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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[4] Ibid.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Contributors

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

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

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

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

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

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

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

Timothée Galvaire is Research Assistant at BETTER FINANCE.

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

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

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

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

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

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

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

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

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

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

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

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

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

Country Case: Bulgaria

Executive Summary (English)

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

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

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

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

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

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

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

Executive Summary (Bulgarian)

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

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

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

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

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

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

Introduction

The Bulgarian pension system rests on three pillars:

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

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

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

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

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

The contribution to the Universal pension funds is set by law at 5% of the insurable income (up to the maximum insurable income) and is split between the employer and the employee. The contribution to the Universal pension funds is not supplementary but it is rather deducted from the mandatory pension insurance contribution of 19.8 % of the insurable income. Those participating in Universal pension funds in essence split their contribution between the state pension fund (14.8% of insurable income) and the universal pension fund of their choice (5% of insurable income). Thus, Pillar II universal pension funds are not "supplementary", but rather represent a partial privatization of the state pension insurance. Correspondingly, those contributing to a universal pension fund will see their state pension reduced in proportion to the lower level of contributions to the state pension funds they have made. The coverage of universal pension funds is nearly universal since until 2015 the participation was mandatory for those born after 1959 and very few insured have opted out of UPFs between 2015 and 2018.

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

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

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

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

Sources :
**) Old age pensions only. National Social Security Institute https://appreports.nssi.bg/elserviceStatData/StatPens.aspx*
***) National Statistical Institute http://bit.ly/2W5JldW*
****) Eurostat http://bit.ly/2vYvIEa*
⌘) Financial Supervision Commission http://bit.ly/2Hm6fKm

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

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

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

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

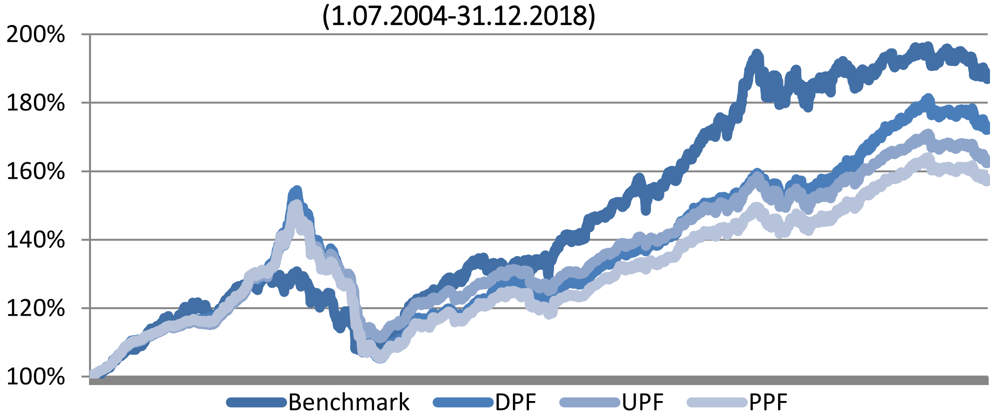
Sources: Author's calculations based on

1. Financial Supervisory Commission, Unit values of pension funds

2. Eurostat HICP database

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

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



Sources: Author's calculations based on

1. Financial Supervisory Commission, Unit values of pension funds

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

3. S&P Eurozone Sovereign Bond Index

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

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

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

Pension vehicles

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

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

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

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

Universal pension funds

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

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

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

Contributions

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

Minimum Returns

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

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

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

Reserves

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

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

Distribution

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

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

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

Professional pension funds

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

Contributions

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

Minimum returns

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

Reserves

The same provisions as for universal pension funds apply.

Distribution

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

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

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

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

Voluntary pension funds

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

Minimum returns

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

Reserves

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

Distributions

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

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

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

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

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

Voluntary professional pension funds

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

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

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

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

Asset Allocation (Investment Strategy)

Pension companies in Bulgaria are allowed to manage only one pension fund (one portfolio) per category (universal, professional, voluntary or voluntary professional). Thus, they are prevented by law from assessing the suitability and appropriateness of any pension fund to the insured. Every client of each type of fund receives the same portfolio irrespective of his or her time horizon, investment objectives, risk tolerance, financial circumstances or the ability to bear losses.

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

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

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

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

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

Table BG5. Asset Allocation of the main pension vehicles in Bulgaria

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

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

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

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

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

Charges[92]

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

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

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

Table BG6. Legal caps on fees and charges in 2018

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

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

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

[92] Data on charges are collected from individual pension companies' Internal Rules and Regulations for managing pension funds. These documents are publicly accessible on the web page of each pension company.
[93] Up to 10% of the positive nominal return to the fund/ individual account.

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

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

Administrative charges are normally one-time and nominal.

