Finance Watch

Making finance serve society

A Pot of Gold at the End of the Rainbow

A position paper on the future of pensions in the EU

June 2017

'You can be young without money but you can't be old without it.'

Tennessee Williams

Author: Christian M. Stiefmueller

Cover photo: Point of Ayr rainbow © Mark Nelson

Finance Watch has received funding from the European Union to implement its work programme. There is no implied endorsement by the EU or the European Commission of Finance Watch's work, which remains the sole responsibility of Finance Watch.

Table of contents

Executive summary

This note is intended as a primer on pensions in Europe and initiates Finance Watch's coverage of this topic. We observe, in particular:

In many EU countries, public Pillar 1 retirement systems are creaking under the strain of a triple challenge: 1

1. a demographic shift, marked by a smaller, rapidly ageing population,
2. slow economic growth, and
3. increasing inequality of income and wealth.

A large section of the formal labour market could be at risk from the advances in automation and digitisation at the workplace. 2

Fewer jobs, shorter tenures and more fragmented employment histories imply that Pillar 2 pensions, too, could become less reliable sources of old-age income.

Recent reforms of Pillar 1 pension systems in EU member states have concentrated on reducing immediate budgetary pressures, 3

... mainly by increasing the pensionable age and by closing off early retirement options. In the absence of additional measures, future pensioners are facing the risk of substantially reduced replacement rates. Old-age poverty could be a real concern.

We endorse, in principle, the concept of including more capital-funded pension models in the framework of Pillars 1 and 2, 4

... in order to reduce the dependency on inter-generational transfers. We recognise, however, that the introduction of capital-funded, defined-contribution (DC) pension plans takes time and places an additional burden on particular age cohorts, which are called upon to support the existing pay-as-you-go (PAYG) system while pre-funding the capital stock of the new regime.

Promoting Pillar 3 pensions could be helpful in reducing the pension gap. 5

Given their relatively small overall contribution to the overall pensions pot so far and the fact that Pillar 3 pensions tend to absorb savings from other channels, it is uncertain, however whether the potential contribution of Pillar 3 to closing the gap will be substantial.

Given the scale of the challenges facing pension systems, and social security systems in general, across Europe we would encourage policy makers: 6

- to also look beyond incremental improvements to the existing frameworks and explore the feasibility of alternative models,
- to build a future-proof foundation for the European model of the Welfare State and empower European citizens to embrace, and thrive on, the potential of technological innovation.

We also take the opportunity to share some observations on the Commission's plans for a Pan-European Personal Pension (PEPP) product. Finance Watch welcomes the initiative and proposes a number of criteria that should distinguish the PEPP from other savings products and make it an attractive and safe option for European savers.

The proposed product should be a genuine retirement product, 7

... providing, at a minimum, vesting at the statutory retirement age, longevity risk-sharing and an emphasis on income-generation and sustainable investment.

The proposed product should be simple, safe and transparent, 8

... with a default option that provides safety, in the form of a capital guarantee, cost effectiveness, by means of a cap on fees and charges and competitive performance, supported by switching and portability features.

The proposed PEPP product should be designed to allow for a maximum of cross-border portability. 9

At present, cross-border provision accounts for only a small fraction of the personal pensions market in the EU. As a dedicated "second regime", PEPP would be perfectly suited to specifically address and promote this market segment.

We recognise that EU legislators have no competencies in the area of taxation, 10

... which is seen by many as the single largest obstacle towards the establishment of a single European capital market, in general, and of a successful PEPP product, in particular. Finance Watch would strongly encourage the EU to address this issue, e.g. by developing a mechanism for calculating and collecting balancing payments among member states.

Background: History

We have come a long way: when Hobbes penned his memorable words in 1561, life, for most people, was indeed "***nasty, brutish and short***". And while it may have been nastier and more brutish for some than for others, it certainly was short: as late as 1900, average life expectancy was no more than 31 years globally and did not exceed 50 years even in rich countries.[1] Today, average life expectancy in the EU is nearly 81 years.[2] At the age of 65, the standard retirement age in most countries, citizens can look forward to another 10 to 15 years in retirement. Most would be drawing a pension, usually from a pension scheme provided by the state.

It was not always thus. Until the late 19th century, most people relied on their individual savings and on inter-generational solidarity in old age. Once retired, they would usually continue to live with their families – multi-generational households were the norm. In rural areas of Germany and Austria, for instance, the parent generation, having handed over the running of the farm to their successors, would move out to live in a dedicated building, usually next to the main farmhouse, where they would continue to be looked after by the extended family.

A 16th century agricultural pension fund.
Source: Freilichtmuseum Salzburg

Statutory retirement at a set age, and guaranteed pension benefits, were largely unknown, except for a privileged few, usually courtiers, civil servants and military men, who were granted benefits by their employer or the sovereign in recognition of loyal service.

Introduced in 1889, the Old Age and Disability Insurance Law, sponsored by the Prussian Chancellor Otto von Bismarck, is widely seen as the first instance of a modern universal pension system. Funded, in equal parts, by contributions from workers employers, and the State, it was designed to provide a pension annuity for workers who reached the age of 70 (a biblical age by the standards of that time) or disability benefits for those forced to take

Bismarckian pensions system

A system where social security benefits, including pension entitlements, are acquired through employment. Pension benefits are earnings-related, generally subject to maximum limits, and often supplemented with a minimum pension guarantee for people with incomplete employment histories. This model is prevalent in Germany, Belgium, Sweden, France and the southern European countries.

Beveridgean pensions system

A system where tax-funded social security benefits are provided to each citizen, including a basic (flat-rate, sometimes means-tested) pension, independent of his or her profession and earnings during active employment. This basic pension is supplemented with an important, often mandatory or semi-mandatory, occupational scheme and voluntary savings. This model is prevalent in Denmark, Ireland, the Netherlands, and the United Kingdom in various forms.

Inter-generational contract

In the context of pensions, the agreement to provide pensions for the retired generations through payments made by the working-age generations (➔ PAYG). The intergenerational contract implies a redistribution of wealth between the generations, which is achieved through the welfare system, e.g. through statutory Pillar 1 pension insurance.

early retirement. Enrolment was mandatory for all workers and employees with an annual income of up to 2,000 Mark (ca. 12,900 Euro in today's money) and benefits vested after 30 years.

The ravages of two World Wars and the Great Depression of the 1930s shattered the fundaments of the original Bismarckian system in Germany. The capital stock of what had been conceived, originally, as a capital-funded system, had been depleted by post-war reparations, hyper-inflation and currency reforms and entered the post-war era so diminished that it had to be topped up constantly with tax receipts. In 1957, it was finally replaced by a pay-as-you-go (PAYG) system. The experience of Germany in the first half of the 20th century, which was shared, to varying degrees, by other developed countries, is referenced frequently to illustrate the drawbacks of capital-funded schemes, especially their vulnerability in times of social and economic upheaval.

The move towards funding pensions with **pay-as-you-go (PAYG)** contributions, based on an (implicit) **inter-generational contract** between the working-age population and retirees, also involves a change of emphasis, from a subsidised retirement savings scheme for workers towards a universal basic benefit provided by the State to all citizens as part of a comprehensive collective safety net. This post-war approach was epitomised by the British politician and economist, William Beveridge. His 1942 report on "Social Insurance and Allied Services" laid the groundwork for the post-war Welfare State in the UK, which included National Insurance and the creation of the National Health Service. The central theme was to provide a basic level of benefits, unconditionally, to the general population to eradicate poverty and empower citizens to fully participate in society. Granting universal basic pension benefits to all citizens, funded from general tax revenues, was also very much in tune with the immediate needs of the post-war era: faster and easier to start up than a capital-funded system and more flexible to adjust to a growing population and rising incomes.

Today's pension systems in Western European are still shaped largely by the legacy of the post-war era, which by most accounts comprises the period from 1945 to the mid-1970s, a time known variously as the "*Golden Age*" in the UK, "*Wirtschaftswunder*" in Germany and "*les Trente Glorieuses*" in France. During the same period, Eastern Europe, under Communist rule, followed a different path, albeit with the same stated intention of providing extensive social security and guaranteeing a universal minimum living standard.

> "Let us be frank about it: most of our people have never had it so good. Go around the country, go to the industrial towns, go to the farms and you will see a state of prosperity such as we have never had in my lifetime - nor indeed in the history of this country."
>
> **M. Harold MacMillan, British Prime Minister (1957)**

Today, many of the underlying assumptions have been reversed, however: across Europe, the population is shrinking and ageing rapidly, ever fewer working-age Europeans are providing for an increasing numbers of pensioners. Higher life expectancy is confounding the actuarial calculations of the past. Economic growth had slowed across Europe already before the protracted recession that followed the global financial crisis of 2008 and the subsequent Eurozone crisis of 2010. Persistent high unemployment in many EU member states and static wage levels have eroded the contribution base and damaged many citizens' prospects of securing their pension entitlements. Some member states are at, or near, the limits of their fiscal capacity, burdened by a legacy of high sovereign debt and, in some cases, huge one off expenses from crisis-related financial sector bail outs. Ultra-low interest rates and unconventional monetary policies have depressed bond yields and severely undermined the mainstay of capital-funded pension systems. Policy makers have been reacting to these challenges but pension systems, built on political convictions, steeped in ethical and cultural values, shaped by decades, if not centuries, of historical evolution and mired in technical complexity, are adapting only slowly.

Background: Pension systems

Typical objectives

The historical distinction between the Bismarckian and Beveridgean pension model, as set out above, may have been largely eroded today, with most countries' systems combining some traits of both. It is still useful, however, as a way of categorising modern pension systems:

- The stated goal of the Beveridgean system was to extend the social safety net and **prevent old-age poverty**.
- The principal aim of the Bismarckian model, by contrast, was to permit workers to **maintain the level of income**, and hence the same living standard they enjoyed during their working life throughout their retirement.

Both models share one defining trait that typically differentiates pensions from other forms of savings: they provide **longevity insurance**, i.e. they protect citizens, albeit to varying degrees, against the risk of outliving their individual savings.

At the collective level, modern pension systems now regularly comprise a number of other risk-sharing mechanisms. They may be characterised along three dimensions:

- Socio-economic: most pension systems provide for a degree of **redistribution** between poorer and more affluent parts of the population.
- Time: pay-as-you-go (PAYG) systems, in particular, are built on an implicit, **inter-generational contract** between the working-age population and pensioners.
- Geographic: by participating in a shared pension system, members of different local or regional constituencies obtain a level of protection against economic cycles and crises by **pooling and diversifying risks** across a wider population.

Structure of pension systems

Structurally, pension systems are usually subdivided into three categories ("pillars").

Pillar 1 is a state-managed pay-as-you-go (PAYG) system, which usually provides for a universal flat-rate or guaranteed minimum benefit and, in systems that follow the Bismarckian tradition, an earnings-related entitlement. In some statutory public pension schemes, a capital-funded element is added to the PAYG scheme.

Pillar 2 contains occupational pensions, managed by the employer or third-party manager on their behalf. Benefits are earnings-related and schemes can be either pay-as-you-go (PAYG) or capital-funded defined contribution (DC) and defined benefit (DB) schemes.

Pillar 3 comprises individual retirement savings, usually in the form of defined contribution (DC) plans with tax benefits.

Pillar 1
Statutory pension schemes provided by the State to the entire population, subject usually to broad qualifying criteria (e.g. years of residence, contributory years). Usually structured as ➔ **PAYG** schemes, sometimes in combination with ➔ **capital-funded** elements. Benefits can be flat-rate, with or without means-testing, or earnings-based.

Pillar 2
Occupational pension schemes provided by employers to their employees; they can be voluntary or mandatory, are funded by contributions and can be structured either as ➔ **PAYG** or, more frequently, as ➔ **capital-funded** schemes.

Pillar 3
Private pension schemes, provided by public or private sector pension funds and asset managers. Funded by personal savings, Pillar 3 pensions are individual investment schemes, usually supported by the State with tax benefits. By definition, Pillar 3 schemes are ➔ **capital-funded** and, usually, ➔ **defined contribution (DC)**.

Pay as you go (PAYG) pension scheme
Revenues from one period are used to finance the pensioners' benefits in the same period. No savings are made. Revenues are generated by a mixture of taxes and income-related contributions.

Contributory (basic) pension
A basic ➔ **PAYG** pension that is paid to retired citizens from dedicated pension contributions collected from the active, working-age population.

Non-contributory (basic) pension

A basic ➔ **PAYG** pension that is paid to retired citizens from general public funds, i.e. tax revenues and public borrowing.

Capital funded pension scheme

Regular (monthly) contributions from future pensioners are accumulated in a fund and invested in the capital markets to generate returns. The level of future benefits for pensioners depends on the total amount of contributions paid during their working lives. Capital-funded pension schemes come as either ➔ **defined benefit (DB)** or ➔ **defined contribution (DC) schemes**, depending on which party bears the investment risk.

Defined benefit (DB) pension scheme

A DB scheme promises a specified monthly pay out (pension benefit) upon retirement. The future pay out is determined by a defined formula and based on a set of economic and financial assumptions. The provider of the scheme, typically an employer or insurance company, bears the risk of the contributions and investment returns covering the promised pay outs (investment risk).

Defined contribution (DC) pension scheme

A DC scheme accumulates contributions from future pensioners that are invested. The level of future pay outs is not known in advance and depends on the investment return obtained on the contributed capital. The pension recipient bears the investment risk.

