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Accelerating Europe's transition to funded pension systems

Zsolt Darvas, Jacob Funk Kirkegaard, Alexandre Mendonça and Bo Sangers

Europe's pension systems are under mounting pressure from rapid population ageing, shrinking workforces, growing risks of old-age poverty and rising fiscal constraints. Many countries continue to rely predominantly on pay-as-you-go pension systems that provided broad retirement coverage by transferring resources from current workers to current retirees. Adding to the challenge, Europe faces a substantial investment gap and underdeveloped capital markets relative to other advanced economies.

Our analysis suggests that incremental reforms are no longer sufficient in countries where funded pensions are absent or very small. Parametric adjustments are often politically contentious and insufficient. Similarly, gradual efforts to build funded pillars, such as recent German proposals, would take decades to reach a meaningful scale. At the same time, Denmark, the Netherlands and Sweden, which have large, funded pension pillars alongside public pension systems, have achieved a more favourable combination of fiscal sustainability, retirement-income adequacy and capital-market development. Their experience demonstrates that funded pensions can reduce long-term fiscal pressures, support higher retirement incomes, strengthen incentives to work longer and provide a stable source of long-term investment capital.

We therefore propose a pension-system 'kick-start'. Fiscally capable governments should issue public debt equivalent to 25 percent of GDP and allocate the proceeds to individual funded retirement accounts for working-age citizens. This would immediately create sizable, funded pension assets, incentivise individual pension savings and accelerate capital-market development. While increasing public debt initially, the reform is likely to be broadly fiscally beneficial over the long run through higher investment returns and faster economic growth.

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Contents

1 Introduction 3

2 The case for radical reform of PAYG systems 5

3 France, Germany, Italy and CEE countries: unfinished reforms with limited success 9

4 How to engineer a meaningful shift towards defined contribution systems 18

5 Conclusion 25

References 27

Annex 31

1 Introduction

Europe's pension systems have undergone repeated reforms since the early 1990s, yet they continue to face persistent and, in most countries, intensifying pressures. Fiscal imbalances remain pronounced in countries such as France and Italy, while concerns about old-age poverty have gained prominence in Germany, Italy and several central and eastern European (CEE) countries. These developments highlight a fundamental tension at the core of European pension policy: ensuring long-term fiscal sustainability while maintaining adequate retirement incomes. Evidence from the OECD shows that, despite various pension reforms in many countries, risks of poverty among the elderly remain significant and unevenly distributed, particularly where replacement rates[1] are low and labour market trajectories are fragmented. This dual challenge of ensuring that pensions are financially sustainable and adequate for the needs of pensioners has become more acute as demographic ageing accelerates across the continent (OECD, 2025a).

At the heart of these pressures lies the structural predominance of pay-as-you-go (PAYG) pension systems in Europe. These systems, while initially effective in providing old-age income security and intergenerational risk-sharing in favour of those at advanced ages at the time they were introduced, rely heavily on current contributions to finance existing benefits. This makes PAYG systems highly sensitive to population ageing which, together with insufficient adjustment of statutory retirement ages, lead to rising financial stresses as the ratios of contributors to pensioners worsen.

The projected decline of working-age populations (by 10 percent in the EU27 from 2025-2050), together with the projected increase of people aged 65 and over (a 31 percent increase in the EU27 over the same period)[2], exemplifies the demographic headwinds confronting PAYG systems. In some countries, the expected decline in working age population is even sharper, such as in Greece (24 percent), Italy (17 percent), and on average in central and eastern European EU members[3] (also 17 percent), over the same 2025-2050 period. Meanwhile, there are eight EU countries, including Denmark, the Netherlands and Sweden, where the working age population is expected to increase, largely due to immigration, though this will not prevent an increase in the old-age dependency ratio.

Pension reforms are often highly contentious, leading to incremental adjustments

In parallel, political constraints have frequently limited the scope, durability and ambition of reform efforts. Pension reforms are often highly contentious, leading to incremental adjustments and delayed implementation, as observed in several countries. Since the 1990s, French pension policy has been marked by frequent reforms, many of them withdrawn, diluted or suspended under social and political pressure. Many other European countries experienced similar difficulties. Outright reversing or suspending pension reforms has become a myopic political impulse in France in recent years,

1 The replacement rate is the ratio of the pension entitlement relative to pre-retirement earnings.

2 Baseline projections by Eurostat, 'Population on 1st January by age, sex and type of projection' (online data code proj_25np). The numbers reported refer to the 20-64 and 65+ age cohorts.

3 Bulgaria, Croatia, Czechia, Hungary, Poland, Romania, Estonia, Lithuania, Latvia, Slovakia and Slovenia.

resulting in complex and fragmented pension systems that struggle to deliver both fiscal stability and adequate benefits (Heer *et al*, 2026).

Beyond their fiscal and social implications, the design of pension systems also has important financial market and macroeconomic consequences. The reliance of many countries on PAYG systems results in a large share of household retirement savings not being intermediated through capital markets, therefore being neither available to support productive investment, nor to benefit retirees via long-term compound growth. This stands in stark contrast to more funded systems, such as those in Denmark, the Netherlands, Sweden and also in the United States, where large pension assets are accumulated and deployed across financial markets.

The necessity of deepening capital markets is reinforced by estimates of Europe's investment gap. The 2024 Draghi report identified that the EU needs €750-€800 billion of additional investment per year by 2030, to meet its decarbonisation, digital and defence objectives and close its competitiveness gap with the United States and China (Draghi, 2024). However, Europe's financial system is not currently well positioned to meet this demand, despite decade-long efforts to build a Savings and Investments Union[4]. As argued by Noyer *et al* (2024), Europe's capital markets remain underdeveloped due to a relatively small investor base and persistent structural fragmentation, which together constrain the efficient allocation of savings and limit access to long-term financing. They suggested the development of long-term savings products to increase flows into European capital markets, in which funded pensions could play an important role. However, pension assets in the European Union (roughly €5 trillion in 2024)[5] are far below the levels observed in the United States, where pension savings play a much more significant role in capital markets (OECD, 2025b). This disparity reflects, in part, the limited development of funded pension pillars in many European countries (Lappe and Pinkus, 2025).

In this context, there is renewed attention on the expansion of funded pension components as a potential mechanism to address both fiscal and macroeconomic challenges. By accumulating financial assets over time, funded pension schemes can not only complement PAYG systems[6] in delivering retirement income but also serve as a stable source of long-term capital for the economy. Empirical evidence suggests that countries with more developed funded pension sectors tend to exhibit deeper capital markets and higher levels of venture capital investment (see section 2.3), supporting innovation and economic growth. In Europe, systems of this type have been gradually developed in Denmark, the Netherlands and Sweden, resulting in multi-pillar pension systems that combine PAYG and funded elements, with pension savings exceeding GDP (Darvas *et al*, 2026). Unfortunately, however, the gradual approach taken in these countries cannot be repeated today, as the demographic and growth environment is far less favourable than it was from 1960-1995, when the Danish, Dutch and Swedish systems were established.

4 Formerly called the EU Capital Markets Union; see Arampatzi *et al* (2025).

5 €5.059 trillion excluding Cyprus due to missing data (OECD, 2025b).

6 In pay-as-you-go (PAYG) systems, the current contributions finance current pensions. By contrast, funded schemes accumulate savings that are invested in financial markets, and pensions are paid out of this capital and its returns.

This working paper presents evidence in section 2 that makes the case for reforming PAYG systems. In section 3 it reviews past and ongoing reforms of these systems, concluding that these reforms have not and likely will not deliver the required change. Section 4 proposes a 'kick-start' for countries with predominant PAYG systems, in which governments would issue public debt equivalent to 25 percent of GDP and allocate the proceeds to individual funded retirement accounts for working-age citizens, immediately creating sizable funded pension assets, incentivising individual pension savings and accelerating capital-market development. While this would increase public debt initially, the reform is likely to be broadly fiscally beneficial in the long term and hence feasible if executed well.

2 The case for radical reform of PAYG systems

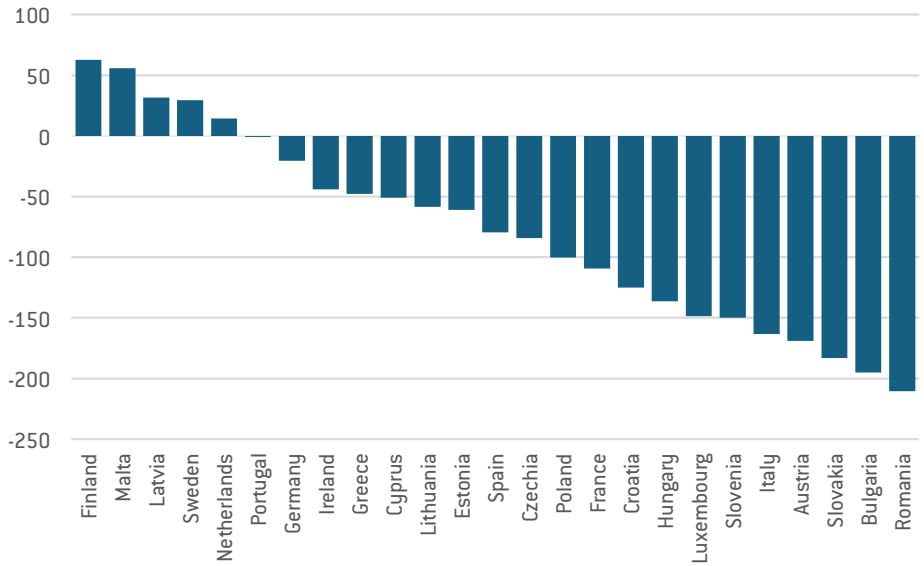
Over the coming decades, rising old-age dependency ratios will place increasing pressure on Europe's public finances, labour markets and economic growth. While pension systems have traditionally been viewed primarily through the lens of social policy, their design also has profound implications for capital market development, investment, innovation and fiscal sustainability. As Europe seeks to strengthen its growth potential, improve economic resilience and mobilise resources for major strategic priorities, pension reform should move to the forefront of policy discussions.

Three main reasons make pension reform critical and timely in several European countries: the sustainability of public pension systems, the welfare level they can provide at old ages and the development of capital markets.

