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OECD Employment Outlook 2025

Can We Get Through the Demographic Crunch?

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Please cite this publication as:
OECD (2025), *OECD Employment Outlook 2025: Can We Get Through the Demographic Crunch?*, OECD Publishing, Paris, https://doi.org/10.1787/194a947b-en.

ISBN 978-92-64-38816-1 (print)
ISBN 978-92-64-39175-8 (PDF)
ISBN 978-92-64-91565-7 (HTML)

OECD Employment Outlook
ISSN 1013-0241 (print)
ISSN 1999-1266 (online)

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Foreword

The *OECD Employment Outlook* provides an annual assessment of key labour market developments and prospects in OECD member countries. Each edition also includes several chapters that focus on specific aspects of the functioning of labour markets and the implications for policies to promote more and better jobs. The 2025 edition of the *OECD Employment Outlook* examines the challenges that population ageing poses to current living standards, labour markets, and social cohesion more generally. The consequences of an ageing workforce for productivity growth are also investigated. Policies to address these demographic changes are analysed. The first chapter assesses recent labour market and wage developments.

The *OECD Employment Outlook* 2025 is the joint work of staff of the Directorate for Employment, Labour and Social Affairs (ELS). The Outlook has also greatly benefitted from comments from other OECD Directorates and contributions from national government delegates and national institutions. However, the Outlook's assessment of the labour market prospects for each country does not necessarily correspond to those made by the national authorities and institutions concerned.

This report was edited by Andrea Bassanini. The lead authors for individual chapters were Alexandre Georgieff and Sébastien Martin (Chapter 1); Andrea Bassanini, Emily Farchy, Sebastian Königs, António Melo and Javier Terrero Dávila (Chapter 2); Andrew Aitken (Chapter 3); Ada Zakrzewska (Chapter 4); and Jonas Fluchtmann, Alexander Hijzen and Agnès Puymoyen (Chapter 5). Specific contributions to Chapter 5 were also made by Eliana Viviano, Patrick Bennett, César Barreto, Felipe Bento Caires, Lucas Chen, Jose Garcia-Louzao, Dogan Gülümser, Salvatore Lattanzio, Benjamin Lochner, Stefano Lombardi, Tahsin Mehdi, Jordy Meekes, Balázs Muraközy, Marco G. Palladino, Kjell Salvanes, Oskar Nordström Skans, Rune Vejlin and Wouter Zwysen. The whole report also benefitted from extensive comments from Stefano Scarpetta (Director of ELS), Mark Pearson (Deputy Director of ELS), Stéphane Carcillo, Jean-Christophe Dumont, Glenda Quintini and Theodora Xenogiani (Heads of Division), as well as Stijn Broecke, Shruti Singh, Hervé Boulhol, Jeff Israely and Rebecca Bonthuis. The infographic is based on contributions from Alastair Wood. Pascal Marianna was responsible for the statistical annex. Statistical support was provided by Sébastien Martin, Agnès Puymoyen and Dana Blumin. Editorial assistance was provided by Hagai Glebocki, Lucy Hulett and Marc Simion.

Editorial: From job shortage to labour shortage: The new challenge of population ageing

We are living in uncertain times. The rapid advances in generative AI – a key driver of the accelerating digital revolution – are fuelling both optimism and concern. On the one hand, there is hope for renewed productivity growth, job creation, and more inclusive labour markets. On the other, there is fear of job displacement and widening inequalities, as algorithms increasingly take over not only routine tasks but also complex and rewarding ones. Meanwhile, the urgently needed transition to a more sustainable economy continues to move forward in fits and starts. As if these structural transformations were not challenging enough, the short-term economic outlook is becoming increasingly fragile. Rising trade barriers and tighter financial conditions are undermining both business investment and consumer confidence, dragging down growth.

In this complex and volatile environment, one encouraging certainty stands out: people around the world are living longer and healthier lives than ever before. This remarkable achievement has been accompanied by declining fertility, leading to significant demographic shifts and shaping a new era. While there are exciting opportunities to rethink work, retirement, and longevity, the challenges for the labour market and the broader economy are substantial and cannot be ignored.

The year 2025 has been pencilled in the demographers' calendar for a long time. Indeed, the mid of the decade has been often cited as the turning point when the working age population (traditionally defined as 20 to 64 years old) would have stopped growing in the OECD and then started to decline.

And so it has. Fertility has been on a downward trend over the past decades, and it is now well below replacement levels in almost all OECD countries. As baby-boomers exit the labour market, the working-age population in OECD countries is now starting to decrease, and is projected to continue to fall through to 2060. Though this is not the case in every country, the potential workforce will shrink not only in most of Europe but also in many Asian economies like Japan and Korea.

Meanwhile, the old-age dependency ratio – defined as the ratio of individuals aged 65 years and above to the working-age population – has soared and will continue to grow in the future. According to the United Nations' medium projections, the OECD old-age dependency ratio will be 52% in 2060, almost three times as large as in 1980. In some countries, it will rise above 70%. In practice, this means that, in the average OECD country, each person of working age would have to sustain herself and provide for 50% of the income of an older person on retirement, and even more than 70% in some countries.

The impact of ageing populations threatens the very engine of economic growth, which depends on human resources to produce output. The economy of OECD countries has entered a new era, where the challenge shifts from a shortage of jobs to a shortage of workers.

Exactly how this new kind of global economy will play out is not clear. It's an unsettling time with seemingly contradictory indicators. According to evidence presented in this Outlook, as the number of working age people stagnates in the OECD, jobs are now going unfilled even as people are losing work and wages barely keep up with inflation. In the euro area, for example, one in six firms in industry and one in four firms in services cited lack of labour as one of the factors limiting production in April 2025. While these figures are well below the post-pandemic peaks (about one in four in industry and one in three in services), they are above the pre-pandemic levels of 2019, despite a deteriorating conjunctural phase. The persistence of labour shortages despite the slowdown in growth may be a disorienting preview of times to come.

Alongside the much-discussed transformational topics of climate change and digital revolution, the ageing of OECD economies is the third, and what we might call "forgotten," megatrend that requires the full attention of policy makers.

According to simulations presented in this Outlook, at current rates of productivity growth, GDP per capita growth is expected to slow down by about 40% in the OECD area – from the already meagre 1% per year in 2006-19 to 0.6% per year in 2024-60 on average. All but two OECD countries, Ireland and the United States, would see their per-capita growth declining if nothing is done.

There is no time for complacency, or easy answers. Some brush off the demographic challenge as something that will be solved by the boost of artificial intelligence, a kind of fortuitous historical coincidence that will see bots stepping in for the declining human workforce. While AI can improve productivity, it is by no means a substitute or silver bullet for a lack of human workers. Degrowth or lower growth may have some advantages (including facilitating the fight against climate change), but it is not compatible with the rising needs of an ageing population. When it is not the result of a broadly shared societal consensus, lower growth risks jeopardising social and economic sustainability. Historically, growth deceleration since the 1970s has indeed gone hand in hand with an upward trend in social discontent. Put simply, governments cannot continue to ignore this shift, which will only accelerate.

Instead, hard and smart policy choices are required. The good news is that there are concrete steps our societies can take. OECD countries enjoy several untapped talent pools that they can turn to boost their labour forces: youth, migrants, women and older workers. Some of the changes required can trigger thorny societal and political issues and finding the right policies to mobilise these resources may not be easy. Yet the barriers to employment for these workers must be removed, and governments must take bold actions to do so.

This mobilisation would have not only economic but also social advantages, largely counterbalancing the projected fall in GDP per capita growth as well as addressing intergenerational disparities and labour market barriers. Indeed, these policies include empowering young people, taking a proactive approach to regular labour migration, closing the gender employment gap and encouraging healthy older workers to work as long as they can and desire. While the right mix of policies and solutions will differ among OECD countries, for more than half, mobilising older workers is key. And across the OECD, mobilising all resources is essential to continuing to grow and improving living standards.

Mobilising young people, women and migrants

Young people have borne the brunt of current intergenerational disparities and face potential competition with AI for entry level jobs. Yet mobilising young people aged 15 to 29 years is particularly crucial in some OECD countries. In nine of them (Colombia, Costa Rica, Greece, Italy, Korea, Lithuania, Mexico, Spain and Türkiye), more than 15% of youth are in the category of "not in employment, education or training" (NEET), representing a major waste of potential talent. Reducing NEET rates and boosting youth employment with policies that aim to improve education services, reduce school dropouts, offer full-time, second-chance educational programmes and encourage school-to-work transitions are more than ever key.

In all OECD countries, progress has been made in promoting employment opportunities for women. Yet, differences persist not only in the level but also in the quality of jobs. Compared to men, women are often paid significantly less, work fewer paid hours and take on more unpaid work, such as family and caring responsibilities. Closing the gender employment gap could increase annual GDP per capita growth by 0.2 percentage points across the OECD – half of the decline projected in the baseline scenario. Closing the gender gap in hours worked could double that figure. To mobilise the female workforce, governments must promote gender equality not only in the labour market but also in unpaid work and the domestic workload. These policies include guaranteeing equal pay; facilitating women's access to science, technology, engineering and mathematics studies and encouraging their success in entrepreneurship and decision-making positions; promoting gender- and family-friendly policies within firms; expanding access to quality affordable childcare and elderly care.

Regular migrants are already helping to sustain working-age populations across the OECD and play key roles in reducing labour shortages in certain sectors. The foreign-born are also over-represented among the self-employed, and migrant entrepreneurs significantly contribute to job creation in host countries. While migrants are expected to continue to do so in the future, to be a game changer, net migration rates must surpass historic values. By increasing migration flows to the level observed in the top quarter of most open countries in the past 4 years, the median OECD country could improve its GDP per capita growth by 0.08 percentage points with respect to the baseline scenario. Regular pathways that respond to labour market needs paired with international co-operation are essential to a well-functioning migration management system. But ensuring adequate access of migrants to housing, education, transport and other public services should also be an integral part of a well-managed migration strategy.

Empowering older workers

Older workers may be the hidden key to this labour shortage, both to its root cause and its possible solutions. People are living longer, staying in better health for longer and are able to work longer. In the OECD, life expectancy at birth has now surpassed 80 years, and more than 70% of the increase in life expectancy at age 60 since 2000 is in good health. This is a great achievement. At the same time, it also means that many old-age people are well-placed to continue to make a positive contribution to economic growth and shared prosperity. Yet, while employment of older workers has significantly increased for workers below 60 years of age, significant progress is needed in many countries for older age categories.

Encouraging and facilitating healthy older workers to remain in the labour market longer is key to boosting the workforce as well as reducing the burden of younger generations. On the one hand, by reducing the retirement rate of older people to that of the 10% of OECD countries with the lowest rates, about half of the OECD countries could gain at least 0.2 percentage points of annual GDP per capita growth, a figure that would increase by another 0.1 percentage point if the gender gap among older workers were simultaneously closed. On the other hand, relying only on younger people to enhance growth would raise equity issues, since income and wealth disparities have evolved in favour of older people in recent years in many countries.

Crucially, however, governments must look beyond pension reform – which has dominated such debates in many countries – and ensure that older workers have the skills, health, support and opportunities to remain meaningfully employed. Employers and policy makers alike have a role to play in fostering a labour market that values older workers as a vital asset. They must focus on confronting ageism, creating age-friendly workplaces, promoting lifelong learning and employability throughout the life course, and supporting positive job mobility. Policy action should focus also on mid-career workers, since career trajectories in one's 50s are key determinants of employment patterns in one's 60s.

Keeping an eye on AI

Reviving productivity growth must also be part of the solution. Many researchers and policy makers are optimistic about AI's potential for reviving productivity growth. But the benefits of AI may not be shared equally, and much depends on how AI is used.

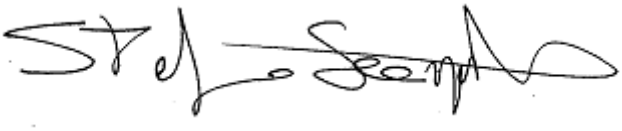
AI could, for example, help extend working lives by alleviating physical work, improving mental health and making work safer and working conditions more adaptable to the needs of older workers, all factors that are key to make people stay in employment as they age. Most workers in our review of the impact of AI in the workplace agreed that AI improves not only their performance but also their enjoyment of work as well as their mental and physical health. The promise of AI to help people with disabilities overcome labour market barriers has already been demonstrated – including by providing workarounds to people with disability (such as live captioning for deaf individuals), or that address disabilities directly (such as AI-powered prosthetics) or making work content and workplaces more accessible. Such tools likely will be of help for age-related disability as well. AI could further benefit older workers by being used to address some of health's largest challenges, including: a depleted workforce, future threats to public health, ageing populations, and increasing complexity of health due to multiple chronic conditions.

Pulling out all the stops

The uncertainties of AI – as well as climate change, geopolitical tensions and economic instability – come as governments face enormous pressure over public debt and spending, particularly on programmes that are not social in nature. As ageing-related labour shortage takes hold, governments will have more limited resources and less room to manoeuvre to face global uncertainties and to maintain living standards. Maintaining economic growth is therefore essential. The scenario of a person of working age sustaining herself and providing for 50% to 70% of the income of an older person would not be sustainable.

Profound demographic changes are making a significant slowdown in living standards growth a tangible risk – but not an inevitable one. Preventing this outcome will require a comprehensive strategy that harnesses untapped potential in the labour market, particularly by increasing the participation of under-represented groups and supporting the employment and employability of older workers. At the same time, it will be essential to promote the trustworthy use of AI and digital technologies to drive productivity gains. Crucially, this strategy must also be fair – ensuring that no one is left behind and that the costs and benefits of transition are shared equitably.

When faced with a turning point as stark as the current demographic shift, OECD countries have no choice but to act.



Stefano Scarpetta,

Director for Employment, Labour and Social Affairs,

OECD

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Labour markets remain resilient but there are early signs of slowdown

OECD labour markets have continued to show resilience over the past year. Employment and labour force participation have reached record highs, while unemployment remains historically low. However, there are signs of weakening labour markets, with employment growth decelerating and labour market tightness in many countries and sectors falling back to pre-COVID-19 levels, although labour shortages remain. Looking ahead, geopolitical uncertainties and hikes in tariff rates are expected to dampen economic activity, leading to further labour market slowdowns.

Real wages are growing in virtually all OECD countries, but there is still room for catching-up in many of them

Real wages are now growing virtually everywhere in the OECD, but their levels remain below the levels seen in early 2021 – just before the post-pandemic inflation surge – in half of OECD countries. The wages of the lowest-paid workers have held up particularly well, as the real statutory minimum wage has increased since then in virtually all the 30 OECD countries with a national minimum wage. As real wages continue to recover, unit profits continue to lose the ground gained since 2021. In the near future, however, the wage recovery could be jeopardised by the potential comeback of high inflation and labour market slowdown.

Without decisive policy action, the demographic transition will dampen GDP per capita growth in the medium term

Declining fertility and increasing life expectancy imply that the OECD population is becoming older. With the progressive exit of baby boomers from the labour force, OECD countries' working-age population (aged 20 to 64 years) is declining while their old-age dependency ratio – defined as the ratio of individuals aged 65 years and above to the working-age population – has increased dramatically from 19% in 1980 to 31% in 2023 and is projected to rise further to 52% by 2060. In turn, without further policy action or changes in behaviours, this will weigh significantly on economic growth and the capacity of OECD countries to continue improving their living standards. Without a significant acceleration of productivity growth, GDP per capita growth would slow down by about 40% in the OECD area (from 1% per year in 2006-19 to 0.6% per year in 2024-60 on average). All but two OECD countries would see their per-capita growth declining.

Mobilising untapped labour resources will be key to offset this downfall

The downfall in GDP per capita growth, however, could be largely counterbalanced by the mobilisation of significantly untapped labour resources, especially among women, older people in good health and regular migrants. Additionally, the dynamic of intergenerational disparities – that is, the shift of income and wealth

toward older cohorts and poverty concentrating more among young ones – suggests that mobilising old-age people in good health would be necessary not only for efficiency reasons but also for fairness reasons.

Labour market policies and employer practices must evolve to support an ageing workforce

Despite progress in past decades, employment rates start to decline from age 50 and drop sharply after 60. Continued reforms of pension systems remain important to delay labour market exit, including carefully designed flexible retirement options that allow for the combination of pension and labour income. However, greater focus should be placed on the employability of older workers in a rapidly changing world of work. Policies should support the demand for older workers among employers. Indeed, rising employment rates of older workers create opportunities for employers to retain valuable knowledge and skills and boost productivity. However, employers often hesitate to hire or retain older workers due to age stereotypes around adaptability, productivity, or the need for workplace accommodations. Policies should also help older workers maintain and adapt their skills and capabilities and facilitate job mobility. Enhancing employability and career progression throughout a person's working life is crucial for improving job prospects later in life. Some older workers also face skill challenges or poor health that prevent them from participating fully in the labour market. Supportive measures – such as lifelong learning, flexible work, and healthy work environments – are vital.

Lifelong investments in skills are necessary to allow older workers to thrive…

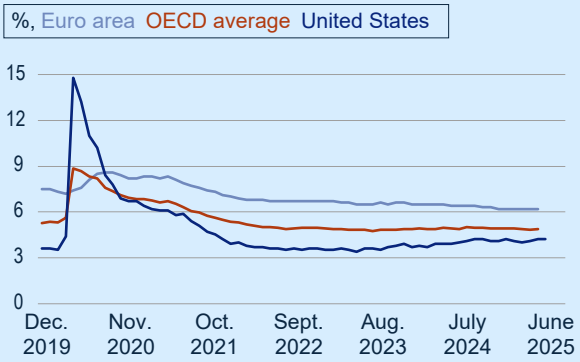
As economies evolve, the nature of work changes too. There are fewer physically demanding jobs and more roles that reward experience offering workers greater opportunities to remain productive for longer. However, there is a risk that benefits from these developments are offset by a decline in skills as the workforce ages. For instance, adults aged 60-65 years have significantly lower literacy and adaptive problem-solving skills than those aged 25-29. While part of this gap reflects cohort differences in educational attainment, skill levels have also declined with age within each cohort over the past decade. To address this, supporting older workers in maintaining and adapting their skills is crucial. Yet, in 2023, only a third of adults aged 60-65 years participated in training, compared to over half of those aged 25-44. In this context, there is an urgent need to avoid skill declines and foster a culture of continuous learning, shifting to a career model where learning at work takes place throughout life. Stronger action to expand access to career guidance and lifelong learning should be considered, especially for mid-career and older workers.

…and so are policies addressing barriers to job-to-job mobility

Demographic change has resulted in declining job-to-job mobility, negatively affecting wage and productivity growth. In fact, unlike involuntary employment transitions, voluntary job-to-job mobility significantly contributes to wage and productivity growth by reallocating workers to better jobs in better firms. However, this process declines sharply with age as workers become less mobile and less likely to transition to higher-quality firms. As a result, demographic ageing has reduced wage and productivity annual growth rates by respectively 0.10 and 0.13 percentage points between 2000 and 2019. Policies must provide sufficient flexibility for firms while offering opportunities for job mobility to workers. For mid-career and older workers in particular, targeted interventions including early support, wage insurance, job-search assistance, and continuous skill development can help maintain job-to-job mobility.

Infographic 1. Key facts and figures

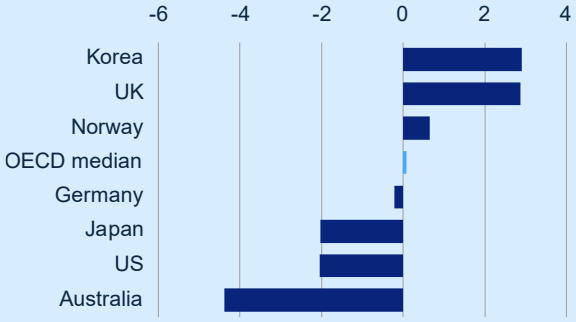
Unemployment remains low



Despite decelerating growth, OECD labour markets have continued to show resilience with historically low unemployment in many countries.

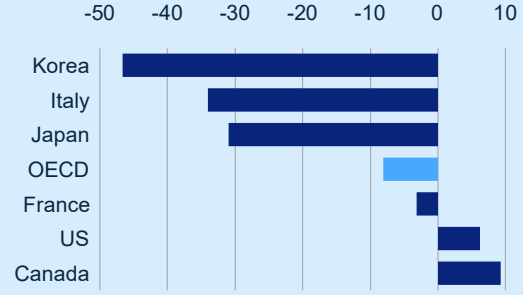
Real wages are growing but are often still below 2021 levels

Cumulative % change in real wages between Q1 2021 and Q1 2025



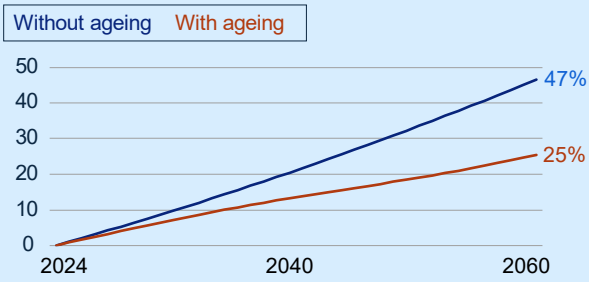
The working-age population will decline in a large number of countries

% projected change in working age population (aged 20-64 years old) between 2023-2060



Ageing societies could lead to a dramatic slowdown of economic growth

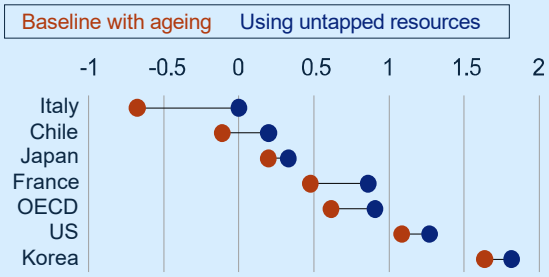
%, cumulated GDP per capita growth projections



GDP per capita growth is projected to slow down by about 40% across OECD countries (from an average of 1% per year in 2006-2019 to 0.6% per year in 2024-2060.

Mobilising untapped labour resources will help offset this economic slowdown

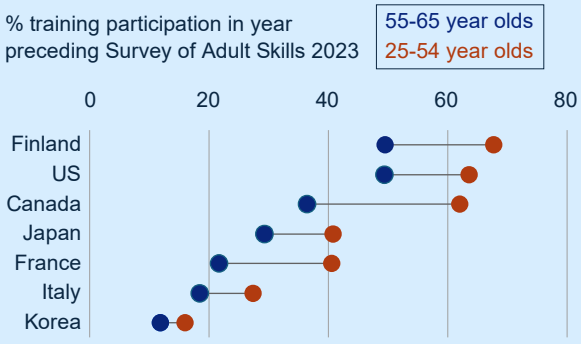
%, annual GDP per capita growth projections, 2023-2060



Large gains in GDP per capita growth could be obtained by improving employment rates among older workers, women and migrants.

Older workers need skills boost to thrive

% training participation in year preceding Survey of Adult Skills 2023



Improving the skills of older workers can help boost job mobility and lead to both wage and productivity growth.

1 Bouncing back, but on shaky ground: Wages continue to recover in uncertain labour markets

Alexandre Georgieff and Sébastien Martin

OECD labour markets have continued to show resilience over the past year. Employment and labour force participation have reached record highs, while unemployment remains historically low. However, there are signs of weakening labour markets, with employment growth decelerating and labour market tightness in many countries and sectors falling back to pre-COVID 19 levels, although labour shortages remain. Real wages are now growing in virtually all OECD countries, but in half of them their levels remain below the levels seen in early 2021 – just before the post-pandemic inflation surge. The wages of the lowest-paid workers have held up particularly well, as the real statutory minimum wage has increased since then in virtually all the 30 OECD countries with a national minimum wage. As real wages continue to recover, unit profits continue to lose the ground gained since 2021. Looking ahead, geopolitical uncertainties and hikes in tariff rates could significantly weaken labour markets and bring back high inflation, thereby hampering the wage recovery.

In Brief

OECD labour markets have continued to show resilience over the past year, but early signs of a slowdown are now visible, with more moderate employment growth and an easing of labour shortages. Nevertheless, real wages are rising year-on-year in virtually all OECD countries, although they remain below early 2021 levels in half of them. In the future, geopolitical uncertainties and tariff increases if confirmed are expected to dampen economic activity and may weigh on inflation and wages.

The latest labour market data available at the time of writing suggest that:

- **OECD employment and labour force participation rates have reached record highs, while unemployment remains at historically low levels in many countries.** The OECD unemployment rate remained at 4.9% in May 2025. The average employment rate in the OECD rose to 72.1% in Q1 2025, while the average participation rate reached 76.6%.
- **However, there are signs of worsening labour market conditions, as employment growth continues to decelerate.** Employment rates rose by 0.12 percentage points on average in the OECD between Q1 2024 and Q1 2025, compared with 0.20 between Q1 2023 and Q1 2024. In the near future, geopolitical uncertainties and hikes in tariff rates are expected to dampen economic activity, leading to further labour market slowdowns.
- **Labour shortages continued to ease but labour markets remain tight.** Labour market tightness has returned to pre-COVID-19 levels in many OECD countries, as has the efficiency of matching between employers and jobseekers. Nonetheless, tightness remains remarkably above pre-crisis levels in several countries, and pre-COVID-19 labour markets were already tight for a number of structural reasons that are well at play.
- **Gender gaps in employment and labour force participation are narrowing in many OECD countries.** Between Q1 2024 and Q1 2025, on average across OECD countries, women's employment rate rose by around 0.32 percentage points more than men's, while the gender gap in the participation rate narrowed by 0.3 percentage points.
- **The incidence of part-time employment has remained stable. However, this masks substantial offsetting changes in voluntary and involuntary part-time.** Involuntary part-time declined as labour markets recovered from the COVID-19 crisis and tightened. However, voluntary part-time increased simultaneously by about the same amounts, possibly because some workers switched from full-time to part-time as: (i) their preferences shifted from work to family commitments during the COVID-19 crisis; and (ii) employers became more willing to accommodate requests for part-time work as labour markets tightened.
- **Real wages are now growing in virtually all OECD countries but remain below the levels seen in early 2021 – just before the post-pandemic inflation surge – in half of them.** According to the latest data for Q1 2025, annual real wage growth was positive in 33 of the 37 OECD countries for which data are available, with an average across countries of 2.5%. However, real wages remained below their Q1 2021 level in 18 of these 37 countries. Looking ahead, the wage recovery could be jeopardised, as geopolitical uncertainties and hikes in tariff rates may significantly weaken labour markets while exerting further upward pressure on inflation.
- **The real statutory minimum wage was higher in April 2025 than in January 2021 in virtually all the 30 OECD countries with a statutory minimum wage**. The increase in the average real minimum wage across these 30 countries was 7.9%, while that of the *median* real minimum wage, unaffected by particularly large increases in some countries, was 4.7%.

- **The wages of the lowest-paid workers have proved more resilient than median wages to the post-pandemic inflation surge**. Although empirical evidence remains scarce, a compression of the wage distribution at the bottom could be observed in some countries during the COVID-19 crisis and subsequent recovery.
- **As real wages continue to recover, unit profits continue to lose the ground gained during the post-pandemic inflation surge.** Unit labour costs increased more than unit profits between Q1 2024 and Q1 2025 in most OECD countries, continuing a trend that began around Q1 2023. This reflects the catching-up of purchasing power by wages after the disproportionate contribution of unit profits to the inflation surge in 2021-22; and should not be seen as a warning sign of price-wage spirals.

Introduction

OECD labour markets suffered major shocks in the wake of the COVID-19 crisis and Russia's war of aggression against Ukraine. Fluctuations in labour demand and the efficiency of the matching process between labour demand and supply led to labour shortages in many sectors of the economy (OECD, 2024[1]; OECD, 2022[2]). A sharp rise in prices caused real wages to decline and living standards to fall, while most central banks tightened monetary policies. Nonetheless, OECD labour markets proved resilient to the negative consequences of these shocks (OECD, 2024[3]; Araki et al., 2023[4]). This chapter presents the latest labour market and wage developments across the OECD. In particular, it takes stock of labour shortages, with a particular focus on their potential lasting effects on part-time employment patterns. It also examines the latest impacts of the cost-of-living crisis on wages, as well as the risks associated with geopolitical uncertainties and rising tariff rates.

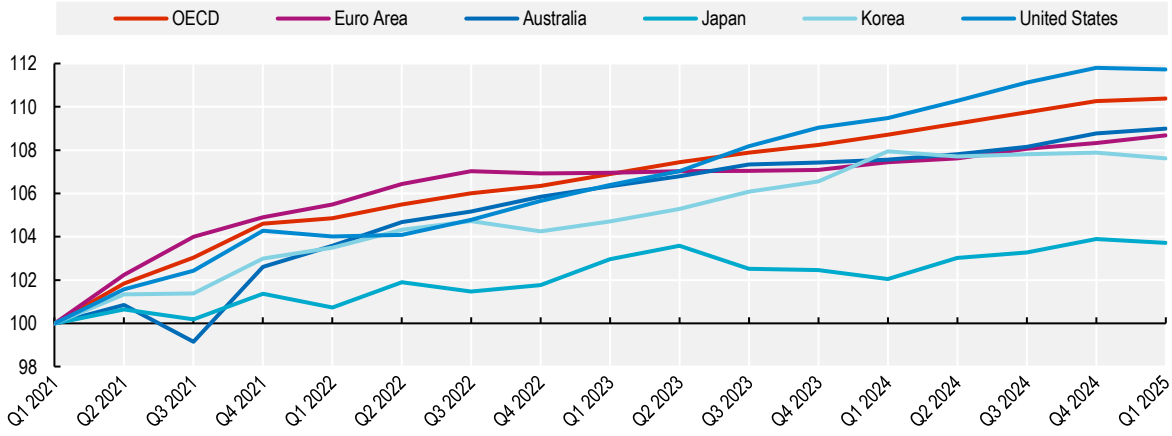
The chapter is organised as follows: Section 0 reviews recent labour market developments in OECD countries; Section 1.2 reports on labour shortages and their possible impact on part-time employment patterns; and Section 0 reports on recent wage developments, including an update on statutory minimum wages and negotiated wages. Section 1.4 concludes.

1.1. Labour markets have been supported by resilient economic growth but there are early signs of slowdown

GDP growth in OECD countries slowed down in Q1 2025 after several years of resilient pace (Figure 1.1). All along 2024 in most major economies, disinflation and the resulting easing of monetary policy helped to offset the uncertainty created by geopolitical tensions and persistent concerns over the cost of living, especially in the United States (OECD, 2024[1]). In early 2025, however, economic growth turned negative in a number of OECD countries including, Japan, Korea, the United States and a number of euro area countries (e.g. Denmark, Norway, Portugal and Slovenia) (OECD, 2025[5]). Still, growth remained solid in other euro area countries, including Germany, Ireland, Spain and the United Kingdom.

Figure 1.1. GDP growth slowed down in Q1 2025 after several years of resilient pace

Real GDP indexed to 100 in Q1 2021, seasonally adjusted, selected OECD countries



Note: Euro Area refers to the averages of 20 Eurozone countries.
Source: OECD calculations based on OECD Data Explorer, "Quarterly real GDP growth – OECD countries", http://data-explorer.oecd.org/s/2ah (accessed on 06 June 2025).

StatLink https://stat.link/xkqbpi

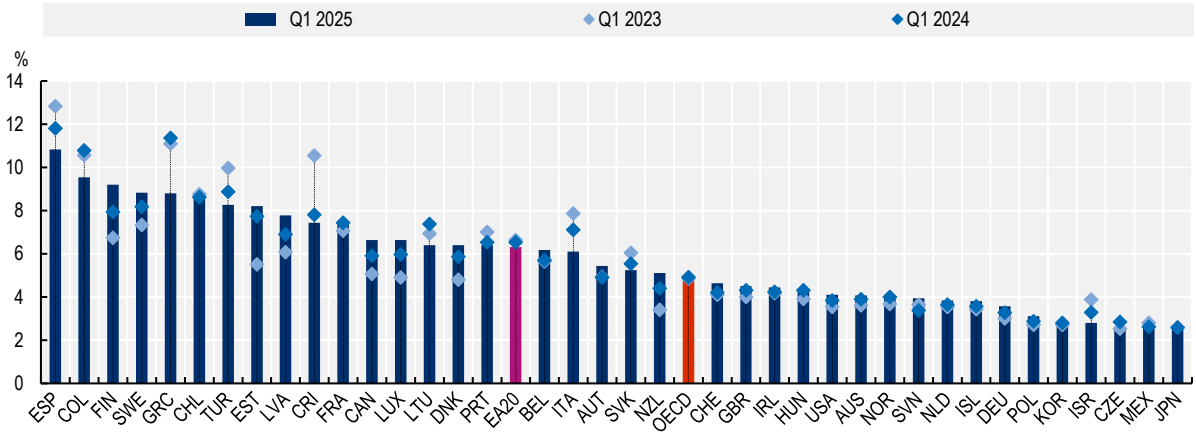
1.1.1. Labour markets have remained resilient

Unemployment remains historically low

Unemployment rates remain at historically low levels in many OECD countries but have stopped their declining trends (Figure 1.2). While the OECD unemployment rate was already at its pre-COVID-19 level in Q1 2022, it continued to decline, reaching a record low of 4.8% in Q2 2023 (OECD, 2024[3]). It has then remained stable over the past two years to stand at 4.9% in Q1 2025. That same quarter, the unemployment rate was 0.5 percentage points or more above its Q1 2024 level in only around a quarter of OECD countries: Austria, Canada, Denmark, Estonia, Finland, Latvia, Luxembourg, New Zealand, Slovenia and Sweden. On the other hand, Costa Rica stands out for the magnitude of its recent unemployment rate reduction: from 10.5% in Q1 2023 to 7.4% in Q1 2025. Monthly data suggests that the OECD unemployment rate was at 4.9% in May 2025.

Figure 1.2. Unemployment rates remain low

Unemployment rate (percentage of labour force), seasonally adjusted



Note: The labour force population includes all those aged 15 or more. Euro Area refers to the 20 Eurozone countries.
Source: OECD Data Explorer, "Monthly unemployment rates", http://data-explorer.oecd.org/s/2ai (accessed on 16 June 2025).

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Employment continued to grow, albeit at a slower pace

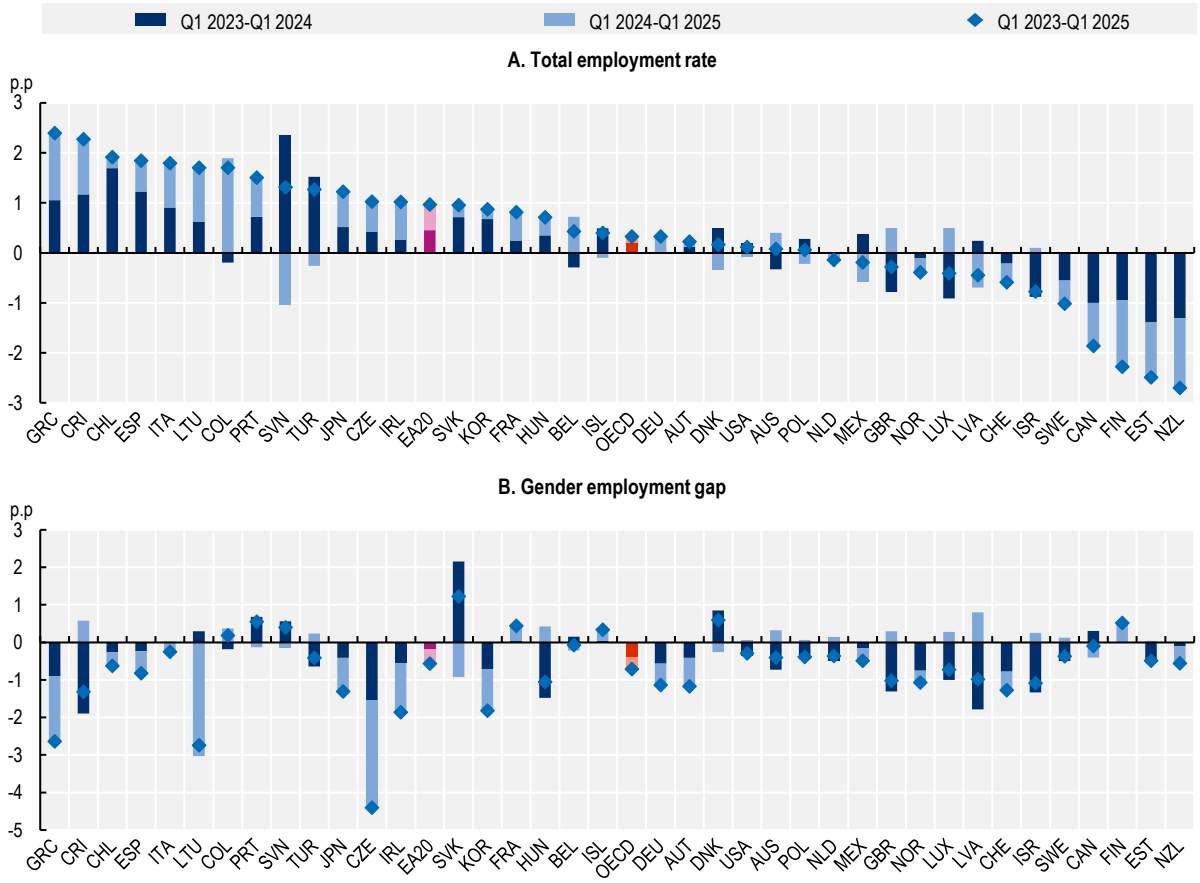
Employment rates continued to grow in most OECD countries in 2024, reaching new records, even though in many countries growth was weaker than in 2023. Employment rates rose by 0.12 percentage points (to 72.1%) on average in the OECD between Q1 2024 and Q1 2025, compared with 0.20 between Q1 2023 and Q1 2024 (Figure 1.3, Panel A). Employment growth was also lower in 2024 than in 2023 in about half (20) of the 38 OECD countries, and even reached negative values in 16 countries. Nevertheless, employment rates accelerated remarkably in some of the countries where it was still well below or close to pre-COVID-19 levels in early 2024 (OECD, 2024[3]), and where there was therefore still some room for catching up: Colombia, Czechia, Lithuania and the United Kingdom. Costa Rica suffered significant and lasting employment losses after the pandemic but has recovered a significant portion of these over the past two years.

In most OECD countries, the gender gap in employment rates narrowed over the past year (Figure 1.3, Panel A), continuing an evolution observed throughout the recovery from the COVID-19 crisis (OECD, 2024[3]). Between Q1 2024 and Q1 2025, on average across OECD countries, women's employment rate increased by about 0.32 percentage points more than men's. However, this represents 0.07 percentage points less than the gender gap reduction over the previous year. The even higher reduction in the gender employment gap between Q1 2023 and Q1 2024 might partly reflect the fact that some women returned to the labour market during the cost-of-living crisis to compensate for the loss of purchasing power linked to their husband's earnings. Costa Rica and Lithuania recorded the biggest reduction in the gender gap in employment over the periods Q1 2023 – Q1 2024 and Q1 2024 – Q1 2025 respectively, showing that women benefited strongly from the employment catch-up in these countries over these periods.

On average across OECD countries, the increase in the employment rate between Q1 2023 and Q1 2025 is due for around a third to the increase in the employment rate of prime age workers (25-54), and for two-thirds to the increase in the employment rate of older workers (55-64) (Annex Figure 1.A.1, Panel A). By contrast, the employment rate of younger workers (15-24) fell slightly over the period. The increase in the employment rate of older workers is part of a trend that has been going on for two decades, analysed in detail in Chapter 3.

Figure 1.3. Employment rates continued to rise in many countries in 2024 but at a slower pace than in 2023

Percentage point change among the working age population, seasonally adjusted data



Note: The gender employment gap is defined as the male-to-female difference in the employment rate. The working age population includes all those aged 15 to 64. OECD is the unweighted average of the 38 OECD countries shown in this Chart. Euro Area refers to the 20 Eurozone countries. Countries are ordered by descending order of the percentage point change in employment rates in Q1 2023-Q1 2025 (Panel A). p.p: percentage point.
Source: OECD Data Explorer, "Employment rate", http://data-explorer.oecd.org/s/2al (accessed on 17 June 2025).

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Rising employment rates were also driven by an increase in the employment rate of migrants in a number of countries, albeit to a small extent – among OECD EU countries, only in Belgium, Ireland, Slovenia and Spain does it account for more than a quarter of employment rate growth over the Q1 2023 – Q1 2025 period (Annex Figure 1.A.2 Panel A) – see also Chapter 2. In addition, in these four countries, foreign-born individuals have been the main contributors to the growth in the absolute number of labour market participants over the recent period (Causa et al., 2025[6]). In terms of the employment gap, migrant employment was more affected by the COVID-19 pandemic than that of natives, but rebounded more strongly, so that the employment rate gap between the two populations stabilised at a low level (0.6 percentage points) in 2022 on average across OECD countries (OECD, 2024[7]).

Labour force participation continued to rise

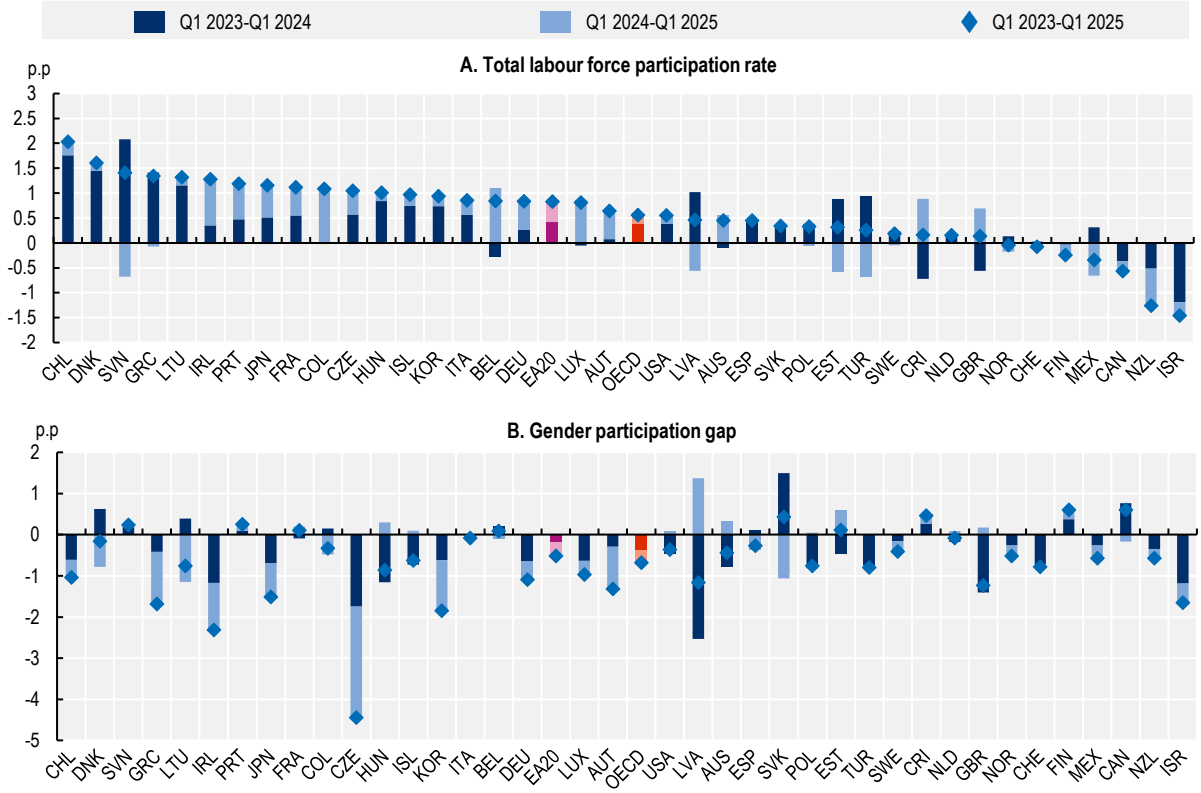
In most OECD countries, the labour force participation rate of the working-age population continued to rise in 2024 (Figure 1.4, Panel A), reaching new records. At 76.6% in Q1 2025, the average labour force participation rate in the OECD was 0.17 percentage points higher than in Q1 2024, a smaller increase than between Q1 2023 and Q1 2024. Nevertheless, in around a fifth of the countries, the Q1 2025 participation rate remains below its Q1 2023 level.

Similar to employment, labour force participation increased more for women than for men over the past year in most OECD countries, so that the gender gap in participation rates narrowed by 0.3 percentage points between Q1 2024 and Q1 2025 on average in the OECD (Figure 1.4, Panel B). The reduction in the gender participation gap has also slowed down: the gender gap reduction was 0.08 percentage points greater between Q1 2023 and Q1 2024.

Again similar to employment, the increase in the labour force participation rate between Q1 2023 and Q1 2025 is due solely to prime age and older workers (in approximately equal shares on average across OECD countries), and is significantly driven by a rising share of migrants participating in the labour market in only a few countries (Annex Figure 1.A.2 Panel B).

Figure 1.4. Labour force participation rates continued to rise

Percentage point change among the working age population, seasonally adjusted data



Note: The gender participation gap is defined as the male-to-female difference in the labour force participation rates. The working age population includes all those aged 15 to 64. OECD is the unweighted average of the 38 OECD countries shown in this Chart. Euro Area refers to the 20 Eurozone countries. Countries are ordered by descending order of the percentage point change in labour force participation rates in Q1 2023-Q1 2025 (Panel A). p.p.: percentage point.
Source: OECD Data Explorer, "Labour force participation rate", http://data-explorer.oecd.org/s/2am (accessed on 17 June 2025).

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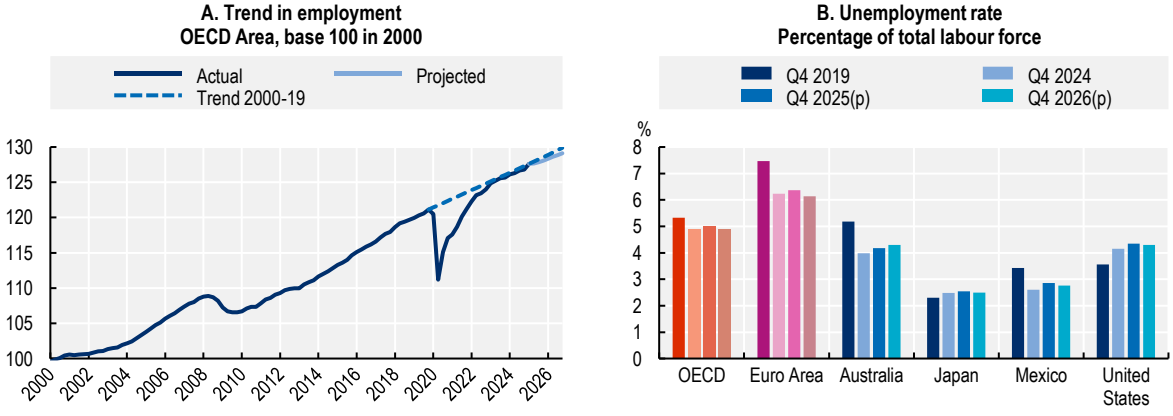
1.1.2. Labour markets are expected to slowdown in 2025 and 2026

Geopolitical uncertainty and new bilateral tariff rates are expected to weaken economic activity and, as a result, labour markets (OECD, 2025[5]). Business investment, trade and consumption, are likely to decline, while inflation may rise in many countries. Monetary policy could therefore remain restrictive for longer than previously anticipated, further weakening growth prospects.

Assuming that the bilateral tariff rates prevailing in mid-May persist for the rest of 2025 and 2026, annual global GDP growth is expected to slow further from 3.3% in 2024 to 2.9% in 2025 and 2026 (OECD, 2025[5]). OECD employment is also expected to slow down (Figure 1.5 Panel A): for the median OECD country, annual employment growth is projected to decline from 1% in 2024 to 0.7% over 2025-26. The median unemployment rate is projected to remain broadly stable, but there are notable differences between countries – in the United States, for example, the unemployment rate should rise from 4.1% in Q1 2025 (Section 1.1.1) to 4.3% in Q4 2026 (Figure 1.5 Panel B). However, these projections should be treated with caution, given the continuing uncertainty surrounding the new bilateral tariff rates.

Figure 1.5. OECD labour markets are expected to slow down



Note: (p) OECD projection. Euro Area refers to the 17 EU member states using the euro as their currency which are also OECD Member States. The 2000 19 trend refers to the average quarterly employment growth rate prevailing in Q1 2000 to Q4 2019.
Source: OECD Data Explorer, "Economic Outlook 117", http://data-explorer.oecd.org/s/2an (accessed on 04 June 2025).

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1.1.3. Hours worked per capita continued their declining trend

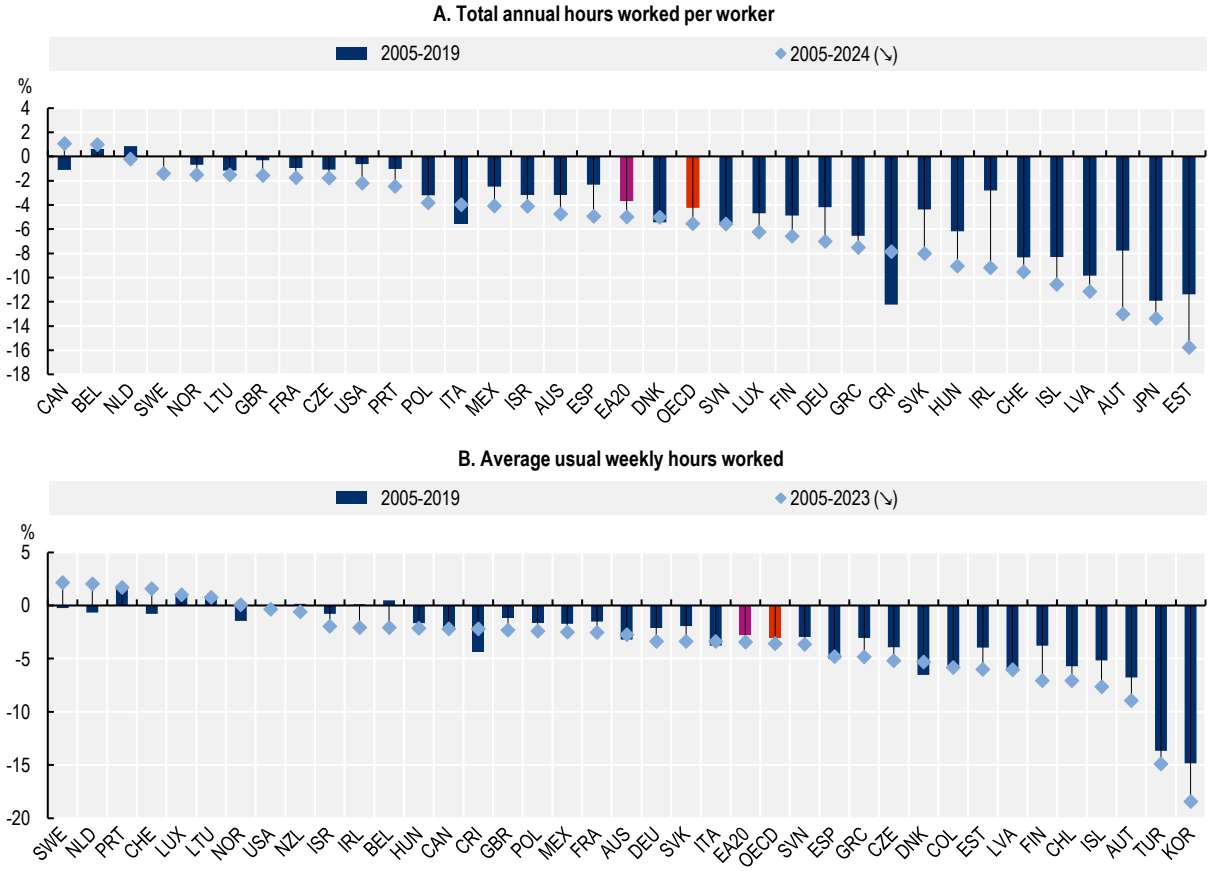
Between 2019 and 2024, in most OECD countries, hours worked per capita continued their downward trend. On average across the countries for which data are available, around a quarter of the 5.5% reduction in total hours worked per year since 2005 occurred since 2019 (Figure 1.6, Panel A). The decline therefore pre-dates the COVID-19 crisis in most countries, although significant accelerations can be observed since the crisis in some countries, including Austria, Germany, Ireland, the Slovak Republic and Spain. Average usual weekly working hours followed a similar trend (Panel B), although the decline was smaller – 3.6% between 2005 and 2023 on average across the countries analysed – and followed the same trend before and after the COVID-19 crisis in virtually all countries analysed.

The decline in working hours could be explained by a number of factors, including shifts in worker preferences towards less overtime or more part-time employment, changes in working time regulation or collective agreements (OECD, 2021[8]), but also compositional shifts towards jobs requiring fewer working hours. Evidence from Europe suggests that the downward trend in hours worked over the past 20 years

reflects worker preferences for part-time employment rather than regulatory changes or compositional effects (Astinova et al., 2024[9]; ECB, 2021[10]). However, the recent reduction since the COVID-19 crisis has not been associated with a widespread increase in part-time employment (see Section 1.2.3 below).

Figure 1.6. The post-pandemic decline in average hours worked per worker is generally consistent with long-term trends

Percentage change



Note: In Panel A, the figure reports total hours worked divided by total employment. OECD is an unweighted average of the 29 OECD countries shown in this Chart (not including Chile, Colombia, Costa Rica, the Euro area, Iceland, Japan, Korea, New Zealand, Switzerland and Türkiye). Euro Area refers to the averages of 20 Eurozone countries. In Panel B, OECD is the unweighted average of the 37 OECD countries shown (not including the Euro area and Japan). Figures for Costa Rica and the United States refers to employees. For Costa Rica, statistics refer to 2010-19 and 2010-23. Euro Area refers to the 20 Eurozone countries. Usual weekly working hours are the number of hours usually worked per week in the main job, thus excluding leave periods and non-usual overtime.

Source: Panel A: OECD Data Explorer, "Quarterly National Accounts (for 'Developer API')", http://data-explorer.oecd.org/s/2ao, Labour Accounts (Australian Bureau of Statistics) for Australia, and Bureau of Labor Statistics, Office of Productivity and Technology for the United States. Panel B: OECD Data Explorer, "Average usual weekly hours worked on the main job", http://data-explorer.oecd.org/s/2ap, and StatCan, "Average usual and actual hours worked in a reference week by type of work (full- and part-time)", www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410004301, Table: 14-10-0043-01 for Canada.

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1.2. Labour shortages continued to ease but labour markets remain tight

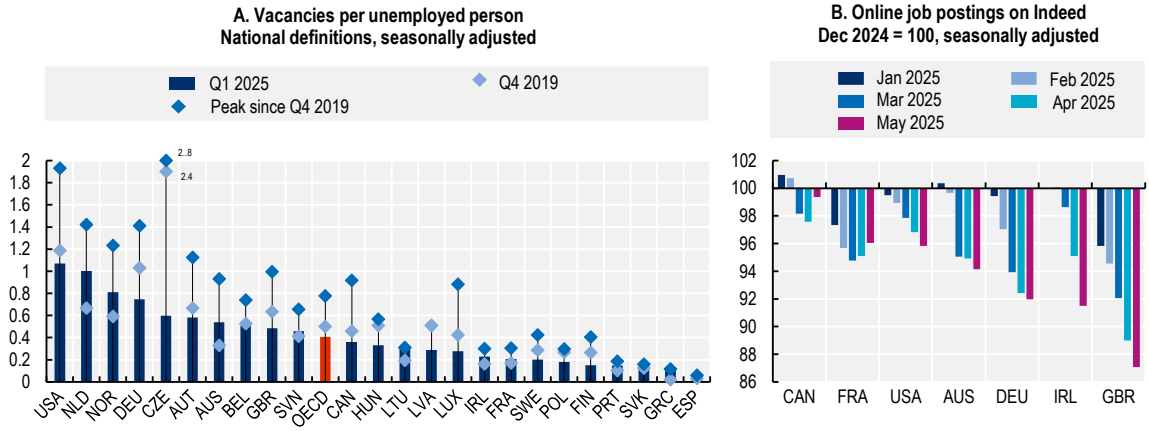
Labour shortages were widespread following the COVID-19 crisis. Labour demand rose considerably to catch up after the crisis (OECD, 2024[3]), while matching efficiency deteriorated significantly during the pandemic and early recovery period (OECD, 2024[1]). In theory, labour shortages should drive down involuntary part-time employment, as firms find it increasingly difficult to fill full-time vacancies and wish to attract more workers (OECD, 2023[11]; OECD, 2018[12]). Yet, the previous section shows that, between 2019 and 2023, weekly working hours generally did not deviate from the downward trend that had begun well before the COVID-19 crisis. The objective of this section is to better understand the link between labour shortages, labour market tightness and part-time employment during the cost-of-living crisis and the recovery from the COVID-19 crisis.

1.2.1. Labour market tightness is back to pre-COVID-19 levels in many countries and sectors but remains high

By Q1 2025, labour market tightness (measured by the number of vacancies per unemployed person) had returned to pre-COVID-19 levels in many of the countries analysed. It was well below the post-COVID-19 peak in virtually all countries (Figure 1.7, Panel A) but remained remarkably above pre-crisis levels in several. Labour market tightness was more than 10% above pre-crisis levels in almost half (11) of the 25 countries analysed: Australia, France, Greece, Ireland, Lithuania, the Netherlands, Norway, Portugal, the Slovak Republic, Slovenia and Spain. In the Euro area, in April 2025, one in six firms in industry and one in four firms in services cited lack of labour as a one of the factors limiting production. While these figures are well below the post-pandemic peaks (about one in four in industry and one in three in services), they are above the pre-pandemic records of 2019.[1]

Job postings data from the online platform *Indeed*[2] completes the picture, showing declining trends in recent months: in May 2025, online job postings were below their December 2025 levels in the seven countries for which data are available (Figure 1.7, Panel B).[3] However, the declining trend has slowed down (or even reversed) in most of these countries in April-May 2025.

Figure 1.7. Labour market tightness has returned to pre-COVID-19 levels in many countries



Note: OECD is the unweighted average of the 24 OECD countries shown in Panel A of this chart (not including Chile, Colombia, Costa Rica, Denmark, Estonia, Iceland, Israel, Italy, Japan, Korea, Mexico, New Zealand, Switzerland and Türkiye). The peak (Panel A) refers to the maximum value of the number of vacancies per unemployed reached in Q4 2019-Q1 2025. For Latvia, the number of vacancies per unemployed remains always below its Q4 2019 level and consequently there is no peak during the period considered. In Panel A, statistics do not include vacancies in the public administration and compulsory social security.
In Panel A, statistics refer to the number of vacancies (see description below) divided by the number of unemployed (ILO definition). The definition of vacancies is not harmonised across countries, which limits international comparability. For **European countries**, a vacancy is defined as a paid post that is newly created, unoccupied, or about to become vacant for which the employer is taking active steps and is prepared to take further steps to find a suitable candidate from outside the enterprise concerned; and which the employer intends to fill either immediately or within a specific period. For **Australia**, a vacancy is defined as a job available for immediate filling and for which recruitment action has been taken by the employer. For **Canada**, a vacancy is defined as a job meeting the following conditions: it is vacant on the reference date (first day of the month) or will become vacant during the month; there are tasks to be carried out during the month for the job in question; and the employer is actively seeking a worker outside the organisation to fill the job. The jobs could be full-time, part-time, permanent, temporary, casual, or seasonal. Jobs reserved for subcontractors, external consultants, or other workers who are not considered employees, are excluded. For the **United Kingdom**, a vacancy is defined as a position for which employers are actively seeking recruits from outside their business or organisation (excluding agriculture, forestry, and fishing) based on the estimates from the Vacancy Survey. For the **United States**, a vacancy is defined as a job that is not filled on the last business day of the month and a job is considered open if a specific position exists and there is work available for it, the job can be started within 30 days, and there is active recruiting for the position.
In Panel B, online job postings on Indeed are indexed to 100 in December 2024.
Source: Job Vacancies (ABS) for Australia; Job vacancies, payroll employees, and job vacancy rate (Statistics Canada) for Canada; Eurostat, Job vacancy statistics by NACE Rev.2 activity (Table jvs_q_nace2) for the European countries; Vacancy Survey (ONS) for the United Kingdom; and Job Openings and Labor Turnover Survey (Bureau of Labor Statistics) for the United States; OECD Data Explorer, "Monthly unemployment rates", http://data-explorer.oecd.org/s/2aq (accessed on 17 June 2025). Indeed, Online Job Posting Tracker, https://github.com/hiring-lab/job_postings_tracker (accessed on 17 June 2025).

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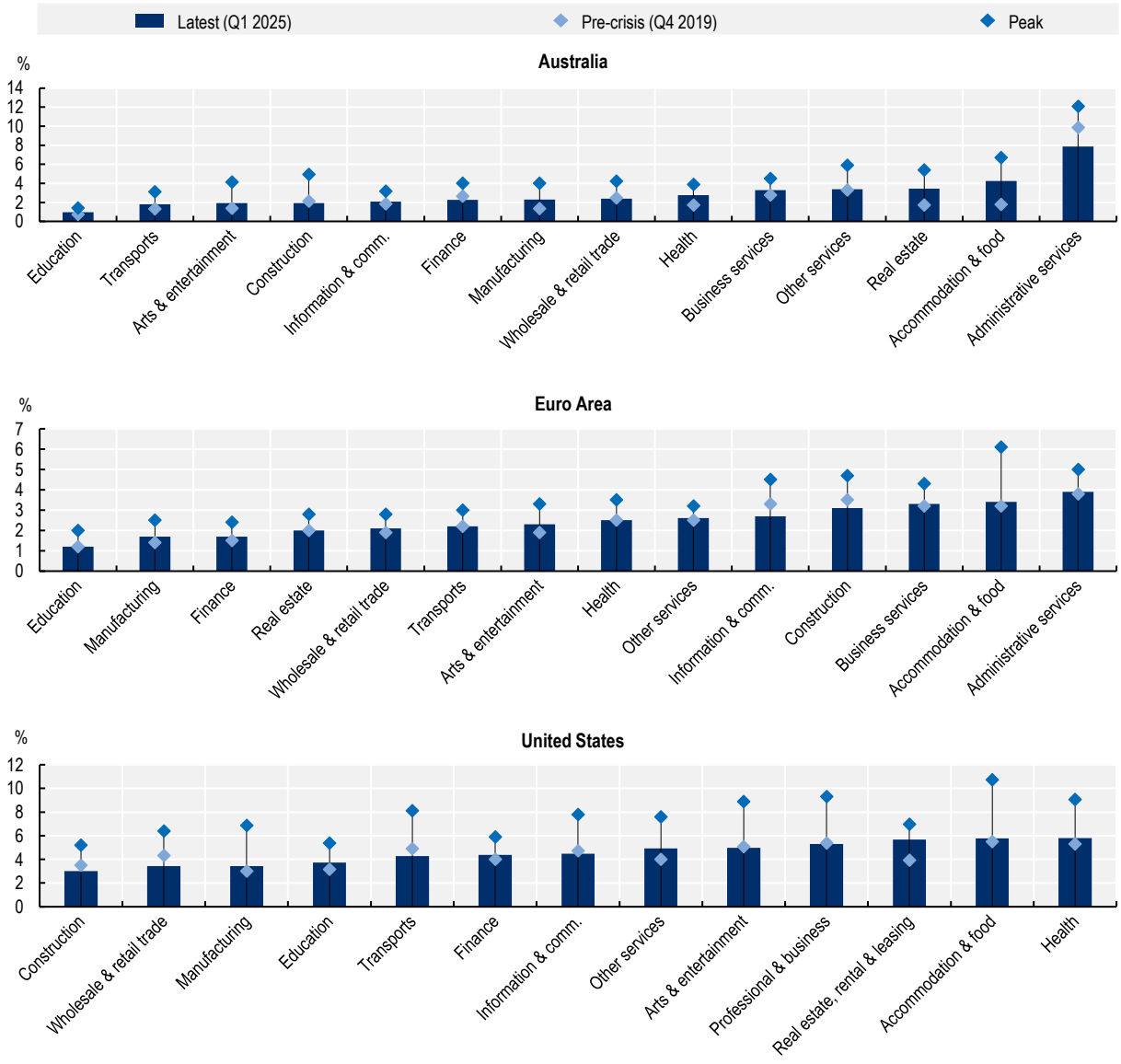
To capture labour market tightness at industry level, Figure 1.8 provides an overview of the industry-specific vacancy rates (i.e. the fraction of all jobs available in the industry that are unfilled and for which employers report that they are actively trying to recruit) in Australia, the euro area and the United States.

In Q1 2025, in both the euro area and the United States, labour market tightness was close to or below pre-COVID-19 levels in many sectors, including some where the peak in tightness had been particularly high, such as accommodation and food service activities (Figure 1.8). Labour market tightness remained more than 10% above pre-crisis levels (i) in the euro area: in arts and entertainment, manufacturing, finance, and trade; (ii) in the United States: in education, manufacturing, real estate, and other (unclassified) service sectors.

In Australia, however, labour market tightness remained substantially above pre-COVID-19 levels in most sectors, particularly those where peak tightness had been among the highest: accommodation and food service activities, manufacturing, and real estate – labour market tightness in these three sectors remained above pre-COVID-19 levels by 141%, 72% and 101%, respectively.

Figure 1.8. Labour market tightness is close to pre-COVID-19 levels in most sectors in the euro area and the United States but not in Australia

Job vacancy rates by industry as a percentage of occupied and unfilled jobs



Note: The definition of vacancies is not harmonised across countries. For **Australia**, a vacancy is defined as a job available for immediate filling and for which recruitment action has been taken by the employer. For the **Euro Area**, a vacancy is defined as a paid post that is newly created, unoccupied, or about to become vacant for which the employer is taking active steps and is prepared to take further steps to find a suitable candidate from outside the enterprise concerned; and which the employer intends to fill either immediately or within a specific period. For the **United States**, a vacancy is defined as a job that is not filled on the last business day of the month and a job is considered open if a specific position exists and there is work available for it, the job can be started within 30 days, and there is active recruiting for the position. The peak refers to the maximum value of the job vacancy rate reached in Q4 2019-Q1 2025. Industries refer to the ANZSIC 2006 at 1-digit level for Australia, the NACE Rev. 2 at 1-digit level for the Euro Area and to the NAICS for the United States and are therefore not fully comparable between these three countries. For the United States, "Transports" includes warehousing and utilities, and "Health" and "Education" refer to the private sector only. Euro Area refers to 20 Eurozone countries.
Source: Job Vacancies (ABS) for Australia; Job vacancy statistics by NACE Rev.2 activity for the Euro Area; and Job Openings and Labor Turnover Survey (Bureau of Labor Statistics) for the United States.

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Despite these developments, labour market tightness remains high in the OECD. Indeed, pre-COVID-19 labour markets were already tight for a number of structural reasons that are still at play, including population ageing (Chapter 2), the digital and green transformations (Dorville, Filippucci and Marcolin, forthcoming[13]) and poor job quality in some sectors (Causa et al., 2025[6]).

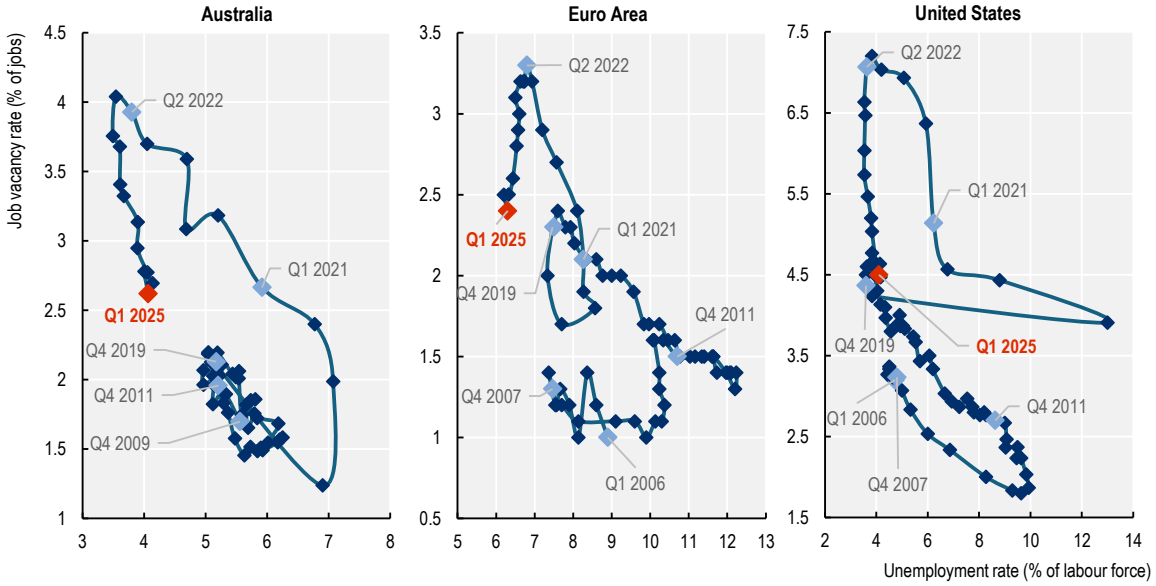
1.2.2. Matching efficiency deteriorated between the onset of the pandemic and mid-2022 but is now back to pre-pandemic levels

Beyond labour market tightness, labour shortages are influenced by the efficiency of matching between employers and jobseekers. The Beveridge curve illustrates the relationship between the unemployment rate (x-axis) and the job vacancy rate (y-axis), plotting different points in time. During economic downturns, unemployment rises as job vacancies fall, while the opposite occurs during upturns, so that the Beveridge curve has a negative slope. An outward shift in the Beveridge curve implies that a given level of unemployment is associated with a higher number of vacancies, and that it is more difficult for firms to fill existing vacancies with qualified jobseekers. This may therefore be interpreted as a reduction in matching efficiency.

Matching efficiency deteriorated between the onset of the pandemic and mid-2022 but is now back to pre-pandemic levels in Australia, the euro area and the United States. Indeed, the corresponding Beveridge curves shifted outward between Q4 2019 and mid-2022 but have now returned to pre-pandemic patterns (Figure 1.9), although the level of tension is now higher (Q1 2025 is further to the left of the curve than Q4 2019) in Australia and in the euro area. Figure 1.9 Panel B and C also show that matching efficiency declined persistently in both the United States and the euro area after the 2008 global financial crisis (no data is available before Q4 2009 for Australia), notably due to growing skills mismatches and rising long-term unemployment (OECD, 2024[1]). It should be noted that movements of the Beveridge curve between two points in time cannot be interpreted as movements in matching efficiency (nor can they be compared between Europe and the United States) when the use of short-term work (in Europe) and/or temporary layoffs (in the United States) were high at those points in time – e.g. for periods starting/finishing in 2020-21 (OECD, 2021[8]).[4] However, this does not apply to differences between Q4 2019 and mid-2022, as the exceptional measures taken in response to the pandemic had largely been rolled back by the end of 2021 (OECD, 2022[2]).

Figure 1.9. Beveridge curves shifted outward between the onset of the pandemic and mid-2022 but have now returned to pre-pandemic patterns

Job vacancy rate and unemployment rate, Q1 2006 to Q1 2025



Note: The job vacancy rate refers to the number of job vacancies expressed as a percentage of labour demand (occupied jobs and job vacancies). The definition of job vacancies is not harmonised across countries: **Australia**: a vacancy is defined as a job available for immediate filling and for which recruitment action has been taken by the employer. **Euro Area**: a vacancy is defined as a paid post that is newly created, unoccupied, or about to become vacant for which the employer is taking active steps and is prepared to take further steps to find a suitable candidate from outside the enterprise concerned; and which the employer intends to fill either immediately or within a specific period; **United States**: a vacancy is defined as a job that is not filled on the last business day of the month and a job is considered open if a specific position exists and there is work available for it, the job can be started within 30 days, and there is active recruiting for the position. Euro Area refers to 20 Eurozone countries. Q4 2009 to Q1 2025 for Australia.

Source: Job Vacancies (ABS) for **Australia**; Eurostat, Job vacancy statistics by NACE Rev.2 activity (Table jvs_q_nace2) for the **Euro Area**; Job Openings and Labor Turnover Survey (Bureau of Labor Statistics) for the **United States**; and "Monthly unemployment rates", http://data-explorer.oecd.org/s/2aq (accessed on 16 June 2025).

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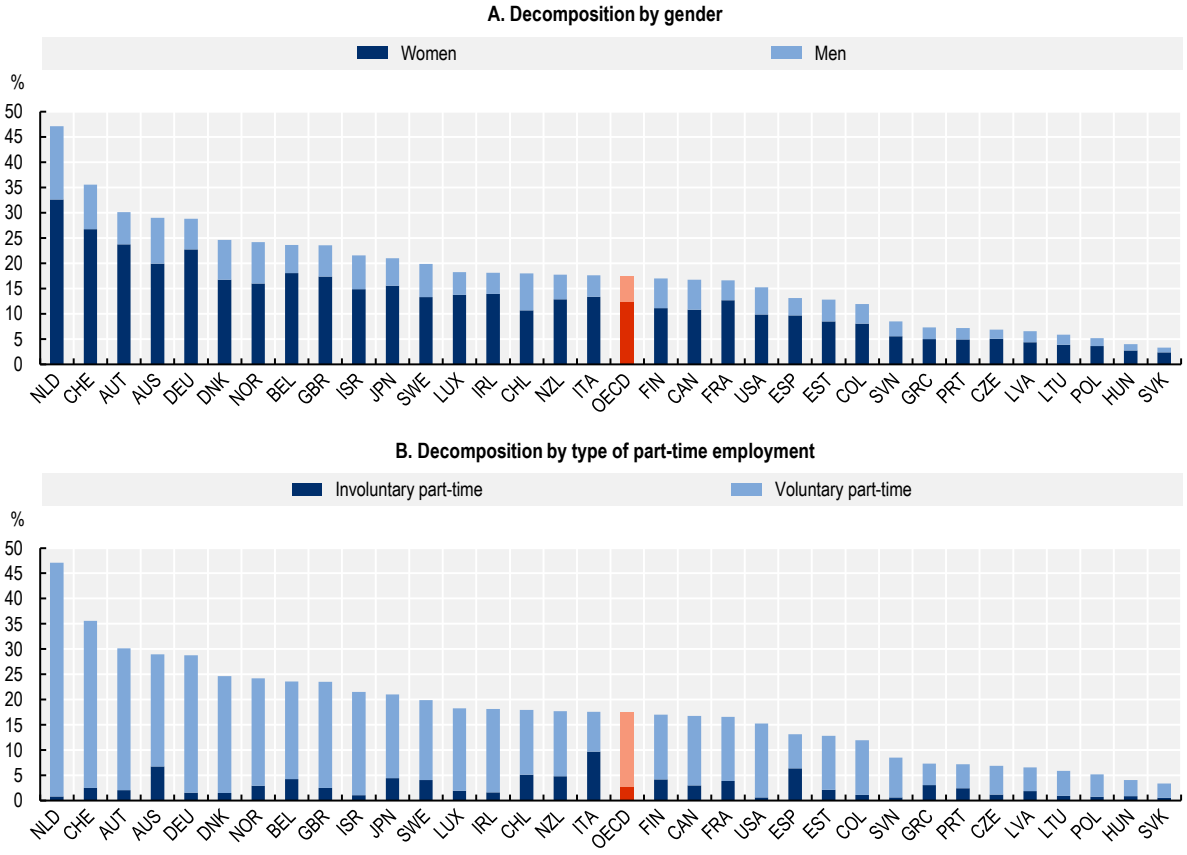
1.2.3. Tight labour markets may have contributed to changes in part-time employment patterns

Part-time employment can be voluntary or involuntary.[5] On the one hand, individuals may choose to work part-time, for example to achieve a better work-life balance. On the other hand, part-time employment may reflect difficulties in finding full-time work,[6] particularly in certain service sectors where part-time employment is often used to cope with daily variations in demand (OECD, 2019[14]; Euwals and Hogerbrugge, 2006[15]). Involuntary part-time workers tend to receive lower hourly wages and experience poorer working conditions than similar full-time or voluntary part-time workers (MacDonald, 2019[16]).

Part-time employment in OECD countries is largely female-dominated (Figure 1.10 Panel A) and mainly voluntary (with the exception of Italy) (Panel B). On average across the countries analysed, part-time jobs accounted for 17.6% of total employment in 2023, and 71% of these were held by women. The average incidence of involuntary part-time employment was 2.8%, around five times lower than that of voluntary part-time employment (14.8%). The predominantly voluntary nature of part-time employment is particularly marked in the five European countries where part-time employment is most widespread (Austria, Denmark, Germany, the Netherlands and Switzerland[7]) (Figure 1.10 Panel B).

Figure 1.10. Part-time employment is largely female dominated and mostly voluntary

Incidence of part-time employment, in percentage of total employment (persons aged 15-64), 2023



Note: Involuntary part-time employment refers to part-time workers who could not find full-time work. Part-time employment is based on national definitions. The OECD is the unweighted average of the 33 OECD countries shown (not including Costa Rica, Iceland, Korea, Mexico and Türkiye).
Source: OECD calculations based on OECD Data Explorer, "Incidence of full-time and part-time employment based on national definitions", http://data-explorer.oecd.org/s/2ar, and " Incidence of involuntary part time employment", http://data-explorer.oecd.org/s/2as.

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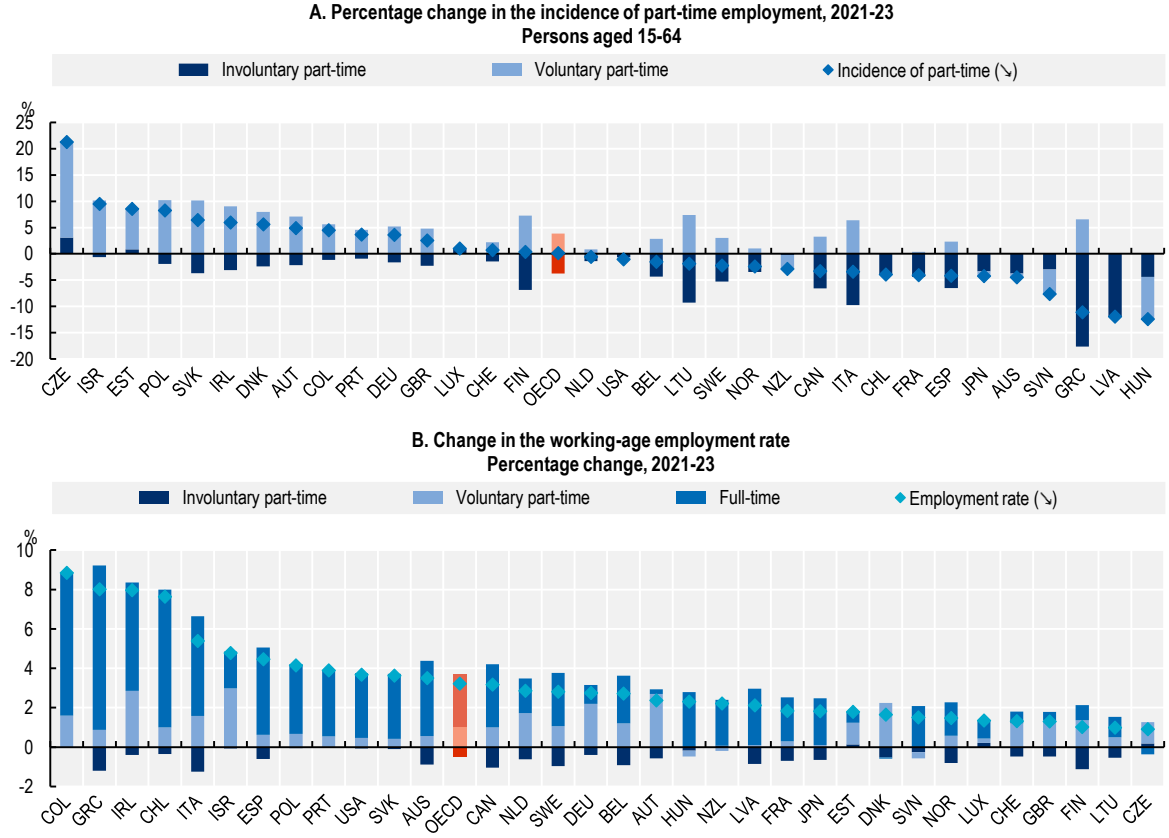
The relative stability of part-time employment masks larger offsetting changes in voluntary and involuntary part-time

In most OECD countries, the incidence of part-time employment[8] remained stable over the 2021-23 period (Figure 1.11, Panel A), a period of post-COVID-19 recovery and remarkable tightening of the labour market.[9] The magnitude of the change in the incidence of part-time employment was greater than 10% in only four of the 33 countries analysed – Czechia (+21%), Greece (-11%), Hungary (-12%) and Latvia (-12%). This may seem counter-intuitive since, in theory, tighter labour markets should encourage firms to make less use of involuntary part-time, to attract more workers and help fill full-time vacancies (OECD, 2018[12]).

However, the relative stability of part-time employment masks larger, offsetting changes in voluntary and involuntary part-time. *Involuntary* part-time employment declined. However, *voluntary* part-time increased at the same time. The changes in voluntary and involuntary part-time are of opposite sign but similar magnitude on average across the countries analysed (Figure 1.11, Panel A). On average across these countries, voluntary part-time accounts for around a quarter of employment growth over the 2021-23 period (Panel B).

Figure 1.11. The incidence of part-time employment has not changed, but its nature has



Note: Involuntary part-time employment refers to part-time workers who could not find full-time job. Part-time employment is based on national definitions. The OECD is the unweighted average of the 33 OECD countries shown (not including Costa Rica, Iceland, Korea, Mexico, and Türkiye). Total employment refers to full-time and part-time workers aged 15-64, excluding the unclassified. Therefore, the employment rates (Panel B) are not necessarily the same as the working age employment rates currently published by the OECD. Panel A: involuntary part-time and voluntary part-time refer to the contributions of each of these forms of employment to the percentage change in the incidence of part-time employment in working-age employment. Panel B: involuntary part-time, voluntary part-time and full-time refer to the contributions of each of these forms of employment to the percentage change in the working-age employment rate.
Source: OECD calculations based on OECD Data Explorer, "Incidence of full-time and part-time employment based on national definitions", http://data-explorer.oecd.org/s/2au, and "Incidence of involuntary part time employment", http://data-explorer.oecd.org/s/2av.

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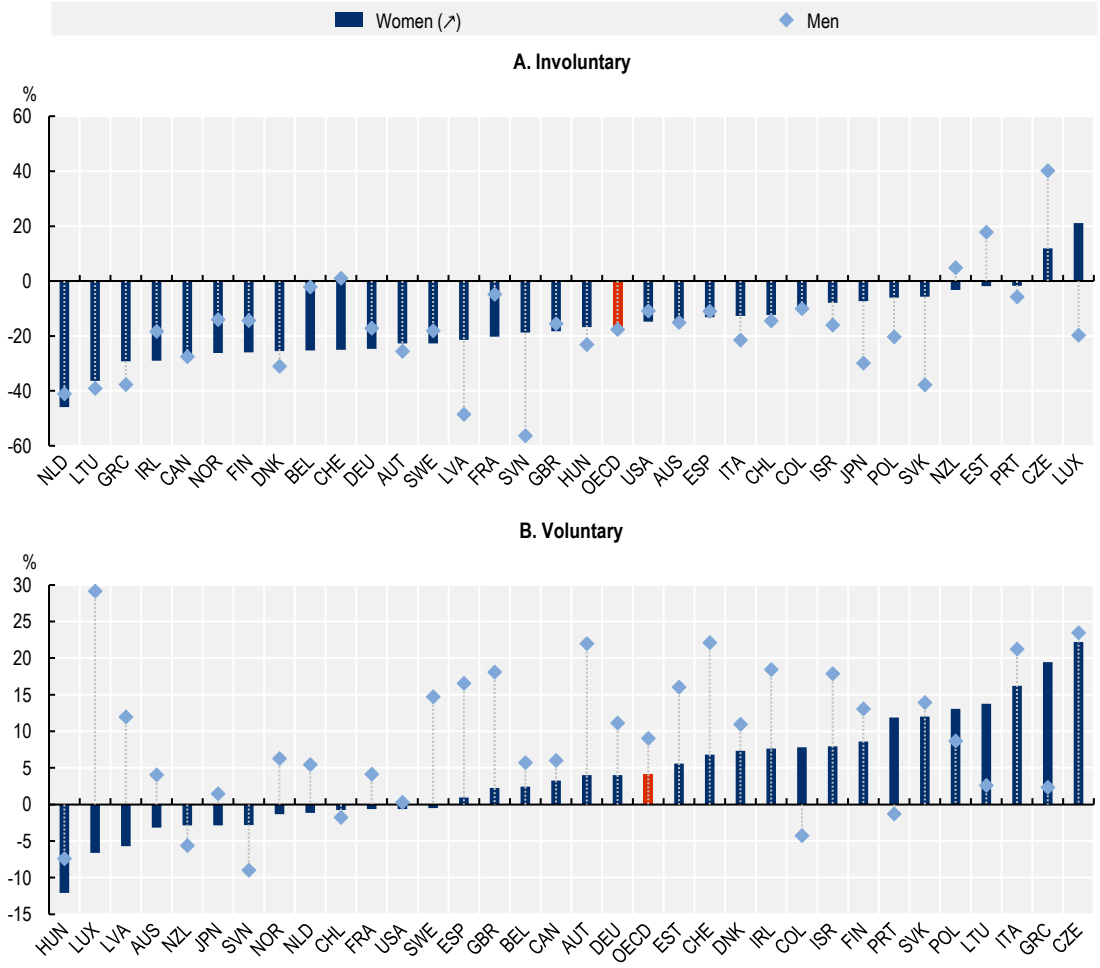
Tight labour markets may have contributed to changes in part-time employment patterns

Both women and men benefited from the reduction in *involuntary* part-time. Although there are notable differences between countries, the percentage reduction in the incidence of involuntary part-time in total employment is similar (and around 17%) among women and men on average across the countries analysed in Figure 1.12. Furthermore, there is no major difference in the nature of the reduction in involuntary part-time by gender (Figure 1.13): for both women and men, part-time weekly working hours above 20 hours (referred to as long part-time working hours or LPT) play a more important role, probably because they are the easiest to convert into full-time working hours.

Figure 1.12. Women experienced a smaller increase in voluntary part-time employment during the COVID-19 recovery than men

Percentage change in the incidence of involuntary (Panel A) and voluntary (Panel B) part-time employment in total employment (persons aged 15-64), 2021-23



Note: Involuntary part-time employment refers to part-time workers who could not find full-time work. Part-time employment is based on national definitions. The OECD is the unweighted average of the 33 OECD countries shown (not including Costa Rica, Iceland, Korea, Mexico and Türkiye).

Source: OECD calculations based on OECD Data Explorer, "Incidence of full-time and part-time employment based on national definitions", http://data-explorer.oecd.org/s/2au, and "Incidence of involuntary part time employment", http://data-explorer.oecd.org/s/2av.

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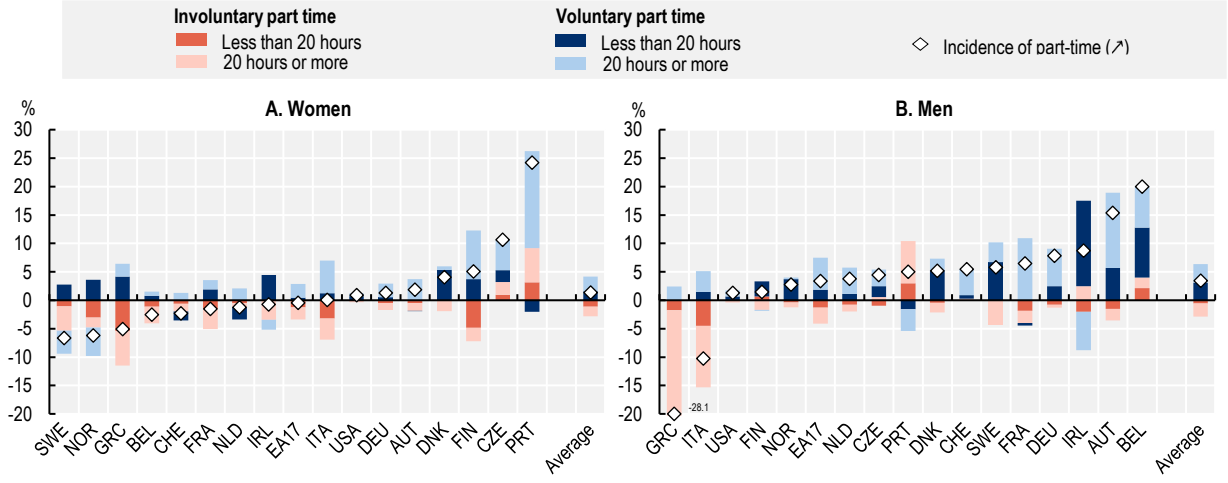
The increase in *voluntary* part-time also concerns both women and men, although the percentage increase for women is less than half that for men (4% for women vs. 9% for men on average across the countries analysed) (Figure 1.12). The nature of the increase also differs by gender: while LPT again plays a more important role among women, the situation is more balanced among men, with only half of the increase due to LPT on average across the countries analysed in Figure 1.13 – the other half is therefore due to weekly working hours below 20 hours, referred to as short part-time working hours or SPT.

Figure 1.13. The nature of the post-COVID-19 rise in voluntary part-time differs by gender

Percentage change in the incidence of part-time employment in total employment (persons aged 15-64), 2021-23



Note: Involuntary part-time employment refers to part-time workers who could not find full-time work. Part-time employment is based on national definitions. "Average" is the unweighted average of the 16 OECD countries shown in this chart (not including Australia, Canada, Chile, Colombia, Costa Rica, the Euro area, Estonia, Hungary, Iceland, Israel, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, New Zealand, Poland, the Slovak Republic, Slovenia, Spain, Türkiye and the United Kingdom). Some European countries are missing due to EU-LFS data limitations. EA17 refers to the weighted average of the 17 OECD countries of the Eurozone. In Panel A (respectively Panel B), each category refers to the contribution of the category to the percentage change in women's (respectively men's) incidence of part-time employment in working-age employment.

Source: OECD calculations based on the European Union Labour Force Survey (EU-LFS) for the European countries and the Current Population Survey (CPS) for the United States.

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These developments are consistent with the notion that some workers switched from full-time to part-time work because: (i) their preferences shifted from work to family commitments during the COVID-19 crisis; and (ii) employers became more willing to meet part-time work requests as labour markets tightened and workers' bargaining power became stronger. Increases in voluntary part-time via this mechanism would have been strongest for men, as women were much more committed to the family than men before the COVID-19 crisis (Andrew et al., 2022[17]; Hupkau and Petrongolo, 2020[18]; Sevilla and Smith, 2020[19]). In other words, fathers may have enjoyed or got used to working less and spending more time with their families when the COVID-19 restrictions were in force (Alon et al., 2020[20]) and decided to modify their working arrangements accordingly when the restrictions were lifted and their bargaining position became more favourable.

Another mechanism at play could be that non-working household members have decided to (re-)enter the labour market on a part-time basis to compensate for the loss of purchasing power of their main source of income (e.g. social benefits or partner's wage) when hit by the cost-of-living crisis. This mechanism would affect more women than men, as women are less likely to be the household's main breadwinner.

