFE under Pillar II) in Poland. Assets of the funds 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 2018), these two forms of plans represent almost 90% of all IKE accounts.

Chart PL2. Structure of IKE market by number of accounts and type of provider as of 31 December 2016



Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p. 11,

https://www.knf.gov.pl/knf/pl/komponenty/img/IKE_IKZE_12_2017_61392.pdf

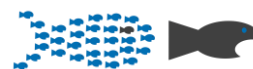


Table PL4. Number of Individual Retirement Accounts (IKE) by type of the product (2004-2017)

| | 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 |

Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p.11

IKE holders do not fully use the contribution limit. The average contribution paid from 2004 to 2017 remains permanently below the statutory limit (3 times the average wage). The total amount of IKE assets amounted to PLN 7.96 billion (€1.91 billion) as of 31 December 2017. There were PLN 8.4 thousand (€2,018) gathered on an IKE account on average.

Table PL5. Limits on contributions and average contribution paid into IKE in 2006-2017

| | 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 | 3.500 |
| 2016 | 12.165 | 3.700 |
| 2017 | 12.789 | 3.800 |

Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p.8 & 14



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 six-year history (started in 2012), the number of participants is still at an unsatisfactory level.

Table PL6. Number of Individual Retirement Savings Accounts (IKZE) by type of the product (2012-2017)

| Type of the product | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Unit-linked life insurance | 363,399 | 388,699 | 418,935 | 442,735 | 446,054 | 448,881 |
| Investment fund | 5,202 | 9,565 | 17,510 | 54,471 | 87,510 | 121,269 |
| Account in the brokerage house | 559 | 1,012 | 2,797 | 4,325 | 6,201 | 8,478 |
| Bank account | 19 | 33 | 8,105 | 13,735 | 15,585 | 18,114 |
| Voluntary pension fund | 127,642 | 97,117 | 80,795 | 82,294 | 87,762 | 94,252 |
| Total | 496,821 | 496,426 | 528,142 | 597,560 | 643,112 | 690,994 |

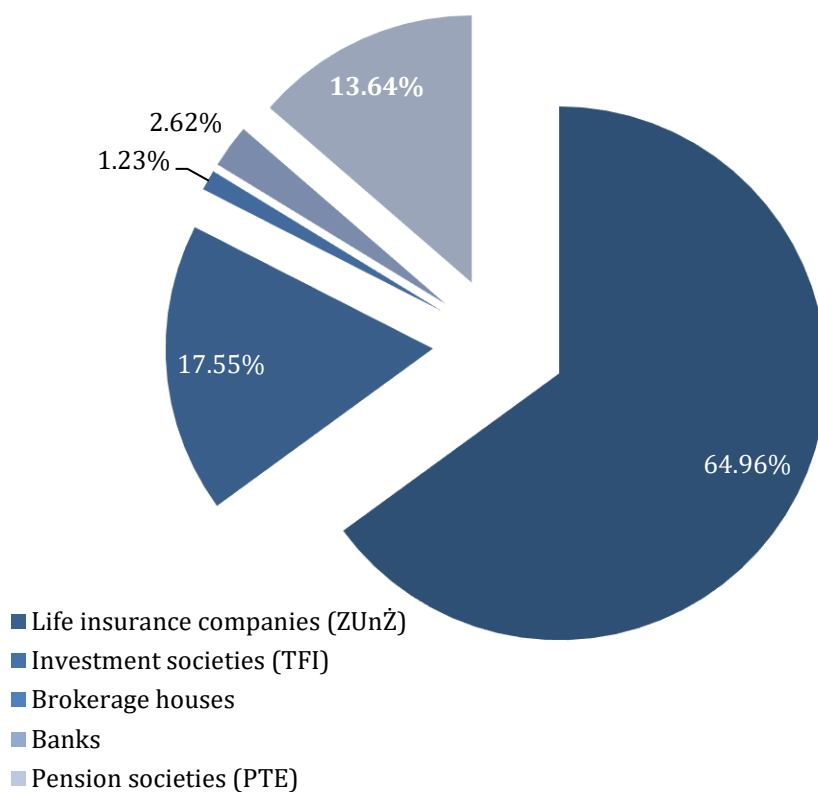
Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p. 23,

By the end of 2017, around 691,000 Poles opened individual retirement savings accounts. As shown on chart PL IV, the IKZE market is dominated by insurance companies that run 65% 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 very small compared to other elements of the Polish supplementary pension system. At the end of 2017, financial institutions managed funds amounting to PLN 1.7 billion (€0.41 billion). It is worth noting that this capital was raised through contributions in just six 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 PL3. Structure of IKZE market by number of accounts and type of provider as of 31 December 2017



Source: Own elaboration based on: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p. 23

| Table PL7. Assets of IKZE (in thousands PLN) | | | | | | |
|--|---------------|----------------|----------------|----------------|------------------|------------------|
| Type of the product | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Unit-linked life insurance | 36,393 | 75,117 | 167,737 | 281,946 | 398,589 | 545,374 |
| Investment fund | 7,973 | 23,371 | 63,559 | 193,099 | 407,884 | 719,630 |
| Account in the brokerage house | 1,673 | 4,815 | 14,638 | 30,268 | 57,045 | 93,780 |
| Bank account | 40 | 98 | 11,624 | 35,081 | 66,600 | 106,702 |
| Voluntary pension fund | 6,803 | 15,805 | 37,792 | 79,198 | 147,972 | 240,671 |
| Total | 52,882 | 119,206 | 295,350 | 619,592 | 1,078,090 | 1,706,157 |

Source: Indywidualne konta emerytalne oraz indywidualne konta zabezpieczenia emerytalnego w 2017 roku, UKNF, Warszawa 2018, p. 25



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.

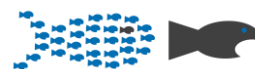
Employee Pension Programmes (PPE)

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.

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 selected (exemplary) individual retirement savings accounts (IKZE).

Table PL8. Charges in IKZE offered by Life insurance companies (unit-linked life insurance contracts)

| Institution | Name of fund | Management fee (as % of assets) | Up-front fee | Transfer fee |
|----------------------------------|--|---------------------------------|--|---------------|
| Aviva TUnŻ | Aktywnej Selekcji - Stabilny | 2.25% | 8% - first PLN 6,000, then 4%; 10% - first PLN 6,000, then 6% (with add. insurance) | 50% of assets |
| | Aktywnej Selekcji – Zrównoważonego | 3.25% | | |
| | Aktywnej Selekcji Dynamiczny | 4.00% | | |
| ING Życie | ING Portfel Inwestycyjny Stabilny | 2.00% | None | 50% of assets |
| | ING Portfel Inwestycyjny Wzrostowy | | | |
| | ING Gotówkowy | 0.00% | | |
| | ING Obligacji | 1.25% | | |
| | ING Ochrony Kapitału | 1.50% | | |
| | ING Stabilnego Wzrostu | 2.50% | | |
| | ING Zrównoważony | 3.00% | | |
| | ING (L) Papierów Dłużnych Rynków Wschodzących (WL) | 1.80% | | |
| | ING (L) Globalny Długu Korporacyjnego | | | |
| | ING Akcji | 3.50% | | |
| | ING Selektywny | | | |
| | ING Środkowoeuropejski Sektorów Wzrostowych | 2.50% | | |
| | ING (L) Globalny Spółek Dywidendowych | | | |
| ING (L) Spółek Dywidendowych USA | | | | |



ING (L) Europejski Spółek
Dywidendowych
ING (L) Nowej Azji
ING (L) Rynków Wschodzących
ING (L) Ameryki Łacińskiej
ING (L) Japonia

| | | | | | |
|---------------------------------|---|--------------------|--------------------------------|--|---|
| Pramerica Życie TUiR | UFK Pramerica – Pioneer Akcji Polskich | | | | |
| | UFK Pramerica – Pioneer Stabilnego Wzrostu | | 2.5% - share funds | | |
| | UFK Pramerica – Pioneer Obligacji | | 1.5% - stable growth funds; | | |
| | UFK Pramerica – PKO Akcji | | 1% - bond funds | | |
| | UFK Pramerica – PKO Stabilnego Wzrostu | | | None | 20% of assets |
| | UFK Pramerica – PKO Obligacji | | | | |
| | UFK Pramerica – Arka BZ WBK Akcji | | | | |
| | UFK Pramerica – Arka BZ WBK Stabilnego Wzrostu | | | | |
| | UFK Pramerica – Arka BZ WBK Obligacji | | | | |
| | UFK Pramerica – Legg Mason Akcji | | | | |
| | UFK Pramerica – Legg Mason Senior | | | | |
| | UFK Pramerica – Legg Mason Obligacji | | | | |
| | PZU Życie SA | Stabilnego Wzrostu | 4.50% | 4% - in first 3 years, 3% - yrs 4-5, 2% - yrs 6- 10, 1% - yrs 11+ | 10% of assets, not less than PLN 50 |

Source: K. Ostrowska, *Nowe konta emerytalne (IKZE) w ofercie instytucji finansowych, "Rzeczpospolita", 01.03.2012 r.*

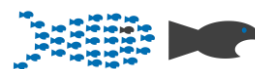


Table PL9. Charges in IKZE offered by Investment Societies (investment funds)

| Institution | Name of fund | Management fee (as % of assets) | Up-front fee | Transfer fee |
|--------------------------|---|---------------------------------|--|--------------|
| KBC TFI | KBC Globalny Akcyjny | 3.00% | none | none |
| | KBC Akcyjny | 4.00% | | |
| | KBC Aktywny | 3.75% | | |
| | KBC Globalny Stabilny | 2.00% | | |
| | KBC Stabilny | 2.50% | | |
| | KBC Papierów Dłużnych | 1.35% | | |
| | KBC Pieniężny | 0.80% | | |
| | KBC Akcji Małych i Średnich Spółek | 2.30% | | |
| Legg Mason TFI | LM Akcji | 3.50% | none (a fee of PLN 400 for opening the account, not charged when opening the account directly at Legg Mason offices or online) | PLN 500 |
| | LM Strateg | 2.50% | | |
| | LM Senior | 1.50% | | |
| | LM Obligacji | 0.80% | | |
| Pioneer Pekao TFI | Pioneer FIO - subfundusz Pioneer Akcji - Aktywna Selekcja | 3.60% | 1.50-5.00 % +loyalty programme (20% reduction in fee in 0-4 years, 30% after 4 years, 50% after 6 years, no fee after 8 years) | PLN 100 |
| | Pioneer FIO - subfundusz Pioneer Obligacji Plus | 1.60% | | |
| | Pioneer FIO - subfundusz Pioneer Lokacyjny | 1.50% | | |
| | | | | |

Source: own elaboration based on information from: K. Ostrowska, *Nowe konta emerytalne (IKZE) w ofercie instytucji finansowych*, "Rzeczpospolita", 01.03.2012 r.



Table PL10. Charges in IKZE offered by Pension Associations (voluntary pension funds)

| Institution | Product | Management fee (as % of assets) | Up-front fee | Transfer fee |
|-----------------------------------|---------------------------------|---|---|--|
| Allianz Polska PTE | Allianz Polska DFE | max. 2.5% | 1.50% | PLN 200 |
| Amplico PTE | MetLife DFE | max 2.5 % | 1-2.5%, if the account balance lower than PLN 20,000 | 15% of assets, min. PLN 300 |
| Generali PTE | Generali DFE | max. 2.6% | 25% (min. PLN 200, max. PLN 400) in 1st year, 1.9% in the 2nd year; 1.8% in 3rd year; 1.6% in years 4- 9; 0% years 10+ | |
| Nordea PTE | Nordea DFE | 1.95% + success fee 15%, if results above benchmark and positive | 0-4%, depending on the quota of contribution 0-1% upfront-fee on money transferred from other institution | 20% of assets, max. PLN 500 |
| Pocztylion- Arka PTE | DFE Pocztylion Plus | max 2.5% | 0-3%, depending on the quota of contribution | 10% of assets, min. PLN 100 |
| PTE PZU | DFE PZU | up to 2.99% + success fee max. 20% of the surplus above benchmark | 3.4% in first 5 years, 2.9% - yrs 6-10, 2.4% - yrs 11-15, 1.0% - yrs 15+- | 10% of assets, PLN 50 at least |
| ING PTE | Nationale Nederlanden DFE | Max. 2% (1,5% of the surplus above PLN 1 bln AUM) + success fee 15% of the surplus above 8% return | 53.4% only from the first contribution (max PLN 80), next contributions: 0% | 50% of assets |
| PKO BP Bankowy PTE | PKO DFE | max 3.5% | 50% , but max. PLN 50 in the whole period | 10% of assets, min. PLN 36 and max.PLN 200 |
| Pekao Pioneer PTE | Pekao DFE | max 2.6% | 2.5% or 0% (if the total contribution amounts to more than PLN 10,000) | 10% of assets, min. PLN 50 |

Source: Own elaboration based on www.analizy.pl.



Taxation

Employees' 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).

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) except for occupational pension programmes offered in the form of employees' pension fund (types of asset classes are prescribed 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.

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



Table PL11. Portfolio of employees' pension funds (PFE) in years 2010-2017 (as % of assets)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|
| Shares | 14.19 | 14.90 | 19.49 | 29.86 | 33.00 | 34.09 | 29.62 | 32.91 |
| Gov. bonds | 1.48 | 2.14 | 1.53 | 2.01 | 1.05 | 2.27 | 63.00 | 64.31 |
| Investment funds units | 24.30 | 33.13 | 37.53 | 49.83 | 61.64 | 63.64 | 0 | 0 |
| Bank deposits | 58.78 | 48.90 | 40.91 | 17.91 | 4.30 | 0.00 | 6.70 | 1.86 |
| Other investments | 1.25 | 0.92 | 0.54 | 0.39 | 0.01 | 0.00 | 0.68 | 0.92 |
| Assets under management (in PLN mln) | 1,543 | 1,559 | 1,873 | 2,039 | 1,75 | 1,797 | 1,767 | 1,857 |

Source: own collaboration based on: *Biuletyn Roczny. Rynek PPE 2017*, UKNF, Warszawa 2018.

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 show the DFE's investment portfolios in years 2014-2017.

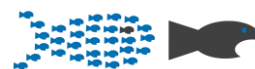


Table PL12. Portfolio of voluntary pension funds (DFE) offered as Individual Retirement Saving Accounts (IKZE) and Individual Retirement Accounts (IKE) in 2014-2017, as % of DFE assets

| 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% |
| 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% |
| 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% |
| 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% |
| | 2015 | 57.45% | 4.49% | 10.50% | 27.57% | 15.20 | 14.34% |
| NN DFE | 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% |
| 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% |
| PKO DFE | 2017 | 56.99% | 22.13% | 12.91% | 7.97% | 73.50 | 23.88% |
| | 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% |
| Generali DFE | 2017 | 41.48% | 48.64% | 0.00% | 9.88% | 56.30 | 18.29% |
| | 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% |

Source : <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 2002-2017 employee pension funds (PFE) showed rather positive returns up to 17.41% annually. Negative results appeared only in the years 2008, 2011 and 2015 when equity markets dropped significantly. After-charges real returns observed in 13 of 16 years and the average return in the 16-year period is highly positive as well. These satisfactory results were obtained due to proper portfolio construction, high quality of management and low costs.

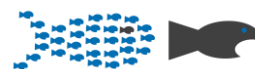


Table PL13. Nominal and real after-charges returns of Employees Pension Funds in 2002-2017 (in %)

| | PFE NESTLÉ POLSKA | PFE SŁONECZNA JESIEŃ | PFE ORANGE POLSKA | PFE UNILEVER POLSKA | PFE "NOWY ŚWIAT" | PFE DIAMENT | Weighted nominal return after charges, before inflation | Inflation (HICP) | Weighted real return after charges and inflation |
|--|-------------------------|----------------------------|-------------------------|---------------------------|------------------------|----------------|---|---------------------|--|
| 2002 | | | 11,35% | | 9,76% | -21,05% | 7,88% | 1,90% | 5,87% |
| 2003 | | | 10,28% | | 10,44% | 8,71% | 10,14% | 0,70% | 9,37% |
| 2004 | 11,25% | | 12,30% | 14,24% | 13,64% | | 12,59% | 3,60% | 8,68% |
| 2005 | 12,53% | | 14,82% | 12,93% | 13,81% | | 14,50% | 2,20% | 12,04% |
| 2006 | 12,41% | 10,60% | 15,40% | 13,41% | 15,25% | | 14,99% | 1,30% | 13,51% |
| 2007 | 5,10% | 4,52% | 6,10% | 5,77% | 6,23% | | 5,94% | 2,60% | 3,26% |
| 2008 | -10,10% | -11,33% | -13,54% | -6,34% | - 13,86% | | -13,14% | 4,20% | -16,64% |
| 2009 | 13,33% | 14,83% | 15,78% | 12,74% | 17,41% | | 15,85% | 4,00% | 11,39% |
| 2010 | 9,98% | 9,60% | 10,33% | 9,75% | 10,52% | | 10,22% | 2,70% | 7,32% |
| 2011 | -5,05% | -3,10% | -4,75% | -3,59% | -5,20% | | -4,51% | 3,90% | -8,10% |
| 2012 | 15,82% | 13,60% | 14,96% | 15,01% | 14,15% | | 14,57% | 3,70% | 10,48% |
| 2013 | 5,19% | 5,21% | 3,45% | 4,56% | 5,71% | | 4,28% | 0,80% | 3,45% |
| 2014 | 4,42% | | 3,91% | 4,92% | 2,56% | | 3,65% | 0,10% | 3,54% |
| 2015 | -1,24% | | -2,74% | -0,97% | -1,35% | | -2,31% | -0,70% | -1,62% |
| 2016 | | | 3,18% | 4,88% | 3,93% | | 3,44% | -0,20% | 3,64% |
| 2017 | | | 8,24% | 5,87% | 8,88% | | 8,53% | 1,60% | 6,83% |
| Annual average 2002- 2017 | 5,84% | 5,15% | 6,50% | 6,45% | 6,44% | -7,36% | 6,37% | 2,01% | 4,27% |

Source: own elaboration based on Eurostat (HICP; 2015=100; [prc_hicp_aind] for Poland) and Dane miesięczne PFE - czerwiec 2018 r., UKNF, Warszawa 2018



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 average real rate of return after charges in years 2013-2017 amounted to 9.02%.

Table PL14. Nominal and real returns of voluntary pension funds (DFE) in 2013-2017 (in %)

| | 2013 | 2014 | 2015 | 2016 | 2017 | Annual average 2013-2017 |
|---|-------|-------|-------|-------|-------|-----------------------------|
| Allianz Polska DFE | 7.80 | 2.03 | -0.33 | 5.81 | 9.33 | 4.87 |
| 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 | 1.93 |
| DFE PZU | 32.75 | 3.64 | 9.07 | 16.19 | 14.67 | 14.86 |
| NN DFE | 59.13 | -0.73 | 16.21 | 13.26 | 9.01 | 17.78 |
| MetLife Amplico DFE | 56.70 | 6.09 | -1.89 | 3.76 | 6.65 | 12.54 |
| PKO DFE | 16.87 | 2.54 | -0.88 | 5.74 | 8.63 | 6.41 |
| Weighted nominal return before charges and inflation | 40.57 | 3.15 | 3.90 | 8.14 | 8.92 | 12.15 |
| Weighted nominal return after charges*, before inflation | 36.94 | 0.64 | 1.36 | 5.49 | 6.18 | 9.36 |
| Inflation (HICP) | 0.80 | 0.10 | -0.70 | -0.20 | 1.60 | 0.32 |
| Weighted real return after charges | 35.85 | 0.53 | 2.07 | 5.70 | 4.51 | 9.02 |

**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_aind&lang=en

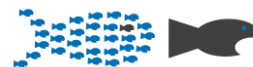


Table PL15. Nominal and Real Returns of Pillar III pension funds in Poland by product category

| A. Employee Pension Funds (PFE) | | | | | |
|---|--|--------|--|--------|---|
| 2000 | | - | | - | |
| 2001 | | - | | - | |
| 2002 | | 7.9% | | 5.9% | |
| 2003 | | 10.1% | | 9.4% | |
| 2004 | | 12.6% | | 8.7% | |
| 2005 | | 14.5% | | 12.0% | |
| 2006 | | 15.0% | | 13.5% | |
| 2007 | | 5.9% | | 3.3% | |
| 2008 | | -13.1% | | -16.6% | |
| 2009 | | 15.8% | | 11.4% | |
| 2010 | | 10.2% | | 7.3% | |
| 2011 | | -4.5% | | -8.1% | |
| 2012 | | 14.6% | | 10.5% | |
| 2013 | | 4.3% | | 3.5% | |
| 2014 | | 3.6% | | 3.5% | |
| 2015 | | -2.3% | | -1.6% | |
| 2016 | | 3.4% | | 3.6% | |
| 2017 | | 8.5% | | 6.8% | |
| | Weighted nominal return after charges, before inflation | | Weighted real return after charges and inflation and before taxes | | 16-year nominal annual average (2002-2017) |
| | | | | | 6.37% |
| | | | | | 16-year real annual average (2002-2017) |
| | | | | | 4.27% |
| B. Voluntary Pension Funds (DFE) | | | | | |
| 2000 | | - | | - | |
| 2001 | | - | | - | |
| 2002 | | - | | - | |
| 2003 | | - | | - | |
| 2004 | | - | | - | |
| 2005 | | - | | - | |
| 2006 | | - | | - | |
| 2007 | | - | | - | |
| 2008 | | - | | - | |
| 2009 | | - | | - | |
| 2010 | | - | | - | |
| 2011 | | - | | - | |
| 2012 | | - | | - | |
| 2013 | | 36.9% | | 35.8% | |
| 2014 | | 0.6% | | 0.5% | |
| 2015 | | 1.4% | | 2.1% | |
| 2016 | | 5.5% | | 5.7% | |
| 2017 | | 6.2% | | 4.5% | |
| | Weighted nominal return after charges, before inflation | | Weighted real return after charges and inflation | | 5-year real annual average (2013-2017) |
| | | | | | 9.36% |
| | | | | | 5-year nominal annual average (2013-2017) |
| | | | | | 9.02% |

Note: "-" means data not available

Source: Tables PL13 and PL14.



Conclusions

Starting in 1999, with individual supplementary elements introduced in 2004 and 2012, the Polish supplementary pension market is still in its early stage of operation. The coverage ratios (2.41%, 5.8% and 4.2% 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 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 4.27%. 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 savers-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. This would help individuals make well-informed decisions and avoid buying inappropriate retirement products.²⁴⁰

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²⁴⁰ 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.



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Pension Savings: The Real Return

2018 Edition

Country Case: Romania

Rezumat

Populația României scade și îmbătrânește într-un ritm accelerat, ceea ce – în absența reformelor necesare – va declanșa “bomba demografică” în câteva decenii. În cursul anului 2017 evoluția randamentelor reale ale planurilor de pensii din România poate fi caracterizată ca o creștere puternică, unde compunerea portofoliilor ambelor tipuri de scheme este aproape identică și, prin urmare, generează randamente brute similare. Cu toate acestea, randamentul net al Pilonului III este influențat în mod semnificativ de structura comisioanelor substantial mai mari (aproape de 4 ori mai mari) și astfel, pe termen lung, va genera randamente mai mici decât omologele din Pilonul II. Per total, randamentele produselor de pensie din Pilonul II și Pilonul III sunt pozitive și mult deasupra nivelului inflației.

Summary

Romania’s population is rapidly decreasing and aging, which, unless the country adopts the necessary reforms, will lead to the explosion of the demographic bomb in a few decades. The evolution of the real returns of pension schemes in Romania in 2017 can be characterized as a solid performance, where both schemes 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 positive and well above the inflation.

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) | |
| 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. | Individual personal pension accounts | |
| | 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. ²⁴¹ | Administrators: 7 | Administrators: 8 |
| Coverage: 6.02 mil. | Funds: 7 | Funds: 10 |
| Average old-age pension: €230 | Custodians: 3 | Custodians: 2 |
| Average salary (gross): €893 | Brokers: 14 | Brokers: 21 |
| Average replacement ratio: 32.06% | Assets under Management: €8.53 bln | Assets under Management: €0.38 bln |
| | Participants: 7.08 mil. | Participants: 0.45 mil. |

Source: Own elaboration based on CNPP, ASF and INSSE data, 2018; *Notes:* Exchange rate RON/EUR = 4.6585; data on average old-age pension and gross salary represents annual average; data on the number of old-age pensioner are as of December 2017; data on number of participants and assets under management as of December 2017

²⁴¹ Mean number of pensioners in 2017 – see CNPP, ‘Statistics Pillar I = Annual statistics for 2017’ https://www.cnpp.ro/indicatori-statistici-pilon-i?p_p_id=101_INSTANCE_svWpDmJy1qVq&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=2&p_r_p_564233524_tag=2017.



The overall coverage of Pillar II, measured as a ratio between the number of participants and the economically active population, was almost 80% in 2017, while Pillar III covered only 5% 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.

Pillar I – State Pensions

The first pillar of the Romanian pension system is organized on the 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 particular²⁴²) collects the social pension contribution from the contributors²⁴³ and immediately pays the pensions to the current retirees.²⁴⁴ It is 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 75%²⁴⁵ 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 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).

²⁴² 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/DetaliuDocument/124530>.

²⁴³ According to the principle of contributivity, as per Article 2.c) of Law no. 263/2010.

²⁴⁴ According to the principle of redistribution provided in Article 2.e) of Law no. 263/2010.

²⁴⁵ 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.



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 main retirement income stream is generated by Pillar I and, on average, representing 35% of the mean annual salary during the economically active period of the retiree in the second half of 2017, and 41% in 2016,²⁴⁶ while the net replacement rate generated by Pillar I was 51.6%.²⁴⁷ Thus, it can be clearly seen that Pillar I, on average and at national level, provided 68% of the retirement income.

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 five 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.

²⁴⁶ For a detailed explanation on how the value of 45% was calculated, see Bogdan Dumitrescu, 'Surprinzătoarea formula de calcul a pensiei de stat' (Contributors.ro, April 2018) www.contributors.ro/editorial/surprinzatoarea-formula-de-calcul-a-pensiei-de-stat/ (in Romanian).

²⁴⁷ 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&acname=guest&checksum=D723E9620BBEC45B10FD956DCF9A420A, data accessible here <https://data.oecd.org/pension/net-pension-replacement-rates.htm>.



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.²⁴⁸ 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 45.²⁴⁹

Contribution collection is centralized by CNPP (The National House of Public Pensions), which collects and directs the contributions towards the mandatory 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.²⁵⁰ Participants can choose only one pension fund.²⁵¹

²⁴⁸ Which, on average, equals to a 29%

²⁴⁹ Article 30 of Law no. 411/2004 regarding the privately managed pension funds.

²⁵⁰ 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).

²⁵¹ Article 31 of Law no. 411/2004.



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.

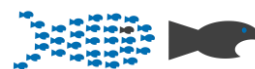
The beginning of Pillar III in Romania is connected with two important dates:

- October 2006 – May 2007 (Authorizing the administrators),
- May 2007 (Collecting the first contributions to third Pillar).

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 2017), there are only 7 administrators offering 7 pension funds. The two biggest mandatory pension funds (AZT and NN²⁵²) serve almost 50% (according to number of participants) or 58% (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.

| Mandatory Pension Fund (PMC) | Assets under management (in €) | Market share based on AuM | Number of participants | Market share based on participants |
|-------------------------------------|---------------------------------------|----------------------------------|-------------------------------|---|
| ARIPi | 730,344,149 | 8.56% | 706,439 | 10.03% |
| METROPOLITAN LIFE* | 1,206,898,981 | 14.14% | 984,017 | 13.97% |
| AZT VIITORUL TAU | 1,850,876,787 | 21.69% | 1,532,456 | 21.76% |
| BCR | 558,284,161 | 6.54% | 604,222 | 8.58% |
| BRD | 295,433,011 | 3.46% | 384,734 | 5.46% |
| NN | 3,081,121,009 | 36.10% | 1,956,995 | 27.79% |
| VITAL | 811,940,014 | 9.51% | 873,316 | 12.40% |
| TOTAL | 8,534,898,112 | 100.00% | 7,042,179 | 100.00% |

Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

Note: * ALICO changed its name to METROPOLITAN LIFE (as of 31 December 2016)

Mandatory pension funds' investment strategy is very strictly regulated. The law imposes percentage limits for different asset classes.

