PENSION SAVINGS
The Real Return

2019 Edition

BETTER FINANCE

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

Pension Savings: The Real Return
2019 Edition

A Research Report by BETTER FINANCE

COORDINATORS

Ján Šebo
Ştefan Dragoş Voicu

CONTRIBUTORS

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

Acronyms

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

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

Glossary of terms

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

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

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

AIF(s) – or Alternative Investment Funds are a form of collective investment funds under E.U. law that do not require authorization as a UCITS fund.[1]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Collective investment schemes – are financial products characterised by the pooling of funds (money or asset contributions) of investors and investing the total into different assets (securities) and managed by a common asset manager. Under E.U. law collective investment schemes are regulated under 6 different legal forms: UCITS (see below), the most common for individual investors; AIFs (see above), European Venture Capital funds (EuVECA), European Long-Term Investment Funds (ELTIFs), European Social Entrepreneurship Funds (ESEF) or Money Market Funds.[2]

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

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

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

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

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

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

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

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

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

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

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

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

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

Defined contribution (DC) occupational pension plans* – are occupational pension plans under which the plan sponsor pays fixed contributions and has no legal or constructive obligation to pay further contributions to an ongoing plan in the event of unfavorable plan experience. These are schemes where "the pension payment depends on the level of defined pension contributions, the career and the returns on investments. The employee has to bear the risk of longevity and the risk of investment. Pension contributions can be paid by the employee and/or the employer and/or the state".[4]

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

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

Economic dependency ratio* – is the division between the number of inactive (dependent) population and the number of active (independent or contributing) population. It ranges from 0% to 100% and it indicates how much of the inactive population's (dependent) consumption is financed from the active population's (independent) contributions.[5] In general, the inactive (dependent) population is represented by children, retired persons and persons living on social benefits.

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

Equity (or stocks/shares) – are titles of participation to a publicly listed company's economic activity. With regards to other categorizations, an equity is also a security, a financial asset or, under E.U. law, a transferable security.[6]

Assets in the Public and Private Sector' EP Directorate General for Internal Policies IP/A/ECON/ST/2010-26.

[4] Ibid.

[5] For more detail on the concept, see Elke Loichinger, Bernhard Hammer, Alexia Prskawetz, Michael Freiberger, Joze Sambt, 'Economic Dependency Ratios: Present Situation and Future Scenarios' MS13 Policy Paper on Implications of Population Ageing for Transfer Systems, Working Paper no. 74, 18th December 2014, 3.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

OECD gross replacement rate - is defined as gross pension entitlement divided by gross pre-retirement earnings. It measures how effectively a pension system provides a retirement income to replace earnings, the main source of income before retirement. This indicator is measured in percentage of pre-retirement earnings by gender.

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

Old-age dependency ratio - defined as the ratio between the total number of elderly persons when they are generally economically inactive (aged 65 and above) and the number of persons of working age.[7] It is a sub-indicator of the economic dependency ratio and focuses on a country's public (state) pension system's reliance on the economically active population's pensions (or social security) contributions. It is a useful indicator to show whether a public (Pillar I) pension scheme is under pressure (when the ratio is high, or the number of retirees and the number of workers tend to be proportionate) or relaxed (when the ratio is low, or the number of retirees and the number of workers tend to be disproportionate). For example, a low old-age dependency ratio is 20%, meaning that 5 working people contribute for one retiree's pension.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Contributors

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

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

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

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

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

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

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

Timothée Galvaire is Research Assistant at BETTER FINANCE.

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

Aleksandra Mączyńska is the Executive Director of BETTER FINANCE. She is a member of the EC Financial Services User Group (FSUG) and she was recently appointed by EIOPA as a member of its Occupational Pensions Stakeholder Group (OPSG). Previously she worked for the Polish consumer and competition watchdog and was an expert on various EU Council Working Parties such as the WP on Financial Services and the WP on Competition.

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

Michal Mešťan is an assistant professor at the Department of Finance and Accounting and a founder of Talent and Research Centre at the Faculty of Economics Matej Bel University in Slovakia. He is a member of the CFA Society Slovakia as a director of University Relations. He holds a doctoral's degree (PhD.) in Finance and focuses on financial engineering, pension and individual asset-liability management models. Professionally, he builds robo-advice models oriented on long-term investing.

Grégoire Naacke has been appointed in July 2019 as the new director of the European Savings Institute ("Observatoire de l'Épargne Européenne"), a non-profit organisation promoting and coordinating data and research on European savings. He was previously Head of Operations at the World Federation of Exchanges and worked as an economist both at the European Savings Institute and World Federation of Exchanges for more than 10 years.

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

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

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

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

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

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

Ştefan Dragoş Voicu is Research & Policy Officer at BETTER FINANCE, having a thorough background in Romanian, French and EU law. He specialises in Financial Services Regulation and Capital Markets Research, with a focus on packaged investment products (mutual funds and insurances), retirement provision and market infrastructure. He coordinates four BETTER FINANCE Working Groups on Pensions, Insurances, Packaged Investments and Audit & Reporting, and is a member of the EIOPA Expert Practitioner Panel on PEPP.

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

Country Case: The Netherlands

Samenvating

In veel opzichten verkeren inwoners van Nederland in een luxepositie, als we het over hun pensioenvoorziening hebben. In het meest recente jaarlijkse onderzoek naar pensioenstelsels wereldwijd, uitgevoerd door Mercer in 2018, komt het Nederlandse pensioenstelsel als beste uit de bus. Toch maken veel Nederlanders zich zorgen over hun pensioen. Uit recent onderzoek, eveneens van Mercer, bleek dat één op de vijf denkt dat zijn/haar pensioen voldoende inkomen zal opleveren als ze met pensioen gaan.

Een belangrijke reden waarom een grote meerderheid van de Nederlanders zich zorgen maakt over zijn pensioen is omdat de historisch lage rentes in de wereld Nederland, in pensioenopzicht, relatief hard raken vergeleken met andere landen. Dat komt niet alleen doordat de Nederlanders de grootste pensioenspaarpot hebben maar ook omdat de helft daarvan belegd is in obligaties, een belegging die al jarenlang heel weinig oplevert. Uit een rapport van Thinking Ahead Institute blijkt dat waar 27 procent van het pensioengeld in de wereld in obligaties is belegd, dat aandeel bij de Nederlandse pensioenfondsen bijna het dubbele bedraagt, namelijk 53 procent. Het Nederlandse driepijler pensioenstelsel biedt voldoende mogelijkheden voor iedereen om voor aanvullend pensioen te zorgen. De belangrijkste zaak voor de vraag of de pensioenregelingen voldoende inkomen zullen genereren wanneer iemand met pensioen gaat, is echter het rendement. Behalen de Nederlandse pensioenaanbieders voldoende rendement daarvoor?