Typical risks

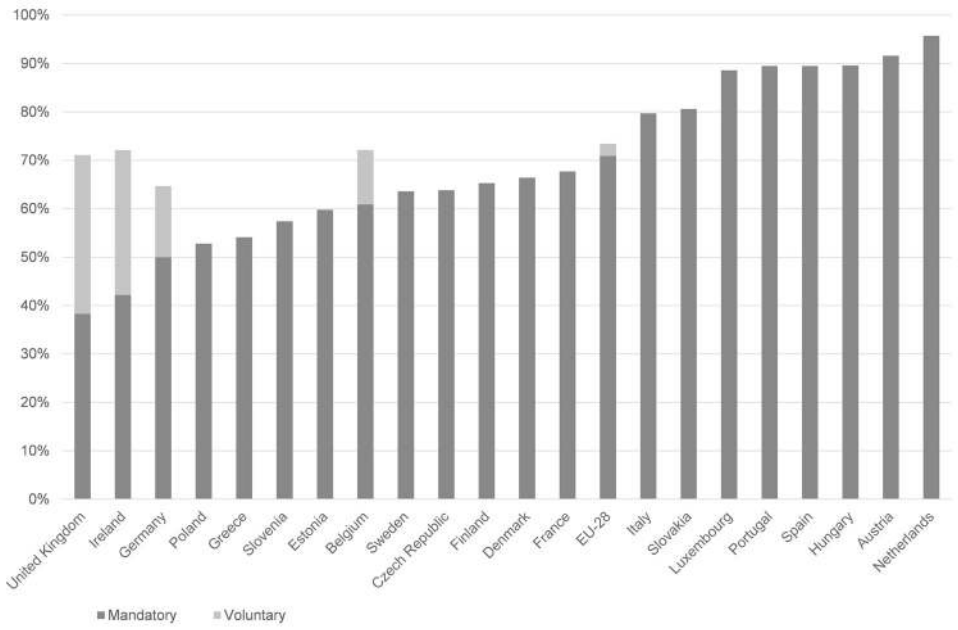
Each of these three pillars comes with its own unique risks and challenges.

- **Funding risk:** pay-as-you-go (PAYG) schemes rely on the continued availability of funding from the working-age population. When revenues from taxes and contributions are insufficient to cover payments due to pensioners for the same period, a gap arises, which must be closed with other funding sources, e.g. public borrowing. Structural funding mismatches, e.g. due to very high old-age dependency rates, can destabilise government budgets over time and may trigger sovereign debt crises.
- **Sovereign (credit) risk:** State-funded pay-as-you-go (PAYG) pensions depend, of course, on the State's ability to make the payments. In a sovereign debt crisis, pension payments may be suspended or even cancelled.
- **Political risk:** even short of a sovereign debt crisis, national governments may have to, or chose to, renege on existing pension commitments, e.g. as part of a pension reform. Such reforms are often required, for instance, as a precondition for countries receiving emergency financial support from multi-lateral lenders, such as the World Bank and the IMF. Capital-funded plans are not immune to political risk either, of course, e.g. from confiscation.
- **Investment risk:** capital-funded occupational and private schemes rely on returns from investment in the capital markets to compensate for inflation and maintain, or increase, the value of the savings put aside by, or on behalf of future retirees. Depending on the general economic environment and the performance of the pension manager, the value of the pension fund may be eroded, e.g. due to poor investment choices or in times of very-low, or negative, interest rates. In a defined benefit (DB) pension plan, where retirement benefits are guaranteed in advance, the investment risk is borne by the provider of the pension, usually the employer. In a defined contribution (DC) pension plan, retirees themselves bear the investment risk.
- **Credit risk and misconduct risk:** pay-as-you-go (PAYG) schemes, where corporate employers make provisions on their balance sheet for future pension liabilities to retired employees, rely on the company's continued financial health and ability to make these payments. The presence of pension provisions on the company's balance sheet, as opposed to a segregated, legally separate fund, is often criticised: in good times it could be considered as a "low-cost source of credit funding the company" but in troubled times there can be a risk of misappropriation of these pension fund monies by management and shareholders.

Replacement rates

One of the key metrics for the success or failure of pension systems to provide adequately for their members is the net pension replacement rate. Taken together all three pillars should, ideally, provide the retiree with an income in line with his pre-retirement earnings (and compensate for inflation). The calculation of net replacement rates relies on a number of inputs and assumptions (pension age, length of employment, average salary) which are often difficult to determine and vary substantially between countries. The gender pay-gap, which is still significant across the EU, adds to the complexity. As a result, net replacement rates are notoriously difficult to calculate and to compare across borders in a meaningful way. Based on OECD statistics, the average net replacement rate in the EU 28, including Pillar 1 (public and private) pensions was **71% in 2014**, covering a wide range from 38% in the UK to 96% in the Netherlands.[3]

Net pension replacement rates (mandatory and voluntary schemes)



Source: OECD (2015)

Note: mandatory schemes: public and private schemes (incl. Pillar 2 occupational pensions with compulsory enrolment) | voluntary schemes: all other voluntary (Pillar 2 and 3) private pension schemes

While recent public pension reforms have tended to improve or maintain the poverty protection function, the European Commission estimates that most reforms will result in lower net replacement rates in the future. Forecasts by the Commission indicate that theoretical net replacement rates in 2053 could be, on average, 10% lower than in 2013. In sixteen member states net replacement rates in 2053 are expected to be lower than in 2013, in another eleven they are projected to increase.[5]

> "Net pension replacement rates in the EU-28 could decrease by ca. 10% on average over the course of the next 40 years."
>
> **European Commission, Pension Adequacy Report (2015)**

The public pay-as-you-go (PAYG) pension system is the main provider of pensions across the EU but occupational pension schemes, which may be instituted by law, based on collective bargaining or employer sponsorship, have achieved a wide coverage in a number of countries and are gaining in importance in providing supplementary retirement income. Mandatory and voluntary occupational pensions contribute more than 20% to net replacement rates in France, the Netherlands, Sweden and the United Kingdom. Next to the overall design of pension systems and the relationship between Pillar 1 and 2 schemes, the contribution of occupational pension systems is largely influenced by the maturity of the systems, which vary significantly between countries. Generally, the proportion of income from occupational or other capital-funded pensions is lower for low-wage earners, since the redistributive features of statutory pay-as-you-go (PAYG) schemes play a more significant role for those with lower earnings.[6]

Net (pension) replacement rate

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.

Accumulation phase

In a defined-contribution (DC) pension scheme, the period when prospective pensioners are paying contributions to the pension fund to build up a capital stock (➔ **pension pot**). Withdrawals of funds during this period are usually not permitted or penalised, e.g. by a loss of tax benefits.

Decumulation phase

In a ➔ **defined-contribution (DC)** pension scheme, the period when the accumulated pension savings are paid out to the pensioner, e.g. as a recurring annuity or a lump sum.

Pension pot

The total amount of pension savings available to a prospective pensioner in a ➔ **defined-contribution (DC)** pension scheme at the end of the ➔ **accumulation phase**.

Statutory pension age (SPA)

The earliest age at which a citizen is entitled to a regular (Pillar 1) public pension. Usually the entitlement is coupled to additional criteria, e.g. a minimum number of contributable years.

The gender "pension gap"

There is a marked gender divide in pension income, housing and financial wealth. Women are more exposed to the risk of poverty, since they start their retirement with lower pension entitlements and fewer resources but tend to live longer. Consequently, they suffer not only from a "pay gap" but also from a "pension gap". In the EU-28 there is an estimated 38% difference in men and women's income after the age of 65 (more than twice the figure of the "pay gap", which is 17%).

Taxation

Tax benefits are, traditionally the most popular and effective way to motivate employers to provide their staff with pensions and citizens to commit their savings to a formal retirement scheme. There is a bewildering array of different tax regimes depending, in particular, on when contributions, investment returns (for capital-funded schemes) and pay-outs are taxed. Every country tends to have its own tax regime for each of the three pillars. Differences between national tax regimes are seen as the major obstacle for the portability of Pillar 2 and 3 pension entitlements within the EU.

Challenges: Demographics

Europe's population is ageing rapidly: people live longer and have fewer children than in the past. As a result, Europe is moving from having around four working-age citizens (15-64 years) for every person aged over 65 years, to just two by 2060.[9]

Three different trends are driving population ageing: an increase in life expectancy, lower fertility rates and the ageing of the 'baby boomer' generation.[10]

Age structure and national differences

Of a total EU population of 508.5 million,[11] young people (0 to 14 years) made up 16%, working-age citizens (15 to 64 years) 66% and older persons (aged 65 or over) 19% of the population. Across the EU member states, Ireland had the highest share of young people in 2015 (22%), while the lowest share was recorded in Germany (13%). Italy (22%), Germany (21%) and Greece (21%) had the highest shares of persons aged 65 or older.[12] In a few individual member states the outlook has changed perceptibly, with smaller cohorts of young adults as a result of emigration.[13]

According to Eurostat's projections, the population in the EU will increase moderately over the next 30-40 years, and slightly decrease thereafter until 2080. At the same time, its composition in terms of age, family structures and the share of migrants will undergo substantial changes. Put together, these demographic trends will result in a much smaller number of people aged between 15 and 64 years, the labour force. Eurostat forecasts that the labour force of the EU 28 will shrink by 10% of the total population from ca. 334 million people in 2014 to ca. 292 million people in 2080. At the same time the number of people aged 65 and older is expected to increase by 10% of the total population, from 92 million (19%) to 149 million (29%) by 2080.[14]

Dependency ratio

The number of persons aged below 15 or 65 and over, expressed as a percentage of people aged between 15 and 64. An indicator of how many working-age citizens are available to provide for persons who are not yet or no longer part of the work-force, i.e. children and retired citizens.

Old-age dependency ratio

The number of persons aged 65 and over expressed as a percentage of people aged between 15 and 64. An indicator of how many working-age citizens are available in a PAYG scheme to support one retired citizen.

Replacement fertility rate

The average number of births per woman required to keep the population size constant in the absence of migration. In developed countries the replacement fertility rate is ca. 2.1. The threshold can be higher in developing countries because of different mortality rates.

Increasing life expectancy

Life expectancy has increased remarkably during the last century. Improvements in healthcare, nutrition and living standards have extended the average lifespan. This trend is expected to continue in all European member states. In 2015, average life expectancy at birth was 78 years for men and 83 years for women in the EU 28. For pension systems, life expectancy at old age is of particular interest. Again in 2015, women aged 65 could expect to live an additional 22 years, and men of the same age 18 years.[15] By 2060, these figures are forecast to be an additional 26 years for women and 22 years for men.[16]

Fewer children

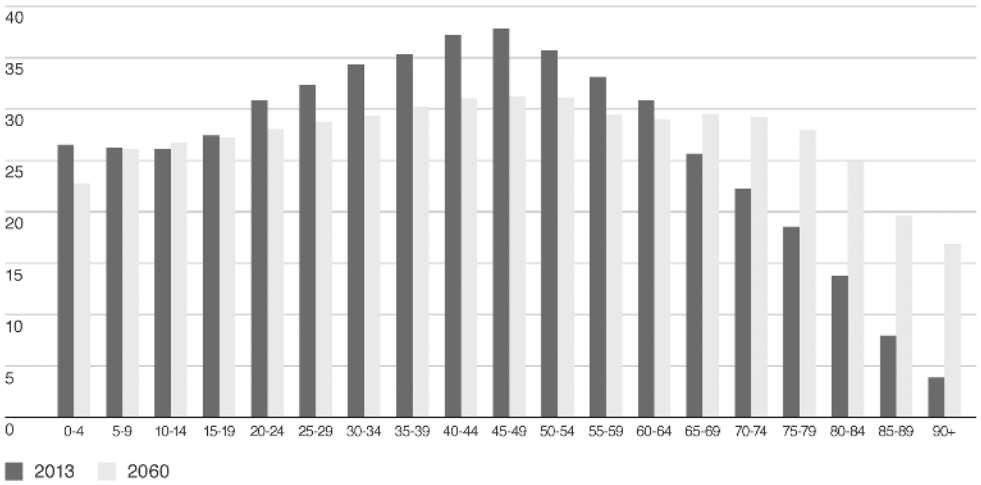
In the EU 28 the total fertility rate is below replacement level, which means that the number of children being born is too small to keep the population constant. In 2015, fertility rates across the EU 28 averaged 1.6 children per woman[17] while, leaving aside net immigration, the replacement level is 2.1. Since the early 1970s the number of births has consistently fallen below the replacement rate in many member states and average birth rates are expected to remain low. Although Eurostat expects fertility rates to rise again towards 1.8 by 2060, they will still remain below the replacement rate.[18]

The “baby boom” generation

The ageing of the so-called baby boomer generation will speed up the ageing of the European population. In Western European countries especially, there was an enormous increase in births after the end of the Second World War, a phenomenon often referred to as the “baby boom”. These “baby boomers” are in late middle age today and are still part of the EU labour force, but most will retire within the next decade. As a consequence, the quantitative ratio between people aged 65 plus and younger people will change rapidly.[19]

The transition from large to smaller working-age cohorts resulting from low fertility rates and rising longevity will require adjustments to retirement practices and pension arrangements in all Member States. As the first baby-boomer cohorts are now reaching retirement age, the impact on the adequacy and sustainability of pension systems is no longer far-off. The population aged 60 and older is currently growing by around two million each year, almost twice the increase observed in the late 1990s and early 2000s. At the same time, the number of people of prime working age (20-59) will fall every year over the coming decades as the baby-boomers are replaced by much smaller cohorts.[20]

Ageing of the “baby boomer” generation (EU-28, 2013-2060)



Source: Kochskaemper / Pimpertz, Eurostat (2016)

The old-age dependency ratio

As a result, population projections indicate a major rise in dependency ratios. Eurostat projects that the EU old-age-dependency ratio will increase from 28% in 2015 to 51% in 2080.[21] There are, however, significant regional differences: populations in the pre-2004 member states (EU-15) are projected to age in a very different way from those in the post-2004 accession countries (EA-13). While dependency increases in both, EA 13 counties will age later but more deeply. EU-15 member states are already relatively aged and will see a steep increase in their old-age dependency ratios over the next couple of decades. Once the baby-boomers have retired, demographic dependency ratios will stabilise in these countries. EA-13 Member States currently have lower dependency ratios and these will increase more slowly. Increases will continue for longer, however, and dependency ratios will be even higher, ultimately, than in the EU 15. Poland and Slovakia are projected to become the “oldest” countries in the EU by 2053, followed closely by the other EA-13 countries.[22]

> “The population of Europe is aging rapidly. By 2080, there is expected to be one pensioner for every two working-age Europeans."
>
> **Eurostat (2017)**

Migration

As mentioned above, the number of people aged 65 or older is expected to increase by 55 million between 2015 and 2080 to 149 million. To re-balance the ageing of the resident population by way of immigration, the EU would have to receive some 242 million working-age immigrants over the same 65-year period only to maintain the old-age dependency ratio at its 2015 level. This would equate, approximately, to net immigration of 3.7 million people per year. By way of comparison, ca. 2.7 million citizens from non-EU countries immigrated into the EU legally in 2015,[23] the highest number on record so far, and ca. 1.3 million asylum claims were submitted, mostly by irregular migrants.[24] Already at this level, migration has sparked a surge of anti-immigrant political parties in many European countries and contributed materially to the UK vote to leave the EU in June 2016. Irrespective of other practical challenges, such as the employability and integration of newcomers, it appears highly unlikely at this stage that replacement migration into the EU at the scale required to stabilise dependency ratios would be politically, if not practically, feasible.