²⁵² ING has changed its name to NN during the rebranding in 2015.



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.

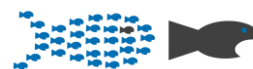
There is no explicitly defined general quantitative limit on equity investments.

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 2017), there are eight 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, 2018 (data as of 31 December 2017)



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:
 - Depository 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, depository, 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).

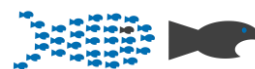


Table RO4. Effective charges in mandatory pension funds (Pillar II) in %

| Mandatory pension fund | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| ARIPI | 1.23 | 0.86 | 0.75 | 0.68 | 0.63 | 0.62 | 0.62 | 0.63 | 0.61 | 0.58 |
| METROPOLITAN LIFE | 0.54 | 0.70 | 0.65 | 0.61 | 0.62 | 0.60 | 0.59 | 0.60 | 0.58 | 0.56 |
| AZT VIITORUL TAU | 0.56 | 0.69 | 0.66 | 0.60 | 0.61 | 0.61 | 0.60 | 0.60 | 0.58 | 0.56 |
| BCR | 1.69 | 0.93 | 0.75 | 0.64 | 0.63 | 0.62 | 0.63 | 0.61 | 0.58 | 0.56 |
| BRD | 2.04 | 1.11 | 0.87 | 0.75 | 0.70 | 0.62 | 0.62 | 0.64 | 0.60 | 0.56 |
| NN | 0.55 | 0.62 | 0.61 | 0.58 | 0.62 | 0.60 | 0.60 | 0.60 | 0.58 | 0.56 |
| VITAL | 0.00 | 0.58 | 0.79 | 0.70 | 0.65 | 0.64 | 0.61 | 0.61 | 0.58 | 0.56 |
| 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 | 14.64 | 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 |

Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

Pillar III – Voluntary private pensions

According to the Voluntary Pensions Law, 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.

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:



- Depository 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). The year 2017 brought another drop in effective annual charges, but Pillar III remains influenced by high charges.

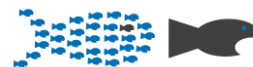


Table RO5. Effective annual charges of voluntary pension funds (Pillar III) in %

| Voluntary pension fund | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------|------|------|------|------|------|------|------|------|------|------|------|
| AZT VIVACE | 1.05 | 1.47 | 2.83 | 2.83 | 2.52 | 2.06 | 2.00 | 1.91 | 1.84 | 1.74 | 1.67 |
| NN ACTIV | 0.04 | 1.64 | 1.85 | 2.38 | 2.19 | 2.34 | 2.14 | 2.09 | 2.17 | 2.10 | 1.95 |
| AZT MODERATO | 0.99 | 1.83 | 2.16 | 1.86 | 1.66 | 1.41 | 1.33 | 1.28 | 1.24 | 1.18 | 1.13 |
| BCR PLUS | 5.61 | 2.38 | 2.28 | 2.77 | 2.44 | 2.40 | 2.23 | 2.27 | 2.16 | 2.03 | 1.97 |
| BRD MEDIO | | | 0.85 | 1.90 | 1.56 | 2.86 | 2.18 | 2.14 | 2.20 | 2.11 | 1.91 |
| CONCORDIA MODERAT* | | 0.00 | 1.44 | 1.44 | 1.44 | 1.44 | | | | | |
| EUREKO CONFORT* | | | 0.00 | 0.00 | 0.24 | 0.12 | 0.12 | 0.12 | | | |
| NN OPTIM | 0.09 | 1.58 | 1.68 | 2.09 | 1.97 | 2.05 | 1.99 | 1.97 | 2.00 | 1.94 | 1.85 |
| PENSIA MEA | 3.22 | 3.17 | 2.85 | 2.66 | 2.66 | 2.70 | 2.66 | 2.66 | 2.64 | 2.43 | 2.37 |
| RAIFFEISEN ACUMULARE | | 0.15 | 2.93 | 2.40 | 2.23 | 2.15 | 2.43 | 2.26 | 2.47 | 2.16 | 2.06 |
| STABIL | | | 2.26 | 1.61 | 1.50 | 1.65 | 1.63 | 3.16 | 3.71 | 3.37 | 2.80 |
| AEGON ESENTIAL | | | | | | | | | 1.87 | 3.15 | 2.99 |
| BRD PRIMO* | | | 0.84 | 1.56 | | | | | | | |
| OTP STRATEG* | n/a | n/a | 0.32 | 0.24 | | | | | | | |
| TOTAL | 4.72 | 1.91 | 2.12 | 2.30 | 2.09 | 2.10 | 1.99 | 1.99 | 2.01 | 1.92 | 1.83 |

Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

* Closed

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

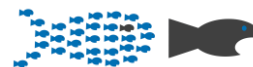
Pillar II – Funded pensions

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 |
| | FPAP METROPOLITAN LIFE | May 2008 | Open |
| Medium | 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 |
| | FPAP EUREKO | May 2008 | Closed September 2014 |
| No longer in operation | 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 ASF data, 2018 (data as of 31 December 2017)

According to ASF's portfolio structure database, all mandatory pension funds can invest into 16 asset classes:

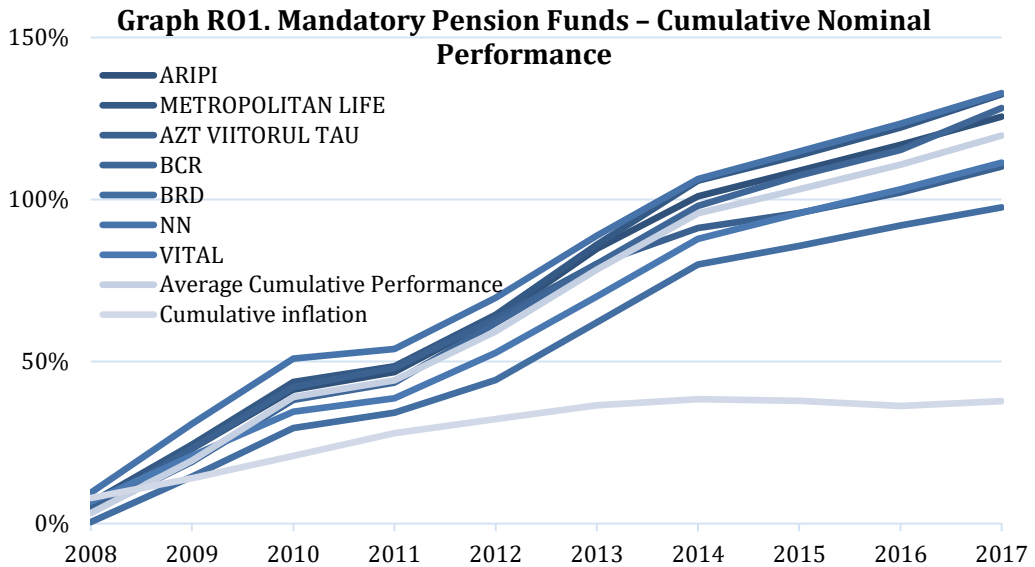
**Table RO7. Allowed asset classes for Pillar II pension funds**

| 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 | Government Securities and Bonds |
| 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 | |
| Private Equity | |
| Infrastructure | Other |
| Other financial instruments | |
| Amounts in settlement at the end of reporting date | |
| Instruments for hedging risk | |

Source: Own elaboration, 2018

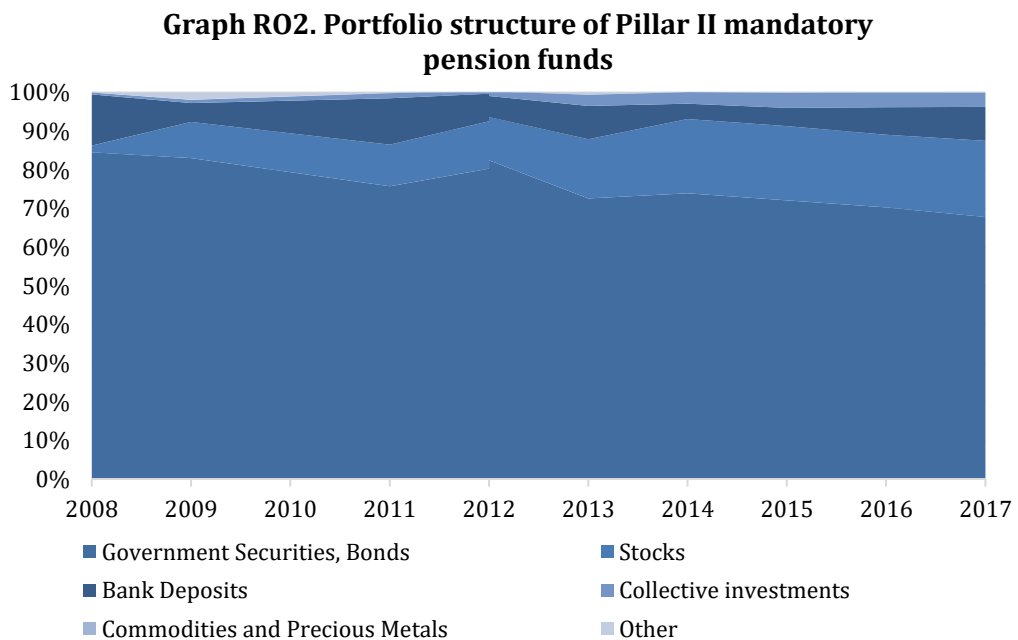
For the purpose of this study, we simplified the portfolio structure to only six main asset classes (see the table above). Romanian mandatory pension funds invest mostly in government securities and bonds asset classes. The second most important asset class (from the portfolio structure point of view) 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 inflation is presented below.

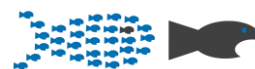


Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

The portfolio structure of the Romanian Pillar II is presented below. According to the data available, currently almost 70% of all investments in Pillar II pension funds are bond investments and about 18.7% is invested in equities.



Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)



Nominal as well as real returns of Pillar II pension funds in Romania, weighted by AuM, are presented in a summary table below.

| Year | Nominal return after charges, before inflation and taxes | Weighted Average | Real return after charges and inflation and before taxes | Weighted Average |
|------|--|------------------|--|------------------|
| 2008 | 6.40% | | -1.39% | |
| 2009 | 17.57% | | 11.34% | |
| 2010 | 15.04% | | 8.42% | |
| 2011 | 3.22% | | -2.44% | |
| 2012 | 10.55% | 8.38% | 6.91% | 4.96% |
| 2013 | 11.48% | | 8.02% | |
| 2014 | 8.92% | | 7.42% | |
| 2015 | 3.69% | | 4.11% | |
| 2016 | 3.76% | | 4.92% | |
| 2017 | 4.26% | | 3.12% | |

Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

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.

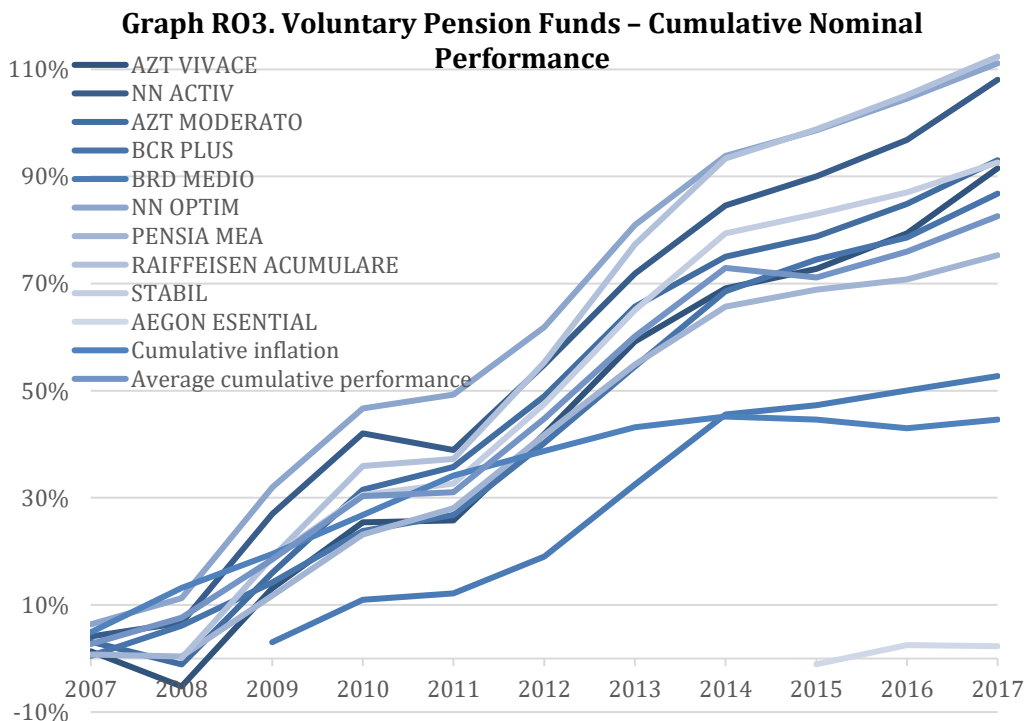


Table RO9. Pillar III pension vehicles

| 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 ASF data, 2017 (data as of 31 December 2016)

All voluntary pension funds' performance on an annual basis as well as cumulative basis compared to inflation is presented in the graph below.



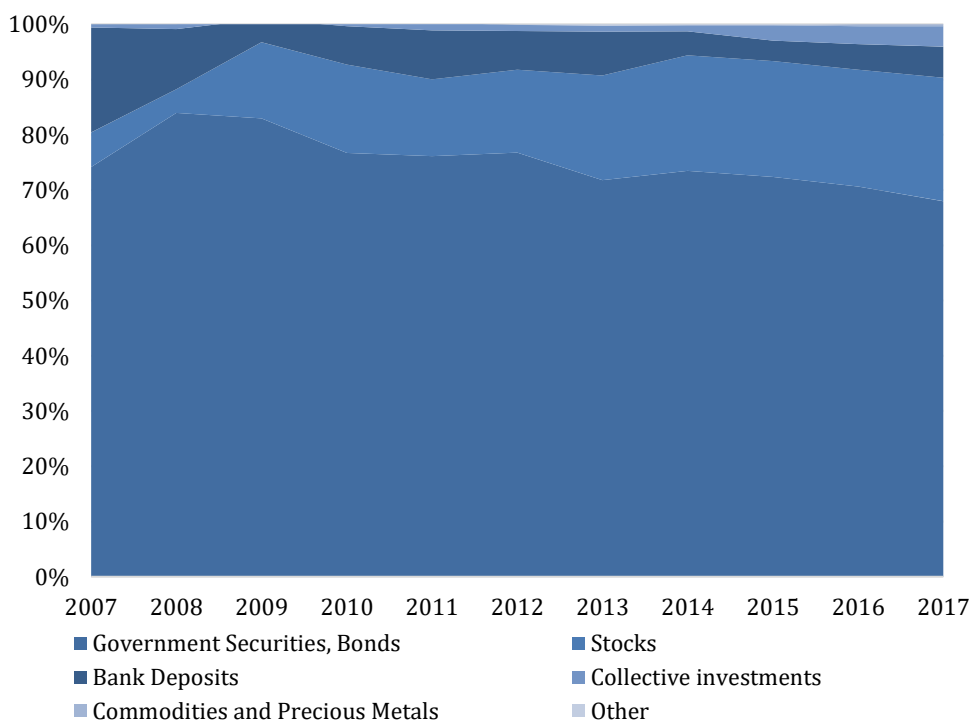
Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)



Analyzing the portfolio structure of voluntary pension funds based on ASF 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 2017, currently about 68% of all investments in Pillar III pension funds are bond investments and about 22% 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.

Graph R04. Portfolio structure of Pillar III voluntary pension funds



Source: Own calculations based on ASF data, 2018 (data as of 31 December 2017)

Nominal as well as real returns of voluntary pension funds in Romania, weighted by AuM, are presented in a summary table below. It should be mentioned that similar portfolios generate similar gross returns, so the difference between the Pillar II and Pillar III schemes can be explained mostly by the effect of charges.



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.



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Pension Savings: The Real Return

2018 Edition

Country Case: Slovakia

The Zhrnutie

Slovenský dôchodkový systém je typickým modelom Svetovej banky založenom na viac-pilierovom (troj-pilierovom) systéme s individuálnymi (osobnými) účtami sporiteľov. Rok 2017 môžeme charakterizovať ako rok stabilizácie, počas ktorého neboli zavádzané významnejšie regulačné zmeny. Súčasná debata však smeruje k nákladovej efektívnosti dôchodkových fondov v III. pilieri a hľadaniu riešení nevhodnej alokácie úspor sporiteľov v II. pilieri, kde takmer 80% úspor je spravovaných v nízko výnosových dlhopisových fondoch.

Summary

Slovenský dôchodkový systém je typickým modelom Svetovej banky založenom na viac-pilierovom (troj-pilierovom) systéme s individuálnymi (osobnými) účtami sporiteľov. Rok 2017 môžeme charakterizovať ako rok stabilizácie, počas ktorého neboli zavádzané významnejšie regulačné zmeny. Súčasná debata však smeruje k nákladovej efektívnosti dôchodkových fondov v III. pilieri a hľadaniu riešení nevhodnej alokácie úspor sporiteľov v II. pilieri, kde takmer 80% úspor je spravovaných v nízko výnosových dlhopisových fondoch.

The Slovak Pension system is a typical World Bank multi-pillar (three pillar) system based on individual (personal) pension savings accounts. The year 2017 can be characterized as a year of stabilization, where no major changes in the regulation were introduced. However, the ongoing debate is on the cost-effectiveness of Pillar III funds and the need to solve the ineffective allocation of Pillar II savings, where almost 80% of savings are allocated into the low-yielding bond funds.

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 2017, 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 55% | Individual pensions - Voluntary fully funded DC - coverage 27% |
| Managed by the Social Insurance Company | Managed by Pension Asset Management Companies | |
| Contribution rate: 13.75%; Replacement ratio: 46%; Average pension: €435 | Contribution rate: 4.25%; 19 pension funds offered | 15 pensions funds offered |

Quick facts

Retirement age - 67 years

A relatively high old-age dependency ratio of 21.7%

An average net pre-retirement income replacement ratio of 83.8%

Source: BETTER FINANCE own composition

Pillar I – State Pensions

Pillar I is a state organized PAYG pension scheme, managed by 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 13.75% (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 76 days in 2017, 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 whole population. The first increase in retirement age was at the beginning of 2017 and accounted for



additional 76 days, which means that the new retirement age for 2017 is 62 years and 76 days. Further increases in retirement age are expected and should rise on average by 2 months every year.

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 in 2017:

1. Number of insured years (N) = 42 (full working career);
2. Average personal wage point (APWP) = 0.9 (for the entire working career, an individual has been earning on average 90% of average salary in Slovakia)
3. Value of pension unit (VPU) = €11.35

The old-age pension is then calculated using the following formula: $N \times APWP \times VPU$.

Therefore, considering the abovementioned individual parameters of a person claiming old-age pension, he/she will be entitled to a monthly pension equal to: $42 \times 0.9 \times €11.35 = €429.05$.

If an individual has earned on average 90% of an average salary during his whole working career and the average salary in 2017 was €954, then the individual replacement ratio of such an individual would be: $€429.05 / (0.9 \times €954) = 49.97\%$.

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 Slovakian 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) if 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 (27% in 2017).

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).

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.

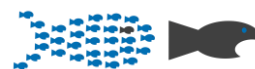


Table SK1. Pension Asset Management Companies market share (Pillar II)

| Pension Fund Management Company | AuM (in millions €) | Market share based on AuM |
|---------------------------------|------------------------|------------------------------|
| AEGON | 665.45 | 8.76% |
| Allianz – Slovenska | 2,414.71 | 31.78% |
| AXA | 1,992.44 | 26.22% |
| DSS Postovej banky | 419.15 | 5.52% |
| NN | 800.20 | 10.53% |
| VUB - Generali | 1,306.86 | 17.20% |
| TOTAL | 7,598.81 | 100.00% |

Source: Own calculations based on ManazerUspor.sk data, 2018 (data as of 31 December 2017)

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) | 6,039.99 | 79.49% |
| | Mixed non-guaranteed pension funds (2 funds) | 74.32 | 0.98% |
| Nonguaranteed PFs | Equity non-guaranteed pension funds (6 funds) | 888.60 | 11.69% |
| | Index non-guaranteed pension funds (5 funds) | 595.90 | 7.84% |
| TOTAL | 19 Pension funds | 7,598.81 | 100.00% |

Source: Own calculations based on ManazerUspor.sk data, 2018 (data as of 31 December 2017)

The increase in assets under management was caused mainly by the stabilization of the market and higher returns of Index pension funds. However, it is expected that Mixed funds will be consolidated, as savers have the possibility to 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, almost 80% of all savings in Pillar II are managed in Bond guaranteed pension funds that do not invest in equities. 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 Tatra – 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 | 604.00 | 31.42% |
| AXA | 266.83 | 13.88% |
| NN Tatra – Sympatia (ING before 2015) | 734.76 | 38.22% |
| STABILITA | 316.63 | 16.47% |
| TOTAL | 1,922.22 | 100.00% |

Source: Own calculations based on ManazerUspor.sk data, 2018 (data as of 31 December 2017)

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) | 200.82 | 10.45% |
| | Balanced supplementary pension funds (4 funds) | 1,358.89 | 70.69% |
| | Growth supplementary pension funds (4 funds) | 295.58 | 15.38% |
| Pay-out | Pay-out supplementary pension funds (4 funds) | 66.93 | 3.48% |
| TOTAL | 17 Pension funds | 1,922.22 | 100.00% |

Source: Own calculations based on ManazerUspor.sk data, 2018 (data as of 31 December 2017)

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.

PFCMs 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 Mark²⁵³ ‘HWM’ principle);

²⁵³ 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



- 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 2017 |
| 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) | max 5.6%, HWM | 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 2017

Pillar III – Supplementary pensions

Charges in Pillar III are capped by law. Supplementary Pension Fund Management Companies are currently (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.

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.



TableSK6. Supplementary Pension Funds' Fees

| | since 2009 | Since 1 January 2014 |
|----------------------------|---|---|
| Management Fee | | |
| 1. <i>contributory SPF</i> | max 2.5% AuM (2010) => max 1.98% (2019+) | max 1.2% NAV (2017 = 1,5% AuM and each following year decreases by 0.1%) |
| 2. <i>payout SPF</i> | max 0.996% AuM | max 0.6% AuM (2017 = 0.75% and each following year -0.05%) |
| Performance Fee | | |
| 1. <i>contributory SPF</i> | max 10% (2010) => max 20% (2020+); HWM | max 10% ; HWM principle |
| 2. <i>payout SPF</i> | principle | 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.

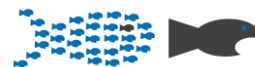
Personal income tax rate has been set at 19% since 2005. Since 2013, there is higher tax rate of 25% for higher earners, whose monthly income is higher than €2,918.52 (around 4% of working population in 2017).

Corporate income tax rate for 2017 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 (4.25% in 2017) 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 4.25% 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, for voluntary contributions the “T” regime applies.

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 in Slovakia (year 2017) is was around €954 (in 2017), employee contributions up to 1.57% 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 €57.24 per employee per month are considered as tax expenses for contributing employers in 2017. 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 of new members entering. 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 (at least 62 years), 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 |
| Mixed non-guaranteed pension funds (optional) | VUB Generali d.s.s. – BGPF (Klasik) | 22 March 2005 |
| | NN d.s.s. – MNGPF (Harmónia) | 22 March 2005 |
| Equity non-guaranteed pension funds (obligatory) | VUB Generali d.s.s. – MNGPF (Mix) | 22 March 2005 |
| | 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 |
| Index non-guaranteed pension funds (optional) | NN d.s.s. – ENGPF (Dynamika) | 22 March 2005 |
| | VUB Generali d.s.s. – ENGPF (Profit) | 22 March 2005 |
| | 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 |

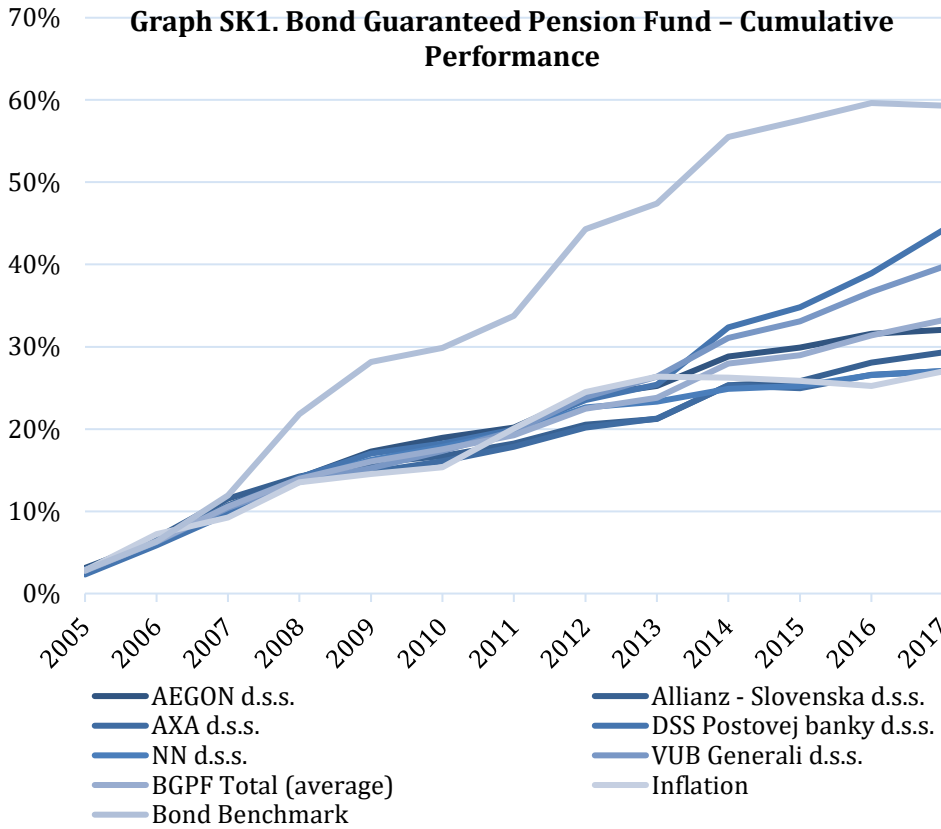
Source: Own elaboration based on Manazeruspor data, 2018

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.