2.1 Public pension system sustainability

The sustainability of public pension systems is under growing pressure in several European countries (Figure 1). The present value of projected public pension system balances for 2025-2070 exceeds 100 percent of GDP in several CEE countries, as well as Austria, Italy, Luxembourg and France, highlighting significant long-term sustainability concerns. By contrast, Finland, Latvia, Malta, the Netherlands and Sweden are expected to generate public pension surpluses over the next half century, while Portugal is projected to maintain a broadly balanced position. Germany stands out with a relatively modest pension deficit, equivalent to around 20 percent of GDP, despite its rapidly ageing population and the predominance of a PAYG pension system.

Figure 1: Net present value of 2025-2070 public pension system balances as a percent of GDP



Source: Bruegel based on European Commission (2024). Note: data for Denmark and Belgium is missing. We used a two percent annual real discount rate.

Among the countries expected to record pension surpluses, Sweden and the Netherlands have accumulated exceptionally large stocks of funded pension assets relative to GDP (Figures A1 and A2). Denmark exhibits a similar pattern, although comparable data on its public pension balance is not available. In contrast, Germany, France, Italy and many CEE countries remain heavily reliant on unfunded public pension promises. These differences are important because funded systems create financial assets that can support investment and economic growth, whereas unfunded systems represent claims on future taxpayers and contributors. The contrast suggests that countries with predominantly unfunded systems may face greater fiscal and demographic vulnerabilities in the decades ahead: in a purely unfunded, PAYG system, a shrinking workforce must bear the growing cost of supporting retirees; in a funded system, accumulated pension wealth and its investment returns finance a substantial share of pension expenditure, mitigating the impact of adverse demographic trends.

Public pension deficits can be reduced by either increasing revenues or lowering expenditures. However, the scope for raising contribution rates to increase revenue appears limited in several countries. Effective contribution rates are already high in countries such as France (27.8 percent) and Italy (33 percent), well above the OECD average of 18.8 percent of average earnings (Figure A3). Meanwhile replacement rates (the ratio of pension benefits to pre-retirement earnings) are relatively low in Germany and several CEE countries (Figure A4)[7]. Thus, Germany's comparatively favourable pension balance is partly a result of the comparatively limited generosity of its pension system relative to many other European countries.

7 Across the income distribution, replacement rates tend to be higher for lower earners in most countries, reflecting redistributive objectives within pension systems (Figure A5 – note that only gross replacement rates are available by income groups). Notable exceptions include Italy, where replacement rates are uniform across income levels, and Sweden, where the highest earners benefit from comparatively higher replacement rates.

Other critical parameters of pension systems are the statutory and effective retirement ages. Raising the retirement age can improve pension finances in the short term by postponing labour market exit and delaying benefit claims. Over the longer term, however, later retirement may also increase future pension entitlements by extending contribution histories. Nevertheless, higher retirement ages generally strengthen pension finances overall by increasing contribution revenues and reducing the number of years spent in retirement.

Italy, Denmark, the Netherlands and Sweden have linked their retirement ages to life expectancy, implying gradual increases in retirement ages over time (Figure A6). In Germany, the retirement age is also set to rise, although no further increases are currently legislated beyond 2031 (the July 2026 reform proposals are discussed in Section 3.2). In contrast, France has one of the lowest effective retirement ages among the countries considered, and current legislation foresees no further increases.

In summary, European pension systems face markedly different long-term prospects. Countries with substantial funded pension assets generally appear better positioned to cope with demographic challenges, while those relying heavily on unfunded public pensions face larger sustainability risks. Given already high contribution rates and, in some cases, modest benefit levels, the scope for incremental parametric reforms seems to be limited.

2.2 Wellbeing of the elderly

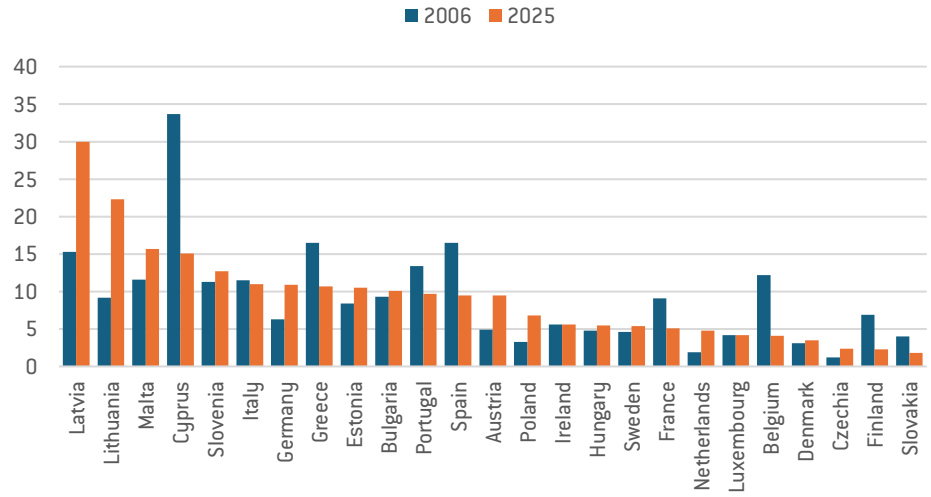
A key objective of pension systems is to ensure an adequate income in retirement. A useful indicator of this is the share of people aged 65 and over whose disposable income is below 50 percent of the national median disposable income. This measure is officially labelled the 'at-risk-of-poverty rate', although the term can be somewhat misleading because it reflects relative rather than absolute poverty (Figure 2). In the mid-2000s, this indicator was highest in several eastern and southern EU countries, as well as in Belgium. Although the rate has declined in many countries that initially had high levels, notable increases were recorded by 2025 in several central and eastern European countries and (starting from relatively low levels) in Austria, Germany and the Netherlands[8]. In Austria and Germany, the rate almost doubled from about 5 percent in 2006 to around 10 percent in 2025, moving both countries into the group with comparatively high old-age poverty risks. In the Netherlands, the rate increased from around 2 percent to 5 percent over the same period, but the country nevertheless remained among those with relatively low rates.

Old-age poverty is low in all three EU countries with the largest private pension fund

8 The rise in the relative poverty rate among older people in the Netherlands largely reflects strong growth in median incomes, which increased the relative poverty threshold. Pensioners relying mainly on the flat-rate state pension did not fully keep pace with this increase, causing a larger share to fall below the threshold despite limited changes in their absolute living standards. Occupational pensions have partly offset this effect for some retirees, but their coverage and benefits are uneven. Using a budget-based poverty measure, Goderis and Muns (2025) find that old-age poverty remains low in absolute terms, although it is more prevalent and persistent among first-generation immigrants, who are less likely to have accumulated full pension entitlements.

sectors, Denmark, Sweden and the Netherlands. Therefore, a potential concern that funded pensions could result in inadequate retirement incomes for some retirees, due to, for example, uneven yields on pension savings, is not supported by the evidence. In contrast, several countries with predominantly PAYG systems face significant old-age poverty, even though some PAYG systems perform well in this regard, such as Slovakia. Countries with high rates of old-age poverty, which all operate predominantly unfunded systems, should focus on strengthening minimum and basic pensions. Any reform towards a stronger funded system should take this into consideration, learning from the lessons from Denmark, Sweden and the Netherlands.

Figure 2: Elderly at-risk-of-poverty rate



Source: Bruegel based on Eurostat (ilc_pns1). Notes: the at-risk-of-poverty rate is the share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 50 percent of the national median equivalised disposable income. Elderly people are defined as individuals aged 65 years or over. Data is missing for Croatia and Romania.

2.3 Capital market development

The literature generally points to a strong positive association between pension-fund development and capital-market development. Cross-country studies show that pension funds increase market capitalisation, liquidity and overall market depth (Impavido and Musalem, 2000; Catalan *et al*, 2000; Impavido *et al*, 2003). These findings are confirmed by Thomas and Spataro (2016), whose literature review concluded that most empirical studies, despite employing different methodologies and datasets, find a significant positive relationship between pension fund growth and capital market development. More recent studies reinforce these findings. Using data from the Organisation for Economic Co-operation and Development (OECD), Babalos and Stavroyiannis (2020) find that pension funds' equity investments stimulate stock market development and that the relationship is bidirectional, suggesting that deeper capital markets and larger pension fund investments mutually reinforce one another. Similarly, Alda García and Marco Sanjuán (2016) show that growth in pension fund assets is associated with larger, higher-return and more stable markets in both the short and long run, whereas its effects on liquidity and trading activity appear to be predominantly short-term.

Khan *et al* (2026) contend that actual contributions to fully funded pension schemes, not merely the regulatory permissions, catalyse stock market deepening. Their findings suggest that funded pension systems mobilise long-term savings, support a shift from bank-based to market-based finance and contribute to the emergence of deeper equity markets.

A particularly important theme is the role of funded pension reforms. Rocholl and Niggemann (2010) find that shifts from PAYG to funded pension systems lead to larger stock and corporate bond markets, especially in emerging economies. Hryckiewicz (2009) likewise demonstrates that pension reforms introducing mandatory funded pillars and the resulting growth of institutional investors, significantly promoted securities market development in central and eastern Europe via greater demand for domestic financial assets and improved corporate governance.

Despite this broad consensus, several studies argue that the impact of pension funds depends on institutional conditions, financial market maturity and portfolio allocation. Meng and Pfau (2010) find stronger benefits in countries with more developed financial systems, while Lappe and Pinkus (2026) show that investment allocation is more important than the overall size of pension funds in fostering capital market development. Similarly, Raddatz and Schmukler (2008) highlight the importance of portfolio composition, particularly for liquidity and bond market growth. A more cautious perspective is offered by Stewart *et al* (2017), who found that funded pension reforms do not always achieve the expected outcomes when regulatory constraints lead pension funds to hold conservative portfolios concentrated in bank deposits and government bonds.

The impact of pension funds depends on institutional conditions, financial market maturity and portfolio allocation

Overall, the evidence suggests that pension funds are important drivers of capital market development, but their effectiveness depends on supportive institutions, regulations and investment strategies.

3 France, Germany, Italy and CEE countries: unfinished reforms with limited success

The previous section showed that several EU countries, including France, Germany, Italy and many CEE countries face a range of challenges, from sizeable public pension deficits and high contribution rates to elevated levels of old-age poverty. Against this backdrop, we review the pension reform efforts these countries have undertaken over recent decades to overcome these challenges, which have resulted in limited success.