Summary

In many ways, the Dutch are in an enviable position as far as their pension is concerned. In the most recent *Melbourne Mercer Global Pension Index*, for 2018, the Dutch pension systems ranks highest out of 34 examined pension systems around the world.[259] Still, many Dutch people worry about the future of their old-age income. A recent Mercer study shows that only one in five think their pension scheme will provide them with enough income by the time they have to use their pensions.

[259] https://australiancentre.com.au/wp-content/uploads/2018/10/MMGPI-Report-2018.pdf.

An important reason why a large majority of the Dutch worry about their retirement income is the fact that the historically low interest rates worldwide are causing, relatively speaking, more harm to the Dutch pension system than to other countries' pension systems. This is due not only to the fact that the Dutch only boast the world's largest pension reserves, but also to the fact that some 50% of those reserves are invested in bonds, which have yielded very low returns over the past several years. A recent study on global pension assets, by the Thinking Ahead Institute,[260] showed that where on average 27% of pension fund assets in the world are invested in bonds, in the Netherlands the percentage is almost double that: 53%. Still, the Dutch three-pillar pension system does provide every individual with ample opportunity to increase his/her retirement income. True as that might be, at the end of the day it all boils down to the all-important question of real return. Are the Dutch pension funds earning enough to provide a decent income to Dutch retirees in the future?

In this report we will provide an outline of the Dutch pension system, take a look at the annual returns on investment of pension funds and calculate the real return, adjusting the nominal return for various charges, taxes and inflation.

Introduction

The Dutch pension system rests on three pillars, which will be described in what follows:

- Pillar I – the contributory scheme that provides the Dutch state pension, organised as a social insurance system and implementing the Pay-As-You-Go (PAYG) principle;
- Pillar II –fully funded and mostly defined-benefit (DB) pension schemes comprising investment funds and life insurance contracts, for which participation is mandatory in sectors in which representative trade associations that cover more than half of the sector have agreed a specific sector-wide scheme with relevant labor unions, which by law then become mandatory for the entire sector at hand. In practice this means that most sectors of the economy are covered by these (sector-specific) mandatory schemes;
- Pillar III – composed of pre- and post-retirement fully funded and completely defined-benefit (DB) pension saving products, for which participation is voluntary.

[260] https://www.willistowerswatson.com/en/insights/2018/02/global-pension-assets-study-2018

Table NL1. The Dutch pension system			
Pillar	Characteristics	Coverage	Replacement ratio
Pillar I	PAYG, DB, social insurance, taxed as income on pay out	100%	
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	Average household: 86% (gross) and 105% (net);[261] for both Men and Women: 96.9% (gross) and 101% (net).[262]
Pillar III	Funded by individual, DC, contributions subject to a limit, contributions tax exempted, pay-out taxed at progressive income tax rates	n.a.	

Source: BETTER FINANCE own composition; other sources in footnotes 214 and 215.

Summary Return Table - Pensions in the Netherlands					
	1 year	3 years	7 years	10 years	whole reporting period
	2018	2016-2018	2012-2018	2009-2018	2000-2018
Pension funds	-3.55%	2.53%	4.32%	5.21%	2.21%
Life insurances	1.96%	1.87%	0.48%	0.01%	0.03%

Source: based on Table NL15

Pillar I

Pillar I is a social insurance scheme and consists of the Dutch state pension, called AOW (*Algemene Ouderdomswet* or General Old-Age Law). It provides a state pension for all elderly inhabitants of the Netherlands, regardless of their nationality and employment history. For a long time, 'elderly' (for the purpose of this law) meant 65 years or older. Recently the age

[261] Marike Knoef, Jim Been, Koen Caminada, Kees Goudswaard, Jason Rhuggenaath, 'De Toereikendheid van pensioenopbouw na de crisis en pensioenhervormingen' Netspar Industry Paper Series, Design Paper 68, 7, https://www.netspar.nl/assets/uploads/Netspar-Design-Paper-68-WEB.pdf.
[262] OECD Data, Gross and Net pension replacement rates (2016) available here: https://data.oecd.org/pension/gross-pension-replacement-rates.htm#indicator-chart.

was increased beyond 65 (68 to 71 depending on date of birth, with a 'transition age' of retirement between 66 and 68 for people who reach those ages over the next few years), mainly to maintain the system's viability in the future as, due to ageing, the costs threaten to reach unsustainable levels. The reason for this is that AOW is a pay-as-you-go (PAYG) system: this part of the retirement income is financed by those in the workforce at that particular moment in time. Each person between 16 and 66 years of age, either working, self-employed or on benefits, contributes to the AOW-financing via a deduction (social premium) on the salary or benefit. In addition, the AOW is partially financed by taxes collected by the government every year. Every inhabitant of the Netherlands is automatically enrolled in the AOW-system in such a way that he or she is entitled to 2% of the maximum monthly allowance for each year he/she has lived in the Netherlands between the ages of 16 and 66 (so someone living in the Netherlands that entire period is entitled to a full monthly AOW-allowance as 66-16 = 50 x 2% = 100% of the allowance). On a side note: A large share of those who immigrated to the Netherlands in the 1970s are in for an unpleasant surprise when they reach retirement age, since they will be entitled to less than expected and will not be able to count on full AOW monthly benefits. It is expected to create financial difficulties for several of those affected.

A single person is entitled to a monthly allowance (gross) of €1,228.22. People who are married, or couples living together, receive (gross) EUR 843.78/month each. In addition, 8% of the monthy allowance is set aside by the Government to be paid out in May as a holiday allowance. Typically, women are more dependent than men on Pillar I, the AOW, due to the fact that in the past and to some extent still in the present, women are employed less often then men, less often have full-time jobs and generally have lower incomes.

Pillar II

Pillar II is a system of collective pension schemes operated by pension funds, entities which are legally independent from their (often corporate) sponsors, or by insurance companies. Little over a decade ago, there were over 1,000 pension funds operating in the Netherlands. Over the years, several of these pension funds merged or were liquidated (with their assets and liabilities transferred to other pension funds or insurance companies). As a consequence, the number of pension funds (active and dormitory) under supervision (DNB) declined to 213 as of April 2019 (the last available count in the pension funds database available from the DNB, the Dutch central bank).[263] It is expected that the number of active pension funds will further decline in the years to come.