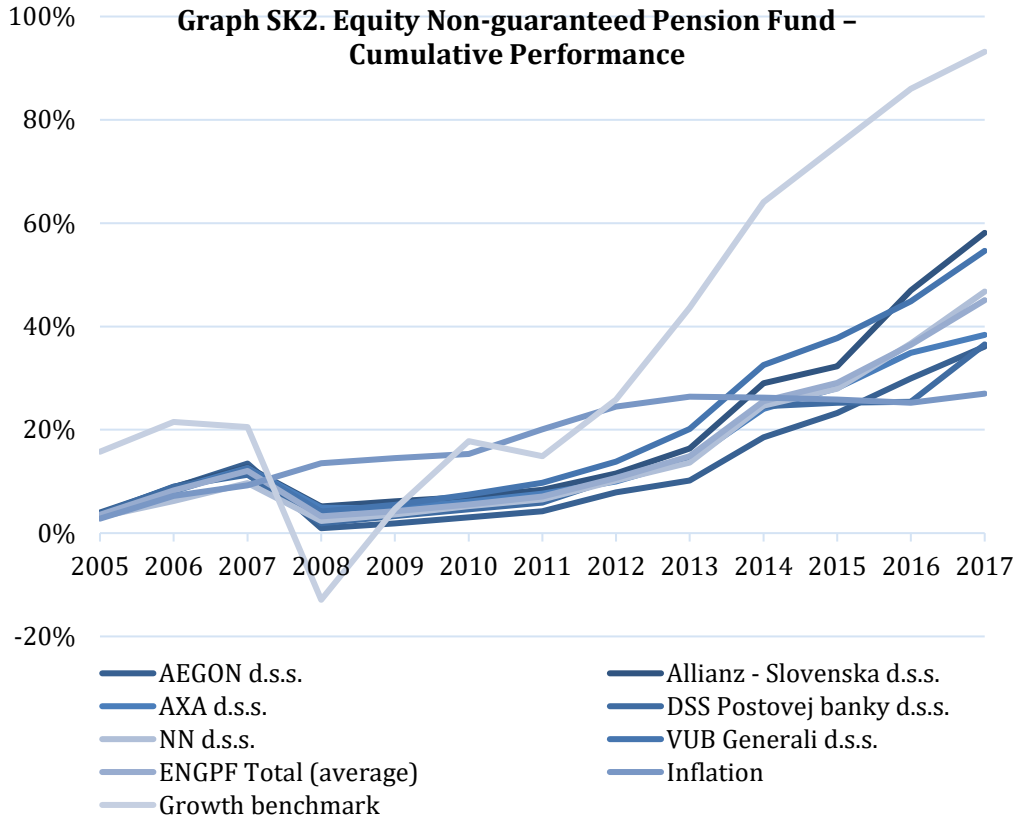
Bond Guaranteed Pension Funds' performance on cumulative basis compared to their respective benchmark²⁵⁴ and inflation is presented in graphs below.



Source: Own calculations based on Manazeruspor data, 2018 (data as of 31 December 2017); Bond benchmark data adopted from Manazeruspor

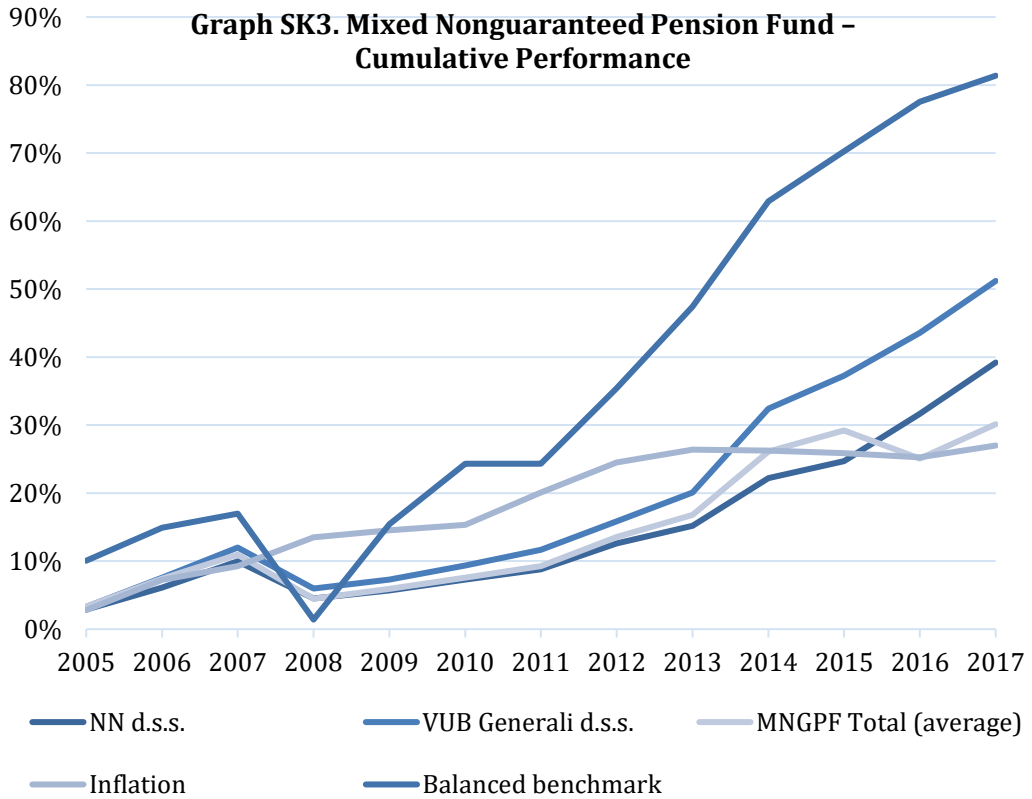
Equity Non-guaranteed Pension Funds' performance on cumulative basis compared to their respective benchmark and inflation is presented in graphs below.

²⁵⁴ There is no official benchmark in Slovakia for pension funds. The benchmarks have been created by authors and can be seen on Manazeruspor



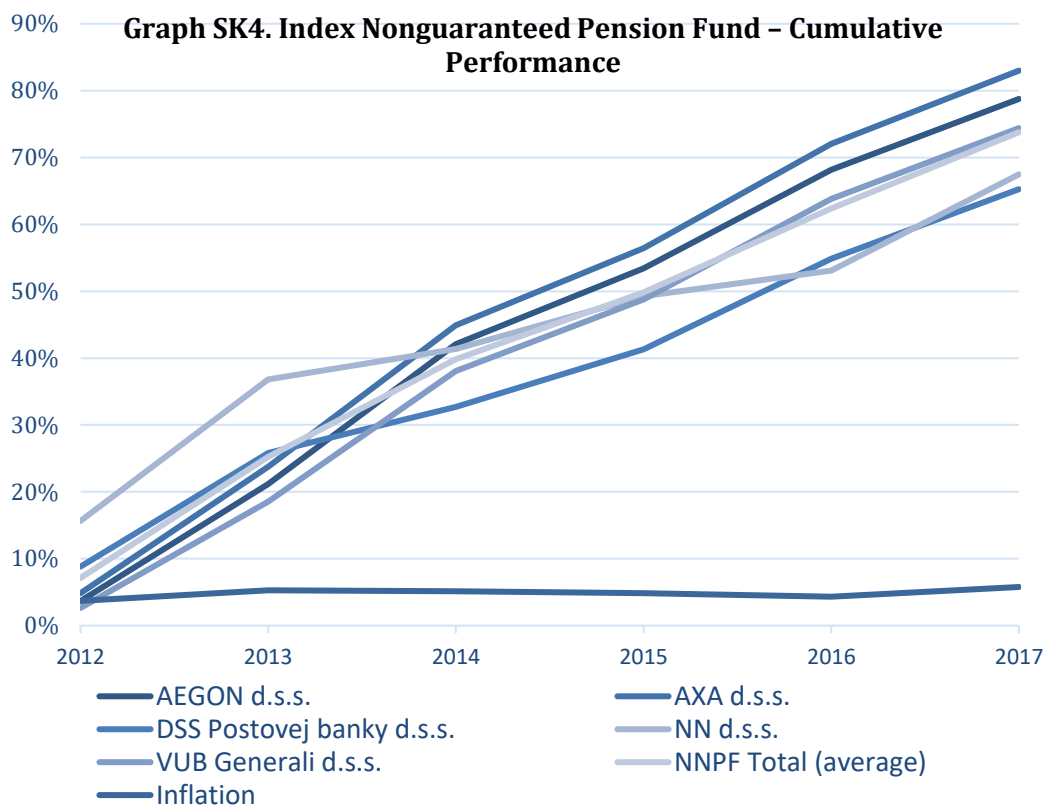
Source: Own calculations based on Manazeruspor data, 2018 (data as of 31 December 2017); Growth benchmark data adopted from Manazeruspor

Optional Mixed Nonguaranteed Pension Funds' performance on an annual as well as cumulative basis compared to their respective benchmark and inflation is presented in graphs below.



Source: Own calculations based on Manazeruspor data, 2018 (data as of 31 December 2017); Balanced benchmark data adopted from Manazeruspor

Optional Index Non-guaranteed Pension Funds' performance on an annual as well as cumulative basis compared to inflation is presented in graphs below.

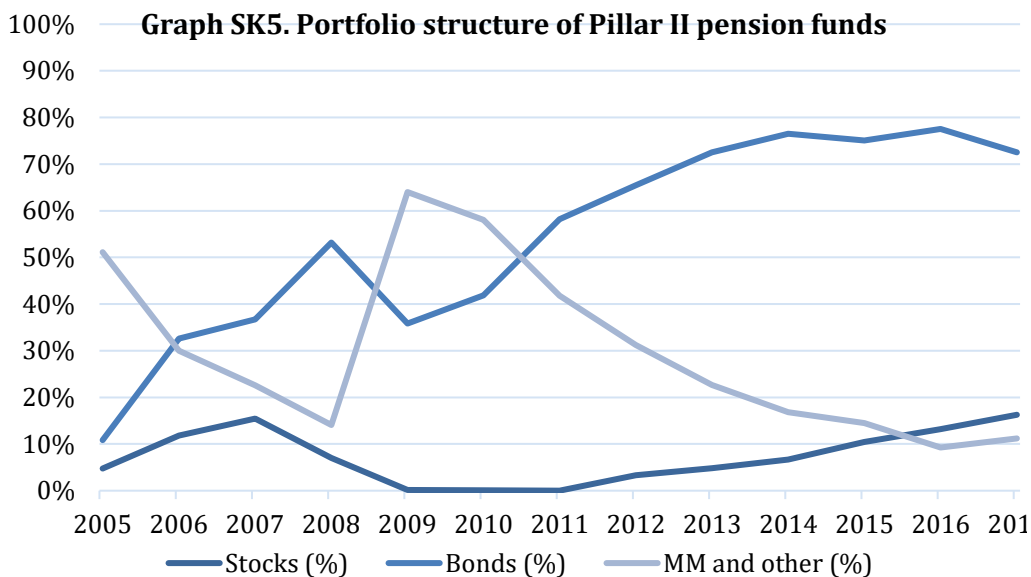
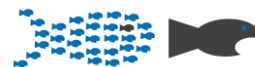


Source: Own calculations based on Manazeruspor data, 2018 (data as of 31 December 2017)

It should be noted that the last graph above does not compare pension funds' performance with a benchmark. The first reason is that, according to the database from manazeruspor.sk, each index pension fund in Pillar II is tracking its respective benchmark very well. The second reason is that each index pension fund has selected a different benchmark:

- NN – Eurostoxx 50;
- DSS Postovej Banky – MSCI Euro;
- VUB Generali – ACWI (All Country World Index);
- AXA and AEGON – MSCI World.

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 75% of all investments in Pillar II pension funds are bond investments. On the other hand, only 6.66% of all investments are equity investments.



Source: Own calculations based on Manazeruspor data, 2018 (data as of 31 December 2017)

Nominal as well as real returns of Pillar II pension funds in Slovakia weighted by AuM are presented in a summary table below.

| Year | Nominal return after charges, before inflation and taxes | Average | Real return after charges and inflation and before taxes | Average |
|------|--|---------------|--|---------------|
| 2005 | 3.42% | | 0.62% | |
| 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% | 1.73%* | -2.62% | 0.62%* |
| 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% | |

Source: BETTER FINANCE calculations based on Manazeruspor data, 2018 (data as of 31 December 2017)

* Average returns are calculated based on the AuM of respective funds (AuM weighted average)

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

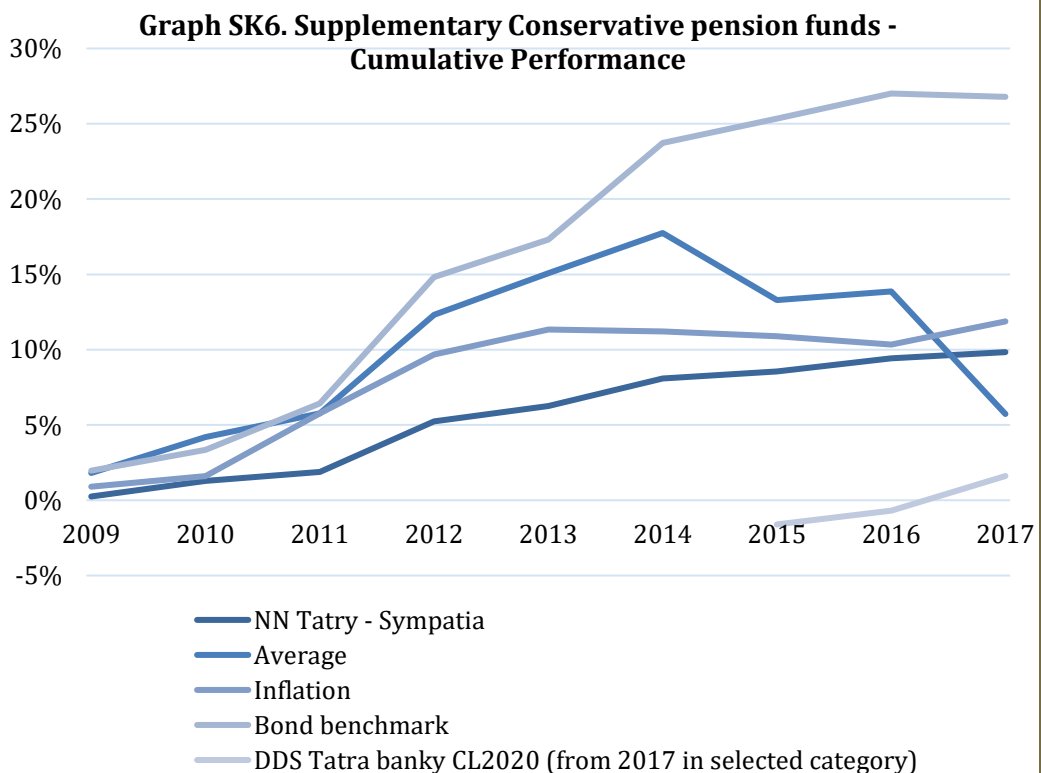


changes forced portfolio managers to sell off all equities and hold cash in portfolios (see Figure 5 on Portfolio Structure of Pillar II pension funds).

Pillar III – Supplementary pensions

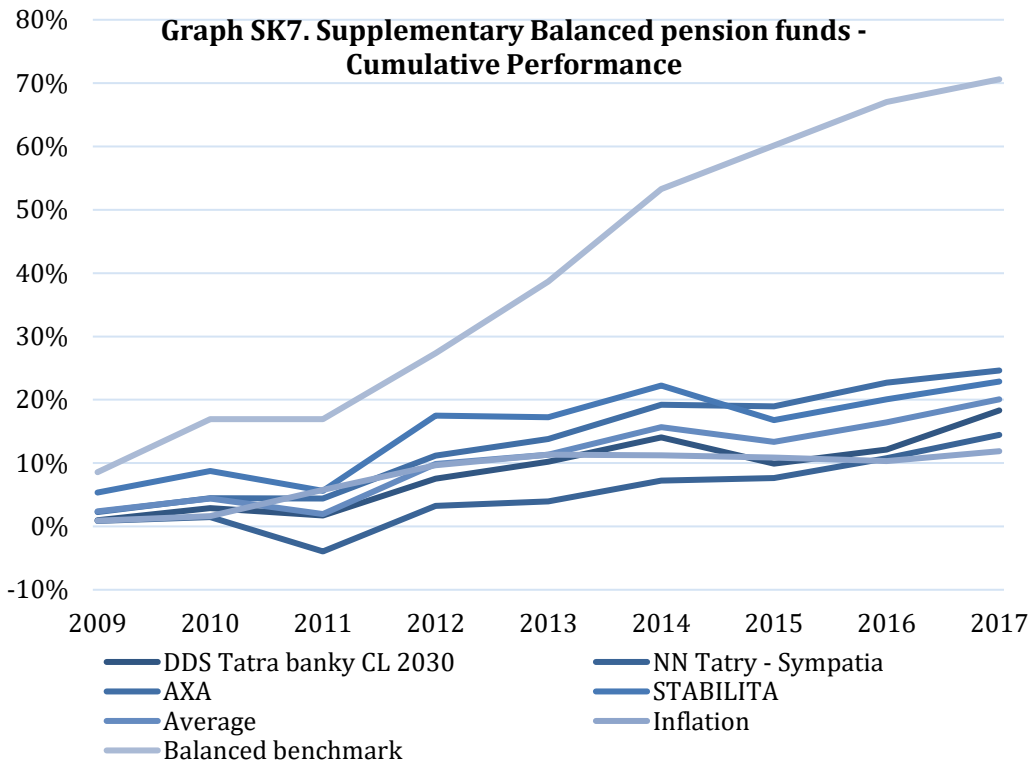
Supplementary pension funds differ in strategy and in a portfolio structure. Conservative pension funds do not invest in equity investments. Balanced pension funds invest a small portion in equity investments (currently less than 20% of AuM in average) and growth pension funds invest a higher portion in equity investments (currently more than 40% of AuM in average).

Supplementary Conservative pension funds' performance on a cumulative basis compared to their respective benchmark and inflation is presented in the graphs below.



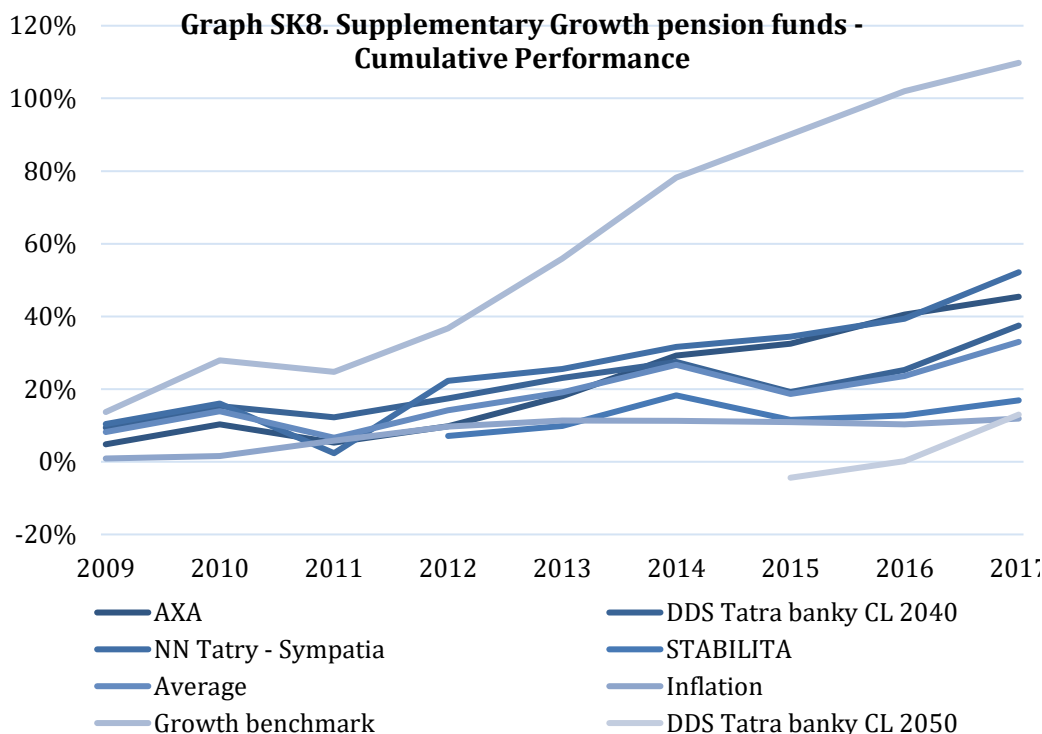
Source: Own calculations based on www.manazeruspor.sk data, 2018 (data as of 31 December 2017); Bond benchmark data adopted from the www.manazeruspor.sk

Supplementary Balanced pension funds' performance on a cumulative basis compared to their respective benchmark and inflation is presented in graphs below.



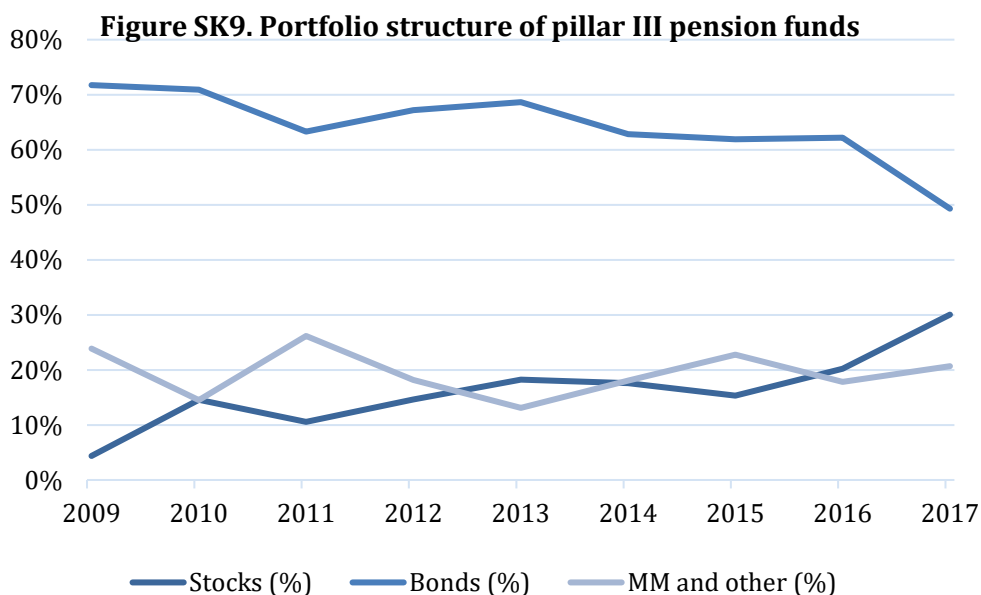
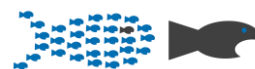
Source: Own calculations based on www.manazeruspor.sk data, 2018 (data as of 31 December 2017);
Balanced benchmark data adopted from the www.manazeruspor.sk

Supplementary Growth pension funds' performance on a cumulative basis compared to their respective benchmark and inflation is presented in graphs below.



Source: Own calculations based on www.manazeruspor.sk data, 2017 (data as of 31 December 2016); Growth benchmark data adopted from the www.manazeruspor.sk

The portfolio structure of Pillar III is presented in the graph below. According to this graph, currently almost 50% (less than in Pillar II) of all investments in Pillar III pension funds are bond investments. On the other hand, around 30% (more than in Pillar II) of all investments are equity investments.



Source: Own calculations based on www.manazeruspor.sk data, 2018 (data as of 31 December 2017)

Nominal as well as real returns of supplementary pension funds in Slovakia weighted by AuM are presented in a summary table below.

| Year | Nominal return after charges, before inflation and taxes | | Real return after charges and inflation and before taxes | |
|------|--|--------------|--|--------------|
| 2009 | 2.25% | | 1.35% | |
| 2010 | 1.88% | | 1.18% | |
| 2011 | -2.78% | | -6.88% | |
| 2012 | 7.37% | | 3.67% | |
| 2013 | 1.56% | 2.07% | 0.06% | 0.79% |
| 2014 | 3.69% | | 3.79% | |
| 2015 | -1.68% | | -1.38% | |
| 2016 | 2.72% | | 3.22% | |
| 2017 | 3.95% | | 2.55% | |

Source: BETTER FINANCE calculations based on www.manazeruspor.sk data, 2018 (data as of 31 December 2017)

Compared to Pillar II pension funds, supplementary pension funds have achieved lower real returns even when considering the unfavorable structure of savings allocated to Pillar II. Pillar III savers suffer from high charges and rather poor performance of pension funds.



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 but also from the changes in private pension schemes in neighboring countries (Poland, Hungary, Czech Republic), who effectively diminished (or even destroyed) Pillar II schemes in favor of state PAYG schemes.

Even though there have been negative interventions in Pillar II from 2008 to 2012 (significant investment restrictions, a decrease in contributions from 9% to 4.25%), several positive features have been introduced recently (2012 and 2013) in Pillar II. These features include the introduction of passive index pension funds, a decrease of management charges, changes in fee structure resulting in the introduction of performance-based fees (success fee with High-Water Mark principles) and decreasing regulation of non-guaranteed pension funds. However, the price for these positive changes was the transfer of savers from equity-based pension funds into bond ones (nearly 85% of savers), which might not be beneficial for all savers, especially young ones.

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. In 2018, a significant governmental spending review in this area is expected to provide a clearer way forward.



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- Ministry of Labour, Social Affairs and Family SR (<http://www.employment.gov.sk/>)
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- Supplementary pension saving Act No. 650/2004 (<http://www.zakonypreludi.sk/zz/2004-650>)



Pension Savings: The Real Return

2018 Edition

Country Case: Spain

Resumen

Tradicionalmente, los hogares españoles han estado ahorrando principalmente por el medio de activos no-financieros (propiedad inmobiliaria), inversión directa y productos bancarios. Non-obstante, en los años recientes, la participación en Pilar II y Pilar III ha incrementado, con el mayor número de partícipes en productos de seguro-vida, cual ofrece el mayor ingreso de la renta de jubilación por el retiro español. Sobre las rentabilidades reales de los productos privados de ahorro-jubilación, los fondos de pensiones españoles han realizado cerca de 0% durante los últimos 18 años (rendimientos acumulados de +48%). Teniendo en cuenta el efecto acumulativo de la inflación (+ 2.19% anual), el rendimiento bruto anual promedio neto de la inflación apenas se mantuvo positivo con + 0.05% en los últimos 18 años.

Summary

Traditionally, Spanish households have mostly saved for retirement through non-financial assets (real estate, immovables), direct investment and bank-based channels (deposits). Although participation in Pillar II and Pillar III retirement saving schemes have increased in recent years, particularly in life-insurance products, the numbers still remains at modest levels. This is due to a strong public pension scheme in Spain, providing the vast majority of the pension income stream for the average Spanish retiree. Concerning the real returns of private pension products, Spanish pension funds have performed close to zero over the entire investment horizon targeted by this Report. The nominal average annual return was +2.24% over the last 18 years (cumulating profits of +48%). Considering the cumulative effect of inflation (+2.19% annually), annual gross average returns net of inflation barely remained positive with +0.05% in the past 18 years.

Introduction

The Spanish pension system is composed of three pillars:

- Pillar I – Public, composed of *pensiones contributivas* and *pensiones no contributivas*;
- Pillar II - Occupational;
- Pillar III - Individual pension plans.



Pillar I

Pillar I represents public pensions. This kind of pension falls under the umbrella of the State. The aim is to guarantee some level of protection against certain social risks, such as illness, unemployment, accidents, as well as provide income during retirement.

Pillar I offers two types of pensions. Through the first type of pension, the *pensiones contributivas*, individuals contribute (usually through income taxes) while part of the work force and subsequently draw from it upon retirement. Through the second type of pension, the *pensiones no contributivas*, no contributions are required. The latter is directed towards covering basic necessities (pillar 0).

Among the five principles governing the public pension system, three are of relevance for this report:

1. *The Principle of distribution*: contributions made by the active population finance pensions at that particular moment.
2. *The Principle of proportionality*: generated pension benefits are directly proportional to contributions.
3. *The Principle of contribution*: individuals who have not contributed will only have access to the healthcare system and the *pensiones no contributivas*.

The contribution rate for the social insurance (pension included) is set at 28.3%, out of which 4.7 pp are paid by the employee and 23.6 pp by the employer. In Spain, one is eligible for full pension entitlements upon reaching the statutory retirement age, currently at 65 years and 6 months (growing by 1 month/year until 2020 and then by 2 months/year until 2027 upon reaching 67). The final pension amount is determined by dividing the product of the contribution base multiplied by the number of worked months with the number of contributed months, subsequently a contributory-years-dependent coefficient (%) is applied.²⁵⁵

The net pre-retirement income replacement rate in Spain was estimated at 81.8% in 2016, the fifth highest amongst the countries in this Report, while the age-dependency ratio in 2017 was at 29.5% and projected to increase to 44.4% by 2030.

