PENSION SAVINGS
THE REAL RETURN
2018 EDITION

BF BETTER FINANCE

The European Federation of Investors and Financial Services Users
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Pension Savings: The Real Return
2018 Edition

A Research Report by BETTER FINANCE

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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]

"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.

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[2] See European Commission, 'Investment Funds' (28 August 2018) https://ec.europa.eu/info/business-economy-euro/growth-and-investment/investment-funds_en.

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

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

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

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

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

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

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

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

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

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

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[4] Ibid.

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

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

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

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

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

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

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

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

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

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

may be part of a broader employment contract, it may be set forth in the plan rules or documents, or it may be required by law. In addition to having an explicit retirement objective, pension plans may offer additional benefits, such as disability, sickness, and survivors' benefits.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Contributors

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Edin Mujagić is a Dutch economist and journalist and holds a degree in Monetary Economics from the University of Tilburg. He is a member of the Economists' Club at Project Syndicate and founded the independent macro-economic consultancy Oranje Lelie. Youngest ever member of the Monetary Circle in the Netherlands, Mujagić is currently aligned to Tilburg University.

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Pension Savings: The Real Return

2018 Edition

Country Case: Bulgaria

Summary

The results can be summarised as follows:

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

Bulgarian Summary

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

ТАБЛИЦА БГ01. ПЕНСИОННАТА СИСТЕМА ОТ ПТИЧИ ПОГЛЕД					
	Първи стълб	**Втори стълб**		**Трети стълб**	
	Държавна, дефинирани пенсии, разходо-покривна	**Универсални пенсионни фондове, дефинирани вноски**	**Професионални пенсионни фондове, дефинирани вноски**	**Доброволни пенсионни фондове, дефинирани вноски**	**Доброволни пенсионни фондове по професионални схеми, дефинирани вноски**
1. Участие	Задължително	По избор[99]	По избор[100] за заети I и II категория труд	По избор	По избор за заети I и II категория труд
2. Право на пенсия	Осигурителен стаж и възраст	Пенсионна възраст по КСО или пет години преди това, ако партидата позволява	Специфични възраст и осигурителен стаж	Пенсионна възраст по КСО или пет години преди това	60 годишна възраст
3. Вид пенсия	Пожизнена пенсия	Пожизнена пенсия, ако остатъкът по партида позволява или срочна пенсия	Срочна пенсия	Пожизнена или срочна пенсия	Срочна пенсия
4. Участници / Брой партиди[101]	2,802,898	3,667,851	297,323	614,761	7,788
5. брой пенсионни фондове	1	9	9	9	1

[99] Осигуреното лице може да се откаже от осигуряване в УПФ/ППФ след като се е осигурявало в пенсионен фонд минимум една година и до пет години преди навършване на пенсионна възраст.
[100] Идем.
[101] Към 31.12.2017 г.

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

[102] Ibid
[103] Ibid

Introduction

The Bulgarian pension system rests on three pillars:

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

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

The publicly managed PAYG Pillar I still plays a major role in the Bulgarian pension system, as pay-outs from Pillar II have not yet started “en masse” and pay-outs from Pillar III are quite limited. As of 2015 (the most recent year for which data is publicly available) the accumulated pension rights in the public Pillar I are estimated at BGN 140.5 billion, as opposed to just BGN 9.3 billion of assets accumulated in Pillar II and Pillar III combined[104] (€71.8 billion and €4.8 billion or 159% and 11% of GDP respectively). On average, 2.8 million individuals contributed to the public Pillar I in 2017, while over 3.6 million accounts were reported in Universal Pension Funds (UPFs - part of Pillar II, see Table BG1 below). Since one cannot contribute to a UPF without contributing to the Pillar I pension fund, we infer that about 800,000 UPF accounts are dormant and belong to individuals who have emigrated and stopped contributing to their UPF account.