Whereas Pillar I (AOW) is a PAYG scheme, the Pillar II is financed by capital funding. Each person enrolled in a pension fund contributes directly or indirectly to it (with the employer

[263] Dutch Central Bank statistics

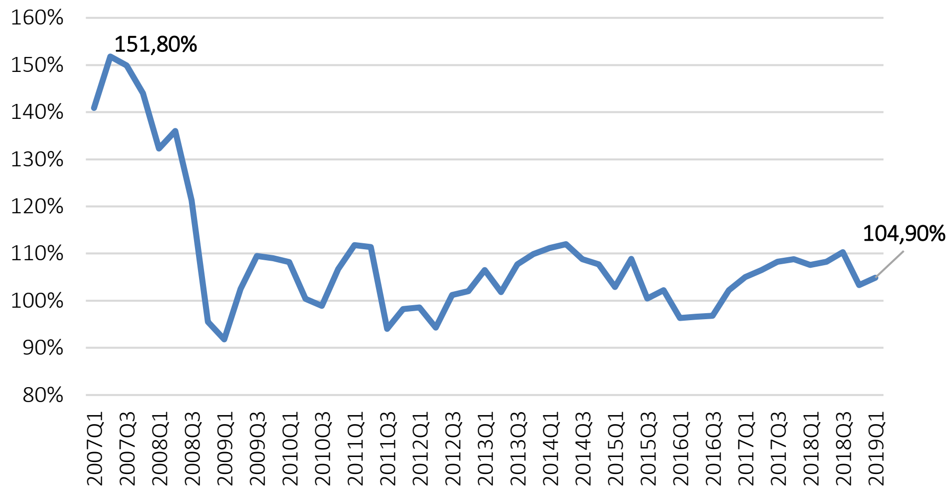
paying the lion's share contribution, often 50% to 70%). The money is subsequently invested in order to fund retirement payouts.

Although enrollment in a Pillar II scheme is not compulsory as such, in many cases it in fact is. The reason for this is that if labur unions and employers in the Netherlands decide to set up a pension scheme for a company or a sector, the government can make enrolment mandatory for everyone working in that company or sector. In practice this means that almost every working person is enrolled in a pension scheme. The government makes it mandatory in order to achieve economies of scale that, in turn, makes it possible for pension funds to operate more efficiently in terms of costs and fees. In addition, mandatory sectoral enrollment prevents a 'race to the bottom' in paid pension premiums - an expensive but notoriously oblique wage element - through labor cost competition between rival companies. In practice, more than 90% of Dutch employees are enrolled in one or more pension funds.[264] An employee can be enrolled in more than one pension fund if he/she, for example, moves to another job in another sector. In such cases he/she starts building his/her pension with the pension fund of the new sector or company. The old pension capital can be left in the former pension fund or, subject to specific rules, transferred to the new pension fund. By law, pension funds are (for many purposes) required to maintain a funding ratio of at least 105% (approximately). Called the "coverage ratio" ("dekkingsgraad" in Dutch), the funding ratio is calculated by discounting the future pension liabilities (i.e. future nominal retirement outflows) with the use of an interest rate curve mandated and regularly updated by the Dutch Central Bank. The current value of pension liabilities up to 20 years in the future are determined by using the actual market-based interest swap curve. The discount interest rates for periods from 20 years onwards are calculated by the Dutch central bank. The interest rates calculated in this way are called Ultimate Forward Rates (UFR) and the Dutch Central Bank imposes a UFR on Dutch pension funds that is more 'prudent' than the European UFR determined by EIOPA. Until recently, this UFR was fixed at 4.2%. Starting from mid July 2015, the UFR is a 120-month moving average of the 20-year forward rate which, in effect, means that it is much lower than the 4.2% used previously. Hence, the funding ratio of the Dutch pension funds fell. The UFR has been lowered even further as of June 2019 to mirror more closely the trend of falling market rates. The lower the interest rates on financial markets, and hence the UFR, the higher the value of future liabilities and the greater the chance that the required coverage ratio (in Dutch "*dekkingsgraad*") will be lower than 105%. When this cover ratio falls below the 105% threshold, the pension fund involved is required to submit a plan detailing how to restore the coverage ratio to above 105% in in a future period between three and five years. It must also submit contingency plans in case the coverage ratio does not rise above 105% in that period of time. If (in DB schemes at least)

[264] Statistics Netherlands (CBS), *Pensioenaansprakenstatistiek 2015. Verantwoording en de eerste resultaten*.

the funding ratio has not recovered up to the 105% threshold within a period five years, a pension fund is obliged to lower pensions. Furthermore, indexation by pension funds is not allowed if the funding ratio is lower than 110% and only fully allowed when the funding ratio has reached the level of a fund-specific "sustainable indexation funding ratio" ("toekomstbestendige indexatie dekkingsgraad"), which usually falls somewhere between 120% and 130%. These indexation-constraining regulations are designed to minimize the risk of future insolvency, thereby protected younger members within pension funds from the risk of large pension cuts in the future. However, these regulations are very controversial – both politically and among Dutch pension experts/professionals – as large financial "buffers" have to be maintained to the detriment of current pensioners.

Graph NL2. Funding ratio of Dutch pension funds



Source: DNB Dutch central bank

Pillar III

Pillar III is made up of individual pension products sold by insurance companies. Life insurance is one example. Another product used in the Netherlands is the so-called "*pensioensparen*", a special-purpose savings account, with the purpose of accumulating supplementary income after retirement. Anyone in the Netherlands can enroll in this pillar, either to save for retirement (there are those who do not fall in Pillar II scheme described above, for example entrepreneurs or those working in a sector or a company without a pension fund of its own) or to supplement the retirement income from Pillar I and II. Purchasing Pillar III products is attractive due to particular tax benefits associated with them.

Research shows that the retirement income from Pillar I and II, on average, equals 70% of the average income before retirement. Statistics Netherlands paints a similar picture for

2014 (the most recent year it provides such data on). When we take into account the third pillar and various other assets, such as savings and the excess value of one's own home (i.e. value of the home minus mortgage) and adjust for the fact that the income tax for retired persons in the Netherlands is lower than tax before retirement, we get the average net replacement ratio of 105%.[265]

Pension vehicles

Second pillar

Note on Premium Pension Institutions (PPIs): *Premium Pension Institutions are not analysed seperately in this report (in particular under Pension Returns) for several reasons. First, the share of those pension schemes in the second pillar is negligible and, more importantly, it is not possible to calculate the return. In addition, the regulator, the Dutch Central Bank, only reports the balance sheet of those schemes, and there are no other yearly figures. According to the leading Dutch outlet for pension-related news* (PensioenPro)*, which based it's figures on DNB sources, there were approximately 770,000 workers enrolled in PPIs (out of some 13 million enrolled in pension funds) as of April 2019 and the schemes had invested assets of some 9.7 billion EUR (the total invested by pension funds is around 1,428 billion EUR).[266] This share is so small because it is only offered by firms that do not have their own or sectoral pension arrangement (if there is one, it is mandatory to enrol and almost every sector has its pension scheme). In practice, this means that such schemes are offered by a small number of companies employing between 20 or 40 persons. Nevertheless, PPIs have been growing fast over recent years so may start to play a bigger role in the future.*

As mentioned, there are many pension funds operating in the Netherlands. However, their number has declined in recent years and is expected to decline even further. Some of the funds are financial giants, with millions of people enrolled and hundreds of billions of euros in assets, while others have just a few (hundreds) participants and a few tens of millions of euros invested. In the table below, we provide some statistics for the 5 largest pension funds in the Netherlands.