²⁵⁵ This coefficient starts at 50% for the minimum contributory period (15 years) and grows gradually upon reaching the maximum amount (100%) at 35 years of contributions.



| Introductory Table: Multi-pillar pension system in Spain | | | |
|--|---|--|--|
| | Pillar I State Pensions | Pillar II Occupational Pensions | Pillar III Individual pensions |
| Participation | Mandatory | Voluntary | Voluntary |
| Type of funding | Financed by social insurance contributions (4.7% employee + 23.6% employer) | Funded; Financed by social insurance contributions | Funded; Financed by employees' own contributions |
| Type of benefit entitlement | NDC PAYG | DB, DC and Hybrid | DC |
| Management | Publicly managed; Benefits paid via State Social Insurance Agency | Privately managed | Privately managed |
| Products | Contributory state pension; Non-contributory state pension | Pension Plans; Life insurance; PPAs; PIAS; SIALP; Unit-linked products | |
| Average pension | €1,208.75 (75% from Pillar I) | | |
| Coverage | Coverage: generally all population | 9.8 million workers (43%) | Coverage: 23,5% of working population (in 2017) |
| Net replacement ratio: | 81.8% in 2016 | | |

Source: INSS, OECD, BETTER FINANCE own computation, 2018

The incentive to save via occupational or complementary pension products (Pillars II and III) is rather low considering the high public pension income stream out of the total replacement ratio for Spanish retirees, estimated in 2016 at 75% of the pension amount.²⁵⁶

Pillar II

Pillar II consists of occupational pension schemes (*planes de pensiones de empleo*) linked to companies and entrepreneurial activities. Their objective is to generate private savings for employees, and they are offered in all three forms of contribution-to-benefit relationship: DB (accounting for 13% of contributions), DC (accounting for 66% of contributions) or the

²⁵⁶ European Commission, Ageing Report 2018.



hybrid DB-DC (accounting for 21% of contributions).²⁵⁷ Contributions to these plans can be made in full by the employer, or by the employees. As in Pillar III, Pillar II offers two types of savings products: pension saving arrangements and insurance products. They both hold a significantly low proportion in the occupational provision sector as compared to the voluntary one (Pillar III).

The difference between Pillar II and Pillar I is that pension entitlements are based on a capitalisation system, meaning that every worker contributes to his/her own pension savings account, thus the payouts depend on the amount accumulated and on financial returns achieved on his/her savings. The coverage of PPEs is relatively low (approximately 2 million employees or 8.7% of the total economically active population), this is because occupational pension arrangements are not mandated by law and are usually only provided by large companies. However, the Spanish Pillar II covers approximately 10 million workers, or 44% of the economically active population.²⁵⁸

Pillar III

Pillar III is composed of individual pension plans. These plans are personal and complementary, meaning that an individual can voluntarily contribute (from net income) to a pension plan of his/her own choice. Although these arrangements are also based on the capitalisation system, in this particular case it mainly consists of Social Provision and Pension Funds. Pillar III facilitates a progressive increase in private savings in the long-run.

Household Savings

The appraisal of household savings has always been an identifying characteristic of the Spanish socio-economic model. The household saving has been channeled through direct investment or through the deep-rooted desire for real estate acquisition, which has in turn become a speculative asset in the housing bubble, in an antisocial way.

Historically, a consolidated social welfare system with proven guarantees offering assurance for the future has been lacking. This has caused the Spanish population to start speculating, with the aim of accumulating enough capital in order to face potential life-changing events like unemployment, old-age and unforeseen illness or accidents.

These conditions have led to an important savings and investment culture focused on real estate. Although there is currently a well-established welfare state offering complete social cover, seemingly sustainably, the tendency to save and invest for the future with a particular focus on real estate has persisted, Spanish citizens continue to invest for future needs,

²⁵⁷ UNESPA, Informe 2017 "Estamos Seguros"

²⁵⁸ UNESPA, Informe 2017 "Estamos Seguros"

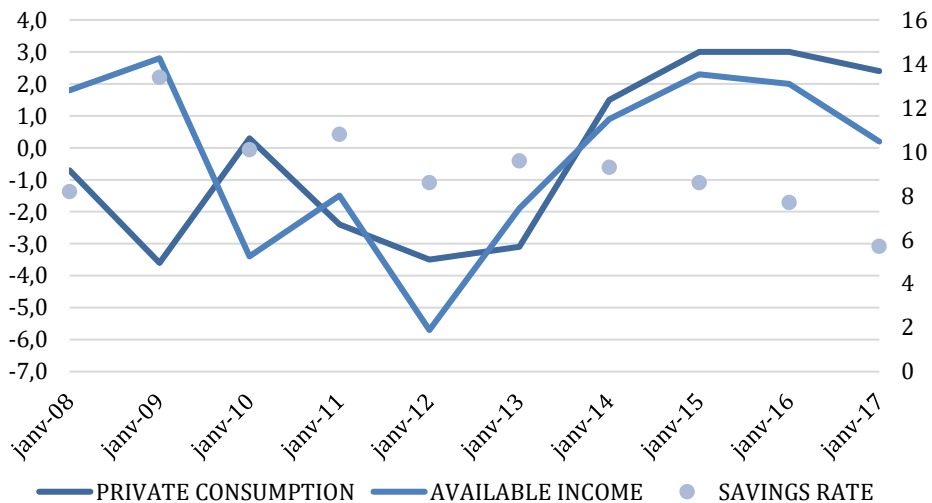


however, at a continuously decreasing rate (less than half in 2017 compared to 2009), giving up part of their present buying power in the process.

The Bank of Spain²⁵⁹ has reported that for a long period of time, the savings rate in Spain was around 11%. Nevertheless, from 2009 onwards, the savings rate decreased dramatically. The reduction was in large part due to a prolonged period of time during which Spanish families saw their incomes reduced because of the lack of employment opportunities. Other factors contributing to the reduction of the household savings rate were the decrease of net transfers from the Public Administration through automatic stabilizers, discretionary tax measures, and lower rates of disposable income.

As illustrated in Graph ES1, the savings rates have not managed to regain the levels of the years prior to the crisis. In 2013, the savings rate decreased again, subsequently reaching 5.5% in 2017. This was due to an unmatched increase in consumption rates compared to the available income. For the last quarter of 2017, 4.9% was reported as the Spanish households' savings rate out of the quarterly gross income.²⁶⁰

Graph ES1. Evolution of household spending and savings rate (real terms)



Source: Spanish Central Bank, Annual Report for 2017

²⁵⁹ BdE: Boletín Económico, Sept. 2013. pag.65: Evolución del Ahorro y del Consumo de los hogares españoles durante la Crisis. Óscar Arce, Elvira Prades y Alberto Urtasun, de la Dirección General del Servicio de Estudios

²⁶⁰ Instituto Nacional de Estadística, 'Cuentas Nacionales no Financieras de los Sectores Institucionales – primer trimestre 2018' CTNFSI (Trimestre 1/2018).



In times of economic distress and crises, the important psychological effects of decreased employment prospects, as well as hardship endured by large parts of the population, must be taken into consideration. Together, these effects erode consumer confidence. The financial crisis exposed structural weaknesses in the Spanish economy, an aging population, high unemployment rates and a large blackmarket economy. As a result of subsequent austerity measures, the main victim has turned out to be the Spanish social welfare system.

By the end of 2017, financial assets owned by Spanish households and non-profit institutions serving households amounted to €2.14 trillion, according to the Spanish Central Banks' financial balance sheets. Moreover, according to the 4th term report from INVERCO (*The Spanish Association of Collective Investment Schemes and Pension Funds*), Spanish households increased their investments in financial assets to the tune of €49,739 million, representing an increase of 2.37% compared to 2016.

If we take a closer look at the distribution of non-real estate assets owned by households, 2016 and 2017 breaks down as follows:

| Table ES1. Breakdown on channels of investments of Spanish households in 2017 | | | | | |
|---|------------------|-------------|------------------|-------------|--------------|
| | 2016 | | 2017 | | Change (%) |
| | € mln | % | € mln | % | |
| Bank deposits | 858,815 | 40.93% | 856,940 | 39.90% | -0.22% |
| Direct Investment | 577,960 | 27.55% | 584,366 | 27.21% | 1.11% |
| Collective investment institutions | 278,208 | 13.26% | 312,551 | 14.55% | 12.34% |
| Insurance/ occupational pension | 230,384 | 10.98% | 233,409 | 10.87% | 1.31% |
| Pension Funds | 115,731 | 5.52% | 119,518 | 5.56% | 3.27% |
| Cash | 12,667 | 0.60% | 12,543 | 0.58% | -0.98% |
| Other | 24,416 | 1.16% | 28,593 | 1.33% | 17.11% |
| TOTAL | 2,098,181 | 100% | 2,147,920 | 100% | 2.37% |

Source: INVERCO²⁶¹

As we can see, there is no great modification in the distribution of pension funds in 2017 compared to the previous year (+3.27%). The investment channels have not changed, and the main allocation remains in bank deposits followed by direct investments. The most significant changes are the alternative investments (*other*, +17.11%) and collective investment schemes (+12.34%), in terms of recipients of investments. Subsequently, cash holdings decreased by 0.98% (€124 mln less).

²⁶¹ INVERCO, 'Las Instituciones de Inversión Colectiva y Los Fondos de Pensiones: Informe 2017 y Perspectivas 2018'.



According to the Spanish Central Banks' financial balance sheets,²⁶² Spanish households held 40% in currency and deposits in 2017; 1.35% in debt securities; 40.36% in equity and investment fund shares; 16.44% in insurance, pensions and standardised guarantees, and 1.16% in other assets. The following table shows the total financial asset allocation:

| Outstanding financial assets | € mln | % |
|---|------------------|-------------|
| Currency and Deposits | 856,940 | 40% |
| Debt | 29,067 | 1% |
| Equity and investment fund shares | 866,121 | 40% |
| Insurance, pensions and standardised guarantees | 352,928 | 16% |
| Other Assets | 41,136 | 2% |
| Total | 2,146,192 | 100% |

Source: Spanish Central Bank, Spanish Economy Financial Accounts for 2017

Pension Vehicles

Pension Plans

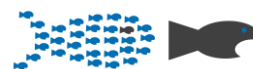
There is a clear distinction to be made between insurance-based pension plans on the one hand (referred to as *retirement plans* in Spain), and pension plans on the other. The differences between the two systems are related to liquidity, risk profiles and tax treatment.

Retirement plans are insurance products developed by financial institutions with one main goal: saving for retirement. These plans tend to focus on mid- to low-income segments of the population with lower purchasing power compared to high-income segments of the population. These vehicles are more flexible and require less commitment than a pension plan. This is because they allow for early withdrawal of amounts deposited. However, it is important to note that the price of such an early withdrawal is considerable.

Pension plans are private social security instruments compatible with and complementary to the public pension system. Payments into pension plans complement the ones made by the public pension system, even completely substituting them in some cases. They are promoted by the public administration through significant fiscal incentives, translating into substantial direct tax benefits.

These fiscal incentives were counterweighted by the fact that participants couldn't withdraw contributed funds until they reached the age of retirement (60 years minimum). However, there were exceptional circumstances that allowed for early recovery such as a serious illness or unemployment. This framework changed with the introduction of Law

²⁶² <https://www.bde.es/webbde/en/estadis/ccff/ccff2.html>



26/2014, making the pension system more flexible. All contributions made from 2015 onwards can be withdrawn, together with its accrued interest, ten years after being paid into the fund.

Furthermore, personal pension fund participants have the right to move their accrued capital to a different plan, either with the same asset manager or another, at no extra fee. Moreover, it has no effect on past or future fiscal benefits.

For the fifth year in a row, the main capital markets channel for investments of Spanish households were direct investments in equities (20.6% of total financial assets), followed by Collective Investment Schemes (IIC being their acronym in Spanish). Investments in pension funds have also increased significantly, starting with 2012, reaching €116 bln (an increase of 20%) at the end of 2017.²⁶³ The total volume of households' savings in IIC was estimated at €313 bln (14.8% of total) at the end of 2017, whereas the total AuM of IICs in Spain was reported at €464 bln.²⁶⁴ Total AuM of Spanish Pension Funds also enjoyed a positive growth rate during these four years - 5.1% annually.

| Table ES3. Distribution of the annual financial asset flows 2001 – 2017 (€ mln) | | | | | | |
|--|-----------------|---------------------------|------------|-------------------|----------------------|--------------|
| | Deposits | Direct investments | IIC | Insurances | Pension Funds | Total |
| 2001 | 36,615 | -1,887 | 5,487 | 17,667 | 5,103 | 62,985 |
| 2002 | 20,938 | 9,070 | 1,649 | 19,021 | 5,341 | 56,019 |
| 2003 | 16,559 | 8,938 | 17,882 | 14,024 | 6,650 | 64,053 |
| 2004 | 32,437 | -73 | 13,341 | 15,031 | 6,237 | 66,973 |
| 2005 | 40,570 | 1,543 | 17,161 | 15,797 | 7,581 | 82,652 |
| 2006 | 74,418 | -2,989 | 2,559 | 17,020 | 7,005 | 98,013 |
| 2007 | 57,257 | 2,005 | -10,410 | 9,606 | 4,436 | 62,894 |
| 2008 | 71,279 | -16,829 | -40,264 | 12,810 | 1,423 | 28,419 |
| 2009 | 23,800 | 6,672 | -3,210 | 7,957 | 1,640 | 36,859 |
| 2010 | 23,674 | 10,014 | -14,603 | 6,057 | 2,695 | 27,837 |
| 2011 | 1,058 | 20,808 | -4,494 | -33 | -1,697 | 15,642 |
| 2012 | 5,962 | 6,731 | -8,794 | 2,843 | 410 | 7,152 |
| 2013 | 26,565 | -40,224 | 21,140 | 7,809 | 770 | 16,060 |
| 2014 | -6,917 | -30,554 | 36,676 | 13,683 | 982 | 13,870 |
| 2015 | -39 | -20,548 | 34,497 | 2,371 | -39 | 16,242 |
| 2016 | 15,736 | 8,760 | 14,844 | 11,946 | -255 | 51,031 |
| 2017* | -1,000 | -9,500 | 30,000 | 5,550 | 50 | 25,100 |

Source: INVERCO report on IICs and Pension Plans 2017

²⁶³ All figures concerning Spanish households' financial assets published by Inverco are only an estimate for 2017.

²⁶⁴ Inverco, Informe Annual sobre los IICs y los Fondos de Pensiones 2017



In 2017, investments in IICs continued to increase, reaching unprecedented levels both in terms of assets under management and in number of participants. This is thanks to a renewed trust among Spanish savers who prefer Investment Funds and Pension Funds as their instruments to complement their savings for retirement.

The total Collective Schemes (including Pension Funds) grew by €73.1bn, bringing the total to €575 bln at the end of 2017, 15% higher than in 2016. The IIC increased their assets under management by €70 bln, 17.7% more than during the previous year. Pension Funds saw an increment of €4.24 bln, as shown in the following table:

Table ES4. Evolution of the total IICs, Pension Funds and Collective Investment Schemes (2011 – 2017) (€ mln)

| | IICs | | | | | Pension Funds | Total |
|------|------------------|----------------------|----------------------|----------------------|--------------|---------------|---------|
| | Investment funds | | Investment companies | | Foreign IICs | | |
| | Movable Assets | Fixed Capital Assets | Movable Assets | Fixed Capital Assets | | | |
| 2011 | 127,772 | 4,495 | 24,145 | 313 | 45,000 | 82,992 | 284,717 |
| 2012 | 122,322 | 4,201 | 23,836 | 284 | 53,000 | 86,528 | 290,171 |
| 2013 | 153,834 | 3,713 | 27,331 | 868 | 65,000 | 92,730 | 343,476 |
| 2014 | 194,844 | 1,961 | 32,358 | 826 | 90,000 | 100,457 | 420,446 |
| 2015 | 219,877 | 421 | 34,082 | 721 | 118,000 | 104,518 | 477,619 |
| 2016 | 235,341 | 377 | 32,794 | 707 | 125,000 | 106,839 | 501,058 |
| 2017 | 262,847 | 360 | 32,058 | 620 | 168,000 | 111,077 | 574,962 |

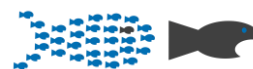
Source: INVERCO report on IICs and Pension Plans 2017 & CNMV

Pension Funds

For five year, the Pension Funds' assets under management have grown, bringing them to €111.1bn at the end of 2017, representing an increase of €4.24bn (4% more than in 2016). The Spanish market for Pension Funds is composed of approximately 2661 pension plans, based on 1534 pension funds managed by 75 managemenet companies, with in total 9.6 million Spanish subscribers.²⁶⁵

Out of these, the majority are covered by *individual arrangements* (plans), followed by PPEs and *associated plans*, as exhibited in the table below.

²⁶⁵ DGSFP, Informe Annual 2017.



| Number of participants to Pension Funds | | |
|---|------------------------|------------|
| | number of participants | % of total |
| Associate plans | 65,560 | 1% |
| PPEs | 2,039,265 | 21% |
| Individual plans | 7,728,459 | 79% |
| Total | 9,833,284 | |

Source: INVERCO report on IICs and Pension Plans 2017

In 2017 there were 2,557 pension plans, a decrease representing a continuing downward trend in the number of pension plans observed over previous years. *The Spanish Association of Collective Investment and Pension Funds (INVERCO²⁶⁶)* maintains a classification system for individual pension funds according to liquidity and risk, establishing the following categories:

| Number of pension plans by type | | | | | | | |
|---------------------------------|------|------|------|------|------|------|-----------|
| Plan Type | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2016/2017 |
| PPE | 1398 | 1343 | 1336 | 1308 | 1287 | 1290 | -0.23% |
| Associate | 191 | 186 | 176 | 172 | 164 | 156 | 5.13% |
| Individual | 1385 | 1402 | 1320 | 1264 | 1196 | 1111 | 7.65% |

Source: INVERCO report on IICs and Pension Plans 2017

The composition of Pension Fund portfolios in 2017, as presented in the last quarterly report of *the Dirección General de Seguros y Fondos de Pensiones (DGSFP, the Spanish Insurance and Pension Funds Authority)*, showed the following distribution:

| Table ES5. Pension funds' asset allocation (2017) | | | | |
|---|--------|--------|--------|--------|
| | Q1 | Q2 | Q3 | Q4 |
| Equities | 35.04% | 35.73% | 37.77% | 38.59% |
| National government bonds | 24.25% | 22.92% | 21.44% | 20.51% |
| Foreign government bonds | 11.08% | 10.79% | 11.18% | 10.81% |
| Credit bonds | 18.16% | 18.88% | 18.48% | 17.74% |
| Deposits and money market instruments | 11.46% | 11.69% | 11.13% | 12.35% |

Source: Directorate-General for Insurances and Pension Funds (DGSFP)

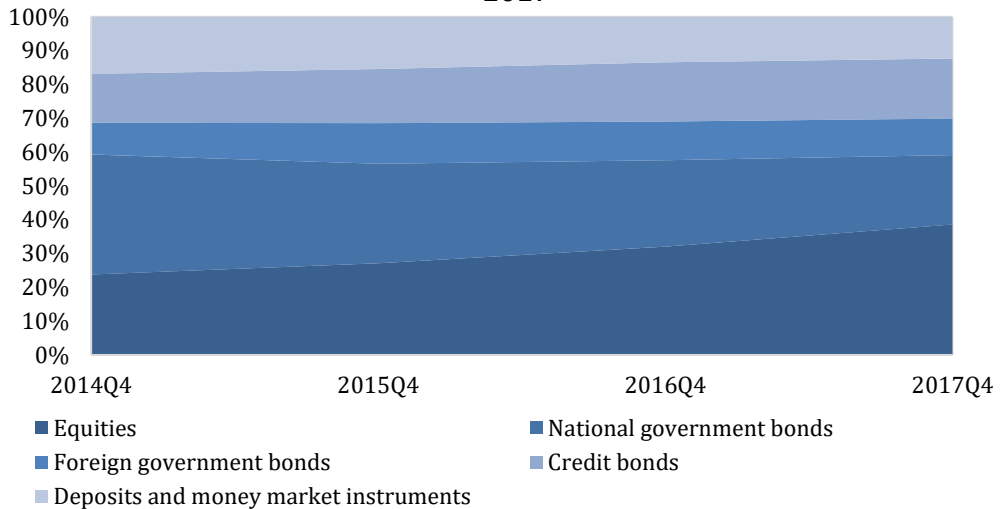
As we can see, investments in equities surpassed investments in national government bonds with 38.59% and 20.51% respectively, at the end of 2017. Compared with the last quarter of 2014, pension funds are slightly more aggressive, with the equity allocation increasing from 24% to 39% and sovereign Spanish bonds decreasing from 36% to 21%. Credit bonds attracted 17.74% of investments, followed by deposits and money market instruments, with 12.35% and foreign government bonds with 10.81%.

²⁶⁶ INVERCO: INSTITUCIONES de INVERSIÓN COLECTIVA y los FONDOS de PENSIONES Informe 2017 y perspectivas 2018, pag. 37, 38.



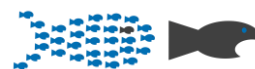
The most remarkable feature is the negative trend of investments in National government bonds, which in the first term of 2014 still attracted around 40% of investments, but rapidly started to decrease. By the end of 2014 (Q4) it had already reached 35.50%.

Graph ES1. Evolution of Pension Funds' asset allocation 2014-2017



Source: Table ES5; DGSFP Report 2016 and 2017.

The occupational system represented 32% of all assets under management held in 2017, and the associated system just 0.81%. The individual system represented 67 % of investments, sub-divided as follows: 11.13% for short-term fixed income, 9.17% for long-term fixed income, 33.43% for mix of fixed income, 20.69% for mixed equity, 12.14% for equity and 13.44% for guaranteed plans.



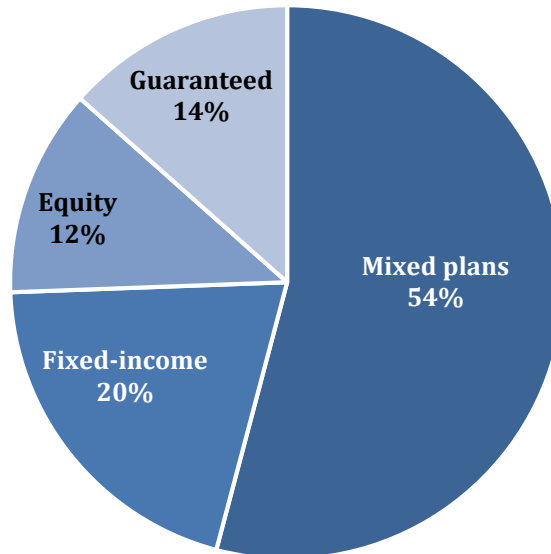
| Table ES6. Evolution of Pension Plans' AuM by type of arrangement (2010-2017) | | | | | |
|---|-------|-----------------|--------|------------------|---------|
| | | Associate plans | PPEs | Individual plans | Total |
| 2010 | € mln | 926 | 31,272 | 52,552 | 84,750 |
| | % | 1% | 37% | 62% | |
| 2011 | € mln | 835 | 31,170 | 51,142 | 83,147 |
| | % | 1% | 37% | 62% | |
| 2012 | € mln | 795 | 32,572 | 53,160 | 86,527 |
| | % | 1% | 38% | 61% | |
| 2013 | € mln | 1,005 | 33,815 | 57,911 | 92,731 |
| | % | 1% | 36% | 62% | |
| 2014 | € mln | 940 | 35,262 | 64,524 | 100,726 |
| | % | 1% | 35% | 64% | |
| 2015 | € mln | 958 | 35,548 | 68,012 | 104,518 |
| | % | 1% | 34% | 65% | |
| 2016 | € mln | 921 | 35,431 | 70,487 | 106,839 |
| | % | 1% | 33% | 66% | |
| 2017 | € mln | 903 | 35,796 | 74,378 | 111,077 |
| | % | 1% | 32% | 67% | |

Source: INVERCO report on IICs and Pension Plans 2017

The following graph reflects the percentage of investments in the different categories of individual pension funds. As illustrated, the mixed plans attracted the most cash flows, at 54% of total investments, while guaranteed plans represented 14%, fixed-income plans accumulated 20% and equities only 12% of total AuM managed in Spanish pension plans.



**Chart ES2. Breakdown of the Individual Pension Funds
(based on AuM) in 2017**



Source: INVERCO (n 7)

Mixed plans are pension arrangements that invest either both in short- and long-term fixed-income securities (bonds, loans etc.) or in mixes of variable income securities (generally equities, but floating bonds or other types of securities can also be included).

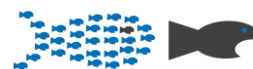
Life Insurance

According to UNESPA,²⁶⁷ the total assets under management of the entire insurance sector at the end of 2017 amounted to €226 bln. The AuM level of 2017 represents an increase of 3.79% with respect to 2016. The disaggregated numbers are, on one hand, €183.6 bln for life-savings contracts (not considered pension plans, representing 81.08%, and an increase of 3.33% compared to the previous period) and, on the other hand, €42.85 bln for pension funds (pension plans representing 18.92%) - managed by the same insurers and which by 6.11% compared to 2016.

33,277,018 individuals held insurance products in 2017, out of which 89.39% had a life-insurance contract (29,747,162 in absolute terms) and 10.60% of them had a pension fund contract (3,529,856 in absolute terms).²⁶⁸

²⁶⁷ UNESPA, Informe 2017 "Estamos Seguros"

²⁶⁸ <https://www.news3edad.com/wp-content/uploads/2018/02/NdP-Seguro-de-Vida-Q4-2017-FINAL.pdf>.



The Pillar II life-insurance plans are shown in the below table. It shows the number of contributors at the end of 2017, the volume of provisions, and the annual growth rate for both variables. The total volume was €37.23 bln, which represented a decrease of -1.33% compared to the end of 2016.

| Table ES7. Life-insurance plans for Pillar II | | | | | |
|---|-----------------------|-------------------|-------------------|-----------------------------|-------------------|
| | Modalities | Number of insured | | Technical provisions (in €) | |
| | | 31/12/2017 | Annual Change (%) | 31/12/2017 | Annual Change (%) |
| Corporate pension plans | Deferred capital | 31,398 | 4.64% | 274,122,537 | 55.48% |
| Implementation of pension obligations | Risk | 2,265,504 | -4.80% | 526,793,688 | -28.74% |
| | Deferred capital | 191,819 | -8.77% | 2,949,135,526 | 8.06% |
| | Income (acc. phase) | 221,174 | 6.38% | 10,736,852,023 | -0.22% |
| | Income (dec. phase) | 354,960 | -3.49% | 12,750,037,586 | -8.82% |
| | Unit- or Index-Linked | 25,953 | 11.44% | 1,372,095,593 | 20.56% |
| Other collective insurances | Risk | 3,430,683 | 2.59% | 1,047,165,218 | 1.64% |
| | Deferred capital | 297,180 | -4.04% | 2,012,508,597 | 6.22% |
| | Pensions (acc. phase) | 22,397 | 25.40% | 1,369,567,386 | -6.70% |
| | Pensions (dec. phase) | 63,249 | -7.00% | 3,482,708,493 | 7.76% |
| | Unit- or Index-Linked | 18,050 | 16.84% | 718,491,335 | 21.54% |
| Total | | 6,922,367 | 0.01% | 37,239,477,981 | -1.33% |

Source: UNSPA Press Release "Estamos Seguros" 07/02/2018

The life-insurance plans of Pillar III are shown in the below table. The number of individuals who participate in these plans decreased by 0.51%, bringing the total up to 7,609,172 individuals at the end of 2017. Moreover, the total volume of individual life-savings plans grew by 4.55% to a total of €141.95 bln. The following graph shows the disaggregated life-insurance plans for the individual schemes:



Table ES8. Life-insurance plans of Pillar III

| | | Number of participants | | Technical provisions (in €) | |
|-------------------------------|--|------------------------|-------------------|-----------------------------|-------------------|
| | | 31/12/2017 | Annual Change (%) | 31/12/2017 | Annual Change (%) |
| PPA | Insurance Pension Products | 997 | -1.97% | 12,415,706,006 | -4.01% |
| | Deferred capital | 2,869,341 | -6.57% | 43,001,528,197 | 1.61% |
| | Life and temporary income | 1,604,302 | -1.85% | 58,920,077,252 | 6.62% |
| Saving Insurance / Retirement | Asset transformation into permanent income | 17,754 | 110.58% | 1,610,921,313 | 109.60% |
| | PIAS (systemic individual savings plans) | 1,638,442 | -8.94% | 12,188,872,143 | 19.23% |
| | SIALP (long-term individual savings insurance plans) | 867,553 | 18.04% | 2,961,584,311 | 48.75% |
| | Unit- or Index-linked | 610,783 | -6.45% | 10,857,576,016.39 | -0.31% |

Source: UNESPA Press Release "Estamos Seguros" 07/02/2018

PPAs

The Insured Prevision Plans (PPAs) are equivalent to the pension plans but are guaranteed by an insurance company. The features, in terms of benefits and fiscal treatment, are the same. However, contrary to the pension plans, PPAs are completely safe for the insured thanks to the fact that the risk is taken on by the insurance company, guaranteeing the interests. PPAs guarantee a certain level of return during the capital accumulation period. In short, we could say that they are pension plans with certain similarities to insurance products. They are non-redeemable before the agreed date.