Labour market participation

The demographic challenge threatens European pension models by reducing the absolute number of working-age citizens. Even if population levels remained stable, however, the level of contributions available to support pay-as-you-go (PAYG) pension systems, in particular, could be at risk if employment opportunities are lost or wage levels decrease. The long recession and anaemic recovery in a number of EU member states, which has resulted in higher rates of unemployment, particularly among younger workers, is likely to make it harder in the future for workers to contribute to pension systems throughout their careers.

Employment and technological change

In a seminal 2011 book and study, two MIT researchers, Erik Brynjolfsson and Andrew McAfee, painted an alarming vision: what if, they argued, we have not yet even begun to see the full impact of computers on the workplace? They argue that the progressive development of IT and its adoption into everyday life, is about to reach an inflexion point. After 32 cycles of **Moore's law**, they argue, our modern, IT-enabled economy is entering the **second half of the chessboard**, where each incremental gain produces enormous impact.[25]

The chessboard, only 16 squares in …

As we witness the first instances of everyday applications using autonomous robots and Artificial Intelligence, this analysis certainly rings true. And it leads, logically, to the question how technological progress is likely to affect employment. Is there a risk that large swathes of the labour market, which currently provide paid jobs to millions of people, could be replaced by robots and algorithms?[26]

Information technology has already begun to replace large parts of the labour market in lower-skilled areas such as manufacturing and are now about to encroach on the field of higher-skilled "knowledge workers". Advances in connectivity, data processing, man-machine interfaces and robotics, in particular, enable the displacement of numerous job categories. Studies by Oxford University[27] and McKinsey, a consultancy,[28] estimate that almost every second job in the US could be at risk. The potential is also large in Europe: according to similar studies conducted by PwC,[29] 62 million jobs in the five largest economies – France, Germany, Italy, Spain, and the United Kingdom – depend on activities that could be automated within the next ten to fifteen years. Up to 35% of jobs in Germany and 30% in the UK could potentially be at high risk of automation by the early 2030s.

Other, more moderate estimates, e.g. by the OECD,[30] consider 6-12% of jobs in the EU-28 at risk. Most studies agree that technological innovation will further increase the polarisation of wealth and income and lead to a marked increase in atypical or self-employment. Differences arise, in particular, from assumptions about the scale and speed of the adaption of the labour market, i.e. the creation of new jobs requiring new skills.

Moore's law

Gordon Moore, one of the inventors of the modern computer chip and a co-founder of Intel, observed in 1965 that the number of transistors on a chip – an indicator of its processing power – would continue to double every twelve months. This statement, later revised to 18-24 months, has become emblematic for the rate of growth of the IT industry for the last 50 years. Despite some evidence of a gradual slowdown, most industry observers agree that Moore's Law still remains in force in 2017.

Wheat and chessboard problem

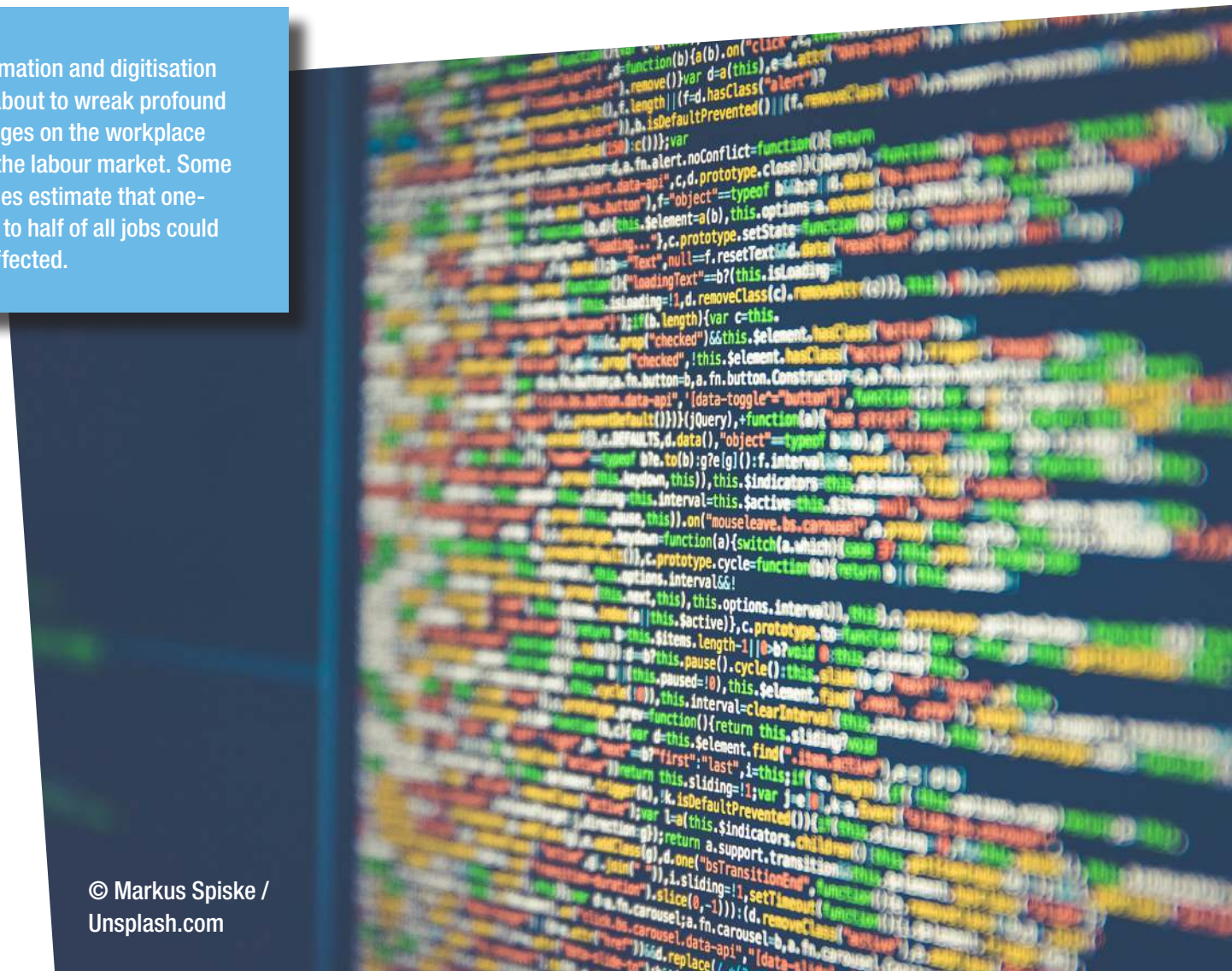
A popular illustration of the mathematical concept of exponential growth. In this story, attributed to a 13th-century Arab scholar and adapted in 1999 by the inventor and publicist Ray Kurzweil, the (fictional) inventor of the chess game is offered a reward by his king. He asks for a grain of rice (or wheat) to be placed on the first square of the chessboard, two on the second, and twice that on the next, doubling the number of grains each time until all 64 squares are covered. It turns out that, by the last, sixty-fourth, square the number is so exorbitant that it is impossible for the king to fulfil the inventor's demand. (At this stage, his reward would have amounted to ca. 1,600 times the global production of rice in 2016!). Kurzweil notes that the number remains manageable until approximately the half-way line on the chessboard (where it would be ca. one-third of the total harvest in 2016); it is the **second-half of the chessboard** where the real power of exponential growth becomes visible.

The prospect of automation also has a direct bearing on salary levels. Fixed-term contracts and temporary / interim work have started to reduce average real salary levels since the 1970s. More recently, liberalisation of job markets and new phenomena, such as unpaid internships, zero-hour contracts, internet 'jobbing' portals and self-employment, have further eroded the standard employment relationship across most developed economies, although significant differences continue to exist in the EU as a result of still substantial differences in salary/wage levels.

The polarisation of the occupational structure into high-skilled and low-skilled jobs and between open-ended and various atypical forms of employment may entail further polarisation of the wage structure into high-paying and low-paying jobs. In some countries, the reduction in the demand for workers with middle-level skills has reinforced competition for lower-paid jobs which has held down wages in the bottom half of the earnings distribution. At the same time wages at the top of the distribution have risen because of the high demand for workers with high-level skills. These developments could increase the risk of experiencing in-work poverty and the persistence of low income from work.[31]

The phenomenon of large-scale substitution of labour with capital investment has so far been most obvious in the US, where industrial policy and labour relationships differ, often significantly, from continental European practice.[32] Substitution of labour with capital is thought to be responsible, to a large extent, for productivity gains in the US outpacing those in Europe and Japan in recent times.[33] In the longer run, Europe, being just as exposed to the same underlying trends, will be facing similar shifts and it will be incumbent upon policy makers, employers and labour representative to jointly address this challenge and manage the transition in a responsible and equitable way.

Automation and digitisation are about to wreak profound changes on the workplace and the labour market. Some studies estimate that one-third to half of all jobs could be affected.



© Markus Spiske / Unsplash.com

Income distribution and inequality

We have seen that the ability to qualify for an adequate pension entitlement depends critically on people's continuous participation in the formal labour market. Inequality throughout people's working lives, in terms of income levels, is perpetuated or even exacerbated in retirement.

Pension systems across the EU do offer opportunities for earning a sufficient and secure income for a long retirement period. However, these opportunities are linked to one's employability and chances of finding and holding a job of good quality and, in a number of countries, they also presuppose access to supplementary retirement schemes. Such opportunities are often unevenly distributed across the population.[34] Research by the OECD has shown that inequalities of income and wealth have become more entrenched: in fact, inequality increased in good times, and it continued increasing in bad times.[35]

Over the past three decades, labour markets have been profoundly transformed by the interplay of globalisation, technological change and regulatory reforms. These changes have had a major impact on earnings and incomes. People with skills in high demand sectors such as IT or finance have seen their earnings rise significantly, especially at the very top end of the scale, where performance-based pay and bonuses have become widespread. Meanwhile, at the other end of the scale, wages of workers with low skills have not kept up. The period has also seen reforms of tax systems that have reduced marginal tax rates for high earners. In addition, taxes and benefits have tended to redistribute less in the period from the mid-1990s up to the crisis; this has been felt most keenly by low-income working-age households. In the 1980s, the richest 10% of the population earned seven times more than the poorest 10%; today they earn almost ten times more.

In broad terms, this long-term trend has been driven by two main movements: at the top end, and especially among the top 1%, a surge in incomes; at the bottom end, much slower income growth during good times and often a fall in incomes in bad times, especially during and after the financial crisis. In the two decades prior to the crisis, average real disposable household incomes rose at both the top and bottom of the earnings ladder in every OECD country, except Japan. But in three-quarters of countries, household incomes of the top 10% grew faster than those of the poorest 10%, which led to widening income inequality.

> "Today the top 10 per cent. of households own half of all the wealth and earn almost ten times as much as the poorest 10 per cent. Since the crisis, there are indications that the trend towards greater wealth inequality has deepened."
>
> **— OECD (2015)**