3.1 France

The current French pension system was established in 1945 and is built on the PAYG model, where the current workforce directly finances the pensions of current retirees on a rolling basis. Widely considered as one of the most generous pension systems in the

OECD, it is a defined-benefit (DB) system in which retirees receive guaranteed monthly payouts based on the number of years they contributed and their individual pensionable earnings. Moreover, France's mandatory supplementary pension systems (Agirc-Arrco), run jointly by employers and trade unions, operate as point systems. Under these schemes, contributions buy pension points each year, and at retirement the accumulated points are multiplied by the point value to determine the pension payment. This links pensions closely to lifetime contributions and allows the social partners to maintain financial balance by adjusting the purchase price and the value of points, although this makes future pension levels less predictable.

One particularity of the French system, and one of its main criticisms, is its high degree of fragmentation: rather than a single unified framework, it consists of 42 co-existing, mandatory pension schemes, several of which – particularly those covering public sector and certain professional categories – operate under very different and typically more generous rules than those applied to ordinary private sector workers[9]. Recent reforms of these systems (concentrated in the civil service, public transportation, utilities and the state-owned enterprise sectors) have focused on closing them to new hires. This sets these special schemes on a path towards a very gradual phase-out. It also enshrines a gross inter-generational injustice, as already-vested insiders gradually die while such largesse is denied to younger, currently contributing French workers. Meanwhile, there is no significant funded pillar in the French system, and it consequently remains highly exposed to demographic shifts.

There is no significant funded pillar in the French system, and it remains highly exposed to demographic shifts

In 2010, the minimum retirement age was raised from 60 to 62, and the full pension age from 65 to 67. To curb the system fragmentation, there was a reform attempt in 2019 to create a single universal pension points system, which was abandoned due to protests and the 2020 COVID-19 pandemic (Boulhol, 2019). More recently in 2023[10], there was a highly contested reform to gradually increase the minimum retirement age from 62 to 64 by 2030, and to accelerate the already-planned increase in the contribution period required for a full pension from 42 to 43 years, brought forward to 2027 instead of 2035, as previously scheduled. The reform was adopted in 2023 without a parliamentary vote, using Article 49 of the Constitution[11], which led to mass protest[12]. Given the renewed political instability in 2025, the increase in the retirement age was suspended until January 2028 as part of the 2026 Social Security budget[13].

A key takeaway from French reform attempts is that they have focused on raising the effective retirement age, rather than increasing contributions or cutting benefits. Despite the evident recurring political challenge of legislating much needed increases in retirement ages in France, successive governments have avoided a relatively

9 As of 2019, on average, each individual had contributed to more than three regimes which do not add up in a straightforward way, with one-third having entitlements in more than four regimes (Boulhol, 2019).

10 Loi n° 2023-270 du 14 avril 2023 de financement rectificative de la sécurité sociale pour 2023.

11 See https://www.legifrance.gouv.fr/loda/article_lc/LEGIARTI000006527529/1999-07-09.

12 See for example *Le Monde*, 'French pension reform: 14th day of national protest ends with low turnout', 6 June 2023, https://www.lemonde.fr/en/france/article/2023/06/06/in-france-a-14th-day-of-protest-to-derail-macron-s-pension-reform_6029218_7.html.

13 Loi n° 2025-1403 du 30 décembre 2025 de financement de la sécurité sociale pour 2026.

straightforward solution to this problem: automatically linking retirement ages to life expectancy through a well-designed mechanism that would reduce the need for repeated, politically contentious reforms. This continuing political inaction means that the gains from French retirement-age increases, whether implemented or proposed, have to date been fully offset by rising life expectancy. According to Gonzalez-Pulgarin and Langot (2025), under the current projected increase in life expectancy, and assuming the same contribution and replacement rates, the retirement age would have to increase to 66.3 years in 2085.

3.2 Germany

The German pension system traces its origins to Bismarck's social insurance laws of 1889. Until 2001, it was essentially a PAYG system, and the 2001 Riester reform strengthened its multi-pillar structure by adding a small but growing funded pillar alongside the existing state system. The first pillar, the statutory pension insurance, remains the dominant component and operates on a PAYG basis, where current contributors finance current pension payments. The second pillar consists of voluntary occupational pension schemes, which vary considerably by sector and employer. The third pillar is individual private pension provision, most notably the state-subsidised 'Riester pension' introduced in 2001. This third pillar has largely failed to offset the reduction in public pension levels that accompanied the 2001 reform, due to its high complexity and frequently poor returns earned for retirees by Germany's still embryonic and fragmented pension fund sector (Geyer *et al*, 2021). However, according to Germany's country fiche within the European Commission's 2024 Ageing Report (European Commission, 2023), around 66 percent of all employees aged 25 to 65 who are subject to social insurance contributions were entitled to an occupational pension, a '*Riester* pension', or both.

In 2004 a sustainability factor (Nachhaltigkeitsfaktor), known as the alpha parameter, was introduced, which built a demographic brake into the pension formula[14]. This reduces the wage-induced increase of pension benefits when the ratio of pensioners to workers increases. Under legislation passed in 2007, from 2012 to 2031 the standard retirement age is being gradually raised from 65 to 67, depending on year of birth and contribution history. However, the system is under strong demographic pressures, with the working-age population projected to shrink by 23 percent by 2065, nearly double the OECD average (OECD, 2025c).

There have been attempts at further reforms to account for these pressures. The Rentenpaket II, originally approved by the federal cabinet in 2024 but never passed by the Bundestag following the collapse of the government coalition, had three central elements[15]. The first was a floor on the statutory pension level of at least 48 percent of

14 The parameter alpha (Nachhaltigkeitsfaktor) determines how much of the demographic burden gets absorbed by pensioners (through smaller pension increases) versus by contributors and the federal budget (through higher contribution rates and subsidies). At the current level of 0.25, the resulting financing burden from an increase in the relative number of pensioners is split such that roughly one quarter of this effect is absorbed by pensioners, and three quarters by contributors and the federal budget.

15 See Bundesministerium für Arbeit und Soziales press release of 29 May 2024, 'Kabinett beschließt Rentenpaket II', https://www.bmas.de/DE/Service/Presse/Pressemitteilungen/2024/kabinett-beschliesst-rentenpaket-ii.html.

average wages, extended through to 2039. The second element was the introduction of a new sovereign wealth fund, the Generationenkapital, an additional financing instrument for the statutory pension system, managed by a newly created independent public foundation. This fund would have been seeded with €12 billion in federal government loans in 2024, with public contributions increasing by 3 percent each year, targeting a total capital stock of €200 billion in 2036, after which it would distribute approximately €10 billion per year to the statutory pension system, subject to the fund's actual investment performance and the preservation of a safety buffer. The third element was a promise that the retirement age would not be increased beyond 67, and projected that the contribution rate, currently at 18.6 percent, would increase to 20 percent by 2028 and 22.3 percent by 2035, stabilising thereafter due to the fund distributions. However, because of the government collapse in 2024, the bill was never passed.

In 2025, the new government approved a more limited pension reform, which also secured a floor on the statutory pension level at 48 percent, although only through 2031, and expanded the Mütterrente benefits, which fully equalised pension credits for mothers whose children were born before 1992 with those born after[16]. Moreover, it introduced the Aktivrente, which allows workers of retirement age to earn up to €2000 per month tax-free to incentivise continued labour market participation. However, the Generationenkapital was not included and its fate remains currently uncertain. The statutory retirement age, set to rise gradually to 67 by 2031 under the 2007 reform, was left unchanged.

Locking the 48 percent floor without raising the retirement age shifts the entire burden onto younger generations

The inclusion of the 48 percent pension level floor stems from the fact that, according to the Bundeskabinett, without this legal measure, the pension level would become decoupled from wage growth in the years after 2025 and fall below 45 percent in the long term. As the baby boomers retire, the sustainability factor in the indexation formula would cause pensions to grow more slowly than wages, bringing the pensions of lower earners increasingly close to means-tested basic income support. To achieve the 48 percent target, the reform suspended the application of the sustainability factor within the pension adjustment formula until 2031, rather than removing it permanently. However, as argued by Börsch-Supan *et al* (2024)[17], locking the 48 percent floor without raising the retirement age shifts the entire burden onto younger generations and taxpayers, undermining the purpose of the sustainability factor. Furthermore, the Deutsche Bundesbank (2025), similarly to Börsch-Supan *et al* (2006), advises reviewing the statutory retirement age by linking it to life expectancy after 2031, and ending preferential tax treatments. The OECD (2025c) also argues that raising the effective retirement age and coupling the legal retirement age to life expectancy is crucial to stabilise pension spending, but also states that social security contributions should not be increased.

In June 2026, the Alterssicherungskommission (2026), a government-appointed expert commission, published recommendations for pension reform after 2031, when

16 See Die Bundesregierung press release of 1 January 2026, 'To keep pensions stable, reliable and fair', https://www.bundesregierung.de/breg-en/news/pension-package-2025-2397954.

17 See also David Pinkus, 'German pension reform push crystallises challenges faced by many European countries', *First Glance*, 13 May 2024, Bruegel, https://www.bruegel.org/first-glance/german-pension-reform-push-crystallises-challenges-faced-many-european-countries.

the current 48 percent floor expires. Rather than extending this floor indefinitely, the commission proposed reactivating the sustainability factor after 2031 while raising it from 0.25 to 0.33. This shifts more of the burden from contributors and the federal budget onto the increasing number of pensioners. Furthermore, in line with the Deutsche Bundesbank's (2025) and OECD's (2025c) recommendations, the commission proposed indexing the statutory age to life-expectancy gains after 2031, at a 2:1 ratio favouring extended working life[18], which anticipates around a six-month increase in the retirement age per decade.

Moreover, the commission also revived the idea of capital funding, but in a different form than the 2024 Generationenkapital. The commission proposed a mandatory, individually owned funded pension (Kapitalrente) funded by a two-percent increase in the contribution rate directly invested in a public fund, similar to that in Sweden, rather than a sovereign wealth fund distributing returns back into the PAYG system (as in the 2024 proposal). The additional two percent of wages paid in contributions would be phased in from 2028 to 2031 in annual, half-percent increments. Inspired by Sweden's funded Premium Pension Scheme, German workers will be able to choose from a standard publicly managed savings product and a limited number of certified alternative savings options. A two-percent contribution rate would see an estimated €35 billion, or 0.8 percent of GDP channelled annually towards funded pensions in Germany by 2031.