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

Table BG7. Pension funds fees and charges for Universal/ Professional Funds - (2016-2019)

	2016	2017	2018	2019
Front Load	4.50 %	4.25 %	4.00 %	3.75 %
Management fee	0.90 %	0.85 %	0.80 %	0.75 %

Source: Art. 201, Social Insurance Code

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

Taxation - EEE

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

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

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

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

Pension Returns

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

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

Money-weighted Returns

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

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

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

**Universal Pension Funds were launched in April 2002*

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

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

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

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

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

**Professional Pension Funds were launched in June 2001*

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

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

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

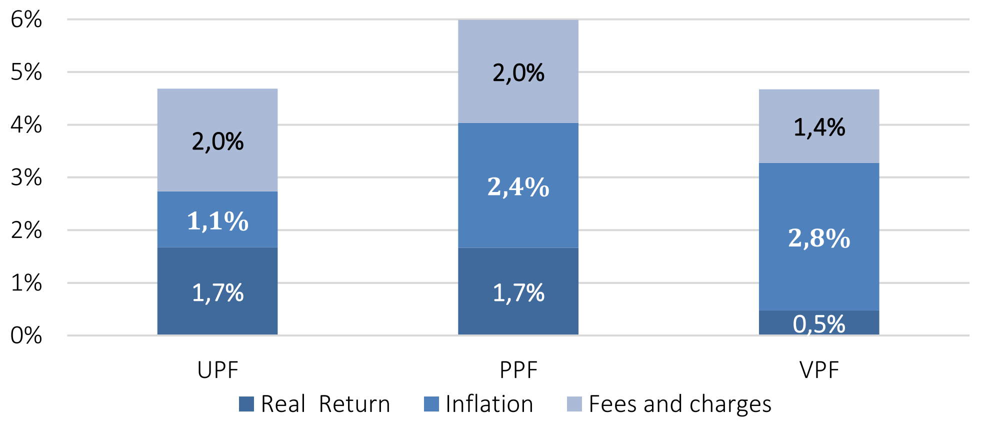


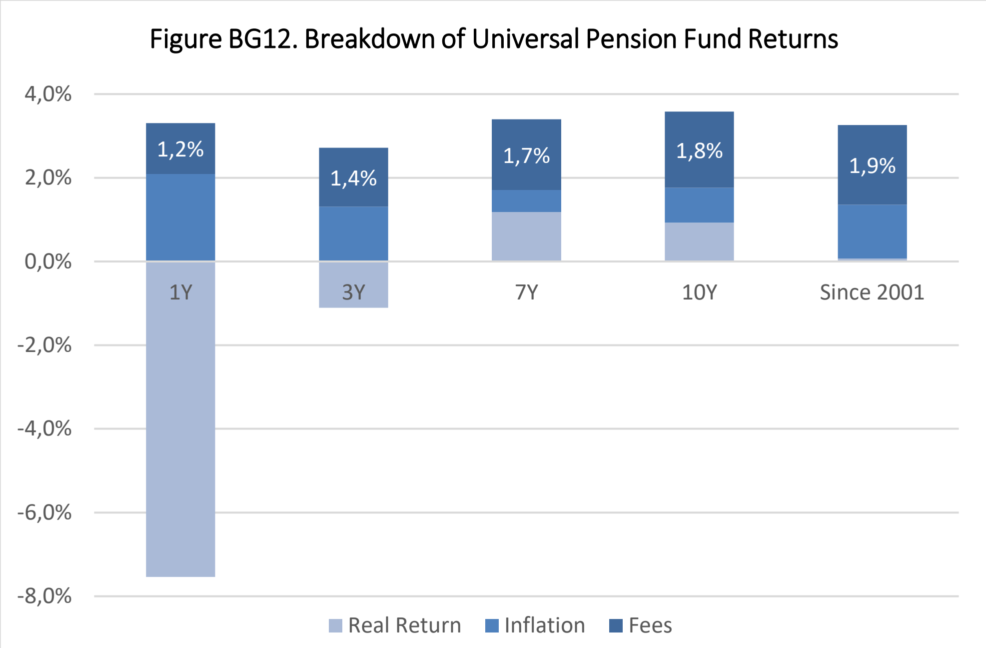
Table BG11. Voluntary Pension Funds (VPF) Money-Weighted Returns					
	Nominal Return (Net of Fees)	Fees and charges**	Nominal Return (Gross of Fees)	Inflation (HIPC)	Real Return (Gross of Fees)
2002*	15.4%	4.5%	10.9%	5.8%	4.9%
2003	9.7%	2.6%	7.2%	2.3%	4.8%
2004	11.4%	2.4%	9.0%	6.1%	2.7%
2005	9.1%	2.1%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