[265] https://www.netspar.nl/assets/uploads/Netspar-Design-Paper-68-WEB.pdf and https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71763ned/table?ts=1567116265753.
[266] https://pensioenpro.nl/pensioenpro/30034504/belegd-vermogen-ppis-nadert-10-mrd

Table NL3. Largest Pension Funds in the Netherlands		
Pension fund	Sector / company	Assets (€ bln)*
ABP	Civil service	448.7
Zorg en Welzijn	Medical services	217.8
Metaal en Techniek	Metal	73.2
Bouwnijverheid	Building companies	74.4
Metalelektro	Electrometal sector	48.4

**Assets at the end of 2018, as reported in annual reports for the year 2018*

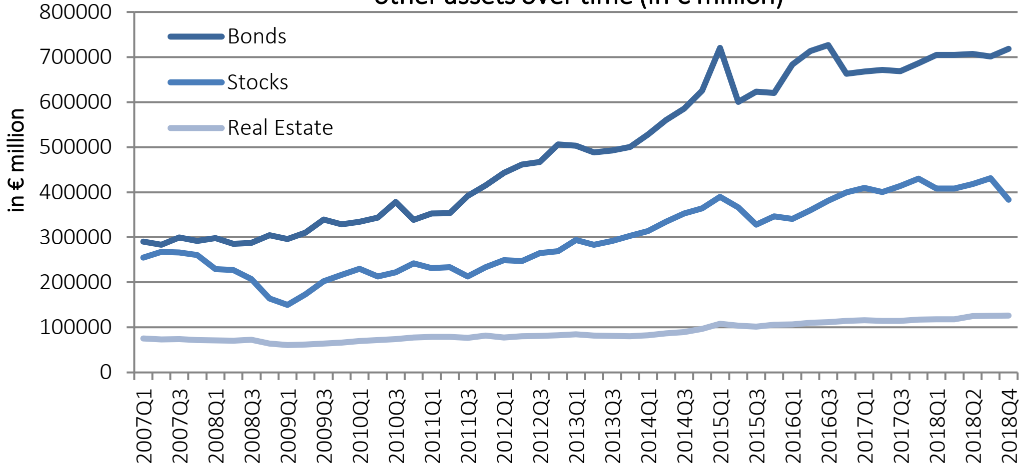
There are three different kinds of pension funds in the Netherlands. First, we have the industry-wide pension funds. Those administer and operate the pensions for an entire sector, such as food companies or civil service. The civil service pension fund, ABP, is by far the largest in the country with assets worth €448,7 billion and 2.97 million people enrolled. Second, there are corporate pension funds, administrating and operating pension schemes for companies. Finally, there are pension funds for independent professionals, for example medical specialists.

Pension funds are independent entities, i.e. they are strictly separated from the company (if applicable) on whose behalf they administer and run the pension scheme. One of the consequences is that if a company files for bankruptcy, employees know that their pensions are not affected.

By the end of 2018, Dutch pension funds in Pillar II had assets worth €1,322.6 billion in total, representing a slight dip compared to the year before. But by Spring 2019, the value of the assets had risen to €1,428.3 billion. To put that in perspective: the Dutch gross domestic product is approximately €745 billion, in other words, the pension assets at the pension funds alone (i.e. ex third pillar assets) are valued at almost 200% of Dutch GDP.[267] The five largest Dutch pension funds combined managed approximately 65% of all Pillar II pension assets in the Netherlands.

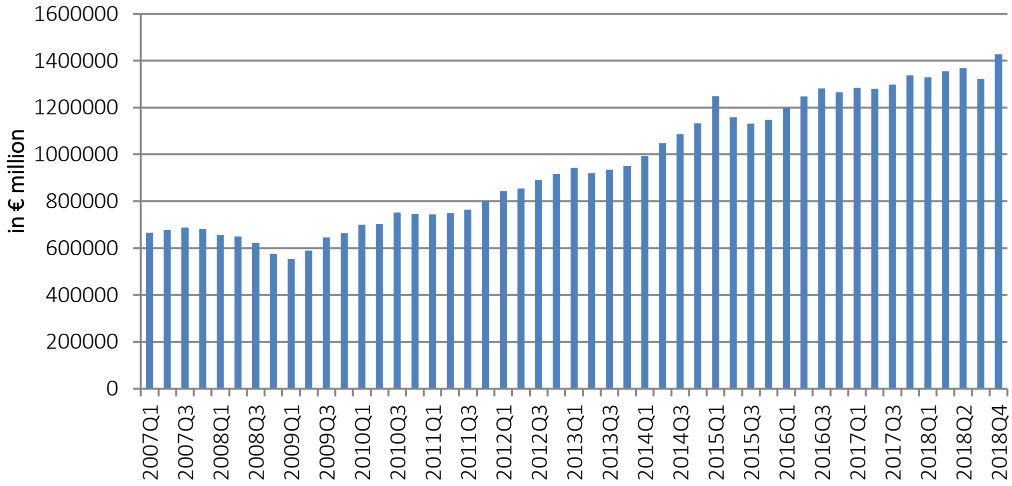
[267] Statistics Netherlands (CBS) estimates that Dutch GDP in 2018 was €744.5 billion (https://opendata.cbs.nl/Statline/#/CBS/nl/dataset/84087NED/table?ts=1566996775641)

Graph NL4. Pension fund assets invested in stocks, bonds, real estate and other assets over time (in € million)



<u>Source</u>: *DNB - Dutch central bank*

Graph NL5. Pension funds' assets



<u>Source</u>: *DNB Dutch central bank*

Third pillar

The third pillar is not mandatory and is run by private insurance companies offering various pension-like products such as life insurance. Every employee can choose whether or not to take part in it, sometimes provided he/she fulfills the conditions to enroll as stated by the law. The most important condition in order to benefit from tax benefits associated with these products is that one has to have a shortfall in his/her pension (called *pensioentekort* in

Dutch). There is an annual maximum amount any Dutch inhabitant can pay in towards his/her retirement income. This maximum, determined by the Dutch tax authority on an annual basis, ensures an acceptable retirement income. If for any reason contributions fall under the maximum amount allowed, the contributor is considered to have a pension shortfall and can deposit the amount equal to the difference between the maximum allowed retirement contribution and the paid contributions into a savings account for retirement income. This difference is subject to a maximum. In 2018 the maximum amounted to €12,362 ("lijfrente jaarruimte"). There is a tax benefit involved since contributions can be deducted from the taxable income, effectively reducing the income tax one has to pay. Moreover, the pay-off upon retirement is taxed at a lower tax rate than the current income. Once a pension shortfall has been identified, and the decision has been taken to deposit the difference on a special-purpose savings account, the deposit(s) cannot be withdrawn before retirement.