Additional measures signal a firmer stance than previous reforms. For instance, raising early-retirement ages would discourage early labour-market exit, while expanding the compulsory coverage to the self-employed and other currently excluded groups would broaden the contribution base and reduce gaps in old-age protection.

At the time of writing, these measures are recommendations by the Alterssicherungskommission (2026), not enacted legislation. However, they are urgent: as emphasised by Pálvölgyi *et al* (2026), given that population ageing is projected to intensify in the next decade, policy actions should combine measures that address the most pressing issues with credible longer-term commitments. Börsch-Supan (2026) is more critical, arguing that the Alterssicherungskommission proposal is a collection of disparate policy measures rather than the comprehensive reform the pension system requires. He further argues that public scepticism towards capital-funded pensions, which complicates the implementation of the Kapitalrente, partly reflects disappointment with the earlier Riester reform[19].

3.3 Italy

The Italian system has a long history of reforms, such as the Amato, Dini and Fornero reforms in 1992, 1995 and 2011 respectively, and partial reversals in reaction to political backlash, such as 'Quota 100' (2019). In the 1990s there was a large generational

18 A 2:1 ratio means that two-thirds of any gain in life expectancy translate into a longer working life and one-third into longer retirement. For example, a 1.5-year increase in life expectancy would raise the retirement age by one year.

19 For more on this, please refer to the live recording of the Bruegel event 'National pension reforms: what has worked and what hasn't?' from 23 June 2026, https://www.bruegel.org/event/national-pension-reforms-what-has-worked-and-what-hasnt.

imbalance embedded in Italy's fiscal policy. The pension system was an extremely generous PAYG-DB system, and the statutory retirement age for old age pensions was initially at 60 for men and 55 for women, with the calculation of benefits being based on the average earnings over the last 5 years of work. Until 1992, there were early-retirement schemes for public workers from the age of 40, and these were paid out irrespective of age to retirees with at least 35 years of contribution, or even less for women (Belloni *et al*, 2015). More strikingly, public sector workers could retire after as few as 20 years of contributions, regardless of age (baby pensioni), making Italy's system one of the most generous in Europe at the time. According to Franco *et al* (1992), Italians born after 1990 were likely to face a tax burden almost three times as high as those alive in 1990.

The reform of the pension system started in 1992, during a severe currency and fiscal crisis, with the Amato reform, which aimed to increase the retirement age and cut benefits on an actuarial basis. It increased the retirement age for men, from 60 to 65, and for women, from 55 to 60. Moreover, the minimum number of years of contributions necessary for old-age pension retirement was increased from 15 to 20 years.

However, the main reform of the Italian pension system was implemented in 1995. Coined as the Dini reform, this reform redesigned the entire pension system by modifying the eligibility rules and by changing the calculation of old-age benefits from a defined-benefit (DB) to a notional-defined-contribution (NDC) basis[20] for new entrants and setting a flexible retirement age between 57 and 65 years. This reform included a grandfathering approach by separating workers into three distinct groups, depending on their years of contributions at the end of 1995. Workers with at least 18 years of contributions as of 1995 were fully exempted from the new NDC rules, with their pensions remaining calculated entirely under the old DB formula. Workers with fewer than 18 years of contributions in 1995 were subject to a mixed system, where pre-1995 contributions are calculated under the DB formula, and contributions paid after 1995 fall under the new NDC rules. Only workers entering the labour force after 1996 were fully covered by the NDC system.

At the time of the reform, the transitional phase was expected to end in 2032, when all workers benefitting from the DB system were expected to have retired (Belloni *et al*, 2015). However, according to Hamann (1997), the 1995 reform did not address the problem posed by the projected demographic transition during the first half of the twenty-first century and still left in place a comparatively generous system of benefits financed by high contribution rates for dependent workers. Moreover, the slow transition from DB to NDC in Italy increases the importance of the retirement age, as it has strong implications for public finances. The initially excessively long transition period in Italy meant that the incentive-shaping effects of the NDC system, ie the full actuarial link between working life contributions and retirement benefits, were only allowed to take effect very gradually

20 Essentially, under a DB system, the pension received upon retirement is determined by a formula based on salary and years of contribution, providing a predictable, guaranteed benefit regardless of what the individual contributed. By contrast, under a NDC system, there is no guaranteed level. Instead, contributions are tracked throughout an individual's career in a notional personal account, credited with a rate of return linked to macroeconomic indicators such as wage growth or GDP growth. The final pension reflects the total amount accumulated in that account. While both systems remain PAYG in practice, NDC shifts longevity and economic risk onto the individual, making it more fiscally self-adjusting but less protective.

and only affecting younger Italians. The overly slow implementation of the shift from DB to NDC means that half of the new retirees were not affected by NDC rules until 2021 (OECD, 2025a). This delayed the fiscal savings and placed most of the adjustment on younger cohorts.

In 2011, during the sovereign debt crisis, there was an emergency reform passed, known as the Fornero reform. This reform adjusted the age requirement for an old-age pension, linking it to the increase in life expectancy in accordance with an actuarially fair principle. Furthermore, the reform extended the NDC formula to older workers who had previously been fully protected under the DB scheme by applying the NDC rules to all contributions accrued from 2012 onwards, even for those with more than 18 years of contributions in 1995, thus accelerating the transition of the Dini reform. This reform generated significant political backlash, mostly because a significant number of workers who had already agreed retirement terms with their employers found themselves with neither a salary nor a pension entitlement under the new rules. This required multiple corrective safeguard laws between 2012 and 2017, allowing a considerable number of affected workers to retire under pre-Fornero rules.

The political opposition to the Fornero reform culminated in the introduction of the Quota 100 in 2019, under which individuals could retire before reaching the legislated pensionable age (67 at the time) and the contributory period for early retirement (42 years and 10 months for men, and 41 years and 10 months for women), subject to the fulfilment of a combined contributory (38 years minimum) and age (62 years minimum) requirement, adding up to 100. This rule served as a wider pledge to roll back the Fornero reform's restrictions in early retirement and was not linked to the increases in life expectancy[21], unlike the system for the standard pensionable age that was in place at the time. Moreover, despite being set to terminate in 2021, the quota system has been repeatedly extended, but with progressively tighter eligibility conditions. First, in 2022, the Quota 102 system was introduced, requiring 64 years of age and 38 years of contributions. Then, in 2023, the Quota 103 was introduced, lowering the age requirement back to 62, but raising the contribution requirement significantly to 41. Quota 103 was then extended in 2024, but under stricter criteria.

The Italian case illustrates the difficulties of reform under crisis episodes, in 1992 and 2011, of which the former was insufficient and had to be extended in 1995, while the latter met significant political backlash and was partially rolled back. The resulting public pension system in Italy faces a daunting outlook, with more than 160 percent of GDP present value of 2025-2070 pension system deficits (Figure 1).

21 The link between life expectancy and statutory and early retirement ages was suspended between 2019 and 2026 and is supposed to be restored in 2027. The Parliamentary Budget Office estimates that eliminating this link would incur a cost of 0.4 percent of GDP annually until 2040 and increase the Italian debt-to-GDP ratio by 7 percentage points (OECD, 2025a).

3.4 CEE countries

In the early 1990s, many central and eastern European (CEE) countries inherited defined-benefit pension schemes financed on a PAYG basis from the era of central planning. These systems faced a range of structural challenges, including generous benefit rules, an erosion of the contribution base following the collapse of public enterprises, the rapid spread of informal employment, low compliance with contribution requirements, low effective retirement ages, widespread use of special pension rights, a weak link between individual contributions and benefits, population ageing and statutory contribution rates that had become excessively high (Palmer, 2007; Holzmann and Guven, 2009). As a result, pension systems in the region experienced severe financial difficulties. Revenues were insufficient to meet pension payment commitments, forcing governments to transfer an additional 3 percent to 4 percent of GDP on top of collected contributions, despite governments themselves facing serious fiscal deficits (Palmer, 2007). Consequently, improving public finances became a major policy priority, including reforming the pension systems (Palmer, 2007).

In response, the World Bank advocated for the introduction of a three-pillar pension system with a significant role for mandatory funded components (World Bank, 1994). The World Bank assisted CEE countries in building institutions necessary for a market economy and worked closely with governments on country-specific reform strategies. The World Bank's initial focus was on increasing average pension payouts, strengthening institutions' capacity to collect revenues and abolishing or gradually phasing out special rights inherited from the previous regime (Palmer, 2007). However, reopening existing pension legislation often proved politically difficult (Palmer, 2007).

Several countries subsequently introduced systemic pension reforms involving mandatory funded pension schemes, including Bulgaria, Croatia, Hungary, Poland, Romania, Estonia, Lithuania, Latvia and Slovakia (Holzmann and Guven, 2009; Bielawska *et al*, 2015). In contrast, Czechia and Slovenia did not actively pursue reforms involving mandatory funded systems (Holzmann and Guven, 2009). On average, these reforms improved fiscal sustainability, strengthened the link between contributions and benefits, made pension systems better suited to market economy conditions, and generally maintained adequate levels of income replacement (Holzmann and Guven, 2009; Bielawska *et al*, 2015). Countries that implemented more structural reforms were generally more successful in increasing retirement ages and reducing replacement rates than countries that pursued more limited reforms (Holzmann and Guven, 2009). Nevertheless, population ageing remains a significant long-term challenge (Palmer, 2007).