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

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

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

[105] National Social Security Institute. (2018). “Economic and Social Indicators – 2017”. http://www.nssi.bg/images/bg/about/statisticsandanalysis/statistics/pokazateli/ECON2017_XII.pdf

[106] National Statistical Institute. (2018). “Total Replacement Ratio” (In Bulgarian). http://www.nsi.bg/sites/default/files/files/data/SDI/SDI%204.4_bg.doc

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

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

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

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

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

The Bulgarian Pension system at a glance:

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

[108] Optional - employees can opt out of Universal pension funds after at least one year of contributing and up to five years before reaching statutory retirement age.
[109] Idem.
[110] Eligible - strenuous & hazardous working conditions as defined by law.
[111] Idem.
[112] As of end-2017.
[113] Idem.

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

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

Pension Vehicles

The privately managed pension funds in Bulgaria come in four varieties. Universal and professional pension funds fall under Pillar II, while Pillar III consists of voluntary pension funds and voluntary professional pension funds.

Pension funds are managed by specially licenced, privately owned and operated pension companies. As of the end of 2017, a total of nine companies manage pension funds in Bulgaria. They are subject to various governance and capital requirements.

Each pension company is allowed to manage a single fund of each type: universal, professional, voluntary and voluntary professional. As of end 2017, just one company offers all four pension fund vehicles and the remaining eight companies offer three pension funds each (universal, professional and voluntary).

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

Universal pension funds

The universal pension funds are by far the most important pension vehicle in Bulgaria with over 3.6 million individual pension accounts and BGN 10.5 billion (€5.4 billion[114]) in assets

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

under management (as of end 2017). Until August 2015 participation in the universal funds was mandatory for employees born in 1960 or later, and it has been optional ever since for those who participated for at least one year in a universal pension fund. Participation in universal pension funds is tied to the employment status of the insured and both the employee and the employer are required to make contributions. Universal pension funds operate at national level and not at company or industry level.

Contributions

Contributions to the universal funds are set by law at 5% of insurable income[115], which in 2017 was capped at BGN 2,600 (€1,329.36) per month. This ceiling remains in effect in 2018.

Minimum returns

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

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

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

Reserves

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

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

Distribution

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

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

Professional pension funds

Only those employees who work under strenuous and hazardous conditions such as miners, air pilots or similar, are eligible to participate in professional pension funds. People working under these conditions are entitled to an early retirement. The purpose of professional pension funds is limited to ensuring pensions for a prescribed length of time until those employees become eligible to draw pensions from the universal pension funds. With BGN 1 billion (€540 million) in assets under management and 297 thousand participants (as of end 2017), professional pension funds play a more limited role in the Bulgarian pension system.

Contributions

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

Minimum returns

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

Reserves

The same provisions as for universal pension funds apply.

Distribution

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

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

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

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

Voluntary pension funds

Voluntary pension funds form the core of pillar III of the Bulgarian pension system. Nine voluntary pension funds operating in Bulgaria manage 614 thousand individual accounts with BGN 1 billion (€540 million) in assets (as of end 2017). Any person 16 years of age or older may contribute to a voluntary pension fund. Contributions are either personal or made by a third party (such as an employer) on behalf of the insured.

Minimum returns

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

Reserves

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

Distributions

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

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

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

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

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

Voluntary professional pension funds

With only one voluntary professional fund with 7,788 participants and BGN 14.1 mln (€ 7.2 mln) in assets under management as of end-2017, this vehicle is a rather insignificant part of the Bulgarian pension system and will be dropped from the real return analysis. Only participants in professional pension schemes can contribute to voluntary professional pension funds. Employers may choose to make contributions on behalf of employees too.

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

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

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

Asset Allocation (Investment Strategy)

Pension companies in Bulgaria are allowed to manage only one pension fund (one portfolio) per category (universal, professional, voluntary or voluntary professional). Thus, they are prevented by law from assessing the suitability and appropriateness of any pension fund for the insured. All clients of the respective types of funds offered by a pension company, receive the same portfolio irrespective of time horizon, investment objectives, risk tolerance, financial circumstances or the ability to bear losses.