As expected, the negative contribution of involuntary part-time to the change in total part-time employment is particularly strong between 2021 and 2022 (Annex Figure 1.A.3, Panels A and B), when labour market tightness increased the most (Annex Figure 1.A.4). In contrast, the positive contribution of voluntary part-time is balanced over the periods 2021-22 and 2022-23, which is consistent with the above mechanisms: although most of the changes in real wages and labour market tightness occurred between 2021 and 2022, real wages remained low – so economic hardship remained high – and labour markets (particularly) tight – so workers' bargaining power remained high – until 2023. Again in line with the above mechanism, the

positive contribution of voluntary part-time to the change in total part-time employment does not hold over the period 2019-21 (Annex Figure 1.A.3, Panel C).

These results may have implications in terms of wage inequality. On the one hand, the reduction in involuntary part-time could have reduced labour market slack for some – generally lower-wage – groups and sectors for which it was high, exerting upward wage pressure for these groups and thus reinforcing wage compression. On the other hand, SPT is likely to be associated with low monthly and annual wages, so the greater increase in voluntary SPT among men may have contributed to reducing the gender wage gap.

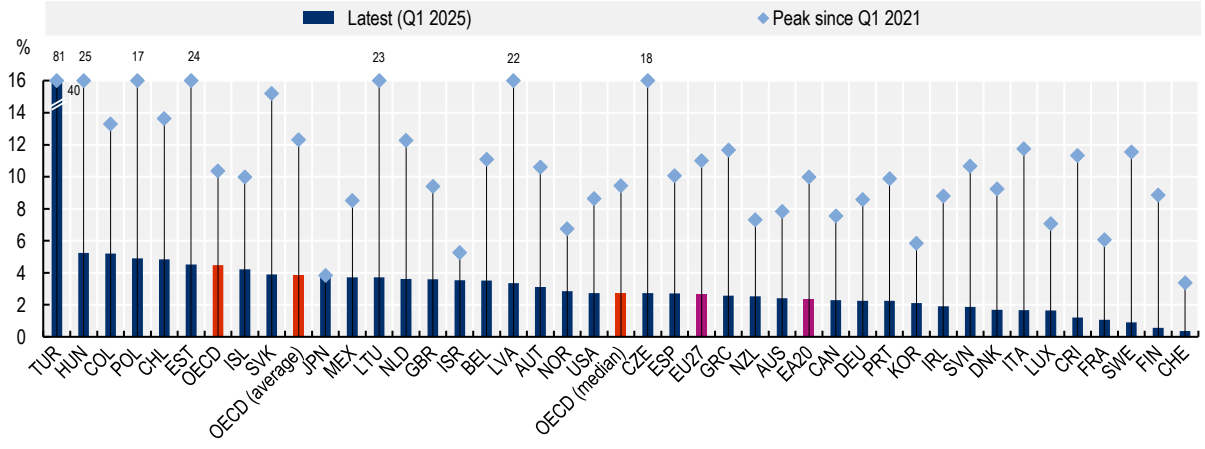
Whether these trends reflect a temporary adjustment phase or persistent changes remains an open question. Involuntary part-time may stabilise, as labour market tightness has returned to pre-pandemic level in many countries (Section 1.2.1). In addition, it is unclear to what extent the changes in preferences induced by the pandemic will persist over time.

1.3. Real wages are growing in virtually all OECD countries but there is still room for catching up in many of them

In all countries analysed, headline inflation is now a long way from its 2022 peak (Figure 1.14). In Q1 2025, inflation in the OECD area (as measured by the Consumer Price Index) was 4.5%, less than half of its Q3 2022 level (10.4%), but still above 2%, which is the central bank target for many OECD countries (e.g. the euro area, the United Kingdom and the United States). Inflation remains above this target in 28 OECD countries – 40% in Türkiye and above 4% in six other OECD countries.

Figure 1.14. Inflation has fallen significantly since its 2022 peak

Inflation defined as annual percentage change in the consumer price index (CPI), Q1 2025



Note: Values on top refer to peaks of inflation above 16%. "OECD (average)" and "OECD (median)" are the unweighted average and the median across the 38 OECD countries, respectively.

Source: OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 07 May 2025).

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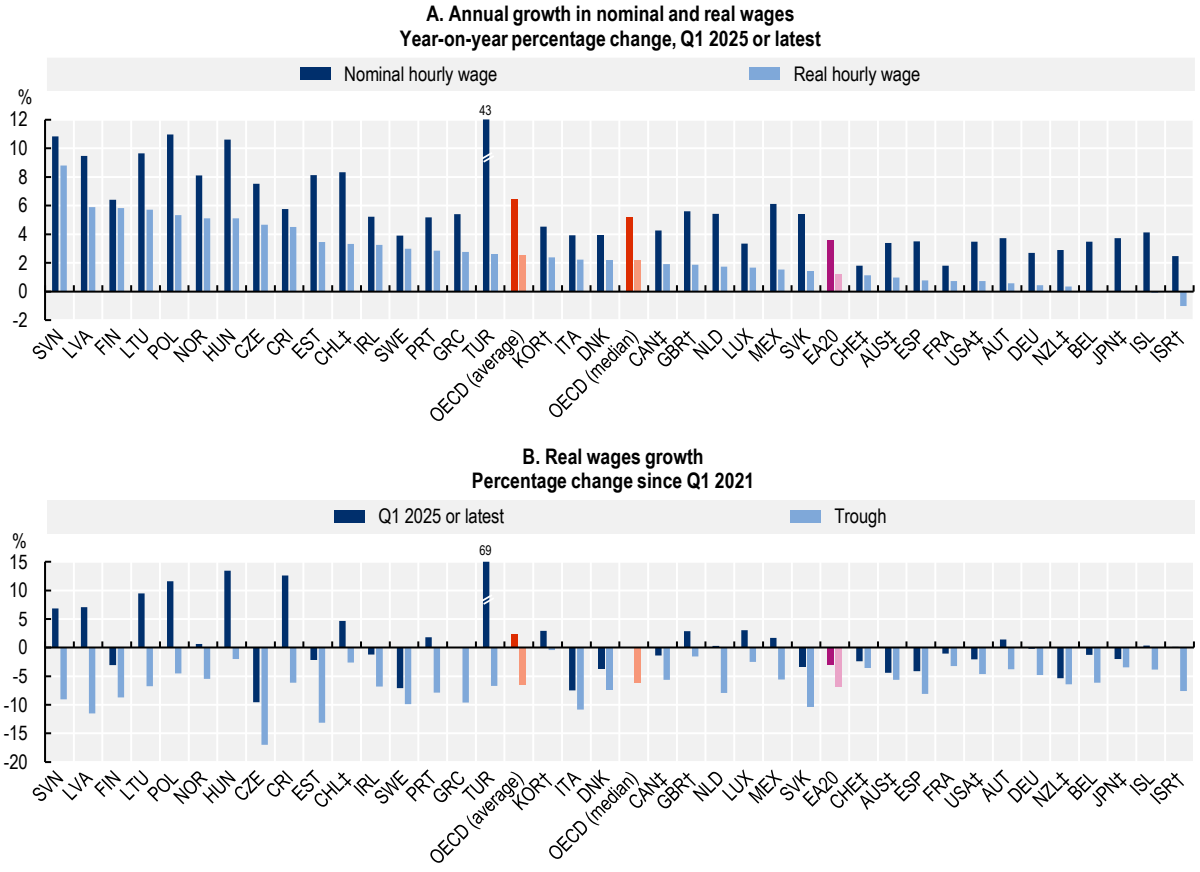
1.3.1. Real wages are growing year-on-year in virtually all OECD countries but remain below early 2021 levels in half of them

According to the latest data for Q1 2025,[10] annual real wage growth was positive in virtually all OECD countries, with an average of 2.5% across the 37 countries for which data are available (Figure 1.15 Panel A).[11] Only in Belgium, Iceland, Israel and Japan, was annual real wage growth negative in Q1 2025, but the reduction in real wages was generally modest (1% or less).[12] Recent data on wages posted in online vacancies for nine countries point to a slowdown in the growth of real posted wages over recent months (Box 1.1).

In Q1 2025, despite their persistent annual growth, real wages remained below their Q1 2021[13] level (which pre-dates the post-pandemic inflation surge) in half of the 37 countries for which data are available *(*Figure 1.15, Panel B). Real wages remained more than 3% below Q1 2021 levels in a quarter of the countries analysed: Australia, New Zealand, three Nordic countries (Denmark,[14] Finland, Sweden) and four southern and central and eastern European countries (Czechia, Italy, the Slovak Republic and Spain). Nonetheless, real wages regained some (at least 17% – in New Zealand) of the lost ground in all OECD countries.

Several factors may have influenced wage growth over the last year. While the easing of labour market tightness described in the previous section may have been a moderating factor for new hires, the increase in statutory minimum wages (see next section) and further adjustments in wages negotiated in collective agreements (Box 1.2) – negotiated wages are renewed on average every 12 to 24 months (OECD, 2023[21]) – continued to exert upward pressures. In the future, however, the wage recovery could be jeopardised, as geopolitical uncertainties and hikes in tariff rates may significantly weaken labour markets while exerting further upward pressure on inflation (OECD, 2025[5]).

Figure 1.15. Real wages continued to grow in 2024 but remain below Q1 2021 levels in half of OECD countries



Note: nominal hourly wages refer to a constant-industry-structure "wages and salaries" component of the labour cost index, except if otherwise indicated. For Costa Rica and Mexico, the adjustment for constant-industry-structure of the average hourly earnings has been estimated by the OECD. Statistics refer to the private sector only for Costa Rica, Japan, Korea, Mexico and the United States. For Türkiye, statistics exclude public administration and defence; compulsory social security; education; human health and social work activities; arts, entertainment and recreation; and other service activities. Nominal wage series are seasonally adjusted for all countries except for Canada, Costa Rica, Israel, Mexico, New Zealand and Switzerland. Statistics for Chile refer to regular hourly wages, excluding overtime and bonuses. Nominal hourly wage data in Mexico are affected by a significant share of employees with unreported income.

†: Nominal hourly wage refers to the actual wage i.e. without any adjustment for sources of compositional shifts for Israel, Japan, Korea and the United Kingdom, and thus comparing these results with the other countries requires caution. Moreover, nominal hourly wage refers to the average monthly wages per employee job for Israel, and to the average weekly earnings for the United Kingdom.

‡: Nominal hourly wage controls for additional sources of compositional shifts, such as regions for Australia, Canada, Chile, and New Zealand, job characteristics and workers' characteristics for Australia, Chile, and New Zealand, gender for Chile and Switzerland, and occupations for Chile and the United States. Real hourly wage is estimated by deflating the nominal hourly wage by the consumer price index (CPI-all items).

Countries are ordered by descending order of the year-on-year changes in real hourly wages (Panel A). The trough (Panel B) refers to the quarter where real hourly wages were at their lowest value for the indicated country since Q1 2021. For Switzerland, the trough (Panel B) refers to the lowest fourth quarter since Q4 2020. "OECD (average)" and "OECD (median)" are the unweighted average and the median, respectively, of the 37 OECD countries shown in this chart (not including Colombia). Statistics for Mexico and Switzerland refer to Q4 2024.

Source: OECD calculations based on the Wage Price Index (Australian Bureau of Statistics) for Australia; the Fixed weighted index of average hourly earnings for all employees (Statistics Canada) for Canada; the Índice de Remuneraciones y de Costos Laborales (Instiuto Nacional de Estadística) for Chile; the Encuesta Continua de Empleo (Instituto Nacional de Estadística y Censos) for Costa Rica; the Labour cost index by NACE Rev. 2 activity (Eurostat) for the European countries except the United Kingdom; the Wages and Employment Monthly Statistics (Central Bureau of Statistics) for Israel; the Monthly Labour Survey (Ministry of Health, Labour and Welfare) for Japan; the Labour Force Survey at Establishments (Ministry of Employment and Labour) for Korea; the Encuesta Nacional de Ocupación y Empleo y Encuesta Nacional de Ocupación y Empleo Nueva Edición (Instituto Nacional de Estadística y Geografía) for Mexico; the Labour Cost Index (Stats NZ) for New Zealand; the Swiss Wage Index (Federal Statistical Office) for Switzerland; the Labour Cost Index (TUIK) for the Republic of Türkiye; the Monthly Wages and Salaries Survey (Office for National Statistics) for the United Kingdom; and Employment Cost Index (Bureau of Labor Statistics) for the United States. OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 07 May 2025).

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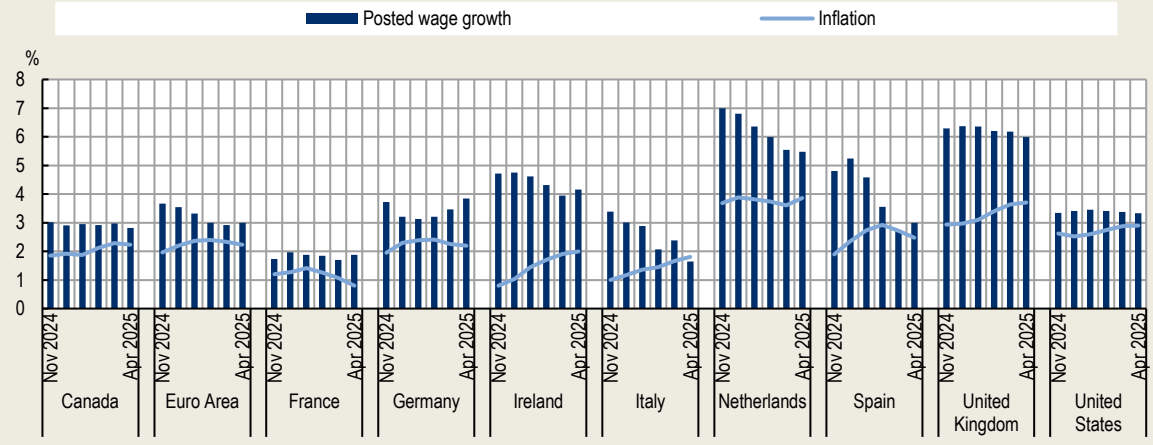
Box 1.1 Wages advertised in online vacancies point to a recent slowdown in the growth of real posted wages

Data from wages advertised in job postings on the online platform Indeed show decreasing or stable growth of real posted wages between November 2024 and April 2025 in the euro area and eight of the nine countries for which data are available. Real wage growth declined in six countries (Canada, Ireland, Italy, the Netherlands, Spain and the United-Kingdom), remained stable in two (Germany and the United States), and rose in France only (Figure 1.16). In most areas where real wage growth decreased (Canada, Ireland, Italy, Spain and the euro area as a whole), this is due to both rising inflation and a deceleration in nominal wages. In fact, these data show no increase in the growth of nominal posted wages between November 2024 and April 2025. Nonetheless, in about half of the countries analysed, nominal and real wage growth picked up slightly towards the end of the period.

Figure 1.16. Posted wages point to a recent slowdown in real wage growth

Year-on-year percentage change, three-month moving averages, from November 2024 to April 2025



Note: The posted wages are the average year-on-year percentage changes in wages and salaries advertised by job postings on Indeed.
Source: Indeed Wage Tracker, https://github.com/hiring-lab/indeed-wage-tracker; and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 11 June 2025).

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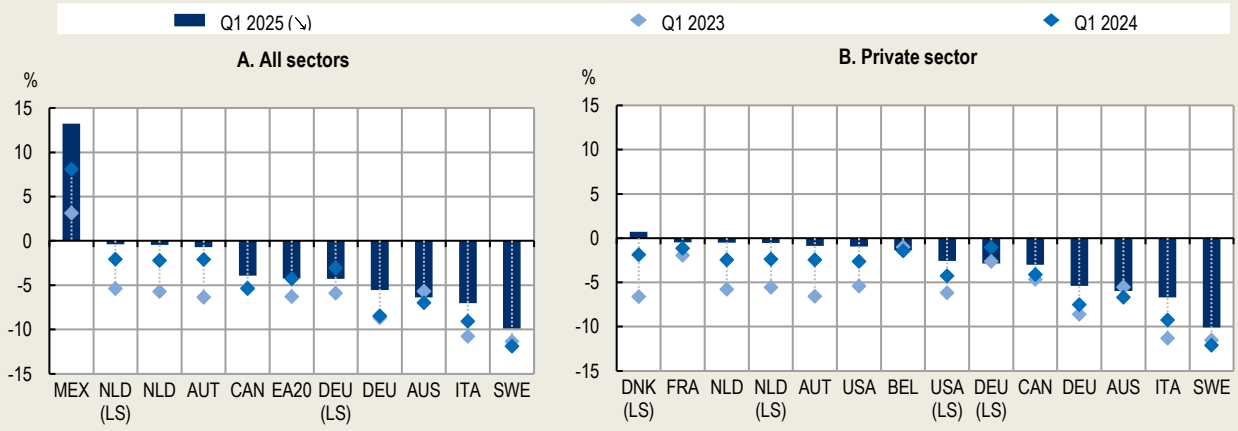
Box 1.2 Real negotiated wages in selected OECD countries have accentuated their upward trend but remain below the levels reached before the inflation surge

Negotiated wages (i.e. wages defined in collective agreements, as opposed to the average wages received by workers) are now increasing in real terms in virtually all countries analysed but remain below the levels seen just before the post-COVID-19 inflation surge in all countries except Denmark, where they have fully recovered, and Mexico, where they did not fall with the inflation surge (Figure 1.17).

Figure 1.17. Real negotiated wages in selected OECD countries

Percentage change in real negotiated wages (i.e. resulting from collective agreements) since Q1 2021



Note: International comparability of data on negotiated wages is affected by differences in definitions and measurement. Statistics are representative of all employees covered by a collective wage agreement for Austria, Belgium, the Euro Area (20), France, Germany, Italy, the Netherlands, Sweden and the United States. In Canada, statistics refer to collective bargaining settlements of all bargaining units covering 500 or more employees (units of 100 or more employees for the Federal Jurisdiction). In Denmark, statistics refer to collective agreements negotiated by the main union and employer confederations, FH and DA, and do not cover public sector employees and the academic unions (AC). For Australia, Canada and Mexico statistics refer only to employees affected by an increase of the negotiated wage at date. For Denmark, wage increases cover basic wages, employer pension contributions, "fritvalg" (flexible benefit) accounts, and other collectively agreed elements (e.g. wages in the event of sickness absence or maternity/paternity leave) from the five major sectoral collective agreements (the "breakthrough agreements") that set the financial framework for the subsequent minimum wage agreements or standard wage agreements to be negotiated in the private sector. Calculations are based on the assumption of full relative pass-through of centrally negotiated wage rates to actual wage adjustments (i.e. a 1% increase in the minimum wage or standard wage rate leads to a 1% increase in locally negotiated wages higher up the wage distribution). Wage increases in Austria, Belgium, the Euro Area (20), Germany, Italy, the Netherlands, Sweden and the United States refers to the average increase in negotiated wages weighted by the employment composition for a reference year (Laspeyres index). The reference year of the employment composition used is 2009 for Sweden, 2010 for Belgium, 2015 for Germany and Italy, 2016 for Austria, 2020 for the Netherlands, 2021 for the United States, and January 2023 for the Euro Area (20). For Australia, Canada, France and Mexico wage increases refer to the average increase in negotiated wages weighted by the number of employees affected of the period considered. Private sector in Germany refers to all industries excluding agriculture, public administration, education, health, and other personal services (Sections B to N of the NACE rev. 2). Percentage changes for Australia, Canada, Denmark, the Euro Area, France, Mexico and Sweden are OECD estimates based on published year-on-year percentage changes and can therefore only be calculated between two similar quarters (Q1 in this chart). Statistics for Australia and Canada refer to the percentage change in Q4 2024 (Q4 2023 and Q4 2022) since Q4 2020. LS: wages including lump sums and/or special payments.
Source: OECD calculations based on national data on negotiated wages and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 11 June 2025).

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Real negotiated wages were higher in Q1 2025 than a year earlier in all the countries analysed, except for Belgium, where they had already stabilised around the levels seen in Q1 2021 by Q1 2023. Besides Belgium, real negotiated wages in Q1 2025 were close to (i.e. less than 2% below) Q1 2021 levels in Austria, France, the Netherlands and the United States. Real negotiated wages were already rising on an annual basis in Q1 2024 in Austria, Canada, Denmark, France, Germany, Italy, Mexico, the Netherlands and the United States, and their growth slowed down over 2024 in about half of these countries (Austria, Denmark, France, the Netherlands and the United States). By contrast, real negotiated wage growth turned positive only in 2024 in Australia and Sweden (Annex Figure 1.A.6). Considering the euro area as a whole, real negotiated wages have stopped rising over the past year, although they remain 4.3% below their early 2021 levels.

The dynamics of real negotiated wages reflect a combination of factors, including the staggered and infrequent nature of collective bargaining, the time lag between the completion of negotiations and actual wage revisions, the infrequent use of automatic inflation indexation, and workers' bargaining power (Araki et al., 2023[4]). Since the start of the cost-of-living crisis, as bargaining rounds have multiplied and affected a growing number of workers, negotiated wages have regained more and more of the ground lost during the inflation surge.

Looking ahead, the European Central Bank's (ECB) indicator of future growth in negotiated wages points to a gradual reduction in nominal negotiated wage growth in Europe from 5.3% in Q4 2024 to 1.6% in Q4 2025.[1]

1. https://www.ecb.europa.eu/press/pr/date/2025/html/ecb.pr250423_1~1efe6e210c.en.html.

1.3.2. The wages of the lowest-paid workers have proved more resilient than median wages to the inflation surge

Statutory minimum wages in real terms are above their January 2021 level

The real statutory minimum wage was higher in April 2025 than in January 2021 in virtually all of the 30 OECD countries that have a national statutory minimum wage in place (Figure 1.18, Panel A). The real minimum wage was 7.9% higher in April 2025 than in January 2021 on average across these 30 countries, and the median increase, unaffected by outliers (e.g. Mexico), was 4.7%. The real minimum wage was lower in April 2025 than in January 2021 in only four countries – Korea, the Slovak Republic, Slovenia and the United States. In the United States the nominal federal minimum wage has remained unchanged since 2009, but state-level minimum wages have risen frequently in recent times, so that the reduction in the employment-weighted average of state-level real minimum wages between January 2021 and April 2025 (-2.2%) is much smaller than that of the federal real minimum wage (-18.5%).

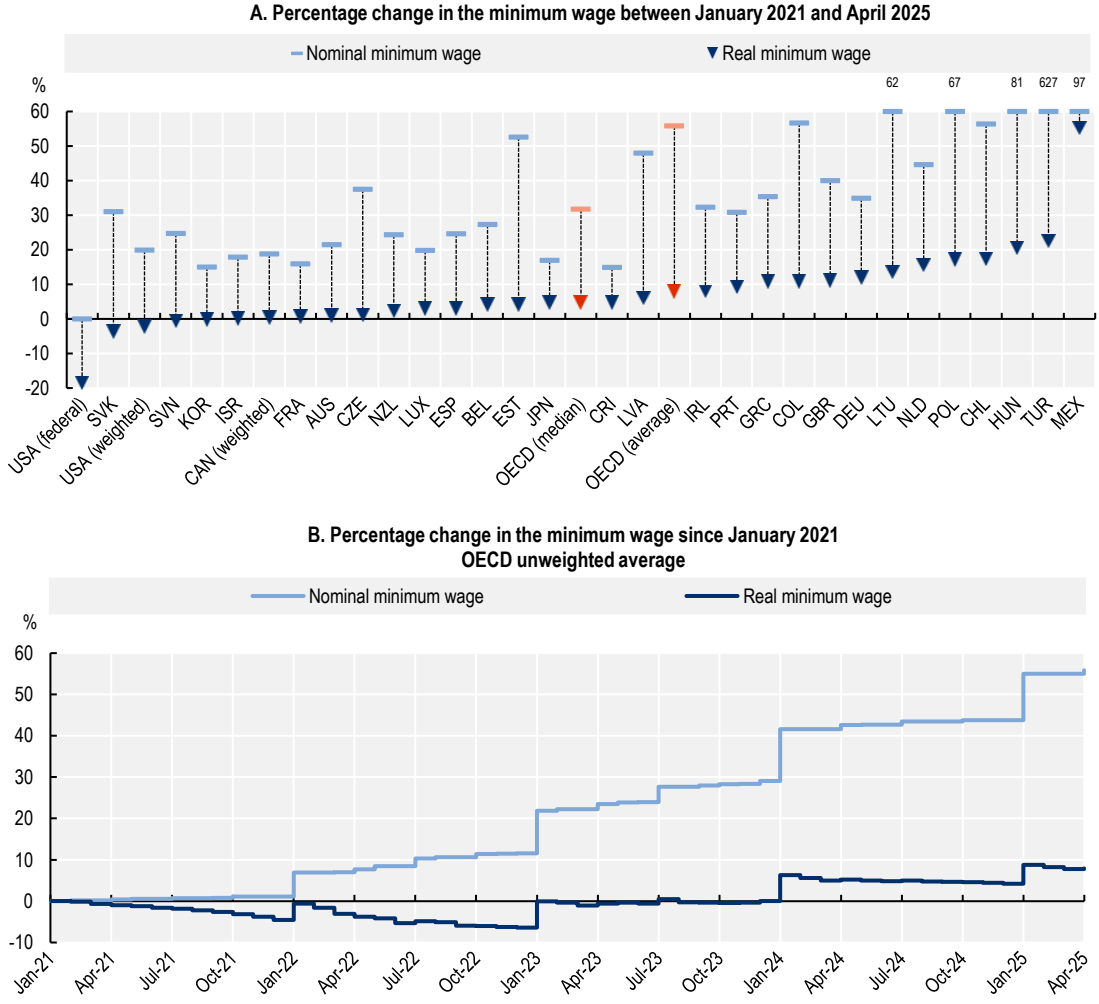
Minimum wages have been able to keep pace with inflation thanks to automatic or discretionary increases in the nominal minimum wage, introduced by countries to support the lowest earners during the cost-of-living crisis (Araki et al., 2023[4]). During 2022, the real gains resulting from these adjustments rapidly faded away on average across countries, as inflation continued to rise (Figure 1.18, Panel B). In 2023 and 2024, however, larger minimum wage adjustments and moderating inflation enabled the real minimum wage to catch up (in 2023) and exceed (in 2024) its January 2021 level on average across countries.

There are indications of a compression of the wage distribution at the bottom

In most OECD countries, statutory minimum wages have increased by more than median wages in recent years, favouring a compression of the wage distribution at the bottom. Figure 1.19 shows changes in the ratios of minimum wage to median wage (or Kaitz index) between 2021 and 2024. It shows an

increase in 22 of the 30 countries analysed. On average across the countries analysed, the Kaitz index rose from 55% in 2021 to 56.6% in 2024. This trend can be explained in part by the fact that wages negotiated in collective agreements generally need more time than the minimum wage to keep pace with inflation (Araki et al., 2023[4]), particularly in a context of weak productivity growth (OECD, 2024[22]) and a long-term trend of declining scope of collective agreements (OECD, 2019[23]).

Figure 1.18. Real minimum wages are above January 2021 levels in virtually all countries



Note: Change in real minimum wage in April 2025 compared to January 2021 for New Zealand (Panel A) is estimated by assuming that the CPI in April 2025 is the same as in Q1 2025. "OECD (average)" is the unweighted average of the 30 OECD countries shown except the United States (weighted) and "OECD (median) is the median values across the same countries. Canada (weighted) is a Laspeyres index based on minimum wage of provinces and territories (excluding the Federal Jurisdiction) weighted by the share of employees of provinces and territories in 2019. United States (weighted) is a Laspeyres index based on minimum wage of states (not including territories like Puerto Rico or Guam) weighted by the share of nonfarm private employees by state in 2019. For the Netherlands, the minimum wage is now defined in hourly terms, while it was defined on a daily, weekly and monthly basis before 1 January 2024. The hourly minimum wage before 2024 is therefore estimated based on the weekly (or daily) minimum wage of an employee usually working 40 hours per week (or 8 hours per day). See Appendix Table 1.C.1 of the 2024 employment outlook (OECD, 2024[24]) for more details on the calculations.

Source: OECD calculations based on national data and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 11 June 2025), and Monthly CPI Indicator (Australian Bureau of Statistics).

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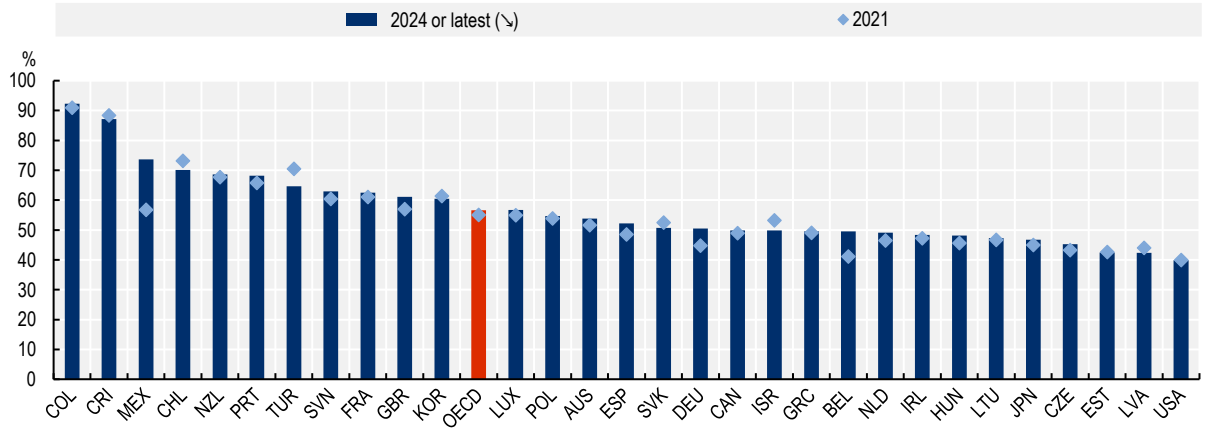
Figure 1.19. Statutory minimum wages have increased more than median wages in most countries

Gross minimum wage as a percentage of gross median wage of full-time workers



Note: The minimum wage for the United States is estimated by the sum of state-level minimum wages weighted by the number of nonfarm private sector employees in the state in 2019 from the State and Metro Area Employment, Hours, & Earnings published by the BLS. For the five states without a minimum wage (Alabama, Louisiana, Mississippi, South Carolina, and Tennessee), the federal minimum wage is used. This estimate does not take into account any exemptions or derogations in force in the states. OECD is the unweighted average of the 30 OECD countries shown. 2024 data are preliminary. Latest data available are from 2023 for Chile, Estonia, Greece, Hungary, Ireland, Israel, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain and Türkiye.
Source: OECD Data Explorer, "Minimum relative to average wages of full-time workers", http://data-explorer.oecd.org/s/2ay.

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In addition to the minimum wage, other factors may have influenced wage compression at the bottom of the distribution. Although empirical evidence is scarce for most countries, there are further indications of a compression of the wage distribution at the bottom in recent years in some countries (OECD, 2024[3]). Box 1.3 provides an insight into wage compression in two of these countries: France and the United States. While in France, minimum wage hikes and their spillovers to higher levels of the wage distribution were key in driving wage compression, in the United States the process was more generally driven by the tightening of the labour market.

In particular, a factor behind these trends may be that low-pay service sectors saw a particularly marked increase in labour demand and labour market tightness in the early recovery from the COVID-19 crisis (OECD, 2023[11]; Causa et al., 2022[25]), leading to significant labour shortages (although these tensions are now easing).

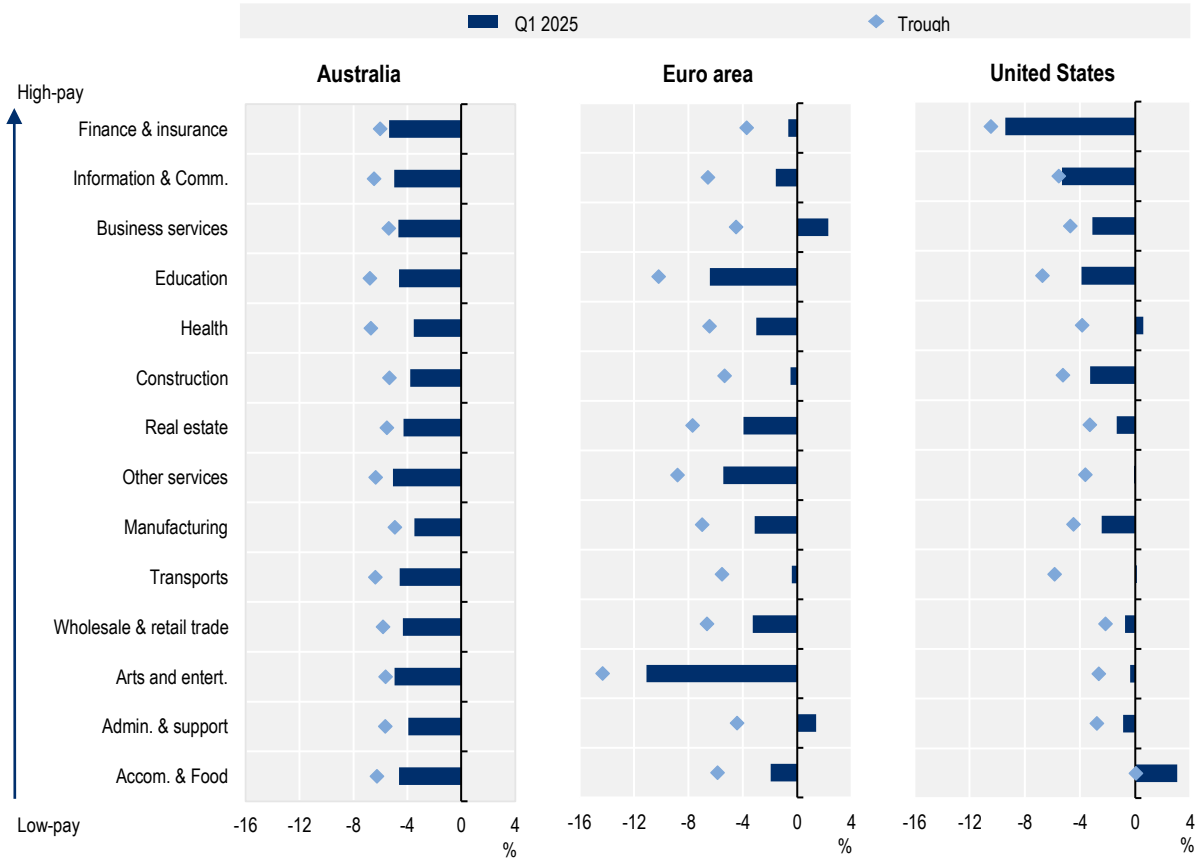
Yet, while there is a clear trend towards wage compression *between sectors* in the United States over the Q1 2021 - Q1 2025 period, this is not the case in Australia or in the euro area. In the United States, accommodation and food service activities is by far the sector with the strongest real wage growth (+3%) (Figure 1.20) – possibly due, at least in part, to the remarkable peak in sectoral labour market tightness for this sector over the period[15] (Section 1.2.1). This is also a sector where wages are relatively low. On the other hand, the five sectors with the biggest real wage declines are finance (-9.4% wage growth), followed by information and communication (-5.3%), education (-3.9%), construction (-3.3%), and business services (-3.1%), all sectors where wages tend to be relatively high. This wage compression had already begun during the post-pandemic inflation surge, when real wages fell more in higher-wage sectors; but it was reinforced by the fact that the subsequent wage recovery was weaker in some of these sectors. The picture is more mixed in the euro area, where two high-wage sectors (finance and business services) are among the sectors with the smallest wage reductions (or highest increases), while arts and entertainment, where

wages tend to be low, records the biggest wage decline. Similarly, in Australia, where wage growth is much more homogeneous across sectors, no pattern of wage compression emerges.

The situation is less clear-cut in some other OECD countries (Annex Figure 1.A.8). Some patterns of wage compression between sectors can be observed in Chile, Denmark, Iceland, Korea, Norway, Mexico and Poland, but they are significantly less marked than in the United States.

Figure 1.20. There is a clear trend towards wage compression between sectors in the United States but not in Australia and the euro area

Percentage change in real hourly wages since Q1 2021



Note: Nominal hourly wages refer to a constant-industry-structure "wages and salaries" component of the labour cost index for the Euro Area, and controls for additional occupational shifts for Australia and the United States. Real hourly wage is estimated by deflating the nominal hourly wage with the consumer price index (CPI-all items). The trough refers to the minimum value of the percentage change in real hourly wage since Q1 2021. Industries refer to the ANZSIC 2006 at the 1-digit level for Australia, the NACE Rev. 2 at the 1-digit level for the Euro Area and the NAICS for the United States and are therefore not fully comparable between these three countries. Changes in real wages in the Wholesale and retail trade industry in the United States refer to the employment-weighted averages of the wholesale and retail trade industries based on non-farm payroll employment in these industries in Q4 2005. Similarly, changes in real wages in the Arts and entertainment industry in the United States is derived from statistics for the Leisure and Hospitality industry and Accommodations and Food Service industry using non-farm payroll employment in these industries in Q4 2005. Industries are ranked by the median wage in 2018 in the European Structure of Earnings Survey (SES). The ranking of industries is broadly consistent when 2019 data on median wages from the Current Population Survey of the United States are used.

Source: OECD calculations based on the Wage Price Index (Australian Bureau of Statistics) for Australia; wages and salaries component of labour cost index by NACE Rev. 2 activity (Eurostat) for the Euro Area, the Employment Cost Index (U.S. Bureau of Labor Statistics) for the United States; and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw (accessed on 16 June 2025).

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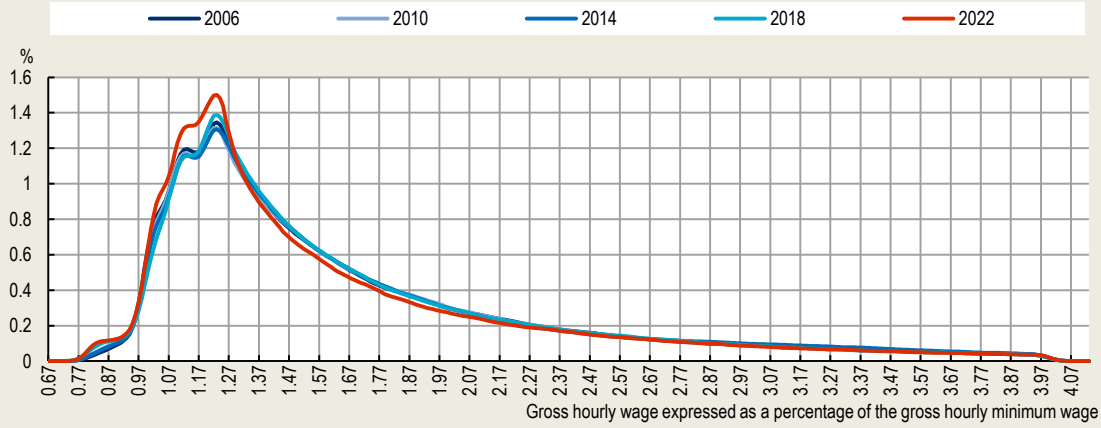
Box 1.3 The compression of the wage distribution in France and the United States may reflect different phenomena

The compression of the wage distribution in **France** since the COVID-19 crisis can be linked to the significant minimum wage increases over the period and their spillovers to higher levels of the wage distribution (Bozio and Wasmer, 2024[26]; Groupe d'experts sur le salaire minimum interprofessionnel de croissance, 2024[27]). Looking at the period 2006-22, there is a remarkable compression of the wage distribution between 2018 and 2022 (Figure 1.21), when the French minimum wage – *Salaire Minimum Interprofessionnel de Croissance (SMIC)* – increased dramatically to keep pace with high inflation – the SMIC is indexed to inflation, unlike other wages.

Figure 1.21. Distribution of gross hourly earnings expressed as a share of the minimum wage in France

Percentage of private sector employees aged 18-64 (main job)



Reading: In 2022, 1.5% of private sector employees aged 18-64 earn a gross hourly wage equivalent to 1.22 times the minimum wage.
Note: Statistics refer to private sector employees (excluding salaried self-employed) aged 18-64 in their main job (i.e. highest paid in terms of gross wage) in metropolitan France who earn less than 4 times the gross hourly minimum wage.
Source: Bozio and Wasmer (2024[26]), "Les politiques d'exonérations de cotisations sociales: une inflexion nécessaire [Social security contribution of social security contributions: A necessary change of direction]", www.strategie.gouv.fr/publications/mission-bozio-wasmer-politiques-dexonerations-de-cotisations-sociales-une-inflexion.

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In the **United States**, on the other hand, it was the tightening of the labour market rather than minimum wage increases that enabled some low-wage workers to benefit from substantial wage increases (Autor, Dube and McGrew, 2023[28]). Although likely amplified by the surge in tightness after the pandemic, these developments predate the COVID-19 crisis (Aeppli and Wilmers, 2022[29])[1] and might therefore still be at work despite the recent easing of tensions to pre-COVID-19 levels (Figure 1.7), leaving scope for further wage compression. For example, the latest compensation plan for employees of warehouse store company *Sam's club* (owned and operated by *Walmart*), implemented in November 2024, suggests that tensions might still be high for low-wage occupations in the retail sector. The new plan raised the hourly wages from USD 15 to USD 16 for entry-level workers, and increased wage growth by up to 6% depending on years of service.[2]

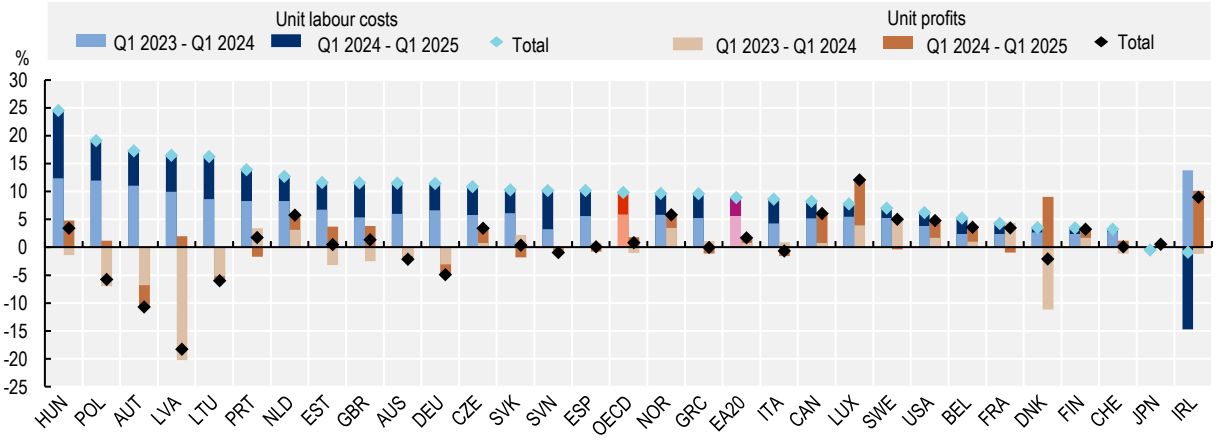
1. Aeppli and Wilmers (2022[29]) document a link at the local labour market level between pay increases for low-wage workers and the tightening of the labour market since the recovery from the global financial crisis.
2. www.reuters.com/business/retail-consumer/walmarts-sams-club-raise-hourly-pay-100000-workers-november-2024-09-17/.

1.3.3. As real wages keep on recovering, unit profits continue to lose the ground gained during the inflation surge

Unit labour costs[16] grew more than unit profits between Q1 2024 and Q1 2025 in most OECD countries (Figure 1.22), continuing a trend that began around Q1 2023 (OECD, 2024[3]). In fact, unit profits even fell over the period in around a third of the countries analysed. In Australia and in the euro area, the contribution of unit profits to domestic price pressures dropped over 2023 to early 2024 (mostly in Q2 2023 for Australia), then remaining at historically low levels (Figure 1.23).

Figure 1.22. Profits continue to buffer the increase in labour costs

Percentage change between Q1 2023 and Q1 2025, seasonally adjusted data



Note: OECD is the unweighted average of the 29 OECD countries shown in this Chart (not including Chile, Colombia, Costa Rica, Iceland, Israel, Korea, Mexico, New Zealand and Türkiye). Euro Area represents the 20 Eurozone countries. For Norway, the data are based on mainland Norway. Unit labour costs and unit profits are calculated by dividing compensation of employees and gross operating surplus respectively, by real GDP. For Japan and Norway, gross operating surplus is approximated by deducting compensation of employees from nominal GDP – and hence also include unit net taxes.

Source: OECD calculations based on OECD Data Explorer, "Quarterly GDP and components – income approach", http://data-explorer.oecd.org/s/2az (accessed on 10 June 2025), Cabinet Office, Government of Japan, Economic and Social Research Institute (ESRI) Quarterly Estimates of GDP for Japan, and Statistics Norway, Quarterly National Accounts for Norway.

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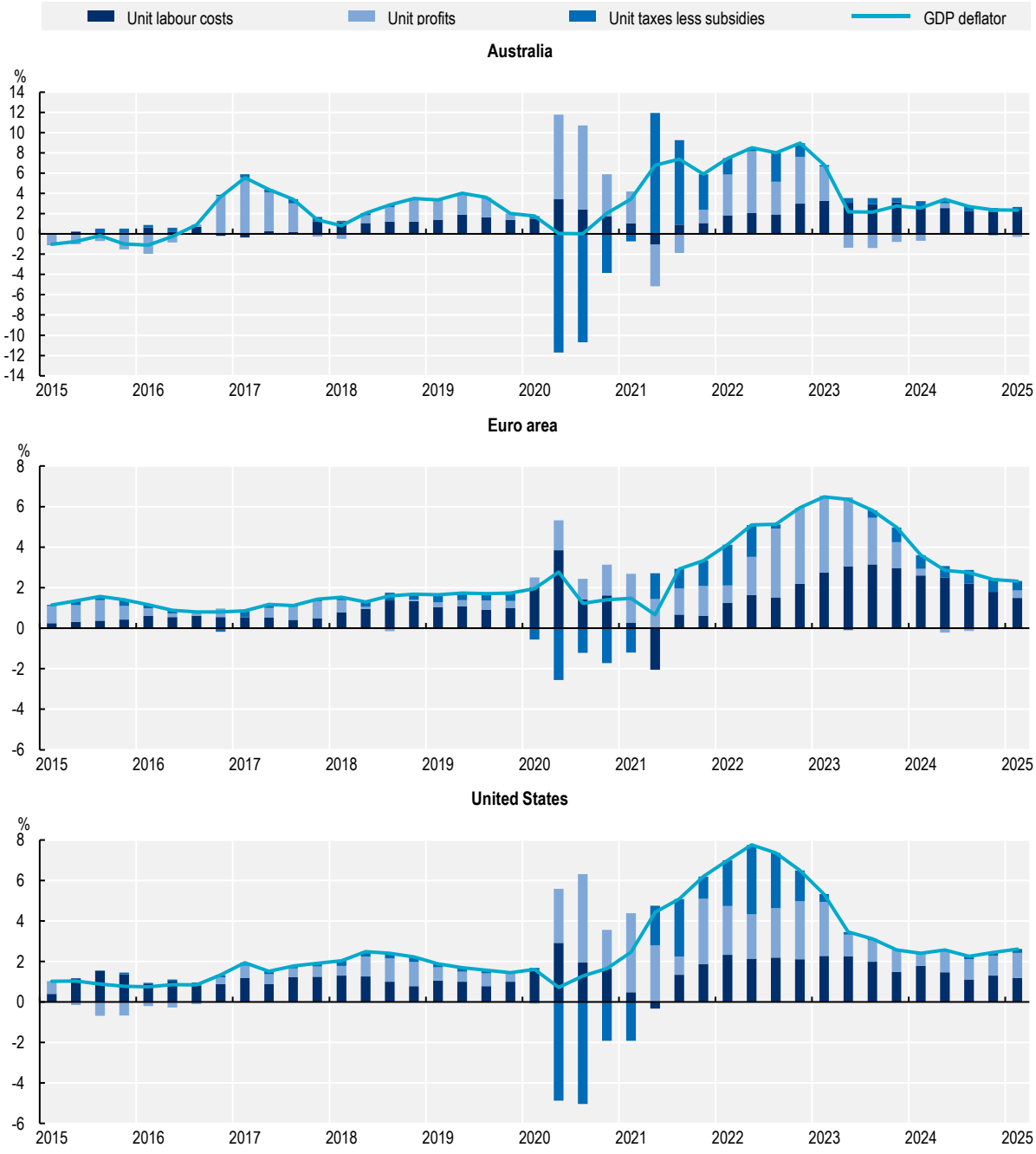
Figure 1.23. Unit profits continue to lose the ground gained during the inflation surge in Australia and the euro area

Contribution to the GDP deflator, year-on-year percentage changes, seasonally adjusted data



Note: Euro Area refers to 20 Eurozone countries. Unit labour costs, unit profits and unit taxes less subsidies are calculated by dividing compensation of employees, gross operating surplus and taxes less subsidies on productions and imports, respectively, by real GDP. Compensation of employees, gross operating surplus, taxes less subsidies on productions and imports, gross domestic products and deflators are denominated in local currencies. For the United States, changes in the GDP deflator are reported net of statistical discrepancies.

Source: OECD calculations based on OECD Data Explorer, "Quarterly GDP and components – income approach", http://data-explorer.oecd.org/s/2az (accessed on 10 June 2025).

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These developments reflect the catching-up of purchasing power by wages, rather than a warning sign of price-wage spirals. On the one hand, unit profits continue to lose the ground gained during the inflation surge of 2021-22, when they were making an unusually large contribution to domestic price pressures (Araki et al., 2023[4]). On the other hand, wage pressures are expected to ease over the second half of 2025[17] (Bates, Bodnár and Schlieker, 2024[30]).

The United States stands out from the above trends, with unit profits growing slightly more than unit labour costs (albeit at a modest pace) between Q1 2024 and Q1 2025 (Figure 1.22). Looking further back, the relative contribution of unit profits to domestic price pressures in the United States has stabilised in late 2023 around pre-pandemic levels, following a sharp fall in early 2023 (Figure 1.23).

1.4. Concluding remarks

OECD labour markets have continued to show resilience over the past year despite a significant slowdown in economic activity in most OECD countries. Employment and labour force participation have reached record highs, while unemployment remains historically low. However, there are signs of weakening labour markets, with employment growth decelerating and labour market tightness in many countries and sectors falling back to pre-COVID-19 levels, although labour shortages remain.

There is some evidence that the exceptionally tight labour markets during the recovery period may have affected part-time employment patterns: involuntary part-time work has declined, while voluntary part-time – by men in particular – has increased. Whether these trends reflect a temporary adjustment phase, or persistent changes will depend on the evolution of unemployment and labour market tightness, as well as the lasting effects of the pandemic on gender norms.

Despite the easing of labour market tightness, real wages are now growing virtually everywhere in the OECD, but their levels remain below the levels seen in early 2021 – just before the post-pandemic inflation surge – in half of OECD countries. The wages of the lowest-paid workers have held up particularly well, as real statutory minimum wages were increased since then in virtually all the 30 OECD countries with a national minimum wage. As real wages continue to recover, unit profits continue to lose the ground gained since 2021.

Looking ahead, geopolitical uncertainties and hikes in tariff rates are expected to affect economic activity, and bring back the risk of high inflation. Employment and social policies (e.g. unemployment insurance, social assistance, active labour market policies, collective bargaining) will be essential to address the potential negative consequences of these shocks on employment. In addition, in the context of limited risks of a price-wage spiral – with wage pressure expected to ease in 2025 –, well-designed and implemented collective bargaining and social dialogue have a role to play in ensuring that the cost of inflation is fairly distributed between workers and employers (and between workers at different wage levels).

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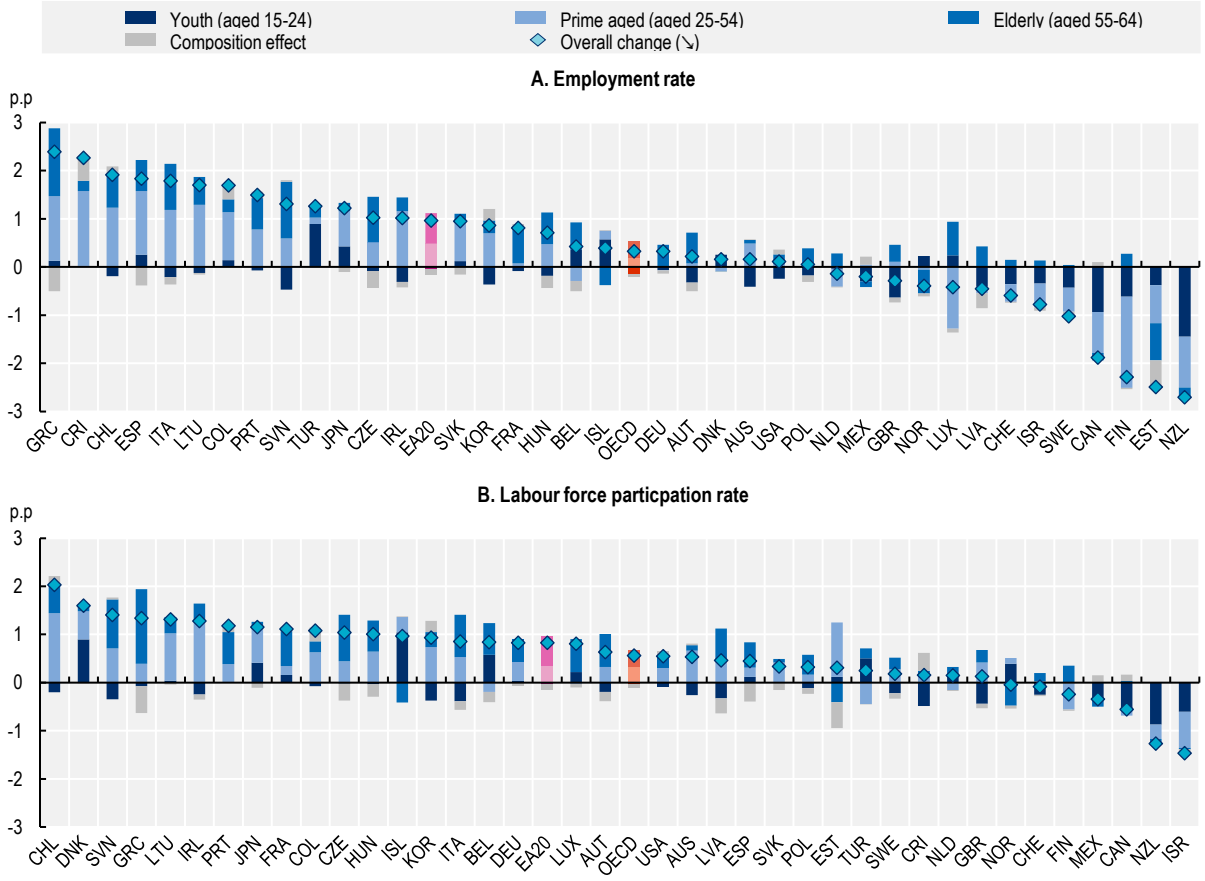
Annex 1.A. Additional results

Annex Figure 1.A.1. Employment rates have increased for prime aged and older individuals but not for the young

Decomposition of the overall change in the employment rate and labour force participation rate (persons aged 15-64) by age group between Q1 2023 and Q1 2025



Note: OECD is the unweighted average of the 38 OECD countries shown in this chart. Euro Area refers to the 20 Eurozone countries. p.p.: percentage point.

Source: OECD Data Explorer, "Employment rate", http://data-explorer.oecd.org/s/2b0 and "Labour force participation rate", http://data-explorer.oecd.org/s/2b1 (accessed on 17 June 2025).

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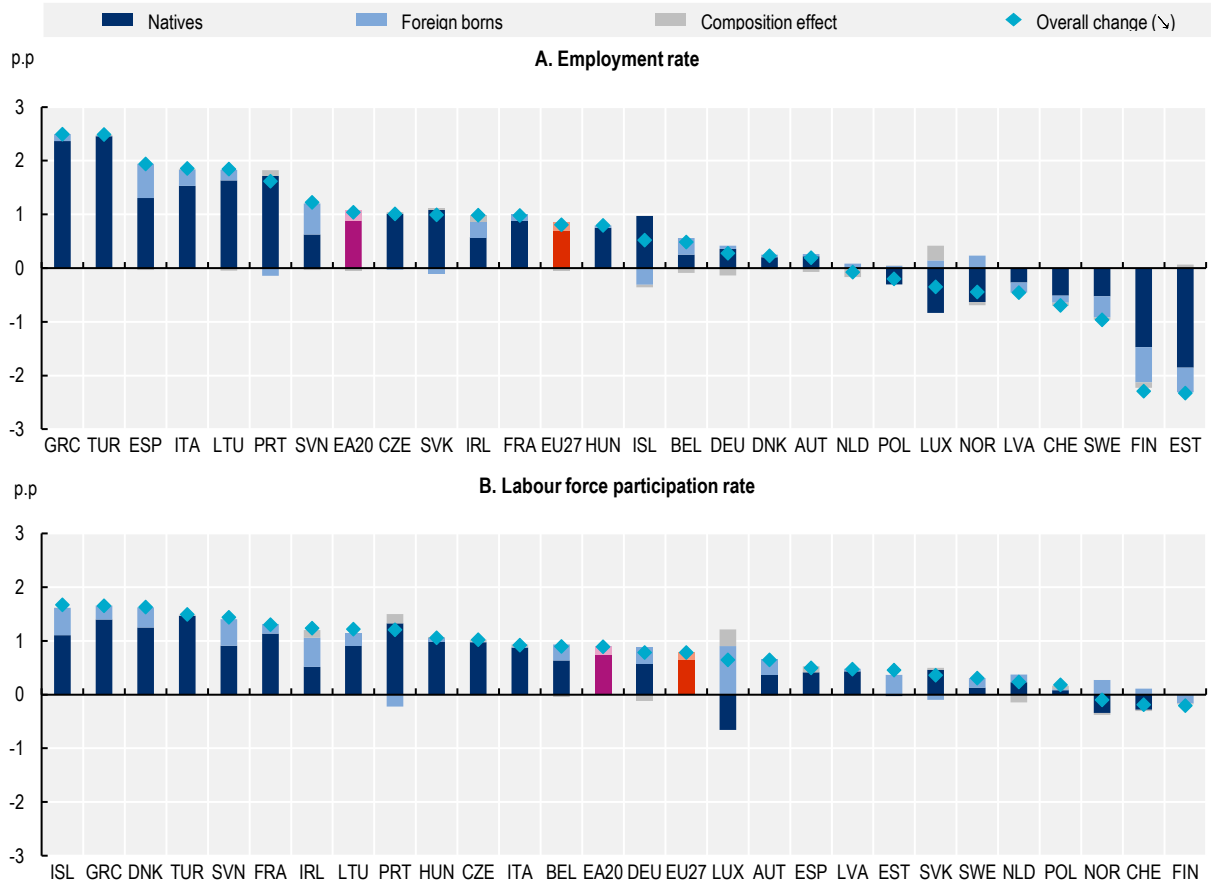
Annex Figure 1.A.2. The share of working-age migrants in employment has increased

Decomposition of the overall change in the employment rate and labour force participation rate (persons aged 15-64) by country of birth between Q1 2023 and Q1 2025



Note: Euro Area refers to the 20 Eurozone and European Union to the 27 EU member countries. Statistics for Türkiye refer to Q4 2022 and Q4 2024. p.p.: percentage point.

Source: OECD calculations based on Eurostat, Population by sex, age, country of birth and labour status (Table lfsq_pgacws), https://doi.org/10.2908/LFSQ_PGACWS (accessed on 13 June 2025).

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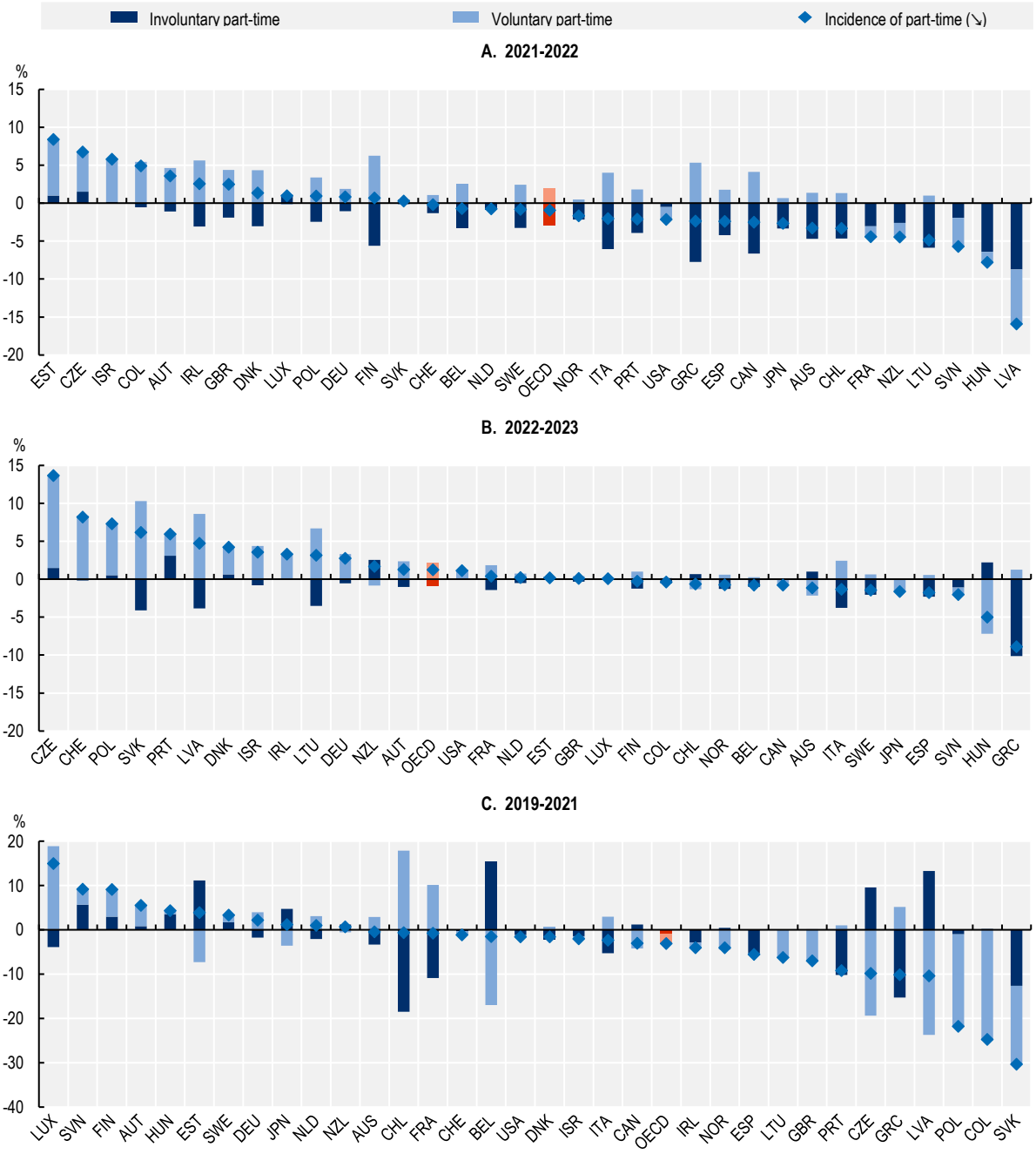
Annex Figure 1.A.3. Change in the incidence of part-time employment, alternative periods

Percentage change in the incidence of part-time employment in total employment (persons aged 15-64)



Note: Involuntary part-time employment refers to part-time workers who could not find full-time job. Part-time employment is based on national definitions. OECD is the unweighted average of the 33 OECD countries shown (not including Costa Rica, Iceland, Korea, Mexico and Türkiye).
Source: OECD calculations based on OECD Data Explorer, "Incidence of full-time and part-time employment based on national definitions", http://data-explorer.oecd.org/s/2au, and "Incidence of involuntary part time employment", http://data-explorer.oecd.org/s/2av.

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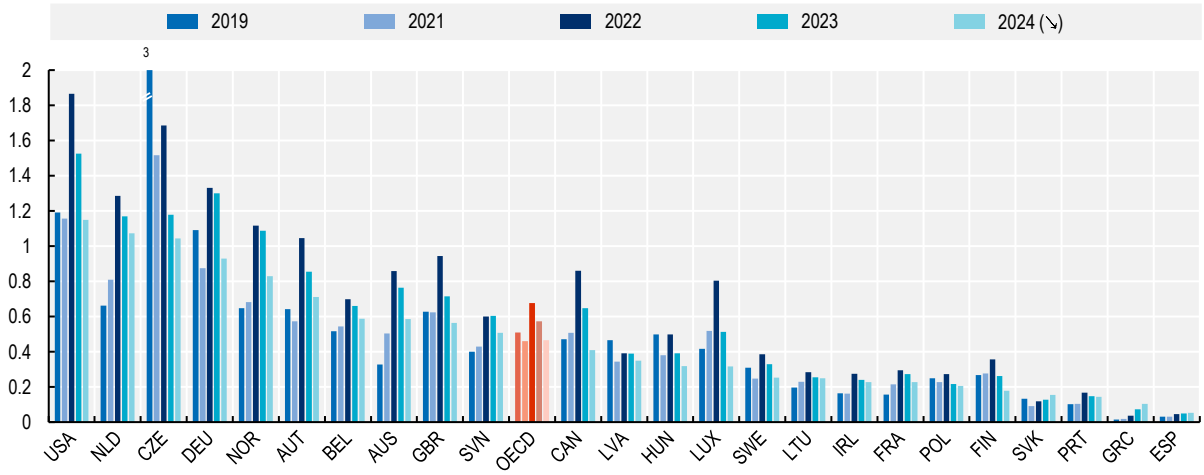
Annex Figure 1.A.4. Labour market tightness increased sharply between 2021 and 2022

Vacancies per unemployed person, national definitions



Note: OECD is the unweighted average of the 23 OECD countries shown (not including Chile, Colombia, Costa Rica, Czechia, Denmark, Estonia, Iceland, Israel, Italy, Japan, Korea, Mexico, New Zealand, Switzerland and Türkiye). Statistics do not include vacancies in the public administration, defense and compulsory social security. For further details on the national definitions of job vacancies, see Figure 1.7.
Source: Job Vacancies (ABS) for **Australia**; Job vacancies, payroll employees, and job vacancy rate (Statistics Canada) for **Canada**; Eurostat, Job vacancy statistics by NACE Rev.2 activity (Table jvs_q_nace2) for the **European countries**; Vacancy Survey (ONS) for the **United Kingdom**; and Job Openings and Labor Turnover Survey (Bureau of Labor Statistics, retrieved from FRED) for the **United States**.

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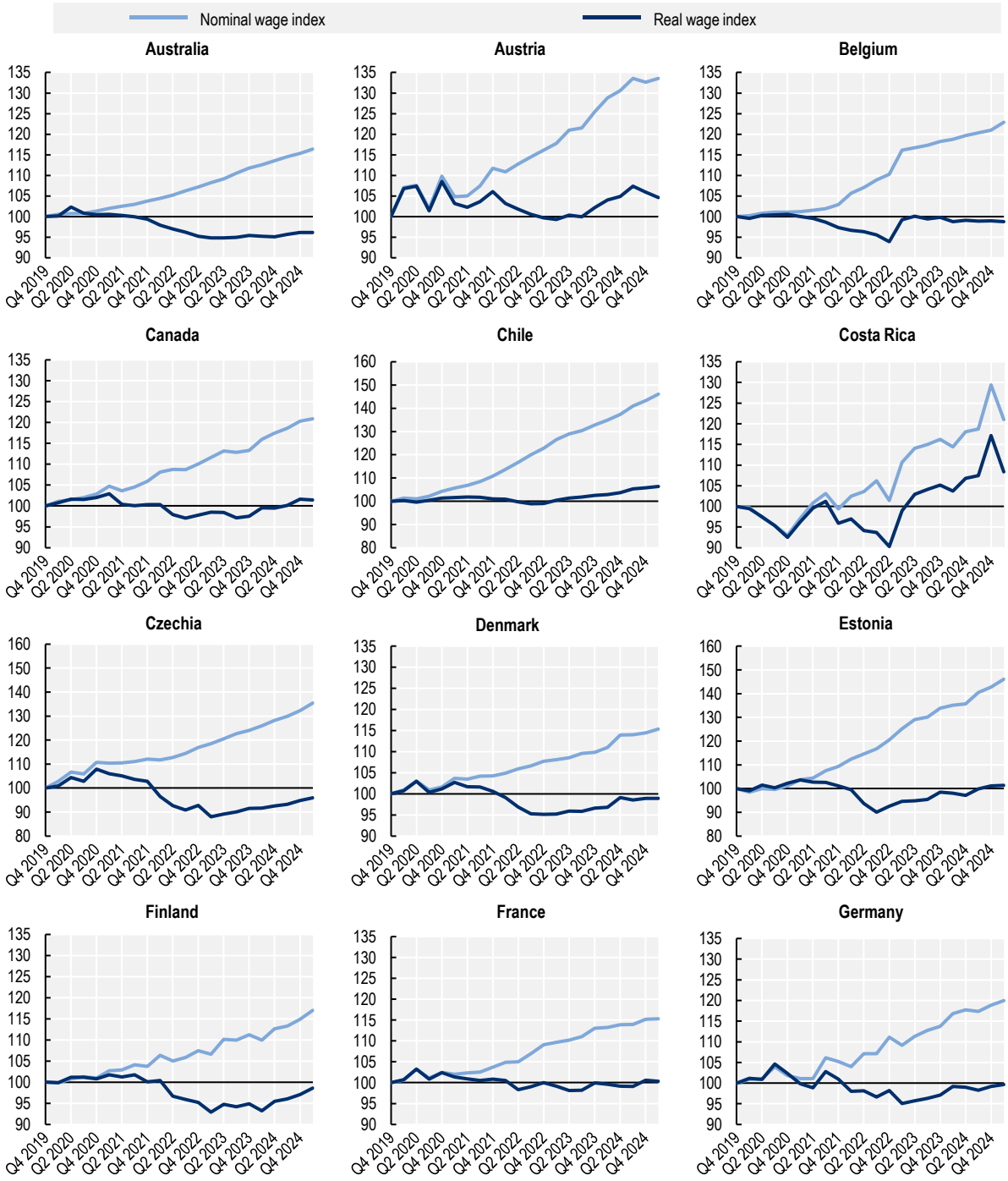
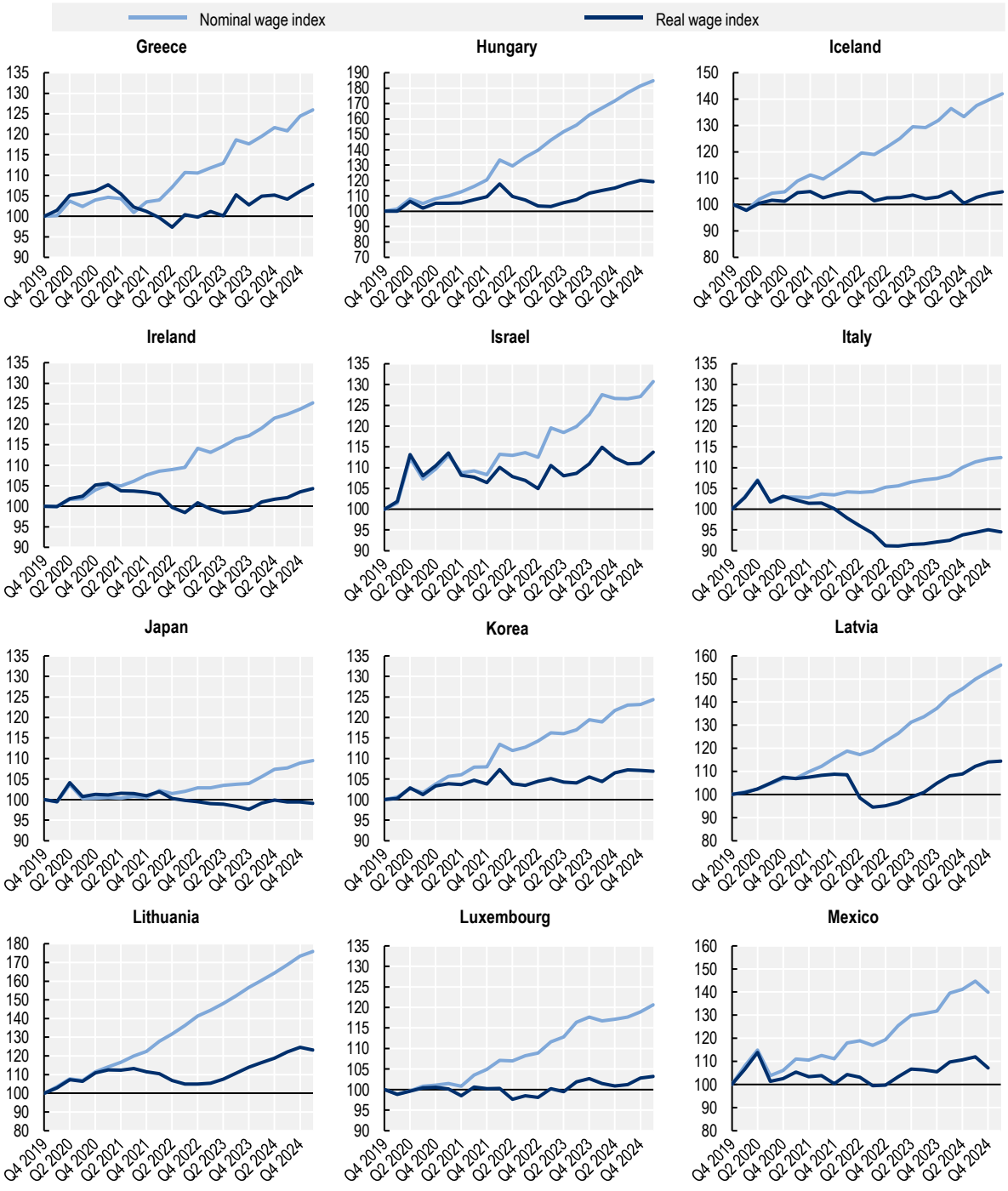
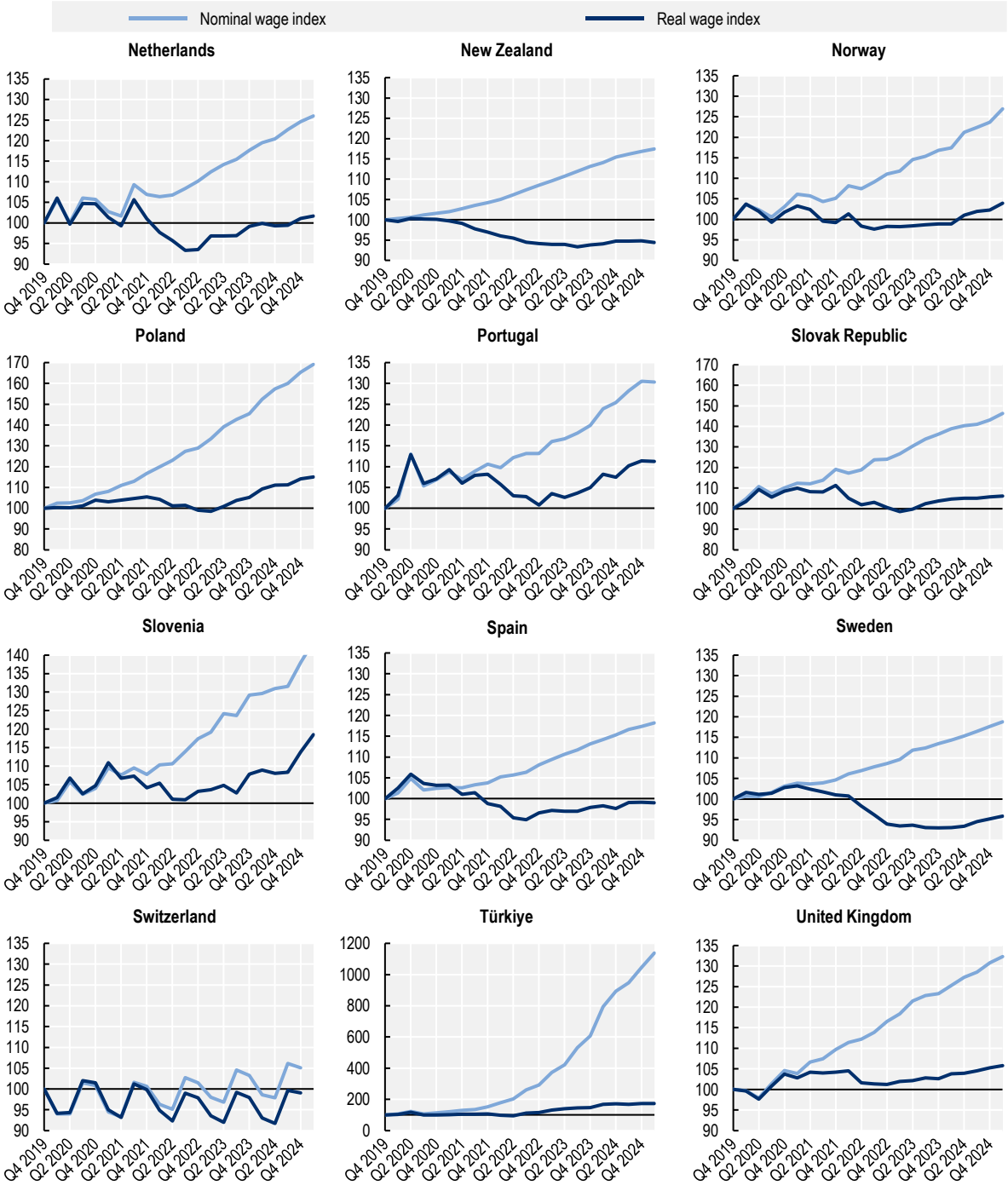
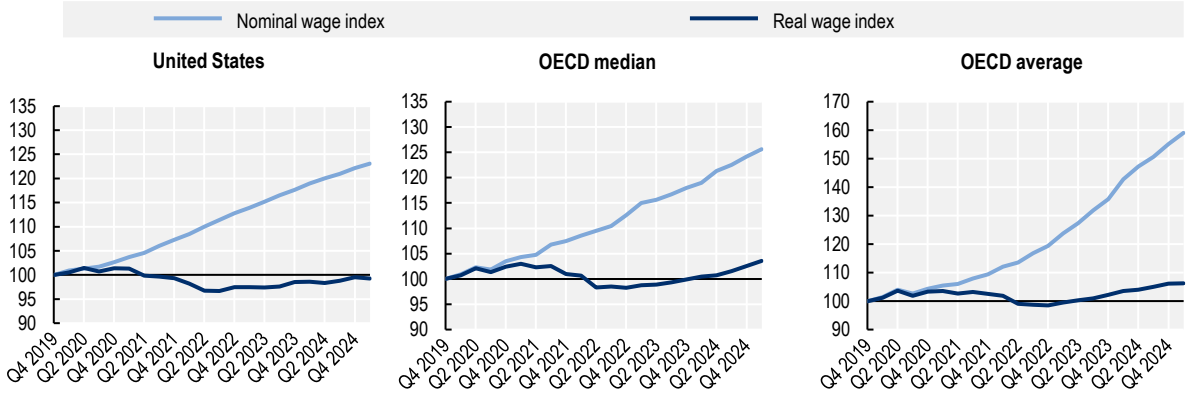
Annex Figure 1.A.5. Nominal and real wage index by country since Q4 2019

Index base 100 in Q4 2019




Nominal wage index
Real wage index
Greece
Hungary
Iceland
Ireland
Israel
Italy
Japan
Korea
Latvia
Lithuania
Luxembourg
Mexico


Nominal wage index
Real wage index
Netherlands
New Zealand
Norway
Poland
Portugal
Slovak Republic
Slovenia
Spain
Sweden
Switzerland
Türkiye
United Kingdom



Note: Otherwise indicated, nominal hourly wages refer to a constant-industry-structure "wages and salaries" component of the labour cost index. For Costa Rica and Mexico, the adjustment for constant-industry-structure of the average hourly earnings has been estimated by the OECD. Statistics refer to the private sector only for Costa Rica, Japan, Korea, Mexico and the United States. For Türkiye, statistics exclude public administration and defence; compulsory social security; education; human health and social work activities; arts, entertainment and recreation; and other service activities. Nominal wage series are seasonally adjusted for all countries except for Canada, Costa Rica, Israel, Mexico, New Zealand and Switzerland. Statistics for Chile refer to regular hourly wages, excluding overtime and bonuses. Nominal hourly wage presents a significant amount of unreported income for Mexico, with a notable increase in Q1 2025.

Nominal hourly wage refers to the actual wage i.e. without any adjustment for sources of compositional shifts for Israel, Japan, Korea and the United Kingdom, and thus comparing these results with the other countries requires caution. Moreover, nominal hourly wage refers to the average monthly wages per employee job for Israel, and to the average weekly earnings for the United Kingdom.

Nominal hourly wage controls for additional sources of compositional shifts, such as regions for Australia, Canada, Chile and New Zealand, job characteristics and workers' characteristics for Australia, Chile and New Zealand, gender for Chile and Switzerland, and occupations for Chile and the United States. Real hourly wage is estimated by deflating the nominal hourly wage by the consumer price index (CPI-all items).

"OECD (average)" and "OECD (median)" are the unweighted average and the median, respectively, of 37 OECD countries (not including Colombia).

Source: OECD calculations based on the Wage Price Index (Australian Bureau of Statistics) for Australia; the Fixed weighted index of average hourly earnings for all employees (Statistics Canada) for Canada; the Índice de Remuneraciones y de Costos Laborales (Instiuto Nacional de Estadística) for Chile; the Encuesta Continua de Empleo (Instituto Nacional de Estadística y Censos) for Costa Rica; the Labour cost index by NACE Rev. 2 activity (Eurostat) for the European countries except the United Kingdom; the Wages and Employment Monthly Statistics (Central Bureau of Statistics) for Israel; the Labour Force Survey at Establishments (Ministry of Employment and Labour) for Korea; the Monthly Labour Survey (Ministry of Health, Labour and Welfare) for Japan; the Encuesta Nacional de Ocupación y Empleo y Encuesta Nacional de Ocupación y Empleo Nueva Edición (Instituto Nacional de Estadística y Geografía) for Mexico; the Labour Cost Index (Stats NZ) for New Zealand; the Swiss Wage Index (Federal Statistical Office) for Switzerland; the Labour Cost Index (TUIK) for the Republic of Türkiye; the Monthly Wages and Salaries Survey (Office for National Statistics) for the United Kingdom; and Employment Cost Index (Bureau of Labor Statistics) for the United States. OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 16 June 2025).

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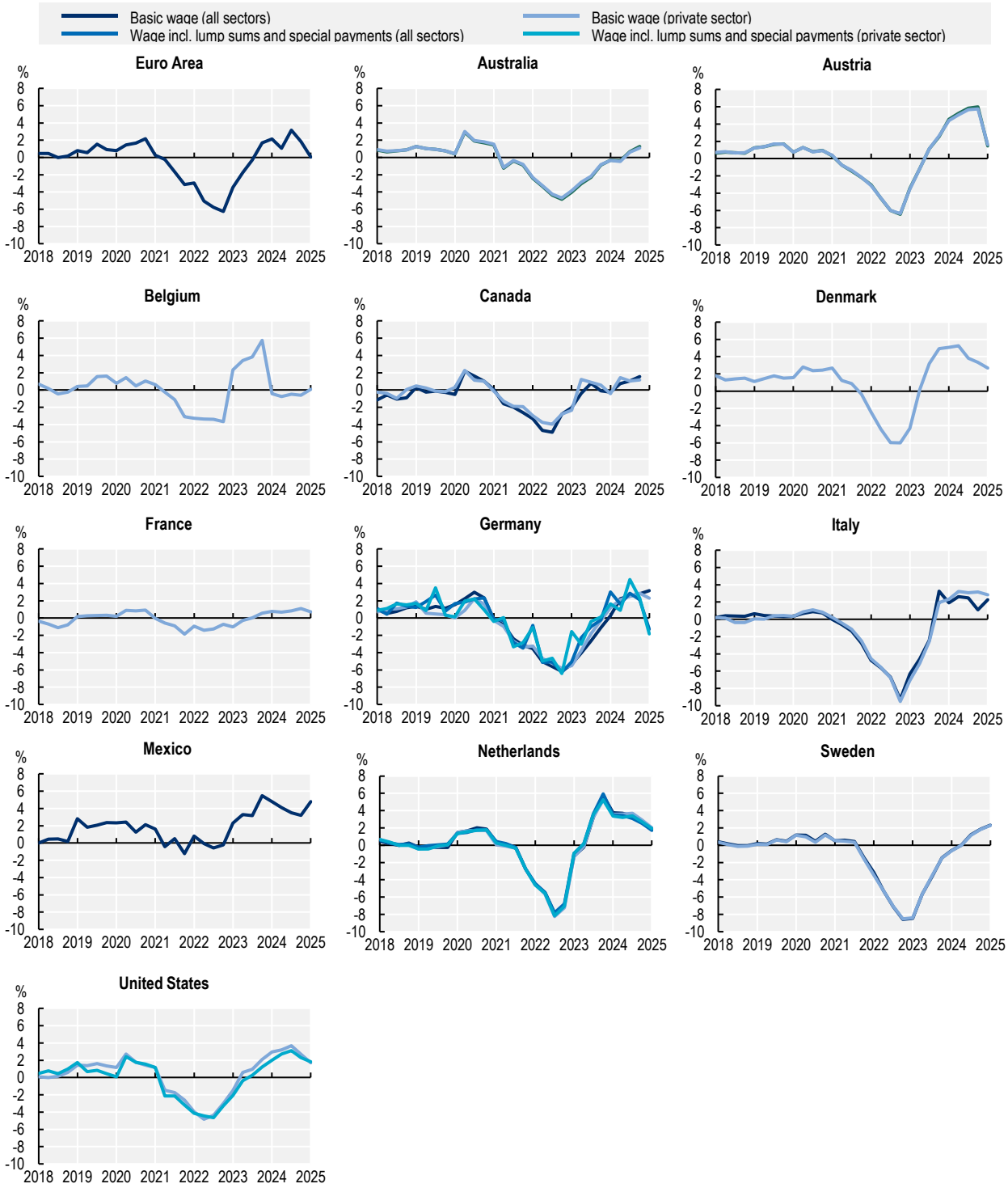
Annex Figure 1.A.6. Growth in real wages in selected OECD countries resulting from collective agreements

Year-on-year percentage change, Q1 2018 to Q1 2025

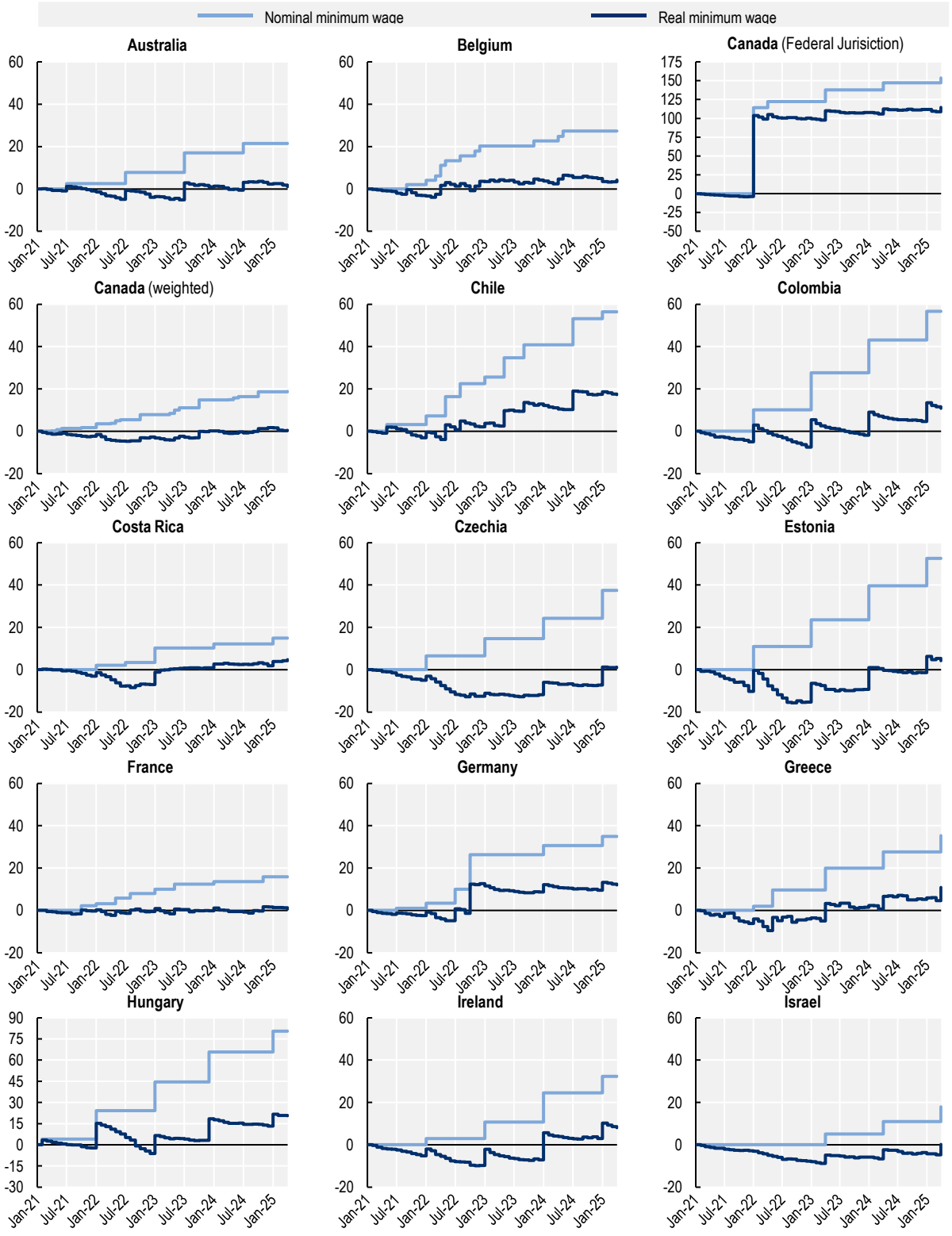


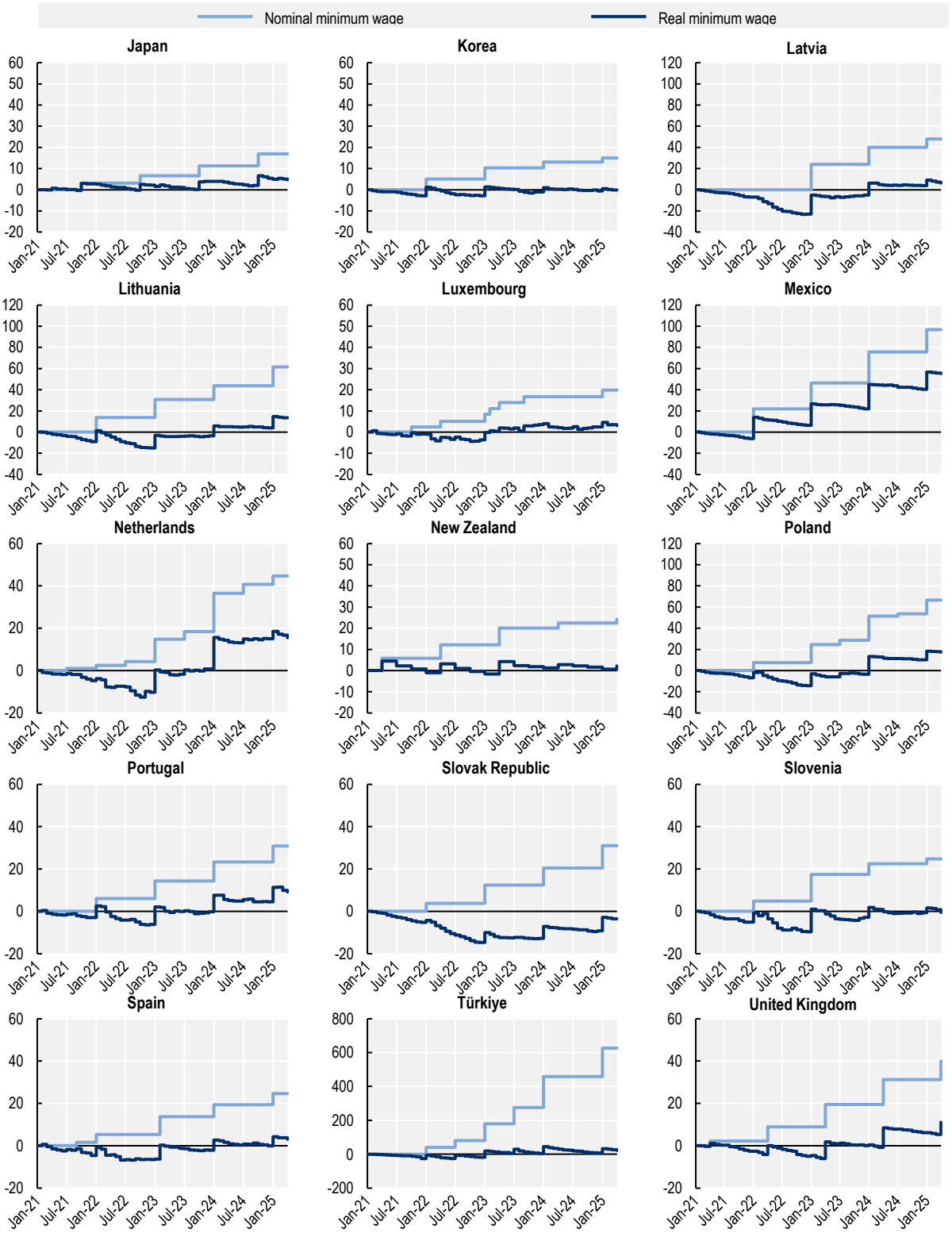
Note: International comparability of data on negotiated wages is affected by differences in definitions and measurement. Statistics are representative of all employees covered by a collective wage agreement for Austria, Belgium, the Euro Area (20), France, Germany, Italy, the Netherlands, Sweden and the United States. In Canada, statistics refer to collective bargaining settlements of all bargaining units covering 500 or more employees (units of 100 or more employees for the Federal Jurisdiction). In Denmark, statistics refer to collective agreements negotiated by the main union and employer confederations, FH and DA, and do not cover public sector employees and the academic unions (AC). For Australia, Canada and Mexico statistics refer only to employees affected by an increase of the negotiated wage at date. For Denmark, wage increases cover basic wages, employer pension contributions, "fritvalg" (flexible benefit) accounts, and other collectively agreed elements (e.g. wages in the event of sickness absence or maternity/paternity leave) from the five major sectoral collective agreements (the "breakthrough agreements") that set the financial framework for the subsequent minimum wage agreements or standard wage agreements to be negotiated in the private sector. Calculations are based on the assumption of full relative pass-through of centrally negotiated wage rates to actual wage adjustments (i.e. a 1% increase in the minimum wage or standard wage rate leads to a 1% increase in locally negotiated wages higher up the wage distribution). Wage increases in Austria, Belgium, the Euro Area (20), Germany, Italy, the Netherlands, Sweden and the United States refers to the average increase in negotiated wages weighted by the employment composition for a reference year (Laspeyres index). The reference year of the employment composition used is 2009 for Sweden, 2010 for Belgium, 2015 for Germany and Italy, 2016 for Austria, 2020 for the Netherlands, 2021 for the United States, and January 2023 for the Euro Area (20). For Australia, Canada, France and Mexico wage increases refer to the average increase in negotiated wages weighted by the number of employees affected of the period considered. Private sector in Germany refers to all industries excluding agriculture, public administration, education, health, and other personal services (Sections B to N of the NACE rev. 2).
Source: OECD calculations based on national data on negotiated wages and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 11 June 2025).