The 2008 global financial crisis marked a turning point in the reform process. The crisis worsened fiscal positions in these countries, and most countries faced an Excessive Deficit Procedure[22] during 2009-2010, with Estonia being a notable exception. Fiscal consolidation efforts were partly driven by the need to reduce excessive deficits and slow

22 The Excessive Deficit Procedure is a mechanism to ensure that EU governments return to the reference values for the budget deficit (three percent of GDP) and public debt (60 percent of GDP) agreed by EU member states as part of the Maastricht Treaty. Governments placed under the procedure are required to take corrective action within a specified timeframe. If they do not take effective action, sanctions may follow, including fines for euro-area countries.

the growth of government debt (Bielawska *et al*, 2015). As a consequence, many countries diverged from the original reform path by scaling back or fully reversing the development of funded components within their mandatory pension systems. Measures included reducing the share of contributions transferred to pension funds and changing participation rules. Reversals occurred in Estonia, Latvia, Lithuania, Hungary, Poland, Romania and Slovakia (Bielawska *et al*, 2015). The most dramatic reversal was implemented in Hungary, where mandatory contributions to the second pillar were abolished and redirected to the state's PAYG system, and through strong financial coercion, the government induced around 98 percent of secondpillar participants to transfer their accumulated savings (about 10 percent of GDP) to the state (Bielawska *et al*, 2015).

Poland adopted a partial reversal. The contribution rate to funded pensions was reduced from 7.3 percent to 2.3 percent in May 2011. In February 2014, assets invested in government bonds were transferred to the PAYG scheme and redeemed, participation became effectively voluntary through periodic opt-out and opt-in windows and assets were gradually transferred to the PAYG system during the ten years preceding retirement (Bielawska *et al*, 2015).

Following subsequent adjustments, the current contribution rate to the funded component of Poland's second pillar stands at 2.92 percent of wages. Participation in the second pillar is mandatory; however, contributors may choose whether this portion of their contributions is administered entirely by the state Social Insurance Institution (Zakład Ubezpieczeń Społecznych, ZUS) or transferred to a privately managed Open Pension Fund (OFE). As a result, participation in the funded component of the second pillar is effectively voluntary and requires an active opt-in decision.

In 2019, the Polish government proposed a reform that would have liquidated the remaining OFEs. Under the proposal, accumulated OFE assets could either be transferred to the public ZUS system or to individual retirement accounts (IKEs) with a 15 percent fee. Although the draft act was adopted, the reform was repeatedly postponed and ultimately not implemented. However, the five years of discussion on the liquidation of the mandatory funded pension systems has resulted in low trust in state-regulated pension savings (Chłoń-Domińczak , 2021).

Also in 2019, Poland introduced Employee Capital Plans (Pracownicze Plany Kapitałowe, PPK). PPKs are fully funded retirement savings schemes based on automatic enrolment with the possibility to opt out. Contributions are made by both employees and employers, with employee contributions ranging from two percent to four percent of wages and employer contributions ranging from 1.5 percent to five percent. However, due to the low social trust and insufficient incentives, less than one third of employees are covered under these plans, with most employees opting out (Błaszczyk, 2020).

Due to these reversals, the financing of future pensions in most CEE countries is expected to rely predominantly on PAYG schemes, while voluntary private savings are likely to play only a minor role. At the same time, many countries in the region continue to face relatively high levels of old-age poverty (Figure 2) with emigration by working-age citizens exerting additional pressure. To address these pressures, several CEE countries are raising the retirement age to 65 as part of ongoing reforms (OECD, 2025a).

3.5 Common issues and unresolved tensions

Despite their different starting points, the reform trajectories of France, Germany, Italy and the CEE countries all illustrate how technically sound solutions tend to be politically unstable, whereas politically expedient ones tend to undermine long-term sustainability. France has repeatedly raised its retirement age through contentious legislation, while continuing to avoid implementing an automatic life-expectancy link that could reduce the political burden of future adjustments. Germany's 2025 reform secured a certain level of short-term pension adequacy by imposing the 48 percent pension-level floor, but at the cost of reopening the medium-term sustainability question for the 2030s, a tension that the 2026 expert commission proposal is trying to tackle via the automatic retirement-age life-expectancy indexation and a new capital-funded pillar.

Italy's case illustrates the inverse risk. A formally rigorous, life-expectancy-linked reform introduced under crisis conditions (the Fornero reform of 2011) provoked a backlash severe enough that successive governments have spent over a decade rolling back early-retirement exceptions (Quota 100, 102 and 103) that steadily erode the sustainability the reform was meant to secure. The CEE countries illustrate yet another version of the same problem, as funded pillars adopted to account for the unsustainability of PAYG systems in place were themselves scaled back or reversed once fiscal pressure hit after the global financial crisis, which ultimately led to their increased exposure to demographic challenges.

Across all four cases, the technical solutions to fix the problem – be it NDC formulas, automatic indexations or funded pillars – proved unfeasible, as they would have required political commitments far beyond the electoral cycle in which they were introduced.

4 How to engineer a meaningful shift towards defined contribution systems

4.1 Lessons from Denmark, the Netherlands and Sweden

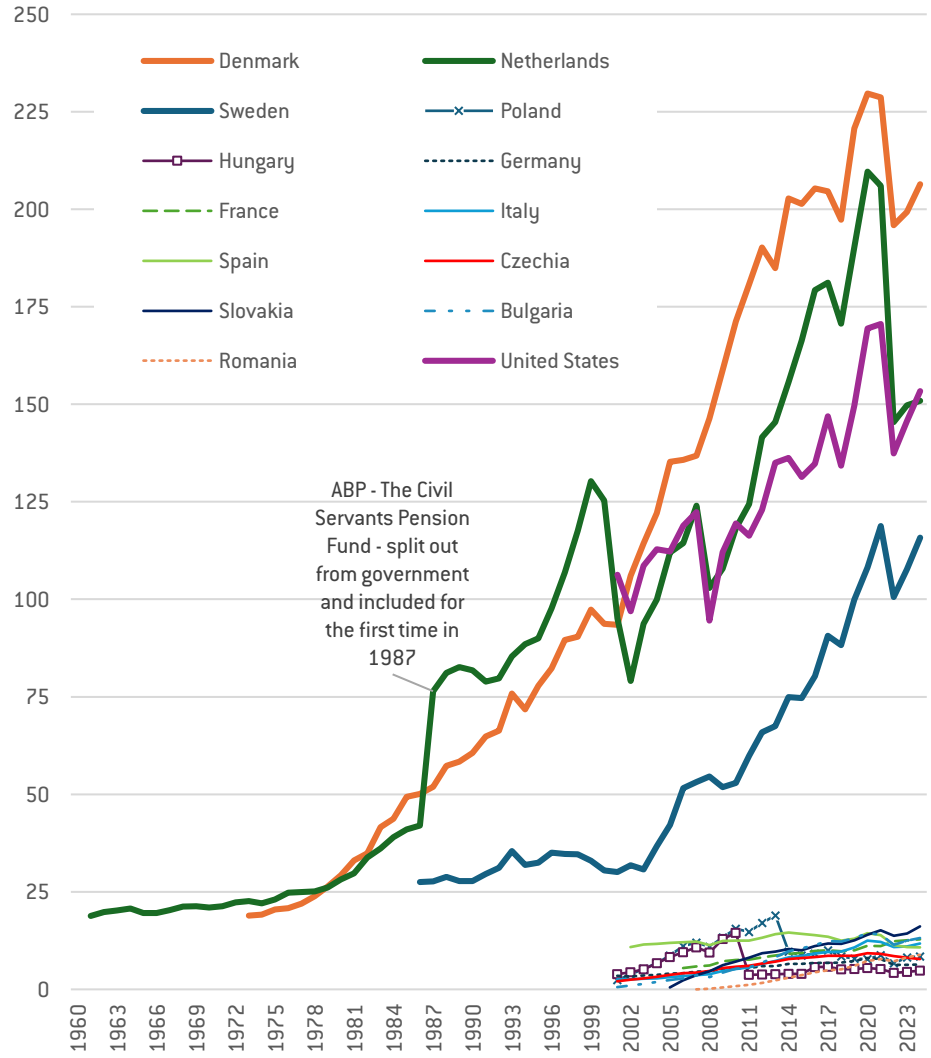
Darvas *et al* (2026) describe how Denmark, the Netherlands and Sweden (DNS), despite very different historical circumstances and pension system development and reform paths, have converged on broadly similar multi-pillar pension systems. These consist of a relatively limited state-guaranteed first pillar for old-age income security, complemented by other government-provided services for the elderly; a funded mandatory or quasi-mandatory second pillar, which provides the majority of old age income for most retirees; and a voluntary third pillar for additional other private pension schemes.

The analysis in Darvas *et al* (2026) further highlights the long gestation period of funded pension pillars in all three countries, starting in the 1960s in Denmark and Sweden and before World War Two in the Netherlands. In all three countries, the relatively modest state-guaranteed first pillar pension generated societal demands for additional old age income security. Although these demands were channelled through different political

and institutional processes, they ultimately resulted in a similar outcome: the expansion of funded, second-pillar pension schemes.

Figure 3 shows that by the time the key national pension reforms were adopted to expand funded private pension schemes to cover most workers and provide the bulk of old-age income in the mid-1980s (Denmark and the Netherlands) or 1990s (Sweden), all three countries had accumulated funded pension assets of at least 25 percent of GDP. This scale can be interpreted as an important political-economy threshold: a sufficiently large share of workers had acquired a direct financial stake in the funded system, strengthening the interest of voters and political leaders in preserving and expanding it. These are the political-economy circumstances that other European countries should seek to replicate if they wish to pursue a similar reform path towards far greater reliance on funded private pensions.

Figure 3: Total funded assets managed by pension providers (Year-end percent of GDP)



Source: Darvas *et al* (2026), based on Danish National Bank, AP Funds, Swedish Parliament, Pensioen- en Verzekeringskamer (PVK) and OECD Pension Market Statistics (2001-2024).Note: Pension providers include pension funds and any other financial institutions providing and managing occupational and personal pension plans, whether they are private or public. Pension providers are pension funds, pension fund management companies, insurance companies, or other financial institutions. Early Dutch data includes PVK data for industrial branch pension funds, company pension and savings funds, and as these are established occupational pension funds. A key reform of the Dutch funded pension system is the separation of the ABP civil servants and teachers' pension fund, founded in 1922, from the Dutch general government, which took place gradually starting in the 1980s ahead of full legal privatisation in 1996. The ABP begins being included in the private pension fund asset PVK data in 1987.

4.2 Our proposal: kick-start funded pension systems with an injection of public funds equivalent to 25 percent of GDP

The long histories of funded pension schemes in Denmark, the Netherlands and Sweden suggest that EU member states under demographic and fiscal pressure today and keen on replicating the system's main elements must instead use other policies to kick-start the funded pension path. The decades needed for gradual pension reforms to have meaningful effects are no longer available.