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

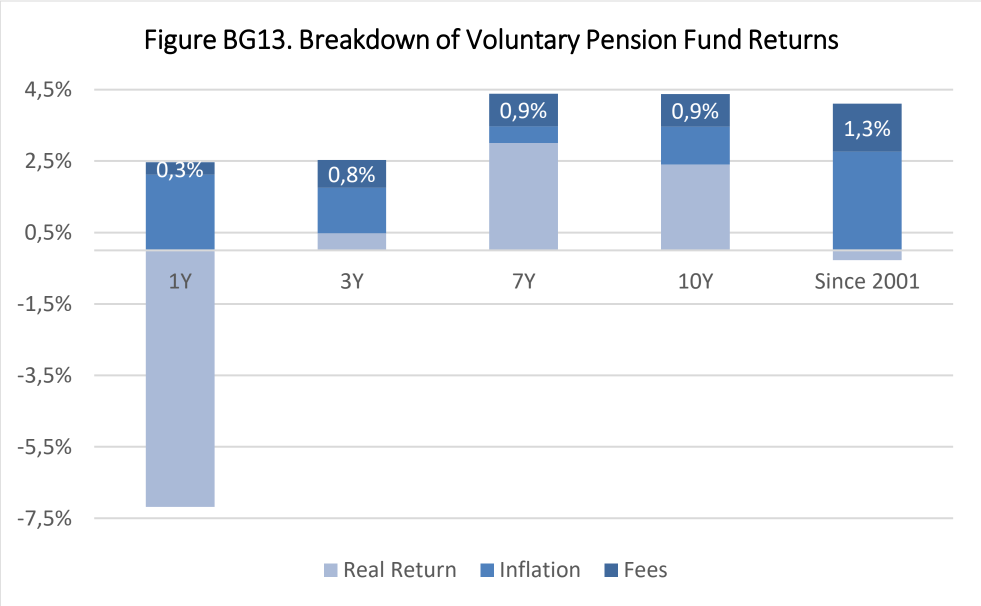
***No official statistics for 2002 and prior to 2002 - estimation for these years*

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

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



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



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

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

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

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

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

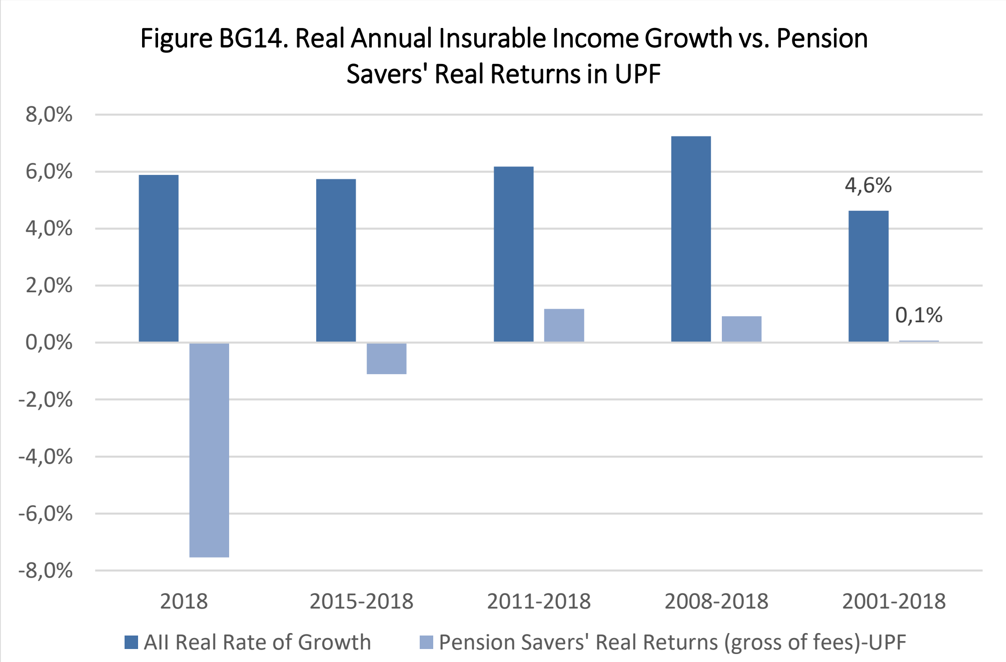
The last point requires some elaboration. While contributions to Voluntary pension funds are truly additional to the mandatory pension contributions, the contribution to the Universal pension funds is financed at the expense of the contribution to the State Pension Fund[96]. This means that while the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

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

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

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

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



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

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

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

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

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

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

Conclusion

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

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

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

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

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

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

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

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

Reforms on the Agenda:

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

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

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

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

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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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