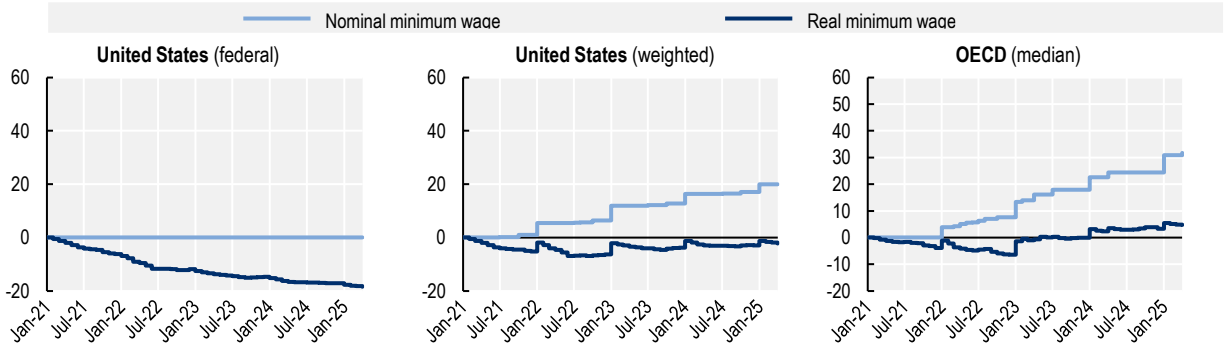
StatLink https://stat.link/bsf4gj

Annex Figure 1.A.7. Minimum wage evolution, January 2021 to April 2025

Nominal and real minimum wage, percentage change since January 2021




Nominal minimum wage
Real minimum wage
Japan
Korea
Latvia
Lithuania
Luxembourg
Mexico
Netherlands
New Zealand
Poland
Portugal
Slovak Republic
Slovenia
Spain
Türkiye
United Kingdom
Jan-21
Jul-21
Jan-22
Jul-22
Jan-23
Jul-23
Jan-24
Jul-24
Jan-25



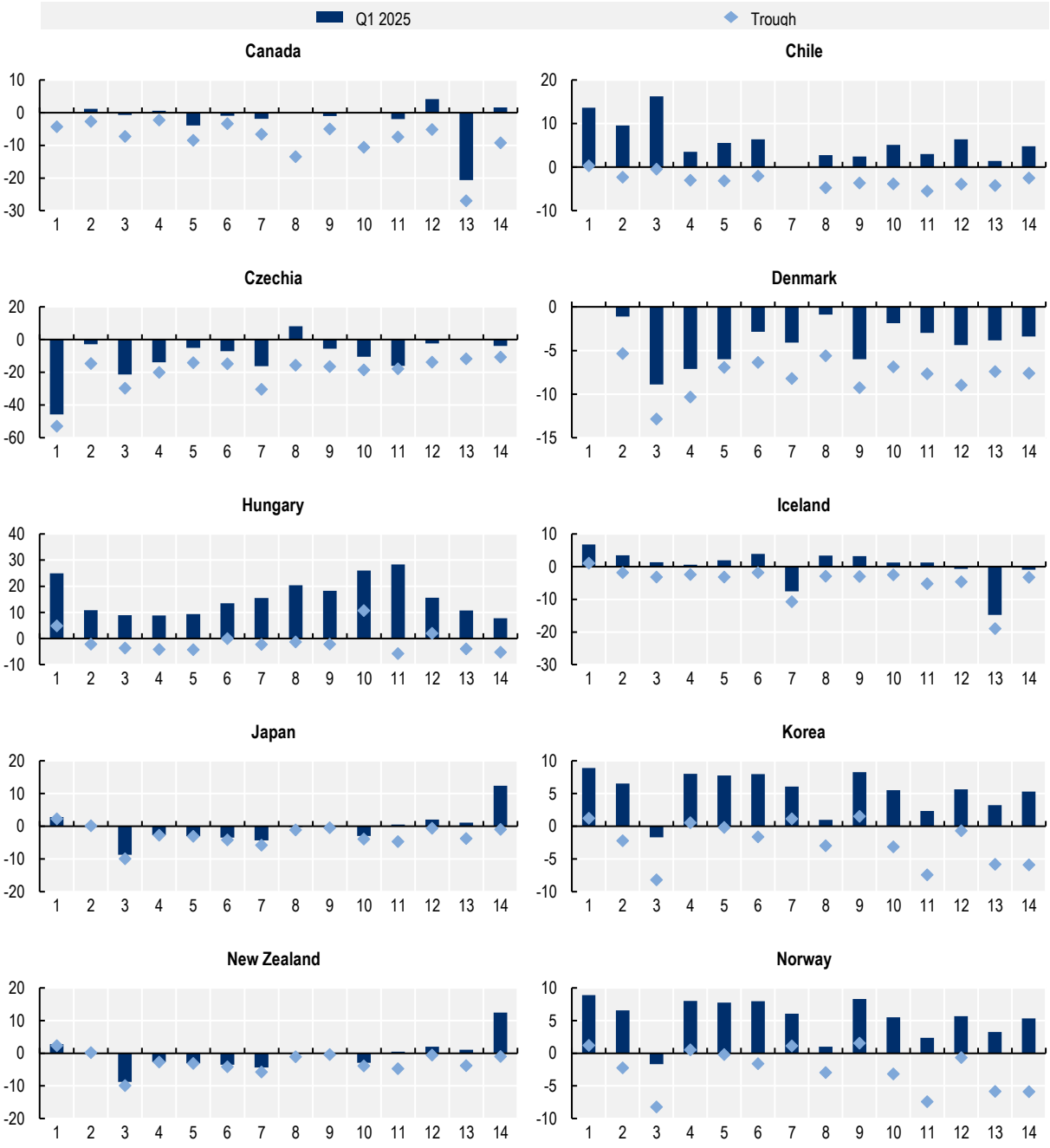
Note: Canada (weighted) is a Laspeyres index based on minimum wage of provinces and territories (excluding the Federal Jurisdiction) weighted by the share of employees of provinces and territories in 2019. United States (weighted) is a Laspeyres index based on minimum wage of states (not including territories like Puerto Rico or Guam) weighted by the share of nonfarm private employees by state in 2019. Changes in nominal minimum wage in Belgium in April and May 2022 relate to the transition to a single rate for workers aged 18 and over. "OECD (median)" is the median across the 30 OECD countries with statutory minimum wage (not including the Canada Federal Jurisdiction and the weighted average for the United States). Change in real minimum wage in April 2025 for New Zealand is estimated by assuming that the CPI is the same as in Q1 2025. For the Netherlands, the minimum wage is now defined in hourly terms, while it was defined on a daily, weekly and monthly basis before 1 January 2024. The hourly minimum wage before 2024 is therefore estimated based on the weekly (or daily) minimum wage of an employee usually working 40 hours per week (or 8 hours per day). See Appendix Table 1.C.1 of the 2024 employment outlook (OECD, 2024[24]) for more details on the calculations.

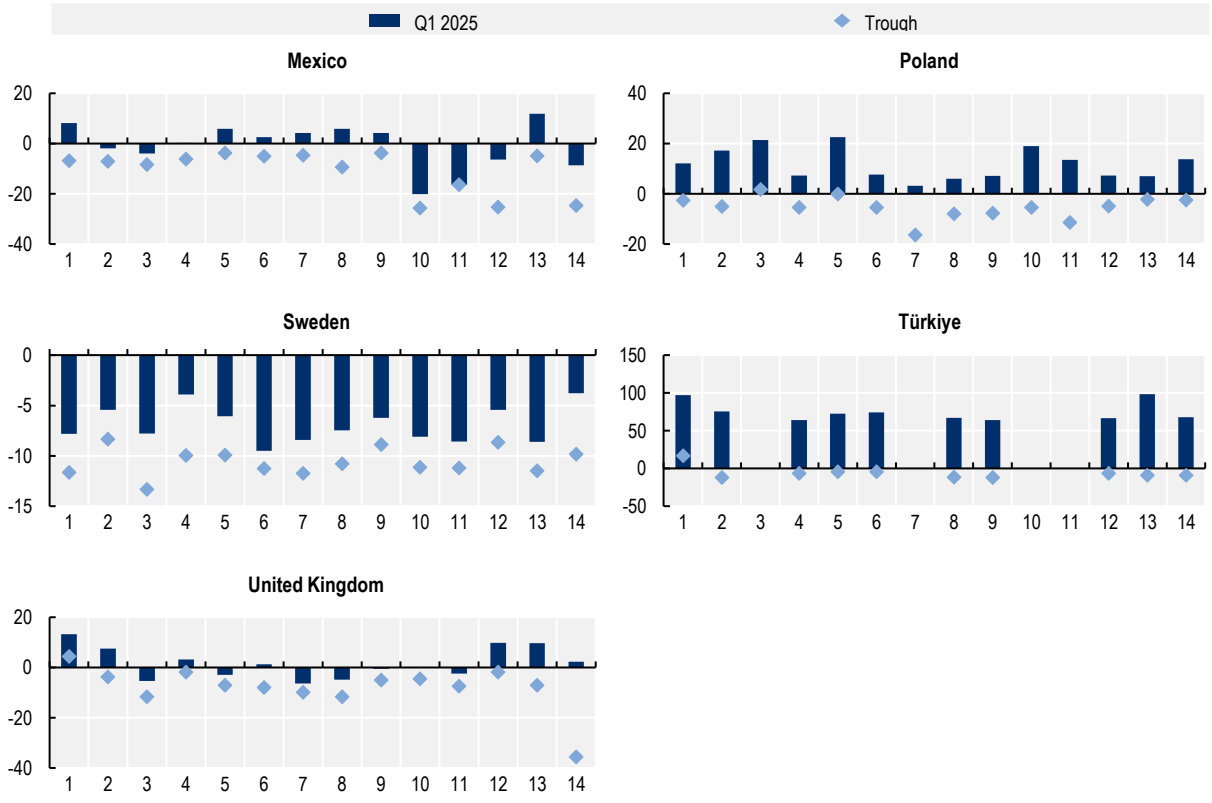
Source: OECD calculations based on national data and OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw, "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 11 June 2025), and Monthly CPI Indicator (Australian Bureau of Statistics).

StatLink https://stat.link/ousea2

Annex Figure 1.A.8. Change in real wage by industry in some non-euro area OECD countries

Percentage change in real hourly wages since Q1 2021





Note: Real wages are obtained by deflating nominal wages by consumer price inflation (all items). Industries are ranked by the median wage in 2018 in the European Structure of Earnings Survey (SES). The ranking of industries is broadly consistent when 2019 data on median wages from the Current Population Survey of the United States are used.

Industries are ordered from low- to high-pay industries as follows: **1.** Accommodation and food service, **2.** Administrative and support service, **3.** Arts, entertainment and recreation, **4.** Wholesale and retail trade; **5.** Transportation and storage, **6.** Manufacturing, **7.** Other service, **8.** Real estate activities, **9.** Construction; **10.** Human health and social work, **11.** Education, **12.** Professional activities, **13.** Information and communication, and **14.** Finance and insurance.

Series are not seasonally adjusted for Canada, Chile, Japan, Korea, Mexico and the United Kingdom. Statistics for the accommodation and food service sector are not available for Denmark. For Türkiye, statistics exclude public administration and defence; compulsory social security; education; human health and social work activities; arts, entertainment and recreation; and other service activities. Nominal hourly wage presents a significant amount of unreported income for Mexico, with a notable increase in Q1 2025, and hence statistics refer to the period Q1 2021 to Q4 2024. The trough refers to the quarter where real hourly wages were at their lowest value for the indicated industry since Q1 2021.

Source: OECD calculations based on the Wage Price Index (Australian Bureau of Statistics) for Australia; Fixed weighted index of average hourly earnings for all employees (Statistics Canada) for Canada; the Labour cost index by NACE Rev. 2 activity (Eurostat) for Czechia, Denmark, Hungary, Iceland, Norway, Poland and Sweden; Monthly Labour Survey (Japanese Ministry of Health, Labour and Welfare) for Japan; Labour Force Survey at Establishments (Korean Ministry of Employment and Labour) for Korea; Nacional de Ocupación y Empleo, Encuesta Telefónica de Ocupación y Empleo, Encuesta Nacional de Ocupación y Empleo Nueva Edición (Instituto Nacional de Estadística y Geografía, Mexico) for Mexico; Labour Cost Index (Statistics New Zealand) for New Zealand; and Monthly Wages and Salaries Survey (UK Office for National Statistics) for the United Kingdom; OECD Data Explorer, "Consumer price indices (CPIs, HICPs), COICOP 1999", http://data-explorer.oecd.org/s/2aw and "Consumer price indices (CPIs), COICOP 2018", http://data-explorer.oecd.org/s/2ax (accessed on 16 June 2025).

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Notes

[1] https://ec.europa.eu/eurostat/databrowser/view/ei_bsse_q_r2__custom_16762528/default/table and https://ec.europa.eu/eurostat/databrowser/view/ei_bsin_q_r2__custom_16762125/default/table.

[2] *Indeed* data are subject to a number of limitations, including the over-representation of high-skilled jobs and the under-representation of low skilled jobs, jobs posted by small firms and the agricultural sector. Nevertheless, there is evidence that job postings at the aggregate level tend to track well with job vacancies from government sources (Adrjan and Lydon, 2023[32]; Adrjan et al., 2021[34]; Bellatin and Galassi, 2022[33]; Ciminelli et al., 2024[35]).

[3] In Canada, there is evidence that the decline in the number of job vacancies observed since the summer of 2022 stopped towards the end of the summer of 2024, and has remained relatively stable since then, although certain sectors, such as healthcare and education, have continued to post higher number of job offers (see https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410040001&cubeTimeFrame.startMonth=01&cubeTimeFrame.startYear=2015&cubeTimeFrame.endMonth=10&cubeTimeFrame.endYear=2024&referencePeriods=20150101%2C20241001).

[4] In Europe, due to short-time work, unemployment was artificially depressed at the start of the pandemic, without any real change of matching efficiency. The opposite occurred in the United States, where temporary laid off workers where initially not searching for jobs.

[5] Full-time employment can also be involuntary, with some full-time workers wishing to work fewer hours (ILO, 2022[37]).

[6] Throughout this section, involuntary part-time workers are defined as workers working part-time (according to national definition) in their main job because they could not find a full-time job.

[7] In Switzerland, partner income might be one of the reasons why many women start working limited hours at childbearing age, contributing to Switzerland's place among the European OECD countries with the highest share of workers working less than 20 hours a week (Georgieff, 2024[36]).

[8] Throughout this section, the population of interest is the working-age population (15-64). However, the analyses have been replicated for the 25-54 age group, and the results remain qualitatively unchanged.

[9] The post-COVID19 surge in labour market tightness took place between 2021-22 in virtually all OECD countries for which data are available (Annex Figure 1.A.4).

[10] Nominal hourly wage data are affected by a significant share of employees with unreported income for Mexico, with a notable increase in Q1 2025. Data for Mexico are therefore reported only up to Q4 2024.

[11] Most of the data used in this section refer to the "wages and salaries" component of the Labour Cost Index (i.e. excluding employer's social security contributions) produced by Eurostat – or similar measure for non-European countries (see notes to the figures for the details on the countries for which different wage measures have been used). In addition to separating wages from other labour cost components, these indicators have two main advantages relative to measures of compensation per hour worked derived from National Accounts. First, they are generally constructed to follow the evolution of hourly nominal wages for a constant industry structure, therefore minimising the potential impact of compositional changes

on aggregate wage dynamics. Second, they are available at a more detailed sectoral breakdown than measures of compensation of employees from National Accounts, allowing the analysis on wage dynamics by industry of different pay levels of the next section.

[12] In Belgium, real wages had already returned to their pre-COVID-19 levels by Q3 2023 (OECD, 2024[31]).

[13] Examining wage growth since Q4 2019 instead of Q1 2021 reveals positive wage changes in a greater number of countries. However, using Q1 2021 as the reference quarter is more relevant than pre-COVID data (Q4 2019) for analysing the wage recovery from the inflation surge. Nominal wage index series since Q4 2019 show that the artificial increase in wages induced by composition effects during the pandemic had subsided by Q1 2021 in virtually all OECD countries (Annex Figure 1.A.5).

[14] Figure 1.15 shows a 3.7% reduction in real wages between Q1 2021 and Q1 2025 in Denmark, while the Danish *standardised index of average earnings* has returned to pre-inflation levels. This is because the labour cost index used in Figure 1.15 refers to a constant industry structure, while the standardised index of average earnings is adjusted for both the industrial and occupational structure.

[15] Accommodation and food service activities is the only sector where the average real wage did not decrease during the post-COVID-19 inflation surge.

[16] To enable a comparison of the dynamics between labour costs and profits, this section uses indicators from the National Accounts (see note to Figure 1.22). Using the income approach, nominal GDP can be decomposed as $PY = NCE + GOS + TAXN$ where P is the GDP deflator, Y is real GDP, NCE is nominal compensation of employees, GOS is gross operating surplus, and $TAXN$ is nominal taxes. Unit labour costs and profits are derived by dividing the two relevant GDP components by real GDP. Unit labour costs increase when growth in compensation exceeds growth in real GDP or, dividing these two components by hours worked, when growth in compensation per hour worked exceeds growth in labour productivity. This measure of unit labour costs differs in some important respects from the measure of hourly wages based on the "wages and salaries" component of the labour cost index used in the previous sections (see note 11). Most notably, unit labour costs include employer's social security contributions and do not control for changes in the sectoral composition of the economy.

[17] https://www.ecb.europa.eu/press/pr/date/2025/html/ecb.pr250423_1~1efe6e210c.en.html.

2 Setting the scene: Demographic change, economic growth and intergenerational inequalities

Andrea Bassanini, Emily Farchy, Sebastian Königs, António Melo and Javier Terrero Dávila

Opposing trends in longevity and fertility imply that the OECD population is becoming older. Without further policy action, the retirement of large cohorts will shrink the pool of productive workers, while the dependent population will expand. This chapter assesses the projected impact of these trends on GDP per capita growth to 2060 and puts them, as well as their implications for public finances, into a context of intergenerational disparities – documenting the diverging income and wealth trajectories across the generations and the implications for poverty among different cohorts. Possible complementary avenues for offsetting the negative growth effect of demographic change are considered and their potential quantified based on alternative simulation scenarios.

In Brief

Key findings

Opposite trends in fertility and life expectancy, and the progressive exit of baby boomers from the labour force, have already increased OECD countries old-age dependency ratio – defined as the ratio of the seniors (aged 65 years and above) to the working-age population – and will increasingly do so in the coming decades. In turn, without further policy action and changes in behaviours (e.g. people living longer may be able and willing to stay in the labour force for longer), this will drag down significantly economic growth and the capacity of OECD countries to improve their living standards.

This chapter sets the scene for the thematic part of this *OECD Employment Outlook 2025*, which is devoted to ageing and the labour market. It presents projection scenarios quantifying the impact of demographic change on GDP per capita growth. It also discusses current trends in intergenerational inequalities in incomes and wealth and their implications in terms of fairness of alternative policy solutions.

The key findings are as follows:

- In the coming years, **the size of the working-age population** (aged 20-64 years) will decline in a large number of OECD countries, **while the old-age dependency ratio will continue to soar**. By 2060, the working-age population will have declined by 8% in the OECD area, and by more than 30% in more than a quarter of OECD countries. The OECD old-age dependency ratio increased from 19% in 1980 to 31% in 2023 and is projected to rise further to 52% by 2060.
- Because of population ageing, **the employment-to-population ratio** – that is, the percentage share of employed persons in the total population – **is projected to decrease by 1.9 percentage points by 2060** in the OECD area. In Spain and the Slovak Republic, the slump is expected to be of 10 percentage points.
- Assuming constant growth rate of labour productivity (GDP per person employed) and labour market entry and exit rate for the various groups, the projected contraction of the share of employed persons in total population implies that **GDP per capita growth in the OECD area will be reduced by about 40%**, falling from 1.0% per year in the 2010s to 0.6% per year on average over the period 2024-60. This corresponds to 14% of foregone GDP per capita by 2060. In the absence of policy action, almost all OECD countries will see their GDP per capita growth declining.
- While there are large differences in fertility rates across OECD countries and policies can contribute to contain their decline if not reverse it, **changes in fertility trends can do little to counteract population ageing especially in the short term**. Providing family policies that help the reconciliation of work and family life but also reduce the costs of raising children, especially housing costs, are key factors. However, because of changes in preferences for children, it is unlikely that such policies will enable countries to revert significantly trend decline in fertility rates. And in any event the growth dividend of higher fertility would materialise only in several decades.
- **Labour productivity growth has been on a declining trend for many decades.** Developments in artificial intelligence (AI) and automation have made some scholars optimistic about the possibility of significantly reviving it but it is unclear whether even such a boost will be

enough alone to bring productivity growth to the levels needed to compensate for the decline of labour input. **While appropriate structural reforms to improve productivity can** unambiguously **be part of the solution, mobilising untapped labour resources will be key to maintain GDP per capita growth**.

- **Migration** can contribute to lessen the challenge demographic ageing poses to economic growth, and is already doing so. However, its potential **does not appear a game changer unless net migration rates increase well above historical values**. By increasing net migration rates to the 75th percentile of the cross-country distribution in 2021-24, the median OECD country could improve its GDP per capita growth by 0.13 percentage points with respect to a hypothetical no migration scenario in which net migration flows are set to zero.
- **Closing the employment gap between men and women of all ages would deliver significant growth dividends**: keeping all other assumptions as in the baseline scenario, it could increase annual OECD GDP per capita growth by 0.2 percentage points with respect to the baseline scenario, and by up to 0.6 percentage points in countries currently characterised by low female labour force participation. More than one-third of these potential gains, however, would come from closing the gender gap for older workers (aged 55 years or more). Additional gains may be achieved by closing the gender gap in hours worked. **Yet, care must be taken to ensure that all this goes hand in hand with closing the gender gap in unpaid work**.
- **Mobilising further labour market participation and employment of older people in good health has a significant growth potential**. By reducing the employment exit rate of older people to that of the best 10% of OECD countries, about half of the OECD countries could gain at least 0.2 percentage points of annual GDP per capita growth with respect to the baseline scenario. Adding the effect of closing the gender employment gap at older ages, the gain in annual GDP per capita growth for the whole OECD could reach 0.26 percentage points, twice as much as the gain from closing the gender employment gap for young and prime-age people.
- Overall, **all these avenues to mobilise untapped labour resources should be** considered as **part of the solution** to the growth challenges posed by population ageing. Yet, significant investments and costly policy actions are required to make them work. Nonetheless, even mobilising these untapped resources to reach two-thirds of the above-mentioned, very ambitious potentials in all these dimensions would allow cushioning 70% of the annual loss in GDP per capita growth due to demographic change as projected in the baseline scenario for the period 2024-60, reaching a projected annual GDP per capita growth of 0.9%. This rate could be further increased with appropriate policies to revive productivity growth.
- **Failing to mobilise under-represented groups and in particular older workers in good health** will not only lead to a significant reduction in GDP per capita growth but would also imply shifting the burden onto younger cohorts, as a smaller working-age labour pool will have to produce more just to maintain living standards of a larger dependent population. This **would raise serious fairness issues as intergenerational inequalities have already progressed in favour of older generations in past decades**:
  - Older generations (both 55-64 year-olds and 65+ year-olds) have benefited from higher income growth than the young (aged 25 to 34) in most OECD countries since the mid-1990s, and the poverty risk has shifted away from older people towards children.
  - Intergenerational disparities in household wealth are large, as older generations have benefited from booming asset markets, and in particular rising house prices. Meanwhile, younger cohorts face barriers to wealth accumulation, and homeownership is increasingly out of reach for many.

- A large share of public social spending is devoted to seniors in the form of pensions and health expenditures, and this part will continue to grow as populations continue to age and live longer.

- The next two thematic chapters delve deeper into the challenges of, and perspectives for, mobilising labour resources at older age while making careers longer and more successful (Chapters 3 and 4). Chapter 4 also discusses the link between skills and individual productivity. Finally, Chapter 5 analyses the effect of job mobility and labour reallocation on productivity growth and discusses the potential implications that an ageing workforce, associated with lower job-to-job mobility, could have on productivity growth trends.

Introduction

The world is changing fast. Several megatrends, such as digitalisation, climate change and population ageing, are transforming the world we live in and are having a deep impact on our lives, cultures, societies and living standards. The world of work will be at the forefront of these transformations and their impacts. It will have to adapt to these trends, seizing the opportunities they bring and addressing the challenges. While digitalisation (including its latest developments with generative artificial intelligence – AI hereafter) and mitigation of, and adaptation to, the effects of climate change have been widely analysed in previous editions of the *OECD Employment Outlook* – see e.g. OECD (2019[1]; 2023[2]; 2024[3]), the demographic transition and its consequences for the labour market have generally received less attention in recent years in this publication series. This edition of the *OECD Employment Outlook* aims to fill this gap.

In all OECD countries, declining fertility and increasing life expectancy have thrust population ageing to the forefront of the agenda – see e.g. OECD (2023[4]; 2024[5]). On the one hand, demographic change, and the progressive exit of baby boomers from the labour market, is turning the contribution of labour input to economic growth from positive to negative in almost all OECD countries. Widespread labour shortages in all sectors and occupations – see OECD (2023[2]; 2024[3]; 2024[6]) and Chapter 1 – are, partially, the salient symptom of this structural change. And this occurs after decades of declining productivity growth in the OECD area. On the other hand, ageing populations tend to increase demand for support and spending on health, long-term care, and pensions, and will continue to do so in the future. Absent policy action, increasing demands from a large, and in some cases expanding, consumer pool[1] will have to be satisfied by the production of a shrinking labour pool, challenging living standards and even societal cohesion.

The remainder of this Outlook will focus on the consequences of demographic change for the economy and the labour market, and how the labour market can be part of the solution. This chapter aims at setting the scene by discussing the impact of demographic change on economic growth and intergenerational inequality. It is divided as follows. Section 2.1 describes key demographic trends. Section 2.2 presents a simple baseline projection scenario to describe the likely consequences of demographic change on economic growth without further policy action. Section 2.3. considers various simulation scenarios enabling a quantification of the potential of different labour market channels that could help mitigate or even fully offset these consequences. Section 2.4 focuses on trends in intergenerational inequalities and shows that income and wealth trajectories of older and younger generations have followed divergent patterns. Section 2.5 concludes and presents a roadmap of the remainder of the book.

The overarching conclusion of the chapter is that maintaining current growth rates cannot be achieved without a significant mobilisation of the employment potential of all under-represented groups. Any other strategy aiming at coping with the reduction in gross domestic product (GDP) per capita growth brought about by population ageing risks falling short of the target and bringing about significant implications for fairness, as older cohorts have been increasingly better off in recent years as compared to younger

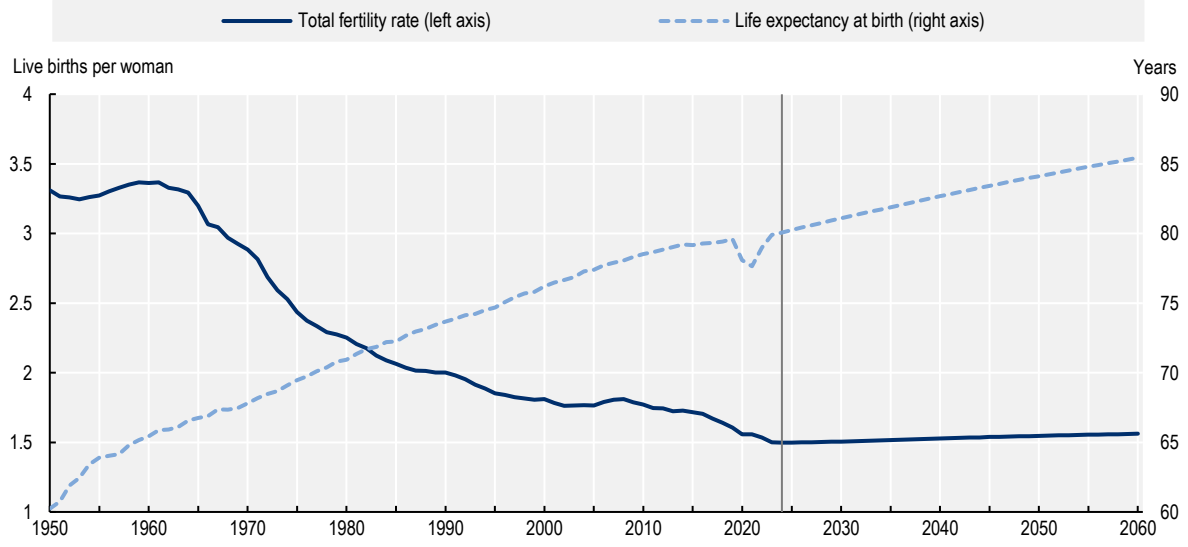
generations. The chapter is followed by three thematic chapters delving deeper into challenges of, and perspectives for, mobilising labour resources at older age while making longer careers more successful and ensuring that older workers in good health can thrive in the labour market.

2.1. Population ageing: Past and future trends

People in OECD countries live longer and in better health than before. For the OECD area, longevity has steadily increased since the end of World War II (WW II), with the temporary exception of the years of the COVID-19 pandemic (Figure 2.1). Since 1950, life expectancy at birth has gained 20 years, most of which in good health (OECD, 2017[7]; 2020[8]), even though the gap between life expectancy and health-adjusted life expectancy has increased in a number of OECD countries in recent years (Garmany and Terzic, 2024[9]; OECD/European Commission, 2024[10]). Even in recent years, however, the increase in healthy life expectancy at age 60 years represents 70% of the overall increase in life expectancy at age 60 (see Box 2.1). All these are significant achievements. At the same time, however, fertility rates, in OECD countries, which rose after the end of World War II and remained high until the 1960s, have plummeted since then. The total fertility rate (i.e. the average number of live births a woman would have by age 50 if she were subject, throughout her life, to the age-specific fertility rates observed in a given year) for the OECD area has collapsed from about 3.4 until the mid-1960s to 1.5 in recent years, although large differences across countries remain – in 2023, total fertility rates in OECD countries ranged between 0.7 in Korea and 2.8 in Israel. According to the medium scenario of the UN population projections (United Nations, 2024[11]), fertility rates may stabilise in the future, while life expectancy will continue to increase, albeit at a slower pace (Figure 2.1).[2]

Figure 2.1. Population ageing results from slumping fertility and increasing longevity

Average fertility rates and life expectancy at birth, OECD, 1950-2060



Note: The figure refers to the whole OECD area. The medium scenario of the population projections is used. The vertical line indicates the first year of projections (2024).
Source: André, C., P. Gal and M. Schief (2024), "Enhancing productivity and growth in an ageing society: Key mechanisms and policy options", https://doi.org/10.1787/605b0787-en, updated using United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

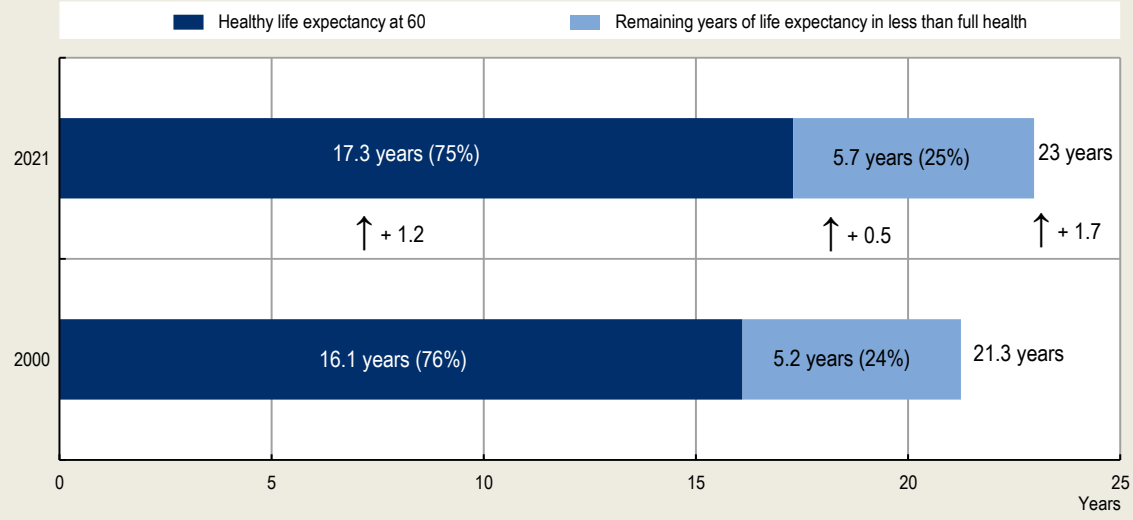
StatLink https://stat.link/agnc9z

Box 2.1. Recent increase in healthy life expectancy

OECD citizens are not only living longer but also enjoying more years in good health. On average, in 2021, a 60-year-old individual can expect to live 23 years more, with 17.3 of those years being spent in full health – see also OECD/European Commission (2024[10]). This represents an increase in life expectancy at age 60 of 1.7 years, relatively to 2000, with 70% of these gains corresponding to increases in healthy life expectancy(Figure 2.2), defined by the World Health Organization (WHO) as the number of years expected to live in full health – i.e. excluding years of life expectancy burdened by disease or injury.

Figure 2.2. Life expectancy is increasing, most of it being spent in full health

Average life expectancy and healthy life expectancy at age 60 in the OECD, years



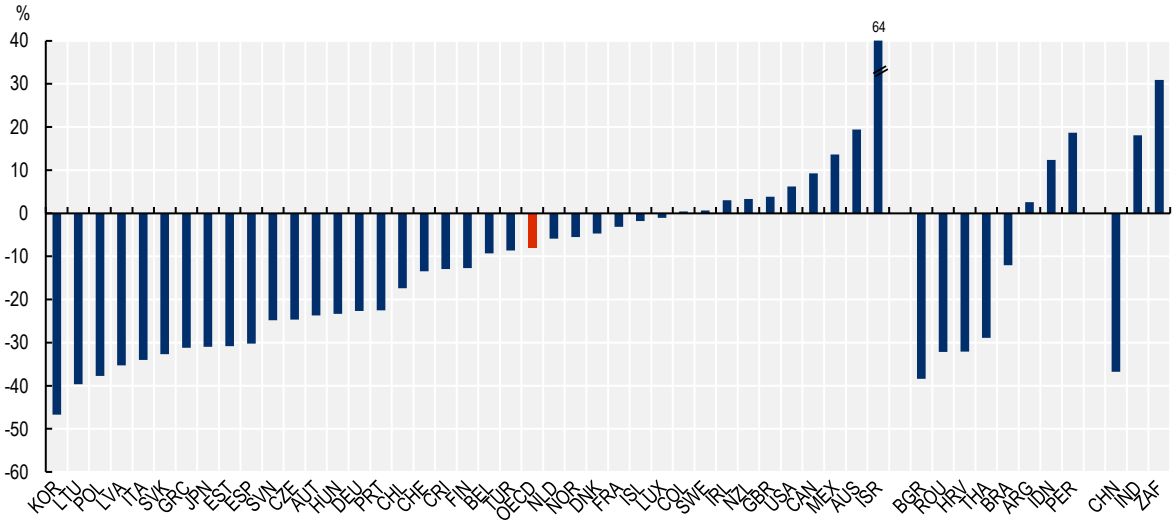
Note: Estimates are based on 38 OECD countries. Healthy life expectancy refers to the number of years expected to live in full health, while the remaining years of life expectancy in less than full health refer to the years expected to live under the burden of disease or injury.
Source: Secretariat's calculations based on data from the WHO Global Health Observatory.

StatLink https://stat.link/z9dj8q

Fertility trends imply that the relatively large cohorts born in the two decades after WW II have been continuously replaced, in recent years, by increasingly smaller cohorts entering the labour market. As baby boomers exit the labour market, the working-age population (defined as those aged from 20 to 64 years) has started declining or will start declining soon in the majority of OECD countries (Figure 2.3). Overall, the working-age population in the OECD area is projected to decline by 8% between 2023 and 2060. But in one-quarter of OECD countries, including many Eastern Asian and Southern, Central and Eastern European countries, it is projected to fall by more than 30% – and by up to 46% in Korea. Very high rates of decline of the working-age population are also projected in four "accession" countries (Bulgaria, Croatia, Romania and Thailand) and China. By contrast, in a few OECD countries, the working-age population is still projected to increase, especially in Australia and Canada, where net migration rates are projected to be high (see Section 2.3.2 below), and Israel and Mexico, where age pyramids have still a broad base as fertility is still high or has declined below replacement levels[3] only recently.

Figure 2.3. The working-age population will decline in a large number of OECD countries

Projected percentage change in the working age population (aged 20-64 years), 2023-60



Note: The medium scenario of the population projections is used. OECD: Weighted average of OECD countries.
Source: Secretariat's calculations based on United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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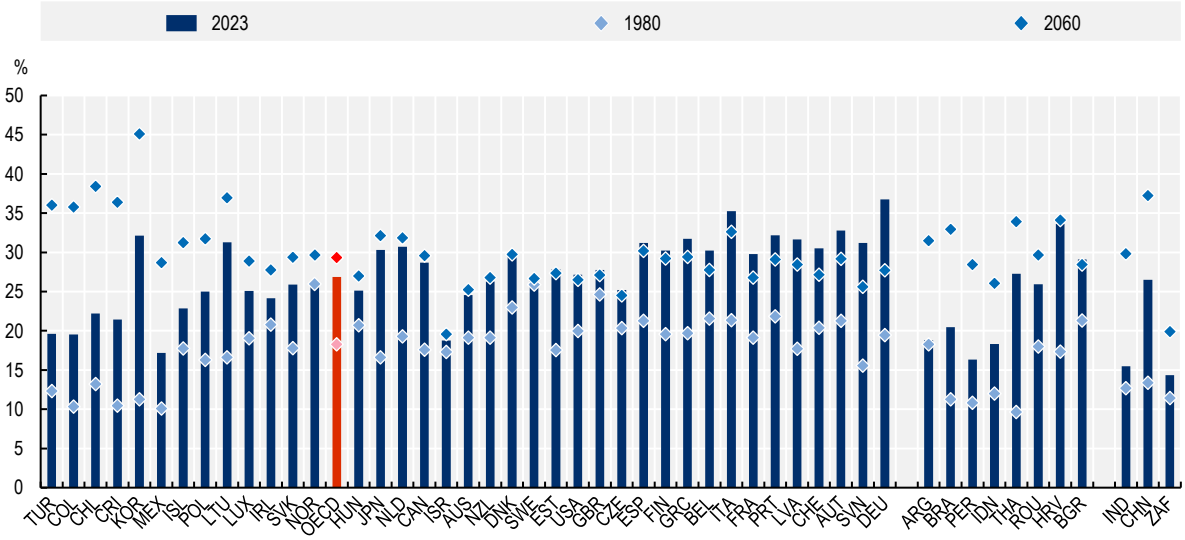
Decreasing fertility and increasing longevity also brought about a fundamental change in the age structure of the population. The share of older individuals (aged 55-64 years) within the OECD working-age population increased by about 50% between 1980 and 2023, although in most countries it is not projected to increase much further in the next quarter of century (Figure 2.4). By contrast, the old-age population has grown dramatically and will continue to do so. Consequently, the share of the seniors (aged 65 years and above) in the population has soared and is projected to increase further at a faster pace. In the OECD area, the *old-age* dependency ratio, defined as the ratio of the seniors to the working-age population, increased from 19% in 1980 to 31% in 2023 and is projected to increase further to 52% by 2060 (Figure 2.5).[4] By then, it will be above 50% in 30 OECD countries, and above 75% in Italy, Japan, Poland, Spain and Korea. In the latter country, UN projections suggest that in 2060 the *overall* dependency ratio (including also children in the numerator) will surpass 100%,[5] and it will reach 70% in the OECD area as a whole.

Although there is significant uncertainty about population projections (especially regarding fertility rates), UN projections still forecast, with a probability of at least 90% in all countries except Israel, a significant increase of the old-age dependency ratio by 2060 (see Annex Figure 2.A.1).[6] Absent policy action or changes in individual behaviour – for example because people living longer in good health may wish to stay in the labour force and remain employed for longer, see e.g. IMF (2025[12]) – this shift in the population structure will imply that an increasingly small labour pool will have to generate income for an increasingly large pool of people consuming but not producing, weighing heavily on the capacity of countries to continue to improve their living standards. The next section will delve more deeply into this type of accounting.

Figure 2.4. The share of older individuals of working age in the total working-age population has increased significantly

Share of individuals aged 55 to 64 years in the working-age population, various years, percentages



Notes: The working-age population is the population aged 20-64 years. 2060 is a projection based on the medium scenario. Countries are ranked by their projected percentage point increase between 2023 and 2060, in descending order. OECD: Weighted average of OECD countries.
Source: Secretariat's calculations based on United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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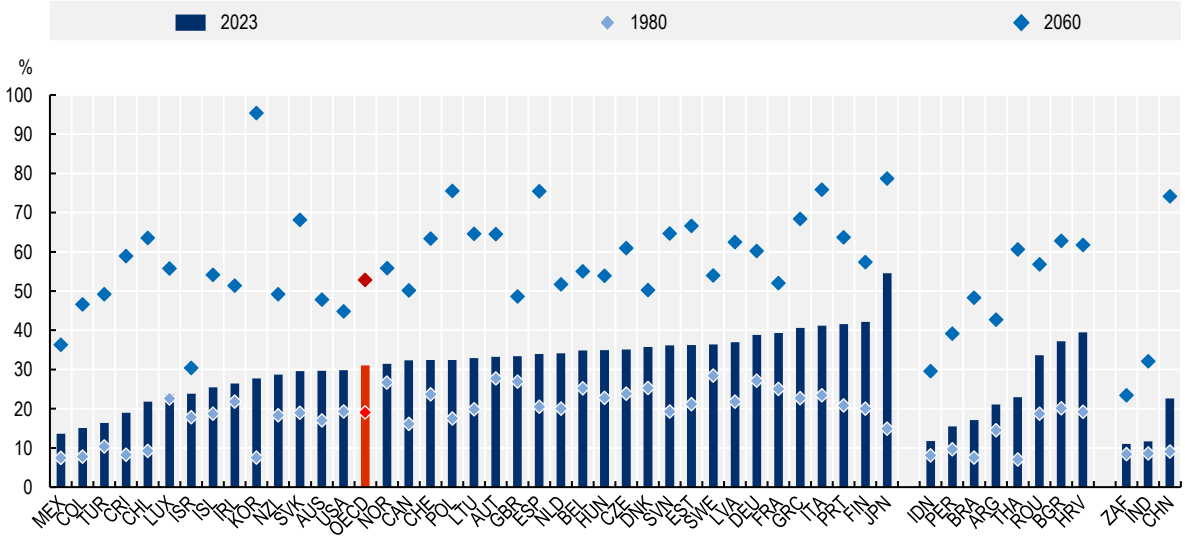
Figure 2.5. The old-age dependency ratio has soared and will continue to increase

Ratio of old-age to working-age population, various years, percentages



Notes: The old-age population is the population aged 65 years or more. The working-age population is the population aged 20-64 years. 2060 data concern projections. The medium scenario of the population projections is used. OECD: Weighted average of OECD countries.
Source: Secretariat's calculations based on United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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2.2. Population ageing and economic growth

The decline of the working-age population and the increase of the old-age dependency ratio pose a significant challenge to maintaining OECD countries' GDP per capita growth. While living standards are better measured through either the OECD better life index or gross national income per capita, due to measurement and forecasting issues this chapter limits the discussion to GDP per capita growth, which is a key determinant of material living standard (see Box 2.2).

Box 2.2. Living standards, GDP per capita levels and growth

The concept of a country's **living standards** typically captures average well-being in that country. At the country level, living standards are typically assessed through a measure of aggregate well-being such as the **OECD Better Life Index** (BLI hereafter) and its sub-indicators – see OECD (2011[13]; 2024[14]). The BLI is a synthetic index that aggregates several indicators capturing multiple dimensions of material living standards (income, wealth, jobs, earnings and housing) and quality of life (health, combining work and life, education and skills, social connections, civil engagement and governance, environmental quality, personal security, and perceived well-being).

By contrast, **GDP** measures the output produced domestically and **GDP per capita** standardises GDP by dividing it with the total population. Although it is widely used for its availability, it is a relatively imprecise proxy for the gross income of domestic households. Notably, GDP per capita includes income paid to non-residents and excludes residents' income from production in other countries. Moreover, it does not incorporate other aspects of well-being that are not directly dependent on income, and only partially integrates information on how the various types of capital that sustain well-being are changing over time (OECD, 2011[13]). Yet, the **growth rate of GDP per capita** strongly correlates with the growth rate of real gross disposable income per capita of households and non-profit institutions serving households, a key component of any indicator of **material living standards**. For example, the correlation of these two growth rates between 2007 and 2022, across the OECD countries for which data are available, is 0.62, and increases to 0.87 upon exclusion of Ireland, a clear outlier in the relationship (Annex Figure 2.A.2, Panel A). The main reason for this result is that what is produced domestically remains, in most OECD countries, the main determinant of domestic household income. GDP per capita growth also correlates with changes in the aggregate BLI. For example, the cross-country correlation of the growth rate of GDP per capita and changes in the BLI between 2010 and 2023 is mildly positive (0.22) but soars to 0.55 when Ireland and Türkiye, two clear outliers where GDP per capita growth outpaced progress in the BLI, are excluded (Annex Figure 2.A.2, Panel B). Overall, this suggests that GDP per capita growth projections can be informative, albeit imperfectly, as regards the possible future evolution of living standards, and in particular material living standards.

In the context of population ageing, however, projected GDP per capita growth will likely overestimate the potential change in living standards. Indeed, as discussed in Section 2.4, given current policies, population ageing implies that an increasingly larger share of GDP will be spent on health and pensions just to *maintain* living standards among the older population. A positive, but low GDP per capita growth may be insufficient to generate sufficient additional resources to *improve* living standards among the whole population.

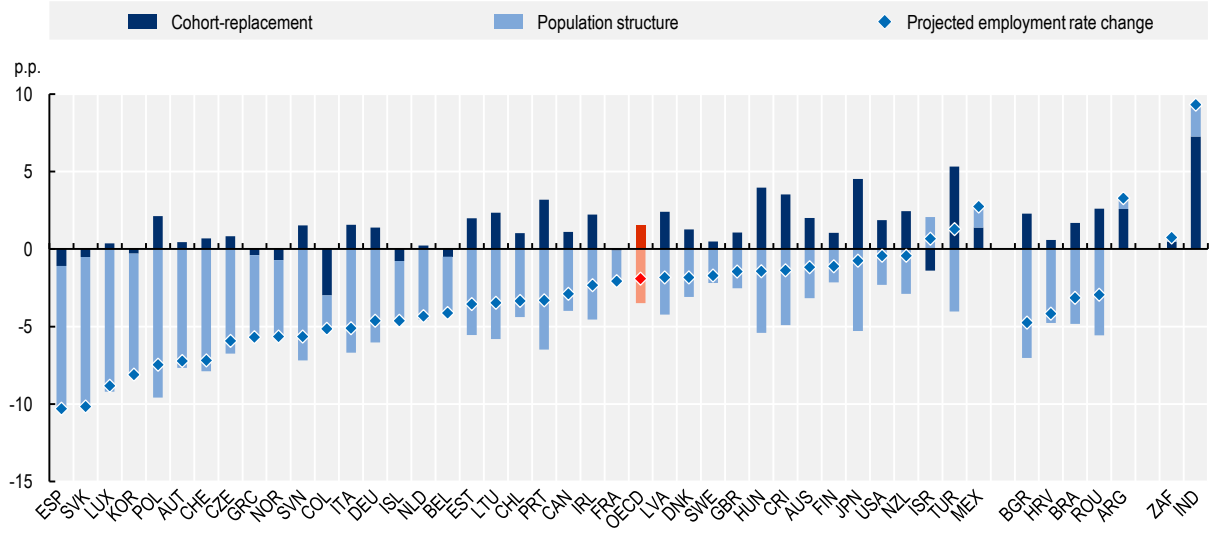
Trends in the dependency ratio will have a direct impact on GDP per capita, which is the product of aggregate GDP per person employed, and the share of employed persons in the total population (*employment-to-population ratio*). In turn, the latter is equal to the product of the *employment rate* (the ratio of employment to working-age population) and the share of the working-age population in total population.[7] While it can be expected that the replacement of older cohorts with younger cohorts with stronger labour

market attachment[8] will somewhat increase the aggregate employment rate of people of working age, the share of the working-age population in total population will shrink dramatically, as shown in the previous section. In turn, this will significantly depress the trend of the employment-to-population ratio and, therefore, of GDP per capita growth – see also André, Gal and Schief (2024[15]).

Figure 2.6 shows the projected reductions of the ratio of employment to population, disaggregated into the contributions from the two channels outlined above – namely, the changes in the share of the working-age population in total population (*population structure channel*) and the changes by cohorts in the age-specific employment rate (*cohort replacement channel*). The effect of the latter partially offsets that of the former due to the stronger labour market attachment of younger cohorts throughout their career. Age- and gender-specific employment rate projections assume constant labour market entry and exit rates for each group and are drawn from Fluchtmann, Keese and Adema (2024[16])[9] and then combined with the medium scenario of UN population projections, used in the previous section.

Figure 2.6. The share of employed persons in the overall population is projected to decline almost everywhere

Projected changes in the employment-to-population ratio, by channel, 2023-60, baseline scenario, percentage points



Notes: The figure reports projected changes in the share of employed persons in the overall population in the baseline scenario. The medium scenario of the UN population projections is used. Population-structure indicates the contribution of changes in the structure of the population (and notably the decline in the ratio of working-age to total population), assuming constant the age- and gender-specific employment rates as in 2023. Cohort-replacement indicates the change in the contribution of the projected changes in the age- and gender-specific employment rates as new cohorts replace older cohorts. OECD: Weighted average of OECD countries.
Source: Secretariat's calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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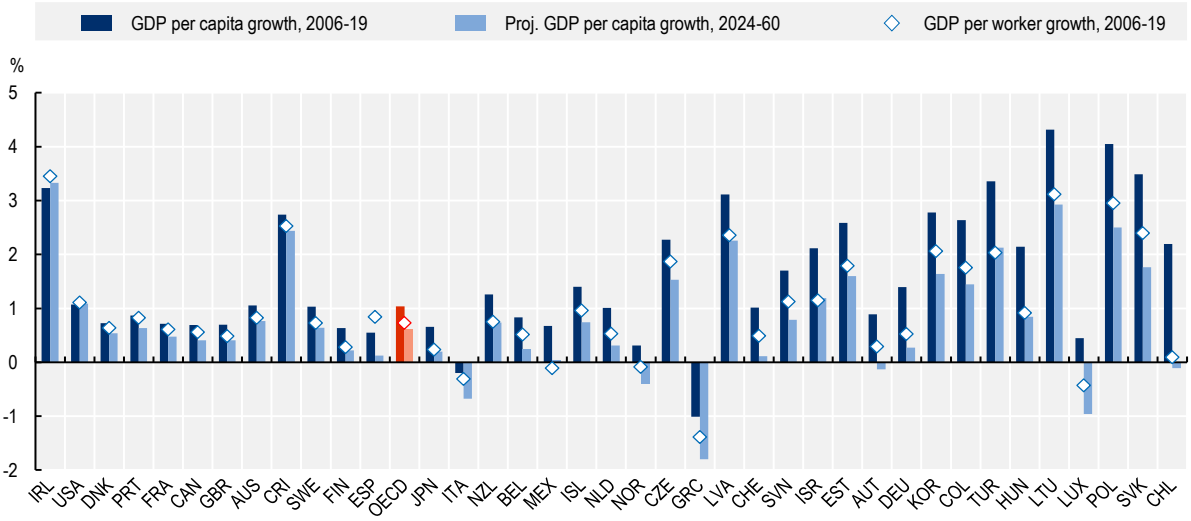
Because of population ageing, the percentage share of employed persons in the OECD total population (employment-to-population ratio) is projected to decrease from 48.1% in 2023 to 46.2% in 2060, that is by 1.9 percentage points. This share will decline in all but three OECD countries (Israel, Mexico and Türkiye) but the fall is projected to be particularly large (more than 10 percentage points) in the Slovak Republic and Spain. Yet, the replacement of older with younger (usually more active) cohorts is expected to attenuate this reduction in many countries. Projections suggest that the drop of the employment-to-

population ratio would be 1.6 percentage points larger, on average, if younger cohorts did not have stronger labour market attachment than older cohorts. With few exceptions,[10] the replacement of older cohorts with younger cohorts indeed implies an increase in the employment rate of people of working age. However, this is usually insufficient to fully compensate for the effect of the change in the structure of the population, and especially the expansion of jobless old-age population, which remains the most important factor driving the (negative) dynamics of the share of employed persons in the population in almost all countries, except Colombia and Türkiye.

Under the assumption that the growth rate of labour productivity (GDP per person employed) remains approximately constant,[11] the contraction of the employment-to-population ratio, in percentage terms, translates into an equal percentage effect on GDP per capita. In particular, setting the productivity growth rate in the next quarter of century at the level observed in 2006-19,[12] the baseline scenario suggests that GDP per capita growth in the OECD area will be reduced by about 40%, falling from 1.0% per year in 2006-19 to an average of 0.6% per year in the period 2024-60 (Figure 2.7).[13] In other words, by 2060, GDP per capita in the OECD will be 14% lower than what would occur if labour input continued to grow at the same rate as during the previous business cycle.

Figure 2.7. Demographic trends will result in a dramatic slowdown of GDP per capita growth

Recent and projected annual GDP per capita growth, baseline scenario, percentages



Notes: Projected real GDP per capita growth obtained assuming the same growth of GDP per worker as in 2006-19 and the baseline projection scenario for the employment-to-population ratio. Countries ordered by the size of the average projected growth slowdown between 2006-19 and 2024-60. 2006-18 for Australia, 2013-19 for Chile, 2015-19 for Colombia and 2007-19 for Korea instead of 2006-19. OECD: Weighted average of OECD countries. GDP: Gross Domestic Product.

Source: Secretariat's calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253 and "Productivity levels", http://data-explorer.oecd.org/s/254, Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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Without a pick-up in employment and productivity trends beyond baseline projections, almost all OECD countries will see their annual growth declining due to population ageing. This is because historical employment trends, including in recent years, have always been such that the labour input has provided a positive contribution to average GDP per capita growth. By contrast, current trends in population ageing imply

that, in per capita terms, the contribution of the labour input will turn negative in all OECD countries except Israel, Türkiye and Mexico, as seen in Figure 2.6 above. Expected annual GDP per capita growth will remain about constant in Ireland and the United States and decline by 0.25 percentage points or less in Denmark, France and Portugal. In all these countries, however, it can be argued that the comparatively small decline is, by and large, due to an already limited contribution of the labour input to growth in recent years, as shown by the small difference between the rates of growth of GDP per capita and GDP per worker in the 2010s. At the other side of the spectrum, many Central and Eastern European countries as well as Chile, Colombia, Korea and Luxembourg will see their growth rate contract by at least 1 percentage point, although declining from very high rates in all these countries, except Austria, Germany and Luxembourg. In all these countries, if the employment-to-population ratio continued to grow at the same rate as before, GDP per capita would be at least 30% higher in 2060 than what forecasted by the baseline projections. Largely because of the negative productivity growth observed in recent years and used as a benchmark, annual growth of GDP per capita is estimated to be significantly negative in Greece, Italy and Luxembourg (below -0.5%), A slightly negative average annual growth of GDP per capita is also projected in Austria and Norway.[14]

2.3. Potential gains from mobilising untapped labour resources

The analysis of the previous sections suggests that, in the short and medium term, most OECD countries will face an unprecedented collapse of GDP per capita growth, which can be avoided only through bold policy action. This will require operating on several levers, which will be examined in this section.

2.3.1. Is a sufficient recovery in productivity growth in sight?

A key objective in all OECD countries is to revive growth of GDP per person employed, which has declined since the last decade of the 20th century in almost all of them (Annex Figure 2.A.3). GDP per person employed, however, is the product of hours worked per worker and hourly labour productivity (GDP per hour worked). Hours worked per worker in OECD countries are on a historically declining path, even though their fall has slowed down somewhat in recent years – see e.g. OECD (2021[17]; 2022[18]). Total hours per worker have declined since 2005 in almost all OECD countries for which data are available, for an average reduction of 5.5% – see Chapter 1. Because of these historical trends, significantly increasing hours worked by the average person may therefore be out of reach and their level can at best be expected to stabilise in the near future.[15]

Hourly labour productivity growth has also been on a declining trend for many years – see e.g. OECD (2024[19]) and Chapter 5.[16] Yet, the diffusion of generative AI as a new general-purpose technology and the deepening of automation – see OECD (2023[2]) – have made many scholars optimistic about the possibility of significantly reviving hourly productivity growth in the same way as the diffusion of digital technologies in the 1990s eventually led to a recovery of hourly productivity growth for almost a couple of decades in a few countries – see e.g. Brynjolfsson and Mitchell (2017[20]); Aghion, Jones and Jones (2017[21]); Lu (2021[22]); Baily, Brynjolfsson and Korinek (2023[23]); Filippucci et al. (2024[24]); OECD (2024[25]); and Committee on Automation and the US Workforce (2024[26]).[17] Additionally, ageing-driven increases in aggregate saving can lead to greater capital deepening thereby boosting labour productivity (see Box 2.3). Yet, in many other OECD countries, especially in Asia and continental Europe, the diffusion of digital technologies of the 1990s did not halt the secular decline in hourly productivity growth, which continued to fall more or less steadily – see e.g. Fernald, Inklaar and Ruzic (2024[27]) and OECD (2024[19]). And while in the 1990s OECD countries' hourly productivity growth was also benefitting from the large expansion of trade and global value chains – see e.g. Grossman and Rossi-Hansberg (2008[28]); Baldwin (2012[29]); Criscuolo and Timmis (2018[30]); and OECD (2019[1]), this push is unlikely to be repeatable today, especially on such a large scale (Constantinescu, Mattoo and Ruta, 2016[31]; Goldin et al., 2024[32]). Moreover, other factors, including the acceleration of climate change, could

additionally exert a negative pressure on productivity growth in the future – for example, in a recent paper, Bilal and Känzig (2024[33]) estimate that world GDP per capita would already be 37% higher today had no warming occurred since 1960, which implies an average drag on world hourly productivity growth of about 0.5 percentage points per year. This drag is likely to increase in the near future, especially if insufficient policy action is taken to counter climate change – see OECD (2024[3]). There is also some concern that an ageing labour force could dampen hourly productivity growth, although the literature on the aggregate effect of ageing on productivity growth is nuanced – see Box 2.3 and Chapters 4 and 5. For all these reasons, nevertheless, it is unlikely that labour productivity growth could be revived at a level which, alone, would suffice to compensate the projected decline in GDP per capita growth.

Box 2.3. How does ageing affect productivity growth?

Ageing can affect labour productivity through multiple pathways, with no clear consensus on the direction and magnitude of its impact. Understanding this complex causal relationship requires zooming in on each of those potential pathways, ranging from micro, worker and firm-level ageing effects to broader macro impacts of aged societies on aggregate demand and public and private investment (André, Gal and Schief, 2024[15]).

The impact of individual ageing on the worker's productivity remains ambiguous. While individual hourly productivity declines at some point in people's lives, this point is likely to depend on multiple factors, including individual characteristics (including health and education), type of occupation (see also Chapter 4), and workplace organisation (see also Chapter 3). For many workers, the tipping point could be at relatively old age. Indeed, even if physical strength and cognitive skills, including learning capacity, deteriorate during the working life – see e.g. Prskawetz and Lindh (2006[34]) and Chapter 4 – especially when such capabilities are not regularly used (Hanushek et al., 2025[35]), older workers often take on different tasks than their younger colleagues, such as managerial roles (National Research Council, 2012[36]), and likely rely on different skill sets. Thus, firms' ability to harness skill complementarities across an age-diverse workforce is a key determinant of older workers' productivity (OECD, 2020[8]).

Ageing societies may experience a less dynamic business environment, both in terms of firm entry and exit rates, and a concentration of aggregate demand in less productive sectors, potentially dragging down overall productivity growth. Entrepreneurship quality may decrease as decision-making positions are increasingly occupied by older individuals, preventing younger workers from gaining sufficient experience by the mid-40s, the typical age to start a successful business (Azoulay et al., 2020[37]). Incumbent firms may also face less pressure from new competitors and products, as ageing consumers crystalise consumption patterns (Bornstein, 2021[38]). At the same time, demographic ageing can tilt in demand towards activities characterised by lower productivity growth, particularly long-term care services (Baumol, 1993[39]; Cravino, Levchenko and Rojas, 2022[40]).

Ageing is also likely to reshape the allocation of inputs and investment decisions in both the private and public sectors, with opposite effects on productivity growth. An ageing workforce tends to be less mobile between jobs, reducing the efficiency of the matching process, thereby significantly depressing productivity growth through the reallocation channel (see Chapter 5) and potentially contributing to labour shortages. However, these shortages can also create incentives to invest in labour-saving and labour-replacing technologies (Acemoglu and Restrepo, 2017[41]; 2021[42]). Moreover, ageing-driven increases in aggregate saving can lead to greater capital deepening thereby boosting labour productivity, under the condition that real interest rates can adjust downwards to absorb excess savings (Eggertsson, Lancastre and Summers, 2019[43]). On the contrary, rising public and private social expenditures associated with ageing (see Section 2.4) may reduce saving and crowd out productive public investments.

Ultimately, these opposing forces make it difficult to predict which effects will dominate, leaving the net impact of ageing on productivity growth ambiguous.

2.3.2. Complementary scenarios for mobilising untapped labour resources

Mobilising untapped labour resources appears therefore a necessary complementary strategy. The origin of the decline in labour input can be traced back to the secular decline in fertility rates (see Section 2.1). However, as briefly discussed in Box 2.4, while fertility policies can contribute to contain the decline in fertility rates, it is unlikely that such policies will enable countries to revert significantly the trend in population ageing, because of changes in preferences for having children. Moreover, at the least in the next quarter of century, raising the fertility rate will mechanically increase the denominator of GDP per capita without significantly increasing the numerator, with a muted, or even negative, effect on growth.

Box 2.4. What role do policies play in sustaining fertility rates?

Actions that reduce the opportunity cost of rearing children, such as providing affordable childcare and strengthening work-life balance policies could serve the dual purpose of closing the gender gap in labour market participation and increasing fertility. In fact, from the 1980s onwards, women's employment rates are positively associated with higher total fertility rates across the OECD (Fluchtmann, van Veen and Adema, 2023[44]). Similarly, expenditure on parental leaves, family allowances, housing, and early childhood education and care policies positively correlates with fertility. However, labour market, housing, education and family policies can only partially explain the evolution of fertility rates (Fluchtmann, van Veen and Adema, 2023[44]), which could point to the role of other factors such as financial insecurity, societal attitudes and norms (OECD, 2024[5]).

To better capture the full picture, it is indeed necessary to search for other drivers of fertility trends. Culture, social norms, and attitudes towards childbearing are natural candidates (Fernández and Fogli, 2009[45]; Newson and Richerson, 2009[46]). The ascension of individual self-fulfilment as an alternative life goal to family formation (Sobotka, 2008[47]), coupled with increasingly higher standards of parental roles, increase the implicit cost of childrearing (OECD, 2024[5]), which add up to the higher costs of housing and, in some countries, education, both post-compulsory and to support children of school age through private tutoring. Such mounting implicit costs can in turn influence parents to delay entering parenthood (Gustafsson, 2001[48]), have fewer children (Becker, 1960[49]), or opt for having no children at all (Baudin, de la Croix and Gobbi, 2015[50]). Given the potentially slow and even intergenerational effort required to transform social norms, attitudes, or preferences (Bisin and Verdier, 2000[51]), it is unlikely that policy will swiftly boost fertility through these channels.

Summing up, public policy does play a role in explaining at least partially cross-country differences in fertility rates, despite the generalised trend decline, but it cannot be expected that even best policy practices will revert fertility rates back to replacement levels. Even if they could succeed, higher birth rates today will materialise into larger working-age cohorts no earlier than 20-25 years from now. During that time, rising child dependency ratios would add to the already growing old-age dependency, meaning that until the mid-2050s, new cohorts will add much more to the denominator than to the numerator of GDP per capita. Since their contribution to the size of the working-age population will remain small in subsequent years, a gradual increase in fertility rates to replacement levels by 2035 (almost certainly an overoptimistic perspective given recent trends), would at best have little impact on GDP per capita by 2060.

Three more promising sources of labour resources will be considered in this section. They include: i) increasing employment and labour force participation of the older people in good health; ii) closing the gender gap in employment; and iii) sustaining net migration, including by better attracting talent, making the most of migrants' skills and reducing brain drain (in countries where this is relevant).

Another source of labour resources that is not modelled here but is likely to play a role in countries with high rates of youth not in employment, education or training (NEET)[18] is raising youth employment. Nonetheless, to ensure that young workers are equipped with the skills required to navigate the labour market during their whole career, effectively reducing NEET rates often entails improving education services and reducing school dropouts and/or offering full-time, second-chance educational programmes, like the US Job Corps programme, without necessarily having a significant impact on aggregate employment rates in those age categories – see e.g. Schochet, Burghardt and McConnell (2006[52]); Cohen and Piquero (2015[53]); and OECD (2018[54]; 2023[55]).[19]

Migration contributes to lessen the challenge posed by demographic change to GDP per capita growth

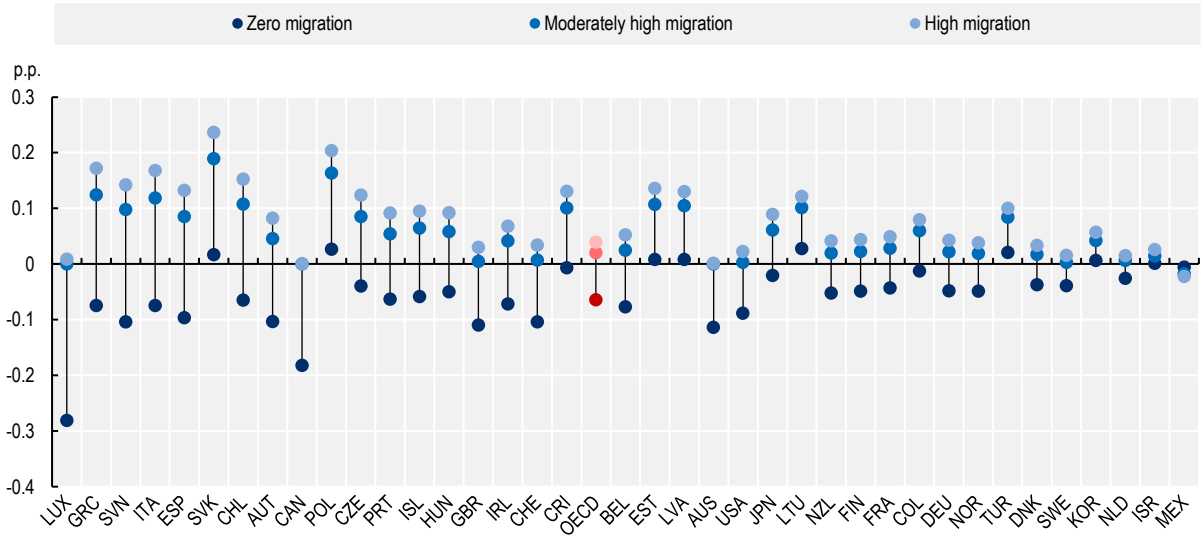
Regular migrants are already contributing to sustaining working-age population, and, in the baseline scenario, are projected to continue to do so in the future, although projected net migration rates[20] in the UN medium scenario are lower than those observed in the most recent available data in many countries – 2021-24, see Annex Figure 2.A.4.[21] Yet, translating the contribution of migration flows to the population in the host country into their contribution to employment-to-population ratios is not a trivial task. On the one hand, in some countries, labour force participation and employment rates of the foreign-born are lower than those of the native-born, especially soon after their arrival in the host country (OECD, 2024[56]). Multiple factors contribute to this pattern, including, inter alia, migration reasons (work, humanitarian, family, study, etc…), socio-economic status, and the fact that migrants often do not have the competences in demand in host countries (Spielvogel and Meghnagi, 2018[57])[22] and, at least at the beginning, may lack the experience – including language skills – to effectively navigating the host country's labour market (OECD, 2023[58]). On the other hand, foreign-born are over-represented among the self-employed, and migrant entrepreneurs significantly contribute to job creation in host countries (OECD, 2024[56]). Moreover, migrants play a key role in reducing labour shortages in certain sectors, such as long-term care – see e.g. Rapp and Sicsic (2020[59]); Grabowski, Gruber and McGarry (2023[60]); Jun and Grabowski (2024[61]) and OECD (forthcoming[62]).

Due to data limitations, however, for the purpose of the simple simulation exercise presented in this chapter, observed employment rate gaps between native-born and foreign-born by gender are taken as starting points. The projected percentage changes of employment rates of the foreign-born are then assumed to be the same as those of natives in the same gender and age category – that is, the computed 2023 employment rate gap in each category is assumed to be constant in subsequent years. These limitations require some caution in drawing conclusions from the results.[23]

As shown in Figure 2.8, should migration flows be slowed down in the near future so that to set net migration rates to zero (zero-migration scenario), projected GDP per capita growth would fall additionally by 0.06 percentage points per year in the OECD with respect to the baseline scenario (presented in Section 2.2 above), in which net migration rates are set as in the UN medium scenario (see Annex Figure 2.A.4). The decline would be greater than 0.15 percentage points only in Canada and Luxembourg, where this relatively large effect is essentially due to relatively large net migration rates forecasted in the UN medium scenario in these countries. In other countries, such as Denmark, France, Portugal, Spain and the United Kingdom, even if setting net migration to zero would have only a small impact on growth in absolute terms, these additional losses would still increase the projected loss in GDP per capita growth entailed by the baseline scenario by more than 20%. On the other side of the spectrum, countries that are projected to have, on average, negative net migration rates due to significant emigration – Mexico, Türkiye and some Central and Eastern European countries – would potentially benefit from a zero-migration world, but the projected effect would remain small.

Figure 2.8. Increasing net migration rates may have a moderately beneficial effect on GDP per capita growth in many countries

Percentage point difference in average annual GDP per capita growth: baseline vs. alternative migration scenarios, 2024-60



Notes: The chart compares projected percentage point differences in average real GDP per capita growth between three alternative scenarios and the baseline scenario. Zero-migration sets future net migration rates equal to 0. Moderately high migration sets future net migration rates equal to the median percentile of the cross-country distribution in 2021-24. High migration sets future net migration rates equal to the 75th percentile of the cross-country distribution in 2021-24. Projections assume the same change in employment rates for foreign and native-born but different starting levels derived from observations. For Israel and Türkiye starting levels are set to be the same due to lack of data. Countries are ranked in descending order by the difference between the high migration and the zero migration scenarios. p.p.: percentage points. OECD: Weighted average of OECD countries. GDP: Gross Domestic Product.

Source: Secretariat's calculations based on OECD (2024), *International Migration Outlook 2024*, https://doi.org/10.1787/50b0353e-en; OECD (2024), "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253, "Labour market outcomes of immigrants – Employment, unemployment, and participation rates by sex", http://data-explorer.oecd.org/s/255 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; United Nations (2024), International Migrant Stock 2024, www.un.org/development/desa/pd/content/international-migrant-stock, and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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As already noted, however, net migration rates included in the baseline scenario (based on the UN medium scenario) are lower than historical rates in many countries. For OECD countries, the cross-country median of annual net migration rates in recent years was 0.46% in 2021-24 and 0.37% in 2016-20 against an average cross-country median of UN projected rates of 0.24% for 2024-60 in the baseline scenario. Median net migration rates have also trended up steadily since at least 1990 (United Nations, 2024[63]) and inflows of foreign-born have never been so high (OECD, 2024[56]). Figure 2.8 considers therefore two higher migration scenarios, which might better help characterise the potential of the migration channel: a moderately high scenario, in which net migration rates are set to increase to the median levels of the 2021-24 cross-country distribution (0.46%) in all countries by 2030 (and remain constant thereafter), except if the baseline projection is higher; and a high migration scenario, in which net migration rates are set to increase to the 75th percentile of the cross-country distribution (0.61%), again in all countries by 2030 except if the baseline projection is higher.[24] It must be noted, however, that, while in the baseline and the zero migration all world flows are balanced, in the high and moderately high migration scenarios this is not

the case since the same net migration rate target is used for all the countries. These two scenarios, therefore, only allow simulating the potential gains from migration separately for each country.

Potential gains from higher regular migration in terms of GDP per capita growth appear to be particularly high in many Southern, Central and Eastern European countries, where they could exceed 0.1 percentage points per year in the moderately high migration scenario and 0.2 percentage points in the high migration scenario (Figure 2.8). Overall, compared with a world without migration (zero-migration scenario), by reaching a net migration rate of 0.61% by 2030, the median OECD country could improve its GDP per capita growth by 0.13 percentage points,[25] and up to 0.25 percentage points in Greece, Italy, Luxembourg and Slovenia. By contrast, gains from migration appear close to zero in countries such as the Netherlands, Israel and Mexico, due to either the projected composition of immigration flows (larger for groups with no or limited labour market participation – Israel) and/or the much lower current participation of migrants to the labour market – Mexico and the Netherlands, see OECD (2024[56]). In particular, the latter factor is likely to lead to an underestimation of the growth potential of the high migration scenarios, since employment rates of migrants would improve if increasing net migration flows are accompanied by more selective migration policies tuned towards labour market needs of the host country.

Overall, while regular migration can contribute to lessen the challenge demographic ageing poses to living standards, its potential does not appear a game changer unless net migration rates increase well above the historically high rates observed in recent years. Yet, the higher the sudden increase in net migration flows, the larger the policy interventions required to integrate higher migrant inflows into the labour market – see e.g. OECD (2016[64]; 2017[65]; 2017[66]; 2021[67]; 2023[58]). Needed interventions may range across very broad areas, for example from introduction measures, language training and specialised training (including in origin countries) to providing affordable transport and housing – see also Hermans et al. (2020[68]). Ensuring adequate access to these services is an unavoidable, integral part of well-managed migration and integration policies, but these interventions are costly and difficult to provide at scale (OECD, 2024[56]). Moreover, most migrants remain only temporarily in the host country, making it even more difficult to sustain high net migration rates over time (OECD, 2024[56]). And effectively increasing net migration rates in a way matching host countries skill needs might require retaining or reattracting native-born citizens, and more generally, competing effectively to attract talent (Spielvogel and Meghnagi, 2018[57]; d'Aiglepierre et al., 2020[69]; Beine, Peri and Raux, 2023[70]). Last but not least, host countries' populations are often not ready to accept large increases in foreign-born inflows, even when these could bring clear economic gains, and attempts to raise them significantly may generate strong political backlash (Hainmueller and Hopkins, 2014[71]; McCann, Sienkiewicz and Zard, 2023[72]; Boeri et al., 2024[73]), especially when flows have a strong low-skilled component (Moriconi, Peri and Turati, 2022[74]; Docquier and Rapoport, 2025[75]).

Closing the gender gap in employment can deliver large growth dividends

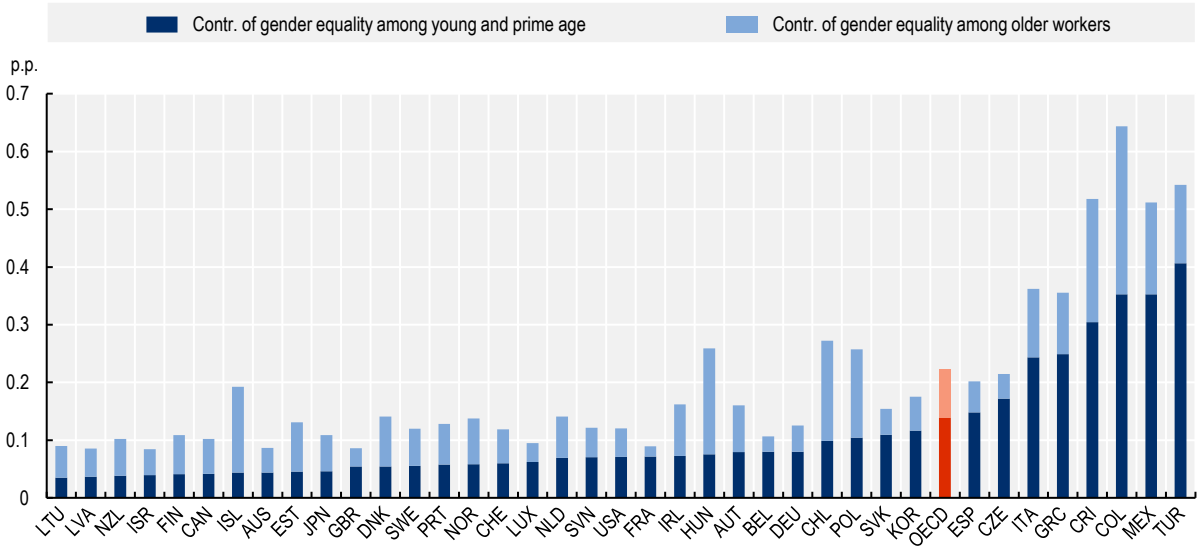
Reducing the employment gap between men and women of working age appears to have a clear potential. In all OECD countries, women have lower employment rates than men of the same age, and even if gender gaps in employment rates have continued to narrow in recent years, the pace of convergence has slowed down. The gender gap in employment rates of people of working age fell by 7.6 percentage points between 2000 and 2021, but its fall halved in the second decade of the 21st century (OECD, 2023[76])) and OECD evidence suggests that, in recent years, female employment has progressed significantly only in countries with the largest gender gap in employment (OECD, 2024[3]), although this progress is decelerating (see Chapter 1). Overall, this suggests that considerable progress can still be made in closing the gender gap in most countries, and that it could bring significant growth dividends.

Closing the gender employment gap between men and women of all ages in all OECD countries, while keeping all other assumptions as in the baseline scenario, could increase annual OECD GDP per capita growth by 0.2 percentage points (Figure 2.9).[26] In countries where female labour force participation is

particularly low (Colombia, Costa Rica, Mexico, Greece, Italy and Türkiye), the simulation suggests that closing the gender gap could increase GDP per capita by 0.3 percentage points or more and up to 0.6 percentage points in Colombia. The contribution of closing the gender gap to GDP per capita growth would instead remain modest in countries where female employment rates are already close to those of men. Specifically, in countries such as Australia, France, Israel, Latvia, Lithuania, Luxembourg and the United Kingdom, closing the gender employment gap would yield a GDP per capita growth dividend of less than 0.1 percentage points annually. In Australia and France, nevertheless, closing the gender employment gap would allow recovering more than one fourth of the loss in GDP per capita growth due to ageing (cf. Figure 2.9 with Figure 2.7). Further gains can also be obtained by reducing the gender gap in hours worked per employed person in countries where these disparities are large (see Box 2.5).

Figure 2.9. Closing the gender gap in employment can deliver large growth dividends

Percentage point difference in average annual GDP per capita growth: baseline vs. gender equality scenarios, contributions of different age categories, 2024-60



Notes: The chart compares projected percentage point differences in average real GDP per capita growth between a scenario where, by 2060, for both genders, employment rates in each age category are as high as that of the gender with the highest rate and the baseline scenario. "Contr. of gender equality among young and prime age" identifies the specific contribution of closing the gender gap at age 54 years or less. "Contr. of gender equality among older workers" identifies the specific contribution of closing the gender gap for people aged 55 years or more. OECD: Weighted average of OECD countries. p.p.: percentage points. GDP: Gross Domestic Product.

Source: Secretariat calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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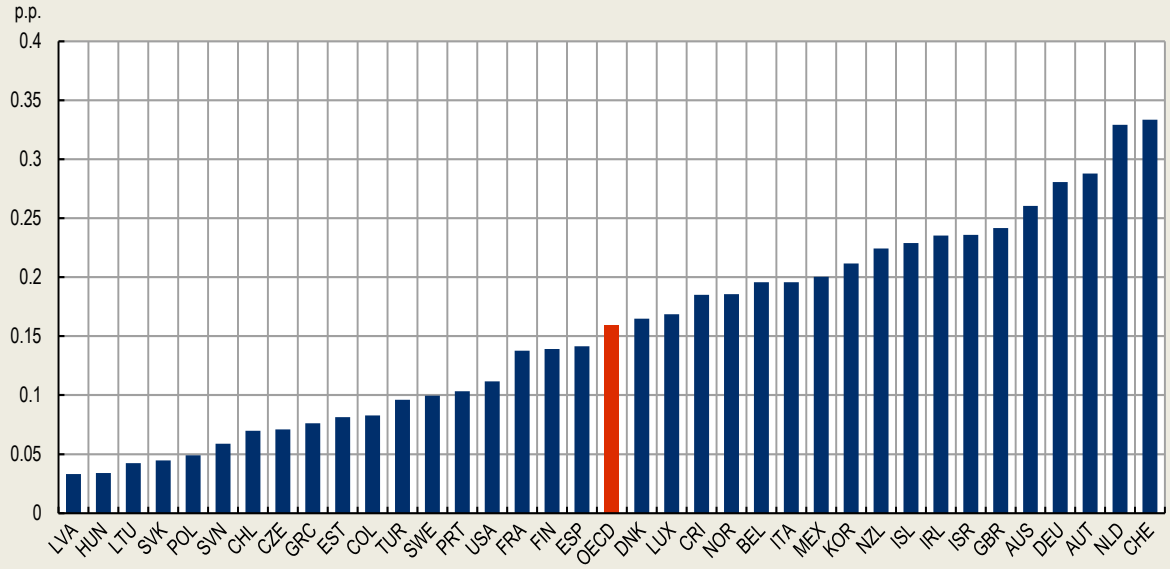
Box 2.5. Growth potential of closing gender gaps in hours worked per worker

Across the OECD, women typically spend fewer hours in paid work than men (OECD, 2019[77]). While Figure 2.9 above presents the potential growth contribution of hypothetical scenarios that assume full closure of the gender gap in employment rates by 2060 (i.e. the extensive margin), another potential channel stems from reducing the gender gap in hours worked per worker (i.e. the intensive margin). Data on hours worked are not available for all OECD countries, and even when available they are not always comparable (see notes to Figure 2.10). For the OECD countries where data on hours worked are available, Figure 2.10 plots the potential gains of increasing hours worked to the level of the gender that works most hours, by 2060. As before, all other assumptions are kept as in the baseline scenario. At the OECD level, GDP per capita growth would be 0.16 percentage points higher than in the baseline scenario, that is without changes in the gender employment gap, which allows adding up the potential effects simulated in this box with those from the other channels in this section.

Figure 2.10. Equalising hours worked across genders could further attenuate growth slowdown

Percentage point difference in average annual GDP per capita growth: baseline vs. gender equality in hours worked scenario, 2024-60



Note: The chart compares projected percentage point increase in average annual GDP per capita growth (with respect to the baseline scenario) in a scenario where, by 2060, for both genders, hours worked per employed person in each age category are as high as that of the gender with the highest number of hours worked, keeping all other assumptions as in baseline scenario. Usual hours worked per employee are used for reasons of cross-country comparability. Actual hours instead of usual hours for Korea and Mexico. Hours per worker instead of hours per employee in Korea. OECD: Weighted average of countries shown. p.p.: percentage points.
Source: Secretariat calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253, "Average usual weekly hours worked on the main job", http://data-explorer.oecd.org/s/256 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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This average potential effect conceals some degree of heterogeneity, however. Countries with high levels of gender equality in hours worked, namely Latvia, Hungary, and Lithuania, would experience minimal gains in growth, ranging between 0.03 and 0.04 percentage points. In contrast, for 17 countries, growth dividends from closing the gender gap in the intensive margin could be higher than closing it in the extensive margin. The contribution of closing the gender gap in hours worked could be particularly important in Austria, Germany, the Netherlands, Switzerland and the United Kingdom, where women more frequently engage in part-time employment than men (OECD, 2019[77]; OECD, 2025[78]). Indeed, for these countries, GDP per capita could potentially grow by additional 0.25 percentage points or more by 2060, relatively to the baseline scenario. Effective gains could, nevertheless, be smaller, since this exercise abstracts from quantifying the costs required to increase hours worked by women – who already take up a higher share of unpaid work (see Box 2.6 below) – to the level of men.

Gender gaps in employment are, however, asymmetrically distributed across the age distribution, which implies that, across the OECD area, more than one-third of the potential gains in GDP per capita growth would come from closing the gender gap for older workers. And in certain countries this figure can be much higher. In some cases, this is due to very high employment rates for older men – e.g. in countries such as Iceland and Estonia, where 77% and 65%, respectively, of the potential gains from closing the gap are concentrated among older women. However, in other countries, the very rapid decline of female labour force participation at older ages is responsible for this pattern. This is the case in Chile and Hungary, for example, where reducing labour market exit rates of older women represents 64% and 70%, respectively, of the potential gains.[27] Conversely, in other countries such as France, potential gains from closing the gender gap are concentrated among prime-age (and young) women, while the effect among older people is small. This is mechanically due to the fact that employment rates among older people are relatively low for both men and women, particularly for those aged 60 years or more – see OECD (2023[4]) and below – thereby limiting potential gains from closing the gender gap in those age categories without simultaneously raising employment of older men.

Closing the gender gap would, however, require a significant increase in the female employment rate, and therefore a substantive policy effort to achieve this goal. On average, within the OECD, employment rates of working-age women (aged 20 to 64 years) should increase from 67% in 2023 to 81.7% in 2060, that is by 14.7 percentage points (Annex Figure 2.A.5), a massive leap. While the fact that younger cohorts tend to work more than older cohorts should account for about one fourth of this increase (as reflected in the baseline projections), mobilising further the female labour supply to close the gender employment gap would require a genuine, additional jump in employment rates of working-age women by 11.2 percentage points. The required increase in the employment rate of working-age women will be particularly large (more than 25 percentage points) in Türkiye and all Latin American OECD countries, except Chile. Increases of more than 15 percentage points beyond cohort effects will also be necessary in some Southern European countries such as Greece and Italy.

Policy should therefore address the various barriers that are preventing full equality between women and men in the labour market not only for equity purposes but also to contribute to offsetting the effect of demographic ageing. The 2013 OECD Recommendation of the Council on Gender Equality in Education, Employment and Entrepreneurship provides a frame of policy principles to reach this goal (OECD, 2017[79]): recommended policy interventions to foster gender equality range from promoting equal pay practices and gender- and family-friendly policies within firms, facilitating women's access to science, technology, engineering and mathematics studies, and promoting women's success in entrepreneurship and decision-making positions to significantly upscaling good-quality and affordable childcare and elderly care – see also OECD (2017[80]; 2023[81]). Many of these are costly policy interventions, however, especially because women take up a disproportionate share unpaid work and family and caring responsibilities (see Box 2.6), which can also act as a barrier on women's labour force participation – see

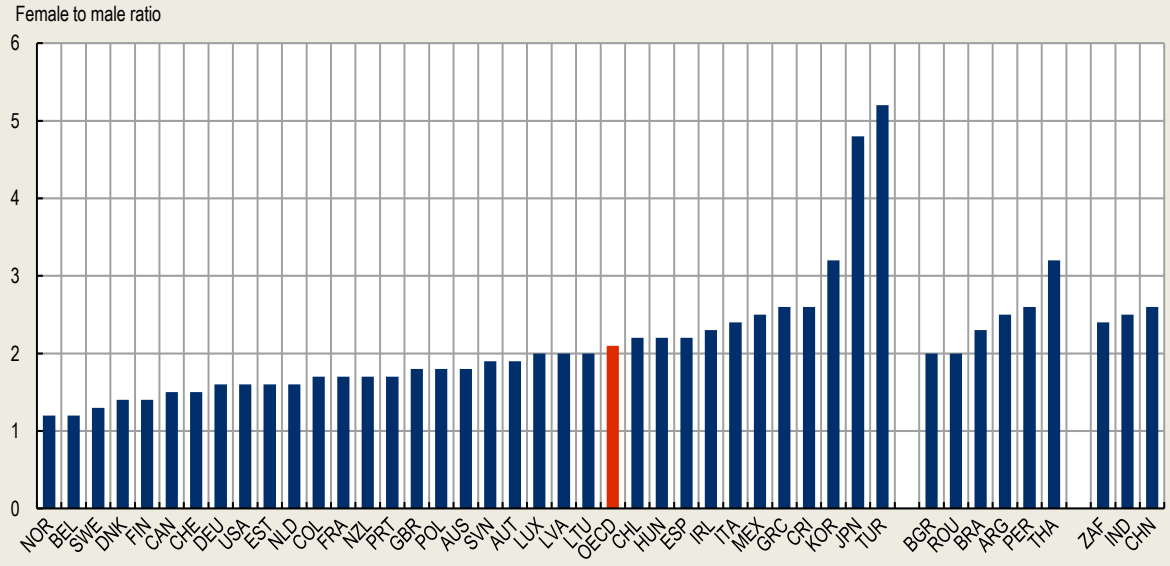
OECD (2017[80]; 2023[76]).[28] Closing the gender employment gap would then require a large increase in unpaid family and care work performed by men and/or significant market or government provision of affordable childcare and elderly care.