It is imperative to kick-start funded pension systems before demographic changes make the transition more expensive. One approach could be for governments to raise new debt-financed capital and distribute it to newly established individual worker accounts, thereby providing the 'seed funding' for the funded system. Initial account balances should be set at a level sufficiently large to attract workers' immediate and sustained attention to the value and performance of their pension assets. This would create a broad constituency with a direct stake in the funded system and support the development of national pension fund sectors. The historical experience of Denmark, the Netherlands and Sweden suggests that achieving this critical mass might require initial funded pension assets of about 25 percent of GDP (see Section 4.1).

It is imperative to kick-start funded pension systems before demographic changes make the transition more expensive

Such a kick-start would conceptually be similar to the abandoned idea of the Generationenkapital in Germany but, inspired by the lessons of Denmark, the Netherlands and Sweden, would be a far larger kick-starting downpayment on a new funded second-pillar pension system. The allocation of borrowed public funds across a very large number of individual retirement accounts would conceptually amount to using new government debt to create a 'decentralised national sovereign wealth fund'. Its purpose would not only be to establish an initial stock of funded pension assets, but also to attract individual future contributions and thereby accelerate the accumulation of assets in a funded second-pillar pension system.

Such a policy would therefore be more than simply 'taking borrowed government funds and investing them in the equity markets'. Rather, it would seek to place the national pension system on an accelerated and fundamentally different trajectory in which individual workers would acquire a direct financial stake in their own retirement accounts, the national pension fund sector and domestic capital markets can expand more rapidly and the government can credibly reduce future pension liabilities to the extent that future PAYG entitlements were correspondingly adjusted.

A government-funded kick-start would see individual accounts established into which contributions from employers and employees would be channelled, gradually taking over the responsibility of the majority of the national retirement income provision task and enabling governments to reduce future public pension costs. Workers would have the ability to choose between a set of government-run pension funds, similar to Sweden's current system, with age-appropriate default investment risk profiles and the possibly to allocate part of their retirement among other, regulated private pension funds.

With a pension system quickly funded to a critical size by direct government intervention, the financial intermediation capacity provided by this sector would

accelerate other EU countries' opportunities to see the same beneficial increases in national risk capital availability seen in Denmark, the Netherlands and Sweden.

Importantly, such a kick-start would not eliminate the need for the existing PAYG system. The funded component could substitute only for part of future PAYG benefits, with reductions in expected PAYG entitlements calibrated actuarially to the amounts initially credited to individual retirement accounts. The PAYG system would continue to operate and, in any event, provide a basic level of old-age income security, consistent with the multi-pillar pension structures found in Denmark, the Netherlands and Sweden. Some existing mandatory pension contributions could also be redirected towards the new individual funded accounts, while targeted tax incentives could encourage additional voluntary contributions and further accelerate asset accumulation.

Kick-starting pension savings through additional public debt issuance of 25 percent of GDP would likely be fiscally beneficial for all participating countries

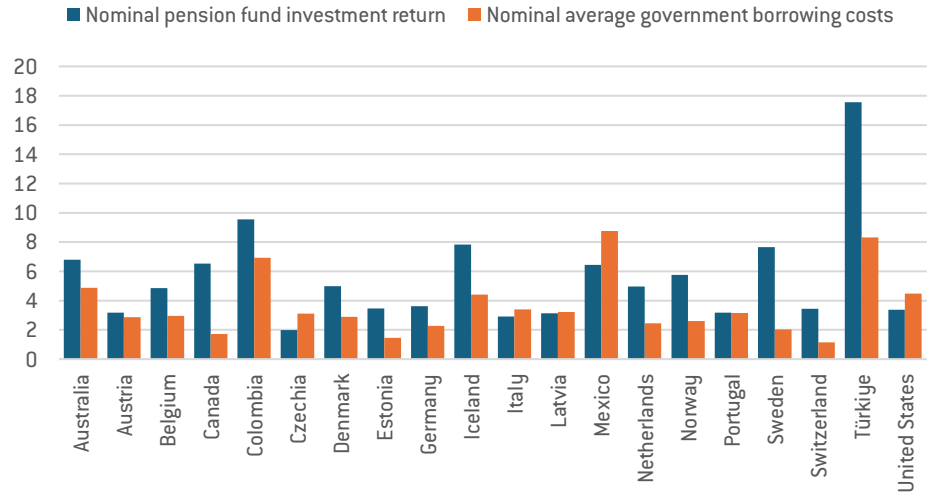
It is important to emphasise that our proposed policy of kick-starting pension savings through an additional public debt issuance equivalent to 25 percent of GDP would likely be fiscally beneficial for all participating countries. The reform would primarily convert an implicit future public liability into an explicit public debt obligation today: public debt would increase initially, while future pension-related liabilities would decline correspondingly. As a result, even in the absence of any positive behavioural or financial effects, the operation would be broadly fiscally neutral over the long term.

In practice, however, several beneficial effects are likely to improve both public finances and individual retirement outcomes. First, the expected returns on pension savings are likely to exceed the yield on the government bonds used to finance the kick-start, as the experience of several countries over the past two decades demonstrate (Figure 4). Second, the reform could encourage additional voluntary pension saving, further strengthening retirement preparedness. Third, the accumulation of pension assets would support capital market development, improving financial intermediation and investment opportunities. Together, these effects could enhance economic growth and generate additional government revenues, thereby further strengthening the fiscal position. Furthermore, large private pension assets could generate substantial additional tax revenues from taxing capital gains on pension assets (even if at a much lower rate than personal income taxation) and taxing future pension payouts as income when withdrawn in retirement[23].

Nevertheless, despite the likely overall positive effects of our proposal on public finances, we recommend its implementation only in countries facing no, or relatively limited, fiscal adjustment needs, for the reasons discussed in Section 4.3.

23 See Box 1 in Darvas *et al* (2026) for the example of such tax revenues in Denmark.

Figure 4: Average nominal pension fund investment return and government borrowing costs from 2005-2024



Source: Bruegel based on OECD Global Pensions Statistics, European Commission AMECO data, and IMF World Economic Outlook data. Note: averages are geometric averages over 20 years (2005-2024). Pension fund investment return data refers to the average of pension fund providers. For Austria (Pensionskassen only), Belgium, Canada, Iceland, Italy, Norway, Portugal, Switzerland and the United States (pension funds only), Mexico and Türkiye (personal pension plans only), Denmark (pension funds and pension insurance contracts only), Estonia (the second pension pillar only), Germany (Pensionskassen and Pensionsfonds supervised by BaFin). Investment returns for Italy are net of taxes. For Sweden, it is the average investment return of AP1, AP2, AP3, AP4 and AP6. Nominal average government borrowing costs represent the so-called 'implicit interest rate', that is, interest payments over a year divided by the stock of public debt at the end of the preceding year.

4.3 Assessing counterarguments to our proposal

A potential counterargument is that implicit government liabilities arising from accrued and prospective public pension rights are to a large extent contingent rather than contractual liabilities and can, in principle, be reduced through parametric reforms, such as raising retirement ages or contribution rates or reducing the generosity of public pension benefits. By contrast, the proposed kick-start of a funded pension system would immediately increase public debt and, consequently, government interest expenditures.

However, as regards the first issue, the experiences of France, Germany, Italy and several CEE countries documented in Section 3 demonstrate that such parametric pension reforms face substantial political constraints and have frequently been diluted, postponed or reversed. This experience suggests that governments' theoretical ability to reduce future PAYG pension liabilities should not be equated with their political capacity to do so in practice. Improving the long-term sustainability of public PAYG pension systems through parametric reforms alone is therefore an inherently difficult political-economy challenge.

The second issue, higher interest payments related to increased public debt, requires careful consideration. Even without such funded pension system kick-starting, several EU countries face formidable fiscal adjustment challenges. Austria, Belgium, Bulgaria, France, Hungary, Poland, Romania and Slovakia all face adjustment requirements over five percent of GDP that, based on historical experience, are unlikely to be achieved within the next four to seven years (Darvas *et al*, 2025). Although the proposed pension-system

kick-start need not be implemented in a single year and could instead be phased in over a longer period (say three to four years), the resulting increase in interest expenditure would still raise fiscal adjustment needs in the short term. This could further reduce the likelihood of meeting fiscal targets, potentially undermining market confidence, constraining access to financing and driving up sovereign borrowing costs. We therefore recommend that these countries first implement the fiscal adjustments required under the European fiscal framework and postpone the pension kick-start until their remaining adjustment needs have become more manageable.

It is important to emphasise that the key consideration is not the existing level of public debt, but rather the fiscal adjustment required to place public finances on a sustainable path. Greece illustrates this distinction. Despite having the highest public debt-to-GDP ratio in the EU (146 percent in 2025), the country is running a structural primary surplus (3.6 percent of GDP in 2025, projected to decline to 2.5 percent in 2026) that *exceeds* the level required under EU fiscal rules (2.0 percent). As a result, Greece has fiscal space that could be used for stimulus measures. Rather than pursuing conventional fiscal expansion, we recommend using this fiscal space to kick-start a funded pension system. Such a reform would increase the debt ratio by our proposed 25 percentage points of GDP, while raising annual interest expenditure and the budget deficit by roughly 1 percent of GDP (assuming an average interest rate of 4 percent). Nevertheless, as argued above, the operation would be at least fiscally neutral over the long term and could become fiscally beneficial once its positive financial and behavioural effects are taken into account. Consequently, the reform would be feasible despite Greece's high debt ratio.

A similar argument applies to Italy. Although Italy's public debt stood at a similarly high level of 137 percent of GDP in 2025, its required fiscal adjustment is relatively modest, around two percent of GDP. Once this adjustment is credibly underway, we would recommend that the Italian authorities implement the proposed pension-system kick-start.

Another important question is whether issuing additional public debt amounting to around 25 percent of GDP over a few years would lead to higher government bond yields, particularly if several EU countries implemented such an operation simultaneously, thereby substantially increasing their combined market financing needs. In our assessment, this risk is likely to be manageable for three reasons.