At the same time pension funds' portfolios are subject to investment restrictions. Universal and Professional funds' investments in 2017 were limited to no more than 45% investments in dynamic assets and no less than 55% in fixed income and cash equivalents. Specifically, the limits were as follows:

- No more than 20% in equities;
- No more than 15% in collective investment schemes such as mutual funds and ETFs. Since the investment focus of these collective schemes is not defined, theoretically they can be invested in equites;
- No more than 5% in REITs (Real Estate Investment Trusts) and
- No more than 5% directly in investment property.[116]

Investment restrictions for Voluntary pension funds are more relaxed and focus primarily on limiting concentration and exchange rate risk.

We report the asset allocation per major pension category in Table BG2 below. Over the last three years Universal and Professional pension funds hold about 44%-49% in government bonds; 12%-13% in corporate and municipal fixed income instruments and about 27%-30 % in equities and collective investment schemes.

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

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

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

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

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

Thus pension funds in Bulgaria are managed quite conservatively, especially considering the fact that they are largely in the accumulation phase. Conservative strategies imply lower expected returns going forward, which makes it less likely for pension savers to enjoy an adequate retirement income. The asset allocation of all pension funds in Bulgaria, including the post-crisis period, and the decision to maintain less exposure to riskier asset classes explains why their investments did not fully participate in the stock market recoveries that have occurred since 2009 and their long-term performance still lags behind the market return as shown on Graph BG1 below.

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

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

Charges[118]

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

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

The law caps those fees and charges as follows (2017):

Table BG3. Legal caps on fees and charges in 2017

Fees	Universal/ Professional Pension Funds	Voluntary Pension Funds
Entry fee	4.25%	up to 7%
Management fee	0.85%	10%[119]
Transfer fee	BGN 10.00	BGN 20.00

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

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

[117] Art. 176-178. Social Insurance Code. http://noi.bg/images/bg/legislation/Codes/KCO.pdf
[118] Data on charges are collected from individual pension companies' Internal Rules and Regulations for managing pension funds. These documents are publicly accessible on the web page of each pension company.
[119] Up to 10% of the positive nominal return to the fund / individual account.

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

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

Administrative charges are usually one-time and nominal.

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

Table BG4. Pension funds fees and charges for Universal/ Professional Funds (2016-2019)

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

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

Taxation - EEE

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

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

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

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

Pension Returns

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

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

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

Time-weighted Returns (TwR)