Box 2.6. Gender gaps in unpaid work

The take up of unpaid care work and family responsibilities is very different between men and women – see e.g. OECD (2017[80]). Time use surveys allow quantifying how much time men and women spend in household-related tasks. On average, in the OECD, women spend about four hours per day in unpaid care and domestic work, against about two hours in the case of men. What is more, women spend in these activities more time than men in all OECD countries, ranging from 1.2 times the number of hours spent by men in Belgium and Norway to 5.2 times in Türkiye (see Figure 2.11).

Figure 2.11. Women spend much more time than men on unpaid care and domestic work

Average time spent by women on unpaid care and domestic work, factor of men's time, 2023



Note: Female-male ratio of average daily time spent on unpaid domestic chores and care work. OECD: Weighted average of OECD countries.
Source: Secretariat's calculations based on OECD Data Explorer, "Gender, Institutions and Development Database (GID-DB) 2023", http://data-explorer.oecd.org/s/257.

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Time use surveys, however, underestimate the gender gap in domestic workload. The reason is that, even when they have a job, women spend more time "on call", that is being ready to face unexpected household occurrences during the day that require action from one adult member of the household (e.g. a sick child who must be picked up from school). This is reflected in gender differences in commuting time and preference for flexible work arrangements – see e.g. Mas and Pallais (2017[82]) and Farré, Jofre-Monseny and Torrecillas (2023[83]). Additionally, and perhaps more important, women take up an overwhelming share of cognitive domestic work, a taxing but often invisible form of work, including for example anticipating needs, identifying options for filling them, making decisions, and

monitoring progress. Evidence suggests that women take up a disproportionate share of cognitive household labour in all areas but especially anticipating needs and monitoring (Daminger, 2019[84]; Reich-Stiebert, Froehlich and Voltmer, 2023[85]). Effectively increasing labour market participation of women, without deteriorating women's well-being, requires therefore a significant reorganisation of family responsibilities, by changing gender norms and redesigning the perimeter of domestic work.

Raising employment rates of old-age people in good health could lead to large gains in GDP per capita growth

Finally, in many OECD countries, older individuals in good health represent a significant potential source of labour resources, which is still insufficiently activated. In particular, while employment of older workers has significantly increased for workers below 60 years of age, progress can be made in many countries for older age categories (OECD, 2020[8]; 2023[4]). Employment rates across OECD countries indeed vary by a factor of four for the 60-64 age group, and almost by a factor of seven for those aged between 65 and 69 years – see Chapter 3.[29] To the extent that the cross-country variation of life expectancy in good health at 65 years does not show the same degree of cross-country variation (OECD, 2024[5]),[30] this suggests significant room for improvement.

For the purpose of this chapter, an alternative higher-employment-of-older-workers scenario is constructed. In this scenario, it is assumed that, by 2060, each country would reduce the employment exit rate of older people at least to the level of the best 10% of OECD countries in each age category above the 50-54 year-olds.[31] The reference values used are those for the gender for which the employment rate is highest.[32] To avoid confusing this channel of improvement with the closure of the gender gap (and therefore double counting), gender gaps in employment for each age category are assumed to remain as in the baseline scenario.[33]

By reducing the employment exit rate of older people to that of the best 10% of OECD countries in each age category (that is, in the higher-employment-of-older-workers scenario, as described above), about half of the OECD countries could gain at least 0.2 percentage point of annual GDP per capita growth (Figure 2.12) with respect to the baseline scenario, close to the aggregate gain for the OECD area.[34] Not surprisingly, compared with the baseline scenario, employment rates could increase in this scenario by about 10 percentage points for workers aged 60 years or more, and by a mere 3.5 percentage points for those aged from 55 to 59 years (Annex Figure 2.A.8).[35]

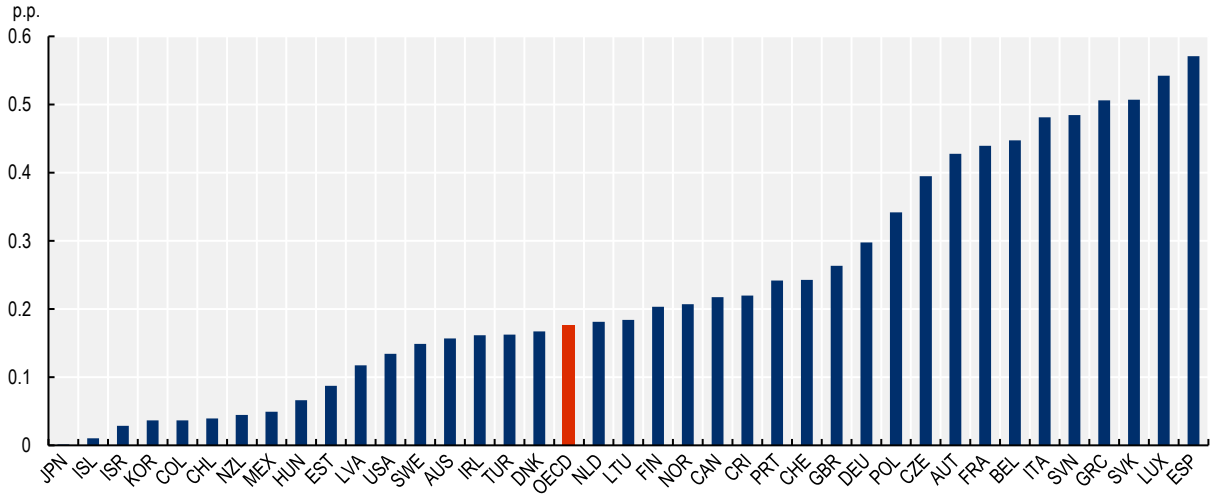
In a handful of countries, which are already close to the benchmark exit rate for all, or almost all, age categories, potential gains from further activating older workers are limited. This is especially the case in Chile, Colombia, Iceland, Israel, Japan, Korea, Mexico and New Zealand – all countries where, already in 2023, more than 20% of people aged 65 years or more had a job, and which have relatively high employment rates among old-age people in other age categories. For all these countries, potential gains in employment rates are limited, and even in the best-case scenario, employment rates among older people are likely to fall (see Annex Figure 2.A.8). This reflects changes in the composition of the top age category, with a large projected increase of the share of very old people. As a result, potential GDP per capita growth gains from mobilising further labour supply of older people are limited to less than 0.05 percentage points (see Figure 2.12).

On the other side of the spectrum, in ten continental European countries, including Austria, Belgium, France, Czechia, Greece, Italy, Luxembourg, the Slovak Republic, Slovenia and Spain, the potential gain in annual GDP per capita growth from mobilising labour capacity of older workers could be significant. Reducing the exit rate of older people so as to match the 10% best-performing countries could bring growth dividends as large as 0.4 percentage points, or even more (see Figure 2.12). Specifically, in France, Italy and Spain, it could even suffice alone to fully offset the entire projected decline in GDP per capita growth due to demographic ageing (as implied by the baseline scenario). However, the required leap in the

employment rates of those aged 55 years or more in these countries would be quite high, especially for those aged between 60 and 64 years. In fact, in this scenario and in all these countries, except Czechia, the Slovak Republic and Spain, employment rates in this age category would be in 2060 at least 20 percentage point higher than in 2023, and up to 50 percentage points higher in Luxembourg (see Annex Figure 2.A.8). While in many of these countries, the cohort effect account for a small fraction of this increase, in all of them more than 70% of it is accounted by the difference in employment rates between the higher-employment-of-older-workers and the baseline scenarios.[36] By contrast, in Czechia, the Slovak Republic and Spain, the greatest potential gain comes from reducing exit rates from employment for people aged 65 years of more.

Figure 2.12. Raising employment of older people could lead to large gains in GDP per capita growth in many countries

Percentage point difference in average annual GDP per capita growth: baseline vs. older workers scenario, 2024-60



Notes: The chart compares projected percentage point differences in average real GDP per capita growth rates between a scenario with high employment of older workers and the baseline scenario. The higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. OECD: Weighted average of OECD countries. p.p.: percentage points. GDP: Gross Domestic Product.

Source: Secretariat calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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Sustaining activity and employment of old-age people in good health requires, nevertheless, a complex and holistic policy approach (OECD, 2020[8]; 2023[4]; 2024[86]). Policy needs to simultaneously enhance incentives to remain in the labour market, sustain employability and labour demand, often by changing employers' attitudes and enhancing job quality and work organisation within firms, while ensuring that older workers have the right skills to thrive in the labour market and avoid in-work poverty traps. Equipping older workers with skills in demand and addressing barriers to their job mobility will also be important to avoid that increasing the share of old-age employment has negative implications for productivity growth. These issues will be discussed in detail in Chapters 3, 4 and 5. In addition, health itself is not exogenous to policy,

but can be influenced through prevention policies and better management of chronic diseases so that they are less of a barrier to employment, while improving people well-being – see e.g. OECD (2022[87]; 2022[88]; 2023[89]; 2025[90]). Appropriate workplace policies are also crucial to ensure that longer working life promote better health – or at very least do not deteriorate it (see Chapter 3).

2.3.3. Combining potential gains from different mobilisation strategies

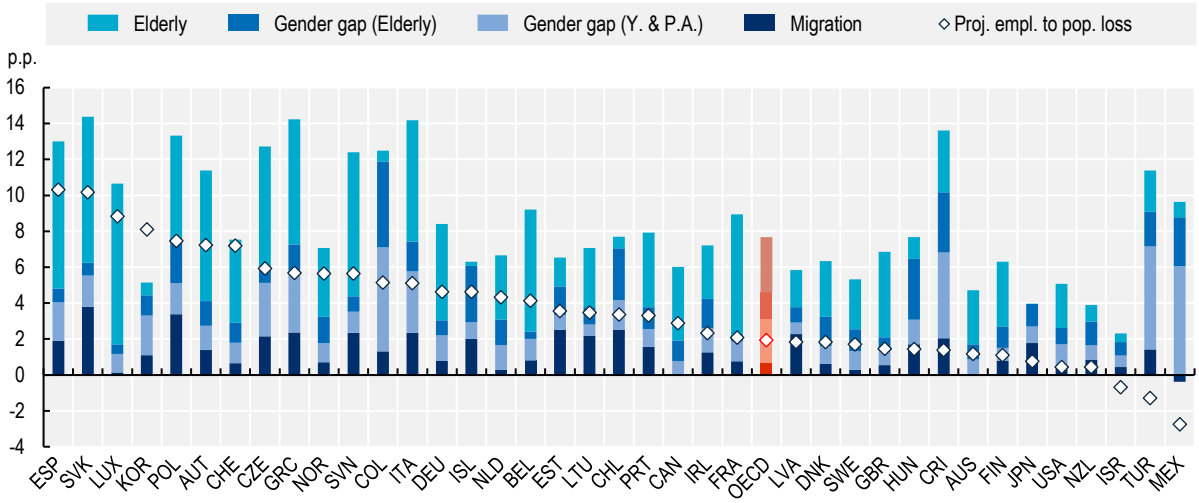
The various scenarios considered in the previous subsection are complementary, rather than mutually exclusive. Countries may indeed pursue simultaneously multiple strategies to mobilise untapped labour resources. The scenarios considered here are designed in such a way that they can be, in principle, cumulated. Even if, in most countries, none of these alternatives suffices per se, they can be part of an overall strategy, which in most cases could compensate the effect of population ageing on the employment-to-population ratio.[37]

According to the stylised simulations presented in the previous section, in all countries but Korea, exploiting the full potential of all these channels combined would indeed prevent the employment-to-population ratio from declining by 2060, and in certain countries it would even yield a considerable increase, as shown in Figure 2.13. The largest contribution would come from mobilising further labour market participation and employment of older people. Simultaneously reducing exit rates of older workers to best practices and closing the gender gap at older ages (that is cumulating the higher-employment-of-older-workers and the gender-equality-for-older-workers scenarios) would increase the share of employed persons in the overall population by 4.6 percentage points, twice as much as the effect of closing the gender gap for younger age categories.

However, while the goal of closing the gender gap in employment is relatively consensual within society (OECD, 2017[80]; ILO/OECD, 2024[91]), significantly mobilising labour resources from other channels often faces societal and political resistance, because of their implications for migration inflows (see the previous subsection) and for the length of careers and timing of retirement (Jensen, 2012[92]; Häusermann, Kurer and Traber, 2018[93]; Guardiancich and Guidi, 2020[94]; Bello and Galasso, 2020[95]). Yet, while closing the gender employment gap among prime-age and young people would avoid the fall in the employment-to-population ratio in the OECD area as a whole in the simulations presented in the previous section, it would not be sufficient at a country level in all but ten countries (see Figure 2.13). Avoiding the decline of the share of employed persons in the population would therefore require, at least partially, mobilising other channels. Combining gender equality for prime-age and young people with the high migration scenario would barely avoids the drop in employment-to-population ratios in an additional five countries. Closing the gender employment gap at all ages would stabilise the share of employed persons in the population in 17 countries. By contrast, combining the gender-equality (all ages) and the higher-employment-of-older-workers scenarios would stabilise or even further increase the employment-to-population ratio in all but three countries.

Figure 2.13. A comprehensive strategy for mobilising labour resources can avoid the fall in employment-to-population ratios

Potential gains in employment rates from combining various scenarios, 2024-60, percentage points



Notes: The chart compares the projected percentage point loss in the share of employment to total population in the baseline scenario with gains from alternative scenarios: higher-employment of older-workers, gender equality (elderly), gender equality (prime-age and youth), high migration. The higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. The gender equality scenarios assume that by 2060, for both genders, employment rates in each age category are as high as that of the gender with the highest rate in the baseline scenario. The high migration scenario sets future net migration rates equal to the 75th percentile of the cross-country distribution in 2021-24. Proj. empl. to pop. loss: p.p. loss in employment-to-population ratios as projected in the baseline scenario. Y. & P.A.: young and prime-age. OECD: Weighted average of OECD countries. p.p.: percentage points.
Source: Secretariat's calculations based on OECD (2024), *International Migration Outlook*, https://doi.org/10.1787/50b0353e-en; OECD Data Explorer, "Labour market outcomes of immigrants – Employment, unemployment, and participation rates by sex", http://data-explorer.oecd.org/s/255 and "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; United Nations (2024), International Migrant Stock 2024, www.un.org/development/desa/pd/content/international-migrant-stock, and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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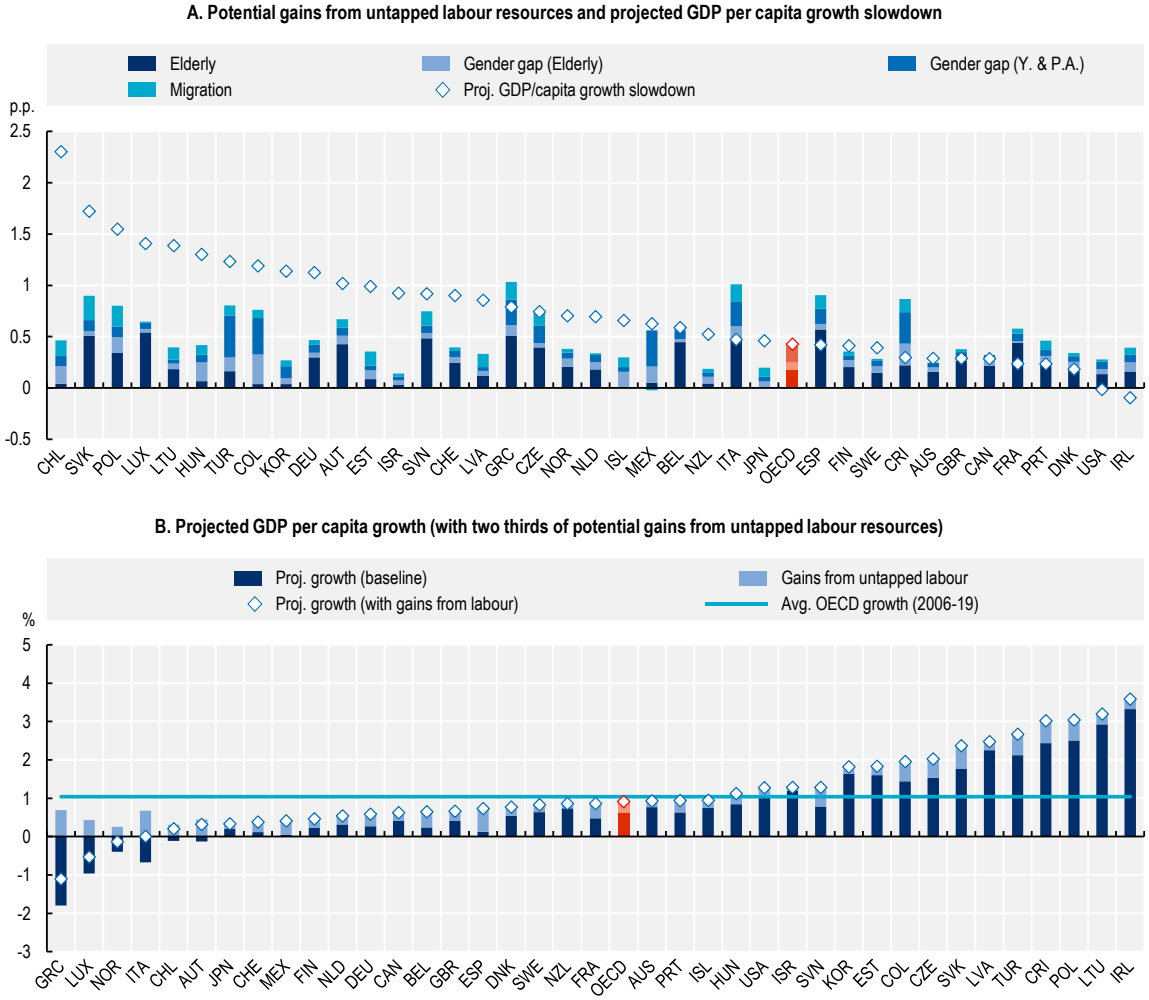
Stabilising the share of employed persons in the overall population will not be enough, however, to prevent GDP per capita growth from declining. The reason is that, as mentioned in the previous section, the contribution of the labour input to growth has always been positive in most countries until now. For example, in the whole OECD area, employment growth was still contributing as much as 0.3 percentage points to GDP per capita growth in 2006-19.[38] As a consequence, even maintaining a moderate increase in the labour input would likely be insufficient to prevent a growth slowdown. In fact, while in the whole OECD exploiting the full potential of all the labour channels considered in this section could allow cushioning the annual GDP per capita growth loss due to demographic change, as projected in the baseline scenario for the period 2024-60, this will be insufficient in two-thirds of OECD countries (Figure 2.14, Panel A). Beyond Ireland and the United States, where GDP per capita is not projected to decline in the baseline scenario, only in Belgium, Canada, Costa Rica, Denmark, France, Greece, Italy, Portugal, Spain and the United Kingdom mobilising all these labour resources could fully prevent GDP per capita growth from declining.[39] Again, the largest contribution would come from mobilising further labour market participation and employment of older people in good health. Reducing the employment exit rate of older workers to best practices and closing the gender gap at older ages would increase GDP per capita growth by 0.26 percentage points, twice as much as the gain that would be obtained from closing the gender gap for young and prime-age workers.[40]

Figure 2.14. An overall strategy mobilising labour resources will significantly limit losses in GDP per capita growth

Projected annual GDP per capita growth and potential gains from combining various scenarios, 2023-60



Notes: Panel A compares the projected percentage point loss in real GDP per capita growth in the baseline scenario with gains from alternative scenarios: higher employment of older workers, gender equality (elderly), gender equality (prime-age and youth), high migration. Panel B compares the average GDP per capita growth attainable from a comprehensive strategy mobilising all alternative labour channels at two-thirds of the potential considered in Panel A and the cross-country median growth rate in 2006-19.The higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. The gender equality scenarios assume that by 2060, for both genders, employment rates in each age category are as high as that of the gender with the highest rate in the baseline scenario. The high migration scenario sets future net migration rates equal to the 75th percentile of the cross-country distribution in 2021-24. Y. & P.A.: young and prime-age. OECD: Weighted average of OECD countries. p.p.: percentage points. GDP: Gross Domestic Product.

Source: Secretariat's calculations based on OECD (2024), *International Migration Outlook 2024*, https://doi.org/10.1787/50b0353e-en; OECD (2024), OECD Data Explorer: "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253, "Labour market outcomes of immigrants – Employment, unemployment, and participation rates by sex", http://data-explorer.oecd.org/s/255 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; United Nations (2024), International Migrant Stock 2024, www.un.org/development/desa/pd/content/international-migrant-stock, and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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For a number of countries, however, own growth in 2006-19 may not provide an appropriate benchmark. In fact, some of them were still in a catch-up phase of development characterised by high productivity dynamism and significant growth in the labour force participation of people of working age, which cannot be expected to continue indefinitely at the same pace. Similarly, the three mobilisation scenarios considered here are highly stylised simulations that are provided to give an order of magnitude of the relative potential of each channel. As a result, they do not necessarily represent jointly attainable targets, in particular because of the costly policy interventions that are required to attain each of them. For this reason, Figure 2.14, Panel B, compares projected GDP per capita growth in a scenario incorporating the mobilisation of two-thirds of untapped labour resources with the annual growth rate of GDP per capita of the *entire OECD area* in 2006-19 (1.0%, see Figure 2.7), arguably two more reachable benchmarks. For the OECD area, mobilising these untapped resources to reach just two-thirds of their potential would allow cushioning 70% of the annual loss in GDP per capita growth due to demographic change as projected in the baseline scenario for the period 2024-60, reaching a projected annual GDP per capita growth of 0.9%.

The projected growth rate of 13 OECD countries (Colombia, Costa Rica, Czechia, Estonia, Ireland, Israel, Korea, Latvia, Lithuania, Poland, the Slovak Republic, Türkiye and the United States) remains above the 2006-19 cross-country average even in the baseline scenario, despite significant growth losses for many of them with respect to their own growth rate in the same period. In two other countries (Hungary and Slovenia), growth could be kept higher than the OECD average of 2006-19 if two-thirds untapped labour resources from all channels were activated. Moreover, mobilising two-thirds of untapped labour resources would suffice to keep annual GDP per capita growth within 0.5 percentage points per year from the benchmark in all but nine countries (Austria, Chile, Finland, Greece, Italy, Japan, Luxembourg, Mexico, Norway and Switzerland). The remaining gap can be closed by developing the appropriate reforms to revive productivity growth – see e.g. OECD (2018[54]), Draghi (2024[96]), André and Gal (2024[97]) and Chapter 5 – up to a realistically reachable level. For all these countries, achieving a rate of growth in GDP per person employed that is no more than half of the median for the 1990s for all countries would allow reaching this benchmark growth or remaining within about 0.1 percentage points of it (see Annex Figure 2.A.9).

Overall, these findings suggest that only a comprehensive policy strategy, involving a substantial mobilisation of untapped labour resources and making the most of the employment potential of older people, could avoid that demographic change brings about a significant decline GDP per capita growth. Any other strategy to prevent this decline would not only risk falling short of the target but would also imply a significant burden on younger cohorts, as a smaller working-age labour pool will have to produce more just to maintain living standards of a larger dependent population. This would have significant fairness implications and would jeopardise societal cohesion. The next section will delve into these issues, by looking at the extent and dynamics of intergenerational inequalities.

2.4. Inequalities in living standards across generations

The results in the previous section show that mobilising untapped labour resources will be key to avoid declining GDP per capita growth and, therefore, stagnating average living standards. Yet, even if OECD countries meet this challenge, demographic change will have profound consequences for the distribution of resources across people of different ages in the population.

As the youngest baby boomers approach retirement, OECD societies with declining working-age populations will have to secure adequate incomes and care for unprecedentedly large generations of retirees. In 2021, old-age and survivors' pensions accounted for 38% of public social expenditure across OECD countries – approximately 8.5% of GDP (see Annex Figure 2.A.10, Panel A).[41] Spending on older people also accounts for about half of all health expenditure, which, at 30% of total public social spending (or 6.6% of GDP), constitutes the second-largest expenditure category.[42] For comparison, OECD countries dedicated only 2.1% of GDP to family benefits, and around 1.1% to out-of-work income support for working-

age adults through unemployment benefits and social assistance (OECD, 2025[98]). As OECD populations continue to age and live longer, expenditure on pensions and health is projected to rise across OECD countries, by an average of 0.09 percentage points of GDP annually until 2060, or a cumulative 3 percentage points (see Annex Figure 2.A.10, Panel B).[43] Alongside implications for intergenerational fairness, this will leave increasingly little fiscal space for benefits targeted at mitigating poverty, insuring against income shocks, and supporting labour market reallocation among the working-age population.

Given the design of social protection systems in most OECD countries, increased calls on publicly financed support and services will need to be funded through the taxes and social security contributions of a shrinking working-age population.[44] This shift of resources, from current and future generations of working-age adults towards the dependent old-age population, has strong implications for intergenerational equity.[45] Moreover, it will compound the existing inequalities in income and wealth across generations that are documented in this section.

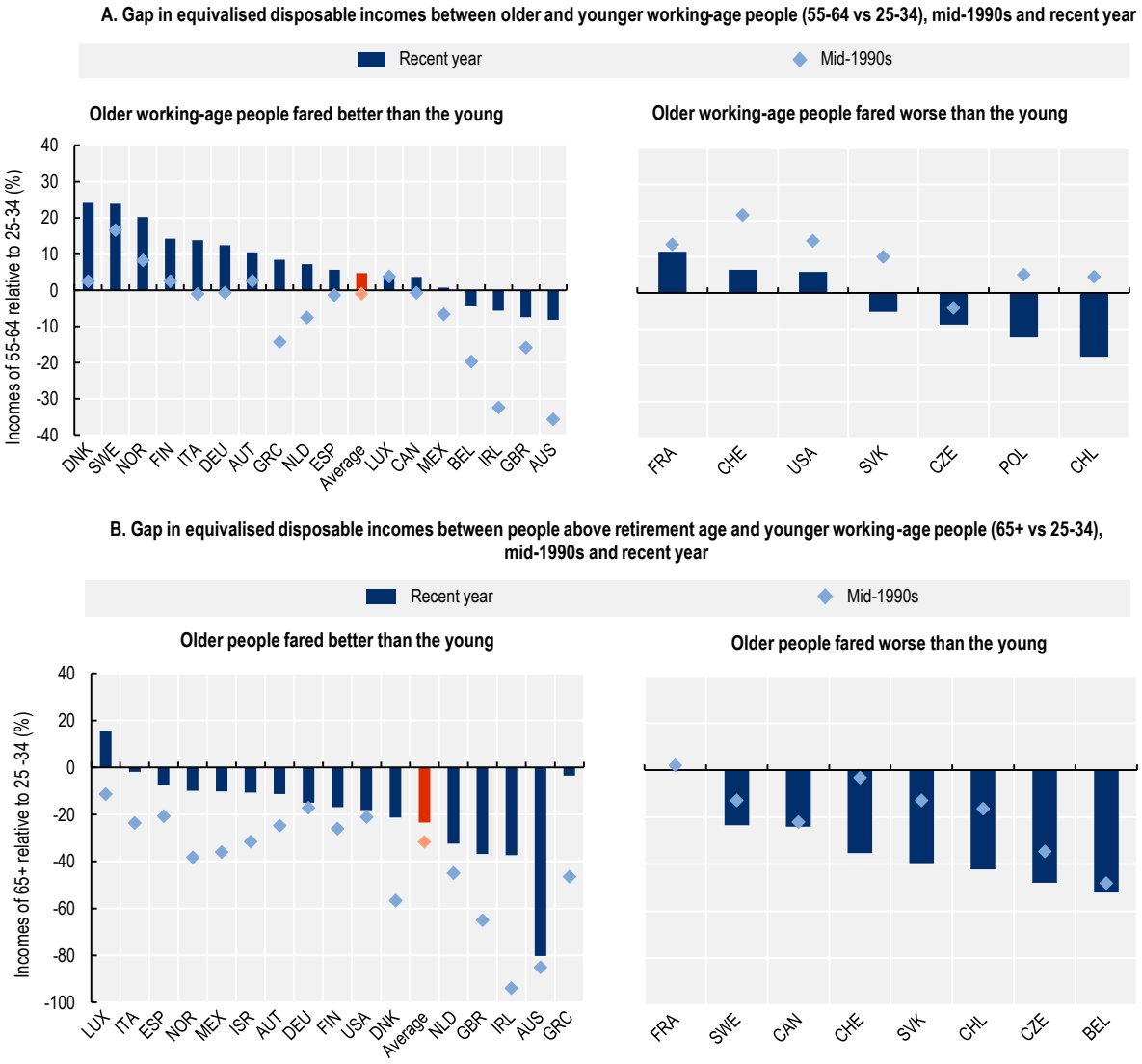
2.4.1. Older generations have benefited from higher income growth than the young

In over two-thirds of OECD countries where data are available, older working-age people (55-64) have enjoyed faster income growth than younger working-age people (25-34) over the past three decades. The gap in equivalised disposable household income between older working-age people and the young has widened in most OECD countries since the mid-1990s, reaching over 10% in many Nordic and Western European countries in recent years (Figure 2.15, Panel A).[46] Equivalised disposable household income assigns household income after tax and transfers, adjusted for household size, to each household member. While this adjustment allows for a more accurate comparison of living standards across different types of households, it also means that rising female labour force participation alone has raised household incomes among the young. Despite this, and improved educational attainment among younger generations (Barro and Lee, 2010[99]; Cipollone, Patacchini and Vallanti, 2014[100]), the divergence in income growth has persisted. Among the few countries where younger people have enjoyed faster income growth, many are in the process of catching up with the most advanced economies, having experienced either strong labour productivity growth (Czechia, Poland and the Slovak Republic) or surging labour force participation (Chile) over the past decades. These results echo earlier research showing that the incomes of older working-age people have grown faster than those of young people across high-income countries (Pancrazi and Guiatoli, 2024[101]; Resolution Foundation, 2018[102]),[47] a process driven by both larger employment gains and stronger earnings growth among older people (Bianchi and Paradisi, 2024[103]).

The incomes of people of retirement age are also catching up with those of young working-age people.[48] Although across OECD countries the disposable household income of people in their late 20s and early 30s still exceeds that of people aged 65 years or more by 20%, the gap has narrowed by 10 percentage points since the mid-1990s (Figure 2.15, Panel B). In some countries – such as Luxembourg, Italy, Spain and Norway – older people now enjoy incomes comparable to, or higher than, those of younger people.

Disparities in income trajectories across different age groups shed light on the rising intergenerational inequalities observed in most OECD countries. Each generation faces unique labour market and macroeconomic environments that shape people's income paths. Workers employed during periods of robust labour productivity growth typically experience higher earnings growth than those employed during periods of productivity slowdown. Starting one's career during an economic downturn – as the Millennials, who were born after 1980 and graduated in the aftermath of the global financial crisis – can leave lasting "scars", undermining long-term labour market outcomes (Schmillen and Umkehrer, 2017[104]; Genda, Kondo and Ohta, 2010[105]) and diminishing the propensity to invest in riskier assets (Malmendier and Nagel, 2011[106]). Combined, these factors contribute to disparities in lifetime incomes across generations (Freedman, 2023[107]; Guvenen et al., 2017[108]).

Figure 2.15. The relative income position of older people has improved significantly since the mid-1990s



Reading note: Panel A. In Denmark (left-hand panel), equivalised disposable household incomes for older working-age people (55-64) are currently 40% higher than for younger working-age people (25-34). In the mid-1990s, the two groups had similar incomes. Hence, older working-age people have fared better than the young over the period. In Chile (right-hand panel), equivalised disposable household incomes for older working-age people are nearly 20% lower than for younger working-age people while in the 1990s they were 10% higher. Hence, older working-age people have fared worse than the young over the period.
Note: Observation periods vary slightly across countries: mid-1990s refers to 1995 or the closest available year; recent year refers the latest pre-COVID year, or 2022/23 if available. Equivalised disposable household income assigns post-tax-and-transfer household income, adjusted for household size, to each household member. Average: Unweighted average of the countries shown.
Source: OECD calculation based on the Luxembourg Income Study (LIS) Database.

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Today's older generations were fortunate to enjoy substantial income growth throughout their working-age years. In all countries where data are available, baby boomers – those born in the 1950s and early 1960s – experienced steep growth in disposable household incomes from their 20s to their mid-50s (Figure 2.16). This steep increase mirrors sustained labour productivity growth observed in most advanced economies in the 1980s and 1990s, when the baby boomers started their careers (OECD, 2024[19]). Their incomes

decline closer to retirement age as their skills depreciate (see Chapter 4) and they gradually exit the labour market (see Chapter 3). However, even well into retirement, baby boomers maintain income levels exceeding those they enjoyed in their 30s, thanks to – on average – decent pensions and the return on the savings they were able to accumulate during their working years.

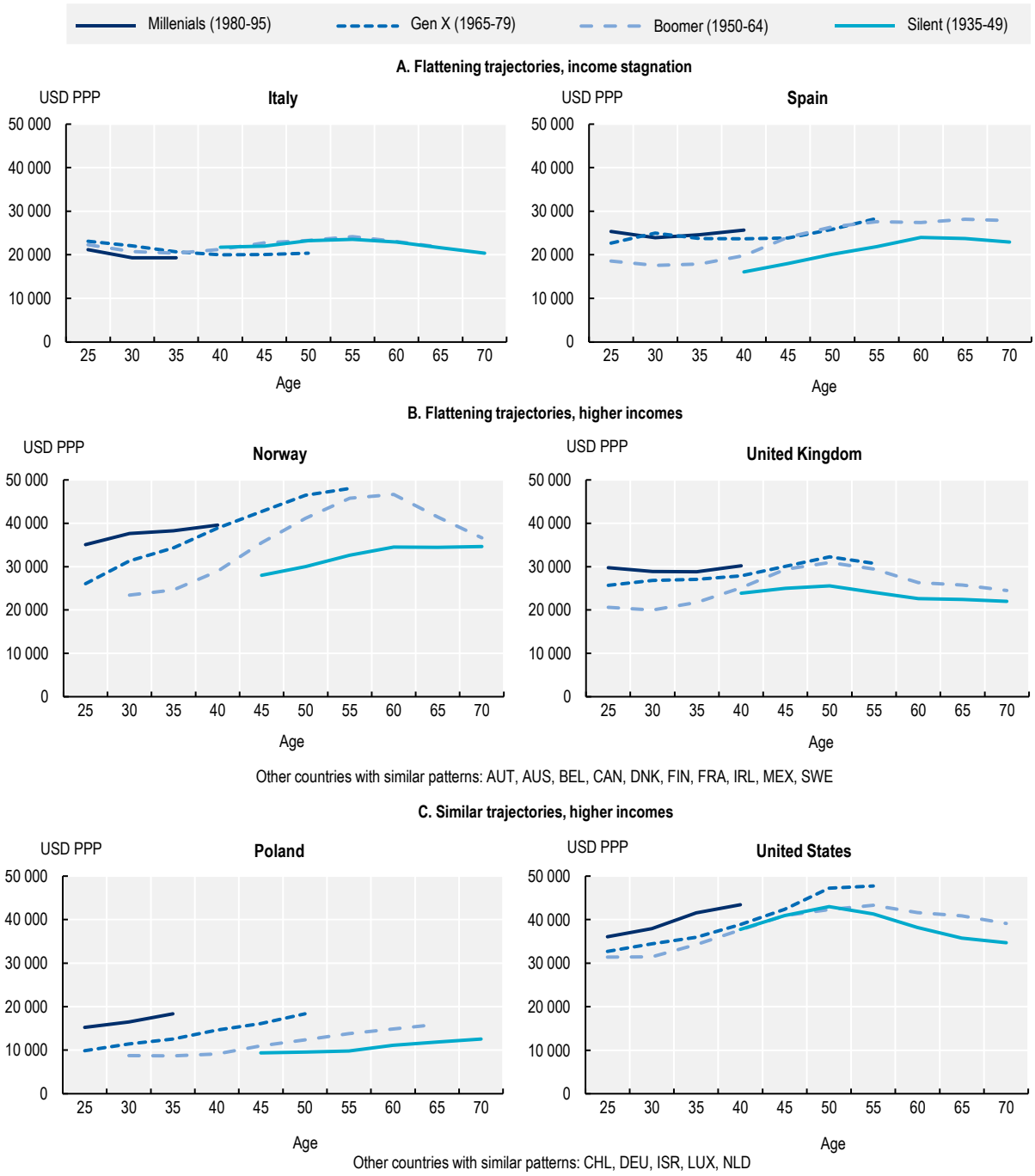
While today's younger generations generally enjoy higher real incomes than their predecessors did at the same age, they have seen slower income growth over the course of their lives. Across most countries, with few exceptions such as Italy and Spain (Figure 2.16, Panel A), each successive generation has benefitted from higher incomes than previous ones at the same age. However, income trajectories have flattened for generations following the baby boomers (Figure 2.16, Panel B). This trend is particularly pronounced for Millennials who, in many countries, have experienced limited or no income growth in their 20s and 30s. If this slowdown persists, Millennials in some countries may enter middle age with real incomes similar to, or lower than, those of previous generations. In only a third of countries for which data are available do Millennials enjoy higher incomes and similar income trajectories compared to previous generations (Figure 2.16, Panel C).

Two factors explain the flatter income trajectories of Millennials across most OECD countries:

1. *Slowing labour productivity growth since the 2000s*: Most advanced economies have suffered from a slowdown in labour productivity growth since the early 2000s, and particularly after the 2008 global financial crisis (GFC) (Goldin et al., 2024[32]; Fernald, Inklaar and Ruzic, 2024[27]; OECD, 2019[109]; 2024[19]). This deceleration has been more pronounced in Western and Southern Europe, and less so in Central and Eastern Europe, Korea and the United States, where productivity growth continued to be robust in recent years (OECD, 2019[109]). As highlighted above in this chapter, it appears unlikely that labour productivity growth will return to the high rates of the past in advanced economies. Millennials could therefore continue to face flatter income trajectories throughout their lifetimes.
2. *Scarring effects from compounded economic downturns*: Millennials were disproportionately affected by the GFC. Job losses were concentrated among younger workers, who were more likely to hold temporary and precarious contracts (Carcillo et al., 2015[110]). As a result, the share of young people neither employed nor in education or training (NEET) increased sharply and took several years to return to pre-GFC levels in several OECD countries. Moreover, young people who secured their first jobs during the GFC earned lower wages than earlier cohorts (Schwandt and von Wachter, 2019[111]; Altonji, Kahn and Speer, 2016[112]). In many European countries the subsequent Eurozone crisis extended challenging labour market conditions for the young well into the mid-2010s, resulting in a persistent earnings gap between Millennials and previous generations (Freedman, 2023[107]; Bentolila et al., 2021[113]).[49] These challenges may result in lower pension entitlements and diminished savings capacity in old age for Millennials compared to earlier generations, while their expected expenses in old age may rise due to longer life expectancies (see Figure 2.1).

Figure 2.16. Income trajectories have become less steep for younger generations in many countries

Age trajectories in real median equivalised disposable household incomes (2017 USD PPP), by generation



Note: For each generation-age group, median incomes are computed by averaging across all survey years from the 1990s to the latest available year in which a generation is observed at a given age. To improve robustness, only generation-age groups that appear in at least two survey years are included; survey years where the generation-age group represents a larger share of the population receive a greater weight. For some countries, given limited LIS data for the most recent years, Millennials are observed only up to age 35. Equivalised disposable household income assigns post-tax-and-transfer household income, adjusted for household size, to each household member. Incomes are expressed in 2017 PPP-adjusted USD.
Source: OECD calculations based on the LIS database. Consumer Price Index data are already available in the LIS database and come from the International Comparison Programme (ICP) at the World Bank.

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2.4.2. Intergenerational disparities in household wealth are also large, as older generations have benefited from booming asset markets

Wealth, a critical determinant of households' living standards and long-term economic well-being, tends to be concentrated among older generations. While income represents the ongoing *flow* of financial resources – through earnings from work or capital rents – wealth is the cumulative *stock* of past savings and asset appreciation. Wealth not only has an immediate consumption value, for example when it takes the form of housing or collateral. It also has an insurance value providing a buffer against unforeseen income shocks or consumption needs. When invested, wealth can generate future income through interest payments and dividends. Across 19 OECD economies, households headed by individuals aged 55-65 and 65+ hold, on average, net wealth six times greater than those headed by 25-34 year-olds, though with large cross-country differences (Figure 2.17, Panel A).[50]

Evidence on long-term wealth distribution trends, though limited by data availability, indicates widening intergenerational disparities. Over the past half-century, wealth-to-income ratios have surged across OECD countries, driven by historic gains in equity and housing markets (OECD, 2020[114]). The wealth of homeowners now accounts for 95% of national wealth on average (Balestra, Caisl and Hermida, 2025[115]), with ownership concentrated among older cohorts who purchased homes during periods of affordability (Knoll, Schularick and Steger, 2017[116]; Causa, Woloszko and Leite, 2019[117]). In five of the six OECD countries with comparable data since the early-2000s (Spain, Italy, Australia, Germany and Canada), the wealth gap between older and younger generations has grown; only the United States shows a decline (Figure 2.17, Panel B).[51]

The recent tendency towards limited later-life dissaving, and delayed bequests, risk calcifying the concentration of wealth among older people (Balestra and Tonkin, 2018[118]). Standard lifecycle models (Modigliani and Brumberg, 1954[119]) posit an accumulation of wealth during working years, followed by a period of dissaving during retirement, a broad pattern that is indeed observed in household wealth distribution data (Cowell et al., 2017[120]). However, contrary to the model's predictions of post-retirement dissaving, older people have increasingly tended to retain wealth in their later years. Such wealth retention is likely driven by three main motivations:

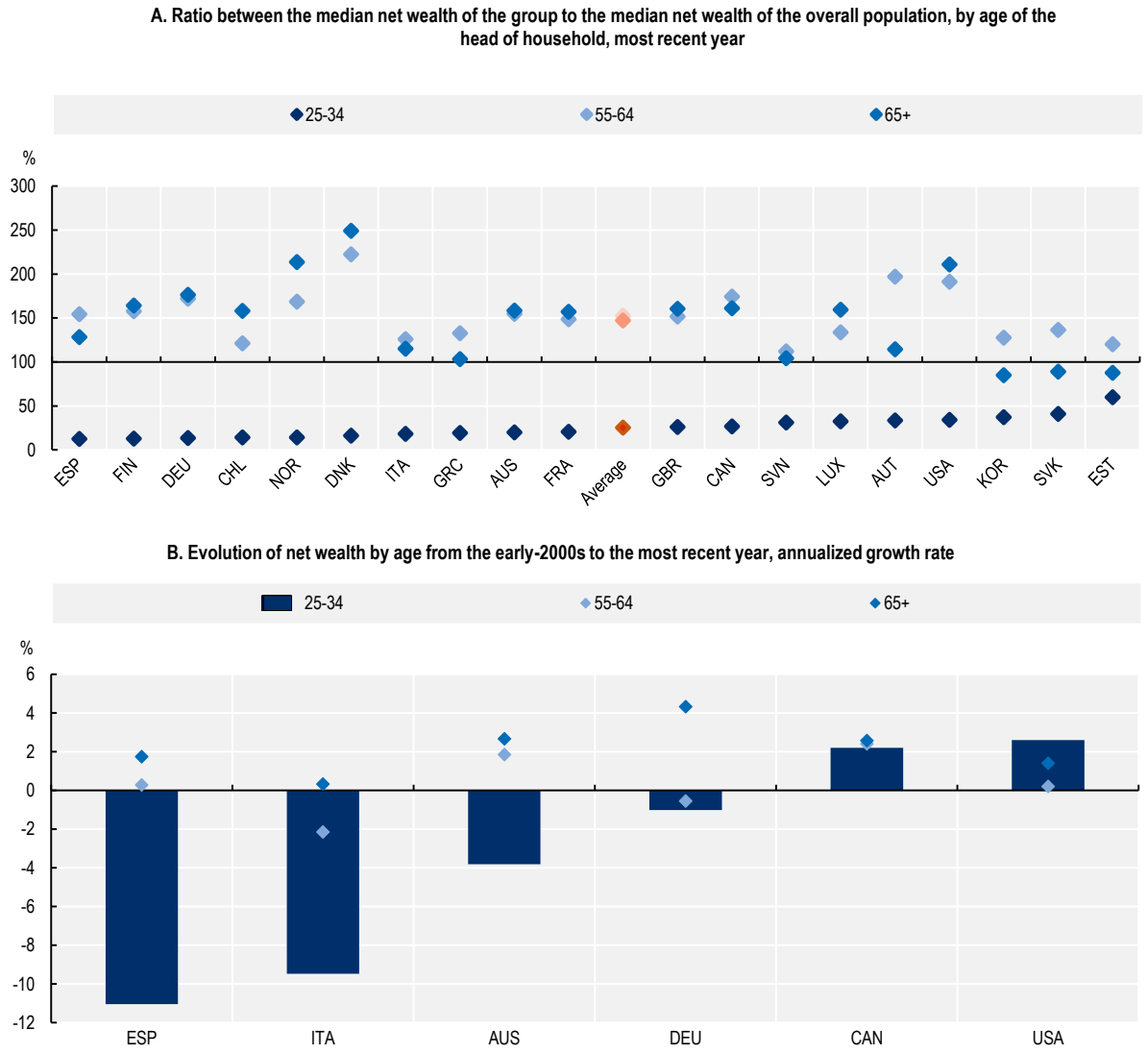
1. *To insure against longevity risks* as longer lifespans and potential health and long-term care costs necessitate precautionary savings;
2. *To provide bequests* as older people retain wealth for bequests rather than to use it for consumption; and
3. *To retain assets* as housing market frictions and incentives to capitalise on property appreciation delay decumulation (French, Jones and McGee, 2023[121]).

A growing literature on this "retirement savings puzzle" finds that while self-insurance against long-term care, or uninsured medical expenses, dominates for most households, the bequest motive drives the saving among the wealthiest (De Nardi et al., 2025[122]). For example, in the United States, while 53% of retirees save primarily for precautionary reasons, the wealthiest 20% are motivated by bequests. Since wealth is highly concentrated, the bequest motive dominates for the majority of wealth.

Among younger cohorts, those without access to bequests and *inter vivos* gifts increasingly face barriers to wealth accumulation. The share of people in their 30s who own their main residence has fallen in 17 out of 24 OECD countries over the last three decades, with declines exceeding 15 percentage points in Ireland, Greece, the United Kingdom, Spain and Australia (Figure 2.18, Panel A). Lower-income young people have been particularly affected (Figure 2.18, Panel B). In the United Kingdom, between 2000 and 2017, the gap in homeownership rates between those who grew up in rented accommodation and those who grew up in owner-occupied homes has doubled (Eyles, Elliot Major and Machin, 2022[123]).[52]

Falling homeownership among young cohorts reflects multiple pressures: rising house prices have made ownership increasingly unaffordable for young households while at the same time mortgage access has tightened; economic and labour market conditions for young people have become less secure while the increasing cost of rent and high student debt repayments in some OECD countries has reduced their capacity to save (OECD, 2020[114]). Even inheritances – traditionally a transfer of wealth from the old to the young – are expected to arrive later in life, if they arrive (Bourquin, Joyce and Sturrock, 2020[124]), too late to aid home purchases and instead further boosting wealth levels during later working age.

Figure 2.17. The wealth gap in favour of older generations has been widening



Note: Results refer to the distribution of financial and non-financial assets and liabilities across households, with no adjustment made for differences in household size. Public and occupational pension wealth is not considered; wealth held in voluntary private schemes is included. Observation periods vary slightly across countries: 2000s refers to 2000 or the closest available year; recent year refers the latest pre-COVID year, or 2022/23 if available. Median net wealth expressed in 2017 USD PPP. In Panel A, median population wealth will be higher in economies with larger older (and wealthier) cohorts. As a result, normalising by the population median will underemphasise the extent to which net wealth is concentrated among older cohorts. Average: Unweighted average of the countries shown.

Source: OECD calculations based on the Luxembourg Wealth Study (LWS) database. Panel A adapted from Balestra, Caisl and Hermida (2025[115]), "Household wealth distribution in OECD countries: trends and gaps", using LWS data.

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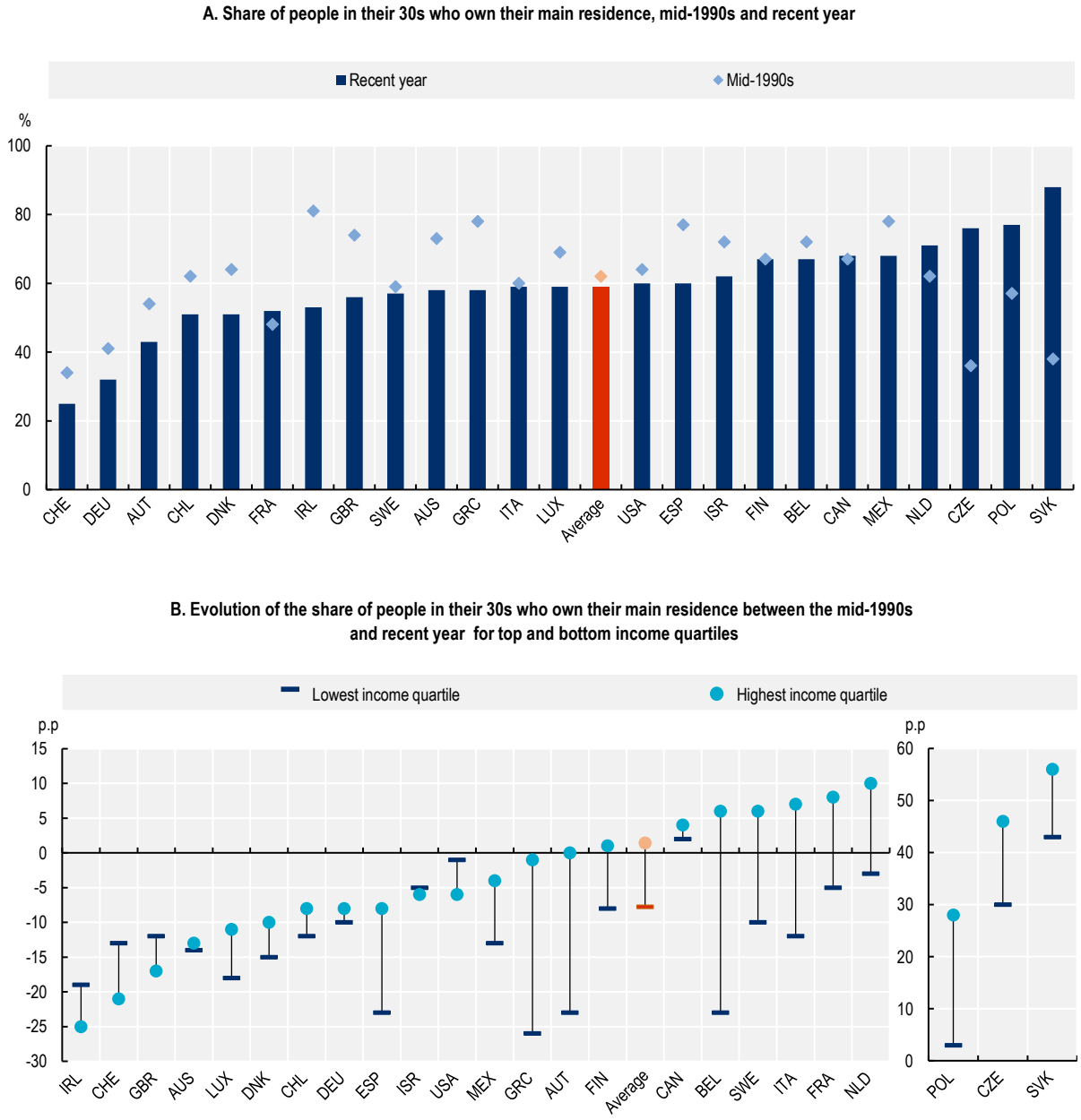
Figure 2.18. Younger generations are less likely to own a home than they were three decades ago



Note: Ownership rates include those who are paying a mortgage and those who own their home outright. Observation periods vary slightly across countries: mid-1990s refers to 1995 or the closest available year; recent year refers the latest pre-COVID year, or 2022/23 if already available. Average: Unweighted average of the countries shown.
Source: OECD calculations based on the LIS database.

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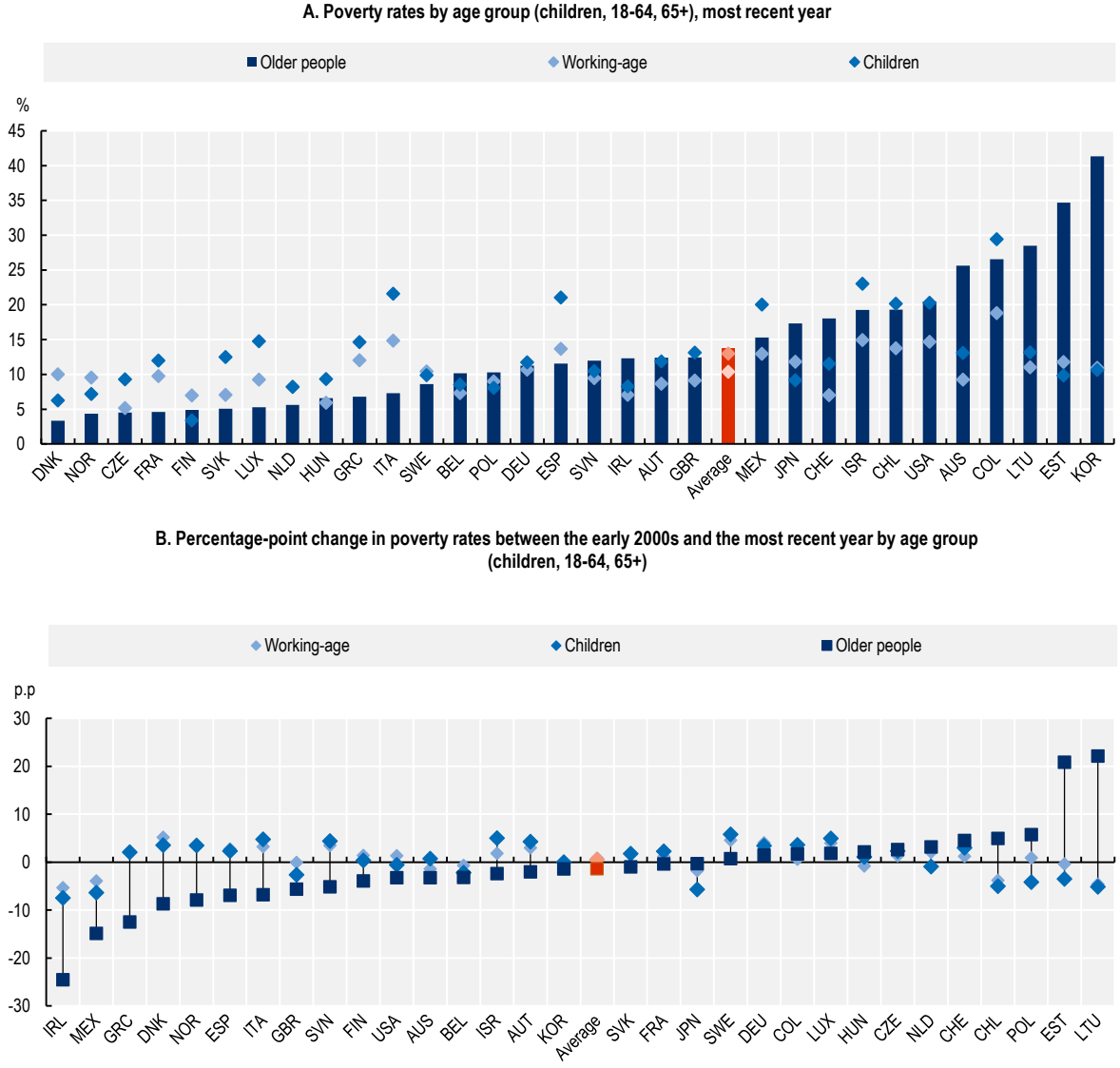
2.4.3. The poverty risk has shifted from the old to the young

While analyses of *median* income trajectories and wealth accumulation patterns provide critical insights into broader trends in economic well-being across generations, substantial disparities in living standards persist, warranting special focus on the least advantaged. Previous OECD research (OECD, 2017[7]) has documented a notable shift in poverty risk between age groups from the mid-1980s to the early 2010s,

with the burden moving away from older people towards younger and prime-aged individuals – particularly those under 25. Recent data indicate that poverty rates for older people (65+) have declined since the mid-2000s in most OECD countries, with 18 out of 32 countries now reporting lower poverty rates for this group compared to children (under 18) (Figure 2.19).[53] Notably, in 14 of these countries even the "oldest old" (76+), who traditionally face higher poverty risk, experience lower poverty rates than children. However, old-age poverty remains prevalent in some countries, such as the Baltic states and Korea, often disproportionately affecting women (OECD, 2023[4]).

Figure 2.19. In most countries, older people are less likely to live in poverty than children, and their relative poverty risk has declined



Note: Poverty rates give the share of people living in households with an equivalised disposable household income of less than 50% of the national median. Equivalised disposable household income assigns post-tax-and-transfer household income, adjusted for household size, to each household member. Observation periods in Panel B vary slightly across countries: early-2000s refers to 2000 or the closest available year; recent year refers the latest pre-COVID year, or 2022/23 if already available. For the sake of comparability, the years used for countries with information on imputed rents are the same as in Annex Figure 2.A.11. Average: Unweighted average of the countries shown.
Source: OECD calculation based on the LIS Database.

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The shift in poverty risk from older to younger generations reflects interrelated demographic, labour market, and policy developments. First, the rise in female labour force participation and growing employment of older workers has enabled older generations to accumulate longer contribution histories and greater pension entitlements. Second, pension reforms implemented since the 1990s, while raising normal retirement ages to address fiscal sustainability concerns, included sometimes long transition periods as well as "grandfathering" clauses that shield older workers from benefit reductions and tighter eligibility conditions. As a result, current retirees and older generations of workers have been less affected than future generations will be (OECD, 2019[125]; 2021[126]). Third, the shift in poverty risk may reflect the preferences of an ageing electorate and align with broader public perceptions that have traditionally viewed older people among the groups most deserving of public support (Heuer and Zimmermann, 2020[127]), though recent evidence suggests these attitudes may be evolving – see Hoynes, Joyce and Waters (2024[128]) for a discussion of social attitudes in the United Kingdom.

Moreover, conventional income-based poverty metrics may underestimate true disparities in living standards between low-income households of different ages. This is because they do not account for differences in non-discretionary spending, notably housing – the largest expenditure item, on average, for households across all income groups (OECD, 2019[129]).[54] With declining homeownership rates among younger generations (Figure 2.18), a growing share of young adults rent their homes, often at substantial cost. According to the OECD Affordable Housing Database, housing costs in the rental market exceed those experienced by owner-occupiers in 34 of 37 OECD countries even when principal repayment is included in mortgage costs (OECD, 2024[130]). The concentration of young people in expensive metropolitan areas for study or work further exacerbates intergenerational cost disparities. When combining all forms of tenure, households where the oldest member is aged between 25-34 spend on average 14 percentage points more of their disposable income on rent or mortgage costs than households where the oldest member is older than 65 (OECD, 2025[131]). Consequently, the share of young people living with parents has been on the rise in some OECD countries (OECD, 2020[114]), delaying independent living, geographic mobility, and family formation.[55]

Accounting for the financial benefits of homeownership further widens measured disparities in poverty risk between older people and the young. Once imputed rent – i.e. the economic value homeowners derive from living in their own properties instead of renting at market value[56] – is added to homeowners' disposable income, poverty rates among older people decline, to 10.9% across 24 OECD countries with available data (see Annex Figure 2.A.12, Panel A).[57] By contrast, poverty rates modestly rise for children (to 14.8%) and working-age people (to 10.7%), as the relative poverty threshold increases due to this adjustment, and because these groups are less likely to live in households who own their homes. When accounting for imputed rent, older people are less like to be in poverty than children in 21 of 24 OECD countries with available data – only in Estonia, Lithuania and Switzerland do older people remain the most vulnerable to poverty. In nine OECD countries (Slovak Republic, Denmark, the Netherlands, Luxembourg, Greece, France, Spain, Italy and Czechia), the poverty rate among older people is less than half that observed among children. And furthermore, examining trends over time, after accounting for imputed rent, relative poverty rates for older people have declined since the turn of the century in 8 of the 14 OECD countries with time series data available (see Annex Figure 2.A.12, Panel B), further widening the intergenerational poverty gap.

The trends described in this chapter – ageing populations, soaring dependency ratios, and a declining labour force called on to finance the needs of a growing dependent population – have profound implications for the distribution of resources between different age groups. Expanding the labour force, and strengthening participation, as outlined in the previous section, will be central to maintaining living standards. Yet beyond this, if countries are to meet anticipated fiscal demands and avoid exacerbating the implications of demographic change on intergenerational fairness, they may need to re-examine the composition of funding sources and the balance of contributions and benefits across the life cycle. A rebalancing of labour and capital income taxation could help secure the financing of social protection and

support employment and wage growth (OECD, 2024[132]). Well-designed inheritance taxes and a greater role for recurrent taxes on immovable property, could stymie further house price increases and help reduce wealth disparities (Causa, Woloszko and Leite, 2019[133]; OECD, 2018[134]; 2021[135]). Meanwhile, rebalancing social expenditure toward early-life investments – including childcare and family support – could alleviate financial pressures on young families and raise living standards, while helping to close the gender employment gap and improving long-term productivity.

2.5. Concluding remarks

The secular increase in longevity and decline in fertility have raised OECD countries dependency ratios and will continue to do so in the future. OECD countries are therefore moving from a regime in which the labour input was contributing to GDP per capita growth to another in which labour input declines will represent a drag on growth in the next 35 years. Without further policy action and/or change in individual labour market attachment, this will weigh significantly on economic growth and the capacity of OECD countries to continue improving their living standards. Moreover, the evidence suggests that demographic change has strong implications for intergenerational inequality.

This chapter has explored, by means of simple simulations of highly stylised, complementary scenarios, the potential of different avenues to address the growth challenges brought about by often dramatic population ageing. It first notes that the perspectives concerning reviving productivity growth are uncertain, and therefore relying exclusively on the hope of a sustained acceleration of productivity growth would be a dangerous strategy. By contrast, mobilising untapped labour resources appears to have a significant potential. Each of the avenues considered here (closing the gender gap, raising employment of older people and increasing migration) could have a significant positive impact on GDP per capita growth.

Increasing employment of older people appears to be one of the labour resource avenues with the largest potential. Reducing their employment exit rate to that of the best 10% of OECD countries and closing the gender employment gap at old age could increase OECD GDP per capita growth by 0.26 percentage points, about 60% of the projected decline of GDP per capita growth in the baseline scenario. Mobilising the employment potential of older people in good health would not only be necessary to effectively offset the effect of ageing on growth but also any alternative strategy would be problematic for fairness reasons as intergenerational inequalities have progressed in favour of older generations.

The remainder of this book will delve deeper into the challenges of ageing for the labour market and the policy solutions. Chapter 3 focuses on policies needed to increase activity and employment rates of old-age people and at the same time ensure that they can thrive in the labour market by accessing good-quality jobs. Beyond making sure that workers have the right incentives to stay in the workforce longer and plan for longer careers, it is crucial to guarantee that labour demand does not decline with age and that older people remain employable. Employers, governments and social partners all have a role in improving lifelong learning, job quality and promoting healthy workplaces to ensure the continuing employability and well-being of older workers. But policy attention and actions should also focus on mid-career workers, since one of the key findings of Chapter 3 is that continuous employment in one's 50s is a crucial determinant of labour market attachment and employment trajectories in one's 60s.

Lifelong learning is crucial: Chapter 4 indeed shows that information-processing skills and physical abilities decline with age. Moreover, labour market changes tend to make obsolete some skills held by older cohorts. Training participation and learning-by-doing, however, also decrease with age. Policies need not only to promote lifelong learning and improve training opportunities for older workers but also provide career guidance services to help mid-career and older workers reflect on their professional trajectories and address any skills gaps, especially as some professions allow more easily older workers to stay in the labour market longer.

Addressing skill gaps can also partially reduce the possible negative effect of an ageing structure of employment on productivity, which is feared by many (see Box 2.3). Beyond the fact that that productivity at some point declines with age, one of the reasons of this concern is that older workers are less mobile, so that an ageing workforce could in practice slow down growth-enhancing labour reallocation. Chapter 5 investigates how external mobility, and the related cross-firm reallocation process, raises productivity growth, and the related possibility that a greater share of older workers in employment could imply slowing productivity growth. The chapter finds that there is clear evidence of a steep negative gradient between age and job-to-job mobility, which has slowed, and may continue to slow, aggregate wage and productivity growth. Addressing frictions and bottlenecks affecting this gradient will therefore be important to avoid that workforce ageing has a negative impact on productivity growth.

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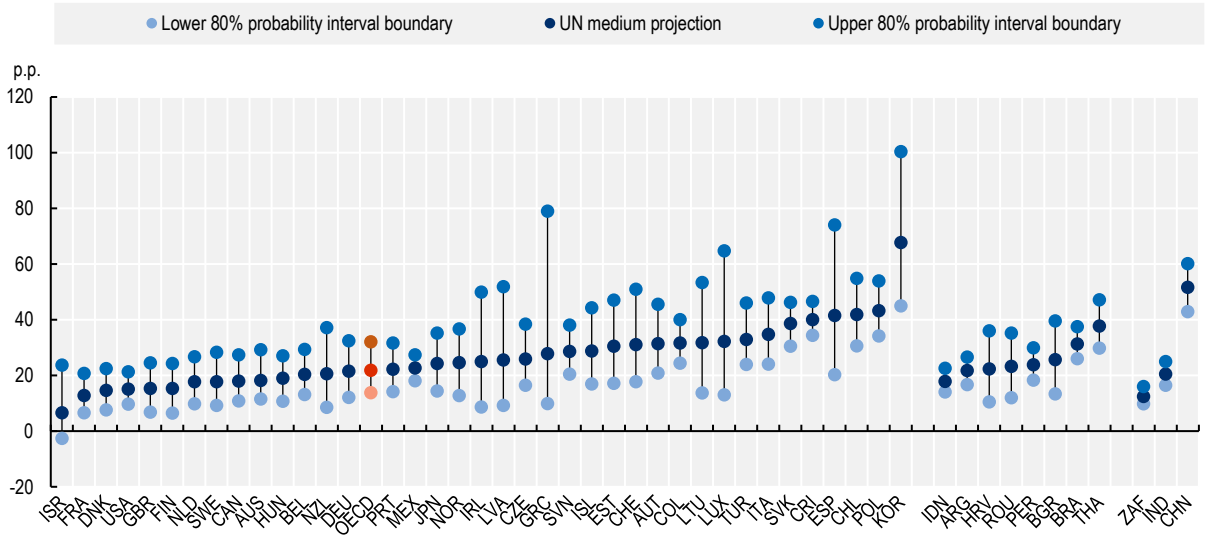
Annex 2.A. Additional Figures

Annex Figure 2.A.1. Evolution of the ratio of old-age to working-age population, 2023-60

Percentage point increase in the ratio of old-age to working-age population, probability intervals, 2023-60



Notes: The chart compares projected percentage point differences in the ratio of old-age to working-age population between 2060 and 2023, based on UN probabilistic projections. The UN medium projection is the median projection for each country. A rate within the 80% probability interval is projected to have a 80% probability of occurring. p.p.: percentage points. OECD: Weighted average of OECD countries.
Source: Secretariat calculations based on United Nations (2024), World Population Prospects 2024, Department of Economic and Social Affairs, Population Division, Online Edition, https://population.un.org/wpp/.

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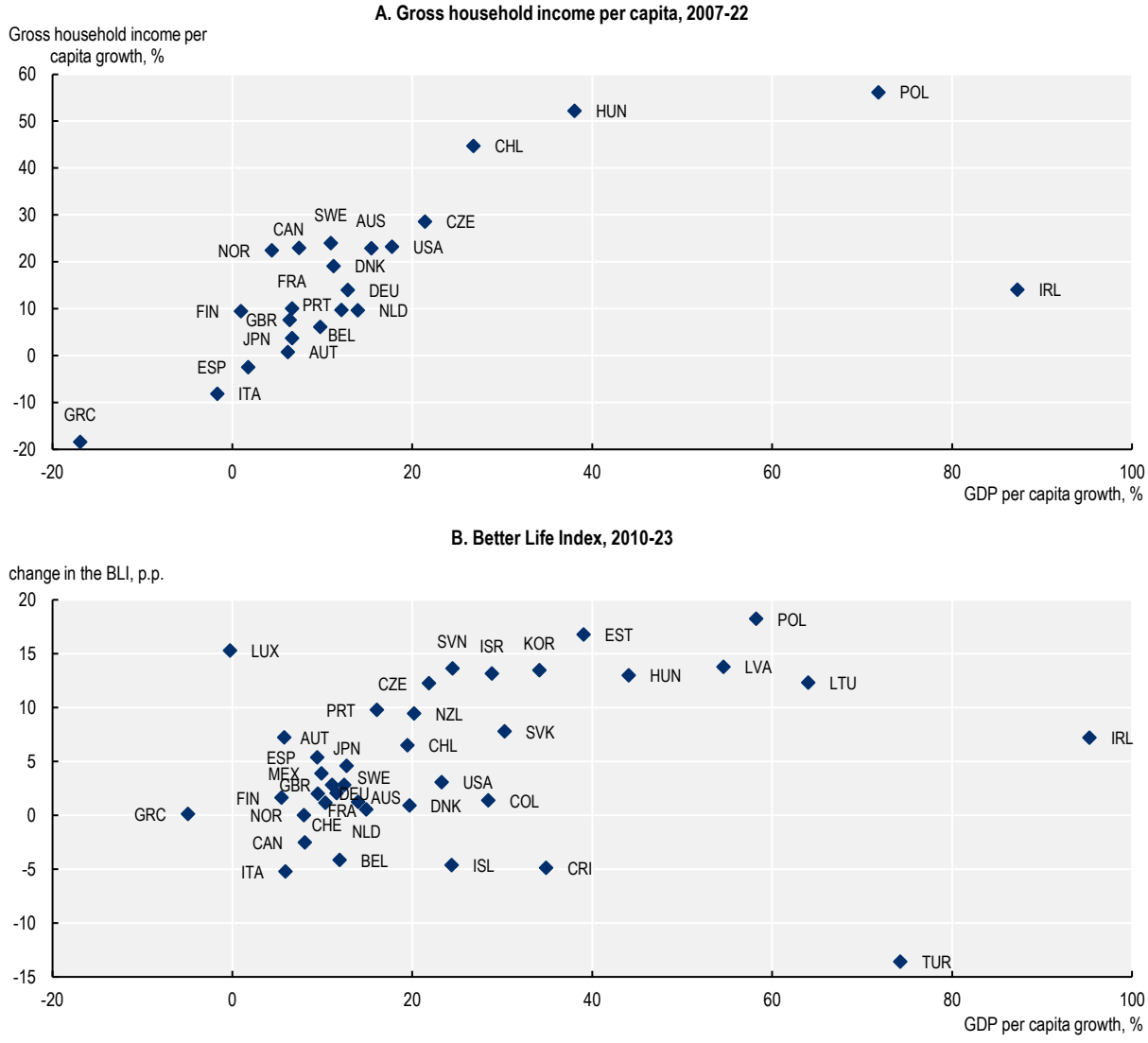
Annex Figure 2.A.2. GDP per capita growth is correlated with indicators of living standards

GDP per capita growth vs. other indicators



Notes: Gross household income is computed in real terms and incorporates income from non-profit institutions serving households. GDP: Gross Domestic Product. BLI: OECD Better Life Index (aggregate index). p.p.: percentage points.

Source: Secretariat's calculations based on OECD Data Explorer, "Productivity levels", http://data-explorer.oecd.org/s/254; "Household Indicators Dashboard", http://data-explorer.oecd.org/s/258; OECD (2024), *How's Life 2024*, https://doi.org/10.1787/90ba854a-en.

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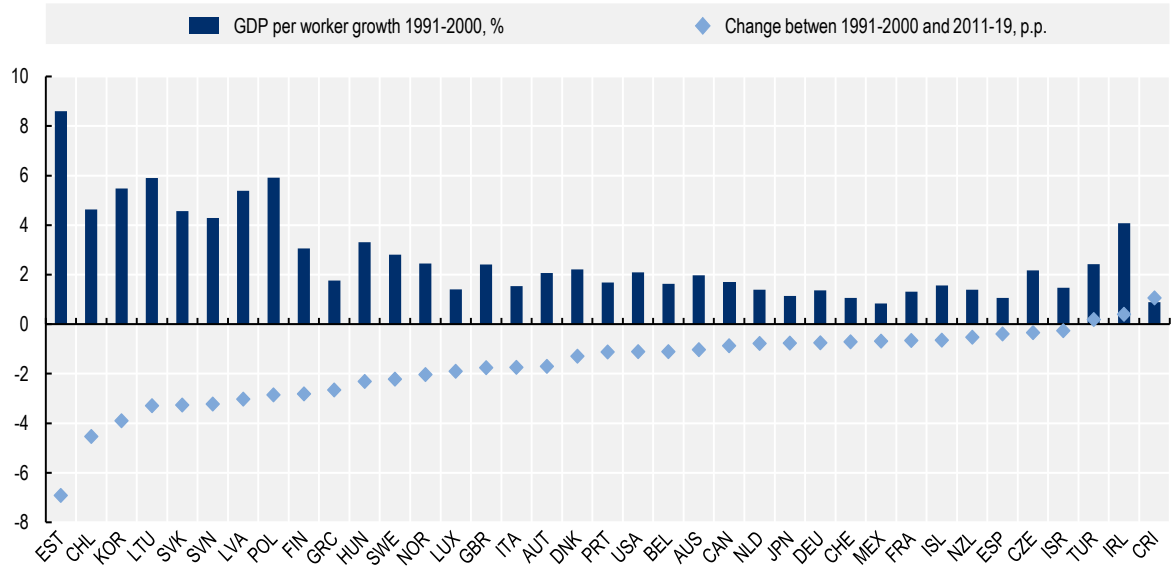
Annex Figure 2.A.3. Productivity growth in the 1990s

Average annual growth rate of real GDP per person employed, 1991-2000 and change between 1991-2000 and 2011-19



Note: Average growth in the 1990s based on 1992-2000 for Czechia, 1993-2000 for Costa Rica, Hungary and Mexico, 1994-2000 for Poland, 1995-2000 for Estonia and the Slovak Republic, 1996-2000 for Latvia, Lithuania and Slovenia. Average growth in the 2010s based on 2011-17 for Australia and 2013-19 for Greece. p.p.: percentage points. GDP: Gross Domestic Product.
Source: OECD Data Explorer, "Productivity levels", http://data-explorer.oecd.org/s/254.

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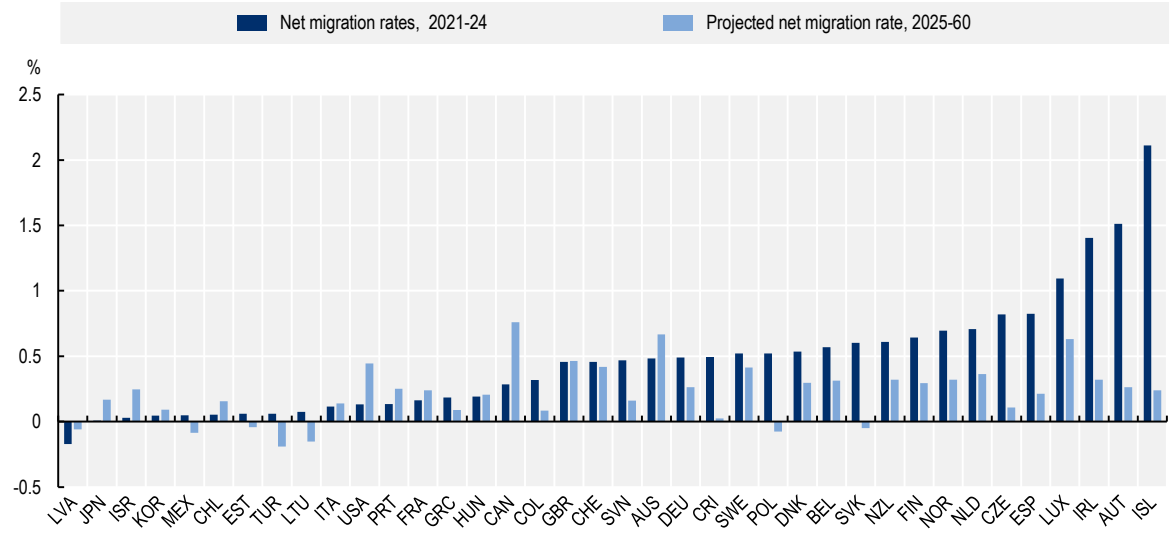
Annex Figure 2.A.4. Migration rates, past and projected

2021-24 and 2024-60, annual averages, percentage of the population in the previous year



Notes: Net migration rates are defined as the difference in the change of the stock of foreign-born and that of domestic-born but living abroad, divided by population size in year t-1. Countries ordered in ascending order by average net migration rate in 2021-24. Projected rates are based on the UN medium scenario.
Source: Secretariat's calculations from United Nations (2024), International Migrant Stock 2024, Online Edition, www.un.org/development/desa/pd/content/international-migrant-stock, and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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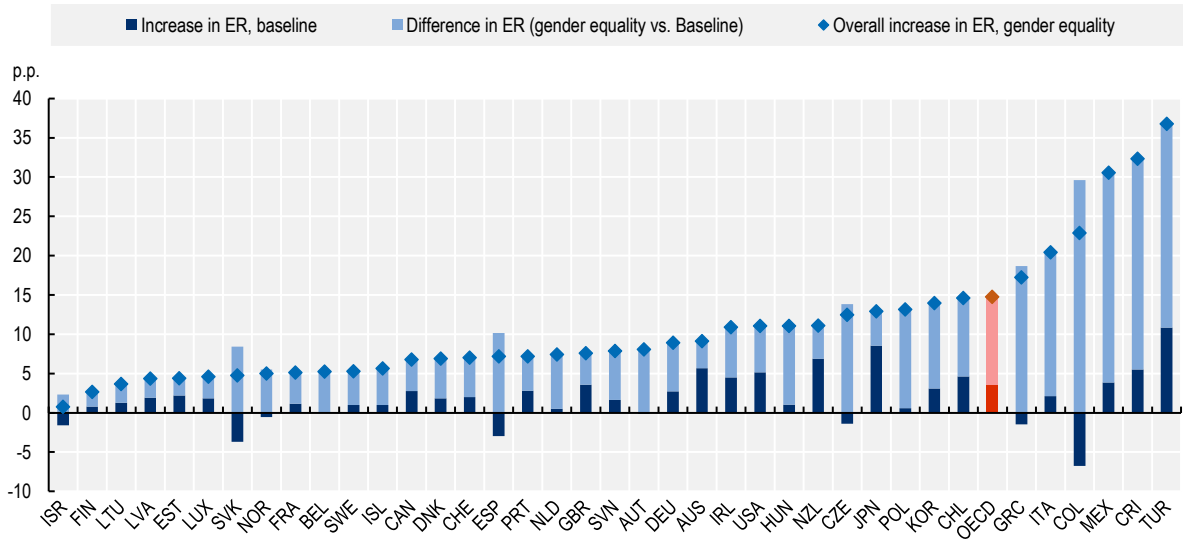
Annex Figure 2.A.5. Closing the gender gap in employment requires large increases in female employment rates

Percentage point difference in employment rates between each scenario (baseline and gender equality scenarios) between 2060 and 2023, women aged between 20 and 64 years



Notes: The chart compares, for female workers aged between 20 and 64 years, projected percentage point differences between employment rates in 2023, the baseline scenario in 2060, and a scenario that closes the gender gap in employment rates (Gender equality) by that date. ER: Employment rate. OECD: Weighted average of OECD countries. p.p.: percentage points.
Source: Secretariat calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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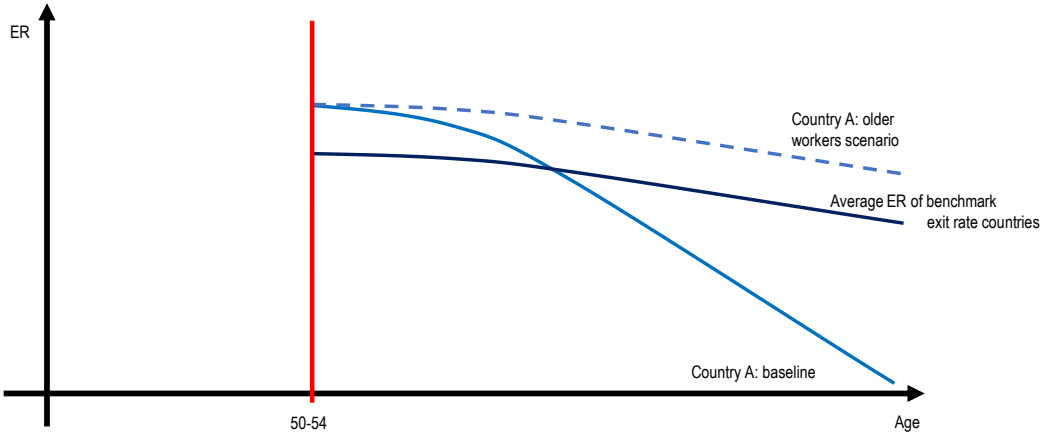
Annex Figure 2.A.6. Higher-employment-of-older-workers: the case in which the employment rate of a given country is above those in the lowest-exit-rate countries for some age categories

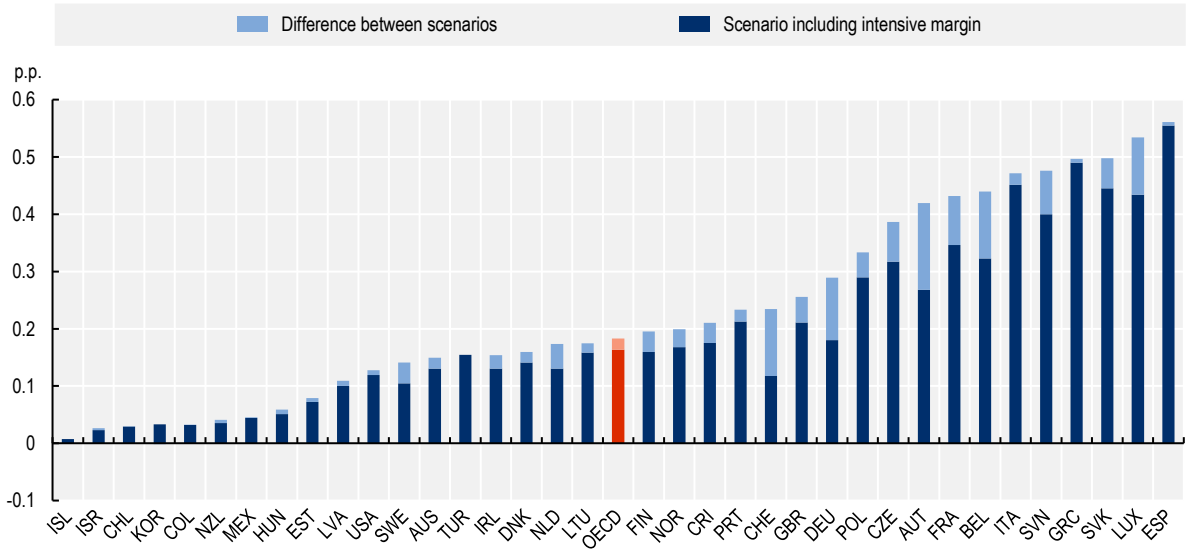
Employment rate profiles of different age categories above 50-54 years old



Note: The chart represents the profile of employment rates by age category for a hypothetical country (Country A) whose employment rates in some of the age categories above 50-54 years old are, in the baseline scenario, higher than the average in the countries with exit rates below the first decile of the cross-country distribution (or, equivalently, with a ratio of employment rates in the relevant age category to those in the category 50-54 years old above the 90% percentile). Straight lines indicate employment rates profiles in the baseline scenario. The dashed line indicates the employment rate profile in the higher-employment-of-older-workers scenario.

Annex Figure 2.A.7. Accounting for the intensive margin has limited effect on the growth potential of old-age people in most countries

Percentage point difference in avg. GDP per capita growth: baseline vs. older workers scenarios, 2023-60



Notes: The chart compares projected percentage point differences in average annual GDP per capita growth rates between the baseline scenario and two scenarios with high employment of older workers: one i) accounting for the difference in hours worked by older workers relatively to the average worker (scenario including intensive margin) and another ii) not considering differences in hours worked (considered in the main text). The higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. OECD: Weighted average of the countries shown. p.p.: percentage points. GDP: Gross Domestic Product.

Source: Secretariat calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253, "Average usual weekly hours worked on the main job", http://data-explorer.oecd.org/s/259 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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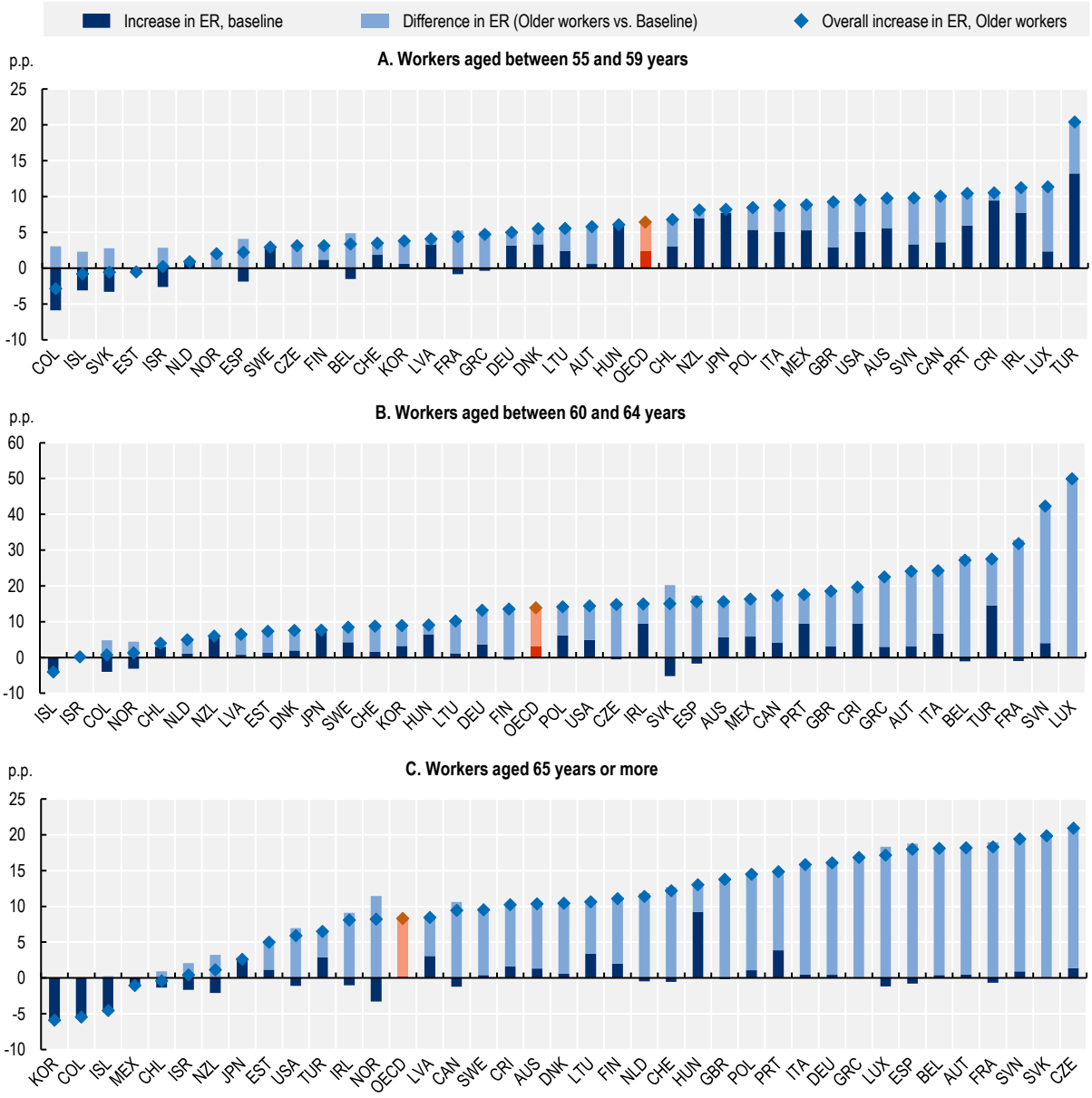
Annex Figure 2.A.8. Activating older workers could lead to large increases in employment rates

Percentage point difference in employment rates between each scenario (baseline and older workers scenarios) between 2060 and 2023, by age category



Notes: The chart compares projected percentage point differences between employment rates in 2023, the baseline scenario in 2060, and a scenario that increases the employment rate of older workers. The alternative higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. OECD: Weighted average of OECD countries. p.p.: percentage points.