First, historical experience suggests that there is no mechanical relationship between increases in public debt ratios and government borrowing costs. Several high-debt advanced economies, including France, Greece, Italy, Japan, Portugal, Spain, the United Kingdom and the United States experienced increases in their public debt ratios of a broadly similar magnitude between 2019 and 2020, while their borrowing costs declined

over the same period[24]. While falling interest rates during this episode also reflected the global recession and the exceptionally accommodative monetary policies adopted by major central banks, this episode illustrates that even large and simultaneous increases in government indebtedness need not translate directly into higher sovereign borrowing costs.

Second, as argued above, our proposal should be assessed in terms of its impact on the government's overall fiscal position, rather than on explicit public debt alone. Credit-rating agencies and investors consider not only recorded public debt but also governments' prospective expenditures and contingent or implicit liabilities. To the extent that the increase in explicit public debt used to capitalise individual pension accounts is accompanied by an actuarially equivalent and credible reduction in future PAYG pension obligations, the operation would exchange one form of government liability for another rather than simply add to the government's overall fiscal burden. Moreover, as noted above, the long-term fiscal position could improve if the reform's potential wider benefits, including deeper capital markets, greater innovation, stronger economic growth and additional tax revenues. Nevertheless, as discussed in Section 2.3, such benefits depend on the institutional and regulatory framework and on pension funds' investment strategies. These complementary conditions would therefore need to be an integral part of the proposed pension kick-start.

Third, our proposal is deliberately targeted at countries that do not currently face exceptionally demanding fiscal adjustment requirements. Countries starting from sounder fiscal positions should have greater capacity to accommodate the additional interest expenditures associated with the initial debt issuance. We recommended that countries facing large fiscal adjustment needs implement our proposal only once the bulk of the required fiscal consolidation has been completed. Such sequencing could itself strengthen market confidence, by signalling that the operation is undertaken only when the underlying fiscal position is sufficiently robust. It would also reduce the risk of a simultaneous surge in sovereign financing needs across the EU: countries with different initial fiscal positions would introduce the new scheme at different times, spreading the associated debt issuance over a longer period.

4.4 Comparing our proposal with the recent German Pension Commission proposal

The 25 percent of GDP 'kick-start' we propose could be an ambitious add-on to the recent German proposal to initiate the creation of a funded German pension system[25]. As reviewed in Section 3.2, the German Pension Commission envisions establishing Germany's first major funded pension scheme, with an additional two percent of wages

24 The increase in debt ratios in 2020 reflected both ballooning budget deficits which raised government borrowing needs, and sharp GDP contractions which mechanically increased debt-to-GDP ratios. For our proposal, only the additional public borrowing would matter. However, the resulting borrowing needs would likely be smaller than those observed in 2020, because: we recommend spreading the additional borrowing over three to four years, not all EU countries would implement the proposal simultaneously and non-EU countries would be unlikely to do so. By contrast, in 2020, most advanced and emerging market economies increased their borrowing needs at the same time.

25 See Alterssicherungskommission (2026).

paid in contributions phased in from 2028 to 2031 in annual half-percent increments. By 2031, this would amount to €35 billion or 0.8 percent of GDP annually. However, given Germany's dire demographic outlook, this proposal risks being 'too little, too late'. With just 0.8 percent of GDP in new annual contributions by 2031, it will take several decades for these individual accounts and Germany's pension fund sector to reach a critical mass.

The kick-start we propose of a 25-percent-of-GDP (approximately €1.12 trillion, based on Germany's 2025 GDP) downpayment into working-age Germans' new individual account would, in comparison, save Germany a generation's time in promoting funded pensions. It would, by informal estimate[26], give each German of working age approximately €20,000 for their individual retirement account, an amount adequate to ensure Germans pay attention to its future growth prospects.

5 Conclusion

Population ageing, expected labour force declines and rising investment needs expose the structural weaknesses of pension systems that rely predominantly on pay-as-you-go (PAYG) financing. This working paper has shown that pension design matters not only for public finances and old-age income security, but also for capital market development. By comparing countries with unfinished or reversed reforms to those with durable and consolidated multi-pillar systems, our analysis highlights why incremental adjustments are insufficient. We draw three main conclusions and make one major policy proposal.

First, pension systems dominated by unfunded PAYG schemes face growing fiscal and social risks that are difficult to resolve through parametric reforms alone, such as increasing the retirement age and contribution rates, reducing the replacement rate and changing the pension indexation formula. Countries such as France, Italy and several CEE economies illustrate how high contribution rates, fragmented rules and repeated reform reversals weaken both sustainability and adequacy. Germany illustrates that a system with relatively contained deficits can still generate rising old-age poverty when replacement rates are low.

Second, countries with large, funded pension pillars demonstrate that sustainability, adequacy and efficiency need not be traded off against one another. Denmark, the Netherlands and Sweden combine public pension system surpluses with high replacement rates, high and increasing retirement ages and low old-age poverty. Their systems also support deeper capital markets and greater availability of long-term risk capital, strengthening the macroeconomic environment. Automatic adjustment mechanisms, such as linking the retirement age to life expectancy, actuarial links between contributions and benefits and credible governance structures have been central to their success. While their historical paths cannot be replicated mechanically, their outcomes provide a benchmark for reform ambitions elsewhere in Europe.

26 German GDP is approximately €4.5 trillion and there are around 53 million Germans of working age. A 25 percent kick-start would hence give each a bit over €20,000 in their account.

Third, in countries with predominantly PAYG schemes, gradually building a funded pension pillar, such as in the German Pension Commission's (Alterssicherungskommission) June 2026 proposal, is unlikely to suffice where funded pensions are currently small or absent. Under the German proposal, less than one percent of GDP annualy would be channelled into funded pillars, implying that their macroeconomic and fiscal impact would remain negligible for decades.

These considerations lead to our main policy proposal: countries relying predominantly on PAYG schemes should kick-start funded pension pillars with an initial public endowment equivalent to 25 percent of GDP and reduce future PAYG pension entitlements by actuarially equivalent amounts. This would be achieved by issuing new public debt of this magnitude and allocating the proceeds to newly created individual worker accounts. Such a reform would give workers a direct stake in their own retirement savings, enable the rapid expansion of national pension fund sectors and domestic capital markets and allow governments to credibly reduce future pension liabilities.

While this operation would raise public debt by 25 percent of GDP and immediately increase public interest expenditures by around one percent of GDP, it would likely be fiscally beneficial over the long run. The reform would transform an implicit future pension liability into an explicit public debt obligation today, while correspondingly reducing future public sector pension-related liabilities. In the absence of any behavioural or financial effects, the operation would therefore be broadly fiscally neutral in present-value terms. In practice, however, several positive effects are likely to improve both public finances and individual retirement outcomes. These include a higher expected return on pension savings than the yield on the government bonds used to finance the kick-start, incentives for additional private saving and deeper capital market development. Improved financial intermediation and investment opportunities would, in turn, support economic growth and future tax revenues.

While several EU countries with low debt sustainability risks, including Germany and Greece, could implement our proposal, countries facing severe fiscal adjustment challenges, such as Belgium, France and Poland, would not be able to implement this proposal immediately. In many cases, the required fiscal consolidation even in the absence of funded pension system kick-start is unlikely to be completed within the next four to seven years, while the additional interest burden associated with the kick-start would further complicate compliance with fiscal targets. This could undermine market confidence, restrict access to financing and increase sovereign borrowing costs. We therefore recommend that these countries first complete the fiscal adjustments mandated by the European fiscal framework and postpone the pension kick-start until their remaining adjustment needs have become more manageable.

However, countries with high public debt but sound fiscal positions, such as Greece, could afford the proposed kick-start. Greece currently runs a primary surplus exceeding the level required under EU fiscal rules, and this margin could be used to cover the additional interest costs associated with the reform.

Our proposal may also have a macroeconomic side effect: higher aggregate savings could increase current account surpluses unless accompanied by a corresponding rise

in investment. The 2024 Draghi report identified an EU-wide annual investment gap of around five percent of GDP and proposed a range of measures to stimulate investment. While a detailed discussion of these measures lies beyond the scope of this paper, it is important to note that without higher investment, adoption of our pension fund kick-start proposal would likely further widen the EU's external current account surplus.

A key lesson from the literature is that pension funds can be powerful drivers of capital market development, but their effectiveness depends critically on supportive institutions, regulation and investment strategies. Accordingly, our kick-start proposal must be accompanied by a clear, stable and credible regulatory framework to anchor participation and trust. Funded pensions must remain embedded in a multi-pillar system that guarantees a basic level of old-age income security. If well designed, our reform proposal can ease long-term fiscal pressure, improve retirement outcomes and mobilise savings for Europe's long-term investment needs.

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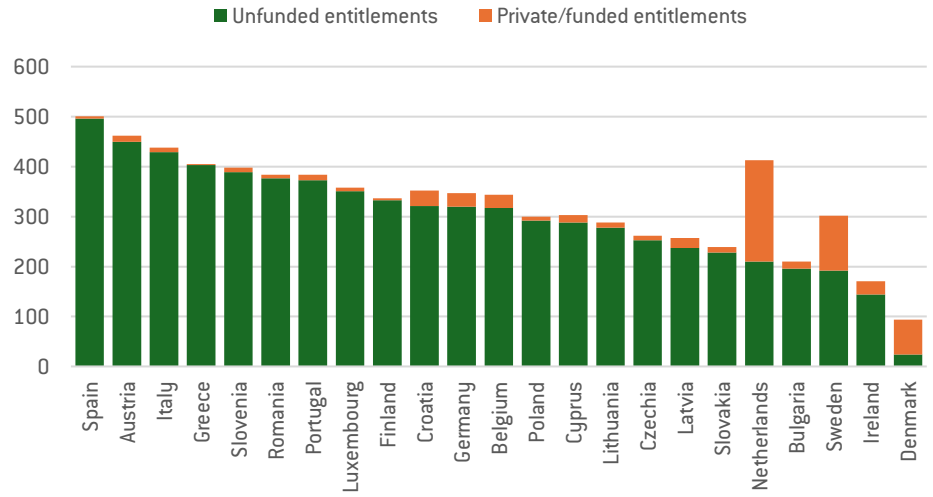
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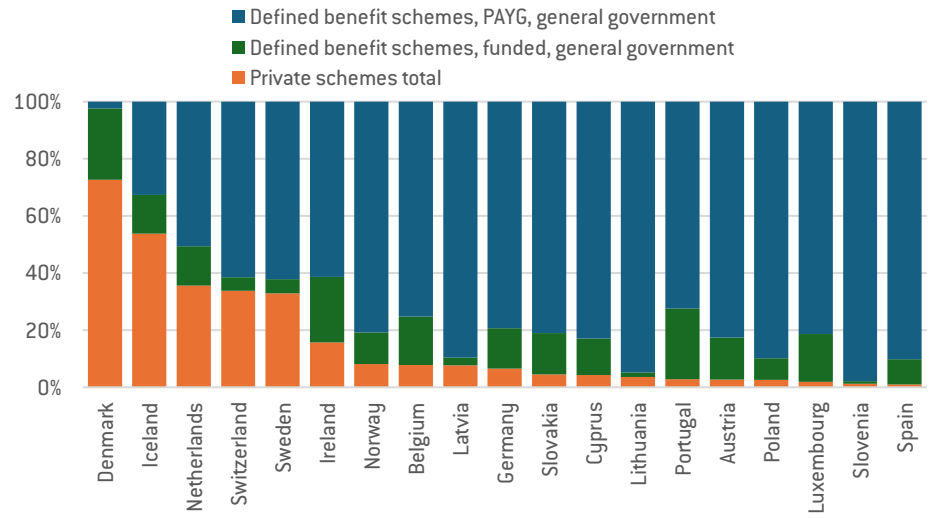
Annex