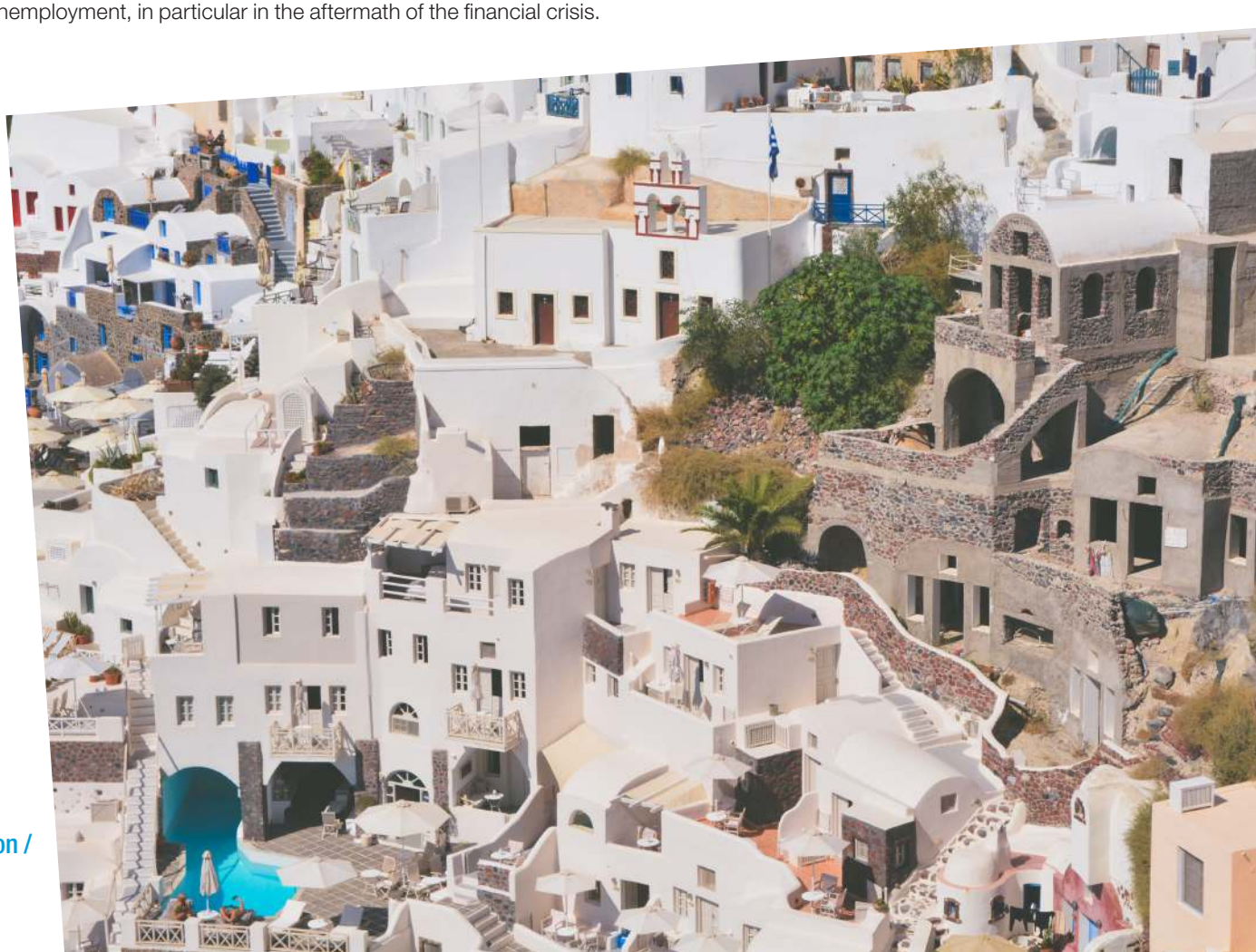
The financial crisis has only made matters worse: real average disposable household income stagnated or fell in most OECD countries between 2007 and 2011.[36] The declines were particularly striking in the countries hit most severely by the crisis. In all OECD countries, income inequality is greatly reduced through redistribution – typically, taxes and transfers such as unemployment and other benefits. This is why "net" or "disposable" income inequality is much lower than "market" income inequality. But the impact of such redistribution has changed. In OECD countries, in the decade prior to the crisis, inequality before taxes and benefits often stabilised. But income inequality was driven upwards by weakening redistribution. In the initial years of the crisis, income inequality before taxes and benefits increased strongly but out-of-work benefits and other redistribution measures managed to cushion at least partially the rise. In the most recent years of weak economic recovery, unemployment persisted and yet governments chose to shift focus to fiscal consolidation, including curtailing unemployment benefits, education and investment. While income inequality before taxes

and benefits continued to rise, the cushioning effect of taxes and benefits has become weaker, accelerating the overall upwards trend in disposable income inequality.

As opportunities to earn an income narrow, falling back on one's reserves is not an option either for most people. According to OECD research, household wealth– in particular financial assets – is even more unequally distributed than income.[37] The bottom 40% of the population account for 20% of total household income but own only 3% of total household wealth. At the other end of the scale, the top 10% of the wealth distribution own half of all total household wealth and the wealthiest 1% hold 18%. In his 2014 book, "Capitalism in the 21st Century",[38] Thomas Piketty compiled data from eight OECD countries since the 1970s and concluded that, as with income, private wealth has become more unequally distributed in recent decades, reversing a long-term decline throughout much of the 20th century. Since the crisis, the trend towards greater wealth inequality has indeed deepened.

Real assets, typically the family residence, are the main source of wealth, both for the wealthy and for people with low levels of wealth. They account for 75% of the value of total assets on average. It is only among those at the top of the scale that financial assets, such as stocks, form a significant source of wealth. The flipside of wealth is debt, and, in some countries, there are reasons to be concerned about the scale and concentration of liabilities, which are typically created by loans on families' main homes. The largest share of indebted households are found in the middle of the income scale. A high level of indebtedness and/or low asset holdings further affects the ability of the lower middle class to undertake investments in human capital and reduces risk taking. This constitutes a second pathway for how disparities in wealth holdings can weaken potential growth.[39]

Where private investment falters, the State is often called upon to provide fiscal stimulus and revive growth. But governments' fiscal room for manoeuvre has been severely curtailed in many EU member states by a combination of high public debt, slow economic growth and high unemployment, in particular in the aftermath of the financial crisis.



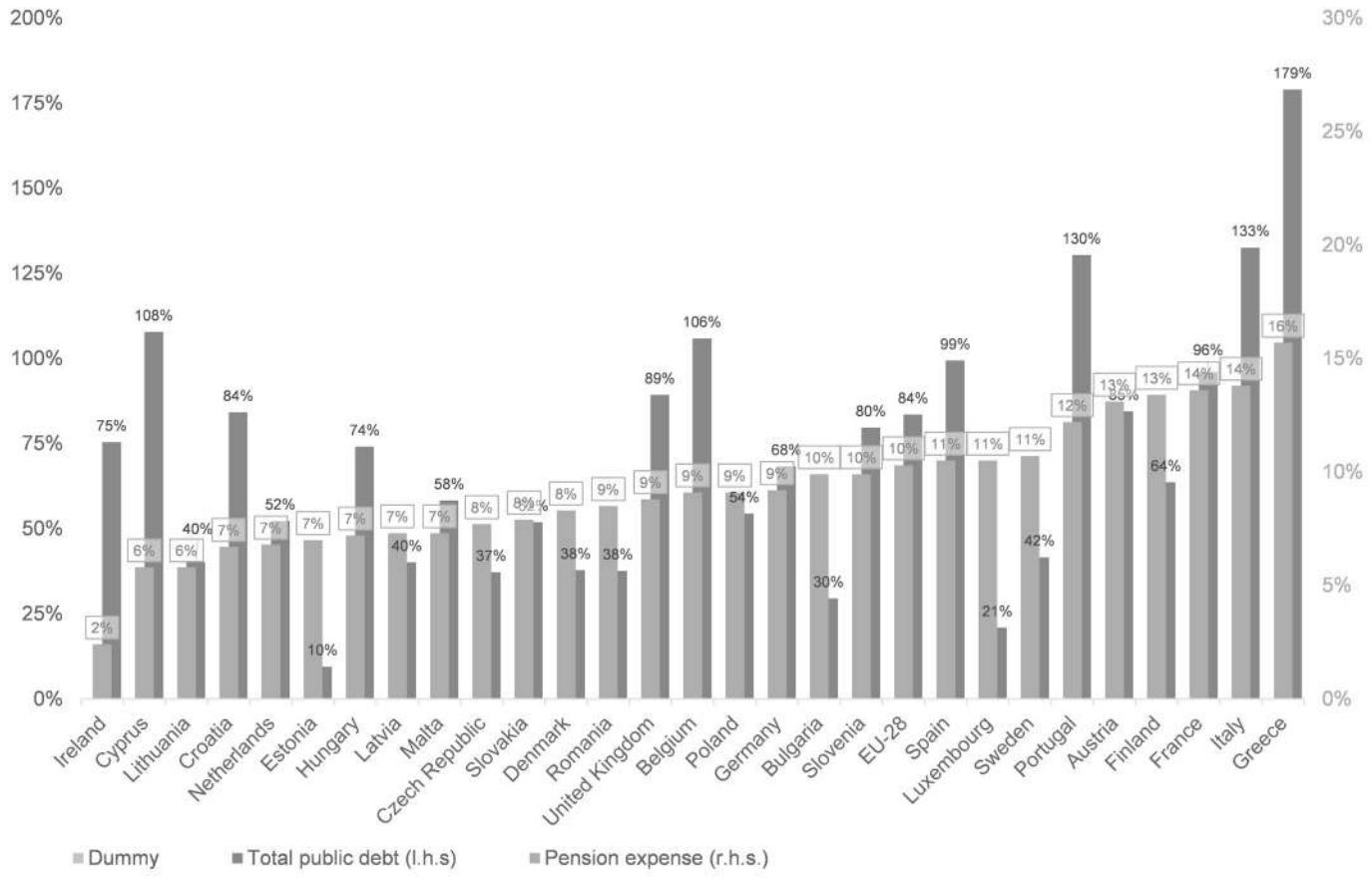
Public finances and social spending in the EU

Social security spending in the EU

Pillar 1 pensions are a key component of social security in the EU and account for a major part of member states' public expenditure. Total expenditure on social protection stood at 19% of GDP in the EU-28 in 2015. By far the most important line items are old age pension payments, which accounted for ca. 12% of GDP.[40]

In its 2015 Pension Adequacy Report, the European Commission expects, for the first time, average public spending on pensions at the end of its forecast period (2060) to be no larger than at the beginning (2013), despite the sharp increase in the number of citizens over 65.[41] Considered in isolation, the Commission estimates that the demographic factor alone would have increased public expenditure for the EU-28 by 7.6% of GDP over the period 2013-2060. That expenditure is not expected to increase is a result, primarily, of member states' recent pension reforms, which have led to an overall reduction in the number of citizens who will be receiving a pension (-2.6% of GDP) and lower average pension benefits compared to wages (-3.0% of GDP), e.g. by restricting access to early retirement, raising the pensionable age and scaling back entitlements. The Commission's Pension Adequacy Report concludes that the lowering of benefit levels could imply significant risks for the future adequacy of incomes in old age.[42]

Public spending on social protection, including pensions (2015, EU-28)



Source: Eurostat

Public finances in the EU

Shortfalls in pension-system revenues (contributions) may have to be compensated from other government sources, i.e. general tax receipts or government borrowing. Member states could, in principle, increase taxes and contributions or raise more debt.

Raising debt presupposes that the State has the necessary fiscal capacity. The crisis in Greece, in particular, has provided a stark reminder that this may no longer be the case in all EU member states. In the EU-28 the government debt-to-GDP ratio stood at ca. 84% at the end of 2016, for the Euro area the equivalent figure was 89%. A total of sixteen EU Member States reported a debt ratio above 60% of GDP, the reference threshold of the EU Stability and Growth Pact: the highest of these was registered by Greece (179%), followed by Italy (133%) and Portugal (130%). The lowest ratios of government debt-to-GDP were recorded in Estonia (10%), Luxembourg (20%) and Bulgaria (30%).[43] This illustrates that, whereas there may be some headroom in individual member states, fiscal capacity at the aggregate level of the EU-28, and in particular in some of the larger member states that are showing particularly large pension shortfalls, is very limited. It is worth noting also, that debt funding of social security expenditure may have unwanted redistributive effects: payments of interest and principal on government debt are borne, effectively, by the taxpayer as part of his overall tax bill. That burden tends to be higher for individuals than for companies and higher for low-income households than for more affluent ones.[44]

The option of raising taxes and social security contributions is equally politically fraught. As of 2015, the “tax wedge”, i.e. total taxes and social security contributions as a percentage of labour costs, in the EU-28 was 38.5%, on average, ranging from 49.5% in Belgium to 19% in Malta.[45] Increases in taxes and social security contributions have a direct impact on the disposable income of citizens, of course, but also have repercussions on labour costs, which affect the competitiveness of the economy at the international level.

In the long run, even if the Pillar 1 pension gap could be covered from general government revenues today, it appears very unlikely that a structural deficit of the projected size could be compensated in this way on a permanent basis.

© Huy Phan / Unsplash.com

Global issues and policy responses

Impact on pensions

Pensions – mostly from public pay-as-you-go (PAYG) schemes – are the main source of income of older people in Europe. In the face of the trends described above – demographics, public debt, inequality, and employment – European pension systems are facing the dual challenge of remaining financially sustainable and being able to provide Europeans with an adequate income in retirement. The adequacy of pensions is measured by their ability to prevent poverty, the degree to which they replace income before retirement and how they compare to the average incomes of people below pensionable age.[46] It is impossible at this stage to credibly predict the combined impact of these global trends on pension adequacy, in particular, but it is likely to be momentous.

Impact on pensions	Pillar 1	Pillar 2	Pillar 3
Demographics	!!!	~	~
Public debt	!	~	~
Inequality	!	!!	!!!
Employment	!!!	!!	!

The impact of **demographic change** on Pillar 1 pensions has already been discussed here. Population ageing threatens the long-term fiscal viability of pay-as-you-go (PAYG) pension systems. It also causes problems for capital-funded schemes: for defined-benefit (DB) plans, higher life expectancy means that guaranteed benefits are paid out longer and the capital stock could be eroded; for defined-contribution (DC) plans, it could cause adequacy problems as current levels of contributions and returns may not produce a pension pot that is sufficient to generate the required level of income. Insofar as future cohorts are able to find stable, adequately remunerated employment, their chances of earning Pillar 2, and possibly Pillar 3, pensions should remain largely intact. Constraints on government budgets limit the flexibility of the State to support the pension system for the transitional period.

Access to well-remunerated **employment** is hampered both by a shortage of jobs and by a severe polarisation of incomes at the two extremes of the salary ladder. The availability of formal, stable employment opportunities has already suffered under the impact of the financial crisis and its aftermath, with unemployment levels still stubbornly high in many EU member states, especially among young people. It is expected to come under threat even more with the adoption of AI-enabled processes and robotics. The rate of **technological progress** indicates that more demanding, higher-paid jobs are also increasingly at risk of being substituted. This could severely affect working-age citizens' prospects of earning Pillar 1 and 2 pension entitlements.

As a corollary, salary levels, especially for qualified, mid- and higher-level jobs, which have been stagnant for most of the last ten years in many advanced economies anyway, would come under renewed pressure. In addition to further exacerbating the **inequality** problem

more generally, this would also weigh down earnings-related Pillar 1 as well as Pillar 2 pension entitlements, in particular.