Both insured pension plans (PPA) and systematic individual savings plans (PIAS – see below) are gaining ground compared to other financial products, traditionally used to accumulate and yield profit from savings for retirement. These plans are commonly accepted as life insurance, although they are technically long-term individual savings products. The capital fund is formed by periodic payments. These payments are invested and, once the investor reaches the age stipulated in the contract, the lifelong payments are paid to the beneficiary.



Life-saving plans

These are life-insurance plans with the objective of saving in the long-term. These products manage and invest the insured's savings. They are designed as medium and long-term products, usually to complement the pension. There are several categories:

- Deferred capital plans: The insurance company has to pay all the accumulated savings, plus an interest, by an established date.
- Permanent and temporal income plans: the money saved in the accumulation phase, plus interests, is recuperated as annuities in the decumulation phase, usually on a monthly basis. Amongst them:
 - Permanent: plans ensuring that the insured is going to receive money during the decumulation phase, until the end of the insured's life.
 - Temporal: plans which have been previously established by both the insurance company and the insured. The insured is going to receive the money during the decumulation phase, until the plan's money dries up.

Systematic Individual Savings Plan (PIAS)

The PIAS are products that offer fiscal advantages upon payment because the interest is exempt in case certain requirements were fulfilled during the saving phase. That is, to have contributed at least five years and to perceive it as a permanent income. The annual limit is €8,000, which is compatible with long-term saving plans (SIALP & CIALP – see below). PIAS allow for early recovery of consolidated rights, but only if the conditions for early recovery of pension plans are met. The recovered amount is then subject to a significant tax penalty, so if it occurs within ten years of the contribution, the sum will be considered as capital gains and taxed at 18%.

According to UNESPA,²⁶⁹ at the end of the first quarter of 2017, €11.066 million (27.72% annual increase) were managed in PIAS. On the other hand, over a million people invested €13.31 millions in PPA's.

Long-Term Individual Saving Plans (SIALP)

This is an insurance product with a similar fiscal treatment to the PIAS in that it is exempt from taxes after five years. Contrary to PIAS, it is not necessary to receive the money as an annuity. This kind of products – along with the long-term individual savings account (CIALPs) – limits participant contributions to €5,000 per year.

²⁶⁹ UNESPA: Press release of 17/5/2017, page 1.



Unit-linked products (Vinculados a Activos)

These products are linked to assets and the participant assumes the risk.

According to UNESPA²⁷⁰, at the end of the first quarter of 2016, 1.8 million savers (17.76% annual increment) invested a total sum of €10.22 bln in PIAS. On the other hand, 1.02 million people invested a total amount of €12.93 bln in PPAs.

In addition to PPA's and PIA's there are corporate social welfare plans for employees (PPSE). The latter are similar to pension plans of the employment type, as contemplated in Art. 51.4 of Law 35/2006 and the Royal Decree 1588/1999 modified by the Royal Decree 1684/2007. Although the tax treatment is similar to that of pension funds, they are not as well established as PPA's and PIA's.

Charges

Spanish savers have greatly benefited from the regulator's recent intervention in fees and commissions. Until this moment, the transparency of these key aspects was insufficient and inadequate. The reform established a legal limit on management and administration fees attributable to investors. However, there were no measures introduced in order to limit transaction fees.

In 2012, Aguirreamalloa, Corres y Fernández²⁷¹ exposed these sales incentives, revealing that commissions paid by fund providers to financial advisers were often presented to participants as ordinary expenses or commissions (such as management or deposit fees, subscription and reimbursement fees, etc.). This led to situations where financial advisors who placed the pension products could make more money than the portfolio managers.

Article 84 of the Royal Decree 304/2004²⁷² established specific limits to the deposit or management fees charged to subscribers for this type of products. This was slightly modified by Royal Decree 681/2014²⁷³. Nonetheless, the regulation allows variable commissions to be set based on yields, although the providers have to respect certain limits such as the following:

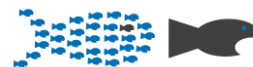
- Pension fund managers can charge a 1.5% commission annually (before, it was 2%) of the value of the administered account. This limit must be respected by the

²⁷⁰ UNESPA, Informe 2017 "Estamos Seguros"

²⁷¹ Aguirreamalloa, J; Corres, L. and Fernandez, P. — Pension Funds Returns in Spain 2001-2011, IESE Research document, February 2012

²⁷² [http://www.boe.es/boe/dia5/2004/O2/25Q\)dfs/A08859-08909.pdf](http://www.boe.es/boe/dia5/2004/O2/25Q)dfs/A08859-08909.pdf)

²⁷³ <http://www.boe.es/boe/dias/2014/08/02/pdfs/BOE-A-2014-8367.pdf>



pension fund as well as by every pension plan that forms the fund, and individually for each subscriber.

- Pension fund depositary entities may charge a maximum of 0.25% (previously 0.5%) of the value of deposited accounts. They must comply with this limit for every individual pension plan, the pension fund as a whole, and individually for each subscriber.

The following table shows the evolution of the administration and management fees for pension funds over the last ten years.²⁷⁴ The fees for Pillar II were 0.20% in 2017, and for Pillar III 1.15%. The difference between the fees paid in the two pillars has decreased over this period of time thanks to a decrease in fees in the complementary pension schemes (Pillar III), especially from 2014 onwards. Nevertheless, at 6 to 1, the proportional difference in Administration and Management fees between pillars is still significant.

These figures clearly reflect the difference in fees applied to retirement savings products marketed for Pillar III (retail) and those for Pillar II (corporate), due to the significant negotiating power of corporate investors in the price setting process with providers. As a result, it is understandable that the regulator was pressed to limit the management and depositary fees, which showed effective in reducing sale fees charged to retail investors.

For the purpose of classification of pension funds as used by pension plans (individual, associated and occupational), it should be noted that the charges corresponding to Pillar II concern the occupational plans (*sistema de empleo*), whereas those for Pillar III are the mean administration and management fees charged by individual and associated plans (*sistema individual* and *sistema asociado*).

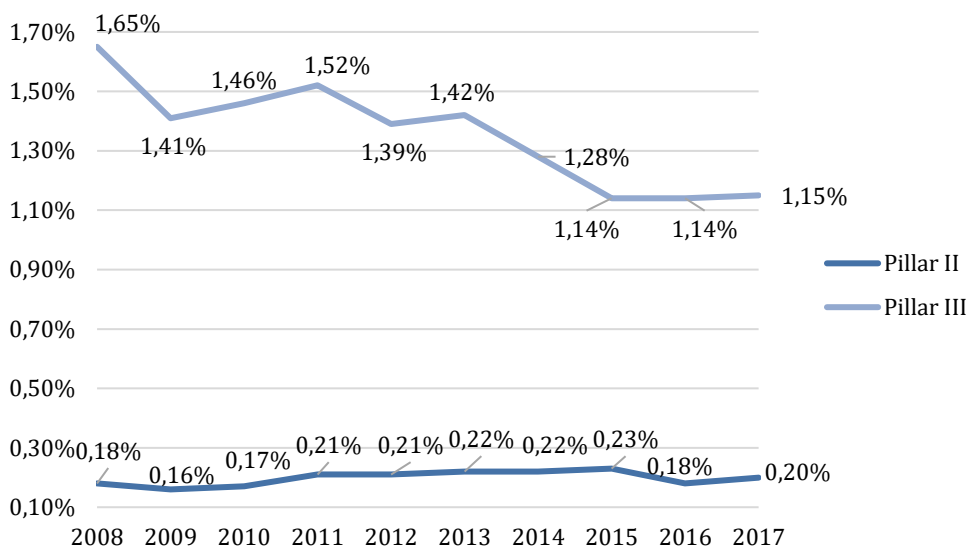
| Table ES9. Administration and Management fees (in %) | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Pillar II | 0.18 | 0.16 | 0.17 | 0.21 | 0.21 | 0.22 | 0.22 | 0.23 | 0.18 | 0.20 |
| Pillar III | 1.65 | 1.41 | 1.46 | 1.52 | 1.39 | 1.42 | 1.28 | 1.14 | 1.14 | 1.15 |

Source: DGSFP, Annual Report 2018

²⁷⁴<http://www.dgsfp.mineco.es/sector/documentos/Informes%202018/INFORME%20SECTOR%202017.pdf>



Graph ES3. Evolucion of Administration and Management fees in Pillars II and III



Source: Table ES9.

A similar pattern is repeated for the depositary fees, where the difference between retail and corporate fees has diminished throughout the same period of time, as shown below. In 2017 depositary fees remained stable at 0.03% for Pillar II for the tenth year in a row, and 0.14% for Pillar III for the third year in a row, amounting to a 4 to 1 proportional difference between pillars. This is thanks again to a decrease in the Pillar III depositary fees, and it shows the significant negotiating power of corporate investors in price setting with product providers, and with the high commissions charged by retail distributors. Consequently, it is understandable that the regulator was pressed to limit the management and deposit fees. This in turn has proven effective in reducing sale fees charged to retail investors.

| Table ES10. Depositary fees | | | | | | | | | | |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Pillar II | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% | 0.03% |
| Pillar III | 0.23% | 0.22% | 0.22% | 0.20% | 0.18% | 0.19% | 0.16% | 0.14% | 0.14% | 0.14% |

Source: DGSFP

According to Aguirreamalloa, Corres y Fernández (2012), administrators failed to sufficiently inform pension fund participants about the portfolio management policies. These authors criticised the quality of the information provided, deemed insufficient for the purpose of taking decisions on the value of the management of the fund. Nowadays, all fees and



commissions attributable to the pension plan have to be included, both in pre-contractual documentation as well as quarterly and semi-annual reports that entities must send to participants. This way, investors are aware of commissions and fees that their subscription to the plan will entail, before they make their decision to invest. Furthermore, once invested in the plan, they receive periodic information about paid fees and their actual impact on their product and its returns.

In addition, all pension plans of Pillar III are obliged to provide the Key Information Documents (KID) to potential investors. This KID should include the necessary information for participants to make an informed investment decision. This document should contain key information, briefly and concisely, to allow for a clear understanding of the product. It should include the main features and nature of the product, the costs and the risk profile, as well as relevant information about its returns.

Although pension products are not included in the PRIIPS regulation,²⁷⁵ the KID model is strongly influenced by it. There has been a notable effort to include pension funds in this regulatory scope, two years before its official implementation (once the transitory period of the Royal Decree that introduced the KID passes). Unlike plans in Pillar III, plans in Pillar II do not need to present a KID. Although the same information must be presented in the pre-contractual information to participants upon joining the plan, including expenses and fees.

| | Pillar II | Pillar III |
|-------------|------------------|-------------------|
| 2002 | | 1.22% |
| 2003 | | 1.29% |
| 2004 | 0.19% | 1.56% |
| 2005 | 0.14% | 1.45% |
| 2006 | 0.14% | 1.46% |
| 2007 | 0.17% | 1.53% |
| 2008 | 0.21% | 1.88% |
| 2009 | 0.19% | 1.63% |
| 2010 | 0.20% | 1.68% |
| 2011 | 0.24% | 1.72% |
| 2012 | 0.24% | 1.57% |
| 2013 | 0.25% | 1.61% |
| 2014 | 0.25% | 1.44% |
| 2015 | 0.26% | 1.28% |
| 2016 | 0.21% | 1.28% |
| 2017 | 0.23% | 1.29% |

Source: DGSFP Reports 2010-2017.

²⁷⁵ <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1286&from=EN>



Taxation

The Spanish private pensions system is similar to the EET model. This system allows for savers that invest in pension products to enjoy fiscal incentives, leaving the contributions exempt from taxation. Moreover, the revenue generated by the capital investments is only taxed if it has generated profits. This illustrates the underlying political strategy undertaken by the government to encourage savings through taxation measures when the pension system is in question.

It would have been interesting for end-investors to have trustworthy information on net returns (after tax and inflation) of long-term investment products. But a general comparative and objective study is not possible. It is due to the fact that net returns are different for each pension saver and for each fiscal year. This is a consequence of the difference in tax expenses derived from personal income tax in the capital recovery phase, due to different marginal rates applied to total income, future fiscal policies being difficult to predict at the time of investment.

The following section is a summary of the different fiscal treatments that products receive:

Retirement Plans

This system does not contemplate fiscal benefits for contributions made to retirement plans, thus applying taxation rates for contributions (“T” regime).

If the policy holder chooses to withdraw the whole invested amount, together with its generated returns, at the age of retirement, the lump-sum will be taxed as capital gains in the income tax declaration of that year. These gains will be considered as the difference between the capital received and the premiums paid, to avoid double taxation. Therefore, the “T” regime for the pay-out phase with the deferred taxation of positive returns on investments will be applicable.

On the contrary, when the pay-outs are deferred payments (temporary or lifetime) the result of applying a percentage added to the return obtained until the constitution of the payment, will be considered as capital gains.

Thus, benefits received for retirement or disability reasons in the form of deferred payments by beneficiaries of life or disability insurance policies, will be integrated in the tax base as capital gains from the moment the amount exceeds that of the premiums that have been paid according to the contract. Therefore, retirement plans are taxed according to the “TET” phase.



Life insurance products

All fiscal benefits for contributions on life insurance products were eliminated in 1999. Today, returns on the accumulated capital are taxed like any other return on financial capital.

If the policy holder withdraws a lump-sum, this amount is treated as capital gains (the difference between capital received and the sum of the paid premiums). This difference is included in the savings tax base, being taxed at 19% up to the first six thousand euros; at 21% from six thousand to fifty thousand euros, and at 23% for amounts over fifty thousand euros.

If the capital is received as income, it is also treated as capital gains, and it is included in the savings tax base. Each annuity has a different percentage applied to it, depending on how many years the income will be paid or the age of the beneficiary at the start of payments.

In case of death of the insured party before the end of the policy contract, the beneficiaries will pay tax on their inheritance, which will vary depending on the regional regulation. As Spanish regional governments (Comunidades Autonomas) have the competency to decide on tax rates, reductions and deductions within their regions, this leads to significant differences inside the Spanish territory. Therefore, life insurances are taxed according to the “TTT” regime.

PPAs (Insured Provision Plans, “Planes de Prevision Asegurados”)

The commitment to this type of private social welfare products is reflected in the favourable fiscal treatment that they receive. All contributions reduce the labour income tax base for investors by up to €8,000 p.a.²⁷⁶ On the other hand, payments are taxed as labour income in accordance with the age of the saver at the moment of the set-up of the payment scheme,²⁷⁷ excluding the capital gains taxation. It could therefore be said that these products enjoy the same fiscal treatment as pension plans, thus having an “EET” regime.

PIAS (Individual Systematic Savings Plans, “Planes Individuales de Ahorro Sistemático”)

The PIAS is an insurance-savings instrument which was created after the last fiscal reform (1st January 2007). It is complementary to the PPAs and other Pension Plans, and it also

²⁷⁶ Article 53 of Law no. 35 of 2006 concerning the Taxation of Natural Persons’ Income and for the partial modification of Taxation on Companies, on Non-residents’ income and on wealth.

²⁷⁷ Article 49 of the Royal Decree no. 439 of 2007 for approving the Regulation on Taxation of Natural person’s Income and for modifying the Regulation of Pension Plans and Funds, approved by the Royal Decree no. 304/2004.



benefits from a favourable fiscal treatment. They were first defined by the Third Additional Provision of Law 35/2006 on Personal Income taxes, and then modified by section sixty-nine of the first article of Law 26/2014.

The participant can save by making individual or periodical contributions. Just as for other pension products, there is a maximum annual deductible amount that the participant can save per year. In this case, the maximum amount is €8,000. Moreover, there is a maximum amount that the contributor can save in this kind of plan, which is €240,000 p.a. Contrary to similar products, a contributor cannot have more than one PIAS.

If these requirements are met, and the first contribution to the PIAS was made within a five years period, the saver does not pay any taxes on the investments returns. That is, when the contributors receive lifelong payments, the generated returns are exempt from taxation. On the contrary, there is no tax deduction if it is recovered as a lump-sum.

The taxed percentage of life-time annuities depends on the age at recovery, as follows:

- Under 40 years: 40%;
- Between 40 & 49 years: 35%;
- Between 50 & 59 years: 28%;
- Between 60 & 65 years: 24%;
- Between 66 & 69 years: 20%;
- Over 70 years: 8%.

Pension Plans

Private pension funds and plans constitute the most popular products to save for retirement in Spain. This is thanks to the important fiscal benefits attained through personal income tax exemptions. These advantages have also been extended to other insurance products that have emerged as more flexible alternatives. The “TET” regime is applicable to these products, but the amount of tax on withdrawals depends on the type of payout.

These fiscal advantages are the reason why investors have chosen private pension funds as the main non-public way of saving financial resources for retirement. In fact, the most significant contributions to these plans tend to coincide either with the end of the fiscal exercise (guaranteeing the maximum deductibility) or the payment of personal income taxes.

Law 26/2014 introduced new tax measures for Spanish pension plans and similar products. Deductions on the personal income-tax-base following contributions to pension plans remain unchanged. There is an exception for €8.000 or 30% of annual income.



As for the rest of retirement and pension products defined by Spanish law, there are three possibilities for the recovery of the accumulated capital after the investment period has finished:

- **Lump-sum:** before 2007, there was the option to receive a lump-sum as a unique payment with an implicit tax reduction of 40%. After 2007, the cases in which this reduction was applicable were reduced. Moreover, a transitional regime was established²⁷⁸, still in force, when the recovery of the sum occurs within two years of the retirement age. Those who retired before 2010, and haven't already withdrawn their capital, have eight years to do so and those who retired between 2011 and 2018 have eight years also to enjoy the same treatment. This makes it almost obligatory for pensioners to recover the amount within two years to avoid being tax-wise disadvantaged in a system in which contributions and accumulated returns are taxed, although one could argue that the taxation of these contributions as well as the benefits received are deferred in time.
- **Annual annuity (lifelong or temporary):** This is an option in which the amount recovered is taxed, although it is deferred over the years that the payments last. The amount of the payments will be treated as labour income and are added to other incomes that the pensioners receive (public pension, dividends, coupons, etc.). Nonetheless, there is an additional advantage for these annual payments from insurance products (life, insurance, PIAS, PPAS, PPSE), that depends on the age at which the saver/policy holder starts to recover his/her investments, as shown in relation to PIAS.
- **Mixed payments:** In this case, both of the mentioned possibilities are combined, so that there is a lump-sum received and the rest is deferred in time through annual payments, so both types of fiscal treatments are enjoyed.

As indicated, the amount paid in taxes upon retirement depends on the decision the investor makes regarding the type of recovery he/she prefers. In any case, there is an inevitable imbalance reflected in the difference between the fiscal burden that the contributor supports when he contributes part of his income to savings/pension products and what he will effectively pay when he receives the capital. Therefore, the net fiscal balance changes depending on the total annual income received and the progressive marginal applicable rate on income taxes.

These marginal rates were reduced in 2017 to 19% for contributors with lower income (20% in the past) and 45% for the higher brackets (47% in the past). A deeper look reveals that for income lower than €12,450, the tax rate has fallen from 20% to 19%; for amounts between €12,450 and €20,200 from 25% to 24%; for amounts between €20,200 and

²⁷⁸ BOE number 288 of the 28th of November 2014.



€35,200 it dropped from 31% to 30%; for income between €35,200 and €60,000 it went from 39% to 37%; and finally, for amounts above the €60,000 threshold, the rate decreased from 47% to 45%.

| Taxation base | | Tax in 2017 |
|---------------|----------|-------------|
| From | To | |
| € 0 | € 12,450 | 19% |
| € 12,450 | € 20,200 | 24% |
| € 20,200 | € 35,200 | 30% |
| € 35,200 | € 35,200 | 37% |
| € 60,000 | - | 45% |

Source: Rankia²⁷⁹

The marginal rates since 2014 have been reduced, decreasing from 24.75% to 19% for the lowest income bracket, and to 45% to the highest income bracket (as compared to 47%). However, these percentages have not varied since 2016.

This is significant in that tax implications are especially relevant for retail investors when considering the final return on their pension/investment products, since they must consider how much of their return is lost due to inflation rates and taxation upon recovery.

The most precise estimation of real returns can only be made at the end of the plan's investment phase. The reason for this is that the closer we come to the recovery date, the clearer the net fiscal effect will be, allowing us to calculate deductions and the tax expense of the recovery of the investment and its returns.

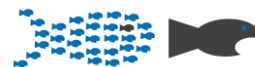
Over the last few years, we have seen a change in tax treatment thanks to policies aimed at stimulating savings. This, in turn, makes it a difficult task to decide between pension funds and alternative retirement savings products, since information on future net returns is not reliable. The decision process is replete with long term uncertainty.

Pension Returns

Spanish capital markets return

IBEX 35 is the Spanish stock exchange index and is the most representative index to study national large cap returns. It is the index most representative and widely used by the media to assess the performance of stocks of large national companies (large caps). Returning +7.4% by the end of 2017 (+11.25% with dividends), it had one market upturn until May

²⁷⁹ <https://www.rankia.com/blog/irpf-declaracion-renta/3527053-cuales-son-tramos-irpf-2017-campana-2018>.



(+19) and then suffered a market correction by the end of the year (a loss of almost 10%), due to political uncertainty in Catalonia amongst other factors. After 2 years of negative rates of return (-7.2% and -2.6%), in 2017 IBEX 35 picked up again and reached 80% of its initial value on 31 December 1999 (+7.4%).²⁸⁰

In the wider context, world stock markets have performed well, ranging from 17.4% to 20.5% and have reached several historic highs intra-year. In 2016, global aggregate indicators closed with lower profits, around 6%.

Looking at the broader index, the ITBM (the Madrid Stock Exchange total index) performed positively on the long-term (18 years) reaching 114.75% (cumulatively, dividends included), having a nominal annual rate of growth of 5.23% (three times that of IBEX 35).

In light of the aforementioned, it is understandable that both households and corporate investors chose to invest in blue chips (large caps).

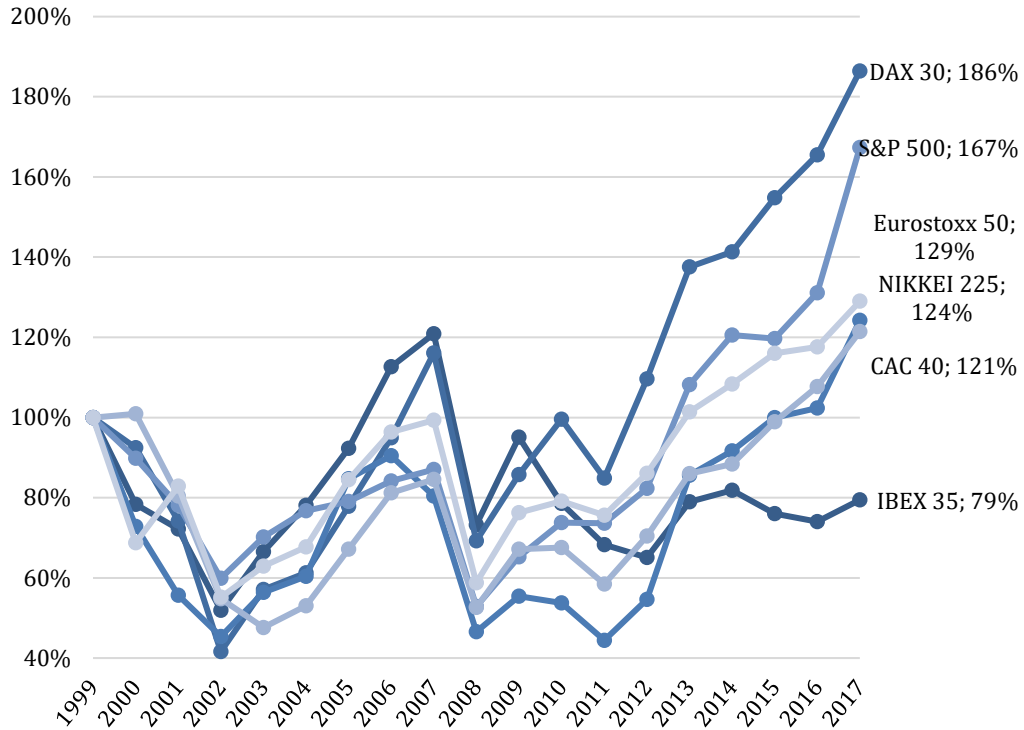
The tendencies followed by the stock exchange indexes are positive over the last 26 years. As shown in the following graph, during periods of economic growth, the index trends evolved more evenly than during the years with negative rates.

Following the financial crisis of 2008, differences between the DAX, the DOW and the S&P reached higher levels than they did previously to the crisis. The CAC and the IBEX, on the other hand, followed a flatter tendency and, even though they both recovered in the last years, they have not reached levels prior to the crisis.

²⁸⁰ Based on data: (1) published by INVERCO on Stock market indices' performances in the annual reports on IICs and Pension Funds, 2006-2016; (2) Euronext Paris CAC 40; (3) STOXX Eurpe 50; (4) Nikkei 225.



Graph ES3. Main stock markets' performances



Source: INVERCO reports 2010-17, Euro Stoxx, Euronext, S&P, NIKKEI

The IBEX35 has struggled to recuperate its original level ever since the financial crisis. This is due - amongst other factors – to a slow economic recovery, political uncertainty experienced in Spain, and an unstable European macroeconomic context.

Concerning Spanish sovereign bonds, the nominal annual rate of growth for the period mentioned was 4.01% (according to *Barclays All Maturities Index*). This means that the real returns for Spanish bonds have been positive, considering that inflation reached in the same period was 2.86% annually. However, it should be noted that European households seem to have higher exposure to shares than to bonds in their direct investments, according to information published by the OECD Factbook of 2017.

Pension fund performance

Taking as a reference the amounts published by the business association INVERCO, the annual average return for Spanish pension funds is shown in the table below.



Methodological note: In the previous reports, the annual nominal returns of Spanish pension plans were calculated using an equal weighting (1:8) of all 8 categories of pension plans (associate, occupational, and six types of individual plans). In addition, returns for 2000-2001 for associate and occupational plans were not provided, neither 2000-2003 returns for guaranteed plans.