Figure A1: Household pension entitlements in social insurance by end of 2021 (% of GDP)



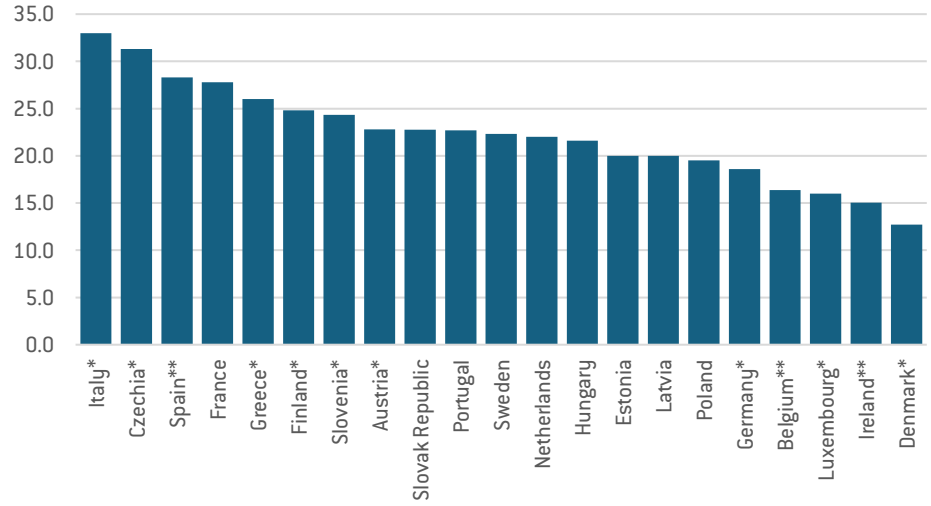
Source: Bruegel based on Eurostat (nasa_10_pens1). Notes: data refers to accrued-to-date pension entitlements in social insurance. Unfunded entitlements are pension rights not backed by accumulated pension assets, mainly social security pensions and government-employee defined-benefit schemes. They are actuarial estimates of accrued pension promises. For Romania private total pensions entitlements in social insurance do not include defined benefit schemes for general government employees classified in general government (not in core accounts). Missing data for Estonia, France, Hungary and Malta.

Figure A2: Total pension entitlement in social insurance (%, reference year 2021)



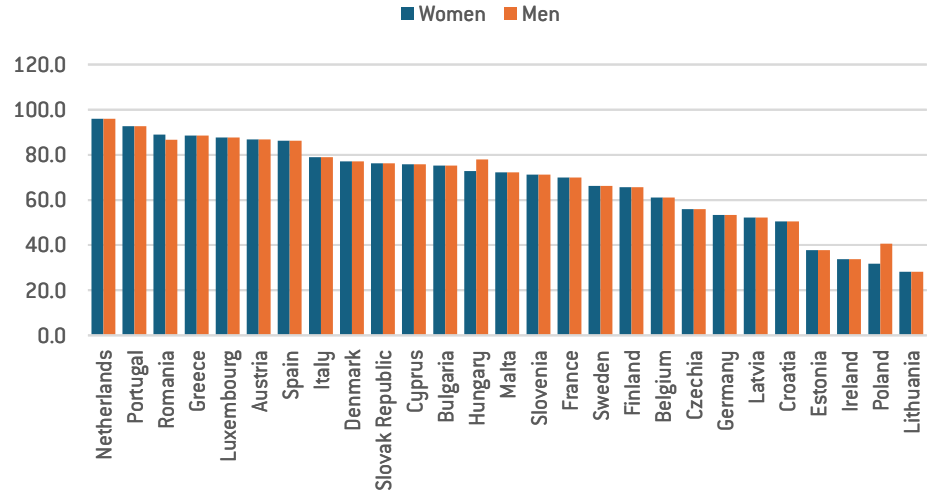
Source: Bruegel based on Eurostat (nasa_10_pens1). Notes: defined contributions schemes of the general government are excluded from the total due to missing data. Missing data for Estonia, France, Hungary, Malta, Romania, Croatia, Bulgaria, Czechia, Italy, Finland and Greece.

Figure A3: Effective contribution rate to mandatory and quasi-mandatory pension schemes for private-sector workers (% of average earnings)



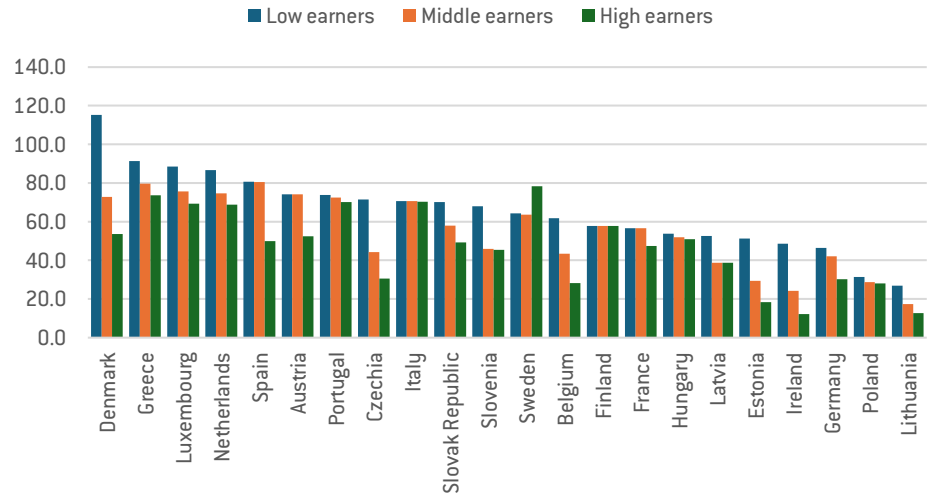
Source: Bruegel based on OECD (2025a). Notes: *Contribution rate also finances disability or invalidity benefits. **The indicated rates cover different social security schemes across countries. In most countries with pay-as-you-go systems, the pension contributions based on labour income are insufficient to cover public pension payouts, implying that these systems are in deficit and general tax revenues are used to fill the gap.

Figure A4: Net pension replacement rates



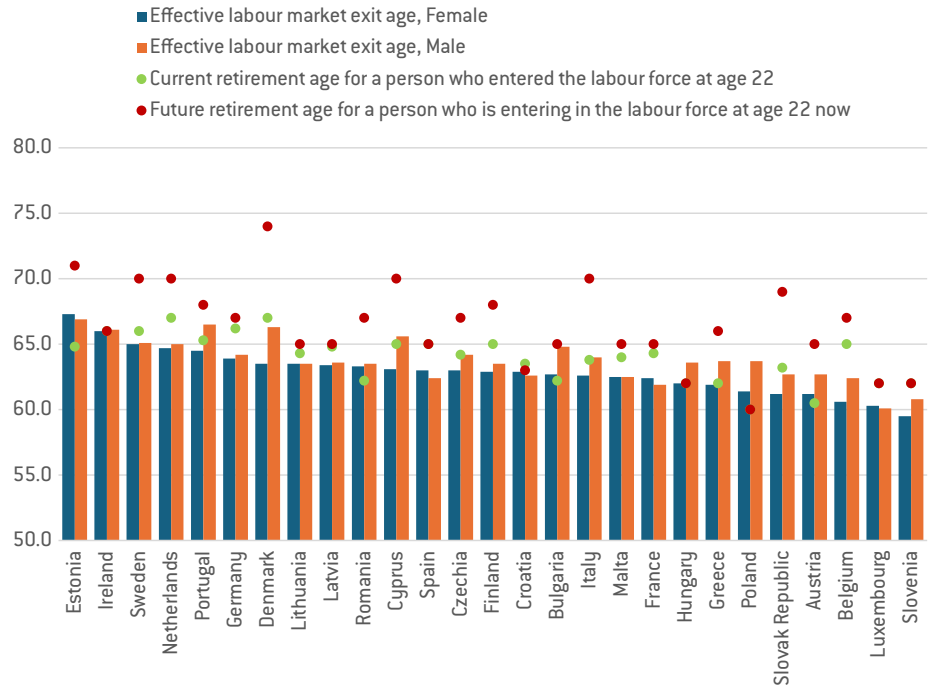
Source: Bruegel based on OECD (2025a). Note: the net replacement rate is the net value of the pension entitlement relative to individual net earnings, taking account of personal income taxes and social security contributions paid by workers and pensioners.

Figure A5: Gross pension replacement rates by income levels



Source: Bruegel based on OECD (2025a). Notes: the earnings categories relate to multiples of mean for men. Low earners are those earning up to 50 percent of the mean, middle earners are those earning the mean, and high earners are those earning twice the mean.

Figure A6: Effective and statutory retirement ages in 2024



Source: Bruegel based on OECD (2025a). Note: for Hungary, Poland, Luxembourg and Slovenia, the current and future retirement ages are identical; therefore, the two markers overlap and only one circle is visible.

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