The share of those third-pillar products in the retirement mix of the Dutch households is relatively low. According to Statistics Netherlands, Pillar III products only account for 6% of the accrued pension rights of Dutch households. In comparison, Pillar I accounts for 54% with the Pillar II taking a share of 40%.

Charges

Obviously, in order to make money, pension funds must spend money, i.e. there are various fees and other costs involved with investing their assets on the financial markets.

However, information on these costs was difficult to obtain and where available, they must still be interpreted with a great deal of caution. For example, even the Dutch central bank stated in an article from May 2014 that 'there are reasons to believe that not all costs are reported'. The reason is not that the pension funds do not want to report them, but rather that even they are not able to determine them. For example, some companies investing assets of pension funds do not report all costs separately, because it is not in their interest to do so. The Dutch financial markets supervisor (*Autoriteit van Financiële Markten*, AFM) has called upon these companies to disclose all costs. Another difficulty is that information on transaction costs, i.e. costs associated with transactions in the financial markets such as purchase or sale of stocks and bonds or shares in investment funds for example, is not always available.

The consequence is that in previous years when DNB asked the Dutch pension funds to provide the supervisor with, among others, an analysis and details of all the costs they incur, 70 pension funds were not able to report all costs associated with their investments. According to the AFM, 'readers of annual reports are not able to get a clear picture of the relationship between costs, returns and risks pension funds are taking[268]. Just to illustrate how important costs are in the big picture: according to the AFM, lowering costs by a 0.1 percentage point (pp) leads to a 3 pp higher retirement income in the medium-term (25 years).

Recently, much effort has gone into making sure all costs are accounted for. The first results are already observable. Recently, the Dutch central bank has started to publish a new data set, containing total charges – that is including transaction costs – for individual pension funds under its supervision. This will help various stakeholders to get a much clearer picture of the performance of the Dutch pension funds than they do currently. Sadly, the data is only available starting from 2015. For 2017 and 2018 we have used the data that The Pension Rating Agency (TPRA) has collected from the annual reports of more than 80% of Dutch pension funds, as the data in annual reports has all been validated by an accountant.

In the previous edition, the real returns for the period 2000 up to and including 2014 were calculated using the, incomplete, data the Dutch central bank reported for 2007 and onwards. These have not been recalculated. However, the estimate provided in the previous edition for the year 2017 (which was based solely on the largest pension fund ABP has been revised downwards in view of the current availability of annual report data for nearly all Dutch pension funds.

[268] Research report by AFM on information on various charges pension funds incur and how they report those in their annual reports, entitled 'Op naar een evenwichtige verantwoording over deze kosten in jaarverslagen van pensioenfondsen', July 2014

Table NL6. Pension fund charges – Pillar II (RiY - % of total assets)	
Year	Charges
2007	0.20
2008	0.24
2009	0.19
2010	0.15
2011	0.19
2012	0.21
2013	0.23
2014	0.17
2015	0.50
2016	0.50
2017	0.55
2018	0.52

** Weighted average of the total investment costs (including direct and indirect costs, transaction costs and performance fees) as % of average AuM reported by 172 pension funds for 2017 and 174 pension funds for 2018. The average AuM (belegd vermogen voor risico fonds) over the course of a year was estimated by taking the average between the AuM at the start and end of the year.*
Source: DNB Dutch Central Bank / TPRA data derived from annual reports of pension funds

We would like to remark that the real annual return in the years prior to 2015 is most likely lower than calculated, given the fact that the new data set shows that total charges were significantly higher than in previous years. For example, the new data set shows that average charges were 0.5% of total assets, more than double the charges the central bank reported for previous years. Another indicator is some sporadically conducted research on total charges undertaken in previous years. For example, in 2012 reasearchers at consultancy bureau Lane, Clark & Peacock put those costs for the Dutch pension funds at 0.53% of their assets. CME Benchmarking, a Canadian global benchmarking company, calculated that the average cost of the Dutch pension funds in 2012 amounted to, on average, 0.44% of their assets, with the median being 0.41%.

Taxation

Pension funds are exempted from company taxes in the Netherlands[269]. The money Dutch employees pay into their pension funds during their working life is deducted from their gross income and therefore not taxed. In this sense, they enjoy a tax subsidy as their taxable income decreases and, hence, they fall into a lower tax bracket. As stated, pension funds then invest these funds in order to be able to pay an income upon reaching retirement age. The returns, i.e. the increase in pension rights, is not taxed either. When the Dutch reach

[269] Article 3 of the law, available via (in Dutch) http://www.rijksoverheid.nl/documenten-en-publicaties/besluiten/2009/12/15/vennootschapsbelasting-subjectieve-vrijstellingen-artikel-5.html.

retirement, however, their pension is subject to the personal income tax rates in the pay-out phase. This so-called deferred taxing of pensions means that the Dutch get another tax benefit as tax rates are lower for retirees than taxes on non-retiree income.

In the Netherlands, income is taxed at various rates, progressively relative to the level of income. The tax rates are lower for those aged 66 and older. Just as an example, in the table below, we provide the tax rates for the persons older and younger than 66 years of age in 2018, as provided by the Dutch Tax Authority.

In short, contributions to pension savings products are exempt from tax, investment returns are also exempt, but investment pay-outs are subject to income tax, thus rendering an "EET" taxation regime.

Table NL7. Income tax brackets for various age cohorts

Income bracket / age	Younger than 66	66 and older
€0 – €20,142	36.55 %	18.65 %
€20,143 – €33,994	40.85 %	22.95 %
€33,995 – €68,506	40.85 %	40.85 %
over €68,507	51.95 %	51.95 %

Source: Dutch Tax Authority

This means that the tax deferral of pensions constitutes an advantage to an individual, as his/her tax rate is lower when he/she turns 66. The average tax tariff in 2018 for those age 66 and older was 27.48%. We have used the tariffs for the first three brackets on income tax as these are the tax brackets that apply to the vast majority of Dutch retirees in practice (the fourth bracket only applies for income over €68,507).