Source: Secretariat calculations based on OECD Data Explorer: "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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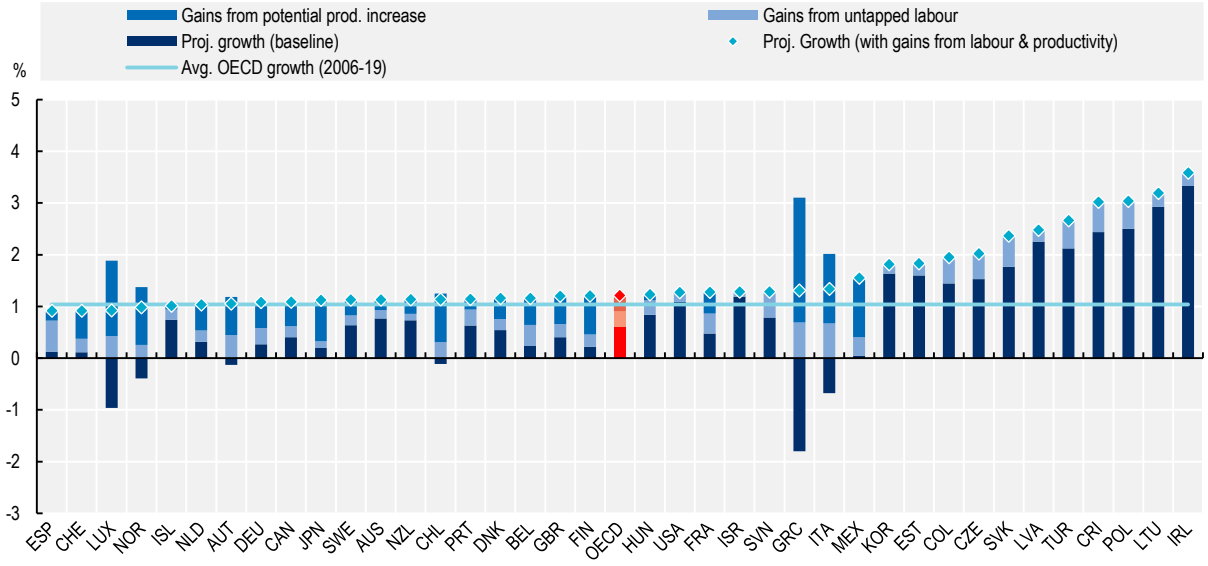
Annex Figure 2.A.9. Mobilising untapped human resources and improving productivity growth would restore GDP per capita growth

Annual GDP per capita growth and potential gains from different strategies, 2024-60



Notes: The chart compares, on the one hand, the average real GDP per capita growth attainable from an alternative comprehensive strategy both mobilising all alternative labour channels at two-thirds of their potential and reviving productivity growth and, on the other hand, the cross-country mean growth rate in 2006-19. Productivity is supposed to be revived up to the level that the country growth of GDP per person employed would reach half of the 1991-2000 cross-country median (the potential gains by attaining this goal are indicated as "Potential gains from prod. increase"). The higher-employment-of-older-workers scenario is constructed by assuming that, by 2060, each country would reach in each age category above that of the 50-54 years old (for the gender with the highest employment rate) at least the employment rate which would make the rate of decline in employment rates above 55 years of age as small as the 10th percentile of the cross-country distribution, as projected in the baseline scenario. For the other gender in each country and age category, projected employment rates are assumed to be such that they maintain the same gender employment gap as in the baseline scenario. The gender equality scenarios assume that by 2060, for both genders, employment rates in each age category are as high as that of the gender with the highest rate in the baseline scenario. The high migration scenario sets future net migration rates equal to the 75th percentile of the cross-country distribution in 2021-24. Y. & P.A.: young and prime-age. OECD: Weighted average of OECD countries. p.p.: percentage points. GDP: Gross Domestic Product.

Source: Secretariat's calculations based on OECD (2024), *International Migration Outlook 2024*, https://doi.org/10.1787/50b0353e-en; OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253, "Labour market outcomes of immigrants – Employment, unemployment, and participation rates by sex", http://data-explorer.oecd.org/s/255 and "Productivity levels", http://data-explorer.oecd.org/s/254; Fluchtmann, J., M. Keese and W. Adema (2024), "Gender equality and economic growth: Past progress and future potential", https://doi.org/10.1787/fb0a0a93-en; United Nations (2024), International Migrant Stock 2024, www.un.org/development/desa/pd/content/international-migrant-stock, and United Nations (2024), World Population Prospects 2024, https://population.un.org/wpp/.

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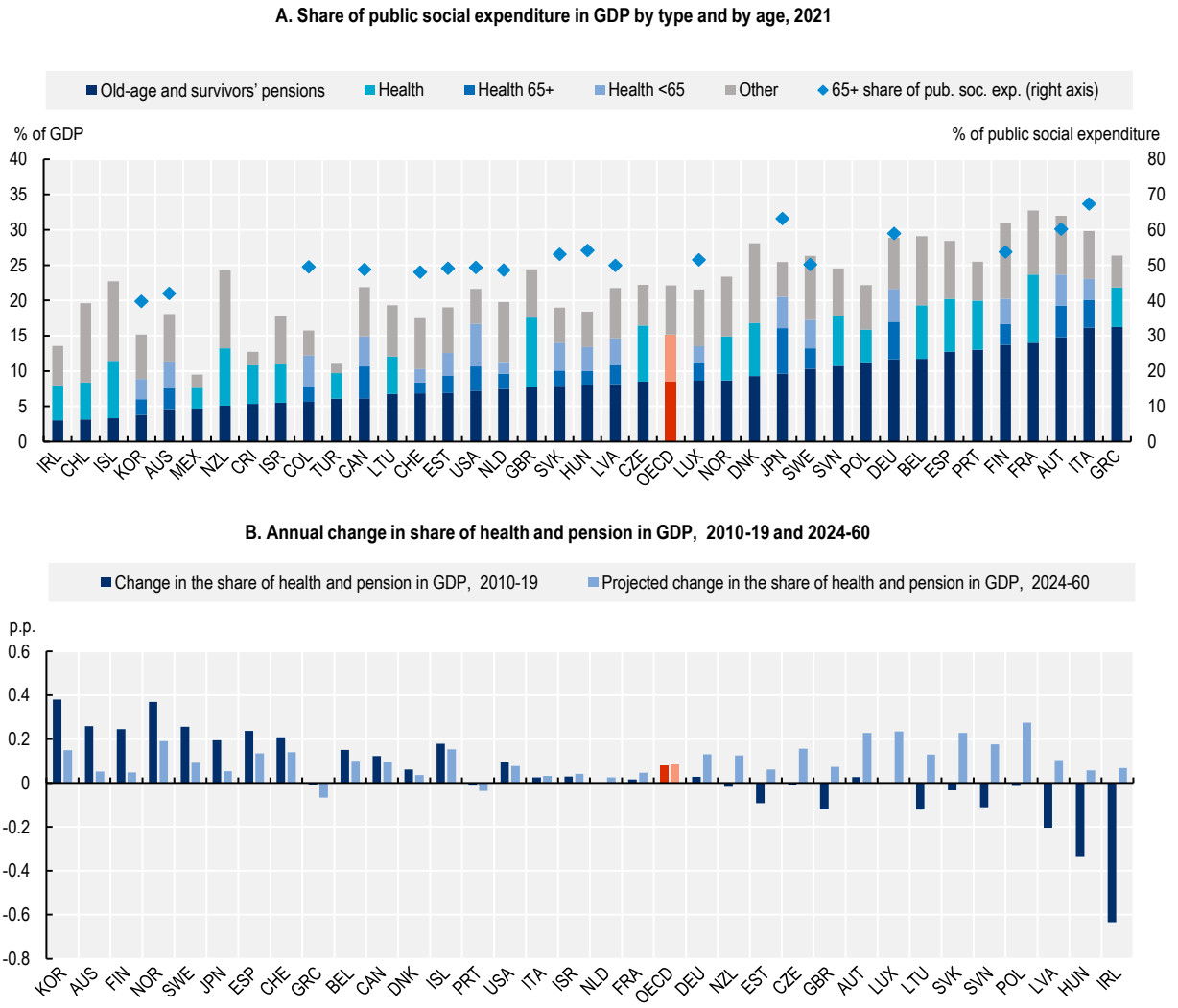
Annex Figure 2.A.10. Pensions and health account for the bulk of public social expenditure



Note: Panel A allocates public social expenditure on old-age and survivors' pensions to older individuals. To obtain age-specific health expenditure shares relative to GDP it applies the relative spending shares presented by Morgan and Mueller (2023[136]) to the public health expenditure data provided in the OECD Social Expenditure Database (2025[98]). For countries where data on age-specific public health expenditure are not available but which provide information on public and private health expenditure concurrently, it assumes that the age distributions of public and private health expenditure are identical. Health expenditure figures include most of countries' public expenditure on long-term care. For countries in which health expenditure data by age group excludes long-term care, the share of long-term care expenditure allocated to those aged above 65 years is assumed to match this group's share of long-term care beneficiaries. If that information is also missing the OECD unweighted average is used instead. Panel B displays historical (2010-29) and projected (2024-60) annual percentage point growth of health and pension expenditure as a share of GDP. Countries ordered by the difference between historical and projected annual changes. OECD represents the unweighted average of OECD countries in Panel A, while in Panel B it represents part of the OECD area corresponding to the 33 countries with available data.

Source: Panel A uses OECD calculations based on the Social Expenditure Database, OECD Historical population data; OECD Health Statistics; US Census Bureau Population Vintage 2019 national population estimates; Morgan and Mueller (2023[136]), "Understanding international measures of health spending: Age-adjusting expenditure on health", https://doi.org/10.1787/043ed664-en; Sengupta et al. (2022[137]), "Post-acute and long term care providers and services users in the United States 2017-18", https://dx.doi.org/10.15620/cdc:115346; Panel B uses projections from the OECD Economics Department Long-Term Model, see Guillemette and Château (2023[138]), "Long-term scenarios: incorporating the energy transition", https://doi.org/10.1787/153ab87c-en, for a summary of the approach.

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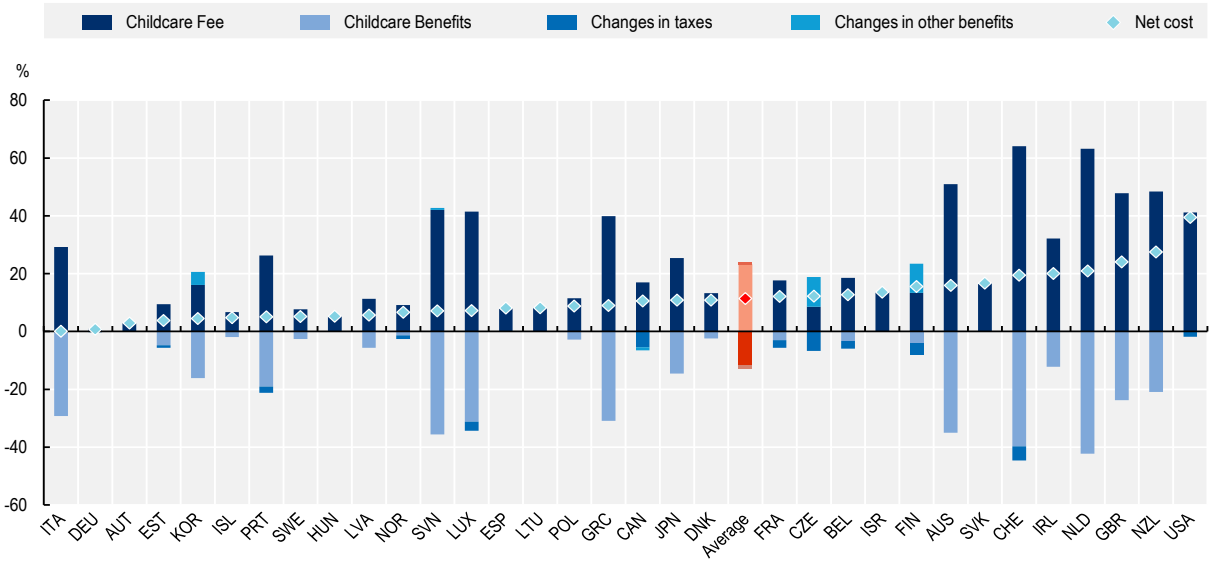
Annex Figure 2.A.11. Net childcare costs for full-time care at a typical childcare centre

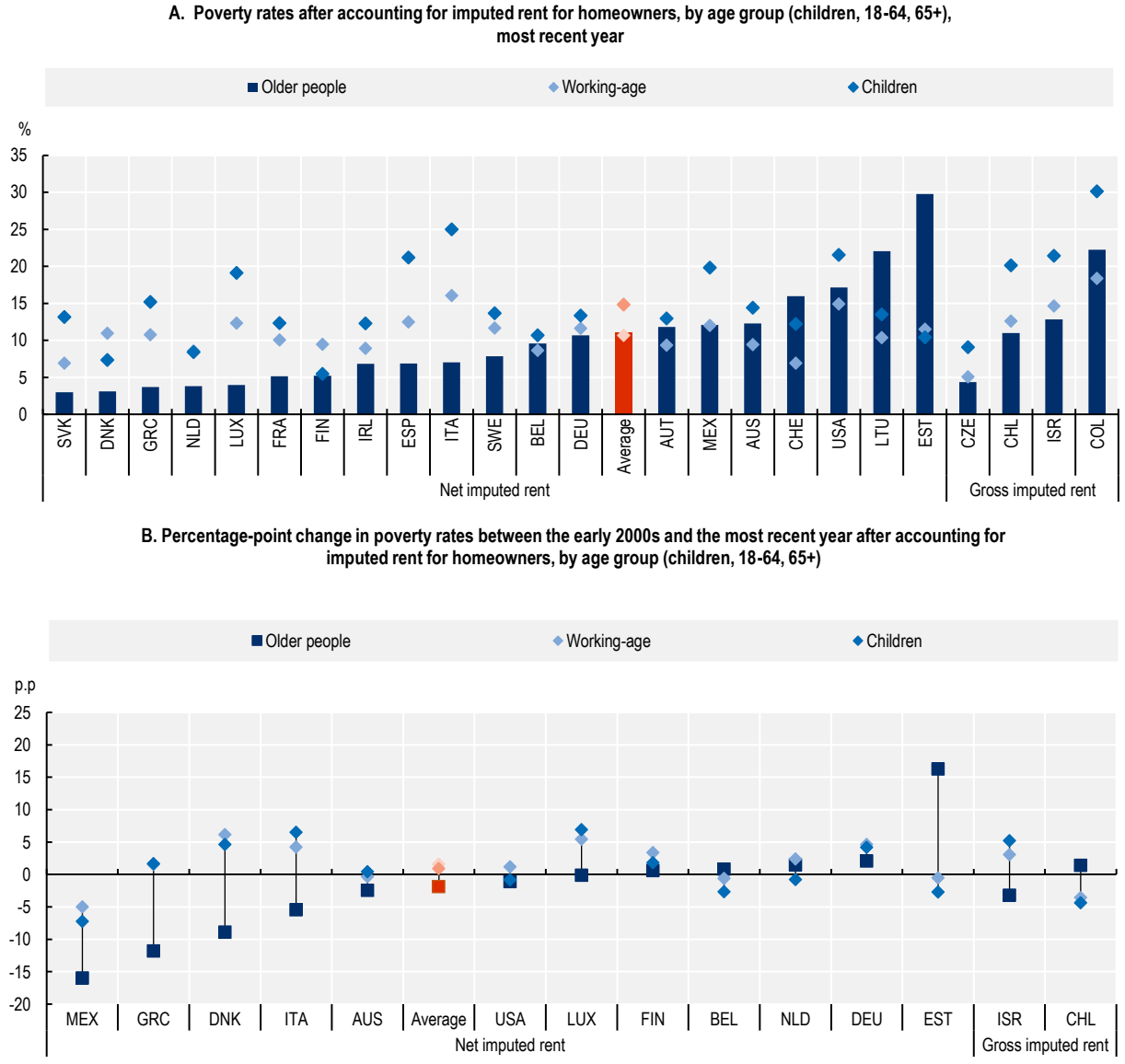
Percentage of the average wage, 2023



Note: Data refer to 2023 policies. Results for a two-earner couple with two children aged 2 and 3 respectively. The first earner earns 100% of the average wage and the partner earns 67% of the average wage. The category "Childcare Benefits" includes entitlements related to the use of childcare facilities as well as benefits that aim to provide support to those looking after children at home. This category includes also any fee discounts for childcare users applied in particular family circumstances. The group "Changes in taxes" refers to the change in taxes related to having children, i.e. comparing the taxes paid by a couple without children to those of an identical couple with children. "Changes in other benefits" includes changes in housing and family allowances related to the use of childcare. Information on net childcare costs is currently missing for Türkiye. Average: Unweighted average of the countries shown.
Source: OECD TaxBEN model, version 2.7.1, "OECD calculator of taxes and benefit", www.oecd.org/en/data/tools/oecd-calculator-of-taxes-and-benefits.html.

StatLink https://stat.link/efgvl4

Annex Figure 2.A.12. Accounting for housing costs amplifies the difference in poverty rates between older people and children, both in levels and in trends



Note: Poverty rates give the share of people living in households with an equivalised disposable household income of less than 50% of the national median. Equivalised disposable household income assigns post-tax-and-transfer household income, adjusted for household size, to each household member. Observation periods in Panel B vary slightly across countries: early-2000s refers to 2000 or the closest available year; recent year refers the latest pre-COVID year, or 2022/23 if already available. Gross imputed rents are an estimate of the value that homeowners would pay in the rental market for their home. Most countries estimate imputed rents using a regression or stratification method based on actual rents (i.e. a prediction of the price associated to a house based on the rents paid for similar dwellings), except for CHL, COL, ITA and MEX that use the self-assessment method (i.e. the self-reported price that households believe they would pay to rent their own houses), and CZE, EST and SVK that employ the user-cost method (i.e. the rate of return to investing home equity in an interest-bearing account). See Balcázar et al., (2017[139]) for a review of rent imputation methods. Net imputed rents subtract property tax and mortgage interest payments from gross values. For countries for which net imputed rents cannot be calculated, gross values are used instead. The country rankings shown in this figure should be interpreted with caution, because of differences in imputation methods and limited data availability. Average: Unweighted average of the countries shown and for which net imputed rents were available.
Source: OECD calculation based on the LIS Database.

StatLink https://stat.link/3cdm27

Notes

[1] According to the medium scenario of UN population projection, the overall population will be larger in 2060 than in 2023 in half of the OECD countries and in the OECD as a whole (United Nations, 2024[11]).

[2] There is, however, a large uncertainty about future fertility trends (United Nations, 2025[159]). Yet, the whole 95% probability interval around medium projections remains well below the level required for population replacement.

[3] Usually, a total fertility rate of 2.1 is considered necessary for population replacement without positive net migration rates – see United Nations (2007[150])

[4] In fact, it will increase steeply until 2050, to stabilise afterwards in most countries.

[5] The overall dependency ratio (not shown in the chart) is typically defined as the ratio of the sum of the population aged less than 15 years and 65 years and more to the population aged 15-64 years – see United Nations (2007[150]).

[6] The medium scenario corresponds to the median of UN probabilistic projections. Other population projections, such as those of Eurostat or national statistical agencies, provide quantitatively different results although pointing in the same direction (OECD, 2023[4]). Here UN projections are preferred for comparability reasons.

[7] Formally, $\frac{GDP}{Pop} = \frac{GDP}{E} \times \frac{E}{Pop} = \left(\frac{GDP}{H} \times \frac{H}{E}\right) \times \left(\frac{E}{WAPop} \times \frac{WAPop}{Pop}\right) = \pi \times h \times ER \times (1 - DR)$, where Pop is the overall population, E is total employment, H are total hours worked, $WAPop$ is the working-age population, π is hourly labour productivity, h are average hours worked, ER is the employment rate and DR is the dependency ratio.

[8] Especially due to the increase over time of female labour market participation.

[9] Fluchtmann, Keese and Adema (2024[16]) take cohort-specific observed labour force participation and unemployment rates as starting points and derive future rates by assuming constant future unemployment rates and that, for each age and gender category, future labour market entry and exit rates are equal to the most recent rates of the same age category (averaged over a 5-year period and excluding the years of the COVID-19 crisis). The labour market entry rate is defined as the percentage change in non-employment rates from age *t* to age *t*+1 for the same cohort, when negative and zero otherwise (that is the percentage decrease when it is effectively a decrease). The labour market exit rate is defined as the percentage change in employment rates from age *t* to age *t*+1 for the same cohort, when this is negative and zero otherwise (that is, again, the percentage decrease when it is effectively a decrease). By construction, therefore, the effect of future health and education improvements and possible structural reforms that might affect entry and exit rates are not taken into account. To obtain final employment rate projections, projected age- and gender-specific employment rates are then combined with UN projections on population size and structure (medium scenario). Then, in Figure 2.6, the direct effect of changes in the population structure is obtained by assuming constant age- and gender-specific employment rates as in 2023; the cohort-replacement effect is measured as the difference between the baseline projection (which incorporates age- and gender-specific employment rate projections) and the constant-employment rate projection.

[10] In Colombia, Spain and Israel, the cohort-replacement channel has a significant negative contribution due to a significant drop in the labour force of the younger cohorts in the second half of the 2010s.

[11] 0.7% per year in the case of the whole OECD area. This assumption could be considered prima facie realistic in the long run. Recent OECD work in this area, including the OECD long-term projection model, indeed assumes constant returns to scale and constant capital-labour ratios in the long run – see e.g. Guillemette and Turner (2018[140]; 2021[141])) and Fluchtmann, Keese and Adema (2024[16]).

[12] More recent years are excluded from the calculation of benchmark productivity trends to avoid the influence of the COVID-19 crisis. The period 2006-19 is chosen to cover a full business cycle and to have start and end points corresponding to similar stages of the business cycle. Robustness exercises (available upon request) using different periods (2007-19, 2006-18 and 2007-18) show similar results – that is a projected drop of OECD GDP per capita of about 40%, and a projected growth reduction in all OECD countries except Ireland and the United States.

[13] IMF (2025[12]) projects a larger slowdown (0.5 percentage points for the whole world for the period 2025-50, and more for advanced economies). However, this is by and large due to the fact that 2016-18, which is a period of fast labour input growth during the expansionary phase of the previous business cycle, is taken as comparison. Using the same period as benchmark, the projection method used here would deliver qualitatively similar results.

[14] From a dynamic point of view the decline in GDP per capita growth is projected to start around 2030 and peak in 2045-50 in most countries and the OECD area. Results are available from the Secretariat upon request.

[15] Analysing whether reducing working hours per worker implies an increase of living standards is beyond the scope of this chapter. For an extensive discussion of working hours and living standards see OECD (2021[17]; 2022[18]).

[16] The reason for the productivity slowdown is not consensual in the literature. Deceleration in human capital accumulation, physical capital investment and trade expansion, and technological bottlenecks leading to imbalances across sectors are among the cited explanations – see e.g. Goldin et al. (2024[32]) and Acemoglu, Autor and Patterson (2024[155]).

[17] Other researchers are, however, less optimistic about the potential of AI in terms of aggregate productivity growth – see e.g. Acemoglu et al. (forthcoming[145]).

[18] For example, Colombia, Costa Rica, Greece, Italy, Korea, Lithuania, Mexico, Spain and Türkiye, where more than 15% of youth aged 15 to 29 years were NEET in 2023-24 (source: https://www.oecd.org/en/topics/youth-employment-and-social-policies.html).

[19] In certain countries, some untapped labour resources can also be found among jobless prime-age men. From a macroeconomic perspective, however, the potential contribution of this channel is minor. In fact, the cross-country variance of employment rates of prime-age men is small, suggesting limited potential gains from boosting employment of this group – see e.g. OECD (2017[142]; 2018[54]).

[20] Defined as the difference between the change in the stock of foreign-born in the host country between year *t*-1 and *t* and the change in the stock of native-born living abroad between *t*-1 and *t*, both expressed in percentage the overall size of the population in the host country in *t*-1.

[21] Projected net migration rates are lower in two-thirds of the OECD countries with positive net migration rates in 2021-24 (Annex Figure 2.A.4) and two-thirds of those with positive rates in 2016-20 (United Nations, 2024[63]). They are also lower in 55% of the OECD countries with positive net migration rates in 2010-15.

[22] Or their competences are not recognised (OECD, 2017[66]).

[23] Especially because long-term trends in employment gaps between natives and foreign-born represents one key area of monitoring and integration policy action, which is left out of this analysis.

[24] In these simulation exercises, the increase in net migration flows is redistributed proportionally to the projected net migration flows by gender and age category entailed by the baseline scenario after shifting the minimum of the distribution to zero.

[25] The overall projected gains for the whole OECD area are smaller (0.10%), due to limited or no gains in some large countries such as Mexico.

[26] Constant growth of GDP per person employed is among the maintained assumptions. This implies that the simplified gender equality scenario considered here entails a lower incidence of part-time work among women entering employment, as the female part-time rate is currently higher than in the overall population in all OECD countries – see e.g. the Statistical Annex of this publication.

[27] In particular, in these two countries in 2023, the ratio of female employment rates between those aged 60 to 64 years and those aged 50 to 54 years were more than three times larger than the same ratio for their male peers (see OECD Data Explorer, "Employment and unemployment by five-year age group and sex – levels", http://data-explorer.oecd.org/s/253).

[28] Overcoming gender disparities in childcare and elderly care is also important to reduce the exit rate of women from the labour market (Van Houtven, Coe and Skira, 2013[144]; Maestas, Messel and Truskinovsky, 2024[143]) and therefore close the gender gap in employment rates at old age – see also Chapter 3. Yet, retirement policies also play a crucial role for the gender employment gap in these age categories, since married couples tend to take joint retirement decisions, with spouses typically anticipating or delaying their exit from employment to match their husbands' retirement (Gustman and Steinmeier, 2000[146]; Lalive and Parrotta, 2017[147]; Johnsen, Vaage and Willén, 2021[148]; Carta and De Philippis, 2023[151]; García-Miralles and Leganza, 2024[149]).

[29] By contrast, they vary only by a factor of two in the age category 55-59 years, and by much less than that if Türkiye is excluded.

[30] In particular, the cross-country coefficient of variation of life expectancy in good health at 65 years is almost half of that of employment rates in the 65-69 age category.

[31] That is, by 2060, each country would reach in each age category above the 50-54 year-olds at least that employment rate that would reduce the decline in employment rates above 55 years to that at the 10th percentile of the cross-country distribution, as projected in the baseline scenario. More precisely, in the

higher-employment-of-older-workers scenario, for each country and age category, the employment rate of the gender with the highest employment rate by 2060 in the baseline scenario is obtained in multiple steps: i) for each country and gender, the ratios between the employment rate of each age category above 54 years (55-59 years, 60-64 years and 65 years and above) and the employment rate of those aged between 50 and 54 years in the same country is computed; ii) for each country and relevant age category, the gender with the highest ratio is selected and its ratio is taken; iii) the 90th percentile of the cross-country distribution of the retained ratios is then computed for each age category above 54 years – these ratios will be called "target ratios" hereafter; and finally, iv) for each country and age category, the employment rate of the gender with the highest employment rate is multiplied by the corresponding "target ratio", thereby reducing the exit rate from employment of this group, except if the employment rate of this group is higher in the baseline scenario (in which case it is left unchanged). This is a neater benchmark than using the top percentiles of the cross-country distribution of employment rates that confounds gender, and even prime-age employment shifts, with employment changes due exclusively to the exit rate from employment of older workers. Note that countries with the best retained ratios are not necessarily those with the highest employment rates (although often this is the case). In certain countries, the employment rate of a given age category maybe above that of the average of the countries with retained ratios above the 90th percentile, and yet the employment rate would increase because the projected exit rate would decrease in this scenario (see Annex Figure 2.A.6). Note also that net exit rates from employment are positive also for workers aged 45-54 years – see Chapter 3. However, they are typically very small until age 55-59 years. For this reason, and to simplify the text, age category 50-54 years is taken as the reference category, and the term older workers refer to workers aged 55 years and more, as standard. Nevertheless, repeating the exercise using age category 40-44 as reference category would yield similar results.

[32] In the baseline scenario, there are some countries and age category in which women are projected to have in 2060 a marginally higher employment rate than men.

[33] As the projection method concerns only the gender with the highest employment rate, the employment rate of the other gender is simply obtained by applying the gender gap as projected in the baseline scenario.

[34] As data on hours worked by age and gender are not available (or not comparable) in all OECD countries (see Box 2.5), this scenario assumes that any increase in employment of older workers would not alter the growth of GDP per employed person. This is unrealistic because older workers work fewer weekly hours. However, as shown in Annex Figure 2.A.7, for the countries for which data are available, recalculating the contribution of higher employment of older workers by assuming that each new older worker would work the same number of hours as the average of currently employed peers in the same age and gender category results in only a small reduction of the simulated potential gains from this channel – about 10% for the whole OECD area.

[35] An additional small boost can already be expected by the fact that younger cohorts tend to work more than older cohorts, especially in the case of women (cohort effect). This simple cohort effect would already result in greater employment rates in 2060 than in 2023 in the baseline scenario, particularly for those aged between 55 and 64 years (Annex Figure 2.A.8). For those above 65 years, the overall cohort effect will be compounded by the change in the age composition of this category, and employment rates are projected to fall in the baseline scenario in many countries, especially those with already relatively high employment rates.

[36] A large increase in employment rates in this age category is also implied for Türkiye in this scenario. However, the simple cohort effect, as included in the baseline scenario, would account for more than half of it.

[37] It must be kept in mind, however, that these scenarios are highly stylised and presented here as a metric to grasp the magnitude of the potential of each channel. They should not be viewed as a precise forecast.

[38] Cf. the growth rates of GDP per capita and GDP per person employed in Figure 2.7 above.

[39] In the case of Greece and Italy, however, projected GDP per capita growth rates would remain negative.

[40] Note that, as mentioned above, given the assumptions on productivity growth, there is a one-to-one correspondence of the relative effects of different channels on the employment-to-population ratio and GDP per capita growth.

[41] The OECD Social Expenditure Database (SOCX) currently provides data on public social expenditures up to 2023, but breakdowns by spending category still only reach up to 2021 for most countries (OECD, 2025[98]).

[42] Across the 18 OECD countries for which public health expenditures can be allocated by age, 11 devote more than half to people aged above 65 years, while only in Australia less than 45% of public health expenditure go to older people (Morgan and Mueller, 2023[136]).Health expenditure figures include most of countries' public expenditure on long-term care, which accounts for about 1.8% of GDP across OECD countries on average but reaches more than 3% of GDP in countries such as the Netherlands, Norway, Sweden and Belgium (OECD, 2023[152]).

[43] See also Koutsogeorgopoulou and Morgavi (forthcoming[161]).

[44] In the two decades leading up to the COVID-19 crisis, revenues from social contributions as a share of GDP have increased in the OECD area, from 8.4% in 2000 to 8.9% in 2019, while financing a declining share of social spending, from 47.5% down to 43.5% (Immervoll, 2024[156]).

[45] At the same time, as population ageing undermines the sustainability of pay-as-you-go social protection financing, younger generations face declining benefit generosity. Future retirees in many OECD countries are projected to receive lower pension replacement rates than current retirees due to reforms already legislated (OECD, 2019[125]). Publicly funded long-term care systems are under-resourced in many countries (OECD, 2023[157]). Younger generations therefore confront a dual burden: financing the benefits for today's large pensioner cohort while simultaneously accumulating private savings to compensate for less generous public benefits in their own retirement.

[46] For data on income levels and inequality across OECD countries over long time horizons, see also the OECD Income Distribution Database, www.oecd.org/en/data/datasets/income-and-wealth-distribution-database.html.

[47] Pancrazi and Guiatoli (2024[101]) cover a large set of OECD and non-OECD countries for the period from 2004 to 2018. Their methodological approach slightly differs from the one employed in this section in that Pancrazi and Guiatoli focus on individual rather than equivalised disposable household income, and use slightly different age brackets and average incomes across several years.

[48] In some countries, such as Australia and Switzerland, retirees are allowed to take all or part of their mandatory pension entitlements as a lump sum when they retire. Because LIS data do not follow people over time, such lump sums cannot be smoothed across retirement years in the analysis. In any given survey year, retirees who have already withdrawn will therefore appear to have lower incomes. As the results in Figure 2.16 average across all people aged 65 or older, mixing retirees withdrawing that year with those who withdrew earlier, the net impact on the mean income of retirees is likely to be modest. By contrast, the impact on poverty statistics is potentially large (see Section 2.4.3 below).

[49] Young people were also disproportionately affected by the COVID-19 crisis, and their employment rates recovered more slowly than those of prime-aged and older workers (OECD, 2022[18]).

[50] The wealth measure used here follows earlier OECD analysis in excluding any wealth held in occupational pension schemes, though wealth in voluntary private pension schemes is included (Balestra and Tonkin, 2018[118]). Wealth differences across age groups would be larger still if occupational pensions were considered.

[51] The wealth gap between older and younger generations has grown also in the United States when considering only the period up to 2019.

[52] There is some evidence that *within*-generation wealth inequalities have risen in some countries. In the United States, the poorest Millennials have less wealth than their baby boomer counterparts, but the wealthiest Millennials have more (Gruijters, Van Winkle and Fasang, 2023[160]).

[53] In some countries, such as Australia and Switzerland, retirees are allowed to take all or part of their mandatory pension entitlements as a lump sum when they retire. Because LIS data do not follow people over time, such lump sums cannot be smoothed across retirement years in the analysis. In any given survey year, retirees who have already withdrawn will therefore appear to have lower incomes. This is likely to overestimate the poverty rates of older people in Figure 2.19 and Annex Figure 2.A.12 for these countries.

[54] As labour market participation among women has risen, childcare costs increasingly eat into discretionary spending. On average across the OECD, the net childcare costs facing a two-earner couple with two children under four account for 11% of the average wage, reaching as high as 40% in the United States (Annex Figure 2.A.11, see OECD calculator of taxes and benefits, https://www.oecd.org/en/data/tools/oecd-calculator-of-taxes-and-benefits.html). For a broader discussion of the implications of essential expenditures for inequalities in living standards, see Balestra and Oehler (2023[154]).

[55] In 17 OECD countries, more than 50% of young people in their 20s live with their parents, with the shares exceeding 75% in Korea, Italy, Greece, Spain, Portugal, Ireland and the Slovak Republic (OECD, 2024[158]).

[56] Some tenants may not rent their properties at market value because they live in subsidised or rent-free housing. However, for seven out of the 24 OECD countries covered in the analysis, LIS data on imputed rents only provide information on homeowners. For better comparability, information on imputed rent for tenants paying below market value was therefore not considered even where available.

[57] The country rankings shown in Annex Figure 2.A.12 should be interpreted with caution given imperfect harmonisation of imputation methods and limited data availability. For a discussion of the implications of accounting for imputed rent for poverty analysis, see Mullan, Sutherland and Zantomio (2011[153]).

3 Navigating the golden years: Making the labour market work for older workers

Andrew Aitken

Over the past two decades, population ageing, increasing statutory retirement ages and rising education levels have led to higher employment rates among workers aged 55 and above in OECD countries. However, progress across countries remain uneven, and employment rates decline rapidly from age 60, such that many workers are leaving employment well before reaching the eligibility age for a pension. To sustain living standards and address structural labour shortages, many countries will need people to work beyond 60 or 65. This requires labour market policies and employer practices that support the hiring, retention and most importantly the employability of mid-to-late career workers. Employers, employees, governments and social partners all have a role in promoting lifelong learning, improving job quality and promoting healthy workplaces to ensure the employability, well-being and economic contribution of older workers in an evolving world of work.

In Brief

Key findings

As life expectancy continues to rise, and more people remain in good health in their later years, the potential to extend working lives also grows. In recent decades, structural factors such as increased longevity, the rising labour force participation of women, and rising education levels have contributed to higher employment rates across OECD countries. At the same time, rising eligibility ages for pensions and tightening early retirement conditions have also promoted higher employment rates of older workers. But employment policies have not always kept pace with the changing labour market to support longer working lives.

As stressed in Chapter 2 of the *Outlook*, population ageing presents a major challenge for OECD countries, making it imperative to promote the employment and employability of older workers and adapt to fast-changing labour markets. Advances in digital technology and AI are reshaping skill demands, with uneven effects: workers in cognitive, non-routine jobs may more easily adapt to AI integration, while those in manual roles face higher risks of automation. At the same time, the green transition is transforming industries and creating new jobs that require specialised skills.

The key findings of the chapter are as follows:

- The good news is that the transition to longer working lives is well underway – employment rates for older workers have risen significantly across OECD countries over the past two decades (2000-24), especially for women. Among women, employment rates have risen by 10.4 percentage points for those aged 50-54 and 18.5 percentage points for those aged 55-59. While employment rates for men have also risen, the gains have been smaller, reflecting their historically higher employment levels.
- Despite this progress there remains substantial potential to improve employment outcomes for older workers across OECD countries. Employment rates vary significantly, especially for those aged 60 and above. In 2024, the average employment rate for people aged 60-64 across OECD countries was 55.9%, with a wide range – from 77.2% in Iceland to just 25.4% in Luxembourg.
- Marked disparities also exist by gender, education level and health status, highlighting opportunities to extend working lives. Less-educated older workers have particularly low employment rates: among those aged 55-64, the OECD average is 49.2% for individuals with below secondary education, compared to 75.3% for those with tertiary qualifications. Similarly, employment rates among people with long-term illnesses vary sharply – from just 22% in Luxembourg to 75% in Sweden (ages 55-64).
- Employment rates still begin to decline from age 50 across OECD countries, and more sharply from age 60. A lifecycle perspective is essential, as steady employment during one's 50s is correlated with increased likelihood of working into one's 60s. On average across 25 European OECD countries and the United States, 69% of those steadily employed in their 50s remain employed at some point in their 60s. However, only 59% of adults maintain continuous employment in their 50s, and of these same workers only 31% are consistently employed in their 60s, while 30% do not work at all and 11% have intermittent employment. This highlights the need for early interventions to help workers stay employed and improve long-term workforce participation.

- Reducing incentives to retire early through increasing the statutory retirement age and tightening access to early retirement schemes have been at the heart of the policy agenda in many OECD countries, and continued efforts are needed to raise the average age of labour market exit. Carefully designed flexible retirement options can facilitate transitions to retirement and longer working lives. Additionally, ensuring financial literacy and transparency in retirement planning is essential to help individuals make informed decisions about their retirement decisions.
- Enhancing incentives for older workers to remain in the workforce is important, but not enough on its own – they also need greater access to meaningful employment opportunities. Therefore, a crucial element of more inclusive ageing and employment strategies is motivating employers to both hire and retain them. Achieving this relies on how effectively companies manage age diversity and harness the strengths of all age groups. Evidence shows that there are positive productivity effects for firms from having a more balanced age structure. Yet employers may hesitate to hire or retain older workers due to concerns about adaptability, workplace accommodations, and productivity. Age discrimination remains a significant barrier. Overcoming these challenges calls for policies that promote both hiring and job mobility for older workers.
- Promoting employability throughout working life is essential to improving job opportunities for older workers. While some older workers navigate the labour market successfully, others face skill gaps and workplace barriers that undermine their competitiveness. Across OECD countries, there is often a large gap in access to formal and informal training by age. Effective workforce management, access to life-long learning, employee-oriented flexible work options, and healthy working conditions are key to fostering supportive workplaces. Proactive measures – such as occupational health programmes, job redesign, and phased return-to-work initiatives – can help prevent early labour market exit. Policies that support women's employment, including shared parental leave and childcare subsidies, also reduce the motherhood penalty and advance gender equity.

Introduction

With life expectancy rising and people living longer than ever, many people will want or need to work longer as retirement ages increase. In recent decades, demographic shifts and higher pension ages have contributed to rising employment rates among late career or older workers across OECD countries. However, government employment policies and employer policies have not necessarily kept pace to support longer working lives. Despite the improvement in employment rates seen across most OECD countries in recent decades, it remains the case that employment rates start declining between the age of 50 and 60, and more rapidly after the age of 60.

This presents a significant challenge for OECD countries. As populations continue to age, ensuring that older workers have the opportunities and support they need to stay employed and thrive in ever evolving labour markets will be critical policy priority – see also Chapter 2. AI is shifting the demand for skills in the labour market by increasing the need for management, business, and digital skills while reducing demand for some cognitive and clerical tasks (Green, 2024[1]). The impact of AI on older workers varies significantly based on their occupation and level of education; highly educated older workers in professions requiring cognitive, non-routine skills are more exposed to AI compared to occupations based on manual skills.[1] However, more routine occupations have a higher risk of automation from all technologies (Lane, 2024[2]). Simultaneously, the green transition is transforming industries, creating new roles that require specialised

knowledge, and older workers are more likely to be employed in occupations concentrated in high emission sectors (OECD, 2024[3]).

This chapter highlights key trends in employment, unemployment, inactivity and the type of jobs older workers hold – thanks to increases in life expectancy, improvements in education and policy reforms across the OECD, older workers are more active in the labour market than ever before. The chapter builds on the framework outlined in the *OECD Recommendation on Ageing and Employment Policies* (OECD, 2022[4]) and *Working Better with Age* (OECD, 2019[5]) and argues that greater efforts are needed to promote the labour market inclusion of older workers, especially in countries where employment rates lag behind among particular groups of older workers. This requires reducing *incentives* to retire early and rewarding employment at an older age. But it is not sufficient just to improve the incentives for older people to continue working longer; expanding *opportunities* through raising the demand for older workers is also critical. This requires removing barriers to employment for older workers, encouraging employers to hire and retain them, countering age discrimination, and fostering age-inclusive workplaces. Promoting the *employability* of workers throughout their working lives is also a key requirement for longer, rewarding careers. This requires opportunities for lifelong learning, opportunities for career development and mobility, and healthy workers in good quality jobs. While this chapter focuses on workers aged 55 and above, it is crucial to recognise that many interventions – particularly in health, promoting female participation in the labour market, and training – need to occur early and throughout the life cycle.

The remainder of this chapter is structured as follows: Section 3.1 starts by providing an overview of employment trends among late career workers. Section 3.2 discusses how pension reforms can improve incentives for people to stay in employment for longer and how a variety of flexible retirement options can contribute to longer working lives. Section 3.3 argues that it is insufficient just to improve incentives for older workers to continue working, they must also have better opportunities to do so. Boosting employer demand for older workers through overcoming barriers such as age discrimination, perceptions of higher costs, and concerns over adaptability is crucial. Section 3.4 underlines that some barriers affect older workers directly, which make it difficult for them to either stay in their existing job or find a new one. Enhancing employability throughout working life is key to improving job opportunities for mid-to-late career workers. This requires lifelong learning, flexible work arrangements, and proactive measures like occupational health programmes and job redesign to prevent early labour market exit.

3.1. Evolving employment trends among mid-to-late career workers

3.1.1. Employment rates have increased but significant disparities across OECD countries remain

Employment rates at older ages have risen significantly across OECD countries in recent decades, reflecting the fact that people are not only living longer but also staying healthier for longer. This is a positive development, as increased longevity is now more often accompanied by the ability to remain active and engaged in the workforce. This shift suggests that ageing populations can be a source of strength rather than strain, as societies adapt to longer, healthier lives. On average across OECD countries between 2000 and 2024 the employment rate rose by 9.3 percentage points for those aged 45-64. Several key trends emerge:

- The increase in employment rates has been particularly pronounced for women, reflecting both demographic shifts, social choices and policy reforms aimed at fostering the workforce participation of women. Between 2000 and 2024, the employment rate rose by an average of 10.4 percentage points for women aged 50-54 and 18.5 percentage points for those aged 55-59 (Figure 3.1, Panel A). Men have also experienced increases in employment rates, albeit to a lesser extent,

partly reflecting that rates for men were already above those for women. For men aged 55-59 the employment rate rose by 9.5 percentage points between 2000 and 2024.

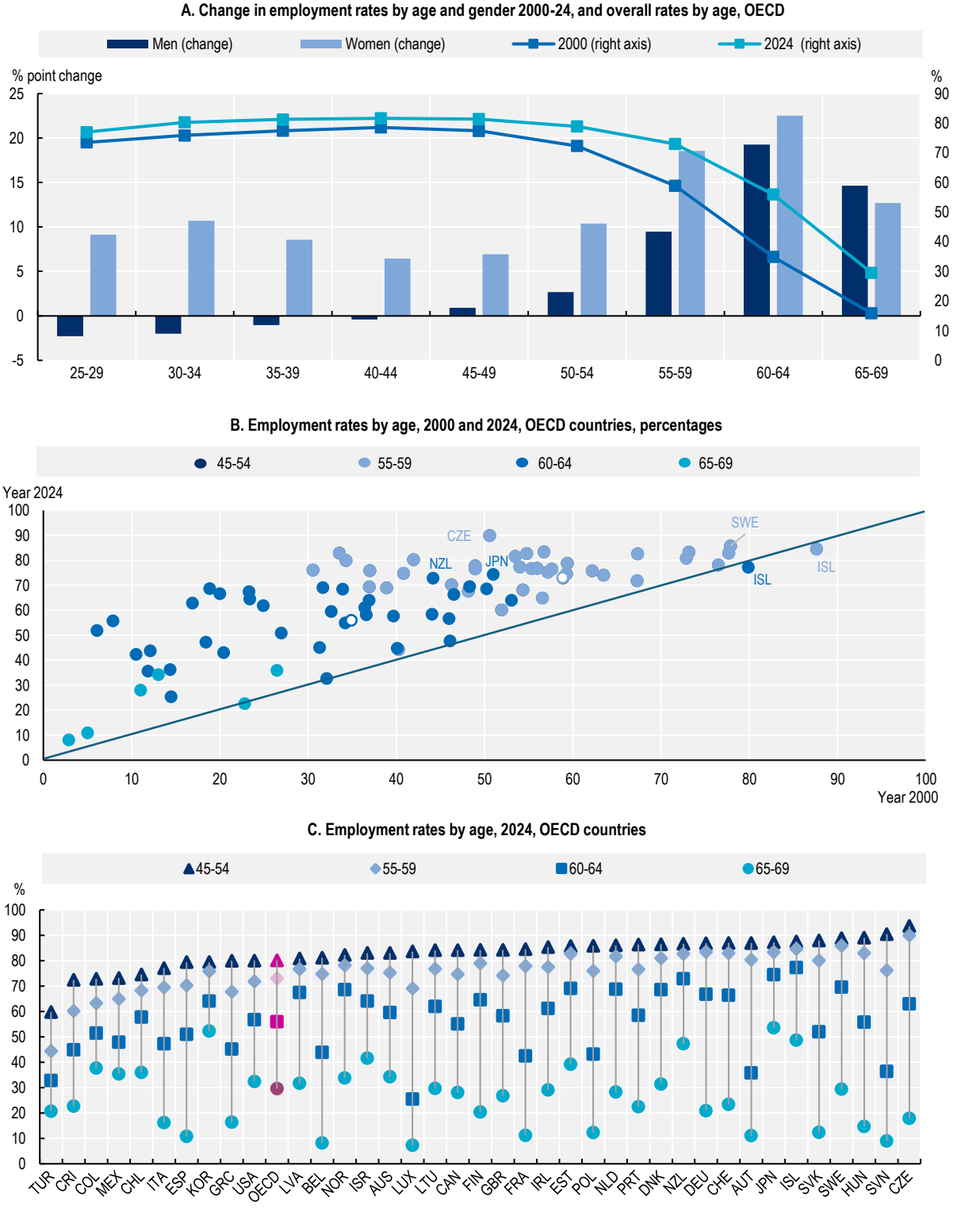
- Employment rates start to decline between the age of 50 and 55, and more rapidly after age 60 (Figure 3.1, Panel A), a trend that is clear across all OECD countries, despite the increase in employment rates at older ages in recent decades. When comparing employment rates at different ages across the life course between birth cohorts there is also a clear decline from the mid-50s onwards (although there is evidence of a slow decline for men from their late 30s) (Annex Figure 3.A.1).
- Employment rates for older workers show some weak signs of convergence across countries. Some countries starting with lower rates, like Hungary and the Slovak Republic, saw the biggest increases among those aged 55-59 (Figure 3.1, Panel B). At age 60 and above, some countries have relatively low employment rates and have also seen a decline since 2000. In Türkiye the employment rate for those aged 60-64 has declined by 0.6 percentage points, and in Mexico it has risen by only 1.7 percentage points (data for all countries can be seen in Annex Figure 3.A.2).[2]
- Despite progress, there are still large differences in the *level* of employment across OECD countries, particularly after age 60 (Figure 3.1, Panel C).[3] On average, 48% of women and 64.4% of men aged 60-64 are employed, but rates range widely – from below 21% in Türkiye and Luxembourg to over 84% in Iceland and Japan. At ages 65-69 the average employment rate drops to 23.7% for women and 36% for men. Only 6% of women in Slovenia and Belgium work at this age, compared to over 43% in Japan and Korea. These differences show there is room to boost older workers' employment across the OECD.

Over the past decades, several key factors have contributed to the increased employment and labour force participation of workers aged 55 and above. Beyond policy reforms, structural changes such as improvements in health and education and shifts toward more flexible work arrangements have contributed to this trend. Advancements in healthcare and better living standards have led to improved health and increased life expectancy, enabling older individuals to remain active in the workforce for longer. A study focusing on Sweden highlighted that declining mortality rates among older age groups have allowed more individuals to continue working beyond traditional retirement ages (Laun and Palme, 2019[6]).

The general rise in educational levels among older cohorts has also enhanced their employability. Better-educated individuals are more likely to possess skills that are in demand, facilitating prolonged workforce participation (Allen, 2022[7]). The rise in educational attainment of older workers has narrowed their education gap with younger workers.[4] This trend has been particularly pronounced for women. Between 2000 and 2023 in the OECD, the share of women aged 55-64 with upper secondary or post-secondary non-tertiary education increased from 32.1% to 43.7%, while the share of college graduates rose from around 15.3% to 30.5% (OECD, 2024[8]).

In many OECD countries, the shift from manufacturing to service-oriented economies has supported higher employment among older workers in recent decades (Autor and Dorn, 2013[9]). Service sector jobs are typically less physically demanding and rely more on cognitive skills, experience, and interpersonal abilities – skills that older workers often have. These roles also tend to offer more flexible working options, such as part-time or remote work options, which can be especially attractive to older adults. However, the transition is not without challenges. Some older workers may need to learn new skills, particularly in digital technology, and not all service sector jobs are high quality – many can be low-paid or insecure.

Figure 3.1. Older workers, especially women are more often in the labour market than ever before



Note: OECD is a weighted average and represented as unfilled circles in Panel B. The three highlighted countries are those with the highest rates in 2024 in each age group. In Panel A, '2000' and '2024' show the employment rate for those years for the respective age bracket.
Source: OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f.

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3.1.2. Employment rates lag behind for women, low skilled workers and those in poor health

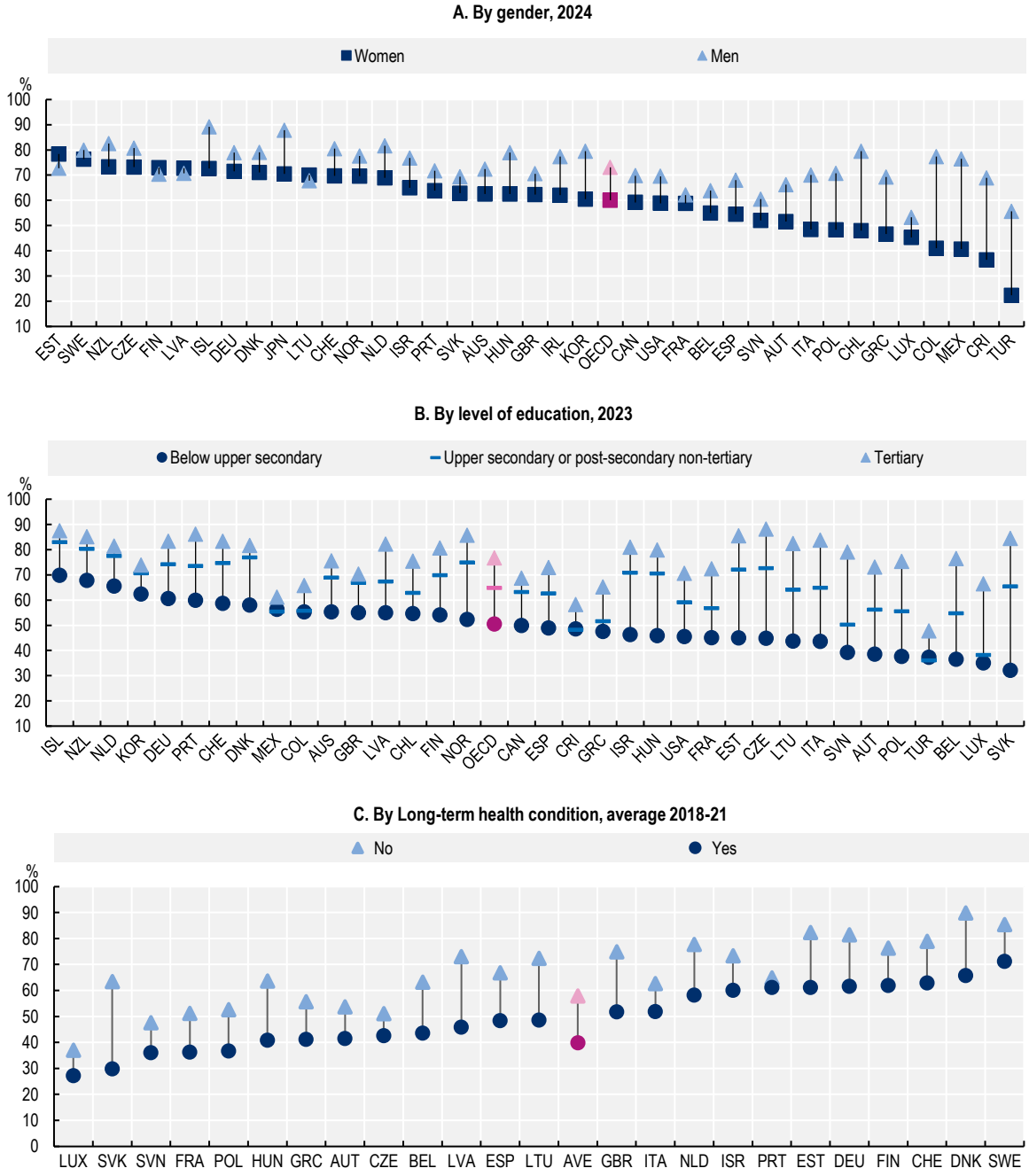
Despite the notable improvements in employment rates in recent decades significant disparities persist among various sub-groups of older workers, for example by gender, education and health status. The following key trends emerge:

- Gender gaps in employment have narrowed across OECD countries since 2000. In 2000 the average gap in employment rates between women and men aged 55-64 was 23.2 percentage points and in 2024 this had fallen to 13.1 percentage points. However, narrowing the gender gap remains a key challenge across the OECD with gaps of over 32 percentage points in Costa Rica, Mexico, Colombia and Türkiye (Figure 3.2, Panel A).
- Skills are a key factor driving employment and employability of older workers, with highly skilled individuals staying employed longer.[5] In 2023, the average employment rate for people aged 55-64 across the OECD was 50.4%, but was 76.7% for those with tertiary education – a gap of over 26 percentage points (Figure 3.2, Panel B). In countries such as the Slovak Republic, Luxembourg and Belgium, employment rates for less-educated older workers were between 32% to 37%, while in Iceland, New Zealand and the Netherlands, they reached 65-69%. Encouragingly, employment has increased for older workers at all education levels (Annex Figure 3.A.3), however those with higher education are still far more likely to remain in work beyond age 65 (Annex Figure 3.A.4).
- Employment rates are consistently lower for individuals with long-term illnesses across all ages. Among those aged 55-64 with long-term illness, rates vary widely among the 23 countries with available data, from 22% in Luxembourg and 30% in the Slovak Republic to 75% in Sweden (Figure 3.2, Panel C). On average, the employment rate for this age group is 52%, compared to 69% for those who do not report having a long-term illness. As populations age and chronic health conditions become more prevalent, addressing these disparities will be increasingly important.

These results highlight the need for greater efforts to enhance the integration of older women. Persistent gender norms and caregiving responsibilities often hinders women's labour force participation, especially for mothers. Women are more likely to have interrupted career trajectories due to caregiving earlier in life due to childbirth and also later in life due to adult caregiving (Maestas, Messel and Truskinovsky, 2024[10]; Van Houtven, Coe and Skira, 2013[11]). This often leads to fewer opportunities for promotions and lower lifetime earnings, which persist into older age. The gender pay gap generally widens with age, reducing the financial incentive for women to stay in employment. Additionally, many women work part-time, limiting their access to leadership roles and higher-paying positions. Older women also often face discrimination based on both age and gender (Lahey and Oxley, 2021[12]). While individual factors such as health, caregiving responsibilities, and personal preferences contribute to early retirement among women, joint decision-making within couples significantly can amplify this trend. Women are more likely to adjust their retirement timing to match that of their spouse (see for example García-Miralles and Leganza (2024[13]) and Lalive and Parrotta (2017[14])).

Figure 3.2. Employment rates for women and the lower skilled generally lag behind the average in most OECD countries

Employment rates by gender, level of education and long-term health status, persons aged 55-64



Note: OECD and AVE are unweighted averages of countries shown. Panel C derived from the question "Some people suffer from chronic or long-term health problems. By chronic or long-term we mean it has troubled you over a period of time or is likely to affect you over a period of time. Do you have any such health problems, illness, disability or infirmity (including mental health problems)?"

Source: OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f (Panel A), OECD Data Explorer, "Employment rates of adults, by educational attainment, age group and gender", http://data-explorer.oecd.org/s/23g (Panel B) and the Survey of Health, Ageing and Retirement in Europe, https://share-eric.eu/, and English Longitudinal Study of Ageing, www.elsa-project.ac.uk/ (Panel C).

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One reason low-skilled workers have lower employment rates than more educated workers is the rise of automation and the growing demand for cognitive, technical, and digital skills. Many low-skilled jobs – such as clerical work, manufacturing, and basic customer service – are easily automated, leading to fewer job opportunities (Lassébie and Quintini, 2022[15]). These workers are also more likely to be in physically demanding jobs and tend to have poorer health and fewer years in good health. Low-skilled workers also face more barriers to reskilling and switching sectors, which further limits their job prospects (see Chapter 2).In contrast, higher-skilled workers are better able to adapt, as their jobs rely on problem-solving, creativity, and specialised knowledge – skills that are harder to automate (Lane, 2024[2]).

Individuals in poor health encounter additional barriers such as physical limitations and workplace discrimination which have a detrimental effect on employment rates. Poor health also leads to absenteeism and lower productivity (Grinza and Rycx, 2020[16]). Moreover, inadequate workplace accommodations or flexible arrangements further limit the participation of workers with disabilities or long-term illnesses. Chronic illnesses or disabilities often result in early labour market exits, contributing to persistently low employment rates among this group (OECD, 2022[17]). A key challenge is that intervention often comes too late – many workers with disabilities have already experienced unstable employment histories or prolonged detachment from the labour market before receiving any formal support (OECD, 2022[17]).

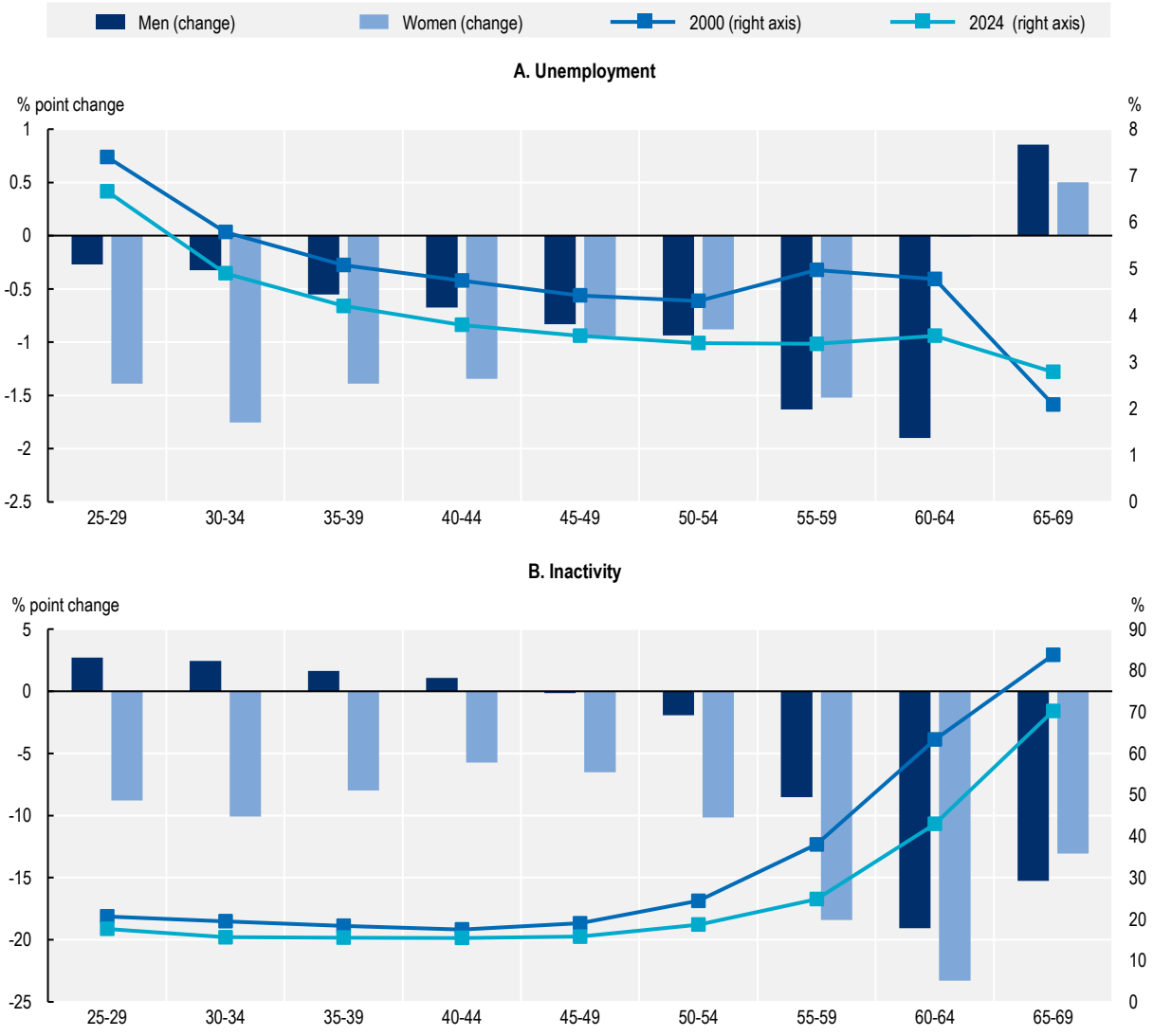
3.1.3. Once unemployed it is harder for older workers to get back into work and inactivity rises with age

The level of unemployment among 50-64 year-olds is lower than the rest of the population (apart from those aged 65-69) (Figure 3.3, Panel A). Unemployment rates declined between 2000 and 2024 for most older workers. Among women, the unemployment rate fell by between 0.9 to 0 percentage points at ages 50-64. Similarly, between the age of 50-64 men also saw declines in unemployment of 1-2 percentage points. However, among individuals aged 65-69, unemployment increased by 0.9 percentage points for men and 0.5 percentage points for women. However, although unemployment is a less frequent event among older workers, when it occurs, unemployment tends to be long-lasting (Annex Figure 3.A.5).

Older workers often struggle to re-enter the labour market after experiencing unemployment, and inactivity tends to rise with age. A significant barrier is employer bias, as older workers are often perceived as less adaptable and lacking technological proficiency, which hurts their chances of being hired (Neumark, Burn and Button, 2019[18]). Long-term unemployment also leads to skill loss, making it harder to compete in a rapidly evolving labour market. On top of this, employers may see long unemployment spells as a sign of low motivation or productivity (D'hert, Baert and Lippens, 2024[19]). Being unemployment can also harm mental health and increase stress, creating a cycle that makes job searching even harder (Gedikli et al., 2023[20]). Addressing these barriers – through reskilling programmes and countering age discrimination for example – is essential for helping older workers find new jobs.

Figure 3.3. Levels of unemployment and inactivity have fallen on average across OECD countries except for a rise in unemployment among those aged 65-69

Change in unemployment and activity rates by age and gender 2000-24, and overall rates by age, OECD



Note: OECD is a weighted average. In both panels, 2000 and 2024 show the employment rate for those years for the respective age bracket.
Source: OECD calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f.

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Distinguishing between job displacement and general unemployment among older workers is crucial, as displacement is typically involuntary and driven by structural economic shifts, leaving workers unprepared. In contrast, general unemployment includes broader causes such as voluntary exits. This distinction is important for policy design, enabling targeted support for displaced older workers who often face longer joblessness and steeper wage losses.

When older workers do experience job displacement, they face much greater challenges compared to younger workers: they spend more time unemployed, are significantly less likely to become reemployed, and when they do find new work, they typically suffer much larger wage losses – see for example OECD

(2018[21]); Jacobson, Lalonde and Sullivan, (1993[22]); Davis, Von Wachter and Hall (2011[23]). Additionally, many older workers are more likely to exit the workforce entirely, either because they see limited opportunities for advancement or opt for early retirement (Farber, 2017[24]).

Concomitant with the rise in employment rates, inactivity rates have dropped substantially, particularly among women. For women aged 50-54, inactivity fell by 10.2 percentage points between 2000 and 2024, and even more for those aged 55-59 and 60-64, with drops of 18.4 and 23.3 percentage points, respectively (Figure 3.3, Panel B). Inactivity also fell by 13.1 percentage points on average for women aged 65-69. Men also saw similar improvements. However, there are large differences between countries, in Iceland, Japan and New Zealand, less than 30% of people aged 60-64 are inactive, compared to over 60% in Austria, Türkiye and Luxembourg (Annex Figure 3.A.6).

Levels of inactivity also vary dramatically by qualification level and by gender across OECD countries. In 2023 the average rate of inactivity for women aged 55-64 with qualifications below secondary level was 54.6%, compared to 36.7% for men in this age and qualification group (Annex Figure 3.A.7). For women aged 55-64 rates of inactivity range from 36-41% in New Zealand, Sweden and Korea to over 70% in Türkiye, Poland and Costa Rica. In contrast rates are much lower for people with tertiary qualifications, but rates are on average almost double for women (26%) compared to men (16.5%).

3.1.4. A lifecycle perspective is critical to supporting employment at older ages as being employed in your 50s is strongly correlated with employment in your 60s

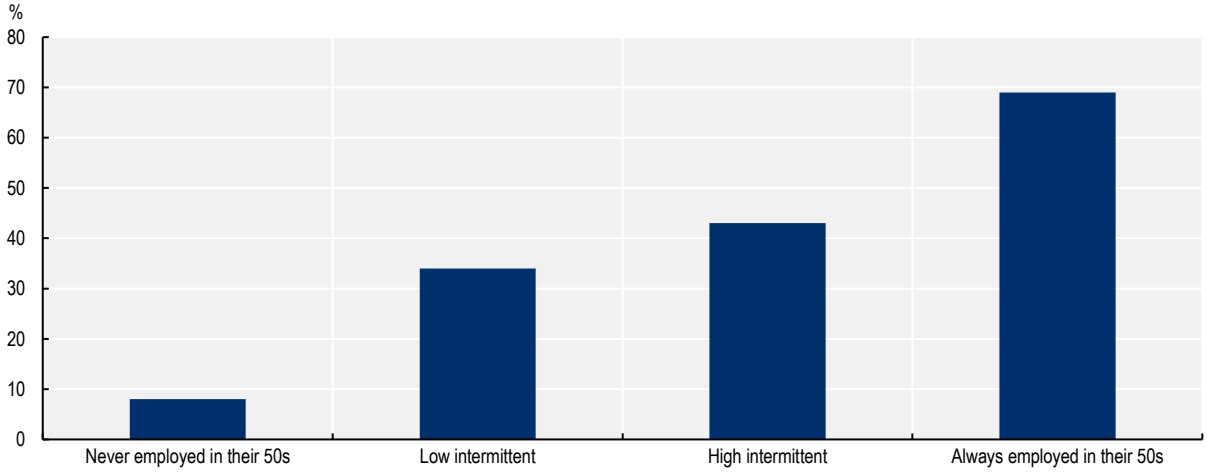
The employment patterns of people in their 50s are likely to have an important influence on their employment patterns in their 60s. On average across 25 European OECD countries and the United States for which there is available data, 59% of adults worked throughout their 50s while the rest were not consistently employed. On average about 30% of adults never worked during their 50s while the remaining 11% experienced intermittent employment.[6] On average across these OECD countries the likelihood that someone is employed at some point in their 60s is 69%, conditional on being steadily employed in their 50s (Figure 3.4). In contrast only 8% of those who were never employed in their 50s were employed at some point in their 60s. Of those who were employed 80-99% of the time in their 50s (high intermittent), 43% worked longer in their 60s, and 34% of those with low intermittent employment worked longer.

This persistence is influenced by factors such as job stability, health, and financial needs. For women, childbirth can lead to career interruptions, making it challenging to re-enter the workforce and hindering their career advancement. Such interruptions often contribute to lower employment rates and earnings for women at older ages. Those who maintain steady employment at mid-career are better positioned to continue working later in life, while individuals who experience unemployment or job instability in their earlier years are more likely to retire or leave the workforce earlier. As mentioned above, unemployment can also be persistent. Older workers are less likely to become unemployed compared to their younger counterparts, but when they do lose their jobs, they face significantly higher risks of long-term unemployment. As a result, job loss in one's 50s or 60s can have lasting effects on labour market attachment, income security, and retirement pathways.

These results are also highly stratified by education. For those who were steadily employed in their 50s with tertiary education, 90% were employed at some point in their 60s (Annex Figure 3.A.8), this share falls to 60% for those with below upper secondary education who were nevertheless employed continuously in their 50s. A similar pattern emerges for those who had a high intermittent employment pattern in their 50s. The strenuousness of jobs among low-skilled workers resulting in more periods of sickness and difficulties in working until a later age may also play a role in explaining this pattern. For those who were employed 1-49% of the time in their 50s (low intermittent), the pattern reverses with those with low education being more likely to employed in their 60s (34%) compared to those with tertiary education (19%).

Figure 3.4. Being employed in your 50s is associated with a greater likelihood of employment in your 60s

Likelihood of working in one's 60s by employment stability in one's 50s



Note: Low intermittent refers to being in employment between 1-49% of the time during your 50s. High intermittent refers to being employed between 50-99% of the time during your 50s. Average of years 2018-21 for the following countries: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Israel, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States.
Source: The Survey of Health, Ageing and Retirement in Europe, https://share-eric.eu/, Health and Retirement Survey, https://hrs.isr.umich.edu/about, and English Longitudinal Survey of Ageing, www.elsa-project.ac.uk/.

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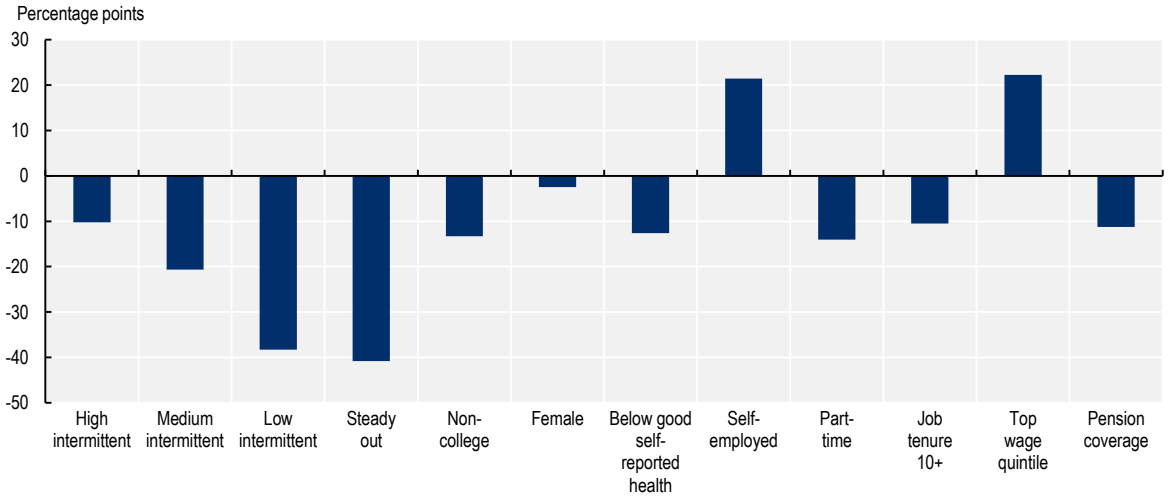
The relationship between experience of intermittent employment in one's 50s and employment during one's 60s is confirmed in regression analysis which allows further investigation of the factors that might account for the bivariate relationship shown above (Figure 3.5). Overall, employment stability in one's 50s is strongly associated with working at age 62 (or age 63, if status at age 62 is not available). This is consistent with previous findings in the literature (Berkman and Truesdale, 2022[25]) and highlights the necessity of fostering employment opportunities at a younger age as a foundation for sustaining longer careers. People who have not been employed in their 50s (steady out) are 41 percentage points less likely to be employed at age 62 (relative to those in their 50s who were always in employment). In contrast those who were employed in their 50s between 80-99% of the time (high intermittent) were 10 percentage points less likely to be employed at age 62.

Women, individuals without a college education, and those who report poor health are significantly less likely to remain employed in their 60s, even when considering their job status in their early 50s Since these groups already experience lower employment rates in their early 50s, this trend highlights a concerning expansion of employment disparities in mid-life. When factoring in employment status in the early 50s, women are 3 percentage points less likely than men to be working at age 62. For individuals without a college degree, the employment gap stands at 13 percentage points, while those reporting poor health in their early 50s also face a gap of 13 percentage points. Absent policy measures, labour market segmentation is further widening over the course of a career.

Figure 3.5. Not being employed in one's 50s is correlated with not being employed in one's 60s

Estimated association between each characteristic in one's 50s and the probability of being employed at age 62



Note: The figure reports coefficient estimates from a linear model for the probability of working at age 62 pooling together all available waves of SHARE, HRS and ELSA between 1992 and 2020 covering 27 countries. The right-hand side variables are all measured the first time the respondent appears in the dataset, at a median age of 53. The regression includes country fixed effects and a full set of interactions between age and year of interview which account for differences across age groups in different years, including those due to changes in labour market conditions and retirement rules. The specification includes controls for education, gender, self-reported health status, and marital status, occupation, industry, whether self-employed, part-time employment, tenure, wage quintile, whether the job requires lots of physical effort, and whether the job involves lots of time pressure.
Source: The Survey of Health, Ageing and Retirement in Europe, https://share-eric.eu/, Health and Retirement Survey, https://hrs.isr.umich.edu/about, and English Longitudinal Survey of Ageing, www.elsa-project.ac.uk/.

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3.1.5. Good job quality is important for ensuring that older workers remain employed

Job quality is a key factor in sustaining the employment of late career workers. Quality of work encompasses a range of factors, including earnings, autonomy, skill use, job security, working time arrangements, and workplace support. These dimensions are not only central to workers' job satisfaction but are directly linked to health and employability in later life. Moreover, they have a direct impact on business performance, including productivity, profitability, and staff retention (OECD, 2023[26]). For older manual workers in particular, poor or deteriorating job quality significantly increases the risk of exiting employment, with negative mental and physical health acting as mediating factors (in Germany) (Stiller, Ebener and Hasselhorn, 2023[27]). In contrast, among non-manual workers, job quality work is less strongly associated with early exit from employment, suggesting that other factors may be more influential for this group (Stiller, Ebener and Hasselhorn, 2023[27]). This underscores the importance of tailoring interventions to specific occupational groups.

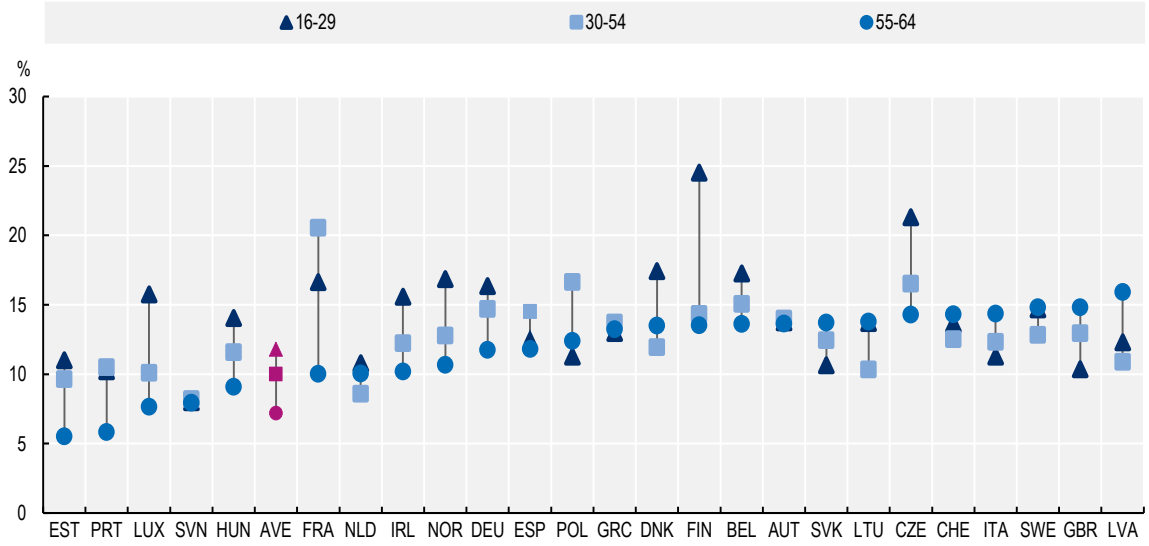
Evidence shows that both higher own wages reduce quit rates as well, but that peer wages also have effect quit rates, specifically, if peers receive higher raises (while one's own raise is lower), this increases the likelihood of quitting (Dube, Giuliano and Leonard, 2019[28]; Card et al., 2012[29]; D'Ambrosio, Clark and Barazzetta, 2018[30]). Additionally, self-reported job satisfaction has consistently been recognised as a strong indicator of employee separations and quits, independent of salary levels (Freeman, 1978[31]; Clark, 2015[32]; Lévy-Garboua, Montmarquette and Simonnet, 2007[33]).

Assessing the quality of working environments across countries is challenging due to the varied methods countries use to gather data and the general lack of comprehensive information on working conditions.

However, the European Working Conditions Telephone Surveys (EWCTS), conducted by Eurofound in 2021, provide comparable data for 25 OECD European countries. According to the OECD's conceptual framework, the quality of the working environment is evaluated based on the prevalence of job strain – define as a condition in which job demands (aspects of work that require continuous physical or mental effort and may harm well-being) outweigh the job resources (features of a job that can support motivation and coping mechanisms) available to workers (OECD, 2024[3]). On average for the 25 OECD European countries for which data are available, 9% of workers aged 55-64 experienced job strain in 2021, compared to 12% of those aged 30-54 and 13% of those aged 16-29 (Figure 3.6). A few countries clearly exhibit job quality that is better than others, with the share of strained workers aged 55-64 below 10% in Estonia, Portugal, Luxembourg, Slovenia and Hungary. In Sweden, the United Kingdom and Latvia the share of strained workers in this age group is 15% or above.

Figure 3.6. Overall job quality tends to be higher for older workers

Job strain in 25 European OECD countries by age group, 2021



Note: The chart shows the percentage of workers who experienced job strain. Data cover 25 European OECD countries and are sorted in increasing order of ages 55-64. Sample includes employees only and excludes agriculture and armed forces.
Source: OECD calculations based on the European Working Conditions Telephone Survey (EWCTS) 2021 of the European Foundation for the Improvement of Living and Working Conditions (Eurofound) developed for OECD (2024[3]), *OECD Employment Outlook 2024: The Net-Zero Transition and the Labour Market,* www.doi.org/10.1787/ac8b3538-en.

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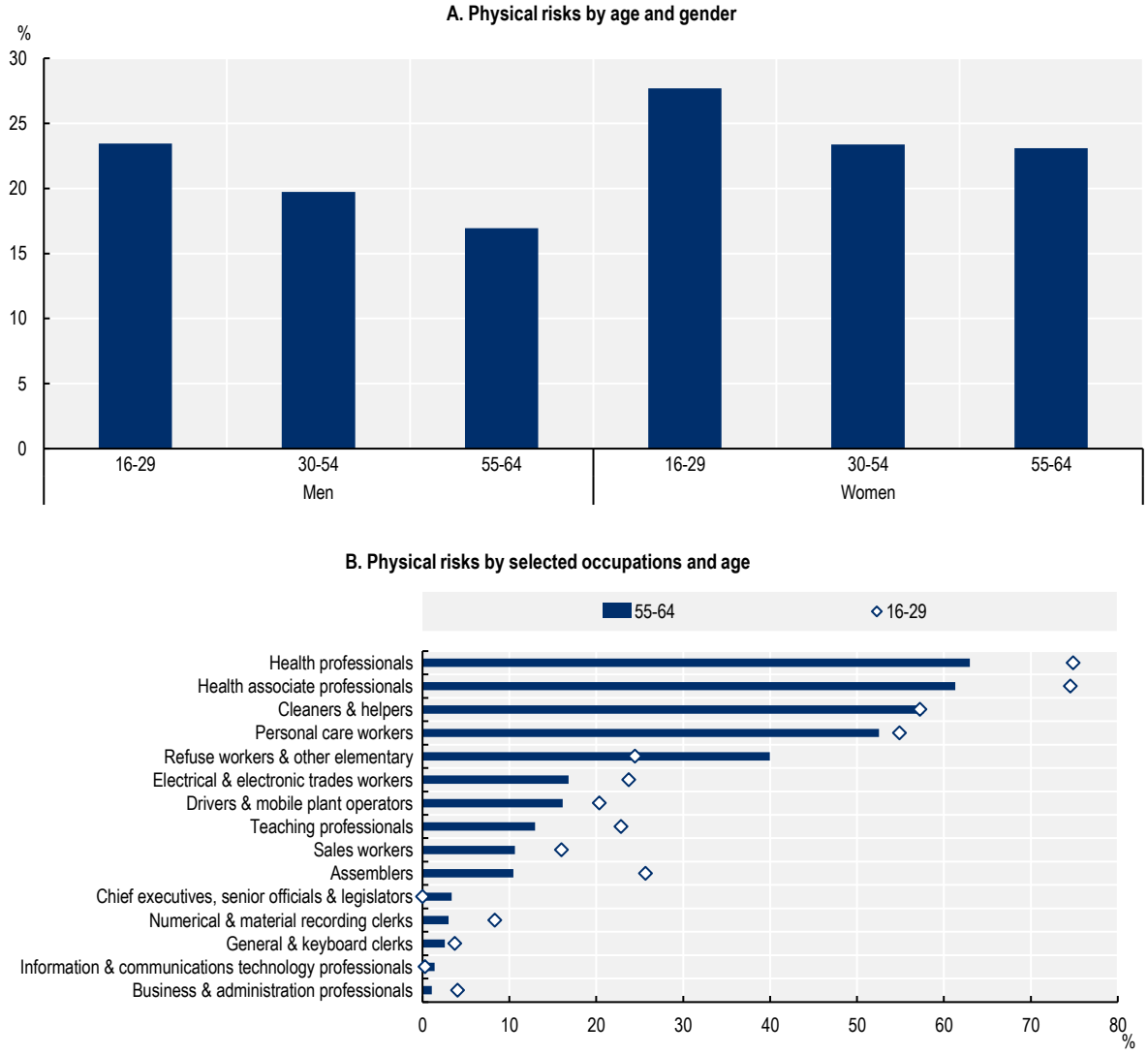
A safe and supportive work environment is crucial for maintaining workers' health, reducing absenteeism, and sustaining productivity. High physical demands – such as heavy lifting, awkward postures, or fast work pace – are likely linked to early labour market exit (d'Errico et al., 2021[34]; Söderberg et al., 2021[35]; Stiller, Ebener and Hasselhorn, 2023[27]), while strong social support can help retain older workers. According to data from the OECD job quality database, exposure to physical risks (e.g. noise, chemicals) and demands (e.g. lifting loads) generally declines slightly with age. Only 17% of men aged 55-64 report high physical risks, compared to 23% of men aged 16-29 (Figure 3.7, Panel A). Similarly, exposure levels for older women decline from 28% at age 16-29 to 23% at age 55-64. Data for the United States from the 2015 American Working Conditions Survey (AWCS), reveal that 55.5% of Americans aged 50-71 say their jobs involve exposure to physical risks such as vibrations from machinery, significant noise, extreme temperatures, breathing smoke or fumes or handling chemical products at least a quarter of the time (Maestas et al., 2017[36]).

Although older workers are generally less exposed to physical risks and demands, a substantial share still face high levels of exposure. Among workers aged 55-64, over 50% of health professionals, cleaners and helpers and personal care workers report significant physical risks (Figure 3.7, Panel B). These risks largely reflect the nature of the occupations with younger workers facing similar exposure in most occupations, however in many cases the exposure among older workers is substantially lower than for younger workers suggesting that the task content within these occupations differs by age group.

Figure 3.7. The physical risks in some jobs are high for older workers



Note: Data cover 25 European OECD countries. Sample includes employees only and excludes agriculture and armed forces. Physical risks refer to exposure to noise, chemicals or infectious materials with sometimes, often or always. Panel B shows selected occupations at the two-digit level, specifically the top five, bottom five and five occupations around the median.

Source: OECD calculations based on the European Working Conditions Telephone Survey (EWCTS) 2021 of the European Foundation for the Improvement of Living and Working Conditions (Eurofound) developed for OECD (2024[3]), *OECD Employment Outlook 2024: The Net-Zero Transition and the Labour Market,* www.doi.org/10.1787/ac8b3538-en.

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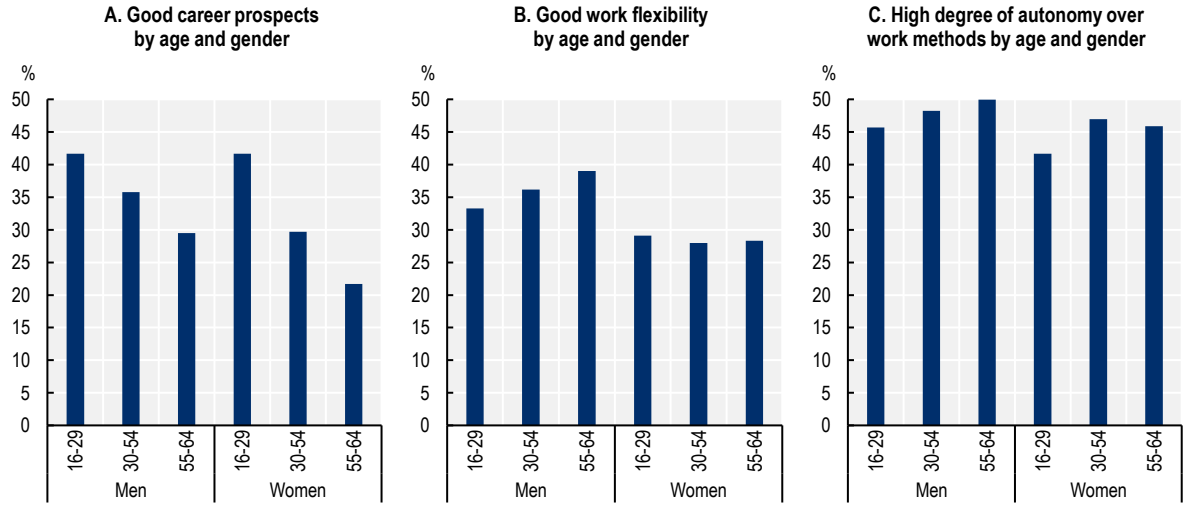
Career prospects, as measured by a specific module of the EWCTS, are available for a subset of respondents who were asked whether their job offers good opportunities for advancement. While career development is widely recognised as a lifelong process (Hunter-Johnson et al., 2020[37]; OECD, 2024[38]), perceived opportunities decline with age. Just 22% of women and 30% of men aged 55-64 believe they have good advancement prospects, compared with 42% of men and women aged 16-29 (Figure 3.8, Panel A). In the United States, only 27% of workers aged 50-71 state that their job offers good prospects for career advancement, compared to 40% for those aged 35-49 and 50% for those aged 25-35 (Maestas et al., 2017[36]).

Flexible working conditions are increasingly vital for supporting older workers across OECD countries. Flexible work arrangements can help older employees manage health concerns, caregiving responsibilities, and the transition into retirement, thereby enhancing their ability to remain in the workforce longer. Moreover, flexible work schedules contribute to improved job satisfaction and retention among older workers, benefiting both individuals and employers by maintaining a skilled and experienced workforce. In European OECD countries with available data, the availability of flexible working conditions tends to increase with age, at least for men; remaining relatively static for women (Figure 3.8, Panel B). In the United States, 37% of workers aged 55-71 report having the ability to adapt their hours within certain limits, which is very similar to that of younger workers (Maestas et al., 2017[36]).

Figure 3.8. Career prospects, flexible working conditions and job autonomy are key aspects of job quality that vary significantly by age and gender



Note: Data cover 25 European OECD countries. Sample includes employees only and excludes agriculture and armed forces. Good career prospects is based on those who respond strongly agree or tend to agree to the question "My job offers good prospects for career advancement". Good work flexibility is based on those who respond very easily to the question "Would you say that for you arranging to take an hour or two off during your usual working hours to take care of personal or family matters is...?" High degree of autonomy is based on those who respond often or always to the question "In your main job, are you able to choose or change your methods of work".
Source: European Working Conditions Telephone Survey 2021.

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Autonomy and task discretion are vital components of job quality, particularly for older workers (OECD, 2014[39]). Older workers typically experience greater autonomy than younger workers (Figure 3.8, Panel C). Research indicates that older employees who experience greater autonomy – such as control over work pace, methods, and scheduling – report higher job satisfaction and are more likely to remain in the workforce for longer. Maestas et al. (2023[40]) uses stated-preference experiments to elicit workers' willingness to pay for different job attributes, and find that older workers prefer jobs with greater autonomy

(as measured by the ability to set their own schedule, work by themselves, etc.) as well as jobs that involve more moderate (relative to heavy) physical activity or more sitting. Moreover, autonomy allows older workers to leverage their experience and skills effectively, fostering a sense of purpose and engagement (Maestas et al., 2023[40]). Workers in the United States have a great deal of autonomy, with 73% of workers aged 55-71 reporting that they can choose or change their methods of work (Maestas et al., 2017[36]).

Box 3.1. Jobs differ in how desirable they are for older workers

While the physical intensity of jobs has a direct effect on workers' ability to perform the job as they age, other job characteristics may also matter for worker motivation and indirectly affect labour productivity and employment rates. Older workers have been shown to value job amenities, such as lower physical intensity, flexible schedule and work autonomy, more than younger individuals. A move from the worst to the best job in terms of amenities has been estimated to be valued as equivalent to a 48% wage increase by 25-34 year-olds and a 75% increase by those aged 62-71 (Maestas et al., 2023[40]).

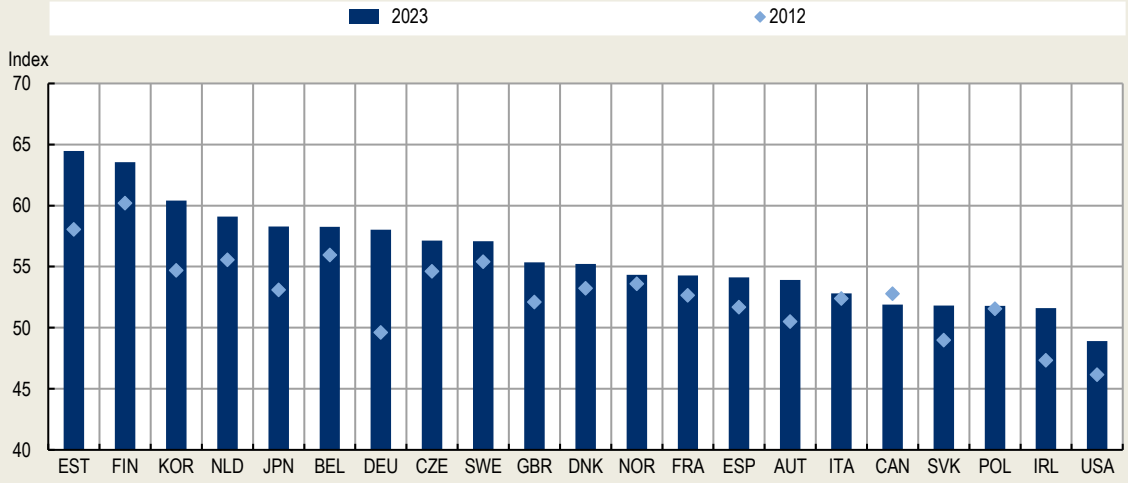
The most significant differences in the willingness to pay for job attributes between the age groups were found for physical activity, with a move from a physically demanding job to one with moderate physical activity valued by 62-71 year-olds as equivalent to a 31% wage increase (9% for 25-34 year-olds). Schedule flexibility and work autonomy are also more valued at older ages – equivalent to a 15% and 12% wage increase, respectively. Older workers also preferred to work alone and be evaluated based on their own work rather than the work of the team (Maestas et al., 2023[40]).

