PENSION SAVINGS
THE REAL RETURN
2018 EDITION

BF **BETTER FINANCE**

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

Pension Savings: The Real Return

2018 Edition

A Research Report by BETTER FINANCE

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Acronyms

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

[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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Pension Savings: The Real Return

2018 Edition

Country Case: United Kingdom

Summary

U.K. private pension funds have performed best both in real terms and on the longer investment horizon, returning an average annual growth rate of +3.1% (+68% cumulative) in 2000-2016, overpassing even the Netherlands on the same period. This is partly due to the "auto-enrollment" regime in private pension funds implemented by the British Government as of 2012, which boosted competition on the market and allowed players to benefit economies of scale which, coupled with a close supervision of the FCA, lowered fees and charges on pension products. Unfortunately, data later than 2016 is not yet available for this country.

Introduction

The pension system in the UK is based on three pillars:

- Pillar I – the public pension scheme, comprising two components: the basic pension and the additional pension;
- Pillar II – gathering the occupational pension plans, sub-divided into two categories: the defined-benefit plans (salary-related) and the defined-contribution plans (money purchase arrangements);
- Pillar III – composed of the individual (voluntary and supplementary) pension savings products

It should be noted that the U.K. pension system is strongly defined by its funded, privately managed pension products' market, and thus the public pension component generates just a modest part of the British pensioner's pension (which represented on average 29% of the pre-retirement net replacement ratio in 2016). From a portfolio composition point of view, U.K.-domiciled pension funds have the highest allocation in alternative securities (57% in collective investment schemes, real estate and REITs, derivatives) and one of the lowest general holding rates in money market instruments (less than 2% in cash and deposits).

On average, U.K. workers earn £2,390 (€2,691) per month. In 2017, to every retiree there were 3.4 economically active people (workers, or an old-age dependency ratio of 29%),

which the projections for U.K. show that the dependency ratio will go up to 44% in 2030 and to 50% in 2070. The total market size of private pension products in the U.K. was estimated at £2.83 trillion (€3.18 trln) at the end of 2016, out of which 63% were held by defined-benefit occupational pension schemes. Of the entire working population, almost 70% are enrolled in a pension scheme, mainly due to the automatic enrolment regime implemented as of 2012.

Table UK1. UK Pension System Overview		
Pillar I	**Pillar II**	**Pillar III**
public pension scheme:	occupational pension plans:	individual (voluntary and supplementary):
- **the basic pension:** old State pension (born befor 1953) and - **the additional state** pension (born befor 1953)	- defined benefits plan (salary related) (the basic pension) and defined-contribution plans (money purchase arrangements) (the additional pension)	- Stakeholder Pensions
- **the new State pension** (since 6 April 2016)		- Self-Invested Personal Pensions
mandatory	automatic enrolment or explicit opt-out (since 2008)	voluntary
	compulsory contributions 8% from 2019 on	
PAYG	funded	funded
DB	DC or DB	DC
Quick facts		
Pension state accounts for 29% of the pre-retirement net replacement ratio	Number of employee saving in pension plans incresed by 44% from 2003 to 2017	market size of private pension products in the U.K. was estimated at £2.83 trillion (€3.18 trln) end of 2016
On average U.K. workers earn £2390 (€2691) per month	life insurance and pension funds represent the majority of total assets held by UK households.	
To every retiree there were 3.4 economically active people	Pension funds have performed best both in real terms and on the longer investment horizon, returning an average annual growth rate of +3.1% (+68% cumulative) in 2000-2016	
	UK pension funds have the highest allocation in alternative securities, 57%, and the lowest general holding rate in money market instruments, 2%	
	70% of the working populations is enrolled in one or another pension scheme	

Source: BETTER FINANCE own composition

Pillar I

Pillar I is a social insurance program consisting of two elements:

- The Basic State Pension; and
- The Additional State Pension.

***The Basic State Pension** (old State pension)*

Every employee or self-employed person is required to contribute to this plan and each person can receive their basic pension on attaining the age of retirement (State pension

age). The "default retirement age" has been eliminated and now it varies depending on the birth date.[307]The basic pension depends on the number of years of contributions to National Insurance. To qualify for a full pension, thirty years of contributions are necessary. The perceived pension at the full rate since April 2018 for a single person amounts to £125.95[308] (€141.59) per week. It increases every year according to the following components, with the largest figure being considered:

- the average percentage growth in wages;
- the Consumer Price Index increase;
- and 2.5%.

The Basic State Pension increased by 2.5% in 2017 and 3% in 2018.

The Additional State Pension

The Additional State Pension is an extra amount of money employees can get on top of their basic State Pension if they are a man born before 6 April 1951 or a woman born before 6 April 1953. The Additional State Pension depends on the number of years of contribution and earnings.

Anyone wishing to save for retirement under Pillar II and III may leave the State Second Pension. If the employee opts-out towards an occupational scheme, the employer and the employee pay lower contributions and the employee cannot qualify for the State Second Pension.

The new State pension

The current Pillar I program was replaced by a new one for people reaching the State Pension age. From 6 April 2016 onwards a single-tier State pension replaced the basic and additional pensions. Since April 2018, the full new State Pension is £164.35 (€184.76) per week, but the actual (personalised) amount depends on the *National Insurance record*, which representshow many contributory years somebody has accumulated.

Pillar II

Pillar II is a system of occupational/company pension plans. There are two categories of schemes:

[307] The British Government offers an online tool to calculate the retirement age for men and women, as well as the pension entitlement at retirement – see https://www.gov.uk/state-pension-age.
[308] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/572844/proposed-benefit-and-pension-rates-2017-to-2018.pdf

- Salary-related schemes (Defined benefit)
- Money purchase schemes (Defined-contribution)

The number of employees saving in a pension plan has risen from 12.3 million in 2003 (65% of eligible employees), to 17.7 million in 2017 (84%)[309]. If employers do not offer a company scheme, they have the opportunity to contribute to an individual retirement savings plan contracted by the employee. In this case, contributions must be at least equal to 3% of paid salary.

Automatic enrollment: Public Authorities sought to ensure that part of the population does not fall into poverty in retirement by establishing a safety net at the professional level. The Pension Act of 2008 aims to solve the pension problem facing people whose savings are not enough to ensure a decent retirement[310]. The purpose of this legislation was to protect the 13.5 million UK employees who were not affiliated to any pension plan (other than the basic plan that offers a very low pension level).

Employers are required to automatically enroll all employees whose annual income is more than £10,000 (€11,242) to a basic scheme to which they contribute. Employees must explicitly opt out of it if they do not wish to contribute. Minimum compulsory contributions that the employer must pay into staff's pension scheme are currently[311] a total contribution of 5% with at least 2% employer contribution. They will progressively rise to 8% of the employee's salary from April 2019, of which 3% will be paid by the employer and 5% by the employee. In practice, most employers use defined-contribution schemes for this purpose. Any British employers who don't have their own scheme have to join a national multi-employer scheme.

The aim of the automatic enrollment is to increase the number of subscribers to workplace pension plans by 9 million. The total amount saved by eligible savers was £90.3 (€101.5) billion in 2017. However, among those targeted by the reform (people whose savings are insufficient to cover their needs at retirement), 4.5 million are not automatically enrolled in the new system. This includes young employees who are less than 22 years old, employees over the State Pension age (65) and those whose annual income is less than £10,000 (€11,242). Employees may also request to opt out of the system. Occupational schemes are subject to the same limitations in terms of contributions and capital as individual savings plans (see below).

[309] Source: Official Statistics on workplace pension participation and saving trends of eligible employees, Department for Work and Pensions, 5 June 2018.
[310] According to the Department for Work and Pensions (2013), 12 million people were not saving enough to ensure an adequate income in retirement.
[311] Source: The Pensions Regulator

Pillar III

Pillar III consists of individual retirement savings plans.

As explained earlier, anyone participating in the Pillar I State Pension scheme has the opportunity to leave the State Second Pension and subscribe to a Personal Pension Plan with a bank, an insurance company, a building society or other financial intermediaries. The offer of individual retirement savings products in the UK is highly standardised and supervisedby the State. There are two types of Personal Pensions: Stakeholder Pensions and Self-Invested Personal Pensions (see below for more details.)

A Personal Pension is a defined-contribution scheme. The accumulated savings can be withdrawn at any age between 55 and 75 (in practice, it is between 60 and 65 in most pension schemes), even if the beneficiary is still employed.

The savers normally convert the accumulated rights into an annuity for life, which is subject to taxation. However, they may withdraw a non-taxable lump sum of a maximum of 25% of the accumulated savings from the scheme. Beyond this threshold, withdrawals are taxed at the income tax marginal rate of the retiree. Another alternative to the annuity for the subscribers is to quit their retirement savings plan and to receive taxable income from it (called Unsecured Pension – USP). After turning 75 years old, they are able to make annual withdrawals. USP can be transmitted to heirs.

Since April 2015, new flexibilities are available to members of defined-contribution pension funds. Pension funds members can keep a portion of their rights invested in the fund, with a drawing right ("flexi-access Drawdown") on the amounts concerned, and an additional tax exemption on the amounts withdrawn up to one third of the envelope of these drawing rights.

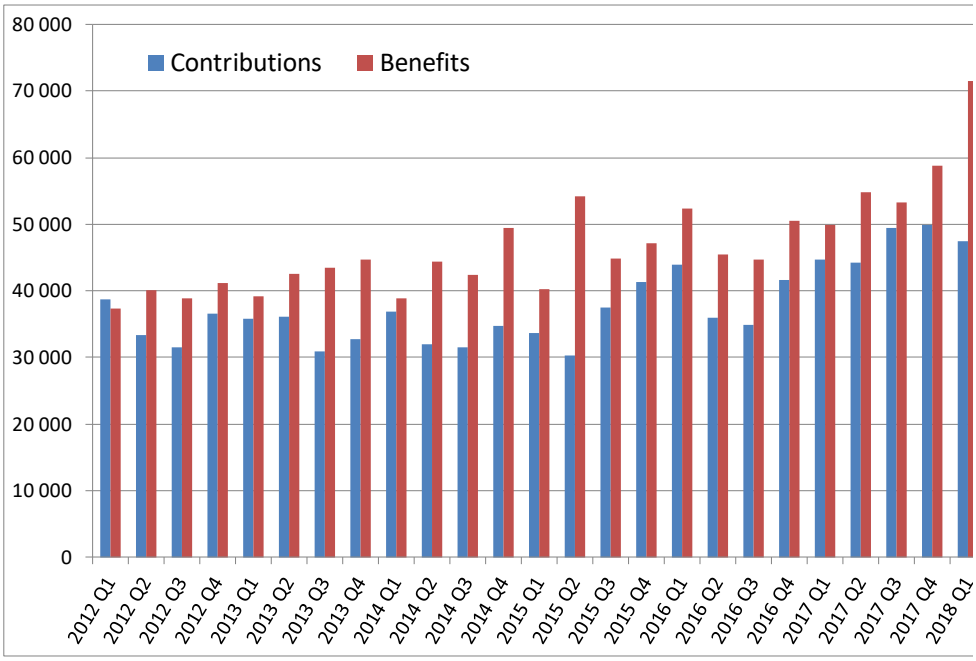
As the retirement system in the United Kingdom is predominantly a pre-funded one, life insurance and pension funds represent the majority of total assets held by UK households.

Table UK1. Financial Savings of UK households at the end of 2017 (non-real estate)		
	% of total assets	2017/2016 (%)
Currency and bank deposits	25.1	-0.4
Investment funds	5.1	+5.4
Direct investments (debts products, shares and other equity)	12.5	+4.3
Life insurance and annuity entitlements	10.9	-0.2
Pension schemes	46.4	-2.9
Total	100	-0.7

Source: Eurostat

Many occupational and individual pension funds have reached maturity and the gap between benefits and contributions widens.

Graph UK1. Contributions and benefits of pension funds in the UK (SA data in £ Bn)



Source: Office for National Statistics. Data includes self-administered pension funds and pension fund management by insurance companies

Pension Vehicles

Pillar II

There are several types of pension schemes, including defined-contribution schemes and defined-benefit schemes.

Defined-benefit schemes

Defined-benefit schemes are protected by the Pension Protection Fund (PPF). PPF pays some compensation to scheme members whose employers become insolvent and where the scheme doesn't have enough funds to pay members' benefits. The compensation may not be the full amount and the level of protection varies between members already receiving benefits and those who are still contributing to the scheme.

- Final salary schemes

Trustees are responsible for paying retirement and death benefits. The pension depends on the number of years the employee belonged to the scheme (pensionable service), the final pensioner salary and the scheme's accrual rate.

- Career average revalued earnings (CARE) schemes

CARE schemes are similar to final salary schemes, apart from the fact that pensions depend on the employee's average earnings over their career (the pensionable earning) instead of the last salary before retirement. Pensions are indexed on price inflation.

Defined-contribution schemes

The amount of pension depends on contributions paid by the employer and the employee, the fees charged for the management of the scheme and the performance of investments.

Small self-administered pension schemes (SSAS)

SSASs are pension schemes whose members are normally company directors or key staff. The investment policy of SSASs is more flexible than the common law system. The fund may lend money to the employer and it may borrow and invest in a broad range of products, including the employer's shares.

SSASs are managed by insurance companies, pension consultants and fund managers.

Hybrid schemes

The sponsor of a hybrid scheme commits on a minimum pension amount. The pension can be higher depending on the outcome of the investment policy of the fund.

Cash balance plans

In cash balance schemes, the employer is committed to a minimum amount of pension savings from the scheme for each period of service of his/her employees. At retirement, the accumulated capital is converted into an annuity.

Multi-employer schemes

Multi-employer schemes have been around for a long time and are common in the public sector.

The National Employment Savings Trust (NEST), established in 2011 by the government, is one of the schemes complying with the legislation on auto-enrolment (see above). It is a low-cost pension scheme and is required to accept membership from any employer. In 2017, there is no longer any restriction on the amount of annual contribution, but most employees do not go beyond the annual tax-free allowance (currently £40,000 / €44,968).

Since the implementation of the auto-enrolment legislation, other inter-fund companies have been created and are in competition with NEST: NOW: Pensions (or just simply NOW), a UK subsidiary of the Danish national pension fund ATP, the so-called “People’s Pension", Smart Pension, creative auto-enrolment.

Pillar III

Self-invested personal pensions

Self-invested personal pension plans are a type of Personal Pension Plan where the subscriber decides its own investment strategy or appoints a fund manager or a broker to manage investments. A large range of investments are allowed, although some of them (notably, residential property) support heavy tax penalties and are, therefore, excluded in practice.

Group personal pension plans

Group personal pension plans are defined-contribution plans arranged by the employer. The liability lies on an independent pension provider, usually an insurance company.

Charges

Annual Management Charges (AMC) are usually the main charges levied on pension funds. They are applied as a percentage of the assets of the fund. However, some schemes charge additional fees, for example a contribution charge or a flat fee. In some cases, audit, legal, custodial or consultancy fees are added to the AMC and deducted from members’ pension

pot[312]. In its Defined-contribution workplace pension market study[313] published in September 2013, the Office of Fair Trading (OFT)[314] report also showed that some providers do not include the costs of administering schemes, of IT systems or of "investment management services" in AMC. Moreover, transaction costs are never included in the AMC, but this latter practice can be justified by the fact that a major part of trading costs is the bid-ask spread of quotes or orders in order-driven markets, a cost that should be considered as an inherent component of investment returns.

To summarise, there are some operational expenses that are not included in AMC, but to which extent is unknown. Fees charged to members may be significantly higher than the average, depending, among other things, on the size of the scheme. It has also been noted by OFT[315] that some providers charged higher AMC to deferred members than active members. In order to protect members of pension funds against the most abusive practices, a stakeholder pension scheme cannot charge an AMC superior to 1.5% and it cannot charge its members for starting, changing or stopping contributions, nor for transferring funds.

A cap on the charges within default funds in the framework of the automatic enrolment obligation, equivalent to 0.75% of assets under management, was introduced from 6 April 2015 by the Financial Conduct Authority (competent for contract-based workplace pension schemes) and the Department for Work and Pensions (competent for trust-based pension schemes). The same regulation also prevents firms from paying or receiving consultancy charges and from using differential charges based on whether the member is currently contributing or not. In November 2017, the Government said that the charge cap was working "broadly as intended" and that it had decided not to change its level or scope at this stage[316].

There are various estimations available on the average weight of charges levied on pension funds in the UK. According to the 2016 Pension Charges Survey of the Department for Work and Pensions[317], average charges in schemes qualifying for automatic enrolment, after the implementation of the charge cap, were 0.38% in surveyed trust-based schemes (as compared to 0.42% prior implementation of the charge cap) and 0.54% in contract-based schemes (as compared to 0.55% prior implementation of the charge cap). In schemes non-

[312] Department for Work & Pensions (2013,2).
[313] Defined contribution workplace pension market study – September 2013 – OFT
[314] The OFT was responsible for protecting consumer interests until 2014. Its responsibilities have now been passed to different bodies.
[315] Office of Fair Trading (2013).
[316] HCWS 249, 16 November 2017
https://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2017-11-16/HCWS249/
[317] DWP, "Pension Charges Survey 2016: Charges in defined contribution pension schemes"

qualifying for automatic enrollment, average charges continued to incerease to 0.70% in trust-based schemes and 0.86% in contract-based schemes.

Both latter sources are the most consistent and recent ones and we use them below to calculate investment returns before and after charges, all the while taking into account that only AMC underestimates the actual level of charges.

The fall in average AMC is attributed to several factors by OFT: The growing size of assets under management generated economies of scale and increased the bargaining power of employers. The AMC cap on stakeholder pensions created a new competitive benchmark. Advisers' remuneration has been excluded from AMC by some providers ahead of the regulation preventing this method of adviser remuneration from January 2013 onwards (The Retail Distribution Review, RDR).

In order to calculate the average weight of charges in total outstanding assets from the year 2000 to 2012, we used assumptions of OFT on the average annual rate of switching providers (6.7% of assets) and the average annual rate of successful re-negotiations (3.6% of assets). Since no data is available on average AMC in 2000, we assumed that average AMC represented 0.79% of managed assets in 2000, as in the following three years which are documented by OFT.

Data from 2014 was estimated using the DWP survey.

Based on these hypotheses, we find that the average AMC decreased from 0.79% in 2000 to 0.57% of the outstanding assets of pension funds in 2016. On average, AMC represented 0.7% of assets over the eleven years from 2000 to 2016. At the time of writing this report, data for 2017 has not been published yet by the DWP (last report was on 26 October 2017).

Table UK2. Average AMC on schemes set up by existing contract-based and bundled trust-based pension providers in each year (%)

2000	2002	2004	2006	2008	2010	2012	2014	2016	Annual average 2000-2016
0.79	0.79	0.79	0.76	0.73	0.69	0.65	0.55	0.57	0.70

Sources: OFT, DWP, OEE Calculation

Starting from October 2017, existing early exit charges in occupational pension schemes cannot exceed 1% of the member's benefits and no new early exit charges can be imposed to members who joined that scheme after 10 October 2017.

Taxation

Tax relief on contributions

Contributions to personal pension plans are deducted from the taxable income, subject to an annual allowance of £40,000 (€44,968).

Non-taxable persons benefit from a tax relief at 20% of the first £2,880 (€3,238) of individual contributions per year.

Moreover, there is a lifetime allowance of £1 million (€1.12 million). Pension savings are tested against the lifetime allowance when the beneficiary receives their pension benefits. The income tax is paid on any excess over the lifetime allowance limit. If the amount over the lifetime allowance is paid as a lump sum, the rate is the marginal rate applicable to the taxpayer. If it is paid as a pension or by cash withdrawals, the rate is 25%.

Generaly speaking, the "E" regime with the ceiling can be applied to the contribution phase.

Taxation of the funds

Pension funds do not pay any tax on the income of their assets (interest, dividends, rents) nor on capital gains. "E" regime applies on the investment phase.

Taxation of pensions

Pensions are included in the income tax base. There are currently three marginal rates in the UK: 20% on income from £0 to £34,500 (€38,785), 40% up from £34,501 to £150,000 (€168,630) and 45% above. These rates are applied after deduction of the tax-free allowance of £11,850 (€13,322) from the gross wage[318]. The "T" regime applies on the pay-out phase.

Pension Returns

When looking into Pension Returns, we will consider the returns of private pension funds as the most descriptive proxy as other options such as life insurance have marginal weight in the British market. As for other instruments such as shares, bonds and packaged products we do not have statistics that show on which proportion these products are used for purely private pension provision.

[318] This amount applies to people born after 6 April 1938.

Asset allocation

Pension fund returns depend on their asset allocation.

Table UK3. Breakdown of self-administered pension fund asset holdings (%)

	Public sector securities	Shares	Corporate bonds	Mutual funds	Other	Total assets
2003	16	46	7	17	13	100
2004	15	43	8	19	15	100
2005	12	43	8	21	16	100
2006	12	41	9	22	17	100
2007	13	33	10	26	18	100
2008	14	29	12	25	19	100
2009	14	29	13	30	15	100
2010	13	26	11	34	16	100
2011	16	22	10	33	18	100
2012	17	21	10	34	18	100
2013	18	20	9	34	18	100
2014	19	20	10	32	19	100
2015	21	17	10	34	18	100
2016	24	16	9	34	17	100

Source: ONS, "MQ5: Investment by Insurance Companies, Pension Funds and Trusts", various years

Note: The balance sheet data comes from the ONS MQ5 report that was published in June 2018 and does not contain data for 2017.

The share of direct holdings of corporate securities (shares and bonds) consistently decreased from 53% in 2003 to 25% in 2016. British pension funds remain among the most exposed to the stock market, either directly or through investment funds[319]. However, faced with the uncertainty of returns achieved by the stock market and the weak performance of government bonds, managers reallocated part of their investments to alternative asset classes.

[319] Equity funds assets represent more than two thirds of total UCITS assets in the United Kingdom. Since pension funds hold a major portion of total outstanding mutual funds in the UK, we consider that equity funds are also predominant in holdings of mutual funds by pension funds in the UK.

The amount of tax depends on the income-tax rate of each retiree. We assume that the pensioner withdraws the maximum tax-free lump sum, 25% of the accumulated savings. In other words, we multiply the applicable tax rate by 0.75. The retiree will pay an amount of income tax on their nominal investment return, which depends on their applicable marginal tax rate and their tax allowance, in relation to their total income.

We calculated the real investment return for four cases:

Table UK4. Case description (Tax year 2018/2019)

	Tax allowance (£)	Marginal Tax rate	Income tax	Average tax rate
Case 1: An annual income of £10,000	11,850	20%	0	0%
Case 2: An annual income of £20,000	11,850	20%	1,628	8%
Case 3: An annual income of £50 000	11,850	40%	8,356	17%
Case 4: An annual income of £150,000	-	40%	53,100	35%

Source: https://listentotaxman.com/

Nominal investment returns

We calculated nominal investment returns using data on autonomous pension funds available from ONS (MQ5: Investment by Insurance Companies, Pension Funds and Trusts).

Nominal investment returns for a given year are calculated according to the following formula:

$$R = \frac{Income + capital\ gains}{(Assets\ at\ year\ end + assets\ at\ begining\ of\ the\ year)/2}$$

Capital gains are estimated using the following formula:

$$CG = Assets\ at\ year\ end - assets\ at\ begining\ of\ the\ year - Net\ investments\ of\ the\ year)$$

Income includes following components:

$$Income\ of\ investment = Rents\ from\ properties + Dividends\ received + Interest\ earned$$

Real investment returns after charges, inflation and taxes

Option 1

We apply the average tax rate to the nominal investment return and calculate the resulting real investment return after taxes. Returns rise to 3.1% per year in the most favourable case and 1.7% in the worst case.

Table UK5. Pension fund average annual rate of investment returns (%)

	Nominal return before charges, before inflation, before tax	Nominal return after charges before inflation, before tax	Real return after charges, after inflation, before tax		*Case 1*	*Case 2*	*Case 3*	*Case 4*
2000	-3.5	-4.3	-5.1					
2001	-5.3	-6.1	-7.2					
2002	-13.3	-14.1	-15.8					
2003	15.5	14.7	13.4					
2004	12.1	11.3	9.7					
2005	19.9	19.1	17.2					
2006	11.4	10.6	7.6			OPTION 1		
2007	1.8	1.1	-1.0	**Real return after charges, after inflation, after tax**	3.1	2.8	2.5	1.7
2008	-11.4	-12.1	-15.1					
2009	13.5	12.8	9.9			OPTION 2		
2010	13.6	12.9	9.3		2.3	2.3	1.6	1.6
2011	12.3	11.6	7.3					
2012	10.5	9.9	7.3					
2013	6.4	5.7	3.7					
2014	5.1	4.6	4.1					
2015	4.2	3.5	3.4					
2016	13.7	13.1	11.5					
Avg / Year	5.8	5.1	3.1					

Sources: GAD (nominal returns in 2000), ONS, OFT, DWP, OEE calculation; Data for 2017 has not yet been published by the ONS.

Option 2

We apply the marginal tax rate to the nominal investment return and calculate the resulting real investment return after taxes. In the most favorable case, the average annual return is 2.3%.

Conclusions

The United Kingdom is one of the European countries with the most developed and mature pension funds. Workers in the UK cannot rely solely on the social insurance program (Pillar I) that provides only a very limited income. On the other hand, British households save less than other Europeans on average and they do not rely much on alternative assets to prepare for their retirement. Hence, the government has implemented a compulsory framework of "auto-enrollment" in occupational schemes that should, in theory, extend the safety net to most employees.

But these initiatives can only be positive if the new money channelled to pension funds is efficiently managed and generates significant and sustainable revenues. The issue of the real returns of private pensions is thus crucial in the UK.

However, it is not easy to calculate these returns and identify its positive (managers' skills and asset allocation) or negative components (charges and taxation). This is surprising in a country which has been experiencing pre-funded retirement schemes for a long time.

Like in other countries, the financial crisis that started in 2008 resulted in changes in asset allocation that are probably generating lower returns, with more cash and less corporate equity.

Charges negotiated by employers with pension providers in the framework of new contracts or re-negotiations decreased on average since 2005. But there was a lack of transparency and comparability of charges disclosed by pension providers. Public authorities have taken initiatives to standardise and limit the fees paid to pension providers to avoid abusive practices. The Annual Management Charges, which are the main focus in the public debate, decreased from 0.79% in 2000 to 0.57% in 2016.

Another negative factor is the inflation rate, which is higher in the UK, at 2.9% in 2017, than the EU average at 1.7%.

In total, the nominal average annual performance of employees' and employers' contributions to pension funds from year 2000 to 2016 was positive by 5.8%. When taking into account inflation, charges and taxes, the investment returns are estimated at +1.6% to +3.1%, depending on the personal tax rate of the retiree.

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BETTER FINANCE activities are partly funded by the European Commission. There is no implied endorsement by the EU or the European Commission of work carried out by BETTER FINANCE, which remains the sole responsibility of BETTER FINANCE.

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BETTER FINANCE activities are partly funded by the European Commission. There is no implied endorsement by the EU or the European Commission of work carried out by BETTER FINANCE, which remains the sole responsibility of BETTER FINANCE.