As stated earlier, contributions towards pensions are deducted from the gross income. In order to calculate the net tax advantage, we have to compare the average tax rate applied to pensions (as stated: 27.48%) and the average tax rate that would have applied if contributions towards pension income was not tax exempt. We can estimate this average tax rate by computing the average of the first three brackets for people younger than 66 years of age and then compare it with the average tax rate for those 66 and older. The average for those younger than 66 years of age in 2018 was 39.42% meaning than the average person in the Netherlands enjoys nearly 12 pp tax advantage on his/her pension scheme due to pension contributions being tax exempt and only pension income is taxed.

Pension returns

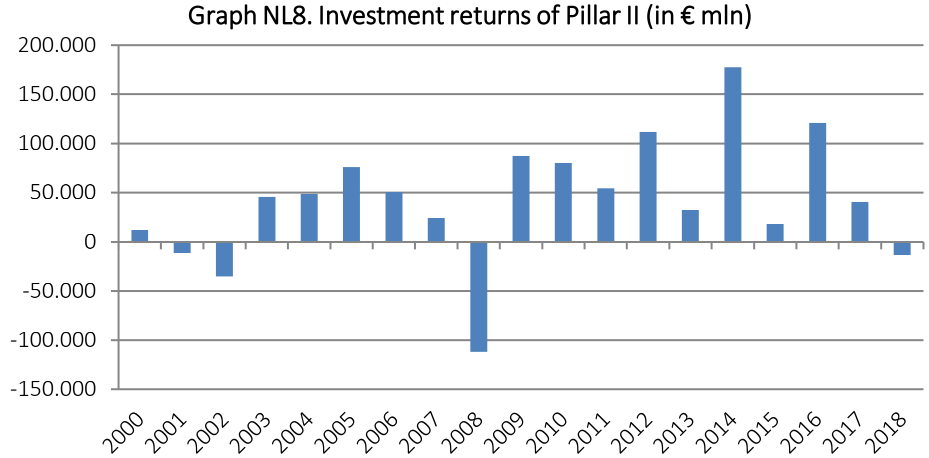
As stated, the pensions Dutch employees receive upon reaching the statutory retirement age depend on their pension funds achieving enough return on their investments. We will report nominal annual, aggregate returns for all Dutch pension funds from 2000 onwards. This is done by using the statistics available at the Dutch central bank, which supervises pension funds and insurance companies. Annual returns will be reported for life insurance companies as well.

We will then focus on various charges and fees pension funds must pay. These costs must be subtracted from the returns, as only net return is available for retirement income. In order to calculate the real rate of return, we will deduct the annual inflation in the Netherlands, as reported annually by Statistics Netherlands (CBS). Statistics Netherlands publishes two different inflation measures. One is calculated according to the EU-method (Harmonized Index of Consumer Prices, which is developed in order to be able to compare inflation rates in the EU-nations); the other is the traditionally used Dutch method of inflation calculation. Although the latter matters for the annual indexation of Dutch pensions, we will use the EU-method of calculation of the real rate of return later on, in order to make the Dutch results comparable with the results from other European countries[270].

Pension funds

The Dutch supervisor of pension funds, the Dutch central bank, provides investment return figures, in billion euros, for aggregate pension funds[271]. However, the data for 2017 and 2018 were not available as of August 29th, 2019. Therefore, we have determined the investment returns over both 2017 and 2018 using the TPRA dataset based on the 2018 annual reports of 178 Dutch pension funds (missing data are of relatively small pension funds).

[270] As a check, in the last edition the calculations of the real return were performed using the Dutch method for inflation calculation as well. The average real return of pension funds did not change. The average real return for insurance companies did change slightly, from 0,05% to 0,03%.
[271] http://www.statistics.dnb.nl/financieele-instellingen/pensioenfondsen/index.jsp



Source: DNB Dutch Central Bank

Compared to the previous edition, the return for 2017 has been adjusted downwards. The proxy used in the previous edition extrapolated from the investment returns of the 5 largest funds, but the much larger dataset used in this edition shows a different aggregated picture of the nominal investment returns.[272]

At this stage, we have calculated nominal return on investment for each year between 2000 and 2018. Using the quarterly returns reported by the Dutch regulator DNB we have determined the weighted overall investment return of all pension funds for 2017 and 2018. For 2017 this leads to an incongruity with the total investment returns (in € millions) reported in the annual reports (and presented in Graph NL8) compared to the asset totals at the start of that year (presented in Graph NL5). The result derived from the quarterly returns is significantly higher (5.8% instead of 3.2%) which can be in part explained by the fact that indirect investment costs have already been subtracted from the overall 2017 returns value in Graph NL8 and the fact that the returns of approximately 40 relatively small pension funds have not been included in that value.

Table NL9. Annual nominal return of all Dutch pension funds	
Year	Return as % of total assets
2000	2.70
2001	-2.48
2002	-8.12
2003	9.40

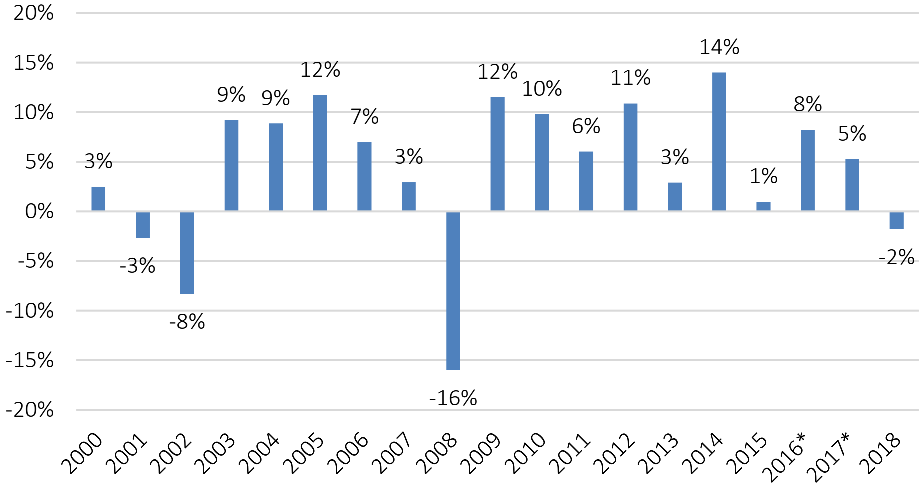
[272] The balance sheets that pension funds publish in their annual reports show the nominal investment returns (in €) after subtracting indirect investment costs (such as transaction costs). In the balance sheets, only the direct charges are revealed. In other sections of most annual reports, however, the indirect investment costs are also reported.