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

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

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

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

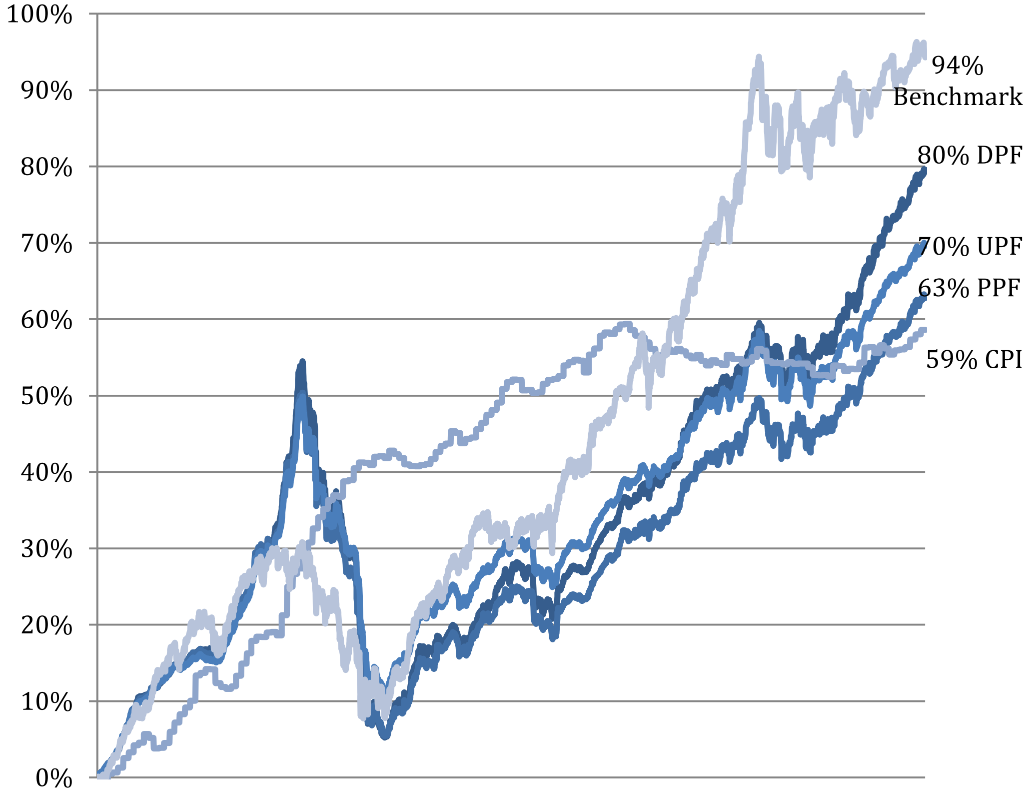
Table BG5. Nominal Annualized Time-Weighted Returns (net of fees)					
	1 year	**3 years**	**7 years**	**10 years**	**Since inception**
	2017	*2014-2017*	*2010-2017*	*2007-2017*	*1.07.2004*
Universal Pension Funds	6.1%	3.8%	4.0%	3.1%	4.0%
Professional Pension Funds	6.5%	4.1%	4.1%	1.2%	3.7%
Voluntary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

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

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

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

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



<u>Sources</u>: BETTER FINANCE's own calculations based on:
1. Financial Supervisory Commission, Unit values of pension funds
2. STOXX Europe 600 Index EURSXXP
3. Euro Government Bond 10Yr Term Index (BCEX4T)
4. National Statistical Institute, Consumer Price Index, 1995=100

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

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

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

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

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

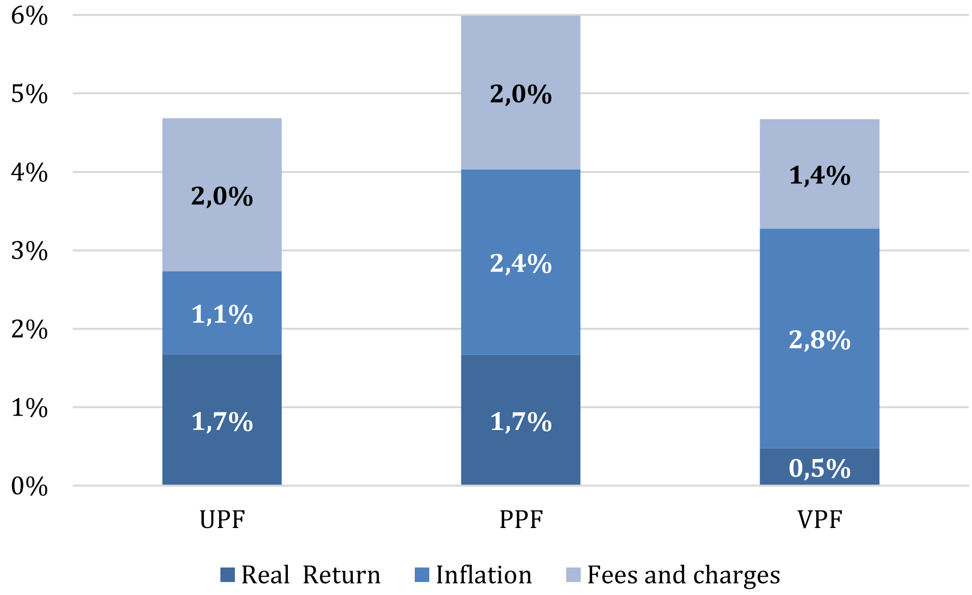
While the benchmark portfolio is overly simplified as it does not include all the asset classes that pension funds in Bulgaria invest in, the comparison is revealing in that the benchmark portfolio is investable and the returns could have been obtained with just two ETFs,[123] each charging 0.20% or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