These job attributes render some occupations more "age-friendly" than others. For example, occupations such as ICT professionals, Business & Administration professionals and Science & Engineering professionals are the most "age-friendly" not only because they do not require heavy physical activity but also because they allow workers to set their own schedules and plan their work (Annex Figure 3.A.9). In contrast, Food Preparation Assistants, Labourers in Industry, and Assemblers, the least "age-friendly" occupations on this metric, offer workers less flexible schedules and fewer opportunities to plan their own work.

Over the last decades, occupations have become more accommodating to the preferences of older workers. Between 1990 and 2020, around three-quarters of occupations in the United States became more "age-friendly" (Acemoglu, Søndergaard Mühlbach and Scott, 2022[41]). Beyond the United States, the "age-friendliness" of jobs also increased in the last decade in most OECD countries (Figure 3.9), however, significant differences in the "age-friendliness" of jobs persist – see also Chapter 4.

Figure 3.9. There are significant differences in the "age-friendliness" of jobs across OECD countries

Average age-friendliness index (0-100) of jobs, by country



Note: The age-friendliness index is calculated as a weighted average of the following job attributes: ability to organise own time, ability to plan own activities, working physically for a long time, and time spent collaborating with co-workers. The weights are based on the difference in the willingness to pay for the job attribute between individuals aged 62-71 and 25-34 year-olds presented in Maestas et al. (2023[40]). The United Kingdom refers to England.
Source: OECD calculations based on 2012 and 2023 Survey of Adult Skills.

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Work capacity at older age has been rising over time, but uncertainties and inequalities remain

Recent research on health and older workers provides nuanced insights into the evolving relationship between ageing, health status, and labour market participation. Evidence shows that there are significant improvements in the health of older cohorts (International Monetary Fund, 2025[42]; Kotschy, Bloom and Scott, 2024[43]; Lopez Garcia, Maestas and Mullen, 2025[44]). Across many countries, individuals in their 60s and 70s are physically and cognitively more capable than earlier generations at the same age. For instance, the International Monetary Fund (2025[42]) finds that in a sample of 41 advanced and emerging economies, the cognitive capacity of a 70-year-old in 2022 was comparable to that of a 53-year-old in 2000, a change associated with increased labour market attachment, hours worked, and earnings. Nonetheless, these benefits are unevenly distributed, with persistent disparities across countries and socio-economic groups.

Lopez Garcia, Maestas and Mullen (2025[44]) offer a detailed account of work capacity based on the match between individuals' functional abilities and job demands in the United States. They find that average abilities remain high and relatively stable up to age 70, especially in cognitive domains. Their "work capacity" metric – derived by aligning individual abilities with occupational requirements – shows that many older individuals retain the capacity to perform a large share of jobs, even if they report health issues by traditional metrics. Moreover, work capacity explains variation in labour force participation independently of standard health indicators, highlighting the importance of assessing ability-demand fit in employment policy for older adults.

In contrast, also for the United States, Cutler, Meara and Stewart (2025[45]) show that while work capacity remains relatively high for people in their early 60s, recent the United States' cohorts are experiencing earlier onset of impairments – particularly in pain and cognition – than previous generations. These issues are more acute among individuals with lower education, with less than half of those without a high school diploma predicted to have the capacity to work full-time by age 62-64. Thus, although overall work capacity remains substantial, its distribution is becoming more unequal. Together, these studies suggest that while healthier ageing supports extended working lives, policies must account for disparities in health and ability across the workforce to be effective and fair.

As workers reach 55, part-time work and self-employment become increasingly common

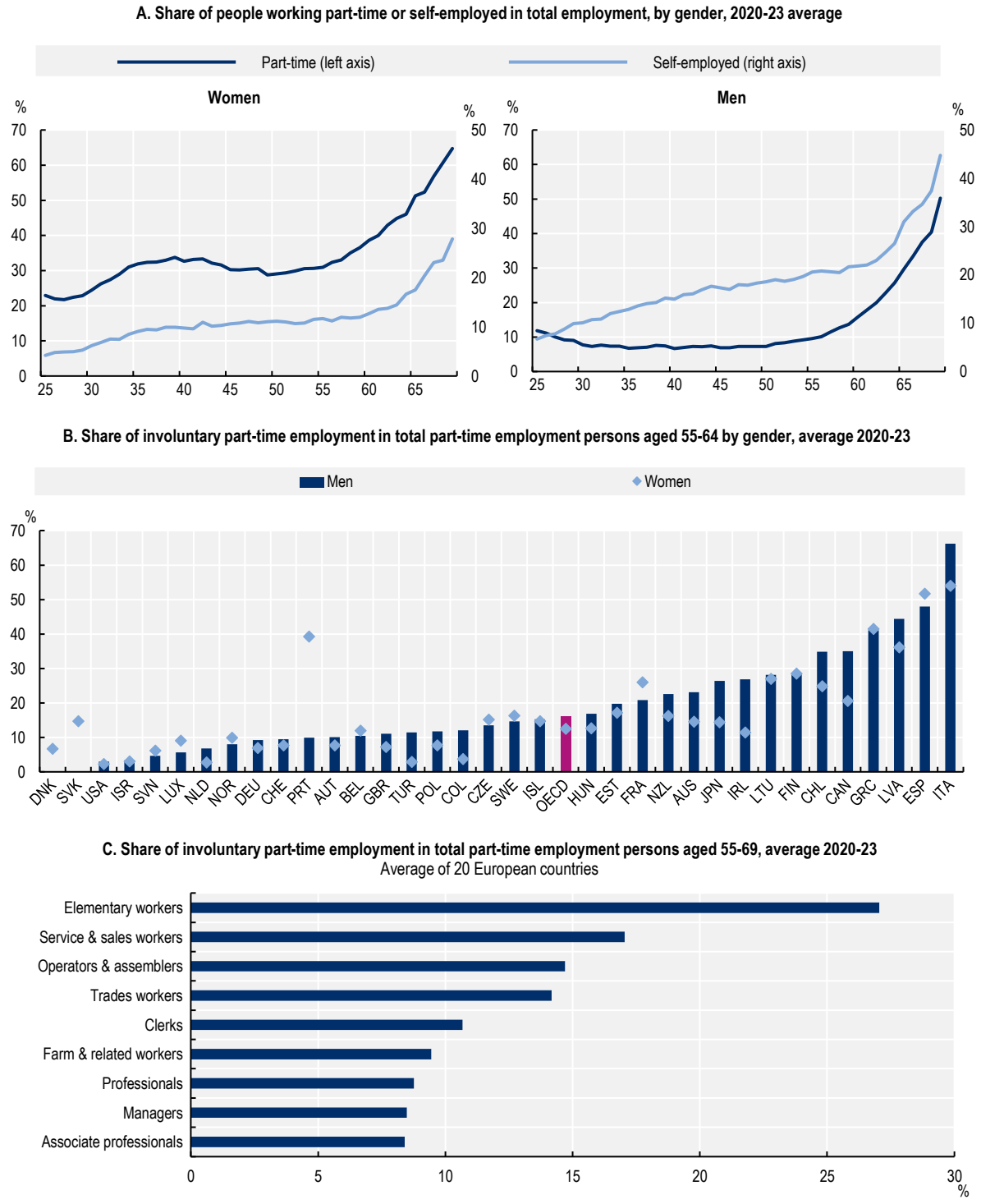
Working time directly affects employees' health and well-being, as well as being an important measure of labour utilisation (the intensive margin). Long hours increase the risk of health problems and exposure to workplace hazards. Striking a balance between work and personal life is especially important for sustaining motivation, capability, and engagement as workers grow older. In OECD countries, there has been a general decline in average annual hours worked over recent decades – see Chapter 1. On average across OECD countries there was a 3.5% decline in average usual hours worked for men aged 55-64 between 2001-03 and 2021-23, and a 2.7% decline for women (Annex Figure 3.A.10). This is consistent with the overall decline in average usual hours worked of 3.2% for men and 1.6% for women aged 15-64. Korea has historically been among the OECD countries with the longest working hours but has witnessed a decline over this period in usual hours worked of 16.5% for men and 14.8% for women (aged 55-64), slightly below the decline for the population aged 15-64.[7]

Transitioning to part-time work and self-employment is common among older workers. For women part-time employment rises during the reproductive years – peaking at 33.7% on average among OECD countries with available data at age 39 – and then again at older ages to 64.7% on average by age 69 (Figure 3.10, Panel A). The share of men engaged in part-time work remains below 10% on average until age 55, before rising exponentially to reach 50.3% by age 69. The share of self-employment women rises sharply from age 60 to reach 27.9% by age 69, while for men the share who are self-employment rises steadily from a young age to reach 44.7% by age 69.

The motivations behind the shift to part-time work and self-employment are multifaceted. Many older individuals are drawn to part-time work and self-employment due to the flexibility and autonomy it offers, allowing them to adjust their work schedules and responsibilities to better align with personal preferences or health considerations (Ameriks et al., 2020[46]). This flexibility can be particularly appealing for those seeking to phase into retirement gradually or to remain active in the workforce without the constraints of traditional employment structures. Additionally, self-employment can serve as a viable option for older workers who face age-related barriers in the conventional job market, providing an alternative pathway to maintain income and engagement.

Across all age groups, workers with lower educational attainment are more likely to be employed part-time due to the inability to secure full-time positions. Specifically, over 40% of workers aged 45-54 with low education levels work part-time for this reason, compared to 20% and 15% of their peers with middle and high education levels, respectively (Annex Figure 3.A.11). This disparity underscores the necessity of equipping workers, particularly those at risk of being stuck in poor-quality jobs, with the skills needed to advance to better employment opportunities. Older workers may encounter additional barriers in the labour market, such as difficulties in finding suitable positions, which must be addressed to facilitate effective career mobility.

Figure 3.10. The share of part-time work and self-employment rises with age



Note: Panel A shows the unweighted average of Australia, the United Kingdom, the United States and the weighted average of 25 OECD European countries: (Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland).
Source: The European Union Statistics on Income and Living Conditions (EU-SILC), UK Labour Force Survey, US Current Population Survey (CPS) and Household, Income and Labour Dynamics in Australia (HILDA) for Panel A, OECD Data Explorer, "Incidence of involuntary part time employment", http://data-explorer.oecd.org/s/23h for Panel B and the European Union Labour Force Survey (EULFS) for Panel C.

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Not all transitions to part-time work or self-employment are voluntary. A significant minority of workers across OECD countries take up part-time roles due to the lack of full-time opportunities. On average approximately 16% of men and 13% of women aged 55-69 working part-time do so because they are unable to find full-time employment (Figure 3.10, Panel B). The share is particularly high in Italy and Spain, where 54% and 52% of women aged 55-69, respectively, work part-time involuntarily. Among men, this reaches 55% in Italy and 48% in Spain. In addition, involuntary part-time employment disproportionately affects older workers in elementary, service and sales occupations (Figure 3.10, Panel C). This involuntary shift can lead to insufficient income and limited opportunities for wage growth, contributing to underemployment among this demographic (Bell and Blanchflower, 2021[47]).

Given the high prevalence of self-employment among older workers, labour market policies should recognise the importance of diverse forms of work (such as temporary-work, agency-work, self-employment and telework) in extending working lives. While self-employment offers valuable opportunities for older workers, it also carries risks. Since self-employed workers typically lack access to general public benefits like health insurance, pensions, and unemployment protections, they have to provide for such protection through their own financial arrangements (OECD, 2019[48]). Self-employment can often lead to difficulties such as securing adequate retirement savings and accessing affordable healthcare (Abraham, Hershbein and Houseman, 2021[49]). The absence of employer-sponsored benefits necessitates careful financial planning to ensure long-term security. Moreover, the success of self-employment ventures can be influenced by factors such as prior experience, industry knowledge, and the ability to adapt to changing market conditions (Abraham, Hershbein and Houseman, 2021[49]). More educated workers are much more likely to be self-employed compared to lower educated workers, often reflecting greater access to resources, networks, and autonomy – factors that contribute to disparities in labour market outcomes. However, among older adults, self-employment can also reflect constrained choices, particularly when driven by employer reluctance to hire older workers and a lack of flexible work options. Policies should be designed to provide older workers with as much choice as possible with regard to options such as part-time work and self-employment by not advantaging or disadvantaging either regime economically.

3.2. Strengthening incentives for longer working lives

Over the past two decades, in response to an ageing population and the growing strain on pension systems, many OECD countries have raised statutory retirement ages, restricted access to early retirement schemes, and created incentives to work beyond traditional retirement ages. The purpose of these policy changes has been to improve the sustainability of public finances by extending working lives and reducing pension expenditures and to limit the negative impact of ageing on retirement income adequacy.

Many of these reforms involve raising the statutory retirement age (SRA; the age set by law at which individuals are eligible to claim the state pension or public retirement benefits, either fully or partially) or early retirement age (ERA; the first age at which a pension can be claimed, often with reduced pension or benefits) to encourage longer workforce participation. Most recently, France has raised the minimum retirement age from 62 to 64 and will phase out some special pension schemes (OECD, 2023[50]). Sweden and the Slovak Republic strengthened the link between retirement age and life expectancy, a move now adopted by one in four OECD countries, including Denmark, Estonia, Finland, Greece, Italy, the Netherlands and Portugal (OECD, 2023[50]). Costa Rica has increased the normal retirement age by three years for both men and women and restricted early retirement access. Czechia has reduced the window for early retirement from five to three years before the statutory age. In some cases, such as Denmark, Estonia, Italy, the Netherlands and Sweden, the normal retirement age could reach 70 years or more for the 2000 birth cohort if life expectancy continues to rise as projected and the legislated links with the retirement age are effectively implemented over time (OECD, 2023[50]). Denmark adopted a law in June 2025 to raise the retirement age to age 70 by 2040 for people born after December 1970.

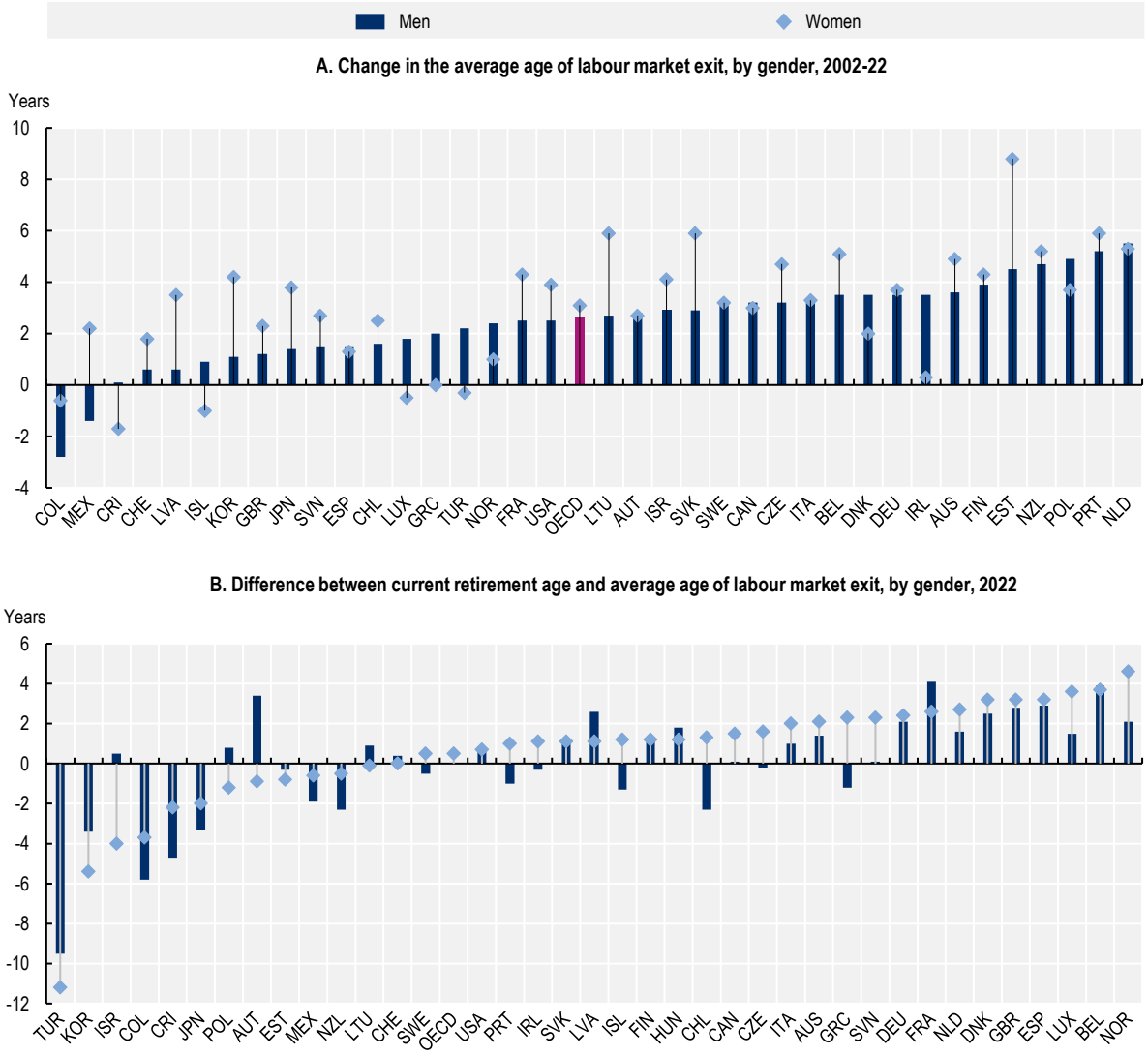
The average labour market exit age increased in most countries between 2002 and 2022, by an average of 3.1 years for women and 2.6 years for men (Figure 3.11, Panel A), reaching an average of 63.1 years for women and 64.4 years for men in 2022 (Annex Figure 3.A.12). Estonia, Lithuania and Poland have recorded the largest increases in the average age of labour market exit for women, and Hungary, the Netherlands and Poland for men. For women the average age of labour market exit has declined in Costa Rica, Iceland and to a lesser extent also in Colombia, Luxembourg and Switzerland. For men there has been a decline in Colombia and Mexico.

At current normal retirement ages (NRA; the eligibility age to pensions without penalty in all schemes combined after a full career from age 22[8]) there remains significant scope for raising the average age of labour market exit without increasing the NRA, because the average age of labour market exit is below the current NRA in 25 out of 38 OECD countries for women (and in 23 countries for men) (Figure 3.11, Panel B). In these countries efforts could be made to raise the effective age of labour market exit through improvements in opportunities and employability (see subsequent sections) in addition to raising statutory retirement ages. In the remaining countries the average age of labour market exit is above the current NRA, for example in Türkiye where current NRA is 49 for women and 52 for men, while the average age of labour market exit is 60.2 and 61.5 respectively.

Mandatory retirement rules give employers the option to end the contracts of workers at a certain age. These rules have become less common in recent decades but remain more common in the public sector than the private sector (OECD, forthcoming[51]). Currently, 18 out of 37 OECD countries for which there is available information have some form of mandatory retirement.[9] Mandatory retirement across OECD countries takes various forms, differing in strictness and application (OECD, forthcoming[51]). In some countries like Finland and Luxembourg, particularly in the public sector, employment is legally terminated at a set age, though workers can be rehired. Most countries legally require public servants to retire at or after the normal retirement age, with Japan and Korea as exceptions. Many allow employment extensions based on need or performance. In the private sector, the most common approach allows – but does not require – employers to end employment at a certain age through contract clauses or reduced employment protections, as seen in countries like Germany, the Netherlands and France. Norway and Sweden have both types of systems, typically kicking in at or after the normal retirement age. Some countries, including Japan and Korea, also permit early termination or changes to employment conditions, such as reduced wages or reemployment under different terms, to encourage continued employment of older workers.

Mandatory retirement is not a first-best policy instrument; it is often used to circumvent rigid employment and wage regulations, especially where seniority-based pay leads to a mismatch between wages and productivity or where dismissing underperforming workers is difficult. Rather than relying on mandatory retirement, these challenges should be addressed directly through targeted labour market reforms, such as more flexible wage-setting and dismissal procedures.

Figure 3.11. The average age of labour market exit has risen in most OECD countries since 2002, yet the average age of exit is often below the normal retirement age



Note: The average age of labour market exit is defined as the average age of exit from the labour force for workers aged 40 and over. The retirement age for women in Colombia is for 2006 and not 2002 in Panel A. Panel B shows the current normal retirement age (NRA) minus the average age of labour market exit. The NRA is the eligibility age to pensions without penalty in all schemes combined after a full career from age 22. Markers above the horizontal axis show that the average age of labour market exit is below the normal retirement age.
Source: OECD calculations based on OECD Data Explorer, "Pensions at a glance", http://data-explorer.oecd.org/s/23i.

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3.2.1. The labour market effects and behavioural responses of raising the eligibility age for pensions

Pension reforms typically elicit a strong employment response

Large employment increases have consistently been found in different countries in response to increases in both ERAs and SRAs.[10] Pension reforms in the Netherlands gradually increased the statutory retirement age from 65 years in 2012 to 66 years and four months in 2019, resulting in a 21.2 percentage point increase in the employment rate (Rabaté, Jongen and Atav, 2024[52]). In Austria, increasing the ERA by

one year raised employment rates among affected men and women by approximately 9.8 and 11 percentage points, respectively (Staubli and Zweimüller, 2013[53]). The employment response was strongest among high-wage and healthy workers, while low-wage and less healthy workers were more likely to seek alternative exit routes. In Germany, Geyer and Welteke (2021[54]) found a 13.5 percentage point increase in the employment rate for women following the abolition of the early retirement age for women in 1999. Reforms in Japan gradually increased the pensionable age for Employees' Pension Insurance from 60 to 65, with evidence showing that each one-year increase in pension eligibility led to a 7-8 percentage point rise in employment among affected individuals (Nakazawa, 2025[55]). In Denmark, reforms in 2011 delayed pension eligibility by six months, leading to increased labour force participation and delayed retirement (García-Miralles and Leganza, 2024[56]).

Pension reforms affect not only individual retirement decisions but also those of spouses, such that policies targeting individual retirement behaviour can generate significant spillover effects within households. Research from Denmark, Norway and Switzerland shows that when once spouse becomes eligible for a pension, the other often adjusts their retirement timing as well – typically to retire together (García-Miralles and Leganza, 2024[13]; Lalive and Parrotta, 2017[14]; Johnsen, Vaage and Willén, 2022[57]; Kruse, 2021[58]). This joint retirement behaviour is largely driven by complementarities in leisure and shared financial planning. Evidence from Australia and Italy shows that raising pension ages can delay retirement for both spouses, supporting longer workforce participation for women (Atalay, Barrett and Siminski, 2019[59]; Carta and De Philippis, 2023[60]).

There are several potential mechanisms driving these employment responses, however their relative importance is still not well understood and likely depends on institutional details and the characteristics of those nearing retirement (Coile et al., 2025[61]). Understanding the mechanisms through which pension reforms affect employment is essential for designing effective and fair policies. It helps policy makers anticipate how different groups will respond – whether due to financial need (credit constraints), reduced pension wealth (wealth effects), or behavioural norms. This allows reforms to be better targeted, reduces the risk of unintended hardship (especially for low-wealth individuals), and improves predictions of reform impacts across different contexts. It also has implications for understanding the distributional effects of changes to pension schemes which are important to understand in the context of the often-difficult political economy of reforms.

Raising the retirement age can influence decisions to remain employed through income effects – such as reduced pension wealth prompting delayed retirement (Atalay and Barrett, 2015[62]). Employer demand also plays a role; for instance lifting mandatory retirement rules in France influenced employment patterns (Rabaté, 2019[63]). Credit constraints and wealth effects are key too. In the United Kingdom, increasing women's early retirement age from 60 to 66 led to the largest employment gains among credit-constrained individuals, with a 13 percentage point larger increase than those not facing such constraints (Coile et al., 2025[61]). Behavioural effects are also important – people are much more likely to retire at statutory retirement ages than at other points with similar financial incentives, suggesting strong social norms around these ages (Seibold, 2021[64]; Rabaté, Jongen and Atav, 2024[52]; Geyer and Welteke, 2021[54]; Coile et al., 2025[61]; Gruber, Kanninen and Ravaska, 2022[65]). As a result, raising the statutory retirement age can lengthen working lives even without large financial incentives.[11] Pension systems should therefore be designed with both financial incentives and behavioural factors in mind.

Changes to pension policies should also consider the implications of longer working for physical and mental health. A key consideration with respect to changes in pension ages is health (Berkman and Truesdale, 2022[25]; Berger et al., 2022[66]; Lopez Garcia, Maestas and Mullen, 2025[44]). While there is evidence on the effects of health on employment in later life – see for example Blundell et al., (2023[67]), there is also evidence that remaining in work as a result of delayed retirement has a strong causal impact on cognitive function and physical disability. For example, Banks et al., (2025[68]) leverage a pension reform in the United Kingdom that raised the State Pension Age between 2010 and 2017 for women aged 60-63. Using this natural experiment[12] the study finds that continued employment significantly improves cognitive

performance (notably in memory and verbal fluency) and physical mobility (as measured by walking speed and reduced mobility problems). However, the effects are heterogenous across subgroups; the benefits are especially strong for single women and those in more physically active jobs. One implication of the above results is the role for policy in supporting transitions into types of work that are more conducive to the well-being of older workers. See for example Chapter 5 and OECD (2024[69]).

There is little evidence of strategic take-up of disability or unemployment insurance by those affected by pension reforms

Nevertheless, while the evidence suggests that raising retirement ages can be effective in extending working lives for those already employed, it has limited impact on individuals who are already in receipt of disability insurance (DI) or unemployment insurance (UI) or who have already exited the labour force. Therefore, pension reforms need to account for labour market conditions and access to alternative welfare programmes, recognising that those who are unable to continue working for longer are likely to access disability or unemployment insurance programmes, at least in the absence of concerted efforts to improve both the health of workers and job quality.

Pension reform can generate two types of substitution effects, potentially leading to increased reliance on disability or unemployment insurance. Mechanical substitution effects occur passively as individuals remain longer in their pre-reform labour market state due to an increase in the SRA. In contrast behavioural substitution effects occur when individuals actively change their behaviour in response to the policy change, such as strategically entering DI or UI because they cannot continue working until the new retirement age. Evidence from a range of studies in different countries suggests that the substitution effects of recent pension reforms have been largely mechanical rather than behavioural. If workers had been strategically moving into DI to compensate for the higher SRA, then it would be possible to detect an increase in DI or UI claims before the old retirement age (i.e. before they were directly affected by the reform).

For example, reforms in the Netherlands, led to a stepwise increase in the SRA from 65 years in 2012 to 66 years and 4 months in 2019. Rabaté et al. (2024[52]) find that this led to a 60 percentage point decline in the share of people in retirement between the old and new retirement age. About a third of these people were employed (+21 percentage points), while another third (22 percentage points) were in social insurance (primarily disability insurance). Rabaté et al. (2024[52]) argue that these effects were mainly mechanical rather than behavioural – most workers simply remained in their pre-SRA labour market state longer and a significant concentration of retirements was observed at the new SRA (Rabaté, Jongen and Atav, 2024[52]).[13] They find no significant effect of workers deliberately entering DI or UI as an alternative retirement pathway. In other words, the increase in DI claims was a natural consequence of raising the SRA, which forced some older workers – particularly those in poor health – to stay in the labour market longer and eventually transition to DI when they could no longer work.[14]

Similarly, in Germany, Geyer and Welteke (2021[54]) find that the rise in unemployment and inactivity rates following the 1999 pension reform – which increased the ERA for women from 60 to at least 63 – was largely a mechanical effect. There is evidence of only a small amount of active substitution into unemployment, disability pensions, and inactivity. While unemployment rates rose by 5.2 percentage points, this increase was mainly due to women remaining unemployed longer rather than actively substituting from employment into unemployment. Geyer and Welteke (2021[54]) acknowledge that there were distributional consequences of the reform, noting that the main distributional effect of the reform was a result of the persistence of people in their current labour market status. They found that women in eastern Germany were more affected by the reforms and faced higher unemployment rates at ages 60-62 than in the west.[15]

Nevertheless, understanding the substitution effects between pensions and DI is crucial when designing pension reforms. While restricting access to pension savings may extend working lives, it may also lead to

increased reliance on DI benefits. As the experience of Norway shows, allowing flexible pension withdrawals can also help reduce DI claims while still encouraging continued employment (Hernæs et al., 2024[70]). Norway's 2011 reform allowed some workers to withdraw their pension savings earlier, which significantly reduced DI claims. Access to own pension funds lowered entry into DI programmes after age 60 by as much as 20-25%. This suggests that workers who might otherwise have sought DI benefits due to financial constraints were able to rely on their pension savings instead.

3.2.2. Pension reforms for those in hazardous jobs

Workers in hazardous or arduous jobs are more likely to experience poor health, but relying on broad occupational categories to grant early retirement is increasingly viewed as ineffective. Many jobs have evolved thanks to technological change, and not all tasks within a given occupation remain physically demanding or dangerous. As a result, broad early retirement schemes risk being poorly targeted, offering benefits to individuals who may not face significant risks (OECD, 2023[50]).

Where early retirement provisions remain necessary, such as for jobs involving acute physical and cognitive demands (e.g. police, firefighters, military), they should be narrowly targeted and evidence-based (OECD, 2023[50]). Innovations in some countries, like Austria and France, now link eligibility to specific job characteristics (such as night work) rather than job titles. A more sustainable and equitable approach involves redesigning workplaces, supporting career transitions, and promoting retraining, so that workers in difficult roles can stay active longer and retire in better health (OECD, 2023[50]).

3.2.3. Flexible retirement may help facilitate longer working lives

In the context of demographic ageing, pension systems and labour markets must adapt to support longer and more diverse working lives. One key response to this demographic shift is the promotion of flexible retirement pathways, which offer individuals greater choice in how and when to retire. These pathways enable older workers to gradually reduce their workload or combine part-time work with pension benefits, accommodating differing capacities and preferences as people age.

A variety of flexible retirement options exist among OECD countries, including flexibility about when to retire via deferred retirement, differential pensionable ages, flexible pensionable ages, and early retirement (OECD, 2017[71]; Spasova, Deruelle and Airoldi, 2025[72]). The second main form of flexibility involves combining a pension with income from work. In this case three options are generally available i) claiming a full pension while continuing to work after reaching pensionable age, ii) claiming an early pension and continuing to work, and iii) claiming a partial pension and continuing to work part time (Spasova, Deruelle and Airoldi, 2025[72]).

Flexible retirement schemes do not always have the effect of extending working lives.[16] A review of partial retirement schemes in Europe in 2016 examined found no scheme unambiguously extended working lives for all participants (Eurofound, 2016[73]).[17] The report found that the effectiveness of these schemes depends on factors such as the availability of early retirement options and scheme design, and concluded that partial retirement should be structured to be an "interesting" alternative to full early retirement while still incentivising full-time work whenever possible (Eurofound, 2016[73]). If implemented too early or with excessive working hour reductions, it may lead to an overall decrease in labour supply rather than extending working lives. This is consistent with an analysis of partial retirement in Germany which found positive labour supply effects when individuals have access to partial retirement from two years before the ERA, but if partial retirement is available too early (e.g. from age 60), it can crowd out full-time work and reduce total employment volume (Haan and Tolan, 2019[74]).[18]

Flexibility over when to retire

Deferred retirement is the most common option, available in nearly all countries, allowing individuals to continue working beyond the pensionable age, often with financial incentives such as increased pension accrual rates (ranging from 3% to 10% per year) or lump-sum bonuses in some cases (Spasova, Deruelle and Airoldi, 2025[72]). These financial incentives are not generally designed to incentivise later retirement unless they are higher than what actuarial fairness requires. An actuarially neutral bonus/penalty is a matter of fairness: avoiding the situation where people retiring early receive lower lifetime benefits. However, they do remove disincentives to delay retirement – the lack of a bonus or penalty means that a person loses out if they do not take their pension at the earliest opportunity.

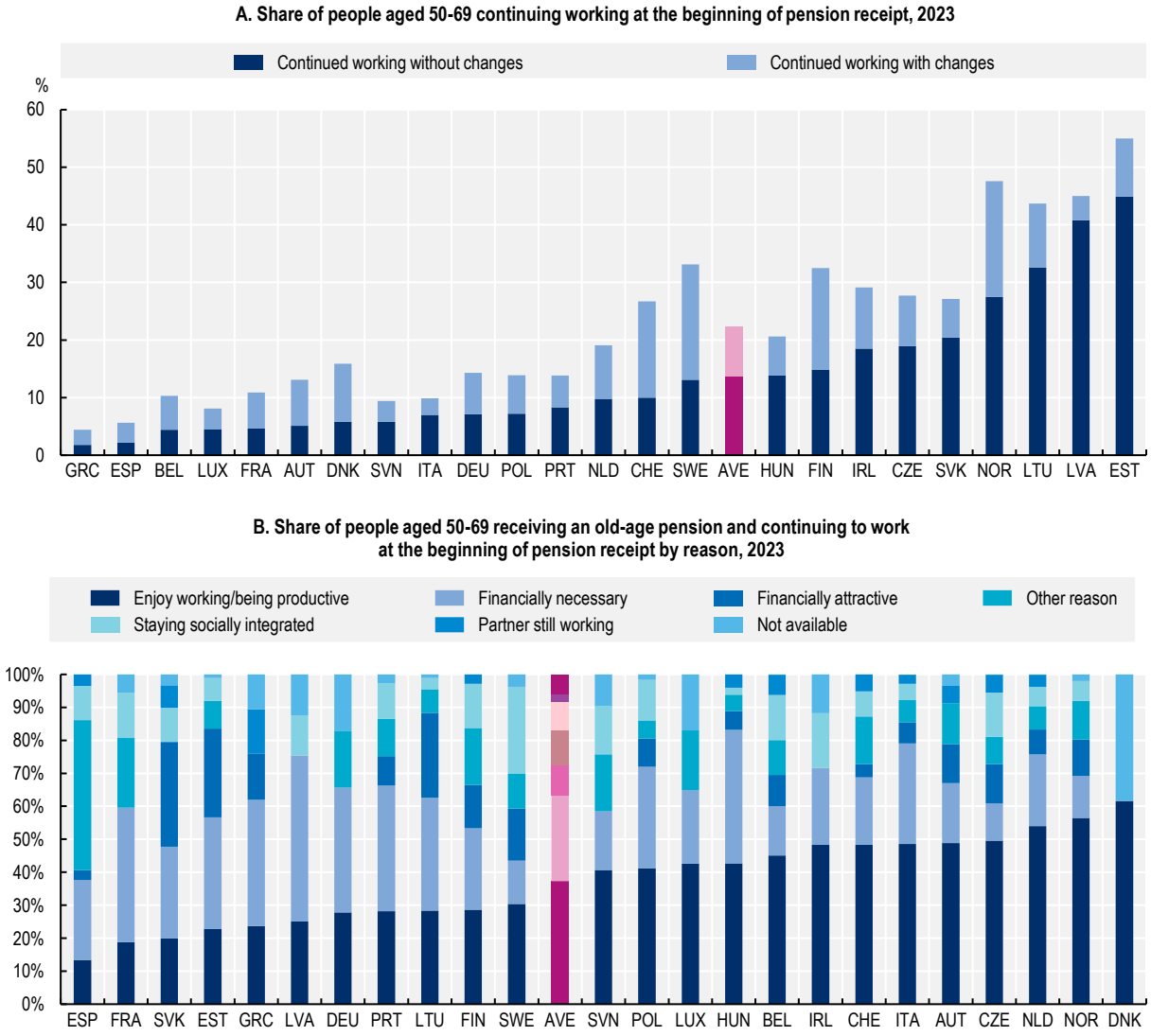
Differentiated pensionable ages exist in many OECD countries and allow workers with long careers, particularly those in physically demanding jobs, to retire earlier without a pension reduction. Flexible pensionable ages, found in Finland, Sweden and Norway, allow individuals to choose their retirement age within a predefined range with actuarially adjusted benefits to encourage later retirement (Spasova, Deruelle and Airoldi, 2025[72]). For example, Norway's 2011 pension reform introduced a flexible retirement age with actuarial (neutral) adjustment of the pension. Neutral withdrawal rules have also been seen as a prerequisite for freely combining work and pension without a reduction in the pension. Actuarially adjusted benefits also make it possible to allow for a free combination of income from work and pension without an earnings test.

Combining work and pensions

Promoting the combination of work and pension income has been a common reform among OECD countries in recent years. The simplest way to combine work and pensions is to claim a full pension at the normal or statutory retirement age while continuing to work part- or full-time, which is allowed in 17 OECD countries. (OECD, forthcoming[51]). In comparison, Türkiye is the only OECD member where individuals are never permitted to receive a pension while continuing to work. Countries such as Canada, Czechia, Latvia, Lithuania and Slovenia restrict people from working if they are receiving early-retirement benefits. These regulations effectively force individuals to choose between employment and pension income, creating a disincentive to remain in the workforce if the pension amount is enough to support their preferred lifestyle.

However, the share of older workers who continue working on receipt of a pension is relatively low across OECD countries with available data. On average 21.7% of people aged 50-69 continued working at least part-time in 2023, 13.2% without making any changes, and 8.5% continuing to work with changes such as changing job, working fewer hours or continuing to work in a second job while stopping work in their main job (Figure 3.12, Panel A). Estonia (55%), Norway (47.6%) and Latvia (45%) are the countries with the highest share of people reporting that they continue some form of work, while the share combining work and pensions is lowest in Greece (4.4%), Croatia (5.2%) and Spain (5.6%).

Figure 3.12. The share of people combining pension and labour income remains low at older ages, but enjoying work is the main reason for continuing to work while receiving a pension



Note: Continued working but with changes, e.g. changed job, worked fewer hours or continued working in second job while stopping the first job. The pink bars represent the unweighted average of the 24 European countries shown.
Source: OECD calculations based on the European Union Labour Force Survey (EULFS).

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Key motivations for continuing to work after receiving a pension include enjoyment of work and financial reasons (Figure 3.12, Panel B). For people aged 50-69 who combined work and pension receipt at the start of their retirement, the main motivation on average across the available countries was enjoyment of work and being productive (36.8%), followed by financial necessity (27.3%). Financial attractiveness of continuing to work was reported as the main reason by 8.6% on average, maintaining social integration by 8.2%, while 2.4% continued to work because their partner was still working.

Some countries do allow people to receive pension and labour income, but various conditions or limits apply (OECD, 2017[71]). This can include limits on hours worked or earnings or making employment less attractive by requiring people to make social security contributions without building up pension entitlements, such as in France, Greece and the Slovak Republic both before and after the normal

retirement age, as well as in Belgium, Germany, Luxembourg, Slovenia and Spain after the statutory retirement age (OECD, forthcoming[51]). Australia has both earnings and assets tests for the Age Pension, and in Korea the basic old age pension is means-tested. However in many European OECD countries these types of restrictions have been removed (Spasova, Deruelle and Airoldi, 2025[72]; OECD, 2022[75]).[19]

Some countries allow for claiming an early pension while continuing to work – this is allowed in 17 European OECD countries, subject to a range of eligibility conditions such as age limit and/or income or hours of work limitations. Ten countries apply certain limits to the amount of work a person can do while receiving an early-retirement benefit (OECD, forthcoming[51]).

Claiming a partial pension while continuing to work is also possible in some OECD countries, but this practice is less widespread. In Finland, from age 61, workers can claim 25% or 50% of their earned pension without any obligation to continue working; people can decide if they want to continue working either part-time or full-time, or not at all. Evidence suggests that in general, partial retirement does not necessarily delay labour market exit (Hess, Bauknecht and Pink, 2018[76]; Baumann and Madero-Cabib, 2021[77]), however under specific conditions it might (Haan and Tolan, 2019[74]). Haan and Tolan (2019[74]) find that partial retirement increases the length of working lives when it is available from the early retirement age and designed to attract those who would otherwise retire early or exit via unemployment. It is most effective when combined with moderate pension payments during the partial retirement phase (e.g. 50%), which provide income support without heavily reducing future pensions. Crucially, such schemes should avoid encouraging full-time workers to reduce hours too early, and instead target those at risk of early labour market exit.

In France, progressive retirement is available from age 60 for those with at least 150 quarters of social security contributions, allowing workers to reduce their working time by up to 80% while receiving a partial pension proportionate to the hours reduced (Spasova, Deruelle and Airoldi, 2025[72]). Austria is reforming its partial retirement scheme to discourage early exit from the labour market (OECD, 2025[78]). Currently, employees within five years of the statutory retirement age can reduce their working time by 40-60% with a 50% wage compensation for lost earnings, partly reimbursed to employers by the Public Employment Service. This can be done either continuously or via a block time model.[20] However, from January 2024, public compensation for the block time model is being gradually phased out and fully eliminated by 2029. After that, only continuous part-time arrangements will be eligible for reimbursement – reinforcing the policy goal of extending working lives.

To promote flexible retirement, pension policies should be closely linked with broader labour market measures that support older workers. This includes fostering age-friendly workplaces, expanding opportunities for training and upskilling, and encouraging flexible work arrangements such as part-time roles or remote work. Employers and social partners have a key role in ensuring a range of flexibility options (Box 3.2). At the same time, policies must recognise the diverse motivations for working longer – whether for financial reasons or personal fulfilment – by creating meaningful, flexible job opportunities that allow older workers to stay engaged and active. Governments should ensure that partial retirement is accessible to workers across different income and education levels, as lower-paid workers often need such flexibility but may struggle to afford it.

Creating structured programmes that allow employees approaching retirement to gradually reduce their working hours or responsibilities can also support knowledge transfer and succession planning while accommodating employees' desires for a gradual transition. Evidence indicates that phased retirement schemes, mentoring programmes, and intergenerational team structures are particularly effective in supporting such transitions (OECD, 2024[79]). For example, countries like Germany and Finland have implemented formal frameworks enabling older workers to transfer expertise through mentoring and coaching, while maintaining reduced roles. These initiatives not only preserve institutional knowledge but also improve job satisfaction and retention among senior staff.

Box 3.2. Creating more flexibility in retirement in Denmark

In Denmark, collective bargaining agreements play a key role in supporting flexible retirement options. In the private sector, senior workers five years before the statutory pension age generally have access to senior leave days as part of the agreements. These can be financed through free choice wage schemes or by redirecting part of their pension contributions.

Free choice wage schemes offer flexibility by allowing employees to allocate a portion of their earnings to extra pension contributions, direct salary, or paid leave. The leave can be used for various purposes, such as specific family-related needs or to finance senior leave days, subject to limitations set in the collective agreements.

These schemes have been gradually expanded since 2007. In the 2025 private sector bargaining round, free choice contributions in the were increased by 2 percentage points. For example, workers covered by the leading manufacturing sector agreement will have a free choice account of 11% of their wage by 2027.

In the 2024 collective agreements in the public sector, a somewhat similar flexibility was introduced for state employees. These agreements allow state employees to use some of their mandatory pension contributions above 15% to purchase a higher degree of flexibility from their employers. Employees can choose to receive it as salary, have it allocated to a savings scheme linked to their pension, or opt for a combination of both. This allows individuals to tailor their benefits according to their financial preferences. In addition, employees have a new option to save up time off for later use, for example in connection with childcare, or caring for sick parents. The savings can consist of time off in lieu and special holidays.

In the public sector senior days for workers close to retirement age have been part of the collective agreements for a longer time. They are not part of the new flexibility schemes. While both sectors now offer flexible retirement options, private sector schemes are typically broader and more established. Public sector arrangements are newer and apply to a narrower group but reflect a growing convergence in Danish retirement practices.

Employers may also be hesitant to introduce partial retirement schemes due to concerns about anti-discrimination laws as well as the perceived high costs of older workers (Johnson, 2011[80]). Employees, on the other hand, often worry about reduced pay, pension losses, or loss of benefits linked to full-time employment (Johnson, 2011[80]).

Communication and planning play a vital role in a successful phased retirement scheme. Employers should proactively discuss phased retirement options with employees well in advance of their anticipated retirement age. Providing financial planning resources, workshops, and one-on-one consultations can help workers make informed decisions about their retirement transition. These discussions can also feature as part of a "mid-life career review" (OECD, 2024[38]). Financial literacy is crucial to ensure that individuals do not inadvertently reduce their pension benefits to unsustainable levels, highlighting the need for better education and transparency in pension systems (OECD, 2017[71]).

3.3. Boosting the hiring and retention of older workers

While better incentives are important to keep mid-to-late career workers working longer; they also need better opportunities to do so. Therefore, an important challenge for more inclusive ageing and employment policies is encouraging employers to both hire and keep mid-to-late career workers in good quality jobs.

Achieving this depends on how well companies handle age diversity and make the best use of all employees, regardless of their age. Government policies can play a role by influencing how employers approach the hiring and retention of mid-to-late career workers, ensuring the right balance between job flexibility and stability through labour market regulations.

Hiring rates for older workers are influenced by several key factors. While wages and benefits typically rise with age, there is no conclusive evidence that productivity increases at the same rate (see also Chapters 2 and 5), making employers cautious about hiring older workers. However, there is evidence which suggests that productivity can be enhanced through complementarities arising from multigenerational workforces (see Section 3.3.3). Some firms treat older and younger workers as substitutes, particularly where cost concerns dominate, while others see them as complementary, especially in roles requiring experience and knowledge transfer.

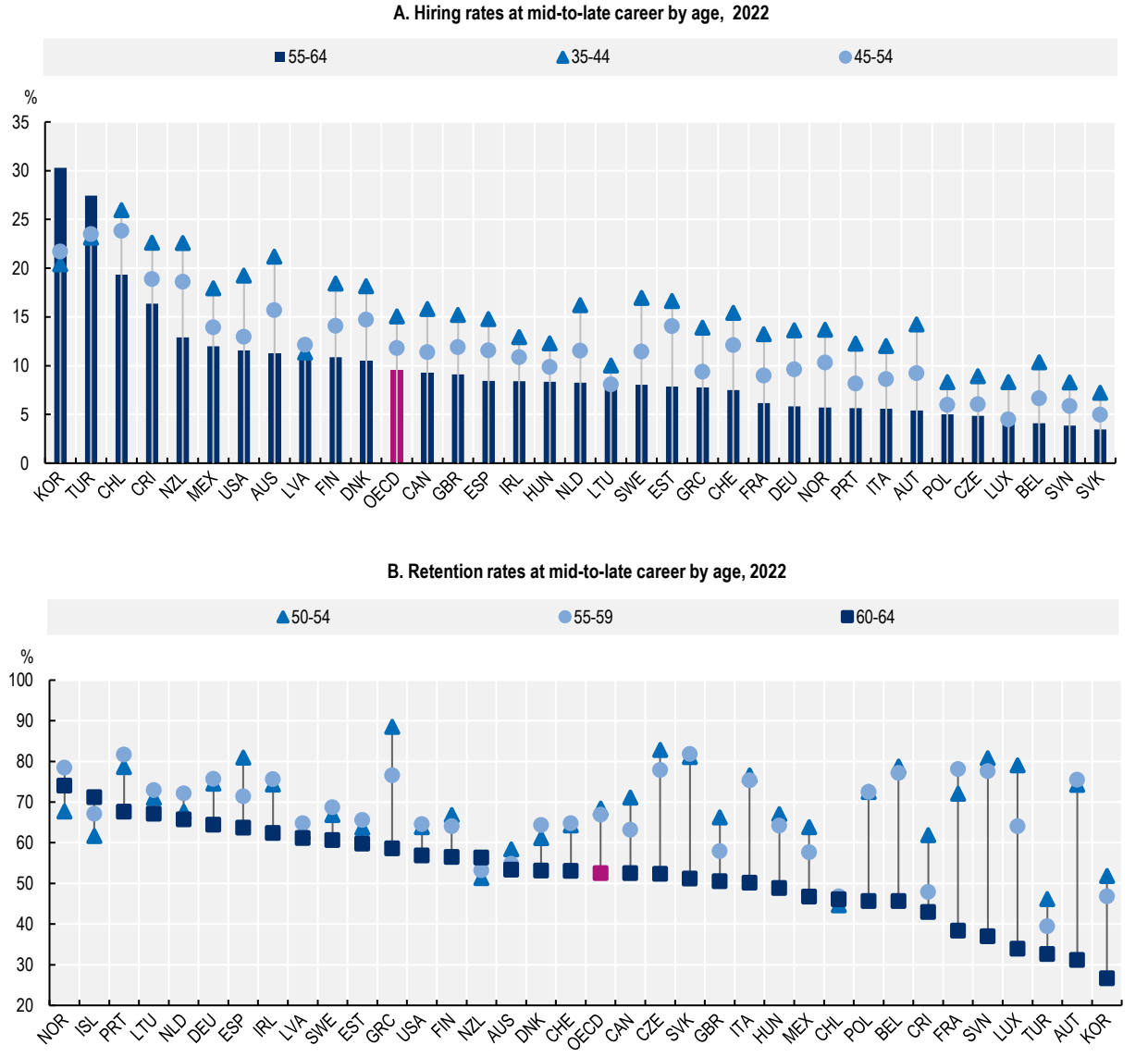
Employers may also perceive higher transaction costs in hiring older workers due to concerns about adaptability, job tenure, and work environment accommodations. Age discrimination remains a significant barrier, particularly for older women (Neumark, Burn and Button, 2019[18]; Neumark, 2024[81]). Technological change further affects demand, with some firms reluctant to hire older workers if they are seen as less adaptable, though automation can sometimes complement their skills. Addressing these challenges requires firm policies that adjust compensation structures, enhance training, and combat age-related biases in hiring.

Hiring rates decline with age, with 9.5% of employees aged 55-64 being newly hired in 2022, compared to 11.8% for those aged 45-54 and an average of 15% for workers aged 35-44 (Figure 3.13, Panel A). The decline with age likely reflects a combination of demand side factors, and also supply-side factors if older workers exhibit less inclination to change jobs, or possibly due to a desire for stability, satisfaction with their current roles, or concerns about facing age discrimination in new workplaces. Further, there has generally been no improvement in hiring rates over the last 25 years for older workers (Annex Figure 3.A.13, Panel B).[21] Some countries such as Korea and Türkiye do have high hiring rates, however this may partly reflect low retention rates (Figure 3.13, Panel B).

3.3.1. Keeping people at the end of their career is difficult

Job retention is critical for extending working lives – by allowing older workers to continue using their experience and firm-specific skills (OECD, 2023[26]). Retaining workers in their current roles can offer stability, foster productivity, and reduce the costs associated with turnover. On average across the OECD, just over half of working 55-59 year-olds leave their employer by the time they are 60-64 (Figure 3.13, Panel B). This compares to an average of 34.6% of 40-44 year-olds who leave by the time they are 45-49. Although older workers have relatively long average tenure, by the time they reach their fifties, the likelihood that they will continue in the same job falls dramatically. Moreover, substantial differences emerge across countries. In Korea, Austria, Türkiye, Luxembourg and Slovenia, fewer than 40% of workers aged 55-59 remain with their current employer after five years, although to some extent this will reflect relatively low retirement ages and either workforce exit or rehiring or job change in the case of Korea. By contrast, in Iceland, Portugal, Lithuania, the Netherlands and Germany, over 65% of workers in this age group are still in the same job five years later.

Figure 3.13. Many older workers struggle to find new jobs or hold on to their existing ones



Note: OECD is an unweighted average of the 35 countries shown. Hiring rates are defined as the share of employees with a job tenure of less one than year on their main job. Retention rates are defined as: all employees currently aged 50-54(55-59)(60-64) with job tenure of five years or more as a percentage of all employees aged 45-49(50-54)(55-59) five years previously (and four years previously for the United States). Data sorted in descending order of ages 55-64 (Panel A) and ages 60-64 (Panel B).
Source: OECD calculations based on data from OECD Data Explorer, "Employment by job tenure intervals – persons", http://data-explorer.oecd.org/s/23j.

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3.3.2. Overcoming age discrimination in the workplace

Age discrimination in the labour market remains a significant barrier to employment for mid-to-late career individuals, despite legislative efforts to combat it in most OECD countries (Figure 3.14). Ageism can be institutional, interpersonal or self-directed. Resume audit studies have consistently shown that older job applicants often receive fewer interview invitations compared to their younger counterparts with equivalent qualifications (Neumark, Burn and Button, 2019[18]; Neumark, 2024[81]; Carlsson and Eriksson, 2019[82]; Oesch, 2020[83]). These field experiments reveal strong employer biases against older workers, particularly

women and those nearing retirement age, and highlight how age-based discrimination can occur even before employment begins.

This raises further concern about policies that remove employment protection once pension age is reached, potentially legitimising similar biases at the point of job exit. Evidence from France, the Netherlands and Sweden shows that lifting employment protection legislation (EPL) at or after full pension age facilitates de facto age-based termination discrimination. In France, Rabaté (2019[63]) finds that employers use mandatory retirement provisions to dismiss older workers with reduced legal risk, accounting for a significant portion of the spike in retirements at full pension age. In the Netherlands, Rabaté, Jongen and Atav (2024[52]) show that the statutory retirement age marks a sharp increase in job exits due to automatic termination rules, with employer-side factors driving the bunching. In Sweden, Saez, Schoefer and Seim (2024[84]) provide clean causal evidence that removing EPL at age 67 leads to a 10% drop in employment and largely involuntary separations, especially targeting vulnerable groups.

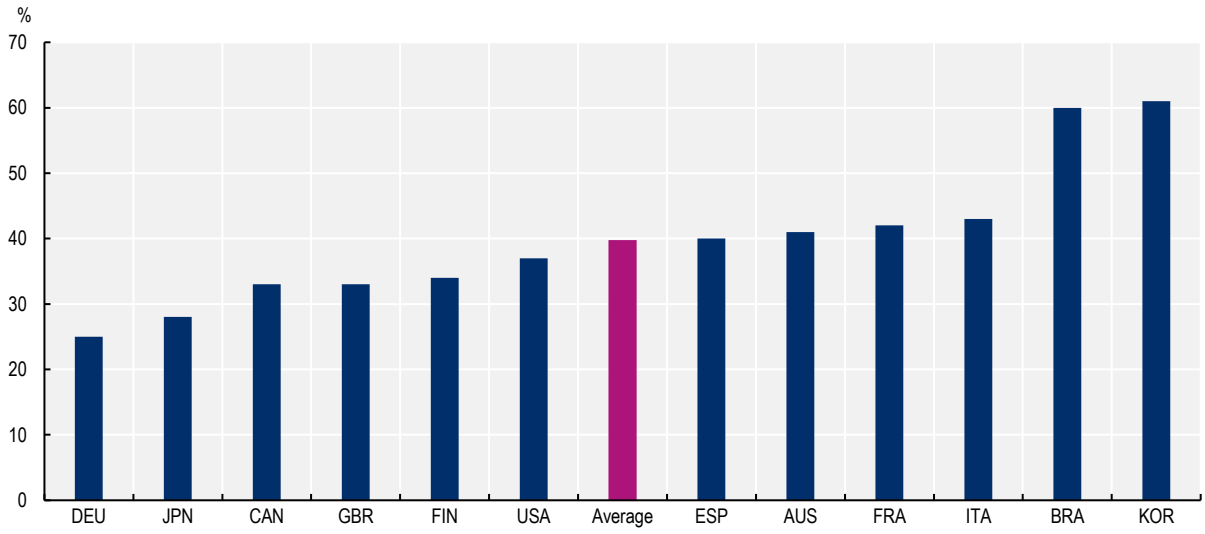
There is compelling evidence that age-stereotyped language in job ads – especially phrases implying deficiencies in health, personality, or technological skills – can deter older workers from applying for jobs and is associated with actual age discrimination in hiring (Burn et al., 2022[85]; Burn et al., 2022[86]). For employers, this highlights the legal and practical risks of using language that may inadvertently signal age bias, potentially excluding qualified older candidates and violating age discrimination laws. Employers can audit and revise job postings to ensure they are age-neutral, particularly in references to traits like adaptability, energy, or tech-savviness. From a policy standpoint, these findings support stronger regulatory oversight by governments or equality bodies. This could include clearer guidance on how to advertise in an age-neutral way and broader educational campaigns to counteract workplace age stereotypes.

Self-directed ageism can be as equally harmful as institutional and interpersonal ageism, and occurs when individuals internalise societal ageist attitudes, modifying their own beliefs and behaviours in ways that reinforce negative stereotypes about ageing. This can arise from repeated exposure to cultural narratives that portray ageing as synonymous with decline, reduced productivity, and diminished cognitive ability. Research suggests that older individuals may unconsciously adopt these views, leading them to underestimate their capabilities, withdraw from opportunities for career advancement, and disengage from training or development programmes (Centre for Ageing Better, 2023[87]; Vickerstaff and van der Horst, 2022[88]).

The consequences of age discrimination are multifaceted. For individuals, it can result in prolonged unemployment, underemployment, and financial insecurity during what should be their peak earning years. Older workers who internalise negative stereotypes may experience decreased self-confidence, heightened stress, and reluctance to seek employment or professional growth. This can lead to premature workforce exits, reinforcing the economic and social challenges associated with ageing populations. Further, self-directed ageism has been linked to negative health behaviours, such as avoiding preventive healthcare or exercise, which in turn contribute to poorer health outcomes and increased reliance on social care (Centre for Ageing Better, 2023[87]). For businesses, excluding experienced workers results in a loss of valuable skills and knowledge, potentially decreasing overall productivity.

Figure 3.14. Mid-to-late career workers report widespread experience of age discrimination

Share of workers (45+) who have experienced age discrimination in the workplace



Note: Responses were taken from an online survey conducted in June/July 2022 of individuals aged 45 and over in the 12 participating countries shown (n = 6 551). Based on the question "Please tell me whether any of the following has happened to you at work since turning 40". The pink bar is the unweighted average of the 12 countries shown.
Source: AARP Global Employee Survey (2022).

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Most OECD countries have implemented laws to prevent age discrimination in hiring, along with various initiatives aimed at shifting employer attitudes toward older workers. Evidence shows that laws protecting older workers from age and disability discrimination can reduce age discrimination in hiring (Neumark, 2020[89]). In a large-scale field experiment, Neumark (2019[90]) found that states in the United States with more stringent age discrimination laws – particularly those allowing larger damages – tend to show reduced discrimination in hiring, as measured by callback rates for older applicants. However legal measures often fall short due to weak enforcement and the financial or procedural challenges individuals face when pursuing discrimination claims in court (OECD, 2019[5]).[22]

Addressing self-directed ageism requires both systemic and individual-level interventions. Employers can play a crucial role by fostering age-inclusive workplaces that challenge stereotypes, ensuring access to training for older workers, and promoting lifelong learning (Vickerstaff and van der Horst, 2022[88]). On an individual level, raising awareness of how ageist narratives shape self-perception can help older workers reframe their understanding of their own capabilities. Broader cultural change, including shifts in media representation and public discourse around ageing, is also essential to reducing the prevalence of ageist beliefs and their damaging consequences (Henry et al., 2023[91]).

A key aspect of promoting age diversity is ensuring best practices in recruitment, retention, and retirement. Tools such as the Good Recruitment for Older Workers (GROW) toolkit developed in the United Kingdom can be used by businesses as a starting point for reducing age bias in recruitment practices (Box 3.3). Approaches such as skills-based hiring – prioritising an individual's capabilities and competencies over formal qualifications or chronological factors like age – can also potentially help address age discrimination in the workplace. However, at this point there is no available evidence on how skills-based hiring affects discrimination. Further, some employers may still retain biases, and automated hiring tools could inadvertently discriminate against older workers if the underlying algorithms or data reflect existing biases (Butrica and Mudrazija, 2022[92]; Broecke, 2023[93]).

Box 3.3. Good Recruitment for Older Workers (GROW) Toolkit

The GROW toolkit, developed by the Centre for Ageing Better, the CIPD (Chartered Institute of Personnel and development) and Recruitment and Employment Confederation in the United Kingdom, provides employers with practical strategies to reduce age bias in recruitment processes and create multigenerational workplaces. Strategies discussed in the toolkit include developing recruitment processes that minimise both explicit and implicit age biases. This includes debiasing job advertisements by using age inclusive language, and adopting recruitment practices such as blind applications, clear interview guidelines, and reasonable adjustments for candidates' needs. Fostering a workplace culture that values age diversity is also recommended to raise awareness and build confidence among staff. This can be achieved by training employees to recognise and challenge age-related biases, and encouraging intergenerational collaboration, for example.

Source: Centre for Ageing Better (2021[94]), Good Recruitment for Older Workers (GROW) A guide for employers, https://ageing-better.org.uk/sites/default/files/2021-10/GROW-a-guide-for-employers.pdf.

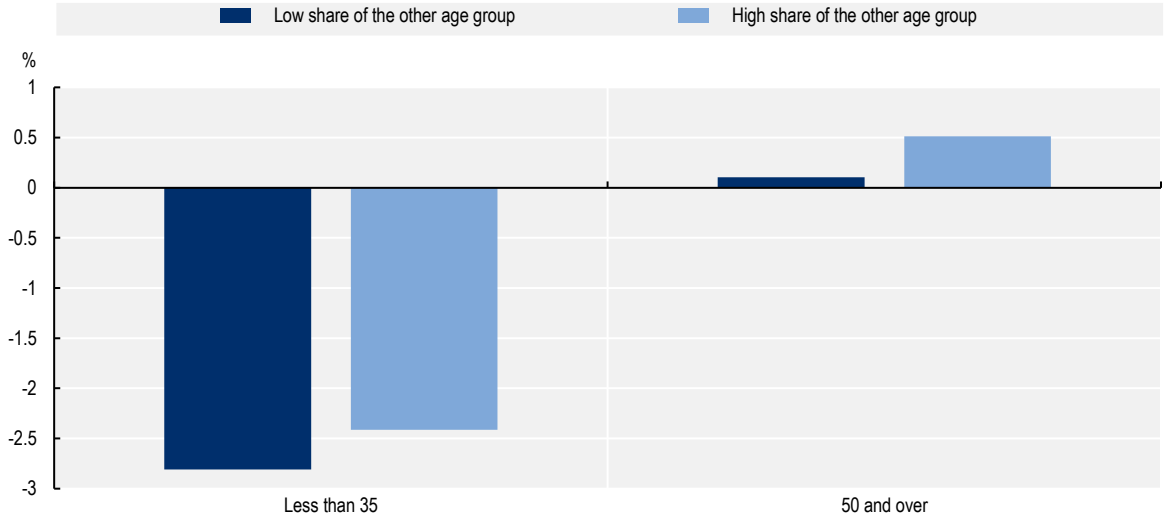
3.3.3. Multigenerational workforces can boost firm productivity

A key factor influencing employers' demand for older workers is how compensation costs and productivity evolve with age. Empirical evidence indicates that while older workers often bring extensive experience and stability to a firm, there is no consistent correlation between age and productivity. Studies using matched employer-employee data across various countries offer mixed findings. For instance, some studies show that firms with a higher share of older workers experience lower productivity, while others find no significant relationship or even slightly positive effects in specific contexts (Hellerstein and Neumark, 1995[95]; Cardoso, Guimarães and Varejão, 2011[96]; Hellerstein, Neumark and Troske, 1999[97]; Haltiwanger, Lane and Spletzer, 2007[98]; Mahlberg et al., 2013[99]; Daveri and Maliranta, 2007[100]; Göbel and Zwick, 2012[101]).[23]

Additionally, these studies often conflate two distinct effects: the individual productivity of workers and the complementary effects of co-workers. OECD evidence shows that workers of both younger and older age groups tend to be more productive when they work in companies with a greater number of colleagues from the other age group (Figure 3.15). Workers aged 50 and above demonstrate productivity levels comparable to those of individuals aged 35-49, and they perform better when they work alongside more younger colleagues (OECD, 2020[102]). Organisations with a 10% higher share of workers aged 50 and over than the average are 1.1% more productive (OECD, 2020[102]). This is due to a direct effect of proportionately fewer younger workers and a positive spillover effect from a higher share of older workers. This boost stems from the complementarities between age groups, specifically that older workers have lower worker turnover, greater management experience, and greater general work experience (OECD, 2020[102]).

Figure 3.15. Employees are more productive when they work with others who are of a different age

Change in firm productivity when the number of employees aged 50 and above increases by 10%, with a corresponding decline in employees aged 35-49, for Costa Rica, Finland, Germany, Japan and Portugal



Note: The estimations regress log labour productivity on the two age shares, an interaction term between the two age shares, education shares, the share of women and firm size shares, interacted country-year fixed effects and interacted country-industry fixed effects. Firm age is not available in the data. Low and high share of the other age group take the values at the 25th and 75th percentiles in the sample. The data average values for each decile by industry for the countries and years available in the dataset. Annex 2.A in the source below provides further details on the regression results, including statistical significance.
Source: OECD (2020), *Promoting an Age-Inclusive Workforce: Living, Learning and Earning Longer,* https://doi.org/10.1787/59752153-en, Figure 2.5.

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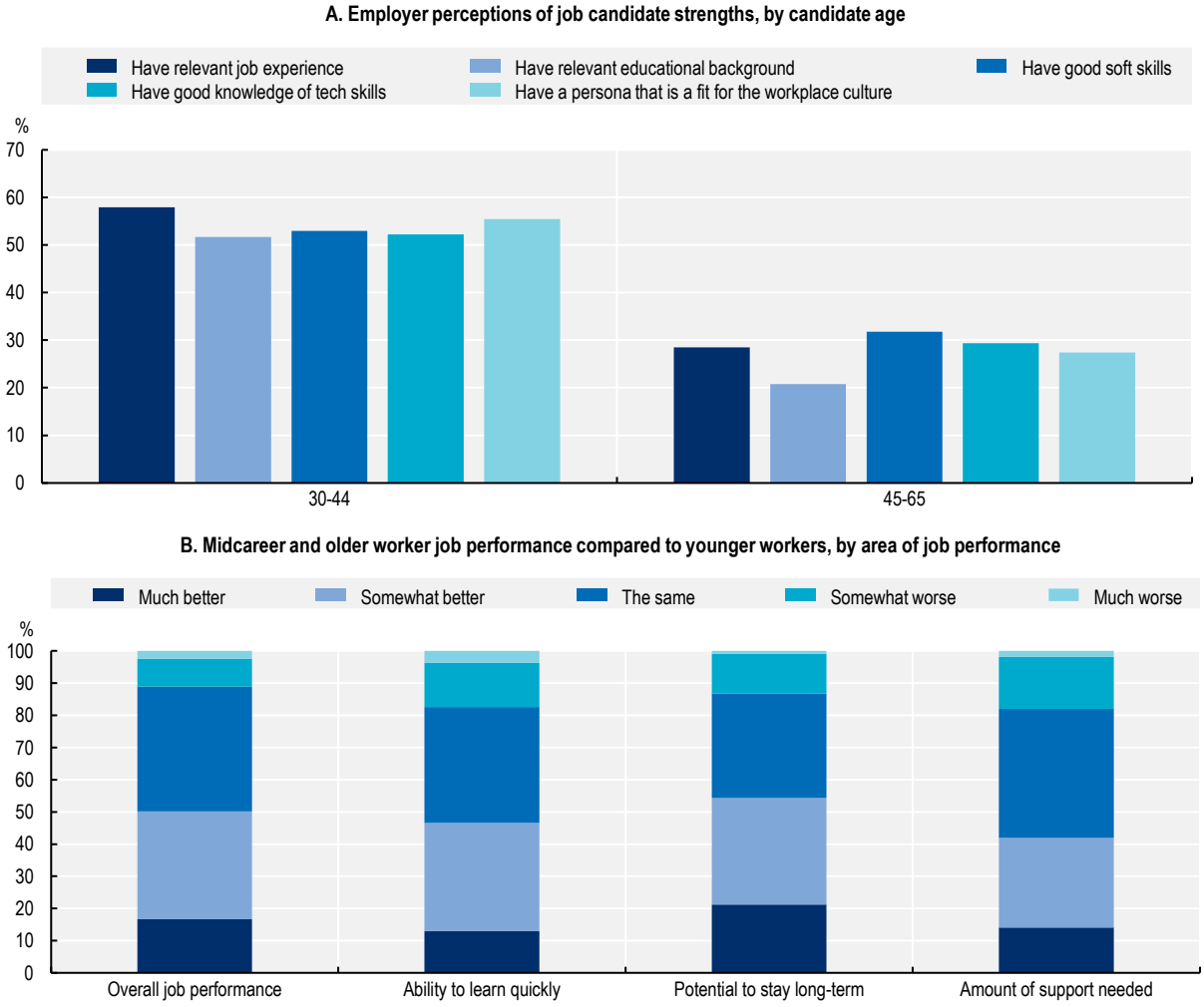
However, irrespective of the empirical evidence, employer *perceptions* of the productivity of older workers are also critical from the perspective of labour demand. Results from a recent OECD/Generation survey (OECD/Generation: You Employed, Inc., 2023[103]) find that while employer perceptions of the strengths of job candidates vary significantly by age (Figure 3.16, Panel A).[24] the actual job performance of mid-to-late career workers hired in entry or intermediate level jobs (following a change in occupation) is seen as at least as good or better compared to younger hires (Figure 3.16, Panel B).

Figure 3.16. Employers expect younger workers to be a better fit when hiring than older workers



Note: In Panel A, respondents were asked, "Think about the applicants you have reviewed for entry- and intermediate-level positions. Which candidates are the most likely to…" followed by ten different potential candidate job strengths. Respondents were able to select only one age group (20-29 year-olds, 30-44 year-olds, 45-54 year-olds, 55-65 year-olds) as the response for each portion of the question. Data for 45-65 displayed above is the sum of responses from respondents where 45-54 year-olds and 55-65 year-olds were selected as the most likely group to display the respective traits. In Panel B, respondents were asked, "Once hired, how do midcareer switchers perform on these dimensions compared to other entry-level or intermediate-level hires?" followed by four areas to evaluate (overall job performance, ability to learn quickly, potential to stay with your company long-term, amount of support needed when entering the role.

Source: OECD/Generation: You Employed, Inc. (2023[103]), *The Midcareer Opportunity: Meeting the Challenges of an Ageing Workforce*, https://doi.org/10.1787/ed91b0c7-en.

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3.3.4. Aligning wages with performance, not age

Aligning wages more closely with productivity rather than age or seniority in collective bargaining agreements could increase demand for older workers and reduce ageism in hiring. In many OECD countries, seniority-based pay structures result in wage profiles that rise steeply with age and tenure regardless of actual productivity. This wage-productivity mismatch often discourages employers from retaining or hiring older workers. Evidence from countries such as Germany illustrates that moving away from automatic seniority pay has contributed to improving employment outcomes for older workers.

German firms increasingly adopt performance-related or task-based pay scales, which better reflect the actual contributions of workers rather than their length of service (OECD, 2019[5]).

Conversely, in Japan and Korea, seniority-based systems remain deeply embedded in labour market practices. This is reflected in both countries' persistent challenges with older worker retention. In Japan, although legislative measures have extended the mandatory retirement age, many firms continue to rehire older workers at substantially reduced wages, reflecting their diminished bargaining position rather than their productivity (OECD, 2018[104]). Korea faces similar issues, with older workers disproportionately pushed into low-quality or non-regular employment despite high participation rates. Here, steep age-related wage premiums contribute to early separations from regular employment, creating financial insecurity and exacerbating old-age poverty risks (OECD, 2018[105]).

Replacing seniority-based wage systems with productivity-aligned remuneration frameworks is a critical step toward the goal of continued labour force participation. Performance-related pay, unlike seniority-based pay, ties financial rewards directly to an individual's performance, often using measurable targets or assessments. However, to be effective, performance-related pay must be designed with care. Evidence suggests that both financial incentives and non-financial recognition can significantly improve motivation and performance, but only when they are perceived as fair, linked to clear standards, and embedded within supportive management (Cotton, 2022[106]).

3.4. Promoting the employability of workers throughout their working lives

Promoting employability throughout life is essential for improving job opportunities for mid-to-late career workers. While some mid-to-late career workers thrive in the labour market, others face challenges due to outdated or insufficient skills, lack of experience in job search or poor health. To support longer careers, mid-to-late career workers need opportunities to develop relevant skills and work in environments that promote well-being, health, and productivity. Policies to improve the skills and training of mid-to-late career workers are discussed further in Chapter 4.

3.4.1. Supporting employers in introducing age management practices in the workplace

As workforces age and become more multigenerational, employers need support to implement effective age management practices. Adopting a comprehensive approach that covers work organisation, training, health, and working time can help workers remain in employment and sustain or improve their productivity. Many companies, particularly SMEs require support and consultation in the development of age management practices in the workplace. Investing in effective firm management is essential, as without it, efforts to enhance hiring practices, training, or workplace health policies will likely fall short. Quality management practices, such as continuous improvement, monitoring key performance indicators, and focusing on employee development, can significantly boost firm productivity, raise wages, and reduce quit rates (Hoffman and Tadelis, 2021[107]; Friebel, Heinz and Zubanov, 2021[108]; Moscelli, Sayli and Mello, 2022[109]). However, smaller businesses often lack the formal management systems common in larger firms, potentially limiting their capacity to grow and compete. In some countries the PES is supporting companies to improve age management practices (Box 3.4).

For employers, implementing and maintaining high-performance work practices (HPWPs) can be an effective HR strategy to retain older workers and delay retirement (Stirpe, Trullen and Bonache, 2018[110]; Jiang et al., 2022[111]). HPWPs – comprising skill-, motivation-, and participation-enhancing practices – help meet older workers' needs for autonomy, purpose, and respect, encouraging them to stay longer in the workforce. Jiang et al. (2022[111]) found that in the United States, high-involvement work practices are associated with lower retirement intentions, particularly when they align with older workers' intrinsic motivations and work values. Analysis by Stirpe et al. (2018[110]) using data from the United Kingdom note

that while the retention benefits of HPWPs may diminish somewhat with age due to increased sensitivity to job demands, age-aware design of such practices can still support engagement and reduce early retirement. Evidence shows that organisations should aim for integrated and age-inclusive HR strategies that balance the needs of all age groups and foster an inclusive culture (Boehm, Schröder and Bal, 2021[112]).

Box 3.4. Supporting age management in firms in Austria

Impulse consulting for companies helps employers in strategic personnel management

Since 2015 the Austrian Public Employment Service offers free consulting to Austrian companies of all sizes (OECD, 2025[78]). The aim of the "Impulse Consulting for Companies" (*Impulsberatung für Betriebe*) programme is to assist companies with challenges related to personnel management. Impulse consulting for companies in the area of age(ing)-appropriate workplaces can focus on age-specific hiring practices, redesign of jobs and workplaces, working time policies, intergenerational knowledge transfer, health management practices and training measures. Evaluation of the programme found that the consulting service is associated with changes in HR practices in participating companies. Relative to a control group, these companies were relatively more likely to hire low-qualified workers, women, and workers over the age of 45, with the share of companies hiring older workers being 5 percentage points higher than in the control group.

Demographic consulting to create an age-appropriate digital work environment

Demographic consulting Digi+ *(Demografieberatung Digi+)* is a free consulting service for the creation of age-diverse and digitalised workplaces in Austria. Companies can benefit from comprehensive advice along five key areas (work design, leadership and culture, personnel management, knowledge and skills, health) to create an age-appropriate digital work environment.

3.4.2. Employee-oriented flexible working conditions help workers stay in employment

Older workers show a strong preference for jobs with greater flexibility in work schedules and less burdensome work. Ameriks et al. (2020[46]) found that about 60% of non-working respondents, mostly in their late 60s or 70s, would be willing to return to work if offered a flexible schedule. This preference for flexibility is consistent with actual labour market transitions, as shifts to part-time, self-employment, temporary jobs or bridge jobs (jobs taken after retirement from a career job) are common as people age (Abraham, Hershbein and Houseman, 2021[49]). Offering a range of options, such as reduced hours, job sharing, remote work, or consulting opportunities, allows employees to tailor their transition according to their financial and personal circumstances. Employers should establish clear policies on eligibility criteria and workload expectations to avoid confusion and ensure consistency across the organisation.

Overall, evidence suggests that flexibility can have a positive effect on work-life balance, job satisfaction and productivity for older workers. Flexible work arrangements can enhance productivity in two ways: by attracting more productive workers and by incentivising workers to exert more effort or time. A recent field experiment found that offering a full-time flexible contract rather than a full-time non-flexible one can increase a worker's overall productivity by nearly 50%, with about 40% of this effect attributed to attracting more productive workers (Boltz et al., 2020[113]).[25]

Employee-oriented flexible working arrangements can be supported by governments, employers and social partners. Recent reforms in the United Kingdom have led to the introduction of the right to request flexible working from the first day of employment, rather than after 26 weeks of continuous employment, where flexible working can cover options such as remote or hybrid work, job sharing, compressed hours, staggered hours and part-time work.

3.4.3. Greater policy effort is needed to support women's employment

Motherhood has a substantial negative impact on women's career prospects, affecting both their earnings and opportunities for advancement throughout the rest of their life, thereby affecting their job prospects in later life – a phenomenon widely known as the "motherhood penalty" (Healy and Heissel, 2020[114]; Kleven et al., 2019[115]; Barth, Kerr and Olivetti, 2021[116]; Goldin, Kerr and Olivetti, 2022[117]). This penalty stems from a combination of direct employer discrimination and indirect effects such as reduced working hours or career interruptions due to childcare responsibilities, which are particularly common among women with low to medium skill levels, partly because the financial cost of leaving work is lower (OECD, 2021[118]).

The negative effects of motherhood on employment and earnings are often compounded later in life by the demands of informal caregiving for ageing parents or partners – a role taken on by 13% of people aged 50 and above in OECD countries, of whom 62% are women group (OECD, 2021[119]). Informal caregiving is associated with lower employment rates and earnings, particularly for women and older workers (Maestas, Messel and Truskinovsky, 2024[10]), and many caregivers continue to face employment challenges and reduced earnings even after their caregiving duties end (Vangen, 2021[120]).

Efforts to increase labour force participation, particularly among women, must carefully consider the trade-offs between paid employment and unpaid care work. While integrating more women into the workforce is crucial, it often leads to a reallocation of time from essential, yet unpaid, caregiving responsibilities to paid labour – see Chapter 2. This shift can have unintended consequences, especially if care work remains undervalued in economic terms.

To address these disparities, workplace reforms that promote flexibility, such as job-sharing and predictable scheduling, can help balance professional obligations with caregiving duties. The high cost of childcare and long-term care in many countries can prevent women from re-entering the labour force or lead women to leave current positions in search of more flexible working arrangements. More generous support for childcare, such as public provision or subsidies plays a key role in supporting female labour force participation (Canaan et al., 2022[121]; Farré and González, 2019[122]; Albanesi, Olivetti and Petrongolo, 2022[123]).[26]

Evidence suggests that greater parental leave sharing can improve family well-being and female employment outcomes. Although fathers' uptake of leave remains low across OECD countries, paternity leave has significant benefits: it helps mothers return to work without reducing fathers' labour market participation (Farré and González, 2019[122]; Rønsen and Kitterød, 2014[124]). Fathers who take leave are also more likely to engage in childcare and household duties, strengthening family dynamics and challenging traditional gender roles work (Korsgren and van Lent, 2022[125]). Reflecting these benefits, many OECD countries have introduced reforms to promote fathers' leave. While only seven countries offered paternity leave in 1995, by 2020 this had increased to 34 (OECD, 2022[126]). Countries such as Estonia, Greece and Canada provide specific entitlements or incentives for fathers, and others, including Norway and Iceland, have introduced individual non-transferable leave to encourage equal sharing.

3.4.4. Job and career mobility can play a key role in supporting employment at older ages

However, not all jobs remain a good fit as people age. For workers facing health challenges, limited advancement opportunities, or poor job quality, mobility can provide a pathway to more suitable and sustainable employment. Voluntary job changes later in life are associated with improved job satisfaction, flexibility, and, in some cases, higher wages. However, job mobility declines significantly with age, with only 6% of workers aged 45-64 changing jobs annually, compared to 17% of younger workers (OECD, 2024[69]). Yet, without targeted policies, many older workers remain trapped in low-quality jobs, with 60% of low-skilled workers aged 45-64 who change jobs moving into another low-skilled position, limiting their career progression and wage growth (OECD, 2024[69]).

Governments and employers have a role to play in facilitating career transitions for older workers. Effective policies include targeted career counselling and retraining programmes, such as Australia's Career Transition Assistance Program, which supports people 45 years and over to build their job search and digital literacy, identify existing transferable skills and develop a plan to change careers. Employer-led initiatives, such as mid-career reviews, have also proven effective in helping workers reflect on their career options and plan for later-life transitions. These policies collectively lower barriers to mobility, enabling older workers to remain in the workforce for longer while ensuring their jobs align with their skills and aspirations – see also Chapter 4.

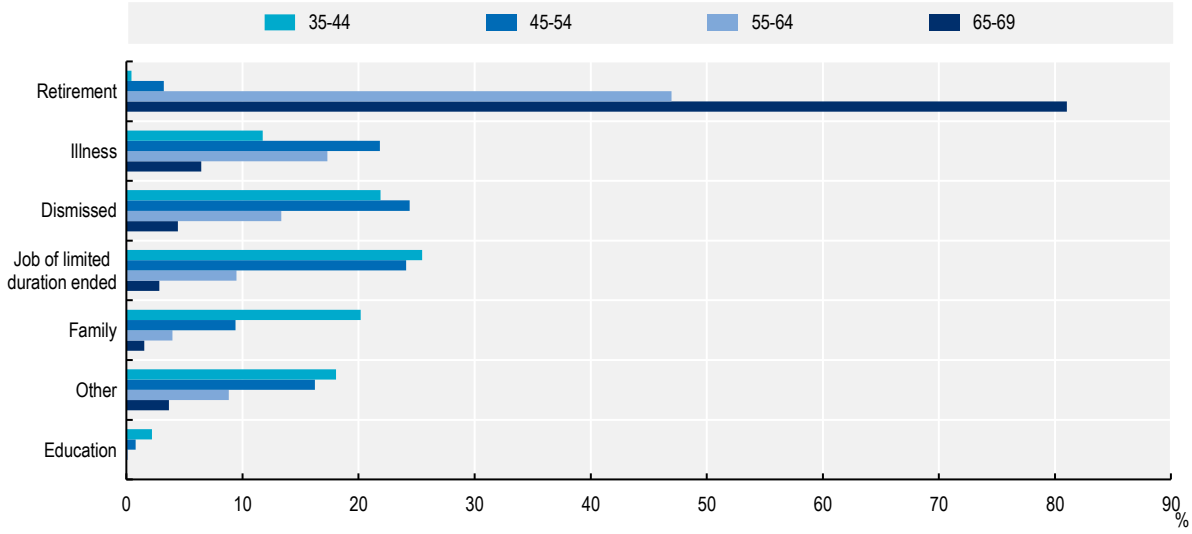
3.4.5. Early interventions are crucial to prevent workers with disabilities from exiting the labour market

As life expectancy has increased in recent decades, many individuals now enjoy longer periods of good health, nevertheless with advancing chronological age, the likelihood of experiencing health issues rises. Older adults are more susceptible to chronic conditions such as heart disease, diabetes, and arthritis, which can impact their quality of life and ability to continue in their current work roles. Implementing early support measures can help workers with disabilities stay employed. Notably, certain demographics, including women and those with limited education, experience higher rates of disability. While social protection is essential for assisting older workers with health problems, it may inadvertently discourage continued employment and self-reliance. Extended periods away from work can lead to skill deterioration and increased detachment from the labour market. Therefore, interventions should focus on early support strategies that facilitate rehabilitation and a gradual return to work.

Labour force survey data provide insights into the main reason why people left their last job for those who are currently unemployed.[27] Among workers aged 55-64 in OECD countries for which there is available data, 47% of people who were no longer in employment left their last job to retire (on average), while a further 17% left due to illness or disability (Figure 3.17). However this data needs to be treated with caution as in some countries such as Austria, France and Slovenia people retiring on disability benefit are likely to classify themselves as retired, not as disabled. Among those aged 45-54, 22% cited illness as the main reason for leaving their last job. In Denmark, Belgium and Norway more than 40% cite illness as the main reason (Annex Figure 3.A.14).

Figure 3.17. Retirement, illness and job dismissal are the main reason jobless older workers left their job

Share of people not in employment having left their last job during the previous 8 years, average of selected European OECD countries, average of 2018-23



Note: The survey question asks respondents who are not currently employed and left their last job during the previous 8 years the main reason why they left. Sorted by decreasing order of the share ages 55-64. Data represent the unweighted average of the following 20 countries: Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Slovenia, Spain, Sweden and Switzerland.
Source: OECD calculations based on the European Union Labour Force Survey (EULFS).

StatLink https://stat.link/hlnwis

Effective return-to-work programmes can enhance employability for workers requiring additional assistance in finding suitable job matches (OECD, 2023[127]). These programmes may address health-related barriers through regular consultations with caseworkers and employees, medical rehabilitation (e.g. psychological counselling, health management courses), or work-related obstacles via traditional labour market activation policies (e.g. career counselling, training programmes, work experience). Although younger workers are more likely to engage in these vocational programmes, older participants have comparable success rates in returning to work (OECD, 2023[127]). Additional early intervention methods include involving employers in monitoring processes, graded return to work, and allowing partial sickness benefits for part-time work (Box 3.5).

Ongoing support during the transition back to work is also crucial to prevent workers from facing deteriorating conditions that may lead to premature labour market exit. Investing in successful transitions is essential; without continuous support, workers may develop new disabilities that force them out of the labour market, negating the economic benefits of initial interventions. Incorporating continuous monitoring and support services, such as those provided by Australia's Disability Employment Services programme, can help prevent the worsening or emergence of new health issues (OECD, 2024[69]).[28]

Box 3.5. Early intervention health programmes

Capacity-oriented sickness certificates in the Netherlands

In the Netherlands, employers and employees are obliged and have strong incentives to follow a defined return-to-work track with fixed milestones and dates (OECD, 2023[127]). Within six weeks of sickness, employees need to see a social insurance or occupational physician for a remaining work-capacity assessment. Within eight weeks, the individual employer and employee must write an action plan how both parties can promote return to work. This includes the obligation to examine whether a return to the previous job, or to the same company but another job, is possible and if so, under which conditions (e.g. with an adjusted workplace or schedule, or with graded work). The parties must reassess remaining work capacity every six weeks. About three-quarters of employers have insured themselves against the risk of continued wage payments via private insurers (Kools and Koning, 2019[128]). These private insurers can facilitate return to work further. All involved actors have strong incentives to co-operate. Employees on employer-provided sick pay (which, in the Netherlands, is paid for two years) have legal obligations to collaborate, with the risk of dismissal and losing eligibility to employer-provided sick pay and disability benefits. Employers have long and expensive employer-provided sick pay obligations that can be further extended (by yet another year) in case of non-compliance with their obligations. They also face experience-rated disability benefit costs after employer-provided sick pay. The private insurer has a direct financial incentive to stimulate return to work to lower insurance payments.

Graded return to work in Norway

Research indicates that participation in graded work increases the probability to be in employment two years later by 16 percentage points. Furthermore, a study suggests that graded work mitigates the negative effect of sickness absence on firm profits by 70%. In Norway, employees on sick leave are required to be in work-related activity within eight weeks of sickness, unless certifying doctors can make a compelling case for a full sick leave. However, the activity requirement is not always rigorously enforced. A programme implemented in the Norwegian region of Hedmark in 2013 aimed to enforce the activity requirement more strictly. This was found to reduce working hours lost due to sickness absence by 12% in Hedmark, both because more persons with remaining work capacity started working part-time and because the average duration back to full-time work was reduced. The study also estimates that the programme reduced social security spending by USD 310 per employee per year in Hedmark, not taking into consideration any savings because of lower permanent disability benefit uptake later on.

Occupational health programmes and workplace redesign can play a key role in mitigating the effects of demanding and hazardous jobs

A significant challenge regarding workers' health across OECD countries involves assisting older employees in moving out of demanding or hazardous jobs, which directly impacts their health, well-being, and career opportunities. Low-skilled workers in particular, are more likely to require additional support to transition to better opportunities later in their careers.

In many OECD countries, special retirement provisions exist for these workers, allowing them to retire early without penalties (OECD, 2023[50]). However, a shift toward proactive strategies to enhance working conditions and support transitions to less demanding occupations could help extend careers and improve older workers' quality of life. These strategies might include training and career counselling programmes,

professional redeployment initiatives and strengthening occupational health policies to address sickness and disability at their source (OECD, 2023[50]).

Job and workplace redesign can help organisations retain workers through modifying the tasks, responsibilities, or work environment of a role to align better with the abilities and needs of employees (Box 3.6). This is especially beneficial for older employees facing physical challenges or shifting priorities, as it allows them to contribute meaningfully while ensuring their well-being. The Work and Well-Being Initiative, a joint research effort by Harvard and MIT, has developed a toolkit to reshape workplace conditions that contribute to stress-related health problems. The toolkit is based on three core principles: increasing worker schedule control and voice, moderating job demands, and enhancing social relations at work through employer support and training (Lovejoy et al., 2021[129]; The Work and Well-Being Initiative, 2021[130]). Lack of control over work schedules can lead to stress, but greater autonomy has been linked to higher productivity and lower turnover (Kelly and Moen, 2020[131]; Moen, Kelly and Hill, 2011[132]). Addressing physical strain through regular workplace risk assessments, which account for both physical and psychosocial hazards, is another key component of stress reduction (Bevan and Cooper, 2022[133]). Lastly, workplace social relationships play a crucial role in employee well-being. Initiatives such as the Availability, Responsiveness, and Continuity (ARC) programme, tested among social services workers in child welfare and mental health programmes in the United States improved workplace climate, reduced burnout, and enhanced job satisfaction (Glisson, Dukes and Green, 2006[134]; Glisson et al., 2012[135]). These strategies collectively highlight the importance of redesigning work environments to prevent poor health outcomes and enhance overall well-being.

Box 3.6. Preventing workplace injury and job redesign

Preventing occupation health-related injury in France

France offers several policies geared towards preventing and addressing the mental and physical effects of work. Taken together, the policies raise awareness of workplace ageing and enable workers to transition to safer roles.

- The Professional Prevention Account (C2P) (*Compte professionnel de prévention)* provides workers in hazardous conditions with autonomy to make changes in their career. Workers exposed to occupational risk factors (e.g. night work, successive alternating shifts, exposure to loud sounds, etc.) acquire points that can be exchanged for work in a less exposed position, finance a professional retraining project, change to a part-time work schedule, or access early retirement.[29]
- Created in 2023, France's Investment Fund for the Prevention of Occupational Wear and Tear (FIPU) (*Fonds d'investissement dans la prévention de l'usure professionnelle)* aims to protect workers' health by reducing exposure to three key ergonomic risk factors: manual handling of loads, awkward postures, and mechanical vibrations – which together account for over 87% of recognised occupational illnesses. The fund supports action at three levels. For **employees**, it facilitates access to retraining through the professional transition project, covering most training costs. For **companies**, it offers subsidies for ergonomic equipment, training, diagnostics, and workstation adaptations. At the **sectoral level**, professional branches help define at-risk occupations, guiding the fund's targeted allocations. Industry-specific prevention bodies may also receive dedicated funding to expand awareness and preventive efforts.
- The French policy on Strengthening Occupational Health Prevention *(Renforçant la prévention en santé au travail)* allows all workers around age 45 to meet with an occupational physician to ensure that the worker is healthy enough for their role and knows how to prevent occupational wear and tear. The occupational physician can propose job adjustments, as well as initiatives

to promote lifelong learning, such as supervised trials and re-skilling within their firm. In 2021, the law was strengthened to enable all workers returning to work after a long-term leave to test a new job within their company or another company.