Inter-generational contract

As old-age dependency ratios rise and contributions to pay-as-you-go (PAYG) schemes continue to increase as a percentage of the active population's average salaries, it becomes unavoidable to revisit the intergenerational contract that supports them. This contract, implicit rather than formal, is supported by the notion of inter-generational solidarity. This consensus is now showing troubling signs of strain. To remain acceptable, inter-generational solidarity must be balanced by inter-generational fairness. That implies, in our view, that the burden of adjustment is shared equitably between the generations. Each of the available policy responses affects present and future cohorts of working-age citizens and retirees differently. To be fair, effective and politically acceptable, different approaches will likely need to be combined.

Higher PAYG contributions

As a policy response, member states with material shortfalls in their pay-as-you-go (PAYG) pension systems could, in the first instance, increase the level of contributions. In most member states this process has already taken place, often at several reprises. There are clear limits to this approach, however, for several reasons: a) it places the burden of adjustment squarely on the current working-age population; b) it increases labour costs, placing more jobs at risk; and b) it does not claim a contribution from employers who substitute labour to capture productivity gains.

Lower PAYG entitlements

Cutting individual pension entitlements is another unpopular option. In this case the burden is placed solely on the pensioners who, at this stage, have far fewer options to compensate for the loss of income. Depending on the way cuts are implemented there is a real risk of leaving a significant number of pensioners with inadequate income, plunging them into old-age poverty. Ex-post cuts to existing pension entitlements are also particularly problematic from a legal point of view: they interfere with vested rights and amount, effectively, to a partial expropriation of a particular segment of the population. As such they are not only exposed to legal challenge but also carry a high risk of damaging citizens' trust and the credibility of government.

Longer working lives

The statutory pensionable age (SPA) has been rising across the EU for some time, with most jurisdictions currently settling on 65 years for both men and women. Some countries, e.g. Germany, are transitioning towards even later retirement at 67 years. The expected benefit of postponing retirement is twofold: on the one hand, people work, and continue to pay contributions, for longer; on the other hand, pay-out periods to pensioners are shortened by the same amount of time. Once again, there are inherent limits. Even though people in Europe today have longer, healthier lives than ever before, the labour market has not yet adjusted accordingly and adequate formal employment opportunities for people "over 50" are scarce. Policy-makers need to consider how to foster a functioning labour market for older workers to extend their working careers in ways that are suitable, meaningful and properly remunerated. Employers also have a key role to play in helping

workers update their skills and adapt their work styles to support a longer working career.[47] More importantly, however, there is also an ethical imperative to respect older people's contribution to society and their right to decide for themselves how they participate in society in a way that is best suited to their circumstances in later life.

Capital-funded pension schemes

As set out previously, capital-funded pension schemes seem to be, at least conceptually, more adaptable to the demographic challenges we are facing. Each age cohort is building up a savings pool to provide for its own pensions and the size of the pool adjusts automatically for the size of the respective cohort. There is therefore strong interest in many EU member states which have relied so far primarily on pay-as-you-go (PAYG) systems to phase in capital-funded defined-contribution (DC) schemes. This is, as such, a welcome development as it should go some way towards alleviating current pressure on the inter-generational contract and restoring a fairer, more balanced arrangement.

On the downside, capital-funded plans rely on investment returns from the capital markets to build up the pension pot over the course of the future pensioner's working life, cover the cost of administering the fund, usually through a professional fund manager, and deliver an adequate pension when he or she retires. This can be challenging in an environment of low interest rates and low economic growth.[48] Defined-contribution (DC) pension plans typically rely, to a large extent, on low-risk fixed-income investments, such as bonds. Long periods of low interest rates can slow down the growth of the asset base in a way that leaves the prospective pensioner with a smaller pension pot than what is needed to deliver the expected level of pay-out upon retirement. It may also prompt pension savers and fund managers to move to higher-risk investments, such as equities, to achieve higher returns from dividends and capital gains – but at the price of being exposed to capital losses when share prices fall. The funding risk of pay-as-you-go (PAYG) has been replaced with investment risk.

There is also no getting away from the fact that capital-funded schemes rely on a source of income to pay contributions. Compared with pay-as-you-go (PAYG) schemes, however, capital-funded plans rely less on a steady stream of earnings and are therefore better suited to accommodate frequent changes and breaks in a person's employment history and the lumpier income that comes with it.

Pillars 2 and 3

Within capital-funded pension schemes, it is worth considering how the global trends we observe are likely to impact on Pillar 2 and 3 pensions, specifically. Pillar 2 plans rely, more than others, on the traditional concept of formal, long-term employment. In a labour market that is characterised by more atypical employment and shorter tenures, Pillar 2 pension schemes are facing their own challenges.

For many companies, in particular smaller ones, the burden of administering their employees' pension entitlements is difficult to handle – where enrolment in occupational pension schemes is mandatory, e.g. in the UK, most companies choose to outsource the management of their pension obligations to a public or private service, e.g. a State pension fund or a private-sector fund manager. Handling workers' entitlements becomes even more important and complex as the cross-border mobility of workers increases. The portability of Pillar 2 entitlements is becoming increasingly relevant for a growing portion of the European

labour force. The trend of outsourcing the management of corporate pension funds is also blurring the difference between Pillar 2 and Pillar 3 pensions. Finance Watch expects that Pillars 2 and 3 will be converging gradually over time and we would therefore like to see both sectors being held to the same, high standards in terms of prudential requirements, supervision and customer protection.

Diversification of pension systems

Public Pillar 1 pay-as-you-go (PAYG) pension schemes are the main providers of pensions across the EU today and they are set to remain so 40 years from now even though reforms are enlarging the role of capital-funded personal (Pillar 3) schemes.[49] The OECD recommends combining pay-as-you-go (PAYG) pensions with capital-funded pensions in order to diversify the sources to finance retirement. Diversification is important because each type of pension arrangement responds differently to a par-ticular external shock, such as demographic change or low economic growth. A combination of approaches is likely to render the system more resilient overall.

Following the same line of argument, the OECD also recommends separating the sources of financing for non-contributory and contributory public pensions. Countries should not use contributions to finance the safety net, social assistance, universal pensions or resident based basic pensions (i.e. non-contributory pensions). These should be fully financed through the budget, through taxes, while contributory public pensions should be financed with current contributions.[50]

Finally, the same logic applies, in our view to the choice of providers managing capital-funded pension schemes: there are successful precedents of both public-sector and privately-owned pension managers and we would argue that both approaches should be allowed to co-exist in the market to increase diversity and give savers a wider choice of options.

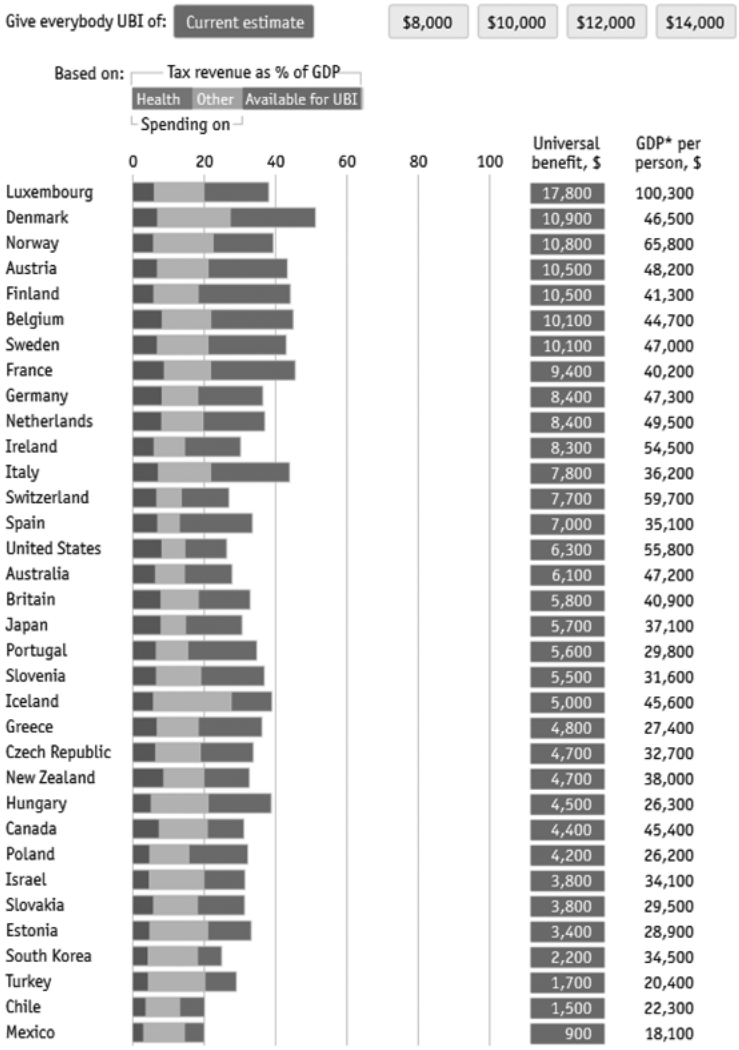
Harmonisation at the EU level

Our review shows that significant differences between EU member states persist, both in terms of the structure and maturity of their pension systems and of their position vis à vis the challenges that we highlighted here. These differences are particularly visible when comparing the pre-2004 member states (EU-19) and the post-2004 accession countries (EA-13). We have highlighted some of the issues, such as the difference in demographics. We believe that any harmonisation of Pillar 1 systems at this point in time, leaving aside the absence of a legal basis in the Treaties, would be fraught with difficulty, introduce friction and may not yield satisfactory outcomes, at least in the near term. The EU could, however, play an important role in supporting the log-term viability of national Pillar 1 systems by providing support and guidance to member states in restoring the solidity of their public finances and, as a consequence, their fiscal capacity.

The EU is already active in co-ordinating and harmonising pan-European aspects of Pillar 2 and 3 systems. We are very supportive of these measures where they encourage and facilitate the cross-border mobility of citizens, improve the quality and competitiveness of the products and services on offer and provide stronger protection for their assets and entitlements.

Beyond pensions

Affordability of a Universal Basic Income (UBI)



Source: The Economist, OECD (2016)

It is worthwhile, at this stage, to briefly pause and consider the likely wider impact of these demographic, socio-economic and technological trends on the viability of the social security systems of the EU member states and on the European model of the Welfare State in general. A bolder policy response may be needed. In some European countries (Finland, Netherlands), and elsewhere alternative approaches, such as Universal Basic Income, are currently being trialled. In her recent draft report on Robotics and Artificial Intelligence, the European Parliament's rapporteur, Mady Delvaux, MEP (S&D), pointed out that "*in the light of the possible effects on the labour market of robotics and AI, a general basic income should be seriously considered*".[51] Proponents of this concept argue that it would remove most of the cost and ineffectiveness of administering benefits, as well as the often demeaning and debilitating reality of welfare and free up citizens to embrace, and take full advantage of the potential of emerging technologies. It is still too early to assess whether such a radical rebooting of social security would be feasible and whether it would achieve the desired socio-economic outcomes. A brief aside seems to be warranted, however, to take a cursory glance at the concept and its feasibility.

A rough-and-ready calculation published by the Economist in June 2016, based on OECD data, provides a useful indication of the order of magnitude of funding required and the amounts of funding that different countries are spending on social security today. EU member states' current social security spending converted, wholesale, into universal basic income would translate into an average annual income of ca. USD 7,000 to 10,000 in wealthier Western European countries but only ca. USD 3,000 to 5,000 in Central and Eastern Europe and some Mediterranean countries, such as Portugal and Greece.[52] For comparison, the Hartz IV unitary unemployment benefit in Germany currently stands at EUR 404 per month (ca. EUR 4,850 or USD 5,400 p.a.) whereas the UK Living Wage amounts to GBP 7.20 per hour (ca. GBP 2,000 or USD 2,800 per month, based on a 48-hour week).

As a long-term concept, conceived as an unconditional basic income to all adult citizens, a Universal Basic Income could effectively replace statutory Pillar 1 pensions. It would create a basic retirement income, similar to a Beveridgean system, which could be complemented with defined-contribution (DC) Pillar 2 and 3 entitlements. There is, of course, an intensive debate on how funding could be secured for Universal Basic Income, in particular if the labour market is disrupted as profoundly as some studies predict. It is beyond the scope of this paper to enter into this question in any detail. It should be noted, however, that the adoption of technology will be driven, as always, primarily by the promise of productivity gains. To the extent that these gains are realised, they materialise as profits to the

corporates and individuals who invested in this technology. For the foreseeable future, the development and deployment of technology will be done by humans – not one, but many. As a first step towards a new funding model, it would be critical therefore for policy makers to ensure that the profits from technological innovation are shared more equitably between all parties involved. In the case of a large corporate, this would include shareholders and management as much as employees and their communities. Just as importantly, current failures to enforce even existing, legally binding tax obligations on corporates must be addressed as a matter of urgency. It is quite likely that controversial discussions e.g. of a "machine tax" may become redundant if corporate taxation were enforced uniformly and effectively. Last, but not least, the public sector would be called upon to redeploy resources that have been dedicated previously to administering benefits under the Social Security system towards the deployment of new public infrastructures and the development of new skills that enable the population at large to fully participate in the benefits of new technologies.

Background: EU legislative framework

Legal basis

Pensions are traditionally a national issue, however, due to the ever further integration of economies and societies in the EEA, the effect of national pension outcomes will have repercussions for the EEA as a whole. That makes pensions an issue of European concern.[53]

There are, however, only limited EU-level competencies in the field of pensions. Whereas statutory provision (Pillar 1) as part of national social security systems are an exclusive competence of the member states, the EU has taken some steps towards harmonising Pillar 2 pension systems and is now proposing, for the first time, to take on a similar in respect of Pillar 3.