Money-weighted Returns

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

122 The benchmark portfolio does not contain securities by Bulgarian issuers.
123 For example Source STOXX Europe 600 UCITS ETF https://www.powersharesetf.com/gb/institutional/en/product/source-stoxx-europe-600-ucits-etf/index-components
and iShares € Govt Bond 7-10yr UCITS ETF https://www.ishares.com/uk/individual/en/products/251738/ishares-euro-government-bond-710yr-ucits-etf?siteEntryPassthrough=true&locale=en_GB&userType=individual

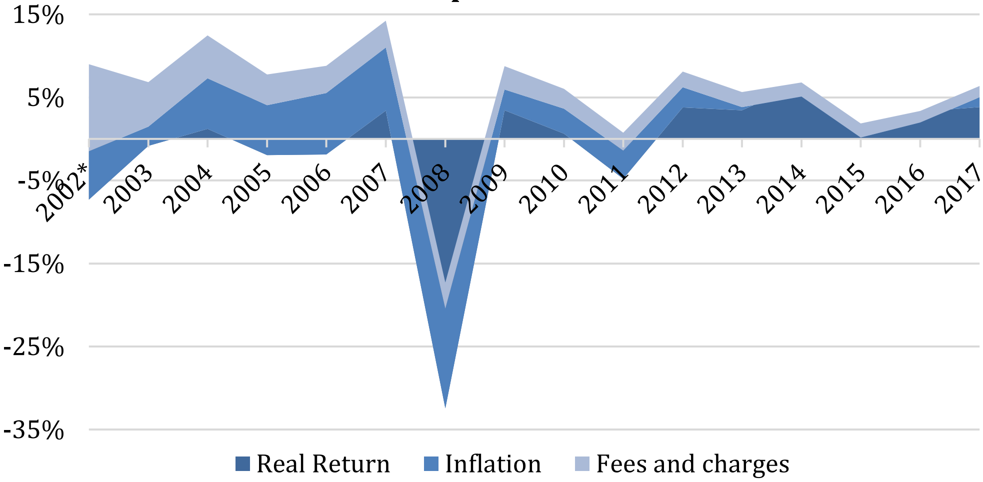
Graph BG2. Breakdown of Nominal Returns by Compoment and Type of Pension Fund (2002-2017)



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

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

Graph BG3. UPF - Breakdown of nominal returns by component



<u>Source</u>: BETTER FINANCE's own calculations based on data in Table BG7

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

Annual data is shown in Tables BG7-BG9 below:

Table BG7. Universal Pension Funds (UPF) Money-Weighted Returns					
	Nominal Return (Net of Fees)	**Fees and charges****	**Nominal Return (Gross of Fees)**	**Inflation (HIPC)**	**Real Return (Gross of Fees)**
2001	**na**	na	na	na	na
2002*	8.6%	10.5%	-1.9%	5.8%	-7.3%
2003	6.8%	5.4%	1.5%	2.3%	-0.8%
2004	12.5%	5.2%	7.4%	6.1%	1.2%
2005	7.7%	3.7%	3.9%	6.0%	-2.0%
2006	8.7%	3.3%	5.4%	7.4%	-1.9%
2007	14.5%	3.2%	11.3%	7.6%	3.4%
2008	-21.2%	3.2%	-24.3%	12.0%	-32.4%
2009	8.8%	2.8%	6.0%	2.5%	3.5%
2010	6.1%	2.4%	3.7%	3.0%	0.6%
2011	0.6%	2.1%	-1.6%	3.4%	-4.8%
2012	8.2%	1.9%	6.3%	2.4%	3.8%
2013	5.7%	1.8%	3.8%	0.4%	3.4%
2014	6.7%	1.7%	5.0%	-1.6%	6.7%
2015	1.9%	1.7%	0.2%	-1.1%	1.3%
2016	3.3%	1.4%	1.9%	-1.3%	3.3%
2017	6.4%	1.4%	5.1%	1.2%	3.8%
Annual Average	4.7%	2.0%	2.7%	1.1%	1.7%