The 2018 update, using data from INVERCO on pension systems and AuM, we were able to compute both the missing returns, as well as the annual weighted averages, using the weighting for each plan based on AuM.

| Table ES13. Real returns of Spanish pension funds, net of inflation and charges | | | | | | |
|---|--|--------|----------------|--|---------|----------------|
| 2000 | | -2.95% | AVERAGE | | -6.23% | AVERAGE |
| 2001 | | -2.07% | | | -4.74% | |
| 2002 | Nominal returns, before charges, inflation and tax | -4.77% | | Nominal returns net of inflation, before tax and charges | -8.08% | |
| 2003 | | 5.79% | | | 2.61% | |
| 2004 | | 4.51% | | | 1.37% | |
| 2005 | | 7.21% | | | 3.68% | |
| 2006 | | 5.25% | | | 1.59% | |
| 2007 | | 2.08% | | | -0.70% | |
| 2008 | | -8.13% | | | -11.75% | |
| 2009 | | 7.63% | 2.24% | | 7.84% | 0.05% |
| 2010 | | -0.19% | | | -2.15% | |
| 2011 | | -0.70% | | | -3.59% | |
| 2012 | | 6.57% | | | 4.07% | |
| 2013 | | 8.31% | | | 6.71% | |
| 2014 | | 6.96% | | | 7.17% | |
| 2015 | | 1.80% | | | 2.41% | |
| 2016 | | 2.11% | | | 2.42% | |
| 2017 | | 2.77% | | | 0.75% | |

Source: Own computations using INVERCO data (reports as of 2014)

Due to the deflationary effect of 2014-2016, the nominal returns net of inflation had a stronger purchasing power than the gross returns. However, the compounding effect of average weighted returns of Spanish pension plans only reaches a gross profit of 49% over the last 18 years, before applying administration and management charges, taxes and inflation. This is significantly different to the positive returns the Spanish capital markets enjoyed over the same period, seen earlier in this section.



The following three tables show the nominal returns (*net of inflation*) of Spanish pension plans based on a breakdown of categories (based on liquidity and risk, according to INVERCO): associate plans, occupational plans, and individual plans: sub-divided in fixed-income (FI) on short-term (ST) and long-term (LT) mixed (M); variable income (VI), mixed variable income (VI-M) and guaranteed plans (G).

| Table ES14. Real returns of Spanish occupational and associate systems | | | | |
|---|-----------------------|-------------|---------------------------|-------------|
| | ASOCIATE PLANS | | OCCUPATIONAL PLANS | |
| | Nominal | Real | Nominal | Real |
| 2000 | 0.93% | -2.48% | -3.62% | -6.88% |
| 2001 | -0.10% | -2.82% | -0.64% | -3.35% |
| 2002 | -3.84% | -7.18% | -3.72% | -7.07% |
| 2003 | 5.61% | 2.43% | 6.73% | 3.52% |
| 2004 | 6.56% | 3.36% | 5.52% | 2.35% |
| 2005 | 9.49% | 5.89% | 8.39% | 4.83% |
| 2006 | 8.16% | 4.40% | 5.36% | 1.70% |
| 2007 | 3.05% | 0.24% | 2.44% | -0.35% |
| 2008 | -11.10% | -14.60% | -10.50% | -14.02% |
| 2009 | 9.23% | 9.45% | 9.28% | 9.50% |
| 2010 | 0.95% | -1.03% | 2.01% | 0.01% |
| 2011 | -1.11% | -3.99% | 0.00% | -2.91% |
| 2012 | 6.94% | 4.43% | 8.04% | 5.51% |
| 2013 | 9.51% | 7.89% | 7.70% | 6.11% |
| 2014 | 6.88% | 7.09% | 7.14% | 7.35% |
| 2015 | 2.57% | 3.19% | 2.88% | 3.50% |
| 2016 | 2.45% | 2.76% | 2.74% | 3.05% |
| 2017 | 2.99% | 0.97% | 3.19% | 1.17% |
| 2001-2017 | 73.25% | 18.42% | 64.80% | 11.60% |
| Average | 3.29% | 0.94% | 2.81% | 0.61% |

Source: Own composition based on INVERCO data (annual reports as of 2014) – real returns are net of inflation, before charges and tax

As apparent from the table above (Table ES14), Spanish pension plans perform slightly better taken separately, with an annual average growth rate of +0.94% for associate plans (+18% cumulative) and 0.61% (+12% cumulative) for occupational plans – net of inflation.

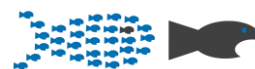


Table ES15. Real returns of Spanish individual sistem - Fixed-income plans

| | INDIVIDUAL - FI-ST | | INDIVIDUAL - FI-LT | | INDIVIDUAL - FI-M | |
|-----------|--------------------|--------|--------------------|--------|-------------------|---------|
| | Nominal | Real | Nominal | Real | Nominal | Real |
| 2000 | 3.83% | 0.32% | 0.68% | -2.72% | -2.20% | -5.51% |
| 2001 | 3.64% | 0.82% | 0.62% | -2.12% | -2.41% | -5.07% |
| 2002 | 3.83% | 0.22% | -0.73% | -4.18% | -5.16% | -8.46% |
| 2003 | 1.95% | -1.12% | 2.62% | -0.47% | 3.92% | 0.80% |
| 2004 | 1.77% | -1.29% | 1.92% | -1.14% | 3.16% | 0.06% |
| 2005 | 1.04% | -2.28% | 1.78% | -1.57% | 5.33% | 1.87% |
| 2006 | 1.26% | -2.26% | 0.34% | -3.15% | 3.58% | -0.02% |
| 2007 | 1.94% | -0.84% | 0.75% | -1.99% | 1.32% | -1.44% |
| 2008 | 2.13% | -1.89% | 2.03% | -1.99% | -8.79% | -12.38% |
| 2009 | 1.80% | 2.00% | 3.96% | 4.17% | 6.05% | 6.26% |
| 2010 | -0.64% | -2.59% | -0.47% | -2.42% | -1.54% | -3.47% |
| 2011 | 1.38% | -1.57% | 1.39% | -1.56% | -2.21% | -5.06% |
| 2012 | 3.47% | 1.04% | 4.79% | 2.33% | 5.41% | 2.94% |
| 2013 | 2.08% | 0.57% | 4.66% | 3.11% | 6.11% | 4.54% |
| 2014 | 1.37% | 1.57% | 8.93% | 9.15% | 3.61% | 3.82% |
| 2015 | -0.20% | 0.40% | -0.46% | 0.14% | 0.78% | 1.39% |
| 2016 | 0.36% | 0.66% | 1.27% | 1.57% | 0.83% | 1.13% |
| 2017 | -0.11% | -2.07% | 0.11% | -1.85% | 1.50% | -0.49% |
| 2001-2017 | 35.64% | -8.14% | 39.66% | -5.42% | 19.41% | -19.13% |
| Average | 1.71% | -0.47% | 1.87% | -0.31% | 0.99% | -1.17% |

Source: Own composition based on INVERCO data (annual reports as of 2014) – real returns are net of inflation, before charges and tax

Table ES16. Real returns of Spanish individual sistem - variable income and guaranteed plans

| | INDIVIDUAL - VI-M | | INDIVIDUAL - VI | | INDIVIDUAL - G | |
|------|-------------------|---------|-----------------|---------|----------------|--------|
| | Nominal | Real | Nominal | Real | Nominal | Real |
| 2000 | -4.97% | -8.18% | -10.60% | -13.62% | 9.22% | 5.52% |
| 2001 | -7.73% | -10.24% | -16.30% | -18.58% | 0.35% | -2.39% |
| 2002 | -17.20% | -20.08% | -30.10% | -32.53% | 5.04% | 1.39% |
| 2003 | 8.70% | 5.43% | 16.18% | 12.69% | 5.67% | 2.50% |
| 2004 | 5.60% | 2.42% | 8.88% | 5.61% | 4.66% | 1.51% |
| 2005 | 12.16% | 8.47% | 18.73% | 14.83% | 4.64% | 1.20% |
| 2006 | 10.09% | 6.26% | 18.30% | 14.19% | 1.44% | -2.08% |



| | | | | | | |
|-----------|---------|---------|---------|---------|--------|--------|
| 2007 | 2.96% | 0.16% | 3.93% | 1.10% | 1.48% | -1.28% |
| 2008 | -23.80% | -26.80% | -38.40% | -40.83% | -0.68% | -4.59% |
| 2009 | 14.21% | 14.44% | 27.20% | 27.45% | 3.77% | 3.98% |
| 2010 | -0.82% | -2.76% | 1.63% | -0.36% | -3.96% | -5.84% |
| 2011 | -7.01% | -9.72% | -10.40% | -13.01% | 1.16% | -1.79% |
| 2012 | 8.62% | 6.07% | 10.43% | 7.84% | 5.48% | 3.01% |
| 2013 | 12.51% | 10.85% | 22.19% | 20.38% | 9.41% | 7.79% |
| 2014 | 4.77% | 4.98% | 7.63% | 7.85% | 11.37% | 11.59% |
| 2015 | 2.50% | 3.12% | 5.58% | 6.22% | 0.27% | 0.88% |
| 2016 | 2.75% | 3.06% | 4.71% | 5.03% | 2.11% | 2.42% |
| 2017 | 4.54% | 2.49% | 8.83% | 6.70% | 0.41% | -1.56% |
| 2001-2017 | 19.88% | -18.82% | 20.41% | -18.46% | 81.44% | 22.87% |
| Average | 1.01% | -1.15% | 1.04% | -1.13% | 3.37% | 1.15% |

Source: Own composition based on INVERCO data (annual reports as of 2014) – real returns are net of inflation, before charges and tax

The best performing plans in gross terms (*net of inflation*) were the guaranteed product offered as individual savings plans (Pillar III), with +1.15% annually over the last 18 years, while the worst performing were the mixed fix-income pension plans offered as part of the individual system (Pillar III).

For this edition of the Pensions Report, we have extended the performance study period and have integrated the 2000 market as well as the upward trend of the last few years.

The aforementioned studies performed by Aguirreamalloa, Corres y Fernández (2012), concluded that another reason behind these low returns (apart from high fees and commissions) was the conservative investment strategy followed by Spanish private pension funds. The OECD reports that Spanish funds are investing more and more of their portfolios in debt products. Although this has worked well throughout the economic crisis, it could become an obstacle to the generation of adequate real returns for savers.

This growing trend has become especially noticeable in the portfolios of life insurance products. Part of this is due to the new regulation introduced with the Solvency II Directive²⁸¹ as it has a low tolerance for assets with high volatility, such as private and non-quoted assets, making insurance companies guarantee and maintain investors' capitals through investment in debt instruments with a supposed lower volatility. This has led to a

²⁸¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:en:PDF>



priority positioning in Government debt instruments, which have historically offered lower returns compared to the rest of the market.

In this sense, the Royal Decree that approved the regulation on pension funds and plans, articles 69 to 77 of the 304/2004 one,²⁸², stipulated the Spanish pension fund portfolio allocation requirements. It indicates that pension funds must be invested, mostly, in investment instruments and deeds that are commercialised in regulated markets. On the contrary, instruments from non-regulated markets may be part of the portfolios, but they must constitute a low percentage of the overall assets, where the regulator can also include an extensive list of eligible investment instruments.

It should be noted that if the present investment policies are maintained, the capacity for Spanish pension plans to generate returns is limited. This situation is particularly worrisome for the 1st pillar public pension system, as the only possibilities we see are further fiscal stimuli as a way of promoting private pension saving (since another cut in fees and commissions seems improbable).

Objectively, asset managers have maintained the purchasing power of these funds and covered fees and commissions, although value generation has come from the fiscal authorities.

Conclusion

On average, the real returns before taxes on private pension plans in Spain since 2000 have practically been flat (+0.05% annualized), even though the Spanish capital market performance has been truly positive (both fixed income and equities). Furthermore, over the last few years, the local securities market has thrived, together with minimal inflation. The lowering of legal limits set on fees and commissions in the last few years has been crucial in improving those return indexes. Even with all these favourable elements, pension plans have not shown themselves to be adequate instruments capable of offering attractive positive returns.

The fiscal regime in Spain promotes private pension systems, albeit for questionable reasons (either to prop up the sustainability of the public pension system or to provide the necessary stimuli for the private insurance and financial sector in Spain). Some of these measures have consisted of tax deductions for contributions, and tax benefits during the investment period. Moreover, pension funds are exempted from paying tax on capital gains, received dividends, corporate income tax or VAT on management and deposit fees.

²⁸² <https://www.boe.es/buscar/pdf/2004/BOE-A-2004-3453-consolidado.pdf>



The artificially low tax burden on returns falls exclusively on the saver who may have to pay higher marginal income tax if the capital is recovered as a lump-sum. This creates an added incentive to replace the lump-sum recovery method with annual payments that defer payment of due tax over the payback period. In this sense it could be stated that the fiscal system in Spain is more favourable for the providers of savings/pension instruments than for savers themselves, especially as a consequence of the significant tax reductions that have been put in place to encourage contributions to these products, even though they have difficulties generating sufficient returns to maintain the deposited savings' long-term buying power (at least for the period between 2000 and 2017)

Regarding the evolution of the Spanish equity and bond markets, it seems pension products could offer better long-term returns for participants if there were significant changes introduced to their choice of portfolios of assets. This could only occur if there were changes in the criteria required for institutional investors to comply with solvency requirements. Admittedly, it seems that with the present disinformation and lack of protection of retail investors, it is doubtful that taking on more risk is the solution.



Pension Savings: The Real Return

2018 Edition

Country Case: Sweden

Swedish Summary

Den privata svenska pensionsmarknaden är mycket diversifierad och består över 800 olika pensionssparande produkter med över 5,3 biljoner SEK (€559 miljarder) i förvaltad kapital. Svenska hushåll har €405 miljarder i pensionsfonder och €112 miljarder i livförsäkringsreserver. I stället för att vara baserat på ett PAYG-system är det svenska systemet baserat på privata besparingsprodukter. När det gäller avkastning är det AP7 Safa-fonden som har varit bäst i testet över dom senaste 16 åren, med en realavkastning på 8.56%.

Summary

The Swedish private pensions market is quite diversified, consisting of a great variety of different retirement savings products with over SEK 5.3 trillion (€559 billion) in managed capital. In terms of pensions, Swedish households hold €405 billion of assets in pension funds and €112 billion in life insurance reserves. Rather than relying on the PAYG system, the Swedish system tends to rely on private savings products. When it comes to returns, however, the AP7 Safa fund has been the best-performing over the last 16 years, with an average real return rate of 8.56%.

Introduction

The Swedish pension system is divided into three pillars:

- Pillar I - The national pension
- Pillar II - Occupational pension plans
- Pillar III - Private pension

The Swedish pension system is a combination of mandatory and voluntary components. Table SE1 shows how the pension capital is distributed between the different types of providers in the pension system. In 2017, the total pension capital is estimated at SEK 5,400 billion, which is thirteen times the size of outgoing pension payments. 48% of the capital is accounted for by the occupational pension system. The fully funded component in the



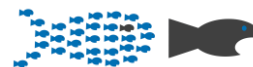
public pension system, the Premium pension, accounts for 44% of the pension capital in the first pillar. The remaining 56% is managed by the buffer funds (see next section).

| Introductory Table SE - Pension System Overview | | |
|---|--|---------------------------------------|
| Pillar I | Pillar II | Pillar III |
| National pension | Occupational Pension Plans | Private Pension |
| consists of: 1) income-based pension; 2) premium pension 3) guarantee pension | mainly driven by collective agreements | Subsidized via tax deductions |
| The fully funded component in the public pension system, the Premium pension, accounts for 44% of the pension capital in the first pillar | There are four main collective agreements for the different sectors | private pension plans are individual |
| Mandatory | Mandatory if there is a collective agreement at the workplace | Voluntary |
| DC | DC or hybrid (DC and DB) | DC |
| Quick facts | | |
| The average pension per month before taxes was €1,992 (SEK 19,176) in 2017 | | |
| €1,420 (SEK 13,675) | €469 (SEK 4,512) | €103 (SEK 989) |
| National pension can be drawn from the age of 61 onwards in Sweden | The occupational and the private pension can be drawn from the age of 55 onwards | |
| | Occupational pension system covers over 90% of the workforce | deduction favours high-income earners |

Source: BETTER FINANCE own composition

The average pension in Sweden was €1,992 (SEK 19,176) per month, before taxes, in 2017; whereof €1,420 (SEK 13,675) came from the national pension, €469 (SEK 4,512) from occupational pensions and €103 (SEK 989) derived from private pension savings. The outcome further differed quite significantly between genders. For women, the average total pension was €1,682 (SEK 16,202) per month before taxes and for men it was €2,319 (SEK 22,334) per month before taxes.²⁸³ Although a lot of money is locked in the pension system in Sweden, the Swedish household savings rate is quite high.

²⁸³ The Swedish Pensions Agency, 'Sveriges Pensioner 2005-2016'



| Table SE1. - Capital Managed (in billions of SEK) | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Income-based pension | 827 | 895 | 873 | 958 | 1,058 | 1,185 | 1,230 | 1,322 | 1,412 |
| Premium pension | 344 | 443 | 434 | 515 | 648 | 812 | 896 | 1,024 | 1,182 |
| Occupational pension | 1,403 | 1,509 | 1,705 | 1,795 | 1,948 | 2,227 | 2,369 | 2,567 | |
| Private pension | 402 | 423 | 406 | 412 | 433 | 465 | 478 | 478 | |

Source: Sveriges Pensioner 2005-2016, Orange Report 2017; EUR 1 = SEK 9.63 in 2017.

There is no set age at which people must retire, but the national pension can be drawn from the age of 61 onwards in Sweden. 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 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 changing 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 what a pension will consist of beforehand. With the new pension system, the need for information about pensions is even more pressing. 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. 18.5% of the salary and other taxable benefits up to a maximum level of 7.5 income base amounts²⁸⁴ per year is set aside for the national retirement pension. 16% is set-aside for the income pension, where the value of the pension follows earning trends in Sweden. The income-based pension is financed on a pay-as-you-go basis, which means that collected pension contributions 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 in or, if no choice is made, the pension will be placed in the default alternative fund. This system is unique to Sweden and the first individual choices

²⁸⁴ €52,375 (SEK 504,375) for 2017.



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.²⁸⁵ 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 the 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 run, the development of employment is the most important factor, but the effect of the stock and bond markets is also of significance, particularly in case of major changes. In the long run, demographic factors are of utmost importance.

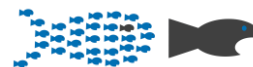
Earned pension rights and current benefits in the income-based system rise with the growth in the level of per capita earnings. If the rate of growth of the wage would be slower than that of average wages (a result of a fall in the size of the work force for instance), total benefits would grow faster 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 ensure that automatic indexation by average wage growth is deactivated.

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 lifetime. It is linked to the price base amount calculated annually by Statistics Sweden, and 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.

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 deduction amounted to 0.03%.²⁸⁶ 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 one percent compared to what it would have been without the deduction.

²⁸⁵ Vägval för premiepensionen, Ds 2013:35

²⁸⁶ The Swedish Pensions Agency, 'Orange report 2017'



The premium pension system is a funded system for which the pension savers themselves choose the funds in which to invest their premium pension money. At the year-end 2017, there were 845 eligible funds registered in the premium pension system managed by 102 different UCITS. 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 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 2017 and Capital Managed 2009–2017, December 31, billions of SEK | | | | | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Equity funds | 179 | 214 | 159 | 193 | 240 | 295 | 347 | 388 | 441 |
| Mixed funds | 12 | 17 | 41 | 51 | 63 | 77 | 67 | 69 | 70 |
| Generation funds | 38 | 43 | 60 | 71 | 90 | 114 | 128 | 147 | 166 |
| Interest funds | 21 | 24 | 28 | 24 | 27 | 27 | 25 | 127 | 26 |
| AP7 S fa (default) | 90 | 110 | 105 | 132 | 182 | 246 | 272 | 328 | 407 |
| Total: | 340 | 408 | 393 | 471 | 602 | 759 | 839 | 959 | 1,110 |

Source: The Swedish Pensions Agency, Orange report 2017, p.21; EUR 1 = SEK 9.63 in 2017.

The premium pension has been criticized for having too many selectable funds and for generating large variation in pension outcomes. In 2016 a governmental investigation, regarding how to change the premium pension so that more people get better returns, was completed. The investigation's most important proposal is to introduce mandatory re-evaluation choices every 7th year. If individuals do not confirm their chosen fund allocation their capital will be automatically moved to the default fund (AP 7 S fa).²⁸⁷

In December 2017, the government announced that it will implement the changes that have been proposed by the Pensions Agency in order to enhance the quality and regulation of the participating companies. The new rules will likely result in a substantial reduction in the number of companies. The primary purpose of the new rules is to prevent dishonest and fraudulent companies. These discussions were sparked following the alleged fraud of the fund company Allra in January 2017.

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. For example, the self-employed are excluded from the occupational pension plans and it is mostly the smaller

²⁸⁷ Fokus Premiepensionen (SOU 2016:61)



companies in new sectors of businesses that do not have a collective agreement.²⁸⁸ 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.²⁸⁹

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 employers 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 employer's occupational pension. The employees can choose between different types of traditional 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 pensions 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 all of them is that they often have worse provisions and higher costs compared to the collectively negotiated pension schemes.

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 will be enforced on January 13, 2019.²⁹⁰

²⁸⁸ AMF, Tjänstpensionerna i framtiden – betydelse, omfattning och trender, p. 17

²⁸⁹ Pensions Myndigheten

²⁹⁰ 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.²⁹¹ 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 €1,254 to €190 (SEK 12,000 to SEK 1,800) per year, equivalent to €16 (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.

ISK

“Investeringssparkonto” (Investment and savings account - ISK) 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 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 2016, the number of unique account holders exceeded 1.8 million (see Table SE3). 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 new investments in 2017 was allocated to ISK accounts. The Premium Pension (Pillar I) is the

²⁹¹ Statistics Sweden, ‘Statistical Database’



most important savings vehicle in funds accounting for 33% of net savings and 28% of total fund assets (see Table SE4).

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 SE3. 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 |

Source: Swedish Tax Agency

| Table SE4. Household fund assets | | | |
|----------------------------------|-----------------------|-----------------|-----------------|
| Fund type | Fund assets (in MSEK) | New Investments | Share of assets |
| Direct fund investments | 477,968 | -20% | 12% |
| ISK | 305,524 | 32% | 8% |
| IPS | 105,244 | -4% | 3% |
| Private pension insurance | 952,585 | 24% | 24% |
| Premium Pension (1st pillar) | 1,109,201 | 33% | 28% |
| Trustee-registered funds | 368,352 | 17% | 9% |
| NGOs | 96,544 | 3% | 2% |
| Swedish companies | 423,545 | 13% | 11% |
| Others | 109,430 | 2% | 3% |
| Total | 3,948,393 | 100% | 100% |

Source: Swedish Investment Fund Association, data as of 31 December 2017

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% 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 amounts. 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 and Skandia. For unit-linked insurance they are AMF, Danica Pension, SEB Trygg Liv, SPP 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% 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%. 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%.

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 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 (below).

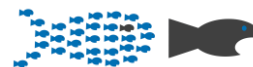
In 2016, a new pension plan, PA 16, for central government employees was implemented. PA 16 covers those born in 1988 or later. Just like PA 03, PA 16 has two defined-contribution components. The individual pension (2.5% of income up to 7.5 income base amounts) can be invested by the employee, whereas 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%.

The eligible insurance companies providing individual retirement pensions in the shape of traditional insurance are Alecta, AMF, Kåpan, and for unit-linked insurance they are AMF, Danica Pension, Folksam, Handelsbanken, Länsförsäkringar, SEB and Swedbank.

KAP-KL

The KAP-KL agreement consists of two parts: 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 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. If you are covered by KAP-KL, the employer pays an amount of 4.5% of the salary to your 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 your final salary at the age of retirement. You start to earn a defined-benefit old age pension from the age of 28 and it applies to the part of the salary that exceeds 7.5 income base amounts.

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 KAP-KL are Alecta, AMF and KPA, and for the unit-linked insurance in KAP-KL they are AMF, Danica, Folksam, Handelsbanken, KPA, Lärarfonder, Nordea and Swedbank.



Charges

Pillar I

The costs of administration and fund management in the funded part of the public pension system - the “premium pension”- are deducted from the premium pension capital. However, in this case, the deduction continues to apply after the insured begins to withdraw the pension. The current cost deduction of the premium pension capital is about 0.3% per year. At this level of costs the deduction will decrease the premium pension by an average of about 9 percent from what it would have been without any cost deduction. The deduction is expected to decrease in the future. The net charges (after deductions) in the public pension system are reported in Table SE5.

| Table SE5. Net charges Pillar I (%) | | | | | | |
|-------------------------------------|------|-------|------|-------|------|------|
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| Income pension | 0.19 | 0.2 | 0.2 | 0.21 | 0.19 | 0.18 |
| - Administrative fee | 0.03 | 0.031 | 0.03 | 0.028 | 0.03 | 0.03 |
| Premium pension | 0.37 | 0.36 | 0.33 | 0.3 | 0.28 | 0.27 |
| - Administrative fee | 0.1 | 0.1 | 0.09 | 0.07 | 0.07 | 0.06 |

Source: The Orange Report, 2017

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 2017, the rebates to pension savers were equivalent to a discount in fund management fees of about 0.44 percentage points. The rebates on the ordinary management fees in the premium pension system are of great importance; without them pensions would be approximately 14% lower. Furthermore, the pension savers are in a position to influence the costs of their premium pensions by choosing funds with lower management fees.

To meet the new need for 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 garner 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 campaigns, and in media the orange envelope is used to illustrate pensions.



Pillar II

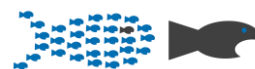
Legislation from 2007 implies that individuals can choose which company should manage their occupational pension capital. The so-called portability right accrues to capital earned after July 1, 2007. Capital earned before this date can be moved if the default managing company itself has agreed to give their investors this right. It is estimated that around 44% of the occupational pension capital today is covered by the portability right.²⁹² Thus, the share of pension capital that can be moved will increase over time, which will further strengthen the competition and keep the fees low.

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 “Charges Pillar II”.

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). 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. Charges Pillar II | | |
|------------------------------|-----------------|----------------|
| ITP 1 | | |
| Traditional insurance | Fixed cost, SEK | Management fee |
| Alecta | 0 | 0.13% |
| AMF | 50 | 0.23% |
| Folksam | 0 | 0.25% |
| Alecta (default) | 0 | 0.13% |
| Skandia | 85 | 0.27% |
| Unit-linked insurance | | |
| AMF | 0 | 0.24-0.34% |
| Danica Pension | 0 | 0.13-0.23% |
| SEB | 0 | 0.12%-0.25% |
| SPP | 0 | 0.09%-0.16% |
| Swedbank | 0 | 0.09%-1.00% |

²⁹² Swedish Regeringskansliet, Förstärkt försäkringstagar skydd (SOU 2012:64), page 466



| SAF LO | | |
|-----------------------|----------------|----------------|
| Traditional insurance | Fixed fee, SEK | Management fee |
| Alecta | 65 | 0.2% |
| AMF | 40 | 0.18% |
| Folksam | 65 | 0.2% |
| AMF (default) | 40 | 0.18% |
| SEB | 65 | 0.2% |
| Unit-linked insurance | | |
| AMF | 60 | 0.24%-0.34% |
| Danica Pension | 65 | 0.16%-0.36% |
| Folksam LO | 50 | 0.20%-0.37% |
| Handelsbanken | 65 | 0.29%-0.42% |
| Länsförsäkringar | 65 | 0.12%-0.2% |
| Movestic | 65 | 0.12%-0.36% |
| 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 | 0.2% |
| AMF | 75 | 0.18% |
| Kåpan Pensioner (default) | 6 | 0.11% |
| Unit-linked insurance | | |
| AMF | 75 | 0.24%-0.34% |
| Danica Pension | 0 | 0.39% |
| Handelsbanken | 75 | 0.36% |
| Länsförsäkringar | 75 | 0.52% |
| SEB | 75 | 0.14%-0.4% |
| Swedbank | 75 | 0.33%-0.4% |



| KAP-KL | | |
|------------------------------|----------------|----------------|
| Traditional insurance | Fixed fee, SEK | Management fee |
| Alecta | 65 | 0.20% |
| AMF | 65 | 0.18% |
| KPA (default) | 48 | 0.11% |
| Unit-linked insurance | | |
| AMF | 65 | 0.24%-0.34% |
| Danica Pension | 0 | 0.44% |
| Folksam LO | 65 | 0.21%-0.36% |
| Handelsbanken | 65 | 0.31% |
| KPA Pension KPA SmartPension | 65 | 0.30% |
| Lärfonder | 65 | 0.35% |
| Nordea | 65 | 0.34%-0.36% |
| SEB | 65 | 0.31%-0.34% |
| Swedbank | 65 | 0.33%-0.4% |

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 vehicles: IPS and private pension insurance. The majority of pension providers of IPS and private pension insurance charge a fixed fee (see Tables SE7 and SE8). These typically range between €10 and €40 per year. 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 EUR 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 private pension accounts, the cost to move the capital to another company is often even higher than in the IPS accounts. The fee is often denoted in percentages in relation to the invested capital. This has been criticized for causing serious lock-in effects. For many it is simply not worth moving the capital despite high management fees.