Pillar 2: IORP and IORP II

The EU's role in harmonising Pillar 2 pension systems is based, primarily, on its competency to co-ordinate member states' legislative frameworks to ensure the free movement of workers and employees and safeguard their rights. The legal basis is set out in Art. 45 TFEU (Freedom of movement for workers), Art. 53 (Mutual recognition of qualifications and harmonisation of conditions for self-employment), Art. 62 (Freedom of providing services) and Art. 114(1) TFEU (Exemptions from harmonisation in the fields of taxation and employment). These provisions form the basis for the two main legislative projects of the EU in this field so far, the IORP Directive[54] and the Pension Portability Directive.[55]

The IORP Directive II covers occupational pensions and seeks to set out a pan-European framework for the provision of occupational pension services. IORP II was published in December 2016, following two years of intense negotiations, and has entered into force at the beginning of this year. The revisions to the original Directive aim to improve the governance, risk management, transparency and information provision of IORPs and help increase cross-border IORP activity.[56] Finance Watch has commented on some aspects of IORP II and in particular, expressed our disappointment that the new framework has not gone as far as to include binding prudential rules (i.e. solvency requirements) for IORP providers, which have been long overdue and would much improve the safety of occupational pensions for workers and employees.

Pillar 3: Personal Pensions

In addition to public pay-as-you-go (PAYG) pension schemes and occupational retirement savings, personal voluntary pension savings can help secure adequate replacement rates in the future. Whereas Pillars 1 and 2 should ensure basic pension adequacy, Pillar 3 is a tool for citizens to enhance their replacement rates.[57]

The maturity of personal pension markets differs throughout the EU, with the take-up of products being limited in most cases. Some EU member states have introduced frameworks for PPPs, primarily as additional savings vehicles targeted at higher-income households. So far only a few member states have achieved wider take-up of these personal pensions, thanks mainly to incentives such as tax advantages and public co-payments. However, the volume of savings and their potential contribution to adequate retirement incomes overall remains limited so far.[58] While there is certainly scope for further development of personal private pension savings in many countries, capital-funded Pillar 3 pension plans should always be considered complementary to public pensions and not as a substitute.[59]

IORPs
Institutions for Occupational Retirement Provision; EU legislative term for occupational (➔ **Pillar 2**) pension funds.

IORP Directive
Directive on the activities and supervision of the institutions for occupational retirement provision;[60] comprises the prudential framework for regulating pension funds in the EU.

IORP II
The proposed revision of the ➔ **IORP Directive**

PEPP
Pan-European Personal Pension; a standardised retirement savings product (➔ **Pillar 3**) which may be offered in all EU member states under a harmonised set of rules governing product design, consumer protection, disclosure and supervision.

PPP
Personal Private Pension. A retirement savings product (➔ **Pillar 3**) approved by the regulatory authorities of an EU member state and offered to the domestic market under national rules and regulations.

Pan-European Personal Pension Product (PEPP)

Background

In its 2012 White Paper,[61] the European Commission called for more opportunities for citizens to be able to save in safe and good-value funded pensions to complement their retirement income from less and less generous statutory Pillar 1 pensions. Complementary funded pensions include occupational pensions (private supplementary pensions linked to an employment relationship) and personal pensions (private individual voluntary supplementary pensions).

After consultations with the European Parliament and based on extensive technical advice from EIOPA,[62] including two public consultations conducted by EIOPA in 2015[63] and 2016,[64] the European Commission launched a public consultation in July 2016 as part of the Capital Markets Union (CMU) Action Plan to help assess the case for a policy framework to create a Pan-European Personal Pension Product (PEPP). A key part of this initiative, apart from supporting citizens' retirement incomes, is to strengthen the single market for capital by making more funds from personal pension plans available for investment in the economy. There were two main objectives of the public consultation: (i) to identify obstacles (and solutions) to the take up of personal pensions and (ii) to help analyse the case for an EU personal pension framework. In its 2017 work programme the Commission has since announced that it would "propose a simple, efficient and competitive EU personal pension product aimed at reducing barriers to the provision of pension services across borders and increasing competition between pension providers". A legislative proposal would be published in the context of the mid-term review of the CMU action plan in the second quarter of 2017.

Finance Watch comments

Finance Watch welcomes the European Commission's initiative to promote the take-up of Pillar 3 retirement saving schemes across the EU. The introduction of PEPP as a "second regime" alongside Member States' existing PPP offerings is, in our view, a second-best option in the absence of a pan European effort to harmonise national PPP regimes. We understand, however, that this may not be politically and/or practically feasible, at least in the near term. If successful, PEPP could serve as a useful instrument to encourage additional retirement savings, reduce market inefficiencies and pave the way for harmonisation on a wider scale.

This would require, however, that personal pension products become more attractive to consumers, i.e. potential pension savers, in terms of performance and cost effectiveness. Poor performance and value-for-money have long been a main focus of criticism. Personal pension products were marked last in the European Commission's 2013 analysis of market performance of different financial products.[65] Independent research findings by Better Finance show that most pension savings did not, on average, achieve anything close to capital market returns, and in too many cases even destroyed the real value for pension savers, i.e. produced a negative return after inflation.[66] In the UK, a review of annuity sales practices[67] has revealed evidence of large-scale mis-selling by two of the largest providers, potentially affecting more than 100,000 customers.

The new instrument should create a benchmark for simple and low-cost retirement savings products, make them accessible to hitherto underserved markets and provide cross-border portability to an increasingly mobile European citizenry. It could also encourage portfolio managers to demonstrate competitive performance against a broader set of benchmarks.

We are mindful, however, that the proposed strengthening of Pillar 3 on its own will not remedy the overburdening of national budgets and the potentially precarious situation of future generations of retirees. To effectively address the challenges confronting our pension systems, notably an aging population and fundamental changes in the workplace, the proposed Pillar 3 measures need to be accompanied, in our view, by a more comprehensive review of the Pillar 1 pensions system which takes in related issues, such as social security.

We are aware that there is limited scope at present to address these wider issues at the European level as they fall predominantly within the competency of Member States. To return public finances across the EU to a healthy and sustainable position and to turn the promise of free movement of citizens and capital into reality it appears unavoidable, however, that EU Member States start co-operating in this domain in due course.

Finance Watch recommendations

In order to strike a balance between safety and performance, but with a particular emphasis on the stated aim of the PEPP to cater specifically to financially less literate citizens, the design of a PEPP product would, in our view, have to conform to the following minimum standards:

SIMPLE

- A PEPP product must be designed specifically as a pension product and have the explicit objective of providing an income after retirement: the start of the decumulation phase must be referenced to a (statutory) retirement age and the early withdrawal of capital during the accumulation phase limited or penalised.
- The PEPP product must contain a limited number of options, including a default option, which provides for a low risk, low-cost annuity with a capital guarantee and a cap on costs and charges.
- A PEPP product must be available through a variety of distribution channels, including non-advised sales via the internet. All distribution channels must provide access to the same core documents and follow the same simple, pre-defined decision tree.
- As a general rule, a PEPP product may only provide investment exposure to "*non-complex financial instruments*" in accordance with Article 30/3.a.i. of the Insurance Distribution Directive (IDD).[68]

SAFE

- The default option is designed to produce a stable and predictable lifelong retirement income, by way of a lifetime annuity. Exceptions from annuitisation (i.e. draw-down of a lump sum) apply only where the size of the accumulated pension pot is not sufficient to generate a meaningful annuity income.
- The default option contains a guarantee on the accumulated capital. PEPP providers must be authorised under one of the relevant regulatory regimes (e.g. Solvency II IORP II) and comply with prudential minimum standards, in particular regarding the provision of capital guarantees.
- A PEPP product must provide the option for the customer to switch providers without incurring charges, subject to statutory minimum holding and/or notice periods.
- At the end of the accumulation period, i.e. upon reaching the retirement age, the customer must be free to obtain competitive annuity offers from different providers ("*open market option*").
- PEPP contracts purchased through non-advised distribution channels, e.g. online, must be sub-ject, at a minimum, to existing EU consumer protection rules, e.g. under the Distance Marketing[69] and E-Commerce[70] directives.

TRANSPARENT

- A PEPP product must be based on a default option, with a limited number of alternatives. Providers and advisers are obliged to apply a simple, pre-defined decision tree with a limited set of default pathways and subject to appropriateness tests.
- The principal features of a PEPP product must be set out in a clear and concise way in a fact-sheet, based largely on the key information document (KID) for Packaged Retail and Insurance-based Investment Products (PRIIPs).[71]
- Value-for-money, e.g. of annuity products, must be disclosed in a simple, readily comparable manner using uniform, standardised metrics defined by regulation.
- For the default option, at a minimum, a PEPP product must provide for a cap on costs and charges.

Additional comments

Investment strategy

PEPP products should offer exposure to long-term assets with stable risk profiles and place particular emphasis on sustainble investment. As a general rule, PEPP products should only provide investment exposure to "non-complex financial instruments", in analogy to Article 30/3.a.i. of the Insurance Distribution Directive (IDD), which refers to the definitions set out in Art. Article 57 of the MiFID II Delegated Regulation[72] and the ESMA Guidelines[73], in particular. If at all, exceptions should be made only on the basis of a detailed, fully documented suitability assessment. EIOPA should be mandated to specify further criteria for suitability by way of technical standards, if required.

For products that use profit-sharing / smoothing approaches, the underlying mechanism, including asset allocation, pay-out and retention policies, should be explained in layman's language. In addition, non-financial items, such as information on environmental, social and governance (ESG) impact, should be included.

We also note that there is a bias in some Member States in favour of deploying retirement savings domestically. Portability and cross-border provision and management of personal pensions are therefore more or less explicitly discouraged. While this bias is understandable politically is does not necessarily ensure the most effective allocation of capital or contribute to the integration of European capital markets and/or labour mobility.

Decumulation phase

The concept of an annuity pay-out is consistent with the concept of PEPP as a retirement savings tool to provide a supplementary pension income. There is an argument, however, to give customers a certain level of flexibility, primarily to choose between life-time and temporary annuity options. Lump-sum pay-outs should be discouraged, however, except when the accumulated pension pot is not large enough to generate a meaningful regular income. The threshold for what may be considered a meaningful annuity is likely to differ between member states and may best be determined by the national supervisory authority. To maintain consistency, EIOPA should be mandated to develop regulatory technical standards setting out a common methodology.

Switching

Pension savers should, as a matter of principle, retain a maximum of control over their savings and should have the possibility to switch between providers without being penalised by fees or taxes. Some restrictions to switching (e.g. minimum holding and/or notice periods) are justifiable, however, in order to ensure that capital can be allocated for long-term investments and to protect against the effects of short-term volatility in the capital markets. Freedom to switch is a key precondition to generate and maintain healthy competition in the market for PEPP products. Numerous precedents, e.g. from the UK,[74] illustrate that captive customers are often poorly served.

Portability of entitlements is important, both within and across Member States. It is, arguably, one of the main reasons for introducing PEPP as a "second regime" alongside national PPPs. As a guiding principle, future pensioners should maintain a maximum of control over their entitlements. This applies for Pillar 3 schemes as much as for Pillar 2 and should be more straightforward because the relationship between the customer and the provider is less complex than that between employee, employer and, in the case of an outsourced Pillar 2 scheme, the fund manager.

Distribution

Finance Watch agrees that online distribution could be a promising way to reach segments of the population that have so far not been actively engaged in personal pension savings, e.g. due to a lack of financial literacy, a reluctance to deal with the perceived complexity of the subject or a general distrust of financial service providers and advisers. It is critical, however, that potential and existing customers are provided with a clear, transparent and predictable pathway mapping out all relevant information, choices and the underlying decision tree.

Advice on PEPPs should not be mandatory but should be made available on demand. For customers who prefer to obtain individual advice, fees must be disclosed in full and fee structures should be simple, aligned with the standard pathway and, preferably, based on flat fees. A fee cap should apply, at least, for the default option.

In some Member States with well-developed personal pension industries, incumbent national providers have a significant level of control of distribution channels. This applies, in particular, for traditional channels, i.e. those involving captive branch networks or independent intermediaries. In the interest of avoiding conflicts of interest it is critical, therefore, to clearly separate provision from distribution and to provide full transparency on the costs of product provision and management. Inducements to independent advisers should be banned, in line with the relevant provisions of MiFID II. In any event, all inducements, built-in or explicit, would have to be disclosed.

Information and Disclosure

The overriding priority should be to make personal pensions simple and accessible. Nevertheless, advice and assistance must be made available especially for consumers who are less financially literate. If consumers increasingly purchase financial services online it will become even more important that they thoroughly review, and take note of product specifications and providers' terms and conditions. Tools such as the comprehension alert in PRIIPs could be useful in this regard.

We believe that the formats that have been introduced, or are being proposed, for PRIIPs and UCITS (Key Information Documents or KIDs) could be an appropriate starting point. In the interest of improving comparability, both within and between product categories, and fostering consumers' understanding of retail financial products more generally, information documents should be further harmonised across product categories.

Taxation

Differences in the taxation of retirement savings are one of the primary issues that have so far prevented the development of an integrated pan-European capital market. For personal pensions, in particular, tax incentives could play a major role in encouraging initial take-up. We note, however, that taxation should not be used as a lever to distort cross-border competition and create cross-subsidisation at the national level.

We recognise that EU legislators have no competencies in the area of taxation but we note that a truly integrated and competitive pan-European market for retirement savings is unlikely to emerge as long as material divergences in taxation persist among member states and no tools are offered to citizens to manage tax liabilities across borders in an efficient and user-friendly way. Finance Watch would strongly encourage the EU institutions to address this issue, e.g. by developing a mechanism for calculating and collecting balancing payments among member states. If successful, such a mechanism could serve as a potentially ground-breaking blueprint and hugely speed up the development and integration of capital markets in the EU while providing a maximum of predictability, transparency and convenience for the citizen. In its initial report on personal pensions in Europe, EIOPA noted explicitly that there were strong views from a number of stakeholders that it "*may be useful to harmonise tax treatment or to propose a solution to overcome this major issue*".[75]

Footnotes

1. Prentice, Thomson, Health, History and Hard Choices: Funding Dilemmas in a Fast-changing World, WHO Global Health Histories Seminar, University of Indiana, August 2006; (http://www.who.int/global_health_histories/seminars/presentation07.pdf)

2. As of 2015, average life expectancy across the EU-28 was 78 years for men and 83 for women. Regional differences are significant, however, ranging from 75 years in parts of the Baltics and South-Eastern Europe (Latvia, Lithuania, Romania and Bulgaria) to 83 years in South Western Europe (Spain, Italy); (http://ec.europa.eu/eurostat/web/population-demography-migration-projections/deaths-life-expectancy-data/database)

3. The UK, in particular, has witnessed a number of high-profile cases, including Robert Maxwell's raiding of the Mirror Group pension fund in 1991 and the collapse of bhs (British Home Stores) in 2015.