**Universal Pension Funds were launched in April 2002*
***No official statistics for 2002 and prior to 2002 - estimation for these years*
<u>Source</u>: BETTER FINANCE's calculations based on data published by the Financial Supervisory Commission

Table BG8. Professional Pension Funds (PPF) Money-Weighted Returns

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

**Professional Pension Funds were launched in June 2001*

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

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

Table BG9. Voluntary Pension Funds (VPF) Money-Weighted Returns

	Nominal Return (Net of Fees)	Fees and charges**	Nominal Return (Gross of Fees)	Inflation (HIPC)	Real Return (Gross of Fees)
2001*					
2002	15.4%	4.5%	10.9%	5.8%	4.9%
2003	9.7%	2.6%	7.2%	2.3%	4.8%
2004	11.4%	2.4%	9.0%	6.1%	2.7%
2005	9.1%	2.1%	7.0%	6.0%	0.9%
2006	7.3%	1.8%	5.5%	7.4%	-1.8%
2007	16.0%	2.6%	13.4%	7.6%	5.4%
2008	-28.9%	0.7%	-29.6%	12.0%	-37.1%
2009	8.1%	1.3%	6.8%	2.5%	4.2%
2010	6.3%	1.6%	4.6%	3.0%	1.6%
2011	-0.6%	0.4%	-1.0%	3.4%	-4.3%
2012	8.6%	1.1%	7.4%	2.4%	4.9%
2013	6.7%	0.9%	5.8%	0.4%	5.6%
2014	6.8%	1.0%	5.8%	-1.6%	7.5%
2015	2.0%	0.6%	1.4%	-110.0%	2.5%
2016	5.6%	0.8%	4.8%	-1.3%	6.1%
2017	7.6%	1.1%	6.5%	1.2%	5.2%
Annual Average	4.7%	1.4%	3.3%	2.8%	0.5%

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

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

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

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

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

The last point requires some elaboration. While contributions to Professional and Voluntary pension funds are truly additional to the mandatory pension contributions, the contribution to the Universal pension funds is financed at the expense of the contribution to the State Pension Fund[124]. This means that while the mandatory pension contribution is the same for all insured, those who participate in universal pension funds, divert about a quarter of their mandatory contribution to a UPF. Their contribution to the State Pension Fund, therefore, is smaller compared to the contribution of those insured who have opted out of universal pension funds. Consequently, those who contribute to a UPF will be entitled to a proportionately reduced state pension, compared to those who do not participate in a UPF.

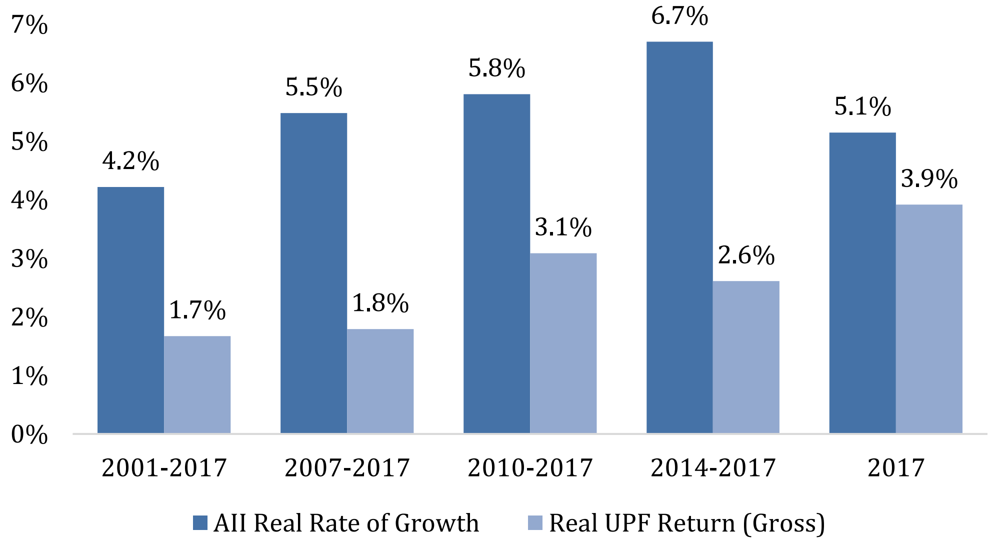
Therefore, for a UPF pension to be truly "supplemental", it would need to first compensate for the reduction of the state pension. The question arises as to the circumstances under which an expected "supplemental" pension from a UPF will be able to exactly compensate for the reduction of the state pension?