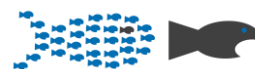


Table SE7. Individual Pension Savings Account (IPS) – Fees

| | Fixed fee, SEK | Management fee, % | Fund fee (mixed funds) |
|-----------------------|-----------------------|--------------------------|-------------------------------|
| Aktieinvest | 0 | 0.00 | 0.10%-1.90% |
| Avanza Bank | 0 | 0.00 | 0.20%-2.20% |
| Danske Bank | 150 | 0.00 | 1.00%-1.40% |
| Handelsbanken | 0 | 2.00 (max SEK 125) | 0.40%-1.50% |
| Indecap | 125 | 2.00 (max SEK 125) | 0.70%-1.30% |
| Länsförsäkringar Bank | 125 | 0.00 | 0.40%-2.20% |
| Nordea | 140 | 0.00 | 0.40%-2.75% |
| Nordnet Bank | 0 | 0.00 | 0.40%-2.70% |
| SEB | 150 | 0.00 | 1.10%-1.35% |
| Skandiabanken | 0 | 0.00 | 0.20%-2.50% |
| Swedbank | 0 | 2.00 (max SEK 125) | 0.20%-1.60% |

Source: The Swedish Consumers' Insurance Bureau, 2018



Table SE8. Pension Savings Insurance – Fees

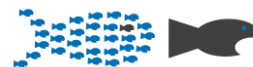
| | Fixed fee, SEK | Management fee | Fund fee (standard portfolio) | Deposit fee |
|---------------------------------------|-------------------|-------------------|-------------------------------------|----------------|
| Traditional insurance | | | | |
| Folksam Pensionsförsäkring | | | | |
| Traditionell | 288 | 0.80% | | 1.00% |
| SEB Traditionell Försäkring | 184 | 0.95% | | 0.00 |
| Skandia Framtid Internet Traditionell | 0 | 0.60% | | 2.00% |
| Skandia Framtid Rådgivning | | | | |
| Traditionell | 0 | 0.80% | | 2.00% |
| SPP PLUSpension Traditionell | 0 | 0.35% | | 0.00 |
| Unit-linked | | | | |
| Avanza Pension PrivatPension Depå | 0 | 0 | 0.1% | |
| Brummer Life PrivatPension | | | | |
| Rådgivning Fond | 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% | 0.35% | |
| Länsförsäkringar Privatpension Fond | 240 | 0.5% | 0.29% | |
| Movestic Pension Privat Fond | 273 | 0.4%-0.55% | 0.49% | |
| Nordea Ålderspension Fond | 143 | 0.4% | 0.42% | |
| Nordnet Privatpension Depå | 0 | 0 | 0.13% | |
| SEB Privat Pensionsförsäkring Fond | 297 | 0.65% | 0.51% | |
| SEB Svensk Depåförsäkring | 297 | 0.9% | 0.51% | |
| Skandia Privatpension Depå | 0 | 0.95% | 0.37% | |
| Skandia Privatpension Internet Fond | 0 | 0.1%-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 points (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 with a 30% tax. In 2016, the government borrowing rate was 0.49%, which means that the calculated average value of an account is taxed with 0.45%. The table below reports the total and average standard earnings for years 2012-2016, respectively.

| Table SE9. ISK standard earnings | | |
|----------------------------------|--------------------------|---|
| Year | Standard earnings (msek) | Average standard earning per account holder |
| 2012 | 714 | 3,388 |
| 2013 | 2,024 | 4,458 |
| 2014 | 5,467 | 6,937 |
| 2015 | 3,952 | 2,585 |
| 2016 | 7,646 | 4,126 |

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 as 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 between 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 Pillar II.²⁹³ When it comes to private pension savings, there was a tax deduction of SEK1 800 per year available, but it was abolished in January 2016. There is no tax on returns in Pillar I. In contrast, returns in the

²⁹³ Deductible contributions amount to maximum 35% of the wage of the employee. However, the deduction cannot exceed 10 price base amounts.



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.²⁹⁴ The Swedish tax system works as follows. A proportional local tax rate applies to all earned income, including pension income. Furthermore, for incomes 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 €45,576 and €66,303 (SEK 438,900 and SEK 638,500) and 25% for incomes from €66,303 (SEK 638,500)²⁹⁵ and above.

Table SE 10. Taxation on pension schemes

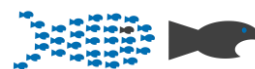
| | National pension | Occupational pension | Private pension |
|---------------------------|--|--|--|
| Contributions | Individual contribution deductible, not employer's part | Partially deductible | Non-deductible from January 1 2016. |
| Tax on investments | Not subject to tax, instead the capital is taxed with income tax when payed out. | Subject to tax rate on standard earnings (15% in 2017) | Subject to tax rate on standard earnings (15% in 2017) |
| Pay-out | Income tax | Income tax | Income tax |

Sources: own composition based on Swedbank, Pensions Myndigheten, Alecta, Konsumenternas

²⁹⁴ The Swedish earned income tax credit is a refundable tax credit for all individuals aged below 65.

²⁹⁵ Financial year 2017,

<https://www.skatteverket.se/download/18.5c1163881590be297b52507/1482>.



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 – 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 an active but then remained passive. The average returns for the “truly” active investors are therefore underestimated. In fact, Dahlquist et al. (2016) found that investors who are actively involved in managing their pension accounts earn significantly higher returns than passive (inert) investors.

The level of activity has changed significantly since the launch of the Premium Pension in year 2000. 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 for why an increasingly larger share chooses to stick with this option.

Table SE11. Average return (%) on Capital in the Premium Pension System

| Year | AP7 Såfa (default) | | | Other funds | | |
|------|--------------------|---------------|------------|-------------|---------------|------------|
| | Nominal | After charges | Net return | Nominal | After charges | Net return |
| 2002 | -27.3 | -27.4 | -29.6 | -33.3 | -33.9 | -36.1 |
| 2003 | 18.4 | 18.2 | 16.3 | 17,3 | 16.7 | 14.8 |
| 2004 | 10.1 | 10.0 | 9.6 | 8,1 | 7.6 | 7.2 |
| 2005 | 24.9 | 24.8 | 24.3 | 33,0 | 32.4 | 31,9 |
| 2006 | 10.5 | 10.4 | 9.0 | 12,9 | 12.3 | 10.9 |
| 2007 | 4.6 | 4.5 | 2.3 | 6,0 | 5.6 | 3.4 |
| 2008 | -36.1 | -36.3 | -39.7 | -33.4 | -33.8 | -37.2 |
| 2009 | 35.0 | 34.8 | 35.1 | 34,5 | 34.1 | 34.4 |
| 2010 | 14.6 | 14.4 | 13.1 | 11,3 | 10.9 | 9.6 |
| 2011 | -10.7 | -10.9 | -13.5 | -10,8 | -11.1 | -13.7 |



| | | | | | | |
|-----------------------|-------------|-------------|------------|------------|------------|------------|
| 2012 | 17.6 | 17.4 | 16.5 | 10,2 | 9.8 | 8.9 |
| 2013 | 31.8 | 31.7 | 31.7 | 16,8 | 16.4 | 16.4 |
| 2014 | 28.9 | 28.8 | 29 | 17,0 | 16,6 | 16.8 |
| 2015 | 6.3 | 6.2 | 6.2 | 6,5 | 6.2 | 6.2 |
| 2016 | 15.2 | 15.1 | 14.1 | 8,6 | 8.3 | 7.3 |
| 2017 | 16.4 | 16.3 | 14.5 | 10.5 | 10.2 | 8.4 |
| Average return | 10.3 | 10.2 | 9.0 | 7.3 | 6.9 | 5.7 |

Source: Provided by The Swedish Pensions Agency upon request

Pillar II

Table 12 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 2017, respectively. The inflation (measured by CPI) in 2017 was 1.8%.²⁹⁶ In all four pension plans, the unit-linked insurance funds have on average yielded better returns than the traditional insurance funds.

| Table SE12. Return on capital, Pillar II (in %) | | | | |
|---|--------|-------------|----------------|------------|
| ITP1 | | | | |
| | 3Y AVG | Return 2017 | Net of charges | Net return |
| Traditional insurance | | | | |
| Alecta | 7.56 | 9.00 | 8.87 | 7.87 |
| AMF | 9.07 | 9.00 | 8.77 | 7.77 |
| Folksam | 8.19 | 9.07 | 8.82 | 7.82 |
| Alecta (default) | 7.56 | 9.00 | 8.87 | 7.87 |
| Skandia | 8.54 | 6.70 | 6.43 | 5.43 |
| Unit-linked insurance | | | | |
| AMF | 8.95 | 9.60 | 9.26 | 7.46 |
| Danica Pension | 11.29 | 10.18 | 9.95 | 8.15 |
| SEB | 8.70 | 8.00 | 7.75 | 5.95 |
| SPP | 9.99 | 11.51 | 11.35 | 9.55 |
| Swedbank | 10.00 | 14.32 | 13.32 | 11.52 |

²⁹⁶ <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/>.



| SAF-LO | | | | |
|-----------------------|--------|----------------|-------------------|------------|
| Traditional insurance | 3Y AVG | Return 2017 | Net of charges | Net return |
| Alecta | 7.56 | 9.00 | 8.80 | 7.00 |
| AMF | 9.07 | 9.00 | 8.82 | 7.02 |
| Folksam | 8.19 | 9.07 | 8.87 | 7.07 |
| AMF (default) | 9.07 | 9.00 | 8.82 | 7.02 |
| SEB | 6.95 | 4.00 | 3.80 | 2.00 |
| Unit-linked insurance | | | | |
| AMF | 8.95 | 9.60 | 9.26 | 7.46 |
| Danica Pension | 11.16 | 9.99 | 9.63 | 7.83 |
| Folksam LO | 10.33 | 11.70 | 11.33 | 9.53 |
| Handelsbanken | 11.91 | 15.88 | 15.46 | 13.66 |
| Länsförsäkringar | 9.55 | 8.55 | 8.35 | 6.55 |
| Movestic | 8.62 | 11.14 | 10.78 | 8.98 |
| Nordea | 10.59 | 13.46 | 13.10 | 11.30 |
| SEB | 8.70 | 8.00 | 7.65 | 5.85 |
| SPP | 9.99 | 11.51 | 11.23 | 9.43 |
| Swedbank | 10.25 | 13.83 | 13.49 | 11.69 |

| PA-03 | | | | |
|---------------------------|--------|----------------|-------------------|------------|
| Traditional insurance | 3Y AVG | Return 2017 | Net of charges | Net return |
| Alecta | 7.53 | 9.00 | 8.80 | 7.00 |
| AMF | 9.07 | 9.00 | 8.82 | 7.02 |
| Kåpan Pensioner (default) | 6.31 | 8.70 | 8.59 | 6.79 |
| Unit-linked insurance | | | | |
| AMF | 8.95 | 9.60 | 9.26 | 7.46 |
| Danica Pension | 10.88 | 12.22 | 11.83 | 10.03 |
| Handelsbanken | 9.62 | 11.68 | 11.32 | 9.52 |
| Länsförsäkringar | 9.12 | 10.38 | 9.86 | 8.06 |
| SEB | 9.59 | 10.80 | 10.40 | 8.60 |
| Swedbank | 11.98 | 18.33 | 17.93 | 16.13 |

| KAP-KL | | | | |
|-----------------------|--------|----------------|-------------------|------------|
| Traditional insurance | 3Y AVG | Return 2017 | Net of charges | Net return |
| Alecta | 7.56 | 9.00 | 8.80 | 7.00 |
| AMF | 9.07 | 9.00 | 8.82 | 7.02 |
| KPA (default) | 5.06 | 4.80 | 4.69 | 2.89 |
| Unit-linked insurance | | | | |
| AMF | 8.95 | 11.00 | 10.66 | 8.86 |
| Danica Pension | 11.00 | 15.90 | 15.51 | 13.71 |
| Folksam LO | 9.21 | 9.52 | 9.08 | 7.28 |



| | | | | |
|---------------|---------|-------|-------|-------|
| Handelsbanken | 9.49 | 11.54 | 11.19 | 9.39 |
| KPA Pension | 8.62 | 7.60 | 7.20 | 5.40 |
| Läraryfonder | 8.70 | 10.98 | 10.53 | 8.73 |
| Nordea | 10.59 | 11.49 | 11.09 | 9.29 |
| SEB | 10.19 | 13.66 | 13.26 | 11.46 |
| Swedbank | No info | 18.33 | 17.93 | 16.13 |

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 the preservation of 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 90% 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 pension plans are, on the other hand, often exactly individual, which leads to increased costs and less transparency.

The statistics on performance, fees and taxes in the area of individual pension savings is quite insufficient. Neither the Swedish Pensions Agency, the Swedish Consumers' Banking and Finance Bureau, the Swedish Consumers' Insurance Bureau, nor any other similar provider of statistics have been able to provide the requested data. The Swedish central bank does publish quarterly financial market statistics including statistics on individual pension savings. The statistics include taxes and fees, deposits, withdrawals and change of value. Although the statistics include relevant information, it is not possible to calculate the average performance, or average taxes and fees-percentage (the financial institutions report taxes and fees as a single post) due to the lack of knowledge regarding the size of the managed capital at the time of taxation, change of value and so on. It is also difficult to find statistics on performance in the so-called ISK accounts, the new, and very popular, low-tax alternative to private pension insurance. All of the 12 financial institutions that provide ISK accounts offer a vast number of selectable funds.

Another 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 has 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 the accumulation and decumulation phases. 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. In addition, the national 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. To stop this development, the actual retirement age must be raised and the individual also needs to take more responsibility for their private pension savings. This makes it even more important to have accessible good pension savings products with low fees.

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Pension Savings: The Real Return

2018 Edition

Country Case: The Netherlands

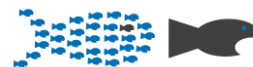
Samenvating

In veel opzichten verkeren inwoners van Nederland in een luxe positie, als we het over hun pensioenvoorziening hebben. In het meest recente jaarlijkse onderzoek naar pensioenstelsels wereldwijd, uitgevoerd door Mercer, scoort het Nederlandse pensioenstelsel zeer goed. Alleen het Deense stelsel deed het beter maar het verschil was slechts 0,1 punt. 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. Niet alleen omdat 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 a luxury position as far as their pension is concerned. In the most recent *Annual Pension System Review* done by Mercer, the Dutch pension systems ranks high, second only to Denmark, with the smallest difference in score possible: 0.1 point. 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.



An important reason why a large majority of the Dutch worry about their retirement income is the fact that the worldwide historically low interest rates are causing, relatively speaking, more harm to the Dutch pension system than to other countries' pension systems. This is because the Dutch not only boast the world's largest pension reserves, but also the fact that some 50% of those reserves are invested in bonds, having yielded almost nothing for several years. A recent study on global pension assets, by the Thinking Ahead Institute,²⁹⁷ 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 for a decent income come retirement?

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 – a fully funded and mostly defined-benefit (DB) pension scheme comprising investment funds and life insurance contracts, for which participation is paradoxically compulsory although the law, in general, describes it as voluntary (optional);
- Pillar III – composed of pre- and post-retirement fully funded and completely defined-benefit (DB) pension saving products, to which participation is voluntary.

²⁹⁷ <https://www.willistowerswatson.com/en/insights/2018/02/global-pension-assets-study-2018>



Table NL1. The Dutch pension system

| Pillar | Characteristics | Coverage | Average pension | Total pension stream | Replacement ratio |
|-------------------|---|----------------------|-----------------|--------------------------|--|
| Pillar I | PAYG, DB, social insurance, taxed as income on pay out | 100% | | Men: 20%; Women: 50% | |
| 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 | Men: 5906.8€ | Men: 33%; Women: 35; | Average household: 86% (gross) and 105% (net); ²⁹⁸ |
| Pillar III | Funded by individual, DB, contributions subject to a limit, contributions tax exempted, pay-out taxed at progressive income tax rates | n.a. | | Men: 47%; Women: 15%. | for both Men and Women: 96.9% (gross) and 100.6% (net). ²⁹⁹ |

Source: BETTER FINANCE own composition; other sources in footnotes 2 and 3.

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. For a long time, 'elderly' (for the purpose of this law) meant 65 years or older. Recently the age was increased beyond 65 (68 to 71 depending on date of birth), 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

²⁹⁸ Marike Knoef, Jim Been, Koen Caminada, Kees Ghoudswaard, 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>.

²⁹⁹ OECD Data, Gross and Net pension replacement rates (2016) available here: <https://data.oecd.org/pension/gross-pension-replacement-rates.htm#indicator-chart>.



between 15 and 65 years of age, either working, self-employed or on benefits, contributes to the AOW-financing via a deduction 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 15 and 65 (so someone living in the Netherlands that entire period is entitled to a full monthly AOW-allowance as $65-15 = 50 \times 2\% = 100\%$ 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 €1,181.36. People who are married, or couples living together, receive (gross) EUR 814.74/month each. In addition, 8% of the monthly allowance is set aside by the Government to be paid out in May as a holiday allowance. The AOW generally makes up approximately a fifth of the entire old-age pension. Pillars II and III, especially the former, are the most important for large parts of the Dutch population. For a typical Dutch male, the second pillar provides just over a third of his total retirement income. For the female population, AOW constitutes a larger part of their retirement income, approximately half, with the second pillar representing a share of 35%. The reason for this is that females have only recently become active on the labour market. For a long time, a traditional Dutch family was supported by one income, mostly earned by the male. This meant that, for a long time, the female population was not enrolled in the second pillar (see below), hence the retirement income of that part of the population is largely determined by the AOW.

Pillar II

Pillar II is a system of collective pension schemes operated by asset management companies offering pension funds 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 260 as of September 2017 (the last available count in the pension funds database available from the DNB, the Dutch central bank).³⁰⁰ It is expected that the number of active pension funds will further decline in the years to come.

³⁰⁰ Danish Central Bank statistics

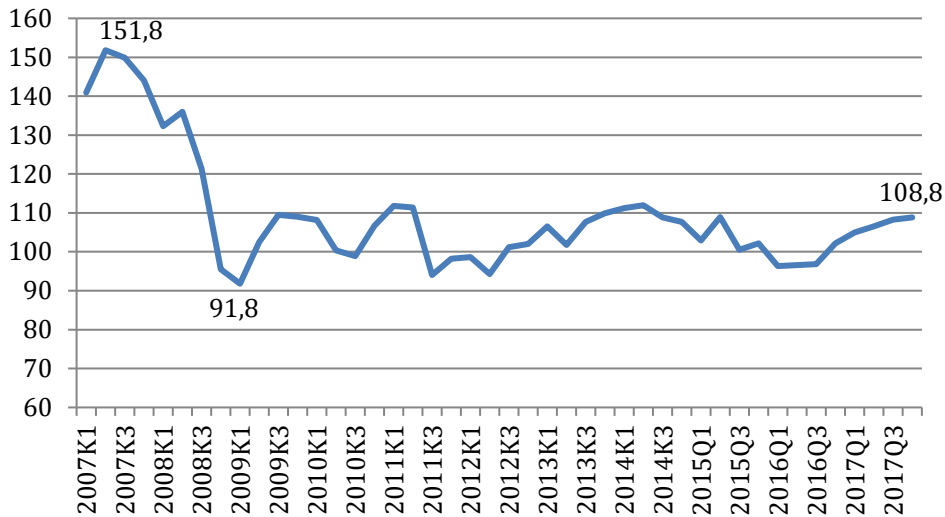


Whereas Pillar I (AOW) is a PAYG scheme, the Pillar II is financed by capital funding. Each person enrolled in a pension fund contributes to it (with the employer paying a part of the contribution, often 50% to 66%). The money is subsequently invested in order to fund retirement payouts.

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 labour 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 practice, more than 90% of Dutch employees are enrolled in one or more pension funds. 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 - possible up to six months after a job change. The law defines of the value of future liabilities (i.e. retirement outflows) to be sufficient only when it reaches at least 105%. Called the coverage ratio, it is calculated by discounting the future pension liabilities. Future pension liabilities for a period of up to 20 years are calculated by using the actual market interest rates for 0 to 20 years. 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). 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 coverage ratio of the Dutch pension funds fell further. 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 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. When the coverage ratio falls between 130% and 105%, the pension fund involved is not allowed to adjust pensions for inflation. This is only allowed when the coverage ratio is higher than 130%.



Graph NL1. 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. 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%.³⁰¹

³⁰¹ <https://www.netspar.nl/assets/uploads/Netspar-Design-Paper-68-WEB.pdf>



Pension vehicles

Second pillar

Note on Premium Pension Institutions (PPIs): Premium Pension Institutions are not analysed separately 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 official statistics, there were 649,946 workers enrolled in PPIs (out of some 13 million enrolled in pension funds) and the schemes had invested assets of some 5 billion EUR (the total invested by pension funds is around 1.300 billion). 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.

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 (tens) participants and a couple of millions of euros invested. In the table below, we provide some statistics for the 5 largest pension funds in the Netherlands.

| Pension fund | Sector / company | Assets (€ bln)* |
|--------------------|---------------------|-----------------|
| ABP | Civil service | 454.6 |
| Zorg en Welzijn | Medical services | 215.1 |
| Metaal en Techniek | Metal | 75.5 |
| Bouwnijverheid | Building companies | 63.7 |
| Metalelektro | Electrometal sector | 48.7 |

*Assets at the end of 2017, as reported in annual reports for the year 2017

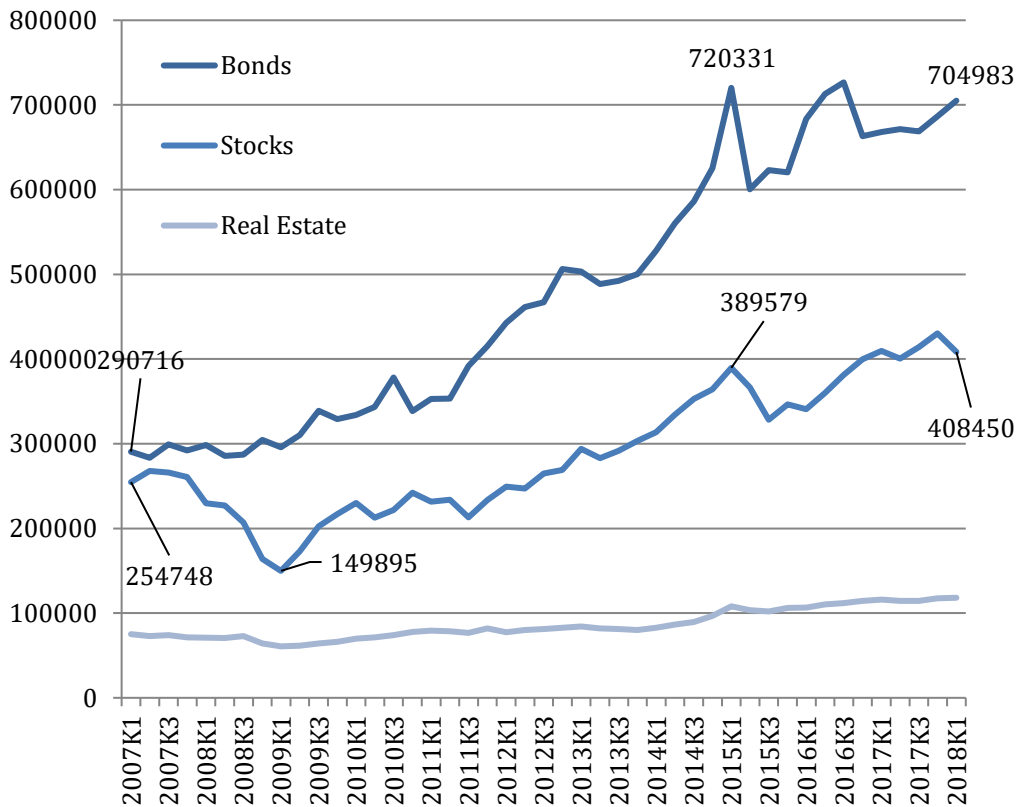
There are three different kinds of pension funds in the Netherlands. First, we have the industry-wide pension funds. Those administer and operate the pensions for an entire sector, such as food companies or civil service. The civil service pension fund, ABP, is by far the largest in the country with assets worth €454,6 billion and 2.8 million people enrolled. Second, there are corporate pension funds, administering 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 2017, Dutch pension funds in Pillar II had assets worth €1,338.1 billion in total. To put that in perspective: the Dutch gross domestic product is approximately €600 billion, in other words, the pension assets at the pension funds alone (i.e. ex third pillar assets) exceed the Dutch GDP by well over 200%. The five largest Dutch pension funds hold approximately 60% of all pension assets in the Netherlands.

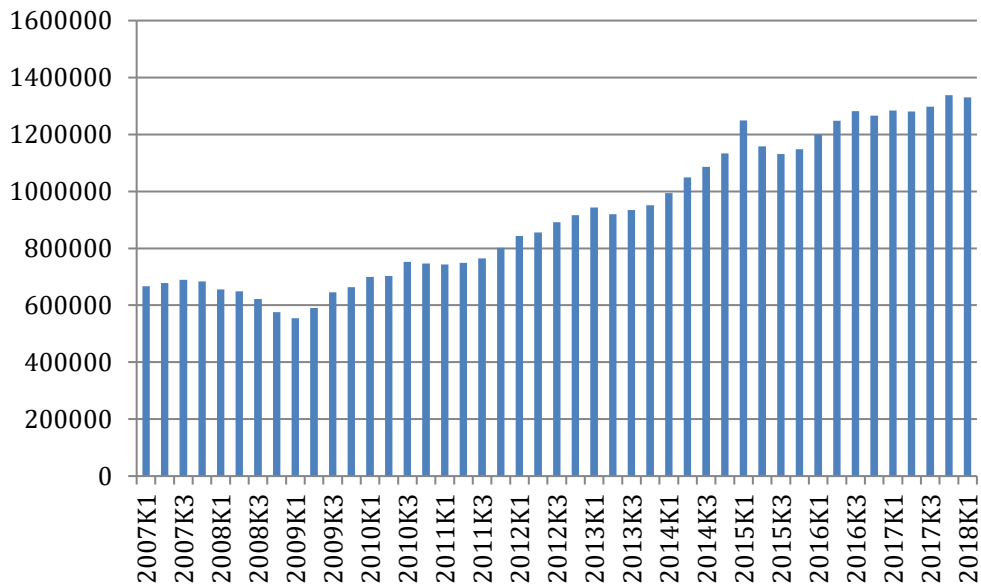
Graph NL2. Pension fund assets invested in stocks, bonds, real estate and other assets over time (in € million)



Source: DNB - Dutch central bank



Graph NL3. Assets of pension funds (in € million)



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 2017 the maximum amounted to €12,032. 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 taking³⁰². 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

³⁰² 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



of the performance of the Dutch pension funds than they do currently. Sadly, the data is only available starting from 2015.