2004	9.06
2005	11.92
2006	7.16
2007	3.14
2008	-15.76
2009	11.73
2010	9.98
2011	6.23
2012	11.1
2013	3.15
2014	14.18
2015	1.47
2016	8.74
2017	5.81
2018	-1.26
Average 2000-2018	4.37

Source: DNB Dutch Central Bank

After this, we have subtracted the average charges from the average return (which are generally exempted from taxation). The results are visible in the graph below.

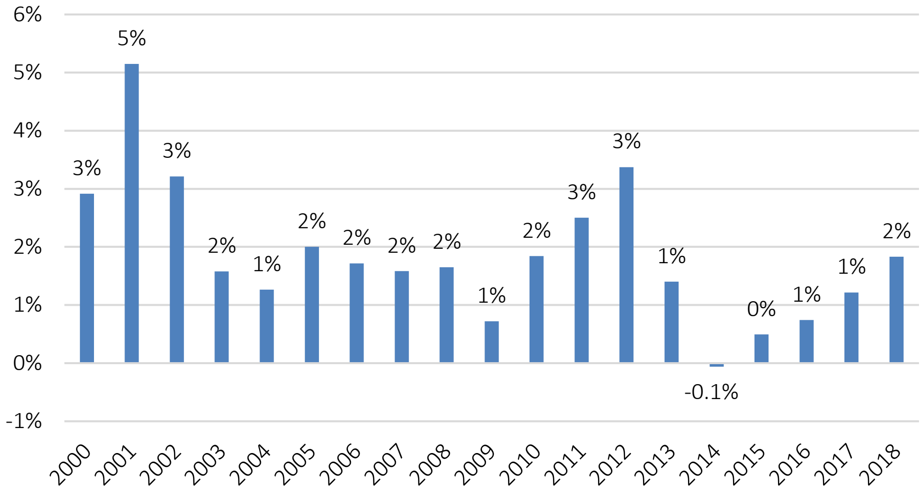
Graph NL10. Returns after charges and before inflation



Source: own calculations

The next step on the way to calculating the real return on investment of the Dutch pension funds is to subtract the annual inflation rate from the nominal returns after charges. As already mentioned, Statistics Netherlands publishes two inflation statistics, one based on the EU-harmonized method and one on the Dutch method. We will use inflation figures calculated using the EU-harmonized method.

Graph NL11. Annual inflation rate in the Netherlands

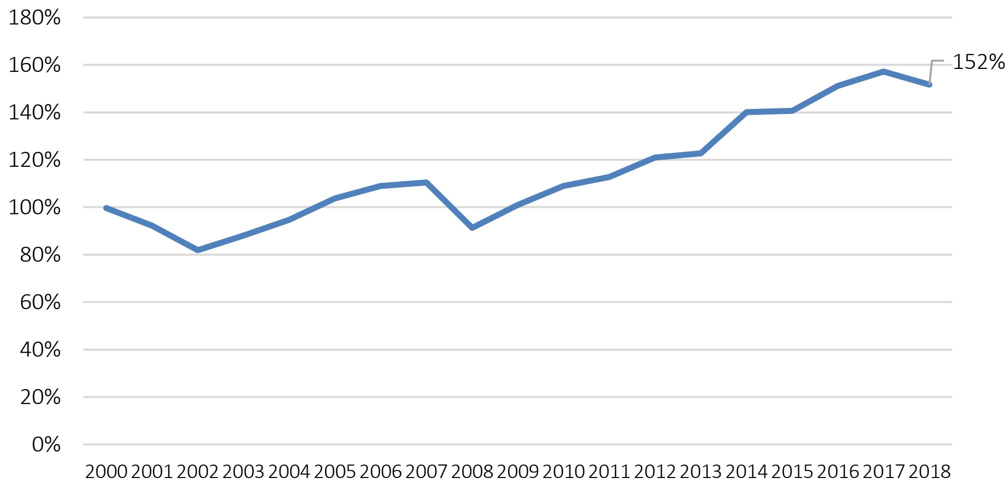


Source: Eurostat HICP (annual average)

When we use the annual inflation data from 2000 and adjust the return after charges for inflation, we get the following outcome:

Table NL12. Return after charges and inflation	
2000	-0.40%
2001	-7.45%
2002	-11.17%
2003	7.50%
2004	7.50%
2005	9.53%
2006	5.15%
2007	1..33%
2008	-17.36%
2009	10.74%
2010	7.84%
2011	3.45%
2012	7.27%
2013	1.50%
2014	14.08%
2015	0.47%
2016	7.44%
2017	3.99%
2018	-3.55%
Average 2000-2018	**2.21%**

Graph NL13. Cumulative real net performances



Source: Own calculations, Statistics Netherlands

Based on these data we can observe that Dutch pension funds have had both good and bad years with regard to their annual real returns. Especially during the aftermath of the dotcom bubble in the early 2000s, in 2008 when the financial crisis was at its height and during the most recent completed year, 2018, real returns have been disappointingly negative. Over the entire period 2000-2018, however, the yearly (geometric) average real return has been a respectable 2.21%. In terms of cumulative real net returns of Dutch pension funds, the first decade of the 21st century proved to be a lost decade, but since 2010 cumulative real yields have added over 50% to the real value of pension savings.

Pillar III vehicles

It is currently impossible to calculate the real rate of return on many products that fall into this Pillar III category. In 2006, it emerged that companies providing these products have charged costs that are much higher than real, disclosed, costs. Those who purchased such products were not fully informed about costs, such as entry costs and various annual fees. Moreover, many costs were hidden in the value of the product, making it next to impossible to disentangle the full extent of the costs. In fact, it was revealed that, in some cases, as much as 50% of the amount paid in, was not used towards investments to achieve targeted retirement income, but instead went towards covering various costs of the issuer. In turn, this meant that people were in for a shock when they learned just how much extra retirement income they would get from this third pillar: it was significantly less than they were counting on and often significantly less than what they were told it would be upon their retirement.

This *woekerpolis-affair,* as it is known in the Netherlands (woekerpolis can best be translated as exorbitant profit affair), is an ongoing affair with households and insurance companies engaging in talks with each other in order to compensate the Dutch households for damages resulting from incorrect information on, among others, costs. There have even been cases that were brought before Dutch courts. The affair has already been dubbed the largest financial scandal in Dutch history.