The author has researched this question elsewhere[125] and reached the conclusion that the necessary and sufficient condition for a UPF pension to fully compensate for the reduction of the state pension is for the actual real return on a UPF account to exceed the annual real rate of growth of the average insurable income in Bulgaria over the whole contributory period. In fact, as illustrated on Graph BG4 below, the situation in 2002-2017 has been exactly the reverse – the average annual rate of growth of the insurable income in Bulgaria has consistently outpaced the annualized return, received by pension savers in UPFs.

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

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

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



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

Legend: *<u>AII Real Rate of Growth</u>* – Average Insurable Income Real Rate of Growth for the respective period; *<u>Real UPF Return</u>* (Gross) – Real Money Weighted Rate of Return Gross of Fees for all nine UPFs for the respective period.

Going forward, the National Social Insurance Institute expects the real growth of the average insurable income in Bulgaria to slow down to 2.4% per annum.[126] Under this assumption, an insured person, who has contributed to a UPF since 2002 and will retire in 2042 after 40 years of uninterrupted contributions, will need to receive a 4.5%[127] real annual rate of return between 2018 and 2041 in order for his "supplemental" UPF pension to just replace the reduction of his state pension. The 4.5% real return not only exceeds the realized real return of only 1.7% significantly over the 2001-2017 period, but is also unrealistic to expect, given the long-term capital market expectations by asset class.[128]

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

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

[128] Dobbs Richard, Tim Koller, Susan Lund, Sree Ramaswamy, Jon Harris, Mekala Krishnan and Duncan Kauffman. (2016). "Diminishing Returns: Why Investors May Need to Lower Their Expectations",

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

Conclusion

Pension savings real returns are crucial for the accumulation of capital[129] and, hence, for the size and adequacy of pensions to be expected from defined contribution schemes. Yet, pension savings real returns are neither calculated nor published in Bulgaria. This report is the only source, documenting real pension savings returns across pension vehicles, available in Bulgaria, for the 2001-2017 period.

With the PAYG pension pillar in Bulgaria under financial stress and the universal pension funds being the default option for employees born after 1959, the defined contribution pillars are growing in importance to secure adequate pensions for future retirees. However, as the analysis of the real return of pension funds from 2001 to 2017 illustrates, with modest real returns, the task of providing Bulgarians with adequate pensions and old age security is proving beyond reach.

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

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

McKinsey & Company, p. IX
https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/why-investors-may-need-to-lower-their-sights
[129] Assuming a given size and length of contributions.

Reforms on the Agenda:

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

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

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

Bulgarians can choose whether to contribute to Universal pension funds but if they do, they don't have a choice as to how their savings are to be managed. Their contributions are invested irrespective of their individual time horizon and risk tolerance, which indicates that perhaps a majority of the Bulgarians invest their pension savings in unsuitable portfolios. Under these circumstances and with the inadequacy of supplementary pensions from universal pension funds, which will reveal itself when these funds start distributions en masse in 2021-2022, a popular backlash against the pension system in the near future cannot be ruled out.

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