4. OECD, Pensions at a Glance 2015, Paris 2015, pg. 147; (http://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-at-a-glance_19991363)

5. European Commission, European Semester Thematic Fiche: Adequacy and Sustainability of Pensions, May 2016, pg. 4; (http://ec.europa.eu/europe2020/pdf/themes/2016/adequacy_sustainability_pensions_201605.pdf)

6. European Commission, The 2015 Pension Adequacy Report: Current and Future Income Adequacy in Old Age in the EU. Volume I, Luxemburg 2015, pg. 125; (http://ec.europa.eu/social/BlobServlet?docId=14529&langId=en)

7. European Commission, The 2017 Report on Equality between Women and Men in the EU, Brussels, March 2017, pg. 20, 26; (http://ec.europa.eu/newsroom/document.cfm?doc_id=43416)

8. The most frequent tax regime for Pillar 3 pensions in the EU, for instance, is "EET", which stands for (tax) 'Exempt' contributions, (tax) 'Exempt' investment returns and 'Taxed' pay-outs.

9. European Commission, European Semester Factsheet: Adequacy and Sustainability of Pensions, November 2015, pg. 1; (https://ec.europa.eu/info/files/european-semester-thematic-factsheet-adequacy-and-sustainability-pensions_en)

10. Kochskaemper, Susanne / Pimpertz, Jochen, Live Long and Prosper? Demographic Change and the Implications of Europe's Pensions Crisis, Wilfried Martens Centre for European Studies, Brussels 2015, pg. 24; (https://www.martenscentre.eu/publications/live-long-and-prosper-demographic-change-and-europes-pensions-crisis)

11. EU-28, as of 1 January 2015; Eurostat, Statistics Explained: Population Structure and Ageing, June 2017; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing)

12. Eurostat, Statistics Explained: Population Structure and Ageing, June 2017; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing)

13. European Commission, The 2015 Pension Adequacy Report: Current and Future Income Adequacy in Old Age in the EU. Volume I, Luxemburg 2015, pg. 198; (http://ec.europa.eu/social/BlobServlet?docId=14529&langId=en)

14. Eurostat, Statistics Explained: Population Projections, June 2015; (http://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_%E2%80%93_population_projections)

15. Eurostat, Population Demography and Migration: Main Tables, June 2017; (http://ec.europa.eu/eurostat/web/population-demography-migration-projections/deaths-life-expectancy-data/main-tables

16. European Commission, The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies, European Economy 8/2014, May 2015; pg. 13; (http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee8_en.pdf)

17. Eurostat, Statistics Explained: Fertility Statistics, March 2017, pg.4; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Fertility_statistics)

18. European Commission, Ageing Report (2015), pg. 10http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee8_en.pdf

19. Kochskaemper / Pimpertz, Live Long and Prosper (2015), pg. 25

20. European Commission, European Semester Factsheet (2015) pg. 1

21. Eurostat, Statistics Explained: Population Structure and Ageing (2017)

22. European Commission, Pension Adequacy Report (2015), pg. 199

23. Eurostat, Statistics Explained: Migration and Migrant Population Statistics, March 2017, pg.5; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics)

24. Eurostat, Statistics Explained: Asylum Statistics, March 2017, pg. 1; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum_statistics)

25. Brynjolfsson, Erik / McAfee, Andrew, Race Against The Machine: How The Digital Revolution Is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and The Economy, MIT Sloan School of Management Research Brief, January 2012; (http://ebusiness.mit.edu/research/Briefs/Brynjolfsson_McAfee_Race_Against_the_Machine.pdf)

26. Brynjolfsson, Erik / McAfee, Andrew, Will Humans Go the Way of Horses? Labor in the Second Machine Age, Journal of Foreign Affairs, Vol. 94/4 (July/August 2015), pg. 8; (https://www.foreignaffairs.com/articles/2015-06-16/will-humans-go-way-horses)

27. Frey, Carl Benedikt / Osborne, Michael, The Future of Employment: How Susceptible Are Jobs to Computerisation, Working Paper, Oxford Martin School, Oxford University, 17 September 2013: (http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf)

28. McKinsey Global Institute, A Future that Works: Automation, Employment and Productivity, January 2017; http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works)

29. PwC, Will Robots Steal Our Jobs? The Potential Impact of Automation on the UK and Other Major Economies, PwC UK Economic Outlook, March 2017, pgs. 30-47; (https://www.pwc.co.uk/economic-services/ukeo/pwcukeo-section-4-automation-march-2017-v2.pdf)

30. OECD, Policy Brief on the Future of Work: Automation and Independent Work in a Digital Economy, May 2016; (http://www.oecd.org/employment/Policy%20brief%20-%20Automation%20and%20Independent%20Work%20in%20a%20Digital%20Economy.pdf)

31. OECD, Policy Brief on the Future of Work (2016), pg. 4.

32. Graetz, Georg / Michaels, Guy, Is Modern Technology Responsible for Jobless Recoveries? CEP Centre for Economic Performance (CEP) Discussion Paper No. 1461, London, January 2017; (http://eprints.lse.ac.uk/69043/1/dp1461.pdf)

33. Smith, Noah, Most rich countries hire back workers after a recession. The U.S. replaces them with machines, Bloomberg View, 24 January 2017; (https://www.bloomberg.com/view/articles/2017-01-23/why-the-u-s-has-a-monopoly-on-jobless-recoveries)

34. European Commission, Pension Adequacy Report (2015), pg. 3

35. OECD, In It Together: Why Less Inequality Benefits All, OECD Publishing, Paris 2015, pg. 23; (http://www.oecd.org/social/in-it-together-why-less-inequality-benefits-all-9789264235120-en.htm)

36. OECD, In It Together: Why Less Inequality Benefits All (2015), pg. 24

37. OECD, In It Together: Why Less Inequality Benefits All (2015), pg. 34

38. Piketty, Thomas, Capital in the Twenty-First Century, Cambridge / London 2014, pg. 304 ff.

39. OECD, In It Together: Why Less Inequality Benefits All (2015), pg. 35

40. Eurostat, Statistics Explained: Government Expenditure on Social Protection, February 2017; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Government_expenditure_on_social_protection). This includes the categories of ‘old-age’ and ‘survivors’ benefits.

41. There are significant differences across Member States, however: the change in public pension expenditure as a share of GDP would range from an increase by +4.1% to a decline by -3.9% compared to 2013.

42. European Commission, Pension Adequacy Report (2015), pg. 1

43. Eurostat, Statistics Explained: Government Finance Statistics, 24 April 2017; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Government_finance_statistics)

44. In most, but not all, EU member states personal income tax rates are higher, on average, than (flat) corporation tax rates. Lower-income households tend to depend more on income from employment, which is subject to personal income tax, frequently on a progressive scale, whereas more affluent households derive a larger proportion of income from returns on assets (interest and capital gain on investments, rent on property), which is often taxed at lower rates.

45. Eurostat, Statistics Explained: Wages and Labour Costs, April 2017, pg. 7; (http://ec.europa.eu/eurostat/statistics-explained/index.php/Wages_and_labour_costs)

46. European Commission, European Semester Factsheet (2015), pg. 1

47. World Economic Forum / Mercer, We'll Live To 100 – How Can We Afford It?, May 2016; (http://www.mercer.com/content/dam/mercer/attachments/global/gl-20017-wef-white-paper-we-will-live-to-100.pdf)

48. OECD, Pensions Outlook 2016: Highlights, OECD Publishing, Paris 2016, pg. 8; (http://www.oecd.org/daf/fin/private-pensions/Highlights-2016-Pensions-Outlook.pdf)

49. European Commission, Pension Adequacy Report (2015), pg. 42

50. OECD, Pensions Outlook (2016), pg. 8

51. European Parliament (Committee on Legal Affairs), Draft Report with recommendations to the Commission on Civil Law Rules on Robotics, JURI_PR(2016)582443, pg. 10; (http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML%2BCOMPARL%2BPE-582.443%2B01%2BDOC%2BPDF%2BV0//EN)

52. The Economist, Universal Basic Income in the OECD: Basic Income Calculator, 03 June 2016; (http://www.economist.com/blogs/graphicdetail/2016/06/daily-chart-1)

53. EIOPA, Technical Advice on the Development of an EU Single Market for Personal Pension Products (PPP), EIOPA-16/457, 04 July 2016, pg. 8; (https://eiopa.europa.eu/Publications/Consultations/EIOPA's advice on the development of an EU single market for personal pension products.pdf)

54. Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the Activities and Supervision of Institutions for Occupational Retirement Provision (IORP II), OJ L 354/2016, 23 December 2016, pg. 37–85

55. Directive 2014/50/EU of the European Parliament and of the Council of 16 April 2014 on Minimum Requirements for Enhancing Worker Mobility between Member States by Improving the Acquisition and Preservation of Supplementary Pension Rights, OJ L 128, 30 April 2014, pg. 1-7

56. European Parliament, Occupational Pensions: Revision of the Institutions for Occupational Retirement Provision Directive (IORP II), Briefing, 17 March 2017; (http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/589800/EPRS_BRI%282016%29589800_EN.pdf)

57. Lannoo, Karel / Barslund, Mikkel / Chmelar, Ales / von Werder, Marten, Pensions Schemes: Study for the Committee of the European Parliament (Committee for Employment and Social Affairs), August 2014; (http://www.europarl.europa.eu/RegData/etudes/STUD/2014/536281/IPOL_STU(2014)536281_EN.pdf)

58. EIOPA, Technical Advice on the Development of an EU Single Market for Personal Pension Products (PPP), EIOPA-16/457, 04 July 2016, pg. 8; (https://eiopa.europa.eu/Publications/Consultations/EIOPA's advice on the development of an EU single market for personal pension products.pdf)

59. OECD, Pensions Outlook 2016, Paris 2016, pg. 33; (http://www.oecd.org/finance/oecd-pensions-outlook-23137649.htm)

60. Directive 2003/41/EC of the European Parliament and of the Council of 3 June 2003 on the Activities and Supervision of Institutions for Occupational Retirement Provision (IORP II), OJ L 235/2003, 23 September 2003, pgs. 10–21

61. European Commission, White Paper: An Agenda for Adequate, Safe and Sustainable Pensions, COM(2012) 55 final, 16 February 2012; (http://ec.europa.eu/social/BlobServlet?docId=7341&langId=en)

62. EIOPA, Towards an EU Single Market for Personal Pensions. Preliminary Report for COM, EIOPA-BoS-14/029, 19 February 2014; (https://eiopa.europa.eu/Publications/Reports/EIOPA-BoS-14-029_Towards_an_EU_single_market_for_Personal_Pensions-_An_EIOPA_Preliminary_Report_to_COM.pdf)

63. EIOPA, Final Report on Public Consultation No.CP-15/006 on the Creation of a Standardised Pan-European Personal Pension product (PEPP), EIOPA-16-341, 11 April 2016; (https://eiopa.europa.eu/Publications/Reports/EIOPA-16-341-Final-Report-PEPP-fin.pdf)

64. EIOPA, Final Report on Public Consultation No. CP-16/001 on EIOPA's Advice on the Development of an EU Single Market for Personal Pension Products (PPP), EIOPA-16-467, 14 June 2016; (https://eiopa.europa.eu/Publications/Consultations/EIOPA‘s advice on the development of an EU single market for personal pension products.pdf)

65. European Commission, Monitoring Consumer Markets in the European Union 2013 (Part I), August 2013, pg. 16, 22; (http://ec.europa.eu/consumers/consumer_evidence/consumer_scoreboards/market_monitoring/docs/consumer_market_monitoring_2013_part_1.pdf)

66. Better Finance, Pension Savings: The Real Return (2016 Edition), Brussels 2016, pg. 17; (http://betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_report_2016_For_Web_-_Final.pdf)

67. Financial Conduct Authority (FCA), Thematic Review: Review of Annuity Sales Practices, TR 16/7, October 2016; (https://www.fca.org.uk/publication/thematic-reviews/tr16-7.pdf)

68. Directive (EU) 2016/97 of the European Parliament and of the Council of 20 January 2016 on Insurance Distribution (Insurance Distribution Directive, IDD), OJ L 26/2016, 02 February 2016, pg. 19-59

69. Directive 2002/65/EC of the European Parliament and of the Council of 23 September 2002 concerning the Distance Marketing of Consumer Financial Services, OJ L 271/2002, 09 October 2002, pg. 16–24

70. Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain Legal Aspects of Information Society Services, in particular Electronic Commerce, in the Internal Market (e-Commerce Directive),OJ L 178/2000, 17 July 2000, pg. 1-16

71. Regulation (EU) 1286/2014 of the European Parliament and of the Council of 26 November 2014 on Key Information Documents for Packaged Retail and Insurance-based Investment Products (PRIIPs), OJ L 352/2014, 09 December 2014, pg. 1–23

72. Commission Delegated Regulation (EU) 2017/565 of 25 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council as regards organisational requirements and operating conditions for investment firms and defined terms for the purposes of that Directive (MiFID II Delegated Regulation), OJ L 87/2017, 31 March 2017, pg. 1-83

73. ESMA, Final Report: Guidelines on Complex Debt Instruments and Structured Deposits, ESMA/2015/1783, 25 November 2015; (https://www.esma.europa.eu/sites/default/files/library/2015-1783_-_final_report_on_complex_debt_instruments_and_structured_deposits.pdf)