Job redesign in Singapore

The Job Redesign Centre of Excellence (JRCoE) was established by Workforce Singapore in collaboration with the Institute for Human Resource Professionals (IHRP) to serve as a one-stop centre for enterprises aiming to transform their business and workforce through job redesign (Workforce Singapore, 2024[136]). The JRCoE focuses on three strategic pillars: Thought Leadership, Capability Development, and Advocacy and Action. Enterprises which are keen to embark on job redesign can access funding support of up to SGD 30 000. The JRCoE supports enterprises by providing industry-relevant expertise and resources, such as sector-specific playbooks and capability development workshops, to facilitate the adoption of job redesign practices. Additionally, it promotes best practices across its network of HR professionals to accelerate enterprise transformation. An expert panel, comprising leaders from the Ministry of Manpower, National Trades Union Congress, Singapore National Employers Federation, academia, and industry professionals, provides strategic oversight to advance job redesign adoption in Singapore. Key initiatives of the JRCoE include advocacy campaigns to encourage greater adoption of job redesign, development of sectoral playbooks (starting with HR and retail sectors) to guide enterprises through a structured approach, and workshops to equip HR teams with the necessary knowledge and skills.

Job rotation and redeployment programmes help workers, particularly those with health-related issues or those in arduous occupations, to identify and transition into roles that better align with their skills and aspirations. Redeployment schemes help prevent occupational health issues by reallocating workers within a firm, demonstrating employer support and fostering intergenerational exchange. However, employers sometimes misuse these schemes to address skills shortages rather than prioritising workers' needs (Lain, Vickerstaff and van der Horst, 2022[137]). To be effective, redeployment should enhance employability, flexibility, and health, preventing workers from feeling downgraded (Naegele and Walker, 2006[138]). These schemes work best when paired with retraining and upskilling. While employer-led programmes are ideal, government initiatives like Luxembourg's Professional Redeployment Programme *(Reclassement Professionnel)* supports eligible workers to reintegrate into a role that is adapted to their health and flexibility needs within the same company, or potentially another company (OECD, 2024[69]).

3.5. Concluding remarks

Supporting longer working lives requires a comprehensive approach that reflects the profound demographic, economic and technological transformations reshaping labour markets. The last couple of decades have seen a remarkable increase in the employment of older workers and as life expectancy increases and people remain healthy in later life, the potential to extend working lives continues to grow.

Pension reforms such as raising retirement ages or restricting early exit pathways have contributed significantly to raising the average age of labour market exit, yet these efforts must be embedded within a broader policy framework that actively enables older people to remain in, or re-enter, the workforce. This includes supporting employers to implement age-inclusive practices – from fair recruitment and retention strategies to inclusive talent management – and fostering workplace environments that promote productivity across all age groups.

Crucially, promoting longer working lives must go hand-in-hand with efforts to tackle persistent inequalities. Significant disparities in employment outcomes by gender, education level, and health status continue to undermine inclusive labour market participation. Addressing these gaps requires tailored interventions that

ensure older workers – especially those with lower educational attainment, chronic health conditions, or caregiving responsibilities – have real opportunities to stay active in the labour market.

Moreover, adapting to a fast-evolving world of work is essential. Advances in digital technology and AI are reshaping skill demands, often disadvantaging older workers in manual or routine jobs. Simultaneously, the green transition is generating new employment opportunities that demand updated or entirely new skills. Lifelong learning must become a central pillar of employment policy, with access to upskilling and reskilling opportunities available throughout the life course. Special attention should also be given to employee-oriented flexible work options and healthy working conditions, which are vital for sustaining employability over time.

A life-course perspective is essential. Evidence shows that steady employment during one's 50s is a strong predictor of continued labour market participation into one's 60s. Early and sustained investment in health, skills, and career development – including through occupational health programmes, flexible retirement schemes, and inclusive parental leave policies – can help prevent premature labour market exits and improve long-term employment prospects.

In sum, preparing for an ageing workforce is not just about delaying retirement – it is about reimagining the entire working life. Only by integrating structural reforms with targeted support, inclusive employment practices, and future-oriented workforce policies can OECD countries ensure that longer working lives are not only achievable but also fair, productive, and fulfilling for all.

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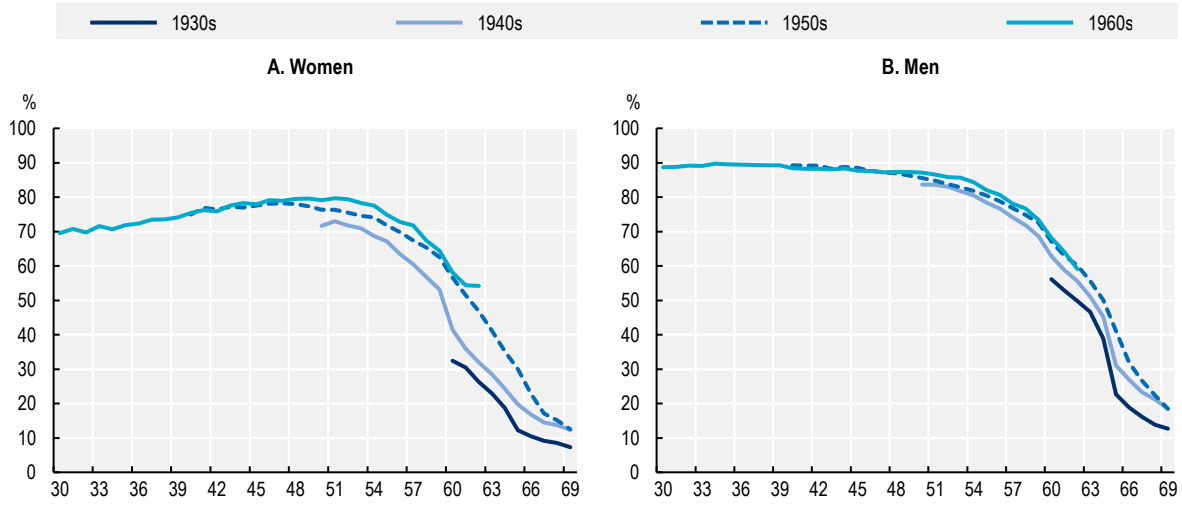
Annex 3.A. Additional charts

Annex Figure 3.A.1. Employment rates are rising among older adults across birth cohorts

Employment rates by birth cohort and gender

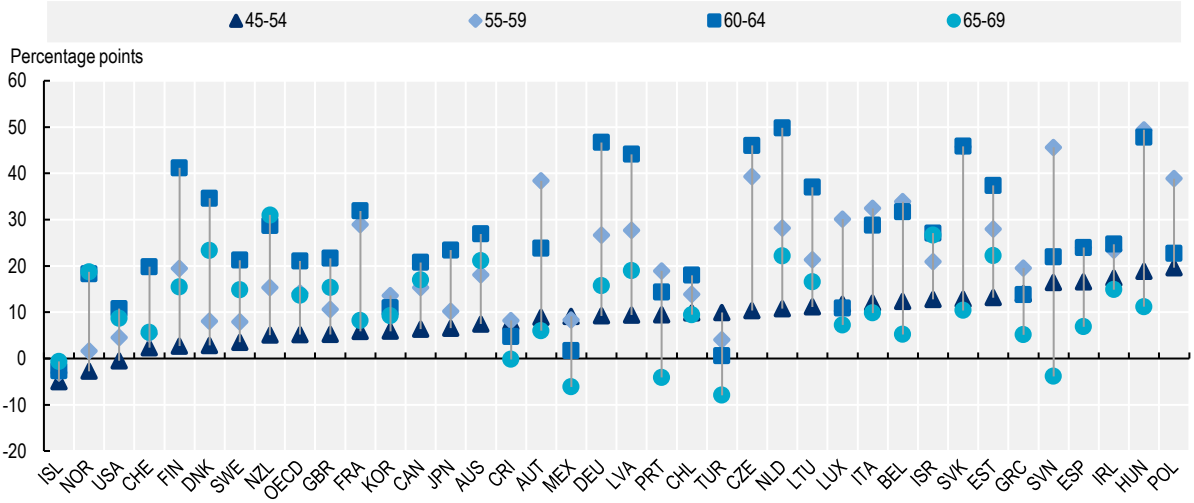


Source: The European Labour Force Survey (EULFS), UK Labour Force Survey and US Current Population Survey.

StatLink https://stat.link/908j26

Annex Figure 3.A.2. Employment rates have risen for mid-to-late career workers across most OECD countries

Percentage point change in employment rates by age, 2000-24, OECD countries

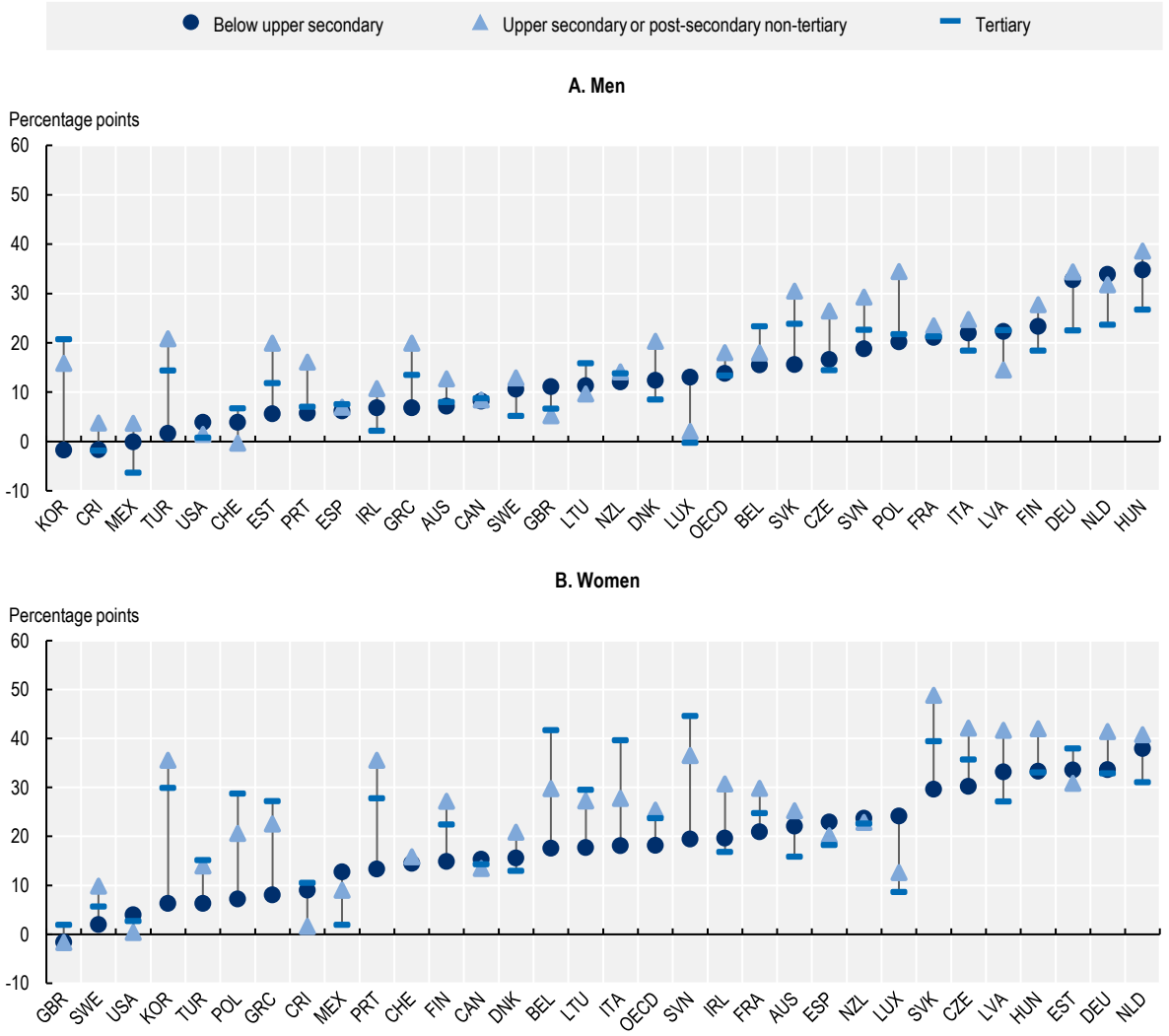


Note: OECD is a weighted average. Data sorted by increasing order ages 45-54.
Source: OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f.

StatLink https://stat.link/gnoe8z

Annex Figure 3.A.3. Employment rates have risen irrespective of educational attainment in most OECD countries

Percentage point change in employment rates by gender and educational attainment, ages 55-64, 2000-23

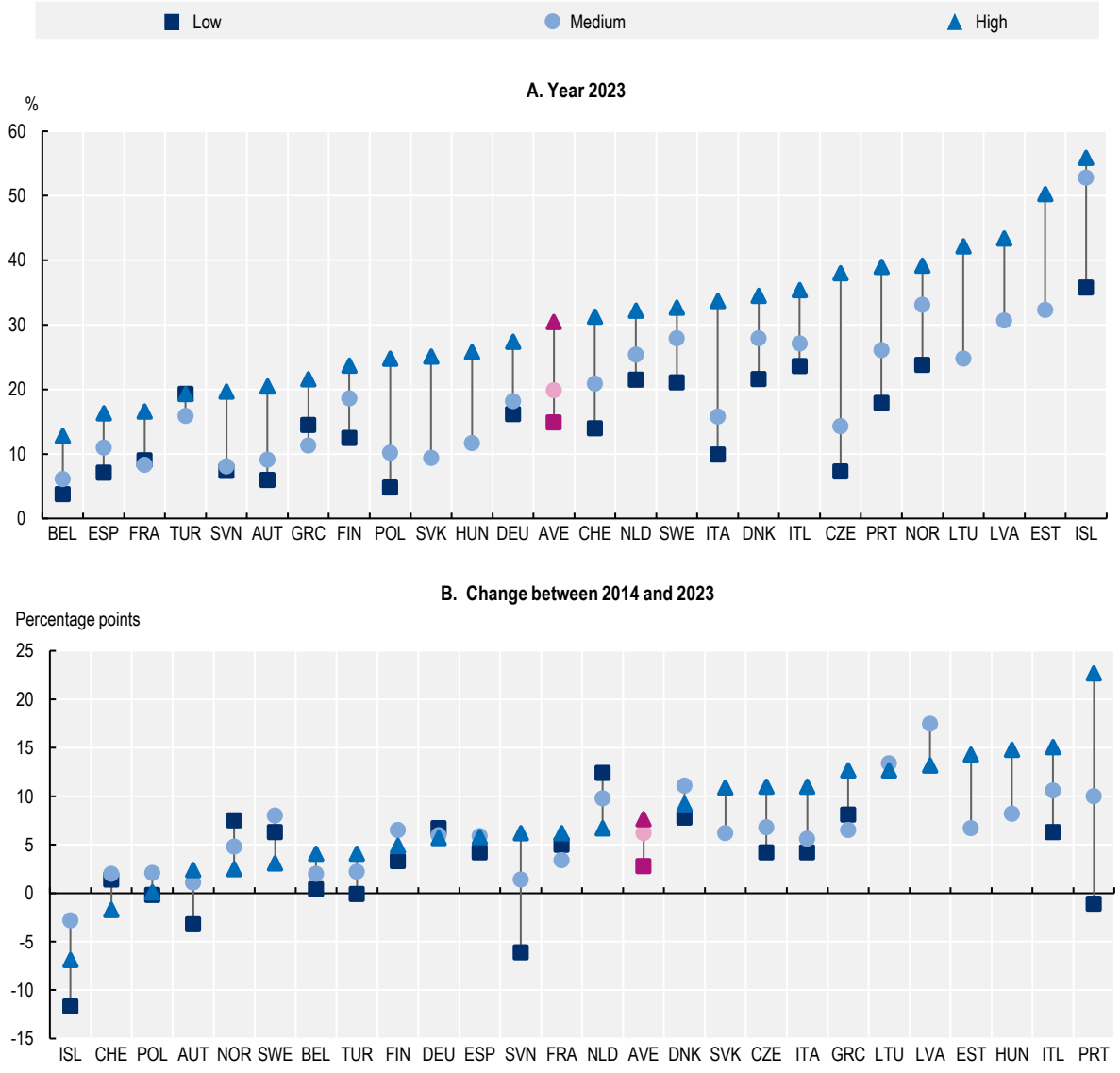


Note: OECD is an unweighted average of the 31 countries shown.
Source: OECD calculations based on data from OECD Data Explorer, "Employment rates of adults, by educational attainment, age group and gender", http://data-explorer.oecd.org/s/23o.

StatLink https://stat.link/xh40iw

Annex Figure 3.A.4. Employment rates are highly correlated with education at age 65-69

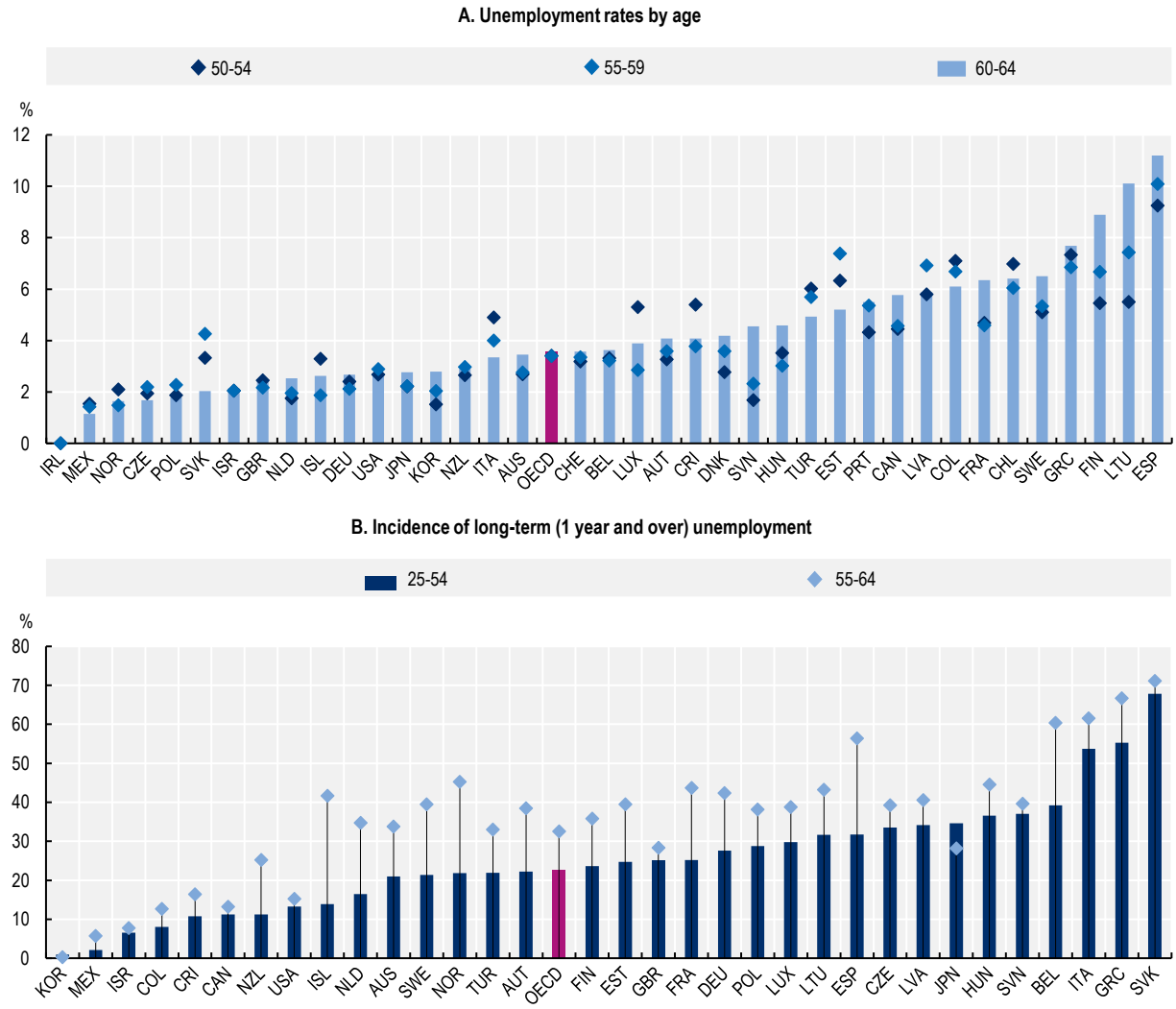
Employment rates among workers aged 65-69 by level of education



Note: The pink markers represent the unweighted average of the 25 European countries shown.
Source: OECD calculations based on the European Union Labour Force Survey (EULFS).

StatLink https://stat.link/1t20ql

Annex Figure 3.A.5. The incidence of unemployment and long-term unemployment by age, 2024

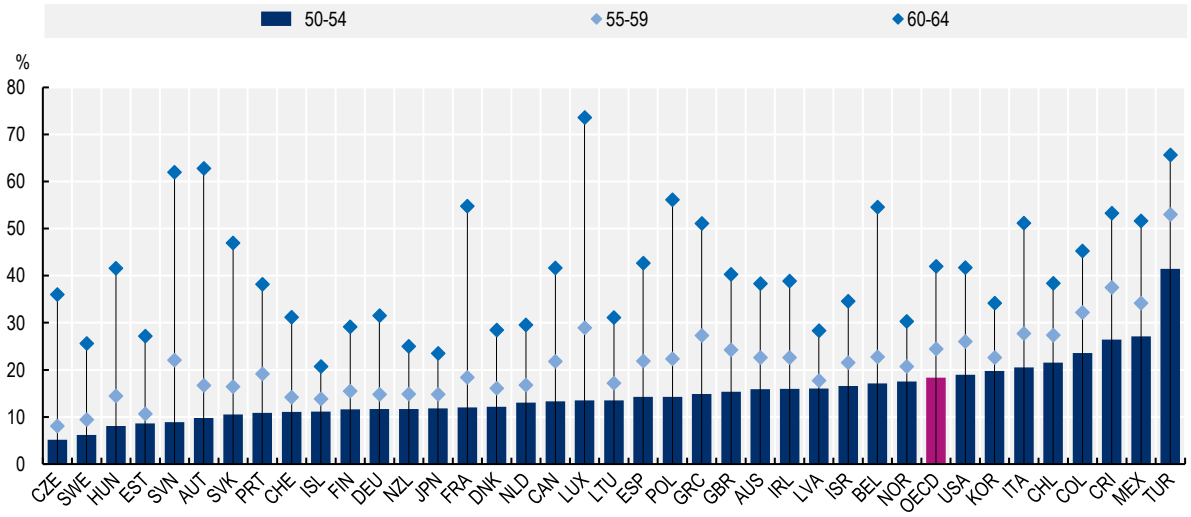


Note: OECD is a weighted average. Data sorted by increasing order ages 50-54 in Panel A and 25-54 in Panel B.
Source: OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f and OECD Data Explorer, "Incidence of unemployment by duration", http://data-explorer.oecd.org/s/23k.

StatLink https://stat.link/nuwzca

Annex Figure 3.A.6. Rates of inactivity remain substantial across OECD countries at older ages

Inactivity rates among workers aged 50-54, 55-59 and 60-64, 2024

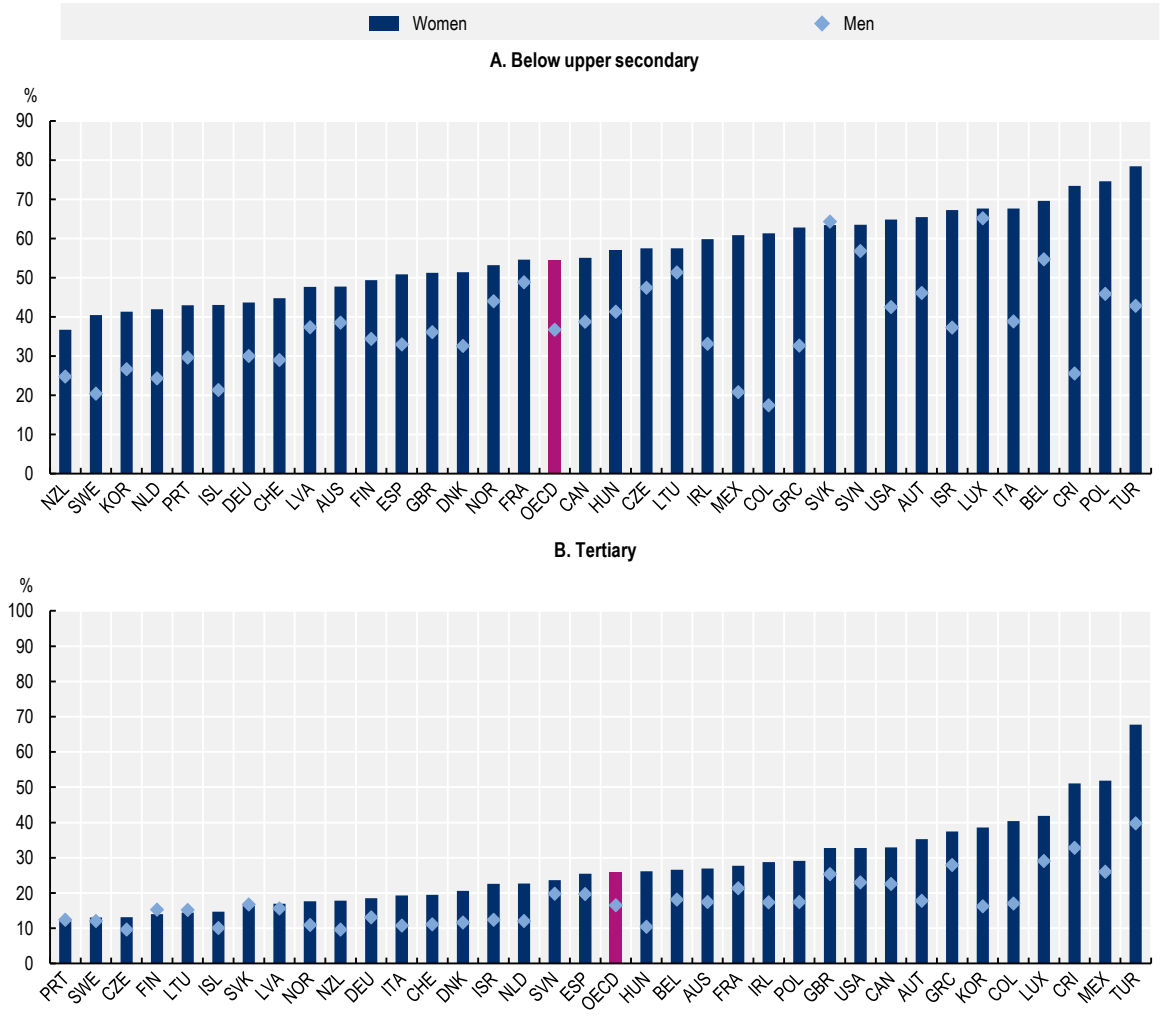


Note: OECD is a weighted average.
Source: OECD calculations based on OECD Data Explorer, "Employment and unemployment by five-year age group and sex – indicators", http://data-explorer.oecd.org/s/23f.

StatLink https://stat.link/s5kof9

Annex Figure 3.A.7. Women with low education have nearly four times the inactivity rate of tertiary-educated peers

Inactivity rates by gender and level of educational attainment, persons aged 55-64, 2023

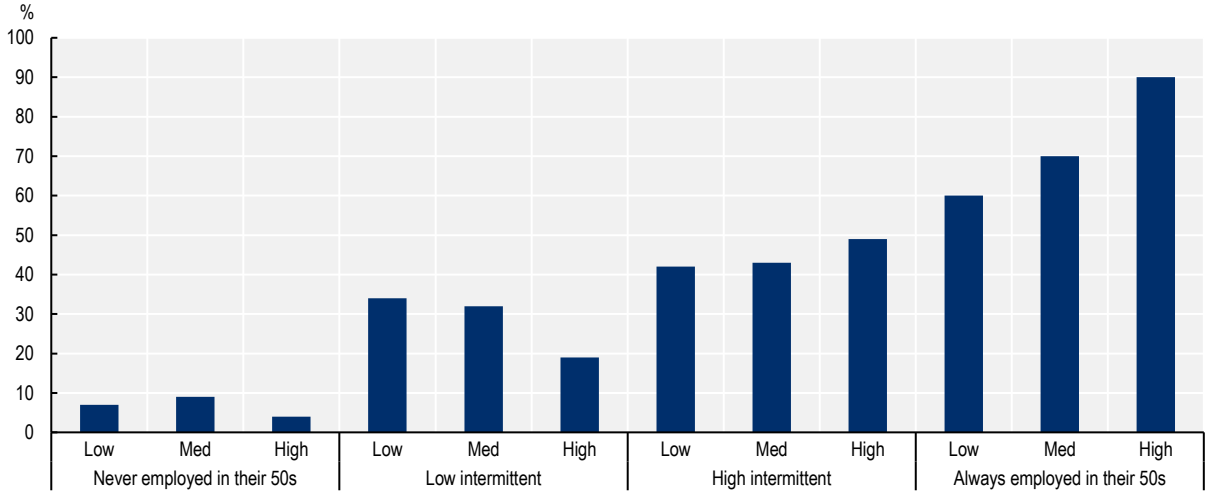


Note: Data not available for Japan.
Source: OECD Data Explorer, "Inactivity rates of adults, by educational attainment, age group and gender", http://data-explorer.oecd.org/s/23l.

StatLink https://stat.link/kombsg

Annex Figure 3.A.8. Likelihood of working longer, by employment stability in one's 50s and education

Likelihood of working in one's 60s by employment stability in one's 50s and education



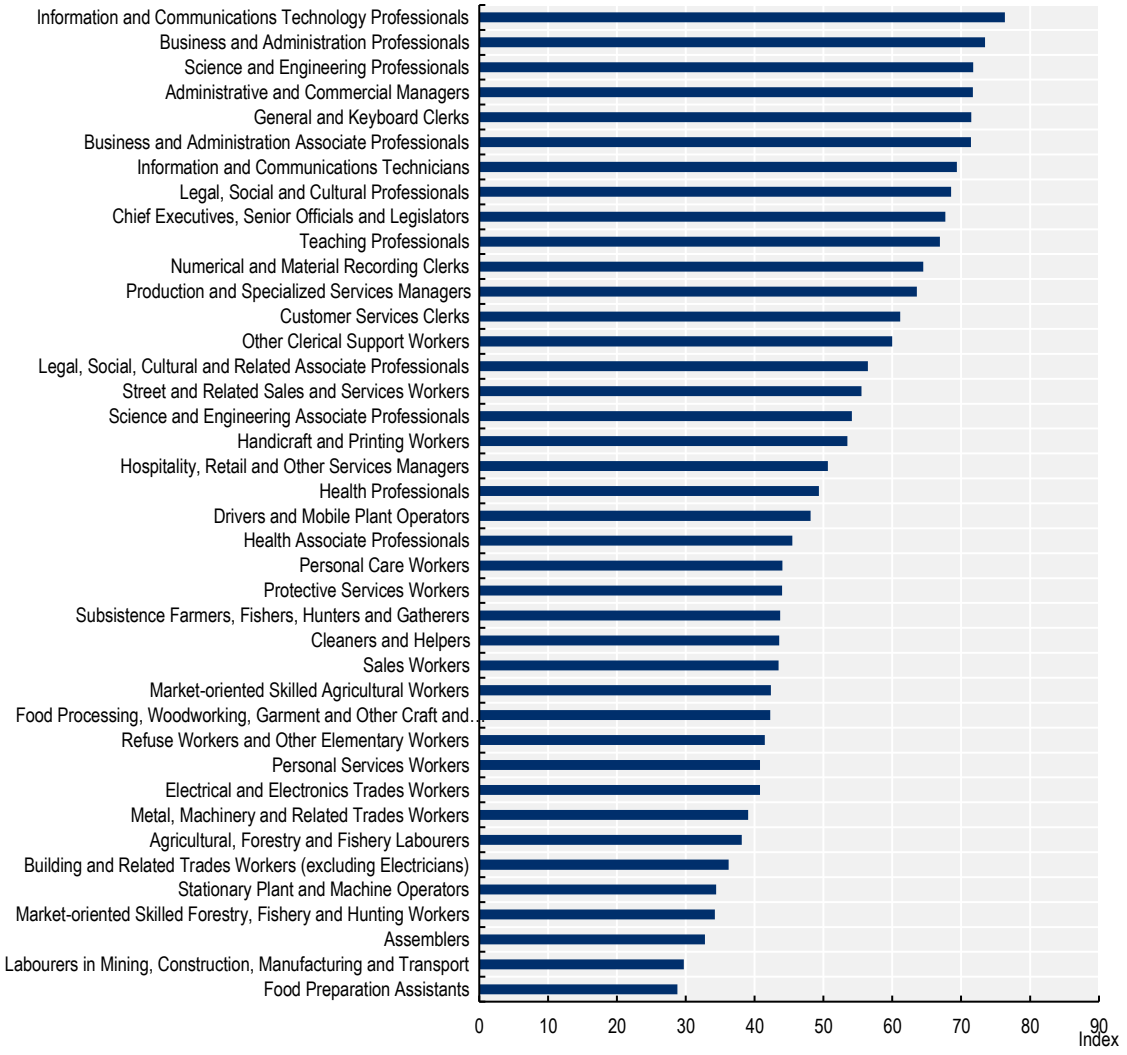
Note: Low intermittent refers to being in employment between 1-49% of the time during your 50s. High intermittent refers to being employed between 50 99% of the time during your 50s. Education levels based on the ISCED 2011 classifications. Low: below upper secondary (0-2), Medium: upper secondary and post-secondary non-tertiary (3-4), High: tertiary education (5-8). Average of years 2018 21 for the following countries: Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Israel, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Source: The Survey of Health, Ageing and Retirement in Europe, https://share-eric.eu/, Health and Retirement Survey, https://hrs.isr.umich.edu/about, and English Longitudinal Survey of Ageing, www.elsa-project.ac.uk/.

StatLink https://stat.link/hjv4fz

Annex Figure 3.A.9. There are significant differences in "age-friendliness" of occupations

Average "age-friendliness" index (0-100), by occupation

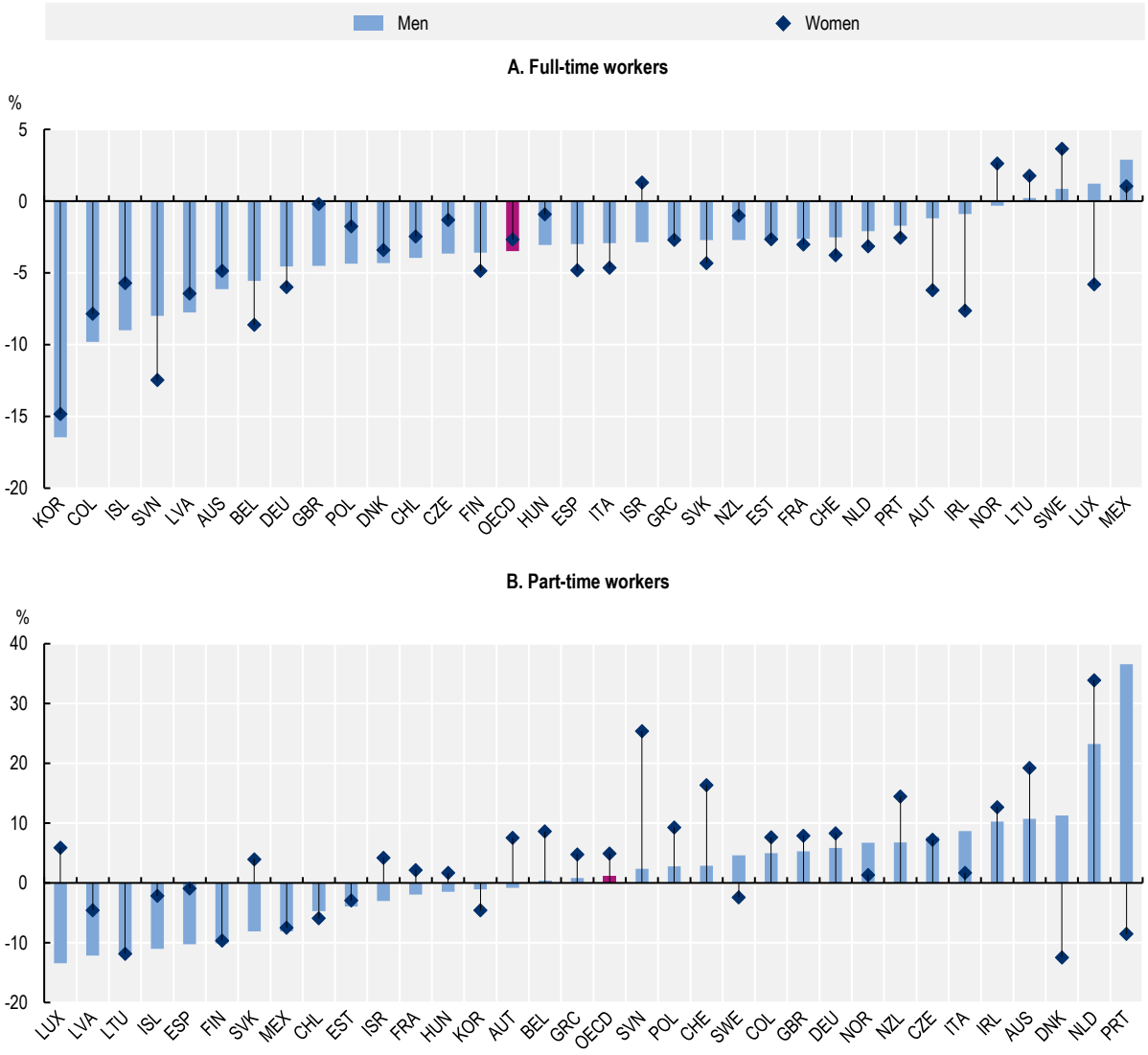


Note: Age-friendliness index is calculated as a weighted average of the following job attributes: ability to organise own time, ability to plan own activities, working physically for a long time, and time spent collaborating with co-workers. The weights are based on the difference in the willingness to pay for the job attribute between individuals aged 62-71 and 25-34 year-olds presented in (Maestas et al., 2023[40]).
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/8ndofx

Annex Figure 3.A.10. Average usual hours worked have declined for full-time workers in most OECD countries

Percentage change in average usual hours worked of workers aged 55-64, average years 2001-03 and 2021-23 by employment status

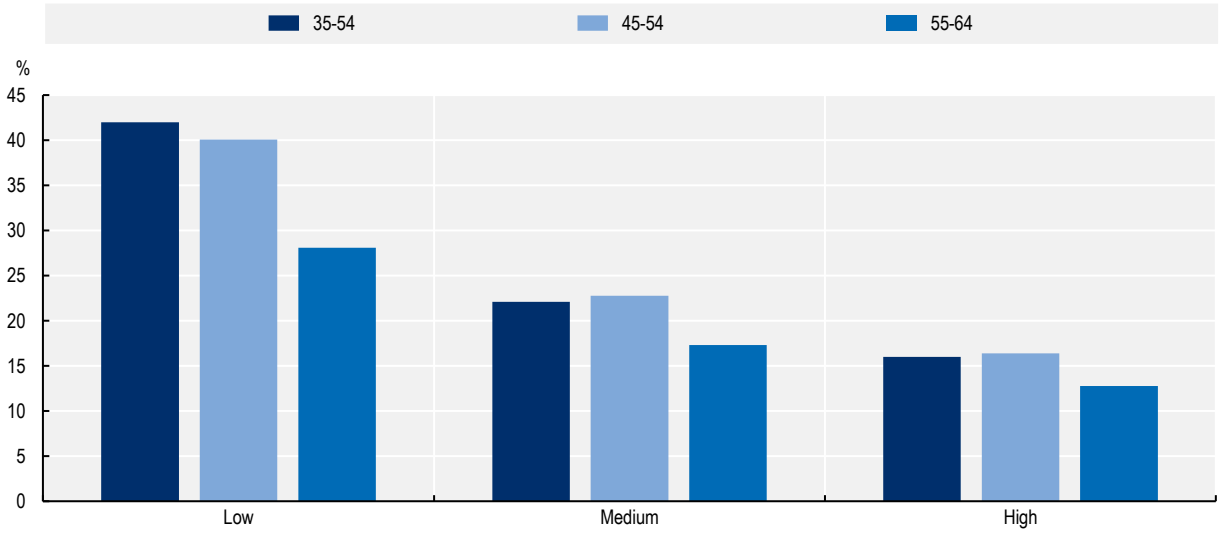


Note: OECD is a weighted average of the countries shown. Figures refer to total employment. Usual weekly working hours are the number of hours usually worked per week in the main job, thus excluding leave periods and non-usual overtime.
Source: OECD calculations based on OECD Data Explorer, "Average usual weekly hours worked on the main job", http://data-explorer.oecd.org/s/23m.

StatLink https://stat.link/psqn20

Annex Figure 3.A.11. Low educated workers are more likely to be working part-time because they cannot find a full-time job

Share of part-time workers who could not find a full-time job by age and level of education, average 2018-22

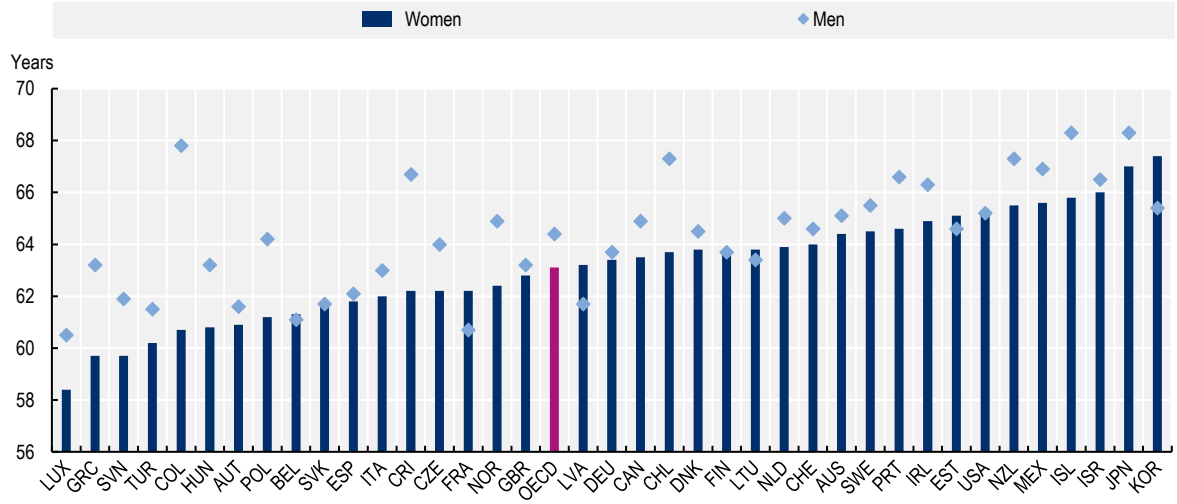


Note: Education levels based on the ISCED 2011 classifications. Low: below upper secondary (0-2), Medium: upper secondary and post-secondary non-tertiary (3-4), High: tertiary education (5-8).
Source: The European Union Labour Force Survey (EU-LFS).

StatLink https://stat.link/u4l8av

Annex Figure 3.A.12. Age of effective labour market exit varies considerably across OECD countries

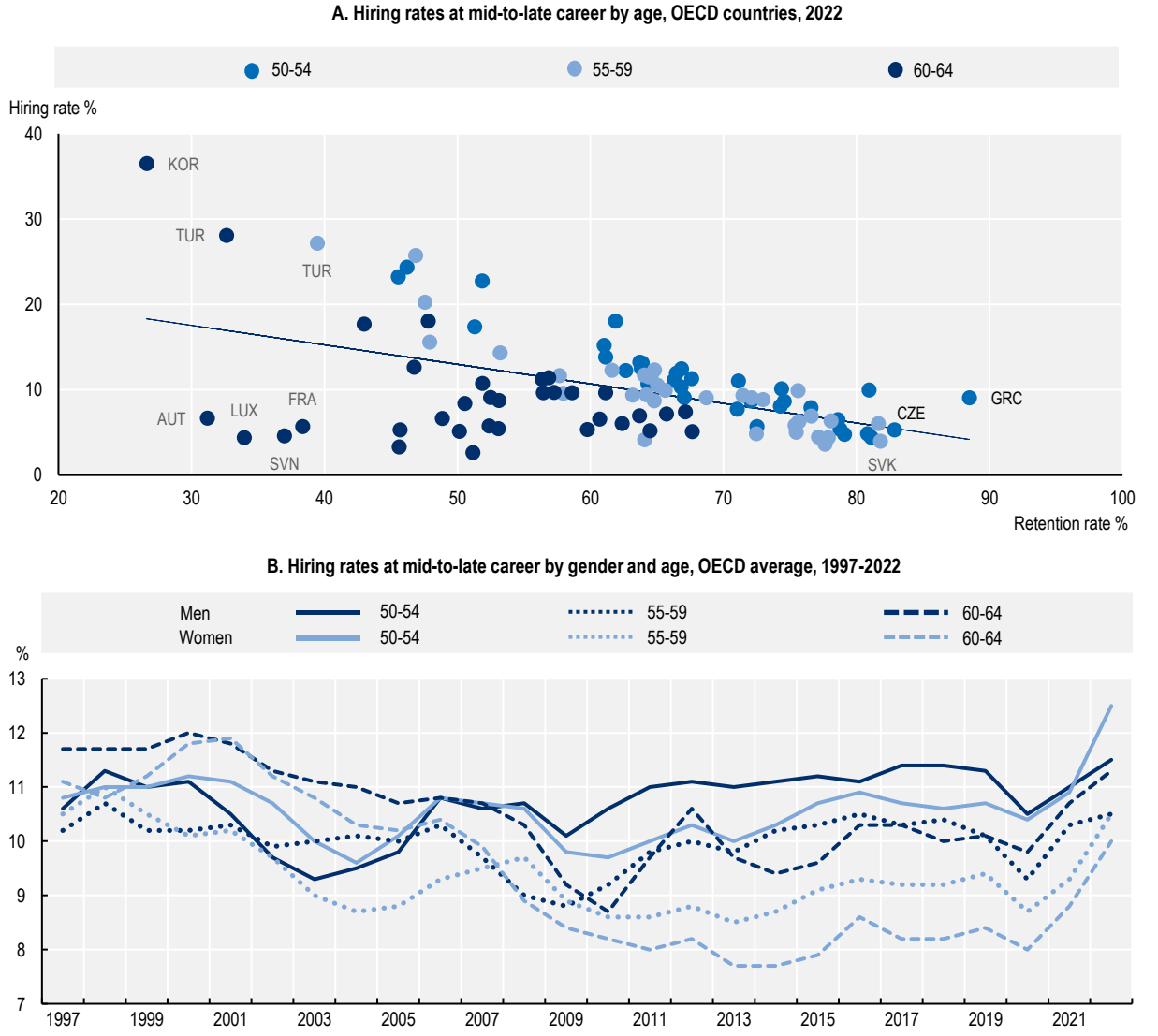
Effective labour market exit age by gender, 2022



Note: The average effective age of labour market exit is defined as the average age of exit from the labour force for workers aged 40 and over.
Source: OECD Data Explorer, "Pensions at a glance", http://data-explorer.oecd.org/s/23i.

StatLink https://stat.link/k871hf

Annex Figure 3.A.13. High hiring rates can reflect low rates of employee retention



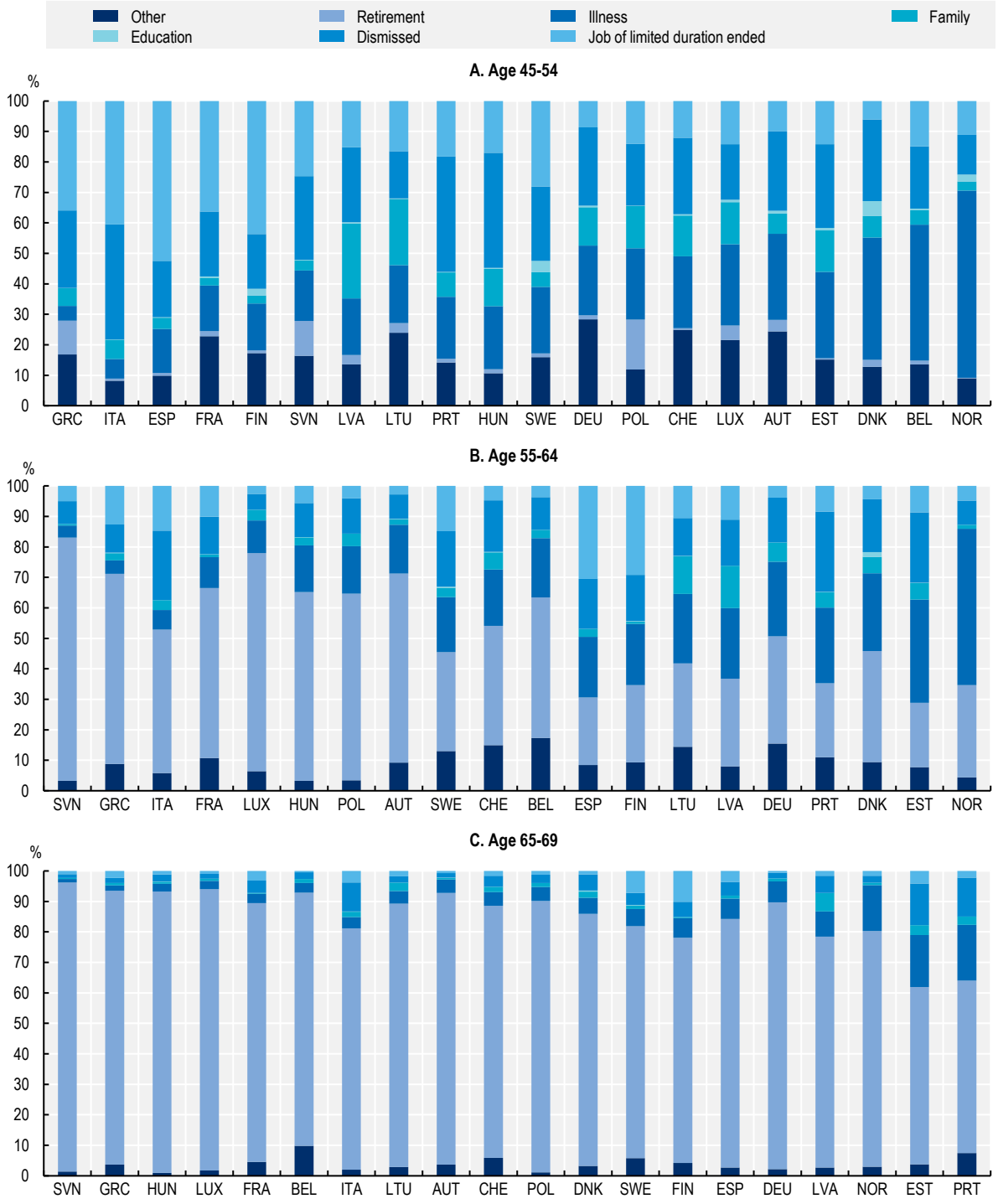
Note: Hiring rates are defined as the share of employees with a job tenure of less one than year on their main job. OECD is a weighted average of the 34 countries (excluding Colombia, Iceland, Israel and Norway).

Source: OECD calculations based on data from OECD Data Explorer, "Employment by job tenure intervals – persons", http://data-explorer.oecd.org/s/23n.

StatLink https://stat.link/1lwtmj

Annex Figure 3.A.14. Illness is a major reason for jobless older workers leaving a job

Voluntary separations (by reason) from last job or business as a percentage of total voluntary separations, average of 2019-23



Note: The survey question asks respondents who are not currently employed and left their last job during the previous 8 years the main reason why they left. Countries sorted on the increasing share of illness. Illness refers to own illness or disability, family includes personal or family responsibilities including caregiving.

Source: OECD calculations based on the European Union Labour Force Survey (EULFS).

StatLink https://stat.link/kwa7vn

Notes

[1] In contrast lower-educated older workers, particularly in routine or manual occupations, face a higher risk of displacement due to automation, as they have fewer opportunities to transition into AI-enhanced roles (Lane, 2024[2]). Moreover, older workers generally have lower access to AI-related upskilling opportunities, which further exacerbates skill mismatches and reduces their employment prospects in an AI-driven workforce.

[2] Across all age groups the variation in employment rates has fallen (for example at age 45-54 the standard deviation in employment rates fell from 8.2% in 2000 to 6%, and from 13.7% to 8.1% at age 55-59).

[3] The standard deviation in employment rates at age 60-64 in 2023 was 13.5%, more than double that at age 45-54.

[4] The absolute gap in educational attainment between 25-34 year-olds and 55-64 year-olds with below upper secondary narrowed from 26.7 percentage points in 2000 to 12.6 percentage points in 2023 (OECD, 2024[8]). The gap fell from 16.9 percentage points in 2000 to 4.4 percentage points in 2023 for those with upper secondary or post-secondary non-tertiary education. For those with tertiary education the gap increased from 10.8 percentage points to 17.1 percentage points.

[5] Minimum years of pension contributions can also mechanically explain why more educated people work until later in their life.

[6] Low intermittent refers to being in employment between 1-49% of the time during your 50s. High intermittent refers to being employed between 50-99% of the time during your 50s.

[7] For Korea the overall decline in hours for workers aged 15-64 between 2001-03 and 2021-23 was 18.3% for women and 17.7% for men.

[8] Where retirement ages differ across schemes the maximum across schemes thus defines the NRA of the country.

[9] This includes Korea, Colombia, Canada, Ireland, Japan, Luxembourg, Switzerland, Belgium, Germany, France, Israel, Italy, the Netherlands, Finland, Spain, Sweden, Norway and Portugal (OECD, forthcoming[51]).

[10] Results from recent OECD cross-country analysis reveal that raising the normal retirement age increases older-age employment, but the effects differ substantially across countries depending on institutional and demographic factors. Incorporating features such as the demographic composition, the distinction between normal and minimum retirement ages, the role of private pensions, and the existence of early exit pathways allows for a more accurate reflection of country-specific dynamics (Morgavi, 2024[146]). Morgavi (2024[146]) finds larger and more heterogeneous employment effects than in earlier pooled estimates, with cross-country model predictions closer to those of single-country microdata studies discussed above.

[11] In an analysis of the large concentration of retirement behaviour around statutory retirement ages in Germany, Seibold (2021[64]) shows that policies relying solely on financial incentives to encourage later retirement are less effective and more costly. Similarly in Finland, Gruber et al. (2022[65]) found that relabelling of retirement ages in 2005 led to a huge increase in retirements, with cohorts subject to the

change being 680% more likely to retire compared to those not affected. This followed a reform that raised the ERA from 60 to 62, and relabelled the NRA from 65 to 63, making 63 the new focal point for retirement. This effect was much larger than the impact of financial incentives such as changes in pension wealth or accrual rates, indicating that the labelling of retirement ages strongly influences retirement decisions.

[12] The State Pension Age change for women increased the employment rate of 60-63 year-old women by 11 percentage points over the period between 2010 and 2017. Banks et al., (2025[68]) exploit the fact that due to the policy changes, women born only months apart experienced differing pension ages.

[13] Rabaté et al. (2024[52]) use a regression discontinuity design to estimate the causal effects of increasing the Statutory Retirement Age in the Netherlands. They identify the mechanical and behavioural effects by comparing the observed treatment effects of the SRA reform to predictions from a simple mechanical model. The results show that the mechanical model predicts the treatment effects very well, confirming that almost all the increased participation in DI and UI is due to mechanical effects rather than behavioural changes.

[14] Rabaté et al. (2024[52]) also consider the fiscal implications of the reform and find government savings on first-pillar pensions: EUR 874 per person per month, increased tax revenue from continued employment of EUR 307 per person per month, and additional costs from increased DI and UI claims of EUR 432 per person per month. This results in a net fiscal gain for the Government of EUR 550 per person per month, translating to EUR 66 million per month for a full cohort.

[15] These results are consistent with other studies of pension reforms. Estimates from the United Kingdom showed that raising the ERA delayed retirement but did not lead to an unexpected surge in DI or UI claims (Cribb, Emmerson and Tetlow, 2016[142]). In evaluating pension reforms in 2010 in France which raised the statutory retirement age (SEA) from 60 to 62, Rabaté and Rochut (2020[143]) show that while the reform significantly increased employment rates among older workers, it also led to a rise in unemployment and disability claims. Specifically, while 40% of those who could no longer retire at 60 remained in employment for an additional year, the majority of the remainder shifted to unemployment, sickness or disability benefits. This shows that the reform was highly effective for those still employed at age 60 but had limited impact on those already out of the labour force. Further, Rabaté and Rochut (2020[143]) show that the employment effects were concentrated among individuals who were still employed when reaching the SEA, and that the substitution effects were driven by individuals already out of the labour force, rather than by direct substitution from work to alternative schemes. About 85% of those who would have retired instead continued working for an additional year, while among individuals unemployed at 59, 87% remained in unemployment rather than transitioning to retirement. Similarly, among those who were receiving disability insurance, 96% continued to receive disability insurance. They also find evidence of substitution from non-work status to employment, with 29% of those on sickness leave returning to work instead of retiring.

[16] The effect of increasing flexibility on when people can enter retirement on total labour supply is theoretically ambiguous, being the result of both changes in the extensive margin (labour force participation) and the intensive margin (average hours worked). On one hand it can encourage people to stay in the workforce who might otherwise leave early through retirement or unemployment. On the other hand, it can also lead to a decline in labour supply if full-time employees, who would have continued working until the standard retirement age, choose partial retirement instead, thereby cutting their working hours. The evidence on which effect prevails is mixed, and estimating the causal effect of flexible or partial retirement reforms on longer working lives is challenging. First, it is difficult to establish a counterfactual – what would have happened to workers had they not participated in a partial retirement scheme. Many studies rely on self-reported intentions or retrospective surveys, which may not accurately reflect actual

behaviour. Second, selection bias is a concern, as workers who opt for partial retirement may differ systematically from those who do not, in terms of health status, job characteristics, or financial stability. This makes it challenging to isolate a scheme's effect from other confounding factors. Third, differences in the design of partial retirement schemes across countries and time periods make cross-country comparisons difficult, as effects can vary significantly depending on the presence of early exit incentives and labour market conditions.

[17] A study of nine OECD countries found that phased retirement results in a slight increase in labour force participation and a decline in the number of hours worked, leading to no significant overall boost in labour supply (Börsch-Supan et al., 2018[144]). However, this study relies on aggregate country-level data rather than individual-level data, which limits its ability to account for heterogeneity in responses to flexible retirement reforms. For instance, the effects may vary by income level, education, occupation, or health status, but these distinctions cannot be fully explored in the analysis.

[18] Haan and Tolan (2019[74]) found that when the entry age into partial retirement is set equal to the ERA (age 63) the average retirement age increases by about 4.4 months, and the average employment exit age increases by about 6.5 months compared to a scenario without partial retirement.

[19] For example in Greece, up until 2024 if a pensioner wanted to work, 30% of the pension was withheld. Since 2024 pensioners who want to work do not see any reduction in their pension and they pay a 10% levy on any income earned.

[20] A blocked time model is essentially subsidised early retirement. In Austria there are two types of subsidised part-time work for older employees: the continuous model and the block model (OECD, 2025[78]). The continuous model allows for part-time work over a period of up to five years. In contrast, the block model consists of a phase of full-time work for up to 2.5 years, followed by a phase of complete leave from work for the same duration. Public subsidies for these arrangements – provided by the Public Employment Service to employers – cover at least 90% of the costs for the continuous model and 35% (as of 2025) for the block model.

[21] For workers aged 50-54 there has been a modest increase from 10.9% to 11.1% (between average of 1997-99 and average of 2020-22). Among those aged 55-59 there has been a decline from 10.5% to 9.7%, and a more substantial decline from 11.4% to 9.7% for those aged 60-64.

[22] Hiring discrimination is particularly difficult to demonstrate and challenge if the burden is left to the victim.

[23] Hellerstein and Neumark (1995[95]) finds that plants with a higher proportion of older workers tend to achieve greater output or productivity in Israel. Similarly in Portugal, Cardoso, Guimarães and Varejão (2011[96]) finds that older workers' contribution to firm productivity exceeds their wage costs. In contrast, two studies conducted in the United States report the opposite effect, showing lower output or productivity in plants where a significant share of workers are aged 55 and above (Hellerstein and Neumark, 1995[95]; Haltiwanger, Lane and Spletzer, 2007[98]). Meanwhile, research from Austria, Finland, and Germany indicates no discernible relationship between workforce age and productivity (Mahlberg et al., 2013[99]; Daveri and Maliranta, 2007[100]; Göbel and Zwick, 2012[101]).

[24] This is consistent with other surveys that have found employers generally view older workers as equally or more productive than younger ones (Munnell and Wettstein, 2020[145]). Whether the findings reflect genuine responses or are influenced by a desire to appear politically correct is debateable. However, Munnell and Wettstein (2020[145]) also find responses to questions regarding productivity, costs, and attractiveness are consistent, lending credibility to the results. Over half of employers see no significant

productivity differences between older and younger workers, while those with a preference overwhelmingly favour older workers, particularly in professional roles, where 45% view them as more productive compared to only 1% who see them as less productive (Munnell and Wettstein, 2020[145]). In contrast other surveys present a different picture. In a survey of 10 000 companies conducted by Bersin and Chamorro-Premuzic (2019[139]), over two-thirds of respondents indicated that they viewed age as a disadvantage rather than a competitive advantage.

[25] However, flexible work arrangements may have downsides. Working from home, for instance, may reduce chances of promotion due to less on-the-job training and face time in the office (He, Neumark and Weng, 2021[140]). Additionally, flexible work schedules may sometimes entail requirements to work longer or at irregular hours. Despite these potential drawbacks, a field experiment conducted on a Chinese job board found that application rates are higher for flexible jobs, conditional on the salary offered, providing evidence that workers value job flexibility (He, Neumark and Weng, 2021[140]).

[26] However, extended leave does not necessarily help women attain higher positions or narrow gaps in pay and working hours (Corekcioglu, Francesconi and Kunze, 2020[141]). Overly long maternity leave can negatively affect women's health and hinder career progression (Canaan et al., 2022[121]; Healy and Heissel, 2020[114]).

[27] The reasons why people leave a job to go to another job are not available in this data.

[28] In Australia, the Disability Employment Services programme helps workers struggling to maintain their jobs due to injury, disability, or health conditions by connecting them with specialised providers. These providers offer individualised support, including workplace assessments, job modifications, and on-the-job assistance to help manage the impact of disabilities. Initial support lasts for 26 weeks, after which ongoing assistance may be recommended, with around 90% of employees continuing to benefit from long-term workplace support.

[29] Since the introduction of the Professional Prevention Account (C2P), the number of retiring insured persons who have acquired at least one point during their career has been steadily increasing: it increased from 6 610 in 2016 to 21 380 in 2021 (Beaufort, 2023[147]). However, only 1 010 insured persons who left in 2021 benefited from at least one increase in the length of insurance (MDAP) generating an effective additional pension right. No information is currently available on how the points have been used for part-time work or training purposes.

4 Staying in the game: Skills and jobs of older workers in a changing labour market

Ada Zakrzewska

As the workforce in OECD countries gets older, many fear that productivity and economic growth may slow down. This concern is often related to the view that the relationship between individual productivity and age is hump-shaped: increasing with experience at younger ages and then declining for older individuals as physical abilities and skills deteriorate. This chapter first examines three mechanisms that may affect how workers' productivity changes with age: (i) the evolution of information-processing skills with age, (ii) the potential skills obsolescence of older workers because of labour market changes, and (iii) shifts in the occupational structure that may make it easier for workers to remain productive for longer. The chapter then investigates to what extent workers acquire knowledge through learning-by-doing and training during their careers and provides examples of government policies that could help workers stay productive as they age.

In Brief

Key findings

As OECD countries are ageing, there is growing concern about the employability and well-being of older workers, who are expected to stay in the labour market for longer and account for an increasingly larger share of the workforce. Many also worry that an ageing workforce could lead to slower productivity growth and reduced economic dynamism. This is because the relationship between individual productivity and age is commonly viewed as hump-shaped: increasing with experience at younger ages and then declining for older individuals as physical abilities and skills deteriorate. Yet, there is considerable uncertainty regarding the age at which productivity starts declining. Moreover, the relationship between age and productivity is not fixed and may change as a result of greater investments in skills during the working lives, or through shifts in the occupational structure towards jobs that allow workers to stay productive for longer. This chapter investigates how the skills and jobs of older workers are related to their productivity and proposes policy solutions that could help individuals keep pace with changing labour market demands as they age.

The key takeaways from the chapter are as follows:

- **While the differences in skills of older and younger individuals are partly due to generational differences, some patterns, such as the decline in information-processing skills within cohorts over the past decade and slower adjustment to labour market changes among older workers, suggest that age gaps in skills may persist in the future.**
  - Older people (55-65 year-olds) have weaker information-processing skills than younger individuals. Literacy and adaptive problem-solving skills are 9% lower among 55-59 year-olds and 12% lower among 60-65 year-olds compared to 25-29 year-olds. The gap in numeracy skills is slightly narrower, with 55-59 year-olds scoring 7% lower and 60-65 year-olds scoring 10% lower than 25-29 year-olds. These age gaps are observed in all OECD countries, although the size of these gaps differs. While the differences in skills across the age groups are partly due to generational differences, such as educational attainment, over the past decade, information processing skills declined within birth cohorts, and this decline was faster for older cohorts. Both findings suggest that age-related decline in skills also plays a role. For example, over the last ten years, literacy skills declined by 5% among those who were 25-29 in 2012 and by 9% among those who were 50-54 in the same year. A similar trend was observed for numeracy skills.
  - Moreover, workforce adjustment to changing demand in the labour market, so far, has happened predominantly through younger workers. Downsizing occupations in the last decade have experienced larger increases in the average age of workers, which suggests that adjustment to changing economic structure occurs primarily through younger workers. Older workers were also less likely to use new productivity-enhancing technologies, as exemplified by lower use of ICT skills compared to younger individuals in the same occupation. For instance, the age gap in using specialised software ranged from 5% in Norway to 37% in Korea, and the use of programming language was more than 40% lower among older workers in some OECD countries. Slower adaptation to labour market trends and adoption of new productivity-enhancing technologies among older workers, especially as the share of older workers in the workforce grows, may hinder their employability and productivity, potentially weighing on the broader economy.

- **However, the shift in the occupational structure, away from jobs that require physical work and towards those that value experience, may make it easier for workers to remain productive for longer.** While in some occupations, experience is valued and workers' productivity can increase as they age, other occupations offer little wage growth opportunities. For example, 55-65 year-old managers earn over 50% more than 25-34 year-old managers, while the difference in wages is only 5% between the two age groups in elementary occupations. Moreover, some occupations require more physical effort than others, making it more difficult for older workers to perform those jobs, leading to lower productivity or even labour market exit. The occupational composition differs significantly across OECD countries, implying that in some countries, there are more jobs that potentially allow workers to remain productive for longer. In general, however, the share of jobs that require daily physical work decreased in most OECD countries over the past decade, while the share of high-skilled occupations, which tend to offer higher returns to experience, increased.
- **Lifelong learning is crucial for workers to adapt to the changing labour market, but training participation and learning-by-doing decrease with age.** In 2023, only a third of 60-65 year-olds participated in training, compared to over half of 25-44 year-olds. Learning-by-doing, another important but less often studied channel through which individuals develop new skills, also decreases with age, from 62% among 25-29 year-olds to 45% for 60-65 year-olds. One reason why training participation decreases with age is lower expected returns on such investment for individuals and employers due to shorter remaining working lives. However, recent evidence showing that adults underinvest in training even when returns significantly exceed the costs suggests that individuals may also underestimate the benefits of investment in training or face barriers to training participation. Moreover, if training postpones the decision to retire, the socially optimal level of training participation of older workers may be higher than the one chosen by the individual, given that keeping the individual in the workforce increases tax revenue and reduces pension benefit payments. Both social returns to training in excess of individual returns and underinvestment in training by individuals and firms would justify government intervention to lower the cost of training for older workers and address the barriers to training that they face.
- **The provision of career guidance and policies to promote participation in adult learning can help workers reflect on their professional journeys and address any skills gaps**. Career guidance can assist individuals in assessing whether their current roles and skills align with their ambitions and labour market needs, and in identifying training needs. To increase the use of career advice services among adults, some OECD countries subsidise career advice sessions or even provide them free of charge. This is likely to be even more effective if done as a preventive measure and accompanied by targeted outreach campaigns. Governments can also offer financial incentives for mid-career (40-54 year-olds) and older people to participate in adult learning. One strategy is to offer financial support for participation in adult learning, regardless of age, for example, through individual learning accounts. Additional support specifically targeted at mid-career workers may also be beneficial, given that recent research suggests that training rates are particularly sub-optimal for middle-aged workers. Beyond financial incentives, it is important that training delivery and support services respond to the needs of mid-career and older workers, recognising the skills workers gained through informal on-the-job learning, offering shorter modular courses, and focusing the content on practical work problems rather than abstract technical concepts.

Introduction

OECD countries are ageing, and there are concerns about the employability and well-being of older workers who are increasingly expected and encouraged to stay in the labour market for longer. Many also fear that as the workforce gets older, the economy's capacity to innovate will diminish and productivity growth will slow down (IMF, 2016[1]; André, Gal and Schief, 2024[2]; ESM, 2024[3]). One source of this concern is the commonly held view that the relationship between productivity and age is hump-shaped: increasing with experience at younger ages and then declining for older individuals as physical abilities and skills deteriorate (André, Gal and Schief, 2024[2]). In line with this view, the "demographic dividend" experienced in the past that boosted productivity when the workforce's average age increased from mid-30s to mid-40s may turn into a "demographic deficit" as populations continue to age (Henriksen and Cooley, 2018[4]) – see also Chapters 2 and 5.

The first reason why workers' productivity could decrease with age is the decline in certain cognitive skills and physical abilities (Kenny et al., 2008[5]; Desjardins and Warnke, 2012[6]). Prior research showed, for example, that older workers had lower numeracy, literacy and problem-solving[1] skills than younger individuals (Paccagnella, 2016[7]). Rapid labour market changes such as those due to technological transformation or greening may further reduce the productivity of older workers if the skills they acquired early in life grow obsolete (OECD, 2019[8]; 2024[9]). On the other hand, technological change may also lead to shifts in the occupational structure, away from jobs that require physical work and towards those that value experience, making it easier for workers to remain productive for longer. Section 4.1 of this chapter examines these three mechanisms and their potential impact on the future productivity of older workers.

While the relationship between productivity and age is influenced by broad economic forces – resulting in changing labour market demand – individual choices and government policies do matter in shaping this relationship. Preventing skills decline and ensuring that older workers are equipped with the skills to thrive in a fast-changing labour market can help them stay productive for longer. This requires that the traditional three-stage (school, work, retirement) life model gives way to a more flexible one where learning and work are intertwined and take place throughout life. Section 4.2 of this chapter explores how workers acquire knowledge both on the job and through training throughout their careers, and Section 4.3 provides examples of government policies that could help boost the skills and productivity of workers as they age.

4.1. Generational divide or age-related decline: How will productivity evolve with age in the future?

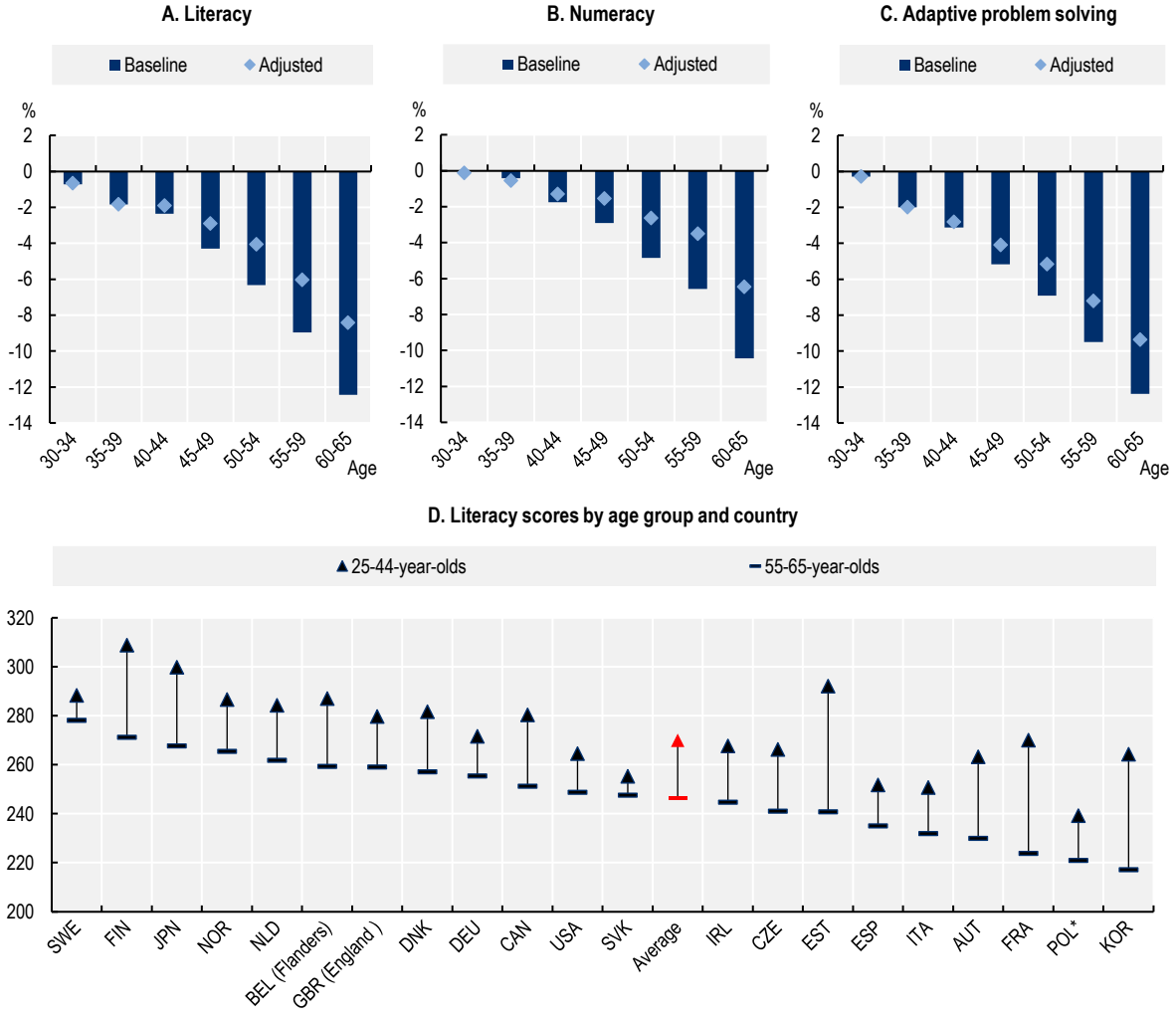
4.1.1. Information-processing skills decline as individuals grow older

Human capital, reflected in the level of education and skills, is critical for labour market success. It is linked to both individual productivity and labour market outcomes, such as employment and wages, and to aggregate economic performance. Data from the first cycle of the Survey of Adult Skills conducted in 2012 showed that older workers had lower numeracy, literacy and problem-solving skills than younger individuals (Paccagnella, 2016[7]). This section first investigates whether these patterns persist using new data from the second cycle of the Survey of Adult Skills collected in 2023. It then attempts to disentangle the generational differences in skills and the ageing effect to shed light on whether similar skills gaps should be expected in the future.

The 2023 Survey of Adult Skills data confirm that older people (defined in this chapter as those aged 55-65) have weaker information-processing skills, such as literacy, numeracy and adaptive problem-solving,[2] compared to younger individuals.[3] In 2023, literacy and adaptive problem-solving skills were 9% lower among 55-59 year-olds and 12% lower among 60-65 year-olds compared to 25-29 year-olds (Figure 4.1, Panels A and C). The gap in numeracy skills was slightly narrower, with 55-59 year-olds scoring 7% lower and 60-65 year-olds scoring 10% lower than 25-29 year-olds (Figure 4.1, Panel B).

Figure 4.1. Information-processing skills are lower among older workers

Panels A-C show percentage differences in literacy, numeracy and adaptive problem-solving skills, compared to 25-29 year-olds, baseline (bar) and controlling for level and field of education (dot). Panel D shows unadjusted literacy scores by age group and country.



Note: "Baseline" estimates are adjusted for differences in gender and place of birth, while "adjusted" estimates are additionally adjusted for level of education and field of education. The sample includes Austria, Flemish Region (Belgium), Canada, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden and the United States. Countries presented in this graph are those that participated in the Survey of Adult Skills in 2012 and 2023 to ensure comparability with the rest of this section. Literacy scores for all countries that participated in the Survey of Adult Skills in 2023 can be found in Annex Figure 4.A.1. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en. Average is the weighted average of the countries shown.
Source: 2023 Survey of Adult Skills.

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The gaps in information-processing skills between older and younger workers were recorded in all participating OECD countries, but the level of skills and the size of the age gap differed. The largest gap was observed in Estonia (18%), where 25-44 year-olds had one of the highest literacy scores in the OECD, while older individuals lagged behind. In contrast, Sweden had the highest literacy score among older workers and a small age gap in literacy as a result (Figure 4.1, Panel D). Age gaps in numeracy and adaptive problem-solving across countries are similar to those observed for literacy skills.

Lower information-processing skills of older workers should be a source of concern, as they may be a sign of lower productivity. Workers with higher information-processing skills are, on average, more likely to be employed and earn higher wages (Box 4.1) which are, in turn, usually closely related to individual productivity – see e.g. Hellerstein, Neumark and Troske (1999[11]) and Lazear et al. (2023[12]).[4] This remains true even when comparing individuals with the same level of education, suggesting that literacy skills capture additional information about the individual's characteristics, which are rewarded in the labour market and go beyond a simple reflection of their educational attainment.

Box 4.1. Skills are related to employment rates and wages

Individuals with higher literacy skills have, on average, higher employment rates and wages and the relationship becomes stronger with age. While higher employment rates and wages among those with greater skills may be influenced by factors like education, regression analysis suggests that literacy skills capture additional information about the individuals that are rewarded in the labour market and go beyond a simple reflection of their educational attainment.

Workers who have one standard deviation higher literacy skills earn, on average, 7% more at the age of 25-34 and 14% more at the age of 55-65, than other individuals with the same level of education, field of study and demographic characteristics. Workers with higher skills are also more likely to be employed than other individuals with the same educational attainment. The difference in the likelihood of being in employment (rather than unemployed or inactive) associated with an increase in literacy skills by one standard deviation is 4 percentage points for 25-34 year-olds and 8 percentage points for 55-65 year-olds.[1]

1. These results are from a regression controlling for the interaction of age dummies with years of education and gender and controlling for field of study, place of birth and country fixed effects. However, employment rates, wages and skills may be correlated with unobservable characteristics such as ability or motivation. Therefore, these results should not be interpreted as causal.

The currently observed differences in information-processing skills across the age groups are driven by a combination of *cohort (generational)* and *ageing effects*. The *cohort (generational) effect* refers to the impact of being born in a particular time period on the skills level of the generation due to variations in technology exposure, labour market conditions and government policies during the formative years. For example, younger workers may have higher information-processing skills because they completed more years of education or were exposed to more advanced information and communication technologies during their educational pathways. The *ageing effect,* on the other hand, describes the decline in certain cognitive abilities, such as memory and information-processing speed, as individuals grow older. If the *cohort effect* is the only driver of differences across the age groups described above, then workers who are young today should not be expected to have lower information-processing skills as they grow older.[5] However, if the *ageing effect* also plays a role, then the skills of present-day young workers may decline as they age, with potentially negative implications for their productivity.

Comparing individuals with the same level of education and field of study reveals that the gap in information-processing skills between younger and older workers is smaller than when comparing the overall population. This suggests that the *cohort (generational) effect* partly explains the lower skill levels observed among older workers. Yet, differences in education and field of study alone do not fully account for the skill gap (Figure 4.1, Panels A-C) – indicating that other factors also contribute to older workers' lower proficiency. One potential explanation is that information-processing skills capture some differences in initial education across the age groups that are not captured by years and field of education alone. For example, the quality of initial education of older people could have been lower, leading older people to have lower skills than younger people with the same number of years and field of education. Exposure to certain technologies might have also facilitated the skill acquisition of present-day younger workers compared to older workers with the same education. Another potential explanation is that lower skill levels among older people could be a sign that skills decrease with age, the *ageing effect*.

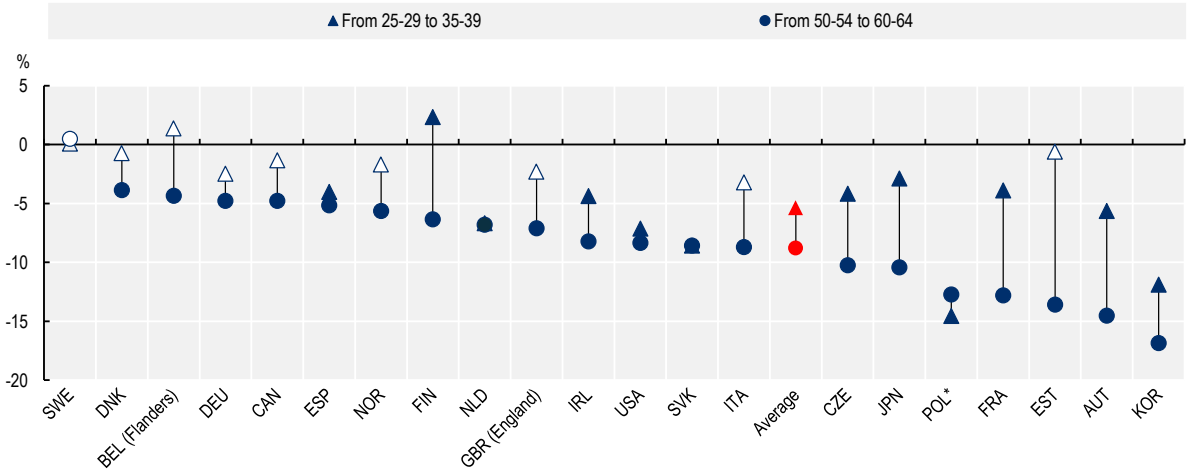
While disentangling these two effects further by comparing age groups in the same year is difficult, the two cycles of the Survey of Adult Skills can be used to follow cohorts over time to track how the skills of people born in the same years have changed over time. For example, the skills of individuals aged 25-29 in 2012 can be compared to those of 35-39 year-olds in 2023. This analysis reveals that skills decreased as cohorts aged, and the effect was stronger amongst older individuals. For example, over the last ten years, numeracy skills declined by 3% among those who were 25-29 in 2012 and by 6% among those who were 50-54 in 2012. Literacy skills declined by 5% among those who were 25-29 in 2012, and by 9% among those who were 50-54 in 2012. The analysis follows individuals with the same level of education and place of birth, which means that the decline in skills is not due to changes in the educational composition or migration background of the cohort.[6]

However, it is important to note that both the changes in skills within younger and older cohorts over the last decade were not the same in all countries. For example, in Sweden, no statistically significant decrease in literacy skills was observed in the younger or older cohort (Figure 4.2). In Finland, the literacy skills of those who were 25-29 years old in 2012 increased in the last decade, while the skills of those who were 50-54 years old in 2012 decreased. In France and Austria, literacy skills declined over the last decade among younger and older cohorts, but the decline was stronger for older individuals.

While the above-described changes in skills proficiency will reflect a combination of cohort and time effects, the decline in literacy and numeracy skills was more prominent for older workers than for younger ones, suggesting that the decline in skills with age may be, at least partially, due to ageing. A study using scores of a sample of adults who participated in the Survey of Adult Skills in Germany in 2012 and were retested in 2015 suggests that, when following individuals over time, literacy skills (numeracy skills) peak at the age of 41 (46) but decline afterwards (Hanushek et al., 2025[13]).

Figure 4.2. Over the last ten years, the decline in information-processing skills was typically stronger among the older cohort, but the extent of the decline differed across countries

The difference in literacy skills over 10 years following cohorts



Note: The estimates are adjusted for differences in level of education and place of birth. White circles/triangles indicated results that are not statistically significant at the 5% level.*Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en. Average is the weighted average of the countries shown.
Source: 2012 and 2023 Survey of Adult Skills.

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The decrease in literacy and numeracy skills over time was more pronounced for those without tertiary education. The literacy and numeracy skills of those who were 50-54 years old in 2012 and had higher education decreased by 7% and 5%, respectively, over the last 10 years, while for the same age group without tertiary education, the decreases were 10% and 7%. These patterns are consistent with the cumulative (dis-) advantage hypothesis (Matthew effect), which, in the context of skills, predicts that initial skill differences become magnified over the life course. For example, those with higher educational attainment and skills obtain more complex jobs that foster further skill development (Lechner et al., 2021[14]). Indeed, significant differences in how much skills decline over time were observed across occupations (Annex Figure 4.A.2). While the literacy skills of cleaners, machine operators and building workers declined by 9% or more over the last 10 years, in various professional and managerial occupations, the decline was 4% or less. This is in line with the findings using data from repeated surveys of the same individuals in Germany (Hanushek et al., 2025[13]) and consistent with higher skills dispersion in the oldest age groups (i.e. among those who were 45-49 and 50-54 in 2012), which means that not all older individuals experienced the same decline in skill levels.

Further research using longitudinal data is needed to better understand the reasons why skills decline with age. One possibility is that adults and their employers increasingly underinvest in training as individuals age, resulting in lower skill levels among older individuals and potentially reducing their productivity. If that is the case, interventions to boost the skills of adults at an older age would be an appropriate policy response.[7]

However, an alternative explanation is that individuals who achieve higher skill levels early in life enter better-paid occupations, which require stronger information-processing skills and provide adults with opportunities to utilise these skills as they age, preventing skill decline. Adults who follow lower-paid career paths may utilise their information-processing skills less at work, so they are more likely to decline with age. In that case, the decline in skills with age would not necessarily be a result of underinvestment in

skills, but rather a consequence of entering certain occupations that require fewer information-processing skills earlier in their careers and would be better addressed through early policy interventions, such as career guidance for youth.

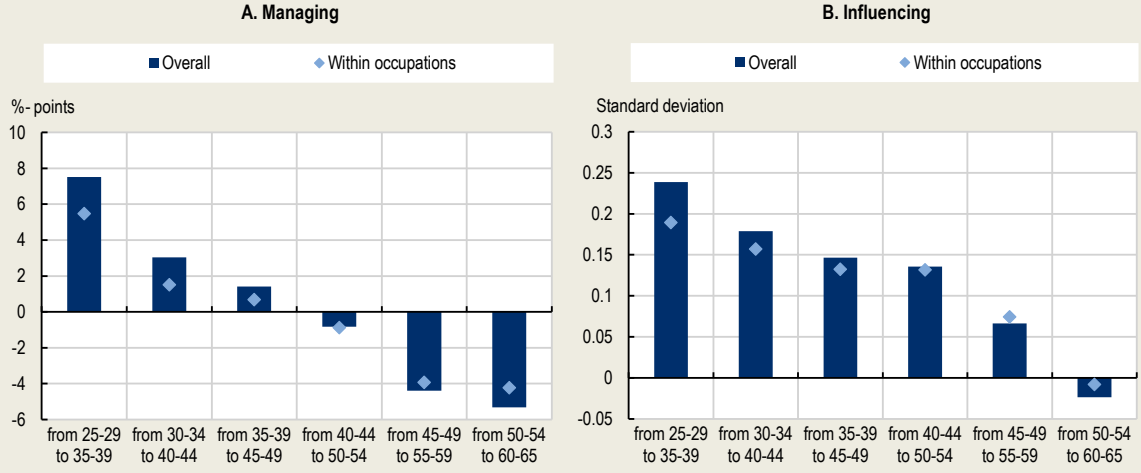
Finally, it is also possible that as workers age, the tasks they perform shift from those that require information-processing skills to those requiring other skills, such as decision-making and managing others. In that case, information-processing skills could decline without necessarily leading to lower productivity. While the Survey of Adult Skills only collects data on information-processing skills, the analysis of tasks, such as "managing" and "influencing", shows that while the share of workers performing these tasks increased with age in younger age cohorts, potentially compensating for the decline in information-processing skills, this effect was much weaker for older age cohorts (Box 4.2).

Box 4.2. As workers get older, they tend to take on greater managerial and influencing responsibilities, especially in the early phases of their careers

When following cohorts over the last decade, the share of workers managing others increased by 8 and 3 percentage points among individuals who were 25-29 and 30-34 in 2012, respectively (Figure 4.3). These age groups also experienced the largest increase in the extent to which they influenced others at work, for example, by giving presentations, negotiating and teaching. In contrast, among older age groups, the share of workers managing others slightly decreased over the same time period, and the increase in influencing others was less marked than among younger age groups.

Figure 4.3. Managerial responsibilities and tasks associated with influencing others increased the most over the last decade among younger workers

The difference in the share managing others and influencing index over 10 years following cohorts



Note: Results of a regression, "overall" shows the results when controlling for gender, education and country fixed-effects, while "within occupations" includes an additional ISCO 1-digit control. Influencing others includes teaching, giving presentations, influencing others and negotiating. The change in "managing" is not statistically significant for those who were 40-44 in 2012 (overall estimate) and the change within occupation is not statistically significant for 35-39 year-olds and 40-44 year-olds in 2012. The change in "influencing" is not statistically significant for 50-54 year-olds in 2012 (both the overall and within occupation estimates). Weighted average of Austria, Flemish Region (Belgium), Canada, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden and the United States.
Source: 2012 and 2023 Survey of Adult Skills.

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4.1.2. The adjustment to the changing demand in the labour market happens predominantly through younger workers

Another mechanism that may lead to older workers lacking the skills needed in the labour market and their lower productivity, compared to younger individuals, are changes in the labour market resulting from megatrends such as digitalisation, automation and the green transition. This sub-section investigates how the adjustment to labour market trends and adoption of new productivity-enhancing technologies differ across age groups, highlighting the implications for economic dynamism and productivity as populations age.

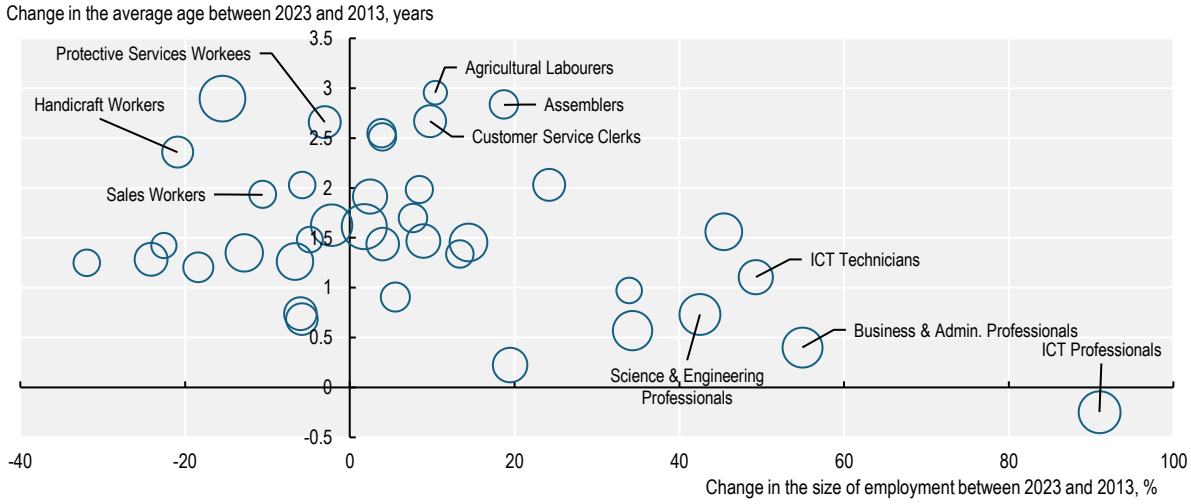
Economic changes mean that some jobs disappear while other jobs, requiring a different skillset, are created. For example, in the past, automation displaced bank tellers but created new roles in banking, such as IT specialists to maintain digital banking systems. Moreover, many of the jobs that remain change significantly in terms of tasks and skills they require. In the past, the job of auto mechanics primarily involved using hand tools to diagnose vehicles through physical inspections, while today, this is often done using computerised diagnostic tools, which require workers to have digital skills.