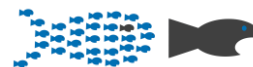
This new data set does enable us to calculate the real performance of the Dutch pension funds more accurately starting from the reporting year 2015. In this report therefore, we have used the new data set to recalculate the pension funds real returns in 2015. As the new data set does not provide the charges for the period prior to 2015, we have calculated the real returns for the period 2000 up to and including 2014 using the, incomplete, data the Dutch central bank reported for 2007 and onwards. As the Dutch central bank does provide absolute costs, we re-calculated those costs in percentage of the total assets. Subsequent costs obtained are reflected in the table below.

| Table NL3. Pension fund charges (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 | 0.61* |

** Estimate, based on the change in reported charges at the largest pension fund in the Netherlands, ABP, in 2017 compared to 2016, with the change applied to the charges for all pension funds in 2016.*

Source: DNB Dutch Central Bank / own calculations

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 Netherlands³⁰³. 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 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 65 and older. Just as an example, in the table below, we provide the tax rates for the persons older and younger than 65 years of age in 2017, 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.

| Income bracket / age | Younger than 65 | 65 and older |
|----------------------|-----------------|--------------|
| €0 – €19,982 | 36.55 % | 18.65 % |
| €19,983 – €33,791 | 40.8 % | 22.9 % |
| €33,792 – €67,072 | 40.8 % | 40.8 % |
| over €67,073 | 52.0 % | 52.0 % |

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 65. The average tax tariff in 2017 for those age 65 and older was 27.45%. 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 €67,073).

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: 27.45%) and the average tax rate that would have applied if

³⁰³ 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>.



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 65 years of age and then compare it with the average tax rate for those 65 and older. The average for those younger than 65 years of age in 2017 was 39.38% meaning than the average person in the Netherlands enjoys well over 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 countries³⁰⁴.

Pension funds

The Dutch supervisor of pension funds, the Dutch central bank, provides investment return figures, in billion euros, for aggregate pension funds³⁰⁵. However, the data for 2017 were not available as of June 30th, 2018. Therefore, we had to calculate the returns of the pension funds in 2017 using a proxy, the proxy being the weighted average of the annual returns in 2017 as reported by the five largest pension funds in the Netherlands. The weighted average return of the 5 largest pension funds in the Netherlands was 6.5%. We get the nominal

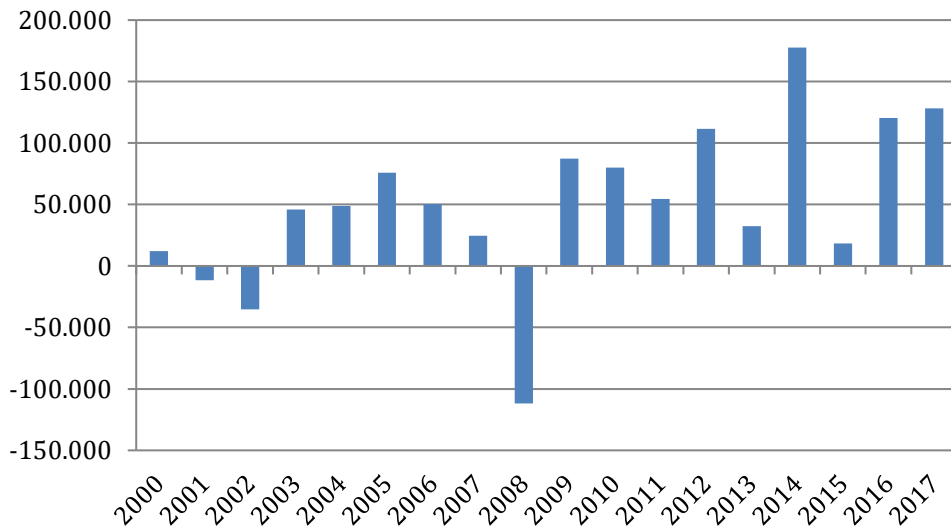
³⁰⁴ Just as a check, we performed the calculations of the real return using the Dutch method for inflation calculation as well. The average real return of pension funds does not change. The average real return for insurance companies does change, from 0,05% to 0,03%.

³⁰⁵ <http://www.statistics.dnb.nl/financieele-instellingen/pensioenfondsen/index.jsp>



investment return in millions EUR by adding 6.5% to the investment return from 2016. The numbers are reported in the graph below.

Graph NL 4. Investment returns of Pillar II (in € mln)



Source: DNB Dutch Central Bank

Compared to previous editions, the return for 2016 has been adjusted slightly lower, from 9.4% to 8.74%. The reason for this adjustment is that in the previous report we had to use a proxy for the annual return of the entire pension fund population in 2016, as a full data set was not available at the time of the writing of last year's report. In the meantime, the full data set has been published for 2016.



| Table NL5. 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 |
| 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 | 6.50 |
| Average 2000-2017 | 5.01 |

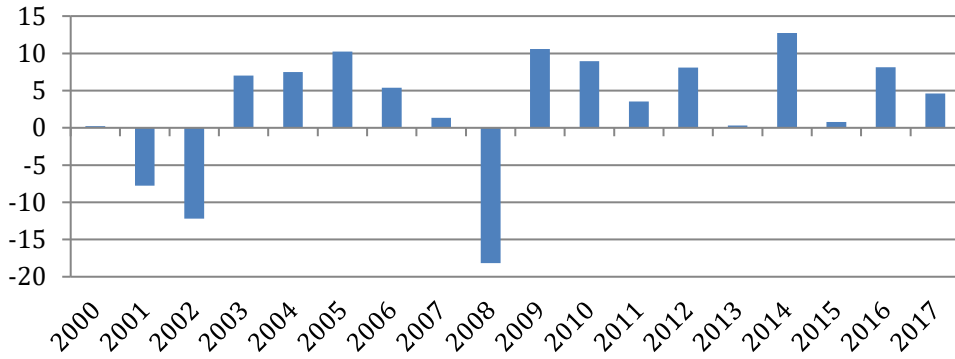
Source: DNB Dutch Central Bank, own calculations

At this stage, we have calculated nominal return on investment for each year between 2000 and 2017. By subtracting the total charges, we get the nominal return on investments after charges. However, we do run into a difficulty: as already mentioned, we have nominal returns from 2000 to 2017 but charges are only available from 2007 onwards. Since we do not have data on costs before 2007 and given their relative stability for the period 2007 – 2013, we assume those charges to be the average of those between 2007 and 2013, i.e. 0.19%. We then apply this average to the years 2000 to 2006 in order to calculate the nominal return on investment after charges. The Dutch central bank has recently started to publish total charges incurred by pension funds, starting from 2015. Total charges for 2017 were not available at the cut-off date of June 30th, 2018. Therefore, the total charges for 2016 had to be estimated. We have looked at the change in charges at the largest pension fund in the Netherlands, ABP, and have found that the increase was 22.7%. Therefore, we assume that this is also the case for the entire fund population and have calculated the charges for 2017 by applying the aforementioned increase to the charges occurred in 2016. This approach yields total charges of 0.61% of total assets. With this assumption we are able to calculate the nominal return on investments for the Dutch pension funds for the period



2000-2017 after charges and before taxes and inflation. The result is given in the graph below.

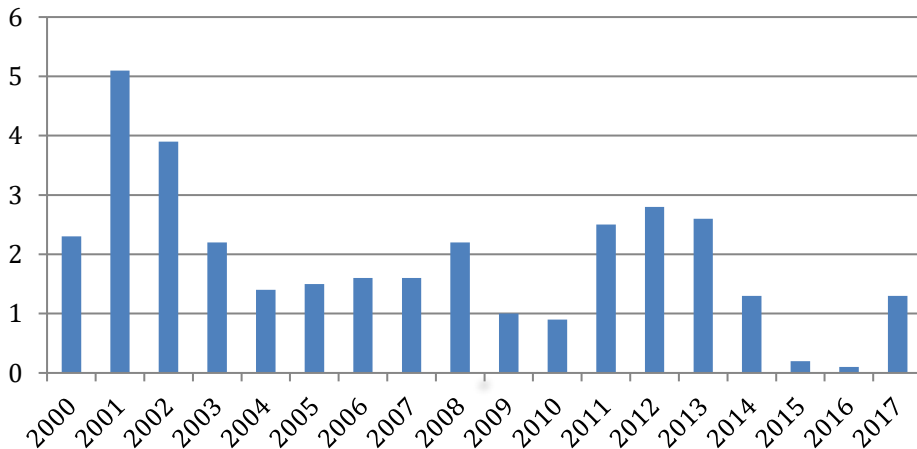
Graph NL5. Return after charges and inflation (in %)



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 NL6. Annual HICP inflation in the Netherlands (in %)

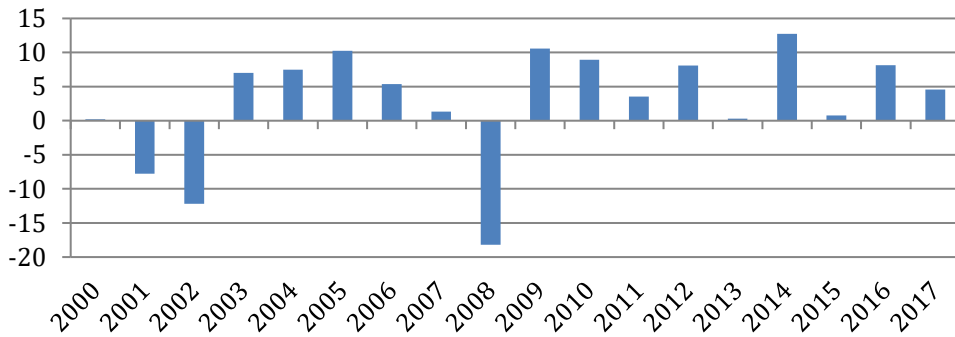


Source: Eurostat HICP (annual average)



When we use the annual inflation data from 2000 and adjust the return after charges for inflation, we get the following outcome:

Graph NL7. Return after charges and inflation (in %)



Source: Own calculations, Statistics Netherlands

The same results can be found in the table below:

| Table NL6. Return after charges and inflation | |
|--|--|
| Year | Return after charges and inflation (in %) |
| 2000 | 0.22 |
| 2001 | -7.76 |
| 2002 | -12.20 |
| 2003 | 7.01 |
| 2004 | 7.48 |
| 2005 | 10.24 |
| 2006 | 5.38 |
| 2007 | 1.35 |
| 2008 | -18.17 |
| 2009 | 10.56 |
| 2010 | 8.94 |
| 2011 | 3.55 |
| 2012 | 8.10 |
| 2013 | 0.32 |
| 2014 | 12.73 |
| 2015 | 0.77 |
| 2016 | 0.14 |
| 2017 | 4.59 |
| Average 2000-2017 | 2.85 |

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 returns. When we adjust those returns for charges, taxes and inflation, we conclude that, over the period 2000-2017, the yearly average real return has been 2.89%.

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 rate³⁰⁶. 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*.

³⁰⁶ Various interest rates available from website www.homefinance.nl



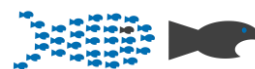
When it comes to life insurance schemes, which form a large part of the third pillar products and hence can be used as a proxy for the returns in this pillar, we used the total return after charges and taxes, but before inflation, and the amount invested on behalf of owners of life insurance policies.

In this year's edition of the report, we were able to recalculate the nominal and real return for 2016 using the complete data set for that year (in the previous version of this report, we have had to work with incomplete data). The updated results are reported in the table below:

| Table NL7. 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% |
| 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% |
| AVERAGE 2000-2017 | | | 1.80% | 1.92% | -0.11% |

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 2017 amounts to 1.80%. 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 was -0.11%.

Putting all these calculations together, we get the following table:

| Table NL8. 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 (1-3-4) | Real returns insurance companies (2-3) |
| 2000 | 2.70 | 3.91 | 2.3 | 0.19 | 0.22 | 1.61 |
| 2001 | -2.48 | 3.37 | 5.1 | 0.19 | -7.76 | -1.73 |
| 2002 | -8.12 | 0.35 | 3.9 | 0.19 | -12.20 | -3.55 |
| 2003 | 9.40 | 3.64 | 2.2 | 0.19 | 7.01 | 1.44 |
| 2004 | 9.06 | 2.79 | 1.4 | 0.19 | 7.48 | 1.39 |
| 2005 | 11.92 | 3.46 | 1.5 | 0.19 | 10.24 | 1.96 |
| 2006 | 7.16 | 3.95 | 1.6 | 0.19 | 5.37 | 2.35 |
| 2007 | 3.14 | 6.9 | 1.6 | 0.19 | 1.35 | 5.30 |
| 2008 | -15.76 | -6.38 | 2.2 | 0.24 | -18.17 | -8.58 |
| 2009 | 11.73 | 2.04 | 1.0 | 0.19 | 10.56 | 1.04 |
| 2010 | 9.98 | 0.17 | 0.9 | 0.15 | 8.94 | -0.73 |
| 2011 | 6.23 | -0.44 | 2.5 | 0.19 | 3.55 | -2.94 |
| 2012 | 11.1 | 0.32 | 2.8 | 0.21 | 8.10 | -2.48 |
| 2013 | 3.15 | 2.07 | 2.6 | 0.24 | 0.32 | -0.53 |
| 2014 | 14.18 | -2.69 | 1.3 | 0.15 | 12.73 | -3.99 |
| 2015 | 1.47 | 3.38 | 0.2 | 0.17 | 0.77 | 3.18 |
| 2016 | 8.74 | 2.56 | 0.1 | 0.50 | 8.14 | 2.46 |
| 2017 | 6.50 | 3.08 | 1.3 | 0.61 | 4.59 | 1.78 |
| Avg. | 5.01 | 1.80 | 1.92 | 0.29 | 2.85 | -0.11 |

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, 2000-2017, the average annual real return is 2.85%. The pension vehicles in the third pillar, such as life insurance companies, return far less. Indeed, on average they caused an annual loss of -0.11%. However, one must note that the third pillar is relatively small, and a relatively small number of individuals are enrolled in it.

All in all, the Dutch enjoy a positive real return on their pension savings, with the non-weighted average being 2.74%.



Pension Savings: The Real Return

2018 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% (+68% cumulative) in 2000-2016, overpassing even the Netherlands on the same period. 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 economies of scale which, coupled with a close supervision of the FCA, lowered fees and charges on pension products. Unfortunately, data later than 2016 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 pensioner’s pension (which represented on average 29% of the pre-retirement net replacement ratio in 2016). 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, derivatives) and one of the lowest general holding rates in money market instruments (less than 2% in cash and deposits).

On average, U.K. workers earn £2,390 (€2,691) per month. In 2017, to every retiree there were 3.4 economically active people (workers, or an old-age dependency ratio of 29%),



which the projections for U.K. show that the dependency ratio will go up to 44% in 2030 and to 50% in 2070. The total market size of private pension products in the U.K. was estimated at £2.83 trillion (€3.18 trln) at the end of 2016, out of which 63% were held by defined-benefit occupational pension schemes. Of the entire working population, almost 70% are enrolled in a 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 plans: | individual (voluntary and supplementary): |
| - the basic pension: old State pension (born before 1953) and - the additional state pension (born before 1953) | - defined benefits plan (salary related) (the basic pension) and defined-contribution plans (money purchase arrangements) (the additional pension) | - Stakeholder Pensions |
| - the new State pension (since 6 April 2016) | | - Self-Invested Personal Pensions |
| mandatory | automatic enrolment or explicit opt-out (since 2008) | voluntary |
| | compulsory contributions 8% from 2019 on | |
| PAYG | funded | funded |
| DB | DC or DB | DC |
| Quick facts | | |
| Pension state accounts for 29% of the pre-retirement net replacement ratio | Number of employee saving in pension plans increased by 44% from 2003 to 2017 | market size of private pension products in the U.K. was estimated at £2.83 trillion (€3.18 trln) end of 2016 |
| On average U.K. workers earn £2390 (€2691) per month | life insurance and pension funds represent the majority of total assets held by UK households. | |
| To every retiree there were 3.4 economically active people | Pension funds have performed best both in real terms and on the longer investment horizon, returning an average annual growth rate of +3.1% (+68% cumulative) in 2000-2016 | |
| | UK pension funds have the highest allocation in alternative securities, 57%, and the lowest general holding rate in money market instruments, 2% | |
| | 70% of the working populations is enrolled in one or another pension scheme | |

Source: BETTER FINANCE own composition

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 on attaining the age of retirement (State pension



age). The “default retirement age” has been eliminated and now it varies depending on the birth date.³⁰⁷The 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 2018 for a single person amounts to £125.95³⁰⁸ (€141.59) 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.

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 State Second 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 State Second Pension.

The new State pension

The current Pillar I program was replaced by a new one for people reaching the State Pension age. From 6 April 2016 onwards a single-tier State pension replaced the basic and additional pensions. Since April 2018, the full new State Pension is £164.35 (€184.76) per week, but the actual (personalised) amount depends on the *National Insurance record*, which represents how many contributory years somebody has accumulated.

Pillar II

Pillar II is a system of occupational/company pension plans. There are two categories of schemes:

³⁰⁷ 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>.

³⁰⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/572844/proposed-benefit-and-pension-rates-2017-to-2018.pdf



- Salary-related schemes (Defined benefit)
- Money purchase schemes (Defined-contribution)

The number of employees saving in a pension plan has risen from 12.3 million in 2003 (65% of eligible employees), to 17.7 million in 2017 (84%)³⁰⁹. If employers do not offer a company scheme, they have the opportunity to contribute to an individual retirement savings plan contracted by the employee. In this case, contributions must be at least equal to 3% of paid salary.

Automatic enrollment: 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 retirement³¹⁰. 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).

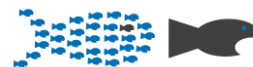
Employers are required to automatically enroll all employees whose annual income is more than £10,000 (€11,242) to a basic scheme to which they contribute. Employees must explicitly opt out of it if they do not wish to contribute. Minimum compulsory contributions that the employer must pay into staff's pension scheme are currently³¹¹ a total contribution of 5% with at least 2% employer contribution. They will progressively rise to 8% of the employee's salary from April 2019, of which 3% will be paid by the employer and 5% by the employee. In practice, most employers use defined-contribution schemes for this purpose. Any British employers who don't have their own scheme have to join a national multi-employer scheme.

The aim of the automatic enrollment is to increase the number of subscribers to workplace pension plans by 9 million. The total amount saved by eligible savers was £90.3 (€101.5) billion in 2017. However, among those targeted by the reform (people whose savings are insufficient to cover their needs at retirement), 4.5 million are not automatically enrolled in the new system. This includes young employees who are less than 22 years old, employees over the State Pension age (65) and those whose annual income is less than £10,000 (€11,242). Employees may also request to opt out of the system. Occupational schemes are subject to the same limitations in terms of contributions and capital as individual savings plans (see below).

³⁰⁹ Source: Official Statistics on workplace pension participation and saving trends of eligible employees, Department for Work and Pensions, 5 June 2018.

³¹⁰ According to the Department for Work and Pensions (2013), 12 million people were not saving enough to ensure an adequate income in retirement.

³¹¹ Source: The Pensions Regulator



Pillar III

Pillar III consists of individual retirement savings plans.

As explained earlier, anyone participating in the Pillar I State Pension scheme has the opportunity to leave the State Second Pension and subscribe to a Personal Pension Plan with 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. There are two types of Personal Pensions: Stakeholder Pensions and Self-Invested Personal Pensions (see below for more details.)

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.



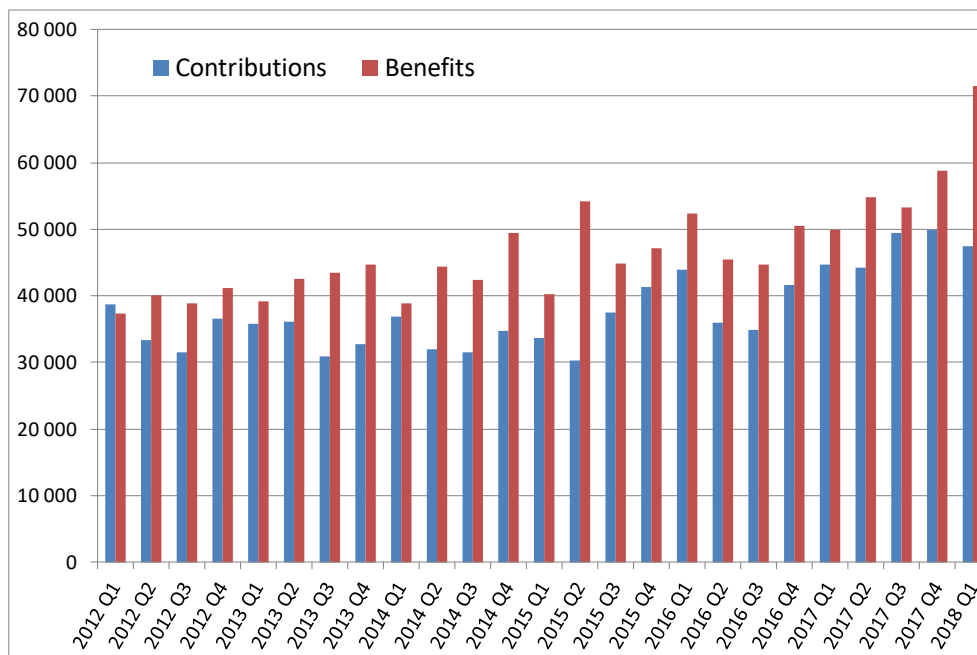
**Table UK1. Financial Savings of UK households at the end of 2017
(non-real estate)**

| | <u>% of total assets</u> | <u>2017/2016 (%)</u> |
|--|--------------------------|----------------------|
| Currency and bank deposits | 25.1 | -0.4 |
| Investment funds | 5.1 | +5.4 |
| Direct investments (debts products, shares and other equity) | 12.5 | +4.3 |
| Life insurance and annuity entitlements | 10.9 | -0.2 |
| Pension schemes | 46.4 | -2.9 |
| Total | 100 | -0.7 |

Source: Eurostat

Many occupational and individual pension funds have reached maturity and the gap between benefits and contributions widens.

Graph UK1. Contributions and benefits of pension funds in the UK (SA data in £ Bn)



Source: Office for National Statistics. Data includes self-administered pension funds and pension fund management by insurance companies



Pension Vehicles

Pillar II

There are several types of pension schemes, including defined-contribution schemes 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.

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.

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.

The National Employment Savings Trust (NEST), established in 2011 by the government, is one of the schemes complying with the legislation on auto-enrolment (see above). It is a low-cost pension scheme and is required to accept membership from any employer. In 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 / €44,968).

Since the implementation of the auto-enrolment legislation, other inter-fund companies have been created and are in competition with NEST: NOW: Pensions (or just simply NOW), a UK subsidiary of the Danish national pension fund ATP, the so-called "People's Pension", Smart Pension, creative auto-enrolment.

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



pot³¹². In its Defined-contribution workplace pension market study³¹³ published in September 2013, the Office of Fair Trading (OFT)³¹⁴ report 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, among other things, on the size of the scheme. It has also been noted by OFT³¹⁵ 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 stage³¹⁶.

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 Pensions³¹⁷, average charges in schemes qualifying for 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-

³¹² Department for Work & Pensions (2013,2).

³¹³ Defined contribution workplace pension market study – September 2013 – OFT

³¹⁴ The OFT was responsible for protecting consumer interests until 2014. Its responsibilities have now been passed to different bodies.

³¹⁵ Office of Fair Trading (2013).

³¹⁶ HCWS 249, 16 November 2017

<https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2017-11-16/HCWS249/>

³¹⁷ DWP, “Pension Charges Survey 2016: Charges in defined contribution pension schemes”



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 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 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 has not been published yet by the DWP (last report was on 26 October 2017).

Table UK2. 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 |

Sources: OFT, DWP, OEE 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 (€44,968).

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 three marginal rates in the UK: 20% on income from £0 to £34,500 (€38,785), 40% up from £34,501 to £150,000 (€168,630) and 45% above. These rates are applied after deduction of the tax-free allowance of £11,850 (€13,322) from the gross wage³¹⁸. 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.

³¹⁸ This amount applies to people born after 6 April 1938.



Asset allocation

Pension fund returns depend on their asset allocation.

Table UK3. Breakdown of self-administered pension fund asset holdings (%)

| | Public sector securities | Shares | Corporate bonds | Mutual funds | Other | Total assets |
|-------------|--------------------------|--------|-----------------|--------------|-------|--------------|
| 2003 | 16 | 46 | 7 | 17 | 13 | 100 |
| 2004 | 15 | 43 | 8 | 19 | 15 | 100 |
| 2005 | 12 | 43 | 8 | 21 | 16 | 100 |
| 2006 | 12 | 41 | 9 | 22 | 17 | 100 |
| 2007 | 13 | 33 | 10 | 26 | 18 | 100 |
| 2008 | 14 | 29 | 12 | 25 | 19 | 100 |
| 2009 | 14 | 29 | 13 | 30 | 15 | 100 |
| 2010 | 13 | 26 | 11 | 34 | 16 | 100 |
| 2011 | 16 | 22 | 10 | 33 | 18 | 100 |
| 2012 | 17 | 21 | 10 | 34 | 18 | 100 |
| 2013 | 18 | 20 | 9 | 34 | 18 | 100 |
| 2014 | 19 | 20 | 10 | 32 | 19 | 100 |
| 2015 | 21 | 17 | 10 | 34 | 18 | 100 |
| 2016 | 24 | 16 | 9 | 34 | 17 | 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 June 2018 and does not contain data for 2017.

The share of direct holdings of corporate securities (shares and bonds) consistently decreased from 53% in 2003 to 25% in 2016. British pension funds remain among the most exposed to the stock market, either directly or through investment funds³¹⁹. However, faced with the uncertainty of returns achieved by the stock market and the weak performance of government bonds, managers reallocated part of their investments to alternative asset classes.

³¹⁹ 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.



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 UK4. Case description (Tax year 2018/2019) | | | | |
|--|-------------------|-------------------|------------|------------------|
| | Tax allowance (£) | Marginal Tax rate | Income tax | Average tax rate |
| Case 1: An annual income of £10,000 | 11,850 | 20% | 0 | 0% |
| Case 2: An annual income of £20,000 | 11,850 | 20% | 1,628 | 8% |
| Case 3: An annual income of £50 000 | 11,850 | 40% | 8,356 | 17% |
| Case 4: An annual income of £150,000 | - | 40% | 53,100 | 35% |

Source: <https://listentotaxman.com/>

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:

$$R = \frac{\text{Income} + \text{capital gains}}{(\text{Assets at year end} + \text{assets at beginning of the year})/2}$$

Capital gains are estimated using the following formula:

$$CG = \text{Assets at year end} - \text{assets at beginning of the year} - \text{Net investments of the year}$$

Income includes following components:

$$\text{Income of investment} = \text{Rents from properties} + \text{Dividends received} + \text{Interest earned}$$



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 UK5. Pension fund 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 | | | | | |
| 2005 | 19.9 | 19.1 | 17.2 | | | | | |
| 2006 | 11.4 | 10.6 | 7.6 | Real return after charges, after inflation, after tax | | | | |
| 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 | | | | | |
| 2010 | 13.6 | 12.9 | 9.3 | | 2.3 | 2.3 | 1.6 | 1.6 |
| 2011 | 12.3 | 11.6 | 7.3 | | | | | |
| 2012 | 10.5 | 9.9 | 7.3 | | | | | |
| 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 | | | | | |
| Avg / Year | 5.8 | 5.1 | 3.1 | | | | | |

Sources: GAD (nominal returns in 2000), ONS, OFT, DWP, OEE calculation; Data for 2017 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 2.3%.



Conclusions

The United Kingdom is one of the European countries with the most developed and mature pension funds. Workers in the UK 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-enrollment” 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 1.7%.

In total, the nominal average annual performance of employees’ and employers’ contributions to pension funds from year 2000 to 2016 was positive by 5.8%. When taking into account inflation, charges and taxes, the investment returns are estimated at +1.6% to +3.1%, depending on the personal tax rate of the retiree.



Imprint

Editor and Publisher

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