In 2008, another product was launched (partly in reaction to the *woekerpolis-affair)* called *banksparen* (saving for retirement). One has to have a pension shortfall, as mentioned earlier, to be able to purchase this tax-preferential product. The interest rate depends on the plan one chooses and varies from a variable interest rate to a fixed rate for 30 years and also differs depending on which company one chooses to purchase this product from. Currently, the interest rate falls between 0% for variable rate to 2.0% for 20-year fixed interest rate[273]. Adjusted for inflation, the real return on this product lies generally under 0% (for variable rates) and just slightly above 0% for fixed interest rate schemes (assuming the inflation rate will remain below but close to 2% during the 20-year period). This is before charges, which as stated, cannot really be computed due to the *woekerpolisaffair.*

When it comes to life insurance schemes, which form a large part of the third pillar products and hence can be used as a proxy for the returns in this pillar, we used the total return after charges and taxes, but before inflation, and the amount invested on behalf of owners of life insurance policies. It is important to note that an unknown percentage of the pension plans executed by life insurance companies fall under Pillar II (employer-related pension) rather than Pillar III (personal pension). So, as stated, the returns of the life insurance companies are merely a proxy for Pillar III returns (data on the returns of another pension vehicle active in both the second and third pillar, the PPI, are missing entirely).

Table NL14. Real Return of Life Insurance Companies in the Netherlands

Year	Investment result (after charges and taxes)	Investments on behalf of policy holders	Nominal return (net of charges and taxes)	HICP Inflation	Real return (net of charges, inflation and taxes)
2000	2,771	70,928	4%	2%	2%
2001	2,593	76,960	3%	5%	-2%
2002	240	68,535	0%	4%	-4%
2003	2,793	76,814	4%	2%	1%
2004	2,306	82,755	3%	1%	1%
2005	3,322	95,972	3%	2%	2%

[273] Various interest rates available from website www.homefinance.nl

2006	3,935	99,693	4%	2%	2%
2007	6,951	100,755	7%	2%	5%
2008	-5,580	87,460	-6%	2%	-9%
2009	2,070	101,246	2%	1%	1%
2010	180	106,624	0%	1%	-1%
2011	-460	105,555	0%	3%	-3%
2012	360	110,790	0%	3%	-2%
2013	2,208	106,480	2%	3%	-1%
2014	-2,988	111,112	-3%	1%	-4%
2015	3,547	104,934	3%	0%	3%
2016	2,819	110,160	3%	0%	2%
2017	3,179	103,093	3%	1%	2%
2018	3,280	85,634	4%	2%	2%
AVERAGE 2000-2018			1.87%	1.85%	0.03%

Source: Own calculations, Statistics Netherlands

The average annual return after charges and taxes, but before inflation, for life insurance companies in the Netherlands between 2000 up to and including 2018 amounts to 1.87%. The average annual inflation rate in the Netherlands over the same period was 1.92%. Therefore, the average real annual return of insurance companies in the Netherlands for the period between 2000 and 2017 stands at virtually nil (0.03%).

Presenting all these calculations together, we get the following table:

Table NL15. Average real return of pension funds and insurance companies in the Netherlands

	Nominal return pension funds (1)	Return insurance companies after charges (2)	HICP annual inflation rate (3)	Charges pension funds (4)	Real return pension funds	Real returns insurance companies
2000	2.70	3.91	2.92	0.20	-0.40	0.96
2001	-2.48	3.37	5.15	0.20	-7.45	-1.69
2002	-8.12	0.35	3.21	0.20	-11.17	-2.77
2003	9.40	3.64	1.58	0.20	7.50	2.03
2004	9.06	2.79	1.27	0.20	7.50	1.50
2005	11.92	3.46	2.00	0.20	9.53	1.43
2006	7.16	3.95	1.72	0.20	5.15	2.19
2007	3.14	6.9	1.58	0.20	1.33	5.24

2008	-15.76	-6.38	1.65	0.24	-17.36	-7.90
2009	11.73	2.04	0.72	0.19	10.74	1.31
2010	9.98	0.17	1.84	0.15	7.84	-1.64
2011	6.23	-0.44	2.50	0.19	3.45	-2.87
2012	11.1	0.32	3.37	0.21	7.27	-2.95
2013	3.15	2.07	1.40	0.23	1.50	0.66
2014	14.18	-2.69	-0.06	0.17	14.08	-2.63
2015	1.47	3.38	0.49	0.50	0.47	2.88
2016	8.74	2.56	0.74	0.50	7.44	1.81
2017	5.81	3.08	1.22	0.55	3.99	1.84
2018	-1.26	3.83	1.83	0.52	-3.55	1.96
Avg.	**4.37**	**1.87**	**1.85**	**0.27**	**2.21**	**0.03**

Source: Data reported by the Dutch Central Bank.

Conclusion

Dutch employees are far less dependent on a State pension compared to other Europeans since their individual pension plans account for the main part of their retirement income.

Generally speaking, the pension funds that invest the largest share of pension contributions tend to provide decent returns after taxes, charges and inflation. For the period considered here, 2000-2018, the average annual real return is 2.52%. The pension vehicles in the third pillar, such as life insurance companies, return far less, practically nil over the same period. However, one must note that the third pillar is relatively small, and a relatively small number of individuals are enrolled in it.

Historically, in the postwar period, Dutch employers and employees have invested much in pension schemes and premiums, with the traditional rule of thumb being that one-fifth of wage benefits were dedicated to pension investments. Also, the Dutch pension system has maintained an exceptional degree of compulsion, submitting most sectors of the economy to mandatory sectoral pension schemes. This, combined with a regulatory framework which utilizes discount rates that are more prudent (many argue that these are too prudent) than those used by EIOPA, for example, explains why the Dutch pension system is consistently judged to be (one of the) strongest in the world.

Like other pension systems in OECD countries and elsewhere, however, Dutch pensions have come under strain by the combination of an aging population and historically low interest rates. Also, as the labor market has become increasingly flexible, generational conflict has increased within pension funds (which utilize cross-generational subsidies in the traditional expectation that employees spend their entire working lives within a single sectoral or company-based pension fund) and a growing part of the work force does not fall under any Pillar II pension scheme at all.

The Dutch government, trade unions, and employers' organizations have signed an accord (*Pensioenakkoord*) aimed to address the issue of intergenerational subsidies which ultimately points towards a (slow) general move away from DB towards DC. So far, however, little has been done to address the growing Pillar II 'blind spot' (*witte vlek*) which may lead to strongly declining average replacement rates in the future and to growing elderly poverty rates. On a brighter note, Dutch pension regulators and pension funds, have pioneered a focus on cost-related transparancy over the last few years. Due to the financial clout of Dutch pension funds, this has forced many (internationally operating) investment firms to clarify the structure of fees and charges. Obviously, the governance and performance of pension funds themselves has become more transparent as well, increasing accountability. This welcome development towards greater transparency may benefit institutional investors elsewhere and may surge ahead towards new terrains such as ESG performance.

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Editor and Publisher
The European Federation of Investors and Financial Services Users
Rue du Lombard 76
1000 Brussels
Belgium
info@betterfinance.eu

Coordinators

Ján Šebo
Ştefan Dragoş Voicu

Contributors

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

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