While older workers are more likely to be in a job that matches their educational attainment than those who are new in the labour market, as sorting into well-matched jobs takes time (OECD, 2024[10]),[8] they may be more likely to be mismatched in terms of occupations and skills currently needed in the labour market than younger people, who grew up with the new technologies, had a better chance of choosing educational pathways aligned with the current labour market demand and followed school curricula that already reflected the new skills needs.

The first piece of evidence supporting this hypothesis is the increase in the average age of workers in occupations that declined in size over the last decade, which is in line with younger workers having incentives not to enter declining occupations, or to leave them, and older workers being discouraged from exiting them due to the costs associated with occupational mobility. For example, *handicraft workers*, occupations for which demand decreased by 20%, experienced an increase in the average age by 2.4 years over the last decade (Figure 4.4). In contrast, in *ICT professionals* and *business & administration professionals*, occupations that grew the fastest over the last decade, the average age decreased by 0.2 and increased by 0.4 years, respectively.

These findings are consistent with prior research, which showed that in the United States, occupations that shrank became “older” – 1 percentage point contraction between 1980 and 2005 was associated with an increase in average age in the occupation by an additional 0.78 years relative to the mean (Autor and Dorn, 2009[15]).[9] Similar patterns were found for routine and middle-skill jobs (Lewandowski et al., 2020[16]; Green, 2019[17]). The change in average age was shown to be driven by a falling employment share of young workers and rising employment shares of prime-age and older workers (Autor and Dorn, 2009[15]).

Figure 4.4. The average age increased the most in occupations that decreased in size



Note: The size of the bubble indicates the ratio of the average wage in the occupation and the median wage across occupations in 2023. Weighted average of Austria, Belgium, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Greece, Germany, Hungary, Ireland, Italy, Lithuania, Latvia, Malta, the Netherlands, Norway, Poland, Romania, the Slovak Republic, Slovenia, Spain and Sweden.
Source: European Union Statistics on Income and Living Conditions survey.

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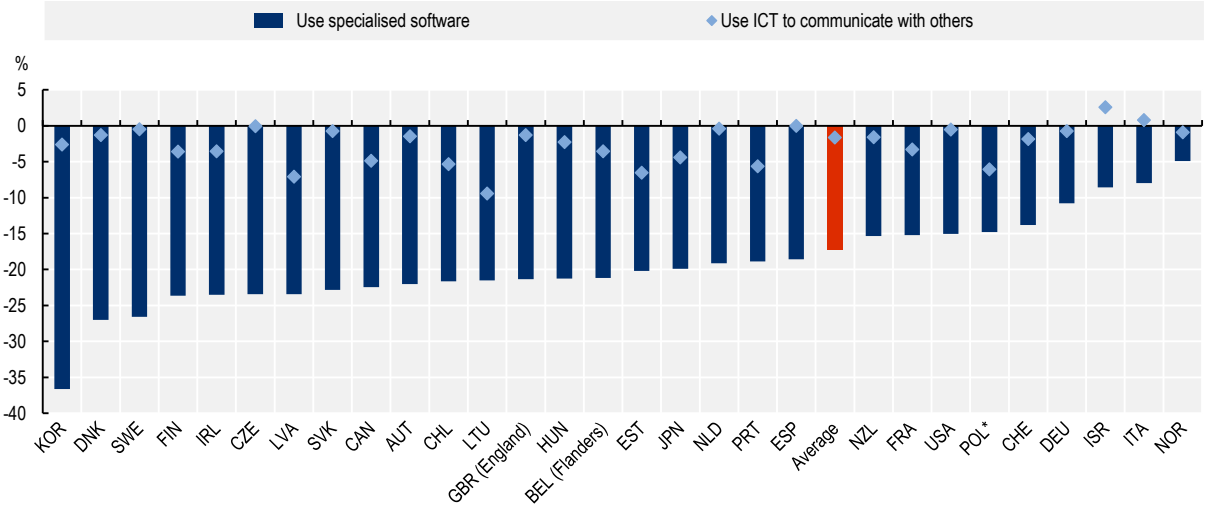
The second piece of evidence suggesting a more significant skills mismatch among older workers is the lower use of ICT skills by older workers compared to younger individuals in the same occupation. While it is a well-established fact that older workers have lower digital skills than younger individuals (Eurostat, 2024[18]), this alone is not necessarily a sign of a mismatch. Instead, older workers could be employed in different occupations in which they are less likely to need digital skills compared to younger individuals. The analysis of Survey of Adult Skills data suggests, however, that, even within the same occupation, older workers are less likely to use advanced ICT skills (Figure 4.5). Significant age gaps exist in the share of workers creating electronic documents, using specialised software and using a programming language.[10] For example, the age gap in using specialised software ranged from 5% in Norway to 37% in Korea, and the use of programming language was more than 40% lower among older workers in some OECD countries. In contrast, older workers were similar to younger workers in terms of their use of basic ICT skills, such as using a computer at work and using the internet to communicate with others or to access information.

Figure 4.5. Older workers are less likely to use advanced ICT skills at work than younger workers in the same occupations

Percentage difference in the share of 55-65 year-olds and 25-54 year-olds using ICT at work, 2023



Note: Differences in the use of ICT within 2-digit ISCO occupations. The difference between the age groups in using ICT to communicate with others is not statistically significant in Czechia and Spain. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en. Average is the weighted average of the countries shown.
Source: 2023 Survey of Adult Skills.

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Older workers were also shown to be less likely than younger ones to take up new job opportunities, such as those created by the transition away from carbon-intensive production technologies (OECD, 2024[9]). In the United States, workers aged 55-64 and those aged 65 and above were, respectively, 38% and 60% less likely than individuals aged 25-34 to transition from “dirty” to “green” jobs. Moreover, among workers aged 55-64 who left “dirty” jobs, the probability of moving to another “dirty” job was 25% higher compared to workers aged 18-34 (Curtis, O’Kane and Park, 2023[19]).

Lower incentives for older workers to move away from declining occupations and develop new skills may be the reasons why most of the observed adjustment to labour market trends happens among younger workers. Older workers tend to have more occupation-specific expertise and if their bundle of skills cannot be fully transferred to the other occupations wage losses would have to be incurred (Kogan et al., 2022[20]; Hudomiet and Willis, 2022[21]). This effect, combined with shorter remaining working lives to reap the benefits of retraining (see Section 4.2), means that older workers may have lower incentives to exit the declining occupation. Older workers may also be more protected from displacement, as longer job tenure – often correlated with age – is a key factor in the strength of employment protection legislation (OECD, 2019[22]; Saez, Schoefer and Seim, 2023[23]). Finally, older workers may also be barred from some new occupations due to discrimination and age stereotypes – see Chapters 3 and 5.

Slower adaptation to labour market trends and adoption of new productivity-enhancing technologies among older workers, especially as the share of older workers in the workforce grows, may hinder economic dynamism, potentially weighing on the broader economy.

4.1.3. The changing occupational composition of the economy may help workers stay productive for longer

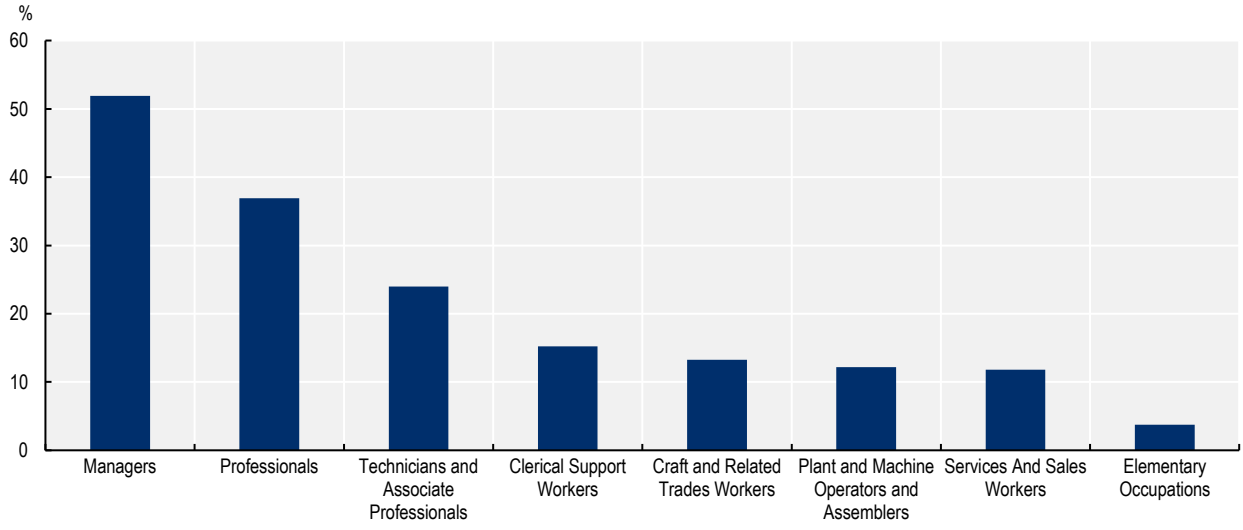
As discussed in the previous subsection, labour market changes may lead to a skills mismatch among older workers, but they also offer opportunities by shifting demand towards more age-friendly jobs. While in some occupations, the return on experience is higher, and workers' productivity and wages increase as they age, other occupations offer fewer development opportunities. Moreover, jobs differ in the degree to which they require physical strength that declines with age (Kenny et al., 2008[5]) and other features preferred by older workers, such as flexible working and autonomy (Maestas et al., 2023[24]) (see Chapter 3). This section investigates how the changes in the occupational composition may affect workers' ability to remain productive for longer.

Research in the United States that tracked individual wage trajectories over time found that workers who became employed in occupations with a higher starting wage also experienced higher average wage growth in the subsequent eight years. For example, the wages of software engineers, police officers, and accountants are, on average, 100% higher eight years after they start work in their occupation, while the wages of cosmetologists, maids, or childcare workers barely change at all (Abraham et al., 2024[25]).

The difference in salaries between 55-65 and 24-34 year-olds varies considerably across occupations, suggesting that wage growth trajectories vary across occupations as well over a longer time horizon. 55-65 year-old managers earn over 50% more than 25-34 year-old managers, controlling for gender and country fixed effects, while the difference in wages is only 4% between 25-34 and 55-65 year-olds in elementary occupations (Figure 4.6). This is consistent with the higher dispersion in hourly earnings among older workers compared to younger age groups observed in the Survey of Adult Skills data.[11]

Figure 4.6. The growth in wages over time differs across occupations

Difference in earnings of 55-65 and 25-34 year-olds by occupation, 2023



Note: Results of a regression of log earnings on age dummy, controlling for gender and country fixed effects. Earnings include bonuses and earnings by self-employed individuals. Data includes Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

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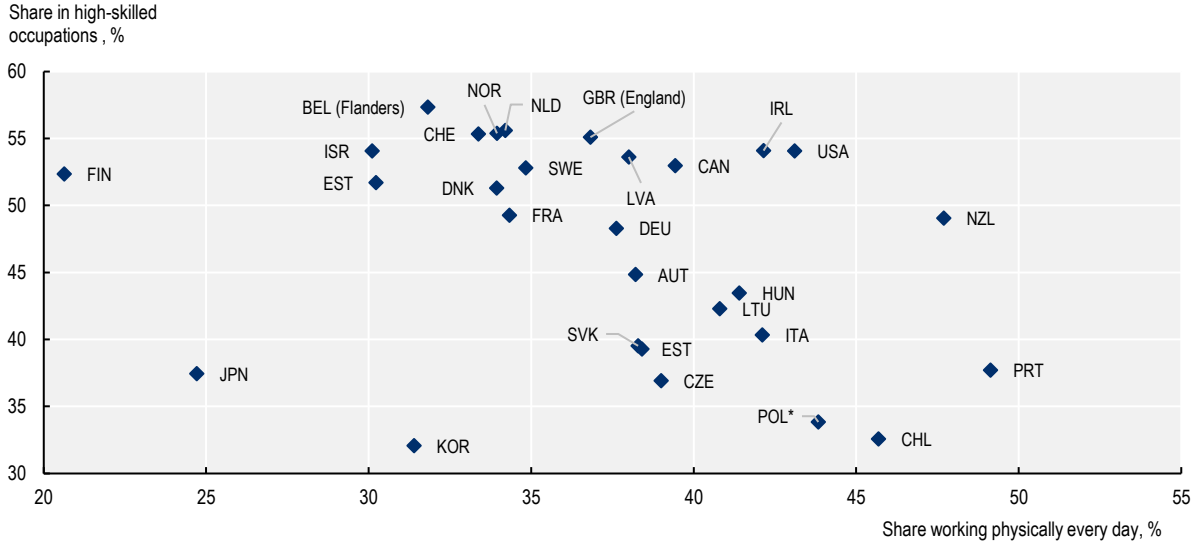
Different wage trajectories may be related to the variation in returns to experience both within the job and due to differences in career opportunities. Returns to experience have been shown to be positive among skilled workers, insignificant among low-skilled workers (Dustmann and Meghir, 2005[26]), and higher for non-routine tasks than for routine ones (Gonzaga and Guanziroli, 2019[27]).

Moreover, some occupations require more physical effort than others, making it more difficult for older workers to perform those jobs, leading to lower productivity or even labour market exit.[12] For example, 81% of building and related trades workers and 73% of cleaners and helpers work physically every day, while this is the case for only 6% of business and administration professionals and 3% of ICT professionals (Annex Figure 4.A.3).

The occupational composition differs significantly across OECD countries and may mean that in some countries, more jobs allow workers to remain productive for longer. In Chile, for example, 46% of workers are employed in jobs that require working physically for a long time every day, the highest share among the countries included in the survey (Figure 4.7). At the same time, only 33% of workers in Chile hold high-skilled occupations, where the increase in wages is the highest with age. In contrast, in the Flemish Region (Belgium), far fewer jobs require physical effort (32%) and almost 60% of workers are employed in high-skilled occupations where wages increase significantly with age.

Figure 4.7. Some countries have greater shares of jobs that potentially allow workers to remain productive for longer

Share of the employed working physically every day and share employed in high-skilled occupations by country



Note: High-skilled occupations include Managers, Professionals and Technicians and Associate Professionals. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en.
Source: 2023 Survey of Adult Skills.

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In the future, changes to the occupational composition, away from jobs that require physical work and towards those that value experience, may make it easier for workers to remain productive for longer.[13] Over the last decade, the share of jobs that require working physically every day decreased in most OECD countries (Annex Figure 4.A.4), while the share of high-skilled occupations that tend to offer higher returns to experience increased.

The changes in the structure of economic activity within countries may not be exogenous and, instead, may be affected by demographic changes. For example, ageing countries may specialise in industries with high returns to experience and shift away from industries in which skills and abilities that depreciate with age, such as physical strength, are more important (Cai and Stoyanov, 2016[28]). On the other hand, ageing may also lead to changes in the structure of consumption, for example, increasing demand for long-term care (Causa et al., 2025[29]; Oliveira Martins et al., 2005[30]). Finally, robots and AI will also affect the tasks performed by humans, potentially leading to a decrease in demand for physical tasks (ITF, 2023[31]).

4.2. Lifelong learning: The key to ageing well – but are workers using it?

Compared to younger workers, older workers tend to be at a disadvantage in terms of the information-processing skills they possess and the jobs they perform. Whether these patterns will be replicated in the future will depend on economic changes affecting occupational composition, but it will also depend on how well workers are equipped to adapt to the changing labour market and whether they are supported to develop their skills as they age.

In this context, lifelong learning has a critical role to play. It can help workers prevent skills atrophy, adapt to the changing labour market, and move into higher-productivity and better-paying jobs. Recent evidence from Denmark demonstrates that the returns on investment in human capital can be high for adults, with earnings found to be 25% higher among those with a vocational qualification who returned to education to complete a bachelor's degree (Humlum, Munch and Plato, 2023[32]).[14] Randomised evaluations of sector-focused training programmes also found substantial and persistent earnings gains following training, ranging from 12% to 34%, depending on the scheme (Katz et al., 2022[33]). This is consistent with positive returns to training found in the meta-analysis of active labour market policies (Card, Kluve and Weber, 2018[34]). Work-related training was also found to be correlated with direct measures of productivity, with 1 percentage point increase in training associated with an increase in value added per hour of 0.6% and 0.3% in hourly wages (Dearden, Reed and van Reenen, 2006[35]).

This section investigates how training participation and on-the-job learning evolve as workers age, highlighting differences across countries.

4.2.1. Training participation and learning-by-doing decrease with age

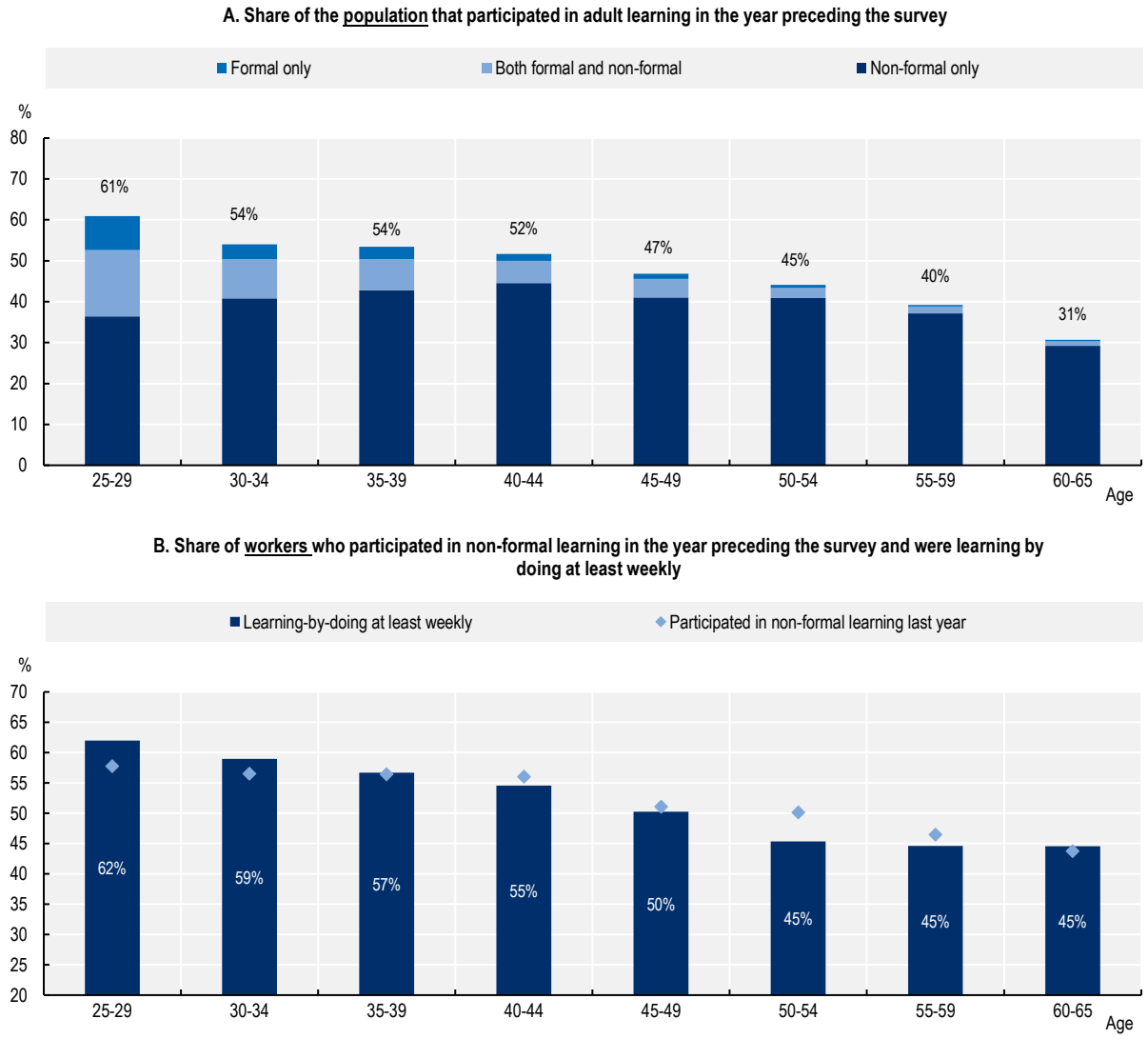
Participation in formal and non-formal adult learning decreases with age. In 2023, only a third of 60-65 year-olds participated in adult learning in the 12 months preceding the survey, compared to over half of the 25-44 year-olds (Figure 4.8, Panel A). The most notable drop in adult learning participation occurs between the ages of 55-59 and 60-65. Non-formal training was significantly more common than formal learning (i.e. training that led to a qualification) across the age groups, but this was particularly the case among older individuals, with only 1% of 60-65 year-olds participating in formal learning.

Learning-by-doing, another important but less often studied channel through which individuals develop new skills, also decreases with age. Among 25-29 year-olds, 62% report learning by doing at least every week compared to 45% among 60-65 year-olds (Figure 4.8, Panel B). Learning by doing is only observed for those who are employed, and employed individuals tend to have higher rates of training, which likely explains why learning-by-doing decreases less with age than training participation in the wider population.[15]

Workers aged 55-65 are 7 percentage points less likely to participate in training and 14 percentage points less likely to be learning-by-doing compared to 25-34 year-olds with the same level of education and occupation. This suggests that the lower degree of learning is not just due to generational differences, such as different educational attainment leading to differences in occupational composition, but instead, it is related to age.

Participation in non-formal training and learning-by-doing differ significantly across socio-economic groups, both in terms of levels and trends as workers age. For example, participation in non-formal learning for those with tertiary education fluctuates around 60% between the ages of 25 and 54 and only starts decreasing afterwards, i.e. 10 years later than in the general population (Annex Figure 4.A.5). Among tertiary educated 60-65 year-olds, non-formal training participation remains at a relatively high level of 49%. In contrast, the training participation rate of those without upper secondary education is lower and starts decreasing earlier in life, dropping to 9% among 60-65 year-olds. Learning-by-doing is also significantly higher among the tertiary educated, but it decreases gradually throughout life, regardless of the level of education.

Figure 4.8. Formal and non-formal adult learning and learning-by-doing decrease with age



Note: Learning by doing in Panel B refers to individuals who reported that their job involves learning-by-doing from the tasks they perform at least once a week. Graph presents a weighted average of Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

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The lower participation in non-formal learning of older individuals may stem from either a lower willingness to train (defined as the likelihood that workers identified learning opportunities that they wanted to take up) or greater barriers to accessing training, such as time constraints or costs of training courses. Evidence indicates that a lower willingness to train is likely a key factor. The share of the population that wanted to participate in training (regardless of whether they did)[16] decreases with age, from around 60% among 25-44 year-olds to 37% among 60-65 year-olds (Annex Figure 4.A.6). A similar pattern is observed in the share of the population that participated in training less than they wanted to, which also decreases with age, from 28% among 25-34 year-olds to 17% among 55-65 year-olds (see Box 4.3 for reasons why people participate in training less than they want to).

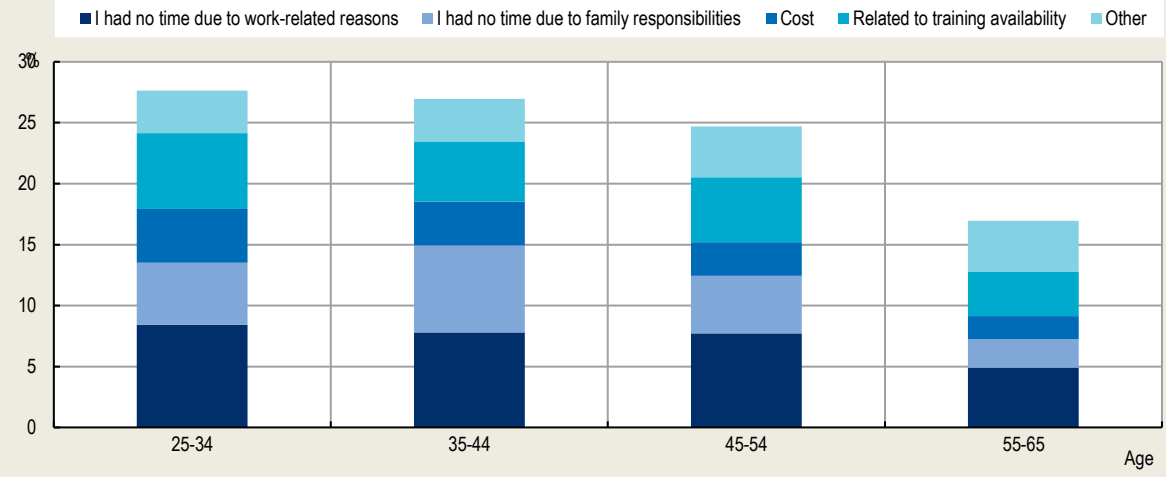
Box 4.3. Barriers to training participation differ across age groups

Time constraints are less of a barrier to training participation for older people than for other age groups. Among 55-65 year-olds, 7% reported participating in training less than they wanted to due to time constraints – 5% due to work-related reasons and 2% due to family reasons (Figure 4.9). In contrast, 15% of 35-44 year-olds indicated time constraints as a barrier to training participation, with 8% pointing to work-related time constraints and 7% to family responsibilities.

"Other" barriers to training participation, such as an unexpected event (e.g. health problems) or other reasons that the survey is not capturing, play a more important role among older people. A similar share of the 55-65 year-old population participated in training less than they wanted to due to "other" reasons, as in other age groups, while the overall share of the 55-65 population that participated in training less than they wanted was lower (Figure 4.9). This means that "other" reasons were a proportionally bigger barrier to training participation for older people compared to younger individuals.

Figure 4.9. The share of the population that participated in training less than they wanted to declines with age as the time barriers due to work and family responsibilities decrease

Share of the population that participated in training less than they wanted, by reason



Note: Barriers related to training availability include no suitable training available, training at an inconvenient time or location, training cancelled or postponed, not meeting training prerequisites and lack of employer support. Other reasons include something unexpected came up and unspecified reasons. Graph presents a weighted average of Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

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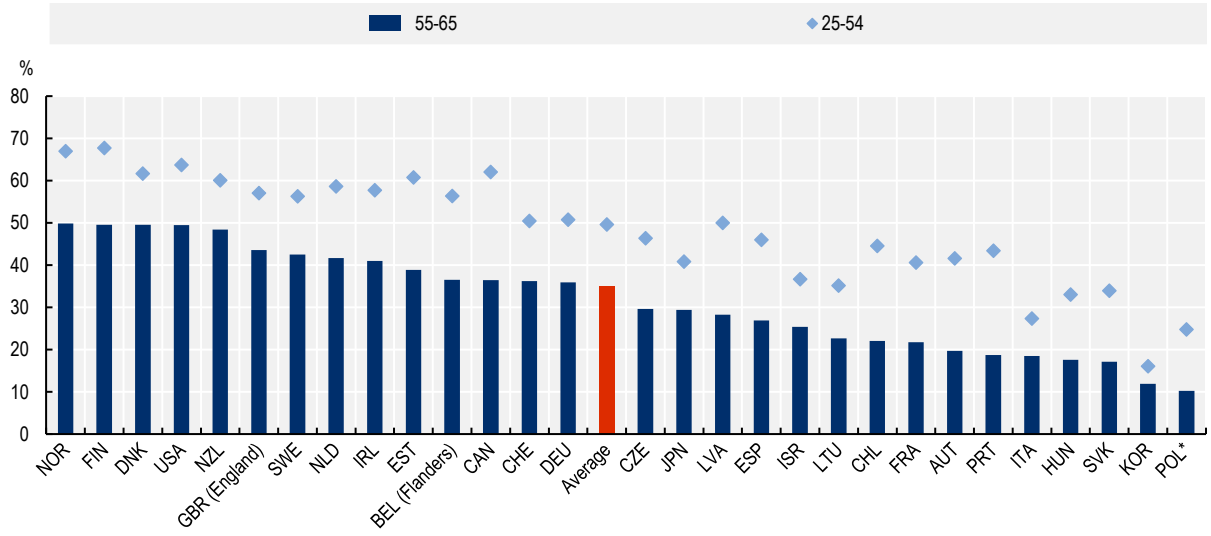
Moreover, employers who are a key source of funding for training are less likely to invest in the training of older workers. Over half of the non-formal training in which individuals participated in the year preceding the survey was at least partially funded by employers, making firms the leading source of financing for workforce development. The share of the population that received non-formal training funded by employers in the year preceding the survey decreases from about 30% among 30-44 year-olds to 22% among 55-59 year-olds and 14% among 60-65 year-olds. While this is partly due to lower employment rates at older ages, the share of employed individuals who participated in non-formal training funded by employers also decreases with age, from about 35% among 30-44 year-olds to 29% and 25% among the 55-59 and 60-65 year-olds, respectively.

4.2.2. Large differences in training participation of older workers are observed across countries in the OECD

While participation in non-formal learning of older individuals is lower than among the prime-age population (25-54 year-olds) in all OECD countries, both the level of participation among older people and the age gap differ significantly. The highest level of non-formal training participation among 55-65 year-olds is observed in Norway, Finland and Denmark (around 50%) (Figure 4.10). In contrast, the lowest non-formal training participation in this age group was recorded in Poland, Korea and the Slovak Republic (less than 20%). Non-formal training participation of older people is highly correlated with the training participation of prime-age individuals, but the age gap ranges from 4 to 26 percentage points. For example, Canada has the fourth-highest non-formal training participation of prime-age people but a significant age gap (26 percentage points), ranking only twelfth for non-formal training participation of older people.

Figure 4.10. Participation in non-formal learning among older people is lower than among prime-age individuals in all countries, but the gap and the level of participation differ

Participation in non-formal learning in the year preceding the survey, 25-54 year-olds and 55-65 year-olds



Note: *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en. Average is the weighted average of the countries shown.
Source: Survey of Adult Skills 2023.

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Learning-by-doing is also less common among older workers than it is among prime-age workers in all OECD countries, but the gap is narrower than for training. Learning-by-doing at least every week was most common among older workers in Portugal, Ireland and Spain (above 55%), and it was the lowest in Poland, Lithuania, Korea and Hungary (25% or less) (Annex Figure 4.A.7). While the intensity of learning-by-doing among older workers is correlated with the level of learning among prime-age workers, here, too, the overall level is not all that matters. For example, Italy and the Slovak Republic have a similar share of prime-age workers learning by doing, but while in the Slovak Republic the age gap was narrow, in Italy, a large age gap was observed, meaning that older workers were significantly less likely to learn on the job in Italy than in the Slovak Republic.

4.2.3. Older workers train less due to lower expected returns, but they may also be underestimating the benefits of training

One reason why older people are less likely to engage in training, and employers are less likely to fund their training, are lower expected returns on such investments due to shorter remaining working lives. Economic theory suggests that individuals make investment decisions by weighing expected returns against associated costs. Thus, a person is likely to pursue training only if its discounted returns outweigh both the financial and psychological costs involved. Since older workers generally have fewer years left in the workforce compared to their younger counterparts, the return on investment in training is lower for them. Consequently, lower participation in training among older workers is expected (OECD, 2019[8]; Picchio, 2021[36]). Similar arguments may apply to the decision to change jobs, which requires effort to learn new skills on the job to adapt to the new work environment (see Box 4.4) and to employers' decision to invest in the training of older workers.

Moreover, if acquiring new skills is more challenging for older workers than for younger ones, the increased difficulty raises the cost of learning, further lowering the expected returns on training. While such effects would be consistent with changes in fluid intelligence – the ability to solve problems in novel situations independently of acquired knowledge – which is found to decrease with age (Desjardins and Warnke, 2012[6]), evidence to suggest that older participants perform worse than their younger counterparts on tests after completing training is limited to software training (Charness and Czaja, 2006[38]). Moreover, the effectiveness of training for older workers may also depend on training methods, which are often designed to meet the needs of younger workers (Picchio, 2021[36]).

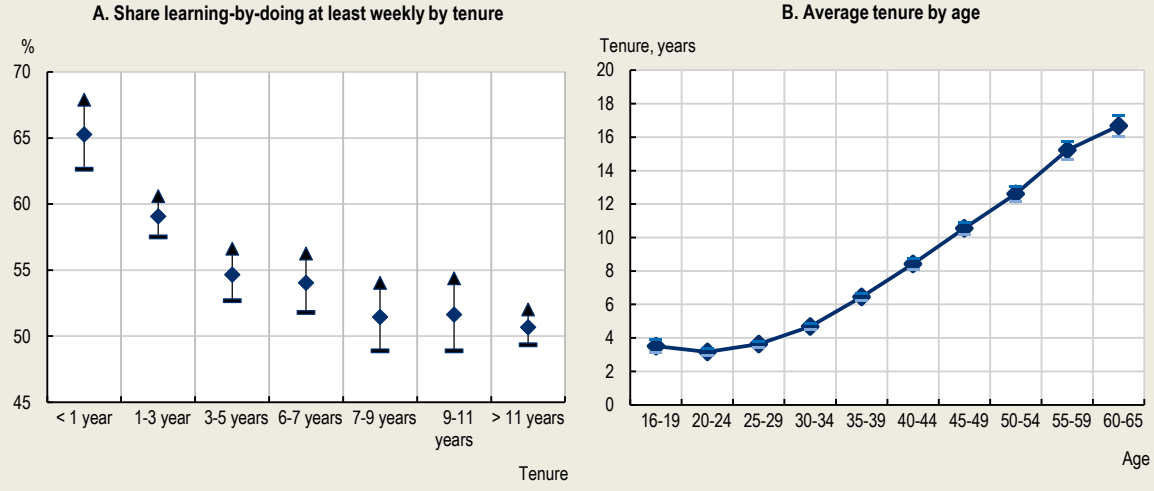
The age gap in non-formal training participation is larger in countries with lower effective labour market exit age,[17] especially for women (Figure 4.12).[18] This is consistent with individuals and firms making decisions about participation in training based on the return on investment. For example, in Korea, where the effective labour market exit age for women was the highest (67) in 2022, the gap in non-formal training participation of older and prime-age women was relatively small (11%). In contrast, in Poland, the Slovak Republic and Austria, where the effective labour market exit age of women was 61-62 in 2022, the participation in non-formal training of women aged 55-65 was less than half of the non-formal training participation rate of prime-age individuals.

Extending working lives – for example, through pension reforms – could lead to higher training participation if workers and firms make training investment decisions based on expected returns. Indeed, evidence suggests that pension reforms[19] in the Netherlands and Italy had a positive impact on the training participation of workers in their 50s (Montizaan, Cörvers and De Grip, 2010[39]; Brunello and Comi, 2015[40]). This is consistent with the findings of other studies, which show that a drop in mortality rates, which extended the potential period during which investment benefits can be reaped, increased investment in general human capital (Kalemli-Ozcan, Ryder and Weil, 2000[41]; Jayachandran and Lleras-Muney, 2009[42]). If the expected rate of return fully explained the lower training participation of older workers, this outcome could be efficient from the perspective of the individual, the employer and the economy.

Box 4.4. Lower job mobility of older workers might be contributing to lower learning-by-doing

Workers who stay in the same job for longer are more likely to develop job-specific skills and may eventually feel less need to learn new skills to meet the demands of the job they hold. This is consistent with evidence showing that workers with longer tenure at the company are less likely to be learning-by-doing, even after controlling for internal mobility within the company (Figure 4.11, Panel A). Given that job mobility declines with age – only 6% of 45-64 year-olds change jobs annually compared to 17% under the age of 30 (OECD, 2024[37]) – and tenure increases (Figure 4.11, Panel B), lower mobility could be responsible for lower learning-by-doing among older workers.

Figure 4.11. Older workers have lower job mobility, and learning by doing decreases with tenure



Note: Results from a regression controlling for 2-digit occupation, education, having moved to a different position in the company, having experienced a change in tasks and responsibilities and having moved to a different unit or department and country fixed effects. The 95% confidence interval are shown. Data for Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

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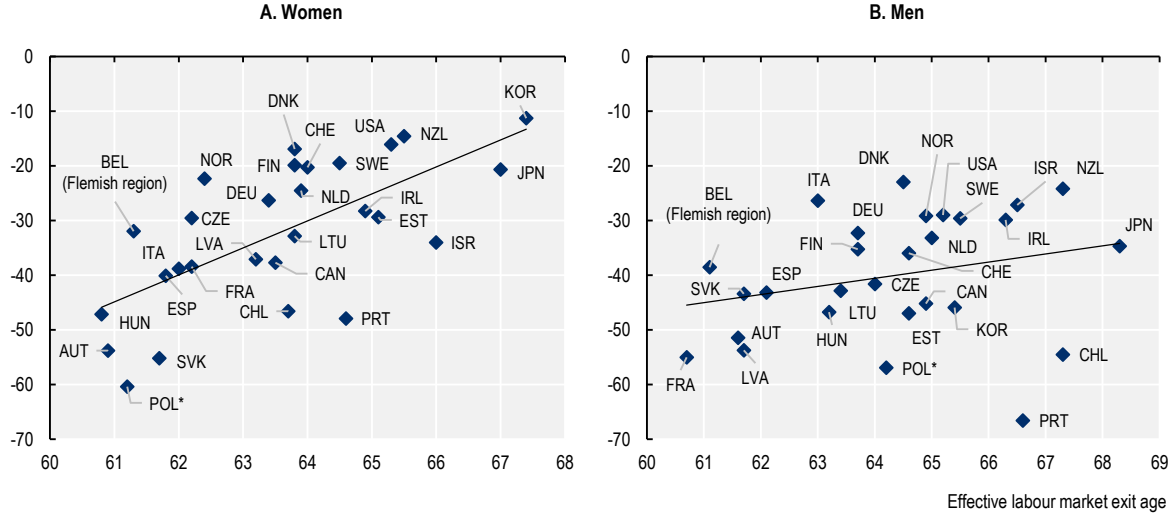
Figure 4.12. The gap in participation in non-formal learning between older and prime-age individuals is correlated with effective labour market exit age, especially for women

Difference between the participation rate in non-formal learning of 55-65 year-olds and 25-54 year-olds



Note: *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en.
Source: Survey of Adult Skills 2023 for training participation; effective labour market exit age based on OECD (2022), *Pensions at a Glance 2022*.

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However, there is a risk that individuals and employers may underestimate the returns on investment in training older workers and, therefore, choose an inefficiently low level of training participation, for example, if they believe that the ability of older workers to learn new skills is lower than it actually is. When hiring, employers expect mid-career and older applicants (aged 45 and above) to be a worse fit in terms of skills than younger applicants and to be less willing to learn new skills and try new technologies (OECD/Generation: You Employed, Inc., 2023[43]). These negative attitudes towards older workers may be partly driven by stereotypes. Evidence from correspondence studies shows that 50-year-old workers with the same qualifications and experience were less likely to be called back for interviews than younger workers due to discrimination (Baert, 2017[44]; Neumark, Burn and Button, 2019[45]; Carlsson and Eriksson, 2019[46]), and similar mechanisms may apply to firms' decisions to provide training. Moreover, older workers themselves may have lower confidence in their own ability to learn new skills, as they are less used to learning (Posthuma and Campion, 2009[47]). Individuals may also choose a level of training participation that is below the socially optimal level if the returns on investment are primarily captured by employers (see also Section 4.3.2).

Finally, if training postpones the decision to retire, the socially optimal level of training participation of older workers may be higher than the one chosen by the individual or their employer, given that keeping older individuals in the workforce increases output and tax revenues and reduces pension benefit payments – see also Chapter 2. Research is, however, inconclusive about the effect of training on the employment of older workers and retirement decisions, with the results ranging from positive (Herrbach et al., 2009[48]; Kristensen, 2012[49]; Piccio and van Ours, 2013[50]; Berg et al., 2015[51]) to no effect (Stenberg, de Luna and Westerlund, 2012[52]; Boockmann, Fries and Göbel, 2018[53]).

Both social returns to training in excess of individual returns and the underestimation of the return on training investment by individuals and firms would justify government intervention to lower the cost of training for older workers.

4.3. Policy solutions: Support mid-career and older workers now to age better tomorrow

To avoid mismatches at older ages, workers should regularly reassess their skills and career objectives and participate in training to bridge any skills gaps. Governments can aid these efforts by offering low-cost career guidance services and promoting lifelong learning opportunities that reflect the learning needs of workers at different ages. This section presents examples of government interventions that facilitate access to career guidance and adult learning opportunities for older people and discusses preventive measures targeting mid-career individuals that can help workers age better – see Chapter 3 for policies that support better use of skills within firms.

4.3.1. Career guidance for adults

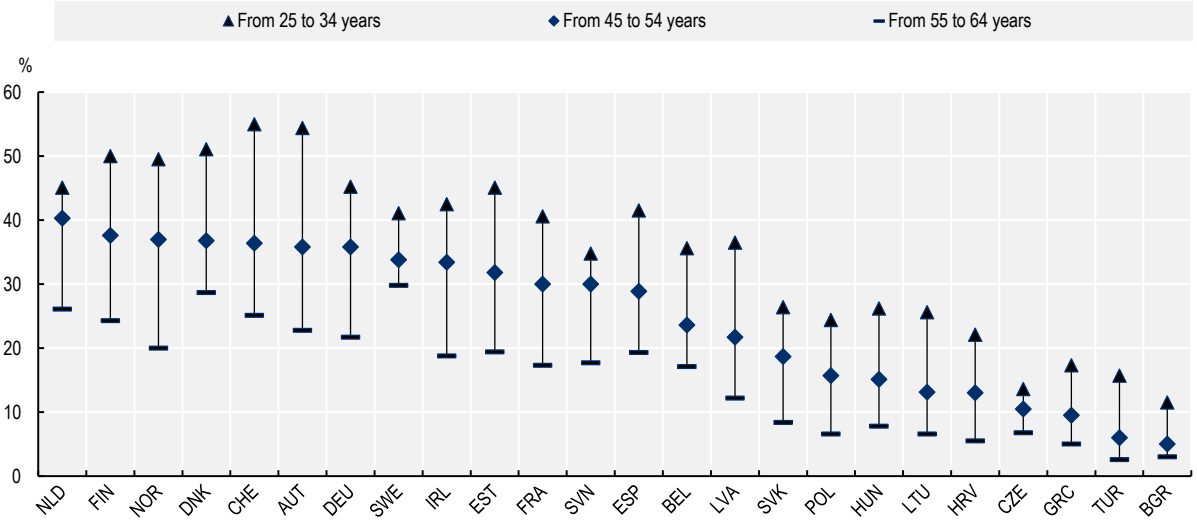
Career guidance can support adults in reflecting on their professional journeys and identifying steps to achieve a satisfying career as they age. First, advisors can assist individuals in assessing whether their current roles and skills align with their ambitions and labour market demand, while also considering their ability to sustain their jobs over time. Based on such assessments, advisors can suggest pathways for career progression or occupational shifts and propose training courses that will help the individual achieve their new career objectives. While the literature on the impact of career guidance for employed individuals is limited, offering career guidance to job seekers at risk of long-term unemployment in France was shown to increase the probability of finding a job (J-PAL, 2015[54]) and in the United States, individualised career guidance offered to job seekers increased the probability of finding a job as well as the salary and fringe benefits of those jobs (Mathematica, 2019[55]) – see also Chapter 3.

Yet, the use of career guidance remains low in many OECD countries, especially among mid-career and older individuals. In 2020/21, 38% of mid-career adults (40-54 years olds) and 27% of older adults (55-64 year-olds) in countries that participated in the OECD's Survey of Career Guidance for Adults had spoken to a career advisor in the preceding five years. That was significantly lower than the use of career guidance among younger people (25-39 year-olds), at 49% (OECD, 2021[56]; 2022[57]).[20]

While internationally comparable data for a broader number of countries is limited, the Adult Education Survey shows that similar patterns are observed for how often workers looked for information on learning opportunities. Mid-career workers (45-54 year-olds) and older workers (55-64 year-olds) are less likely to look for information on learning opportunities than younger workers (25-34 year-olds) (Figure 4.13). The highest share of mid-career workers who looked for information was recorded in the Netherlands (40%) and the lowest in Türkiye and Bulgaria (6% and 5%, respectively).

Figure 4.13. Mid-career and older individuals are less likely to look for information on learning possibilities than younger people

Share of individuals who searched for information on learning possibilities by age, 2022



Source: Eurostat (2024), "Search for information on learning possibilities by type of learning and age", Adult Education Survey, https://doi.org/10.2908/TRNG_AES_183 (accessed on 28 May 2025).

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To increase the use of career advice services among adults and prevent skills mismatches at older ages, some OECD countries offer free or subsidised career advice services. While such services are commonly provided to unemployed individuals, schemes available to all adults, regardless of their employment status, also exist. For example, in Switzerland, individuals aged 40 or older can take advantage of free professional assessments, provided they are not already eligible for similar services due to unemployment status or disability. In Flanders and Brussels, adults who have at least seven years of work experience are eligible for "career vouchers" to participate in subsidised career guidance sessions delivered by accredited providers (see Box 4.5). Skills Development Scotland centres offer free advice to people regardless of age (Skills Development Scotland, n.d.[58]). In France, funding available to adults under individual learning accounts can be used to cover the cost of career advice services. In a number of countries, such as Austria, Germany and Estonia, Public Employment Services provide career guidance to all adults regardless of their employment status (OECD, 2021[56]). Finally, in Singapore, an initiative called Volunteer Career Advisors matches individuals, especially mature workers, with experienced professionals in the selected industry who provide peer-level support and career guidance to help the individual advance their career or transition to other jobs (see Box 4.5).

Box 4.5. Career advice services for adults in Belgium, Singapore and Switzerland

Career Counselling for those aged 40 and over, Switzerland

Under the Viamia scheme in Switzerland, individuals aged 40 and over are offered a free professional assessment, provided they are not already eligible for similar services due to unemployment or disability. The process begins with participants completing a self-assessment questionnaire that focuses on their skills and motivation, along with submitting their CV. This is followed by a one-on-one

interview with a counsellor to analyse their personal and professional situation in light of current labour market trends and demands. If one session is not sufficient, additional interviews are arranged. The process concludes with the participants, supported by the counsellor, defining concrete actions to maintain or improve their employability.

Viamia is a joint initiative of the Swiss federal government and the cantons. It was launched in 2021 as a pilot in 11 cantons and expanded nationwide in 2022. Between 2021 and 2024, a lump sum of CHF 1 200 was allocated per participants, which was estimated to cover six hours of counselling. In the period 2022-23, 13 169 individuals benefited from the scheme, out of whom the vast majority were women (70%), employed individuals (82%) and 40-50 year-olds (71%).

Participant feedback has been overwhelmingly positive, with an average satisfaction rating of 5.5 out of 6, and 98% of participants indicating they would recommend the programme to others.

Career vouchers in Flanders and Brussels, Belgium

In Flanders and Brussels, workers can use career vouchers (*loopbaancheques*) to participate in subsidised career guidance sessions. Individuals can benefit from two vouchers every six years. The first voucher allows them to participate in 4 hours of guidance, and the second one in 3 hours of guidance provided at a recognised career centre. The co-payment from the individual to use the voucher is EUR 45, while the estimated cost of career guidance is EUR 182 per hour (i.e. EUR 1 274 for seven hours). To be eligible, individuals need to live in Flanders or Brussels, be employed and have at least seven years of work experience in paid employment or self-employment. Individuals can apply for the voucher online on the VDAB portal, where the list of career centres can also be found.

Between 2013 (when the scheme was set-up) and 2021, 155 000 citizens, or 5.2% of the employed population, used the vouchers. In 2024, 41% of participants were 30-40 years old and 33% were 40-50 years old, which was significantly above the share of the employed that the respective age groups constitute (25% and 25%). Workers above the age of 50 were underrepresented (22% of participants and 32% of the employed). Career guidance centres participating in the scheme are required to demonstrate that at least 30% of the individuals they served belonged to disadvantaged groups, which includes those above the age of 50.

Volunteer Career Advisors initiative, Singapore

Under the Volunteer Career Advisors initiative, Workforce Singapore is building a pool of advisors from professional communities. These advisors are then matched with individuals, especially mature workers, who are employed in the same sector or who are looking to join the sector and seek peer support and career guidance. The initiative has been launched for the Accountancy, Electronics & Semiconductors, Healthcare, Information & Communication Technology, Sustainability and Retail sectors, and will be progressively rolled out in more sectors. The initiative is part of a broader SkillsFuture Mid-Career Support Package (see more details in Box 4.6).

Note: Employment data refers to Belgium.
Source: Scheme in Switzerland: The Federal Department of Economic Affairs, Education and Research (n.d.[59]), *Viamia*, https://viamia.ch/fr/#kontakt; Ecoplan (2024[60]), Évaluation de viamia: Mise en œuvre et effets de l'offre, https://formationprofessionnelle2030.ch/images/projekte/viamia/Rapport_final_Evaluation_de_viamia_2023_Ecoplan.pdf; Scheme in Belgium: VDB (2021[61]), Monitoringsrapport Loopbaanbegeleiding, https://extranet.vdab.be/system/files/media/bestanden/2022-03/Monitoring%20Loopbaanbegeleiding%202021_2.pdf; VDAB (n.d.[62]), Alles over loopbaancheques, www.vdab.be/orienteren/loopbaanbegeleiding/alles-over-loopbaancheques; VDAB (2024[63]), Cijfergegevens Volledig, https://extranet.vdab.be/system/files/media/bestanden/2025-01/Cijfergegevens%202024.pdf; Eurostat (2025[64]), " Employment by sex, age and citizenship", https://doi.org/10.2908/LFSA_EGAN; Scheme in Singapore: Workforce Singapore (2025[65]), *Volunteer Career Advisors Initiative*, www.wsg.gov.sg/home/individuals/attachment-placement-programmes/volunteer-career-advisors-initiative.

Making career advice available may not be sufficient, and additional outreach efforts may be needed to boost the use of career guidance services. In the OECD's Survey of Career Guidance for Adults, the second most common reason for not using career advice services, indicated by about 20% of mid-career individuals who did not participate in career guidance, was the lack of knowledge that such services existed. Similarly, a survey in Australia found that 42% of 50-69 year-olds did not know where to access career advice (National Careers Institute, 2022[66]). Moreover, many individuals do not feel the need to use career advice services, which was the most common reason cited for non-participation in the OECD's Survey of Career Guidance for Adults. Half of mid-career women and 60% of mid-career men did not use career advice services because they did not think they needed them (OECD, 2021[56]). While for many of those individuals, that may be a rational choice, for others, it may be a result of the underestimation of opportunities and benefits that career advancement or change can offer.

The field of healthcare could serve as a model for proactive early engagement with individuals to help prevent adverse outcomes later in life. Many countries contact individuals who reach a certain age and invite them to participate in health screenings to identify health problems early, such as mammography for women who turn 45. Similar outreach and tests, in the form of career guidance sessions, could be conducted to test the "health" of one's career and prevent, rather than cure, any skill gaps. Statistical profiling could be used to predict an individual's likelihood of leaving the labour force early and reach out only to those at high risk to reduce the cost of the intervention.

Employers can also play an important role in supporting employee career development through regular career conversations and/or mid-career reviews (OECD, 2024[67]). For example, in France, employers are required to regularly provide career guidance to their employees. In 2008, France adopted a law that puts an obligation on companies to prepare "older workers" plans either in-house or in collaboration with social partners, which was subsequently replaced in 2013 by a requirement to conduct an appraisal review with all employees, regardless of age, every other year. Schneider Electric is an example of a French multinational company that put in place a Senior Talent Program to support workers in the late stages of their careers (aged 51 and above), which includes workshops that prepare both experienced workers and their managers to engage in *career conversations* at least once a year (OECD, 2024[68]). However, this approach should not be thought of as a replacement for career advice provided by an independent career guidance organisation, given that it is likely to focus on an individual's future career within the existing organisation without considering the opportunities in different sectors or areas of activity (Eurofound, 2017[69]).

4.3.2. Support to participate in training for mid-career and older individuals

Training is another key lever for enhancing older workers' skills and productivity, and policy makers play an important role in encouraging investment in training by both individuals and employers.

In this context, a key question faced by policy makers is whether to support lifelong learning for all or to introduce additional measures specifically targeting mid-career and older workers. As discussed in the preceding section, the returns to training decrease with age due to a shorter remaining working life, which reduces the incentives for both employers and individuals to pay for training at older ages. If social returns to training are higher than private returns, for example, because training participation delays retirement, thus reducing the government's pension spending, providing additional financial incentives to older individuals and their employers may be socially desirable. Similarly, additional support for mid-career and older workers may be appropriate if they are sufficiently distinct from younger individuals in terms of educational attainment or behavioural aspects such as risk aversion, making them more likely to choose an inefficiently low level of training than younger individuals.

Evidence from Denmark suggests that current rates of training are sub-optimal for workers between the ages of 40 and 50 in particular, both from the government and individual perspectives. A study which analysed the returns to a reskilling subsidy after a workplace injury found that only 6% of middle-aged

workers reskilled after injury, while the costs to the government (covering tuition and benefits during training) pay for themselves through higher taxes and lower future benefit payments for 36% of these workers. A similar take-up of reskilling was found to be optimal from individual and social perspectives. By contrast, the reskilling rates among the youngest and oldest workers (age 20-30 and 60-65, respectively) were found to be close to the social optimum (Humlum, Munch and Plato, 2023[32]). While it is uncertain whether these results generalise to other contexts and countries, they suggest that underinvestment in training may differ by age, potentially providing justification for additional support for specific age groups.

Several OECD countries provide more substantial financial incentives for firms to invest in the skills of mid-career and older workers, or prioritise older workers when distributing funding for training. For example, in Germany, firms can receive subsidies (*Förderung Beschäftigtenqualifizierung nach §82 SGB III)* that cover between 25% to 100% of expenses associated with staff training depending on the company size and the characteristics of workers, with training costs of workers over the age of 45 being fully covered for companies with less than 500 employees (Bundesagentur für Arbeit, 2025[70]). In Austria, employers can obtain funding for the training costs of certain groups of workers (*Qualifizierungsförderung für Beschäftigte*), one of them being individuals above the age of 50. The subsidy covers 50% of the training fees, up to the limit of EUR 10 000 per person (Bundesministerium für Arbeit und Wirtschaft, 2024[71]). In Poland, employers can apply for funding to cover the training costs of their employees from the National Training Fund (*Krajowy Fundusz Szkoleniowy*), with 80% of costs covered for SMEs and 100% for microenterprises. While the overall funds available each year are capped, priority is given to the training for workers who are 45 years old or older (Wojewódzki Urząd Pracy w Krakowie, 2024[72]).

In Singapore, additional funding for training is offered directly to mid-career individuals without the need for employer support, which boosts individual choice and responsibility with regard to training. Higher subsidies to participate in training, in some cases above 90%, are offered to individuals who are 40 or older. The remaining costs can be covered through *SkillsFuture Credit*, which operates like an individual learning account. In addition, Singapore is planning to introduce an income-replacing allowance for mid-career individuals participating in selected full-time training programmes (see Box 4.6). In Ireland, subsidised upskilling and reskilling courses (*Skills to Advance*) target workers aged 50 or older, among other vulnerable groups (Solas, n.d.[73]).

Box 4.6. Support to participate in adult learning for mid-career individuals in Singapore

Singapore offers additional funding for training to mid-career and older individuals in addition to its already generous funding for adult learning. First, the Mid-Career Enhanced Subsidy, available to Singaporean citizens aged 40 and above, covers at least 90% of fees for courses funded by the Ministry of Education and up to 90% of courses funded by SkillsFuture Singapore. These courses range from technical and vocational education programmes to postgraduate level.

In addition, Singapore offers SkillsFuture Credit, which operates like an individual learning account. All citizens aged 25 and above receive SGD 500 (EUR 350), which can be used to participate in approved training. The funding can be used at a time convenient for the individual and does not expire. In 2024, those aged 40 and above received a top-up of SGD 4 000 (EUR 2 800) to upgrade their skills. While the selection of courses for individuals 40+ is more restrictive than for the general population, it still includes approximately 7 000 courses, which are listed on MySkillsFuture website.

The support measures can be used jointly. For example, a course worth SGD 17 200, costs only SGD 1 720 after the Mid-Career Enhanced Subsidy and the remaining costs can be covered through the SkillsFuture Credit, meaning that there are no out-of-pocket expenses for individuals aged 40+.

Finally, in early 2025, Singapore is planning to introduce a new SkillsFuture Mid-Career Training Allowance, which will offer income replacement to those participating in selected full-time, long-form programmes. The allowance will be 50% of the average income of the individual over the last 12-month period, capped at SGD 3 000 (EUR 2 100) a month. The individuals will be able to use the allowance for up to 24 months over their lifetime.

Source: Skills Future Singapore (2025[74]), SkillsFuture Mid-Career Enhanced Subsidy, www.skillsfuture.gov.sg/initiatives/individuals/enhancedsubsidy; SkillsFuture Singapore (2025[75]), SkillsFuture Level-Up Programme, www.myskillsfuture.gov.sg/content/portal/en/career-resources/career-resources/education-career-personal-development/SkillsFuture_Level-Up_Programme.html?_gl=1*ptwrgi*_gcl_au*MzY4Nzc4OTI3LjE3MzY3ODA1MT.

Broader financial support for adult learning, regardless of age, that enables individuals to access training opportunities at any stage of their career can also help workers age better. This can be implemented through individual learning accounts (ILA), which provide individuals with a budget to spend on training at any point in their lives.[21] Examples of countries that either have an ILA scheme or are piloting one include France, Singapore, Lithuania and Czechia. Greece has established a legal framework for ILAs, offering more generous funding depending on characteristics, such as age, and is preparing to pilot the scheme. A similar scheme, but focused on loans, where individuals are offered subsidised loan entitlement that can be used for education and training throughout life, is being piloted in the United Kingdom (*Lifelong Loan Entitlement*). Instilling the lifelong learning mindset from an early age and providing individuals with opportunities to upgrade their skills throughout life will not only improve their labour market position but is also likely to encourage them to seek training at an older age.[22]

Another important question is how the cost of training should be shared between the labour market participants. Employers are well-positioned to ensure workers are equipped for a changing labour market, given that research suggests that they often reap substantial returns from training. For example, in France and Sweden, firms were found to capture 70% and 65% of the returns to firm-sponsored training, respectively (Ballot, Fakhfakh and Taymaz, 2006[76]) and, in the United Kingdom, work-related training was associated with a higher increase in productivity than in wages (Dearden, Reed and van Reenen, 2006[35]). However, social returns to training in excess of private returns may justify the government also sharing the cost of the training investment.

To ensure fair funding responsibilities, collective bargaining can be leveraged, as was done in Sweden to introduce financial support to participate in training based on *Education Support for Transition (Omställningsstudiestöd)* agreement. Collective bargaining can also help ensure that upskilling efforts translate into higher wages and opportunities for career progression, thereby increasing the incentives for individuals to participate in training. Where funding for training is offered via government schemes, cost-sharing between the government and employers can be facilitated through the introduction of a firm levy scheme, used to partially finance a dedicated training fund. For example, in France, employers are obliged to contribute to professional training (*Contribution à la Formation Professionnelle*, CFP), which finances various skills development initiatives, including the ILA.

Yet, financial support alone may not be enough to boost the training participation of older workers, especially those with lower qualifications and skills. In Lithuania, France, Czechia and the Netherlands, 30-49 year-olds were the main beneficiaries of ILAs and were overrepresented among its users compared to the general population, while those above the age of 50 and below the age of 30 were underrepresented (OECD, 2025[77]).

Outreach strategies involving social partners, Public Employment Services, and local community organisations, followed by career guidance, can help individuals of all ages identify skill gaps and motivate them to engage in training. For example, Unionlearn, part of the British trade union umbrella organisation, supports skills development through a network of Union Learning Representatives. These

workplace-based union members assess employees' learning needs and co-ordinate training activities in collaboration with employers (Unionlearn, 2024[78]). Public Employment Services and community-based organisations can further promote training participation, including among those outside the workforce.

In addition, it is important that adult learning systems offer mechanisms for recognition of prior learning and provide flexible learning options that respond to the constraints that adults are facing, such as lack of time due to work and family responsibilities. Experienced workers often possess skills gained through informal on-the-job learning, which are difficult to showcase through formal qualifications. The availability of recognition of prior learning systems allows adults to formally validate the knowledge they have acquired in an informal setting, which can not only directly improve the job prospects of older workers by making their skills visible to employers, but also facilitate participation in adult learning (OECD, 2019[22]). This is because recognising existing competencies, combined with shorter, modular courses, helps increase the relevance of training schemes by allowing individuals to focus only on content that addresses their skill gaps, shortens training duration and lowers its cost.

Finally, adapting the content of training to the needs of older workers may increase the effectiveness of training. Research suggests that the training currently on offer may be less effective for older workers because it does not relate to their everyday experiences (Schirmer et al., 2022[79]) or focuses on abstract technical content rather than practical work problems (Zwick, 2011[80]). Here, too, collective bargaining can be leveraged to identify and articulate workers' training needs (OECD, 2019[81]).

4.4. Concluding remarks

As the workforce in OECD countries gets older, it is increasingly important to ensure that workers stay productive as they age. The economic changes which shift occupational composition away from jobs that require physical work and towards those that value experience may make it possible for workers to remain productive for longer. However, there is a risk that these benefits will be offset by a decline in skills with age. Today, older workers tend to be at a disadvantage in terms of the information-processing skills they possess. The decline in information-processing skills within cohorts over the past decade and slower adjustment to labour market changes among older workers suggest that, if no action is taken, these age gaps in skills may persist in the future, which may weaken older worker's capacity to remain in employment as well as hinder economic dynamism and slow down productivity growth, potentially weighing on the broader economy.

To address this risk, there is a need for an urgent shift from the traditional three-stage (school, work, retirement) life model to a more flexible one where learning and work take place throughout life. Governments can help make that a reality by facilitating access to career guidance and adult learning, particularly focusing on mid-career and older workers, for whom the underinvestment in skills is the greatest. The field of healthcare could serve as a model for proactive early engagement with individuals to help prevent adverse outcomes later in life. Outreach and tests, in the form of career guidance sessions, could be conducted to test the "health" of one's career and prevent, rather than cure, any skill gaps. To keep this process cost-effective, these sessions could be limited to individuals who statistical profiling suggests are most at risk of early exit from the labour force, such as those with lower educational attainment. Individual learning accounts could also be leveraged to boost training participation. Their advantage is that they not only provide individuals with funding to upgrade their skills throughout life but also allow governments to flexibly offer additional top-ups to target groups, for example, mid-career and older workers, when such needs arise.

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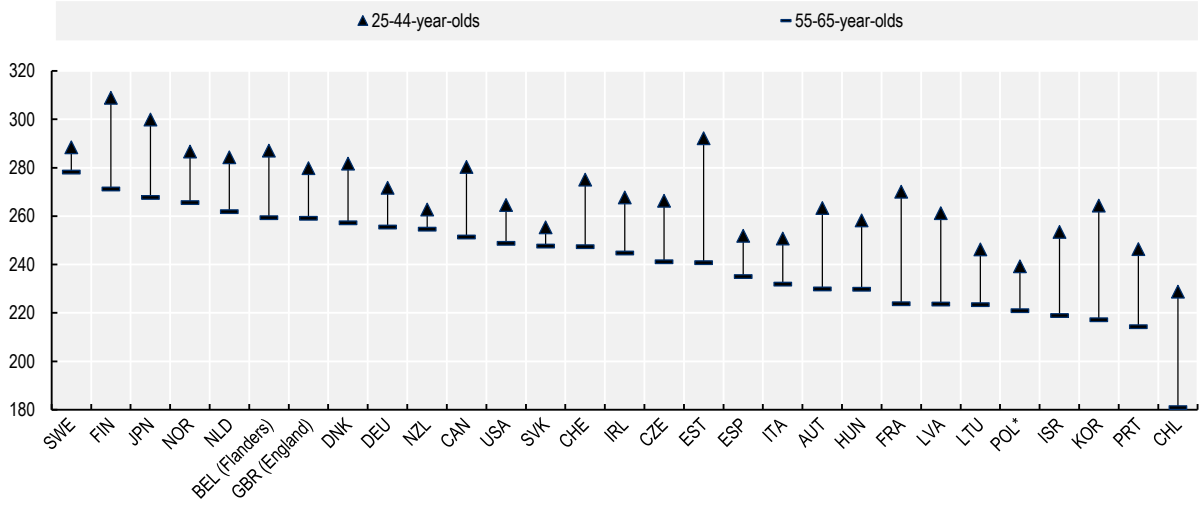
Annex 4.A. Additional results

Annex Figure 4.A.1. Literacy scores are lower among older people

Unadjusted literacy scores by age group and country

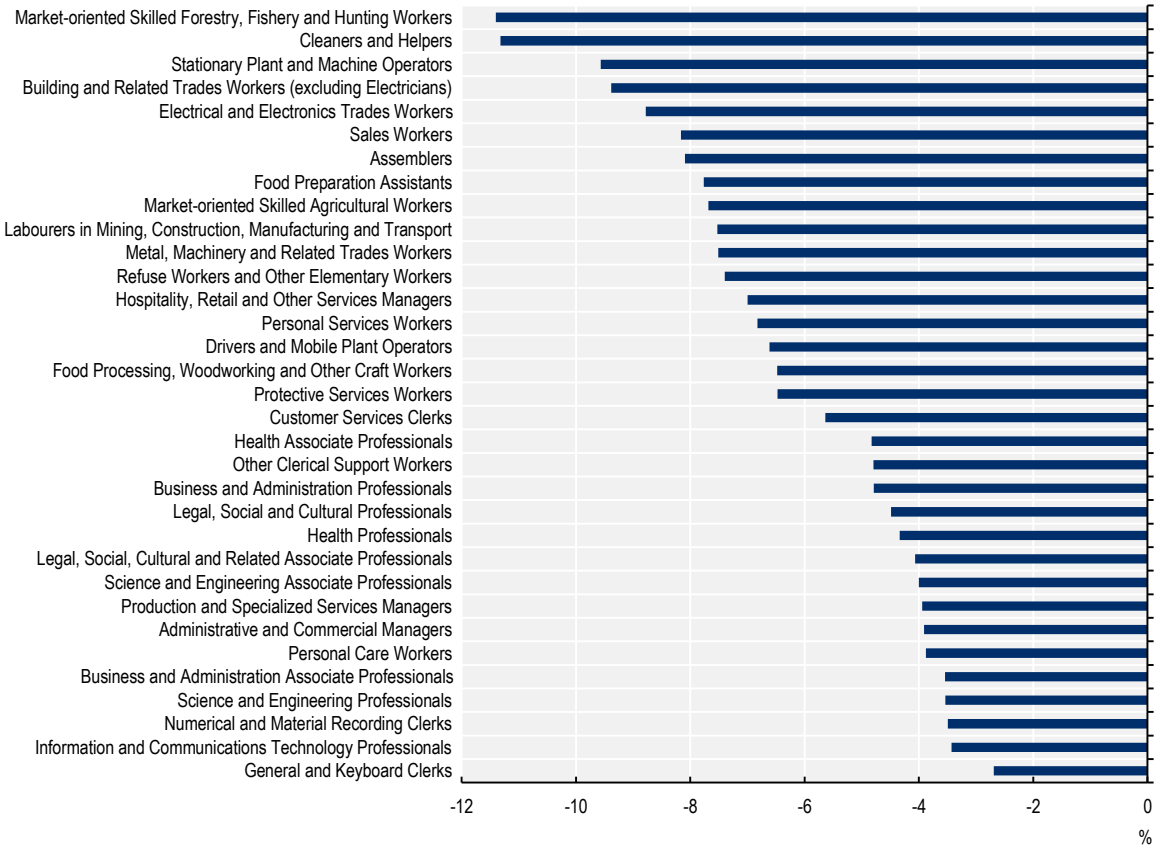


Note: The difference in literacy scores between 25-44 and 55-65 year-olds is not statistically significant in New Zealand. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en.
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/zj1q36

Annex Figure 4.A.2. The decline in skills proficiency over the last 10 years differs significantly across occupations

Percentage difference in literacy proficiency between 2012 and 2023 for those who were 25-54 years old in 2012, controlling for gender and place of birth, by occupation

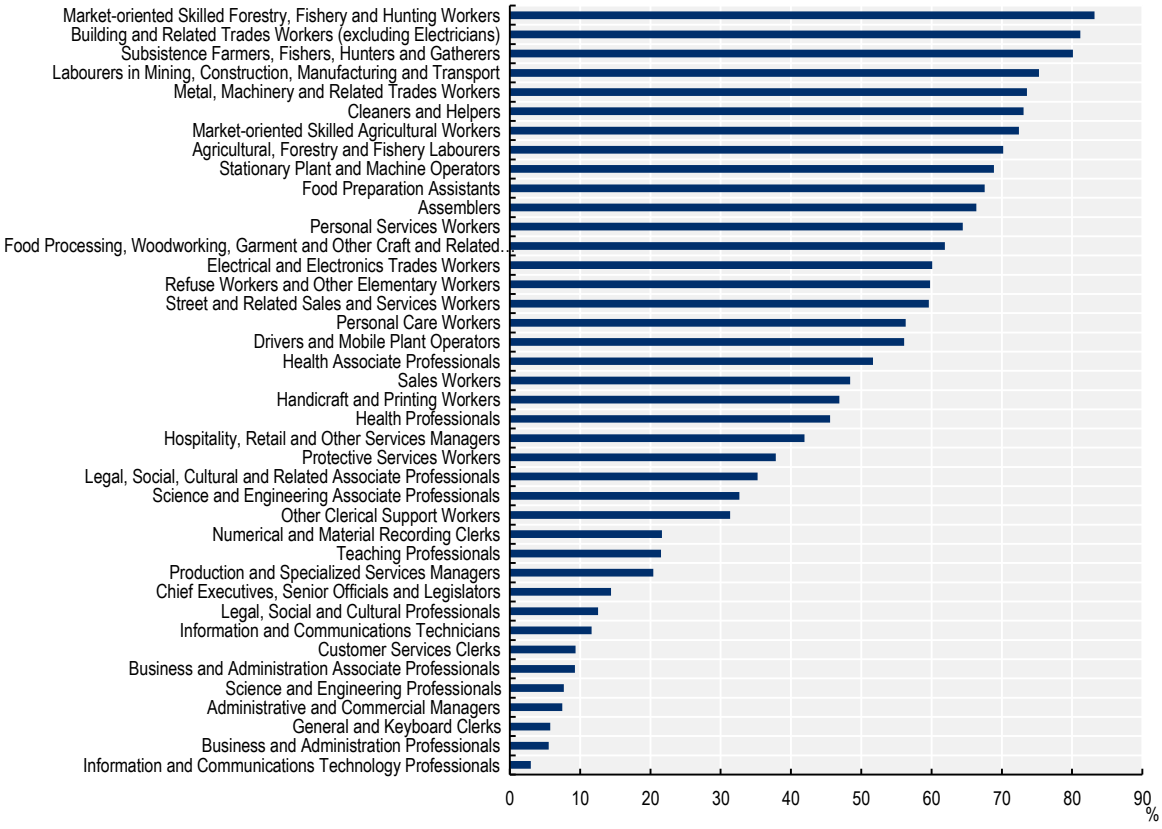


Note: Occupations shown are those for which the estimates are statistically significant at the 5% level. Weighted average of Austria, Flemish Region (Belgium), Canada, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden and the United States.
Source: 2012 and 2023 Survey of Adult Skills.

StatLink https://stat.link/68u5ip

Annex Figure 4.A.3. The physical intensity of jobs differs across occupations

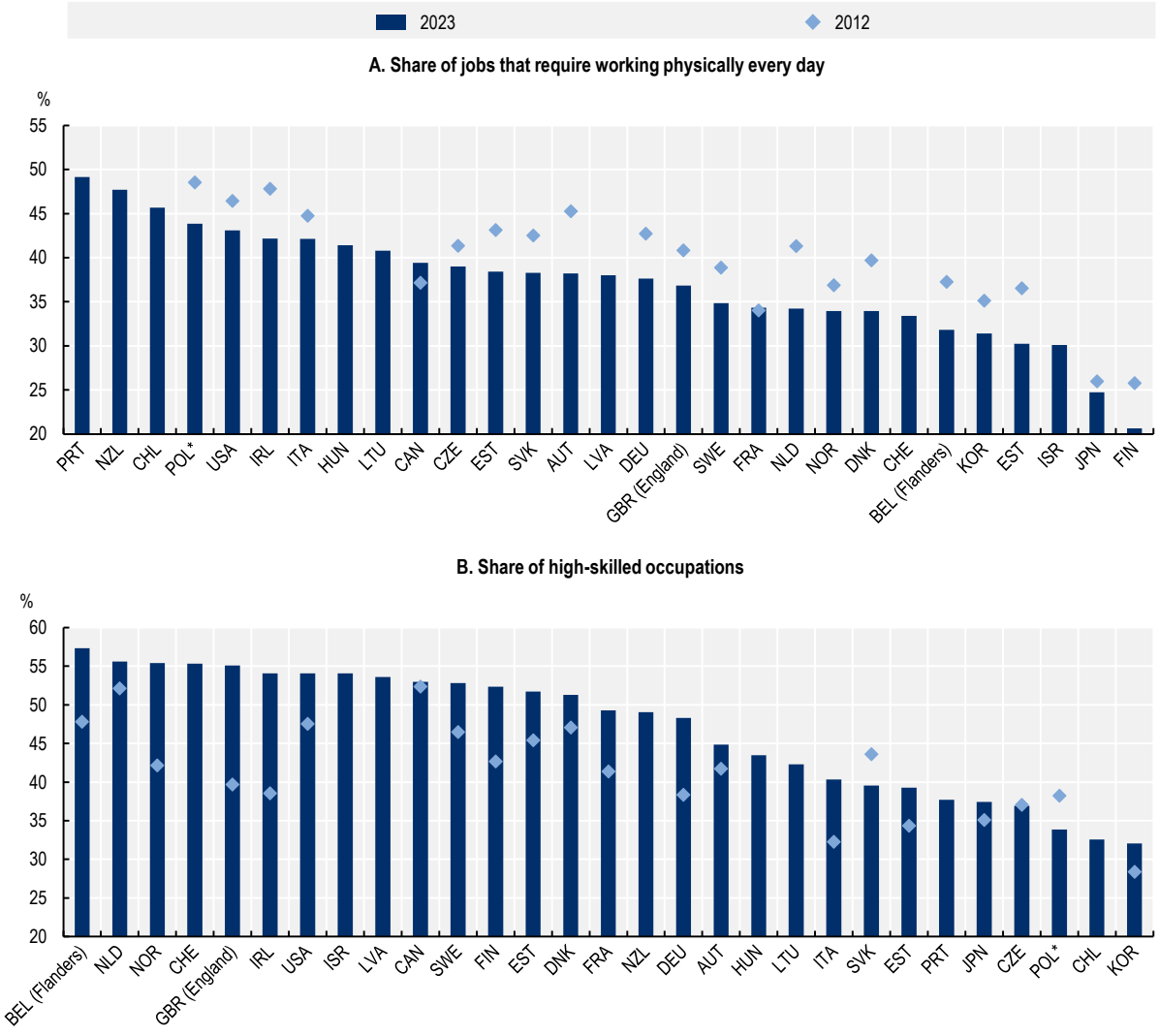
Share of workers working physically every day by occupation



Note: Weighted average of Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/7c81e3

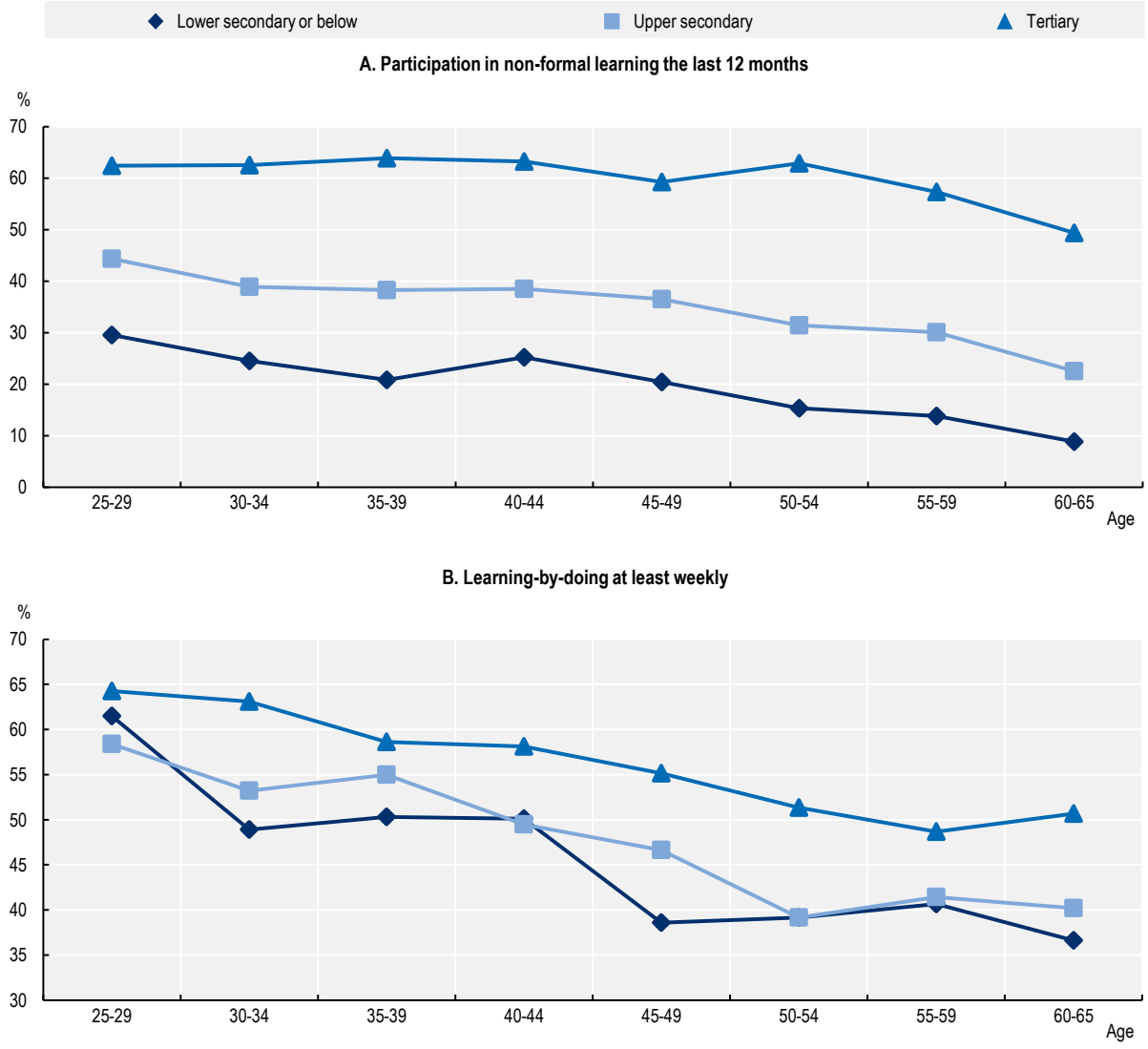
Annex Figure 4.A.4. The share of jobs that require working physically decreased in most OECD countries, while the share of high-skilled occupations increased



Note: High-skilled occupations include Managers, Professionals and Technicians and Associate Professionals. Panel A shows the share of workers who report that their job involves working physically for a long period every day. *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en.
Source: 2012 and 2023 Survey of Adult Skills.

StatLink https://stat.link/b5mp3g

Annex Figure 4.A.5. Training participation and learning-by-doing differ across education levels

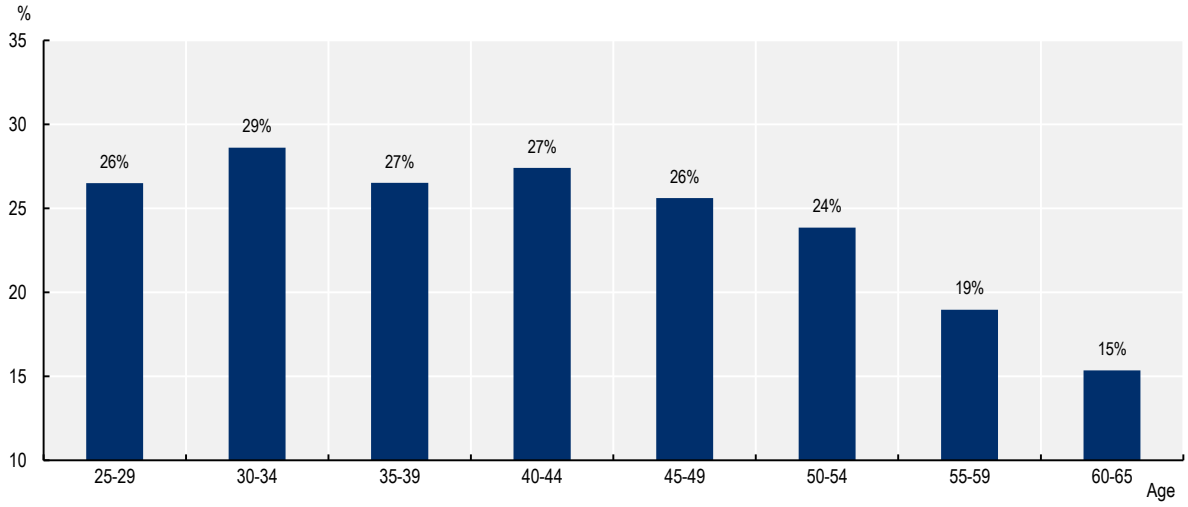


Note: Weighted average of Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/u29ish

Annex Figure 4.A.6. The share of the population that participated in training less than they wanted to decreases with age

Share of the population that participated in training less than they wanted to

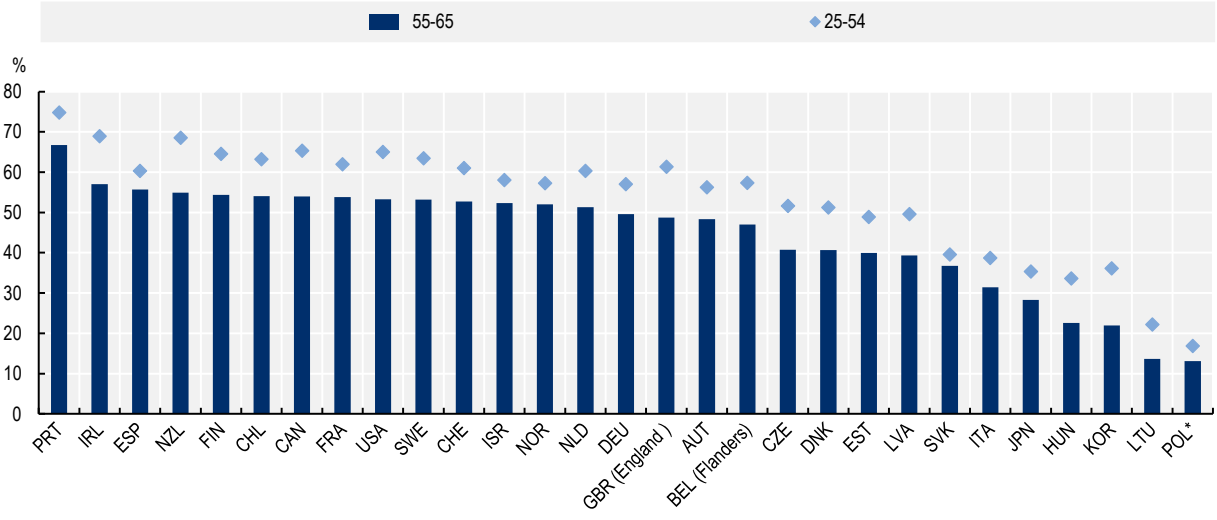


Note: Weighted average of Austria, Flemish Region (Belgium), Canada, Chile, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland and the United States.
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/dn09xp

Annex Figure 4.A.7. Learning-by-doing differs across countries

Share of workers who were learning-by-doing at least weakly, 25-54 year-olds and 55-65 year-olds



Note: *Caution is required in interpreting results due to the high share of respondents with unusual response patterns – see the Note for Poland in OECD (2024[10]), *Do Adults Have the Skills They Need to Thrive in a Changing World?: Survey of Adult Skills 2023*, https://doi.org/10.1787/b263dc5d-en.
Source: 2023 Survey of Adult Skills.

StatLink https://stat.link/qeatx0

Notes

[1] In the first cycle of OECD Survey of Adult Skills, problems solving in technology-rich environment was measured. This concept was defined as “the ability to use digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks” (OECD, 2013[84]).

[2] In the 2023 Survey of Adult Skills, adaptive problem-solving was measured instead of problem-solving in a technology-rich environment. Adaptive problem solving was defined as: “the capacity to achieve one’s goals in a dynamic situation in which a method for solution is not immediately available. It requires engaging in cognitive and metacognitive processes to define the problem, search for information, and apply a solution in a variety of information environments and contexts” (OECD, 2024[10]).

[3] On average, literacy and numeracy skills decreased compared to 2012 for a weighted sample of data from Austria, Flemish Region (Belgium), Canada, Czechia, Denmark, England (United Kingdom), Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, Norway, Poland, the Slovak Republic, Spain, Sweden and the United States

[4] However, caution should be taken when extrapolating from the wage-skills link to the productivity-skills relationship, as recent literature questions the equivalence between wages and productivity (Caplin et al., 2023[82]).

[5] Even if skills do not decline with age, people who are young today may have lower information-processing skills today and when they are older compared to young people of the future, e.g. if the future generations have higher educational attainment.

[6] The second cycle of the Survey of Adult Skills, was designed to ensure the results are comparable with those of the first cycle. However, some innovations have been introduced to improve the content, design and delivery of the assessment and, as a result, the assessments in both cycles are not identical. Please see (OECD, 2024[10]) for more detailed information about methodological changes between the cycles.

[7] Policy response is also needed to prevent the overall decline in information-processing skills, which might be due to e.g. lower quality of education that focuses on standardised tests rather than developing critical thinking and analytical skills, a decline in attention spans due to consumption of fast digital content or other impact of technological change.

[8] Older workers (45-65 year-olds) are approximately 2 percentage points less likely to be over-qualified than younger workers (25-44 year-olds) on average, though this pattern is not statistically significant in many countries.

[9] The average age of the working population rose by 3.3 years during 1980 through 2005.

[10] However, this pattern may be the result of older workers being less likely to hold jobs that require the use of ICT even within the same 2-digit ISCO occupation and not necessarily because they lack the necessary skills.

[11] For example, among the 25-29 year-olds, earnings of the top 25% and top 10% earners are 40% and 91% higher than of the median earners, respectively. In contrast, among the 60-65 year-olds, the top 25% earn 67% more than the median, and the top 10% earn 3 times the median.

[12] Among workers in physically demanding occupations (elementary occupations, plant and machine operators and assemblers), more than 30% said they will not be able to continue working until the age of 60, as compared to 20% among professionals and clerical support workers (EU-OSHA, Cedefop, Eurofound and EIGE, 2017[83]).

[13] However, it should be noted that less physically demanding jobs may still be associated with high stress levels, leading to burnout and other mental health problems affecting workers employability and productivity.

[14] The authors use Danish administrative data to study work accidents in a setting where individuals can either receive disability insurance payments or opt for rehabilitation benefits, which are set at the same level and are available to those who participate in formal education or vocational training with firms. Authors exploit differences in eligibility driven by prior vocational training and find that reskilled workers earn 24% more than before their injuries and do not end up on antidepressants. Reskilling subsidies for injured workers pay for themselves four times over.

[15] For comparison, participation in non-formal training among *employed* 60-65 year-olds is similar to the share of 60-65 year-olds who are learning by doing.

[16] Sum of those who participated in non-formal training and those who wanted to participate in training but did not.

[17] The average effective age of labour market exit is defined as the average age of exit from the labour force for workers aged 40 and over.

[18] Other factors, such as different age gaps in educational attainment between countries may also contribute to the age gap in training participation. Higher training participation may also lead to higher effective labour market exit age, as discussed in the subsequent paragraphs.

[19] In 2006, the Dutch Government abolished favourable tax treatment of early retirement plans for public sector employees born in 1950 or later. This resulted in a drop in pension benefits when workers retire early and stronger incentives to continue working (Montizaan, Cörvers and De Grip, 2010[39]). In Italy, starting from 1995, access to seniority pensions was tightened, and individuals were required not only to have 35 years of contributions (sufficient condition before the reform), but also to reach a minimum age, which was progressively increased to 57 (Brunello and Comi, 2015[40]).

[20] Average includes Argentina, Australia, Brazil, Canada, Chile, France, Germany, Italy, Mexico, New Zealand and the United States

[21] When designing and implementing ILA, it is essential to verify that training providers comply with minimum quality requirements to avoid fraud. It is also important to clearly define eligibility criteria to prevent beneficiaries from enrolling in leisure courses and to ensure that ILA-funded training is aligned with the scheme's objectives.

[22] The effectiveness of the schemes that offer financial incentives to participate in training, whether they target employers or individuals, will depend on the exact design features and the context in which they operate. Therefore, it is critical that countries take an experimental approach to implementing such schemes, which involves continuous monitoring of their implementation, rigorous evaluation to assess whether the schemes achieve the desired impact in a cost-effective way and continuously adapting the scheme based on the results.

5 Reviving growth in a time of workforce ageing: The role of job mobility

Jonas Fluchtmann, Alexander Hijzen and Agnès Puymoyen

Productivity growth has slowed across OECD economies, and its benefits have become less equally shared. This chapter focuses on the role of growth-enhancing job reallocation in aggregate wage and productivity growth in the context of population ageing. Using detailed linked employer-employee data from 17 OECD countries, it analyses how different types of worker movements contribute to the reallocation of workers towards firms paying higher wages and with higher productivity. The analysis distinguishes between job-to-job mobility, which often reflects voluntary career moves to better-paying firms, and employment flows in and out of work. Particular attention is put on how workforce ageing may affect these dynamics, given differences in mobility between younger and older workers. The chapter concludes with a discussion of policies that can support growth-enhancing job reallocation by providing sufficient flexibility to firms and promoting upward mobility for workers, especially mid-career and older ones.

In Brief

Key findings

Productivity growth – gross domestic product (GDP) per hour worked – has slowed across OECD economies, and its benefits have become less equally shared. Average annual productivity growth has fallen from just above 2% in the late 1990s to less than 1% in the 2010s. Average annual wage growth has followed a similar evolution but has been weaker than productivity growth, especially among lower-wage workers, contributing to a declining labour share and increasing wage inequality, making growth less inclusive. Declining business dynamism, e.g. entry and exit of firms, job creation and destruction in continuing firms, may be one factor that has contributed to the slowdown and may partially be related to the difficulty of firms and workers in adapting to rapid and profound structural transformations in a context of population ageing. While productivity growth has been somewhat stronger since the COVID-19 crisis, notably in the United States, it is too early to tell whether this reflects a short-term bouncing back from the COVID-19 crisis or a change in the longer-term trend due to technological advances (digitalisation, AI) or changes in working practices (e.g. teleworking).

This chapter provides new insights into how growth-enhancing job reallocation contributes to aggregate wage and productivity growth in the context of population ageing. It responds to concerns about the declining dynamism of labour markets in OECD countries and its consequences for aggregate wage and productivity growth. It also considers the potential role of population ageing for wage and productivity growth through lower mobility of older workers. Special emphasis is placed on the job ladder, i.e. the