74. Financial Conduct Authority, Retirement Income Market Study: Interim Report, Market Study MS14/3.2, December 2014; (http://www.fca.org.uk/static/documents/market-studies/ms14-03-2.pdf); Aquilina, Matteo / Baker, Robert / Majer, Tommaso, The Value for Money of Annuities and Other Retirement Income Strategies in the UK, Financial Conduct Authority Occasional Paper No. 5, December 2014; (http://www.fca.org.uk/static/documents/occasional-papers/occasional-paper-5.pdf)

75. EIOPA, Towards an EU Single Market for Personal Pensions (2014), pg. 28

References

Aquilina, Matteo / Baker, Robert / Majer, *Tommaso, The Value for Money of Annuities and Other Retirement Income Strategies in the UK,* Financial Conduct Authority Occasional Paper No. 5, December 2014; http://www.fca.org.uk/static/documents/occasional-papers/occasional-paper-5.pdf

Better Finance, *Pension Savings: The Real Return (2016 Edition),* Brussels 2016; http://betterfinance.eu/fileadmin/user_upload/documents/Research_Reports/en/Pension_report_2016_For_Web_-_Final.pdf

Brynjolfsson, Erik / McAfee, Andrew, *Race Against The Machine: How The Digital Revolution Is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and The Economy,* MIT Sloan School of Management Research Brief, January 2012; http://ebusiness.mit.edu/research/Briefs/Brynjolfsson_McAfee_Race_Against_the_Machine.pdf

— *Will Humans Go the Way of Horses? Labor in the Second Machine Age*, Journal of Foreign Affairs, Vol. 94/4 (July/August 2015); https://www.foreignaffairs.com/articles/2015-06-16/will-humans-go-way-horses

European Insurance and Occupational Pensions Authority (EIOPA), *Final Report on Public Consultation No. CP-16/001 on EIOPA's Advice on the Development of an EU Single Market for Personal Pension Products (PPP),* EIOPA-16-467, 14 June 2016; https://eiopa.europa.eu/Publications/Consultations/EIOPA's advice on the development of an EU single market for personal pension products.pdf

— *Final Report on Public Consultation No.CP-15/006 on the Creation of a Standardised Pan-European Personal Pension product (PEPP),* EIOPA-16-341, 11 April 2016; https://eiopa.europa.eu/Publications/Reports/EIOPA-16-341-Final-Report-PEPP-fin.pdf

— *Technical Advice on the Development of an EU Single Market for Personal Pension Products (PPP), EIOPA-16/457,* 04 July 2016; https://eiopa.europa.eu/Publications/Consultations/EIOPA's advice on the development of an EU single market for personal pension products.pdf

— *Towards an EU Single Market for Personal Pensions. Preliminary Report for COM,* EIOPA-BoS-14/029, 19 February 2014; https://eiopa.europa.eu/Publications/Reports/EIOPA-BoS-14-029_Towards_an_EU_single_market_for_Personal_Pensions-_An_EIOPA_Preliminary_Report_to_COM.pdf

European Securities and Markets Authority (ESMA), *Final Report: Guidelines on Complex Debt Instruments and Structured Deposits,* ESMA/2015/1783, 25 November 2015; https://www.esma.europa.eu/sites/default/files/library/2015-1783_-_final_report_on_complex_debt_instruments_and_structured_deposits.pdf

European Commission, *European Semester Factsheet: Adequacy and Sustainability of Pensions,* November 2015; https://ec.europa.eu/info/files/european-semester-thematic-factsheet-adequacy-and-sustainability-pensions_en

— *European Semester Thematic Fiche: Adequacy and Sustainability of Pensions,* May 2016; http://ec.europa.eu/europe2020/pdf/themes/2016/adequacy_sustainability_pensions_201605.pdf

— *Monitoring Consumer Markets in the European Union 2013 (Part I)*, August 2013; http://ec.europa.eu/consumers/consumer_evidence/consumer_scoreboards/market_monitoring/docs/consumer_market_monitoring_2013_part_1.pdf

— *The 2015 Ageing Report: Underlying Assumptions and Projection Methodologies,* European Economy 8/2014, May 2015; http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee8_en.pdf

— *The 2015 Pension Adequacy Report: Current and Future Income Adequacy in Old Age in the EU.* Volume I, Luxemburg 2015; http://ec.europa.eu/social/BlobServlet?docId=14529&langId=en

— *White Paper: An Agenda for Adequate, Safe and Sustainable Pensions,* COM(2012) 55 final, 16 February 2012; http://ec.europa.eu/social/BlobServlet?docId=7341&langId=en

European Parliament, *Occupational Pensions: Revision of the Institutions for Occupational Retirement Provision Directive (IORP II),* Briefing, 17 March 2017; http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/589800/EPRS_BRI%282016%29589800_EN.pdf

Eurostat, *Population Demography and Migration: Main Tables,* accessed in June 2017; http://ec.europa.eu/eurostat/

web/population-demography-migration-projections/deaths-life-expectancy-data/main-tables

— *Statistics Explained: Asylum Statistics,* March 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Asylum_statistics

— *Statistics Explained: Fertility Statistics,* March 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Fertility_statistics

— *Statistics Explained: Government Expenditure on Social Protection,* February 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Government_expenditure_on_social_protection

— *Statistics Explained: Government Finance Statistics,* 24 April 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Government_finance_statistics

— *Statistics Explained: Migration and Migrant Population Statistics,* March 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics

— *Statistics Explained: Population Projections,* June 2015; http://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_%E2%80%93_population_projections

— *Statistics Explained: Population Structure and Ageing,* June 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing

— *Statistics Explained: Wages and Labour Costs,* April 2017; http://ec.europa.eu/eurostat/statistics-explained/index.php/Wages_and_labour_costs

Financial Conduct Authority (FCA), *Retirement Income Market Study: Interim Report,* Market Study MS14/3.2, December 2014; http://www.fca.org.uk/static/documents/market-studies/ms14-03-2.pdf

— *Thematic Review: Review of Annuity Sales Practices,* TR 16/7, October 2016; https://www.fca.org.uk/publication/thematic-reviews/tr16-7.pdf

Frey, Carl Benedikt / Osborne, Michael, *The Future of Employment: How Susceptible Are Jobs to Computerisation,* Working Paper, Oxford Martin School, Oxford University, 17 September 2013; http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf

Graetz, Georg / Michaels, Guy, *Is Modern Technology Responsible for Jobless Recoveries?* CEP Centre for Economic Performance (CEP) Discussion Paper No. 1461, London, January 2017; http://eprints.lse.ac.uk/69043/1/dp1461.pdf

Kochskaemper, Susanne / Pimpertz, Jochen, Live Long and Prosper? *Demographic Change and the Implications of Europe's Pensions Crisis,* Wilfried Martens Centre for European Studies, Brussels 2015; https://www.martenscentre.eu/publications/live-long-and-prosper-demographic-change-and-europes-pensions-crisis

Lannoo, Karel / Barslund, Mikkel / Chmelar, Ales / von Werder, Marten, *Pensions Schemes: Study for the Committee of the European Parliament (Committee for Employment and Social Affairs),* August 2014; http://www.europarl.europa.eu/RegData/etudes/STUD/2014/536281/IPOL_STU(2014)536281_EN.pdf

McKinsey Global Institute, *A Future that Works: Automation, Employment and Productivity,* January 2017; http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works

Organization for Economic Cooperation and Development (OECD), *In It Together: Why Less Inequality Benefits All,* OECD Publishing, Paris 2015; http://www.oecd.org/social/in-it-together-why-less-inequality-benefits-all-9789264235120-en.htm

— *Pensions at a Glance 2015,* OECD Publishing, Paris 2015; http://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-at-a-glance_19991363

— *Pensions Outlook 2016: Highlights,* OECD Publishing, Paris 2016; http://www.oecd.org/daf/fin/private-pensions/Highlights-2016-Pensions-Outlook.pdf

— *Policy Brief on the Future of Work: Automation and Independent Work in a Digital Economy,* OECD Publishing, May 2016; http://www.oecd.org/employment/Policy brief - Automation and Independent Work in a Digital Economy.pdf

Piketty, Thomas, *Capital in the Twenty-First Century,* Belknap / Harvard University Press, Cambridge / London 2014.

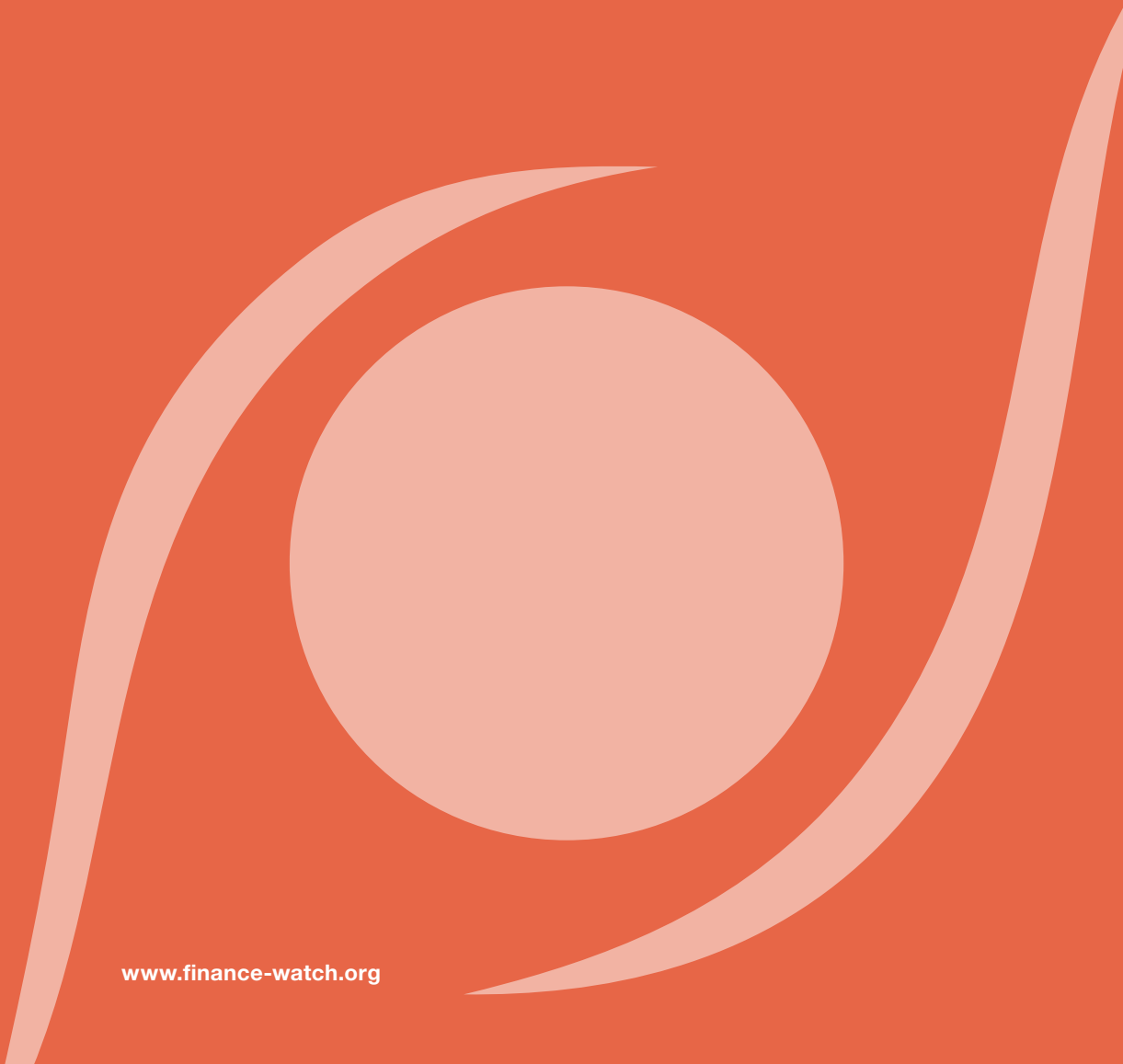
Prentice, Thomson, *Health, History and Hard Choices: Funding Dilemmas in a Fast-changing World,* WHO Global Health Histories Seminar, University of Indiana, August 2006; http://www.who.int/global_health_histories/seminars/presentation07.pdf

PricewaterhouseCoopers (PwC), *Will Robots Steal Our Jobs? The Potential Impact of Automation on the UK and Other Major Economies,* PwC UK Economic Outlook, March 2017, pgs. 30-47; https://www.pwc.co.uk/economic-services/ukeo/pwcukeo-section-4-automation-march-2017-v2.pdf

Smith, Noah, *Most rich countries hire back workers after a recession. The U.S. replaces them with machines,* Bloomberg View, 24 January 2017; https://www.bloomberg.com/view/articles/2017-01-23/why-the-u-s-has-a-monopoly-on-jobless-recoveries

The Economist, *Universal Basic Income in the OECD: Basic Income Calculator,* 03 June 2016; http://www.economist.com/blogs/graphicdetail/2016/06/daily-chart-1

World Economic Forum / Mercer, *We'll Live To 100 – How Can We Afford It?,* May 2016; http://www.mercer.com/content/dam/mercer/attachments/global/gl-20017-wef-white-paper-we-will-live-to-100.pdf



www.finance-watch.org

About Finance Watch

Finance Watch is an independently funded public interest association dedicated to making finance work for the good of society. Its mission is to strengthen the voice of society in the reform of financial regulation by conducting advocacy and presenting public interest arguments to lawmakers and the public. Finance Watch's members include consumer groups, housing associations, trade unions, NGOs, financial experts, academics and other civil society groups that collectively represent a large number of European citizens. Finance Watch's founding principles state that finance is essential for society in bringing capital to productive use in a transparent and sustainable manner, but that the legitimate pursuit of private interests by the financial industry should not be conducted to the detriment of society. For further information, see www.finance-watch.org

Finance Watch

Finance Watch
Rue d'Arlon 92
1040 Brussels
Tel: + 32 (0)2.880.0430

www.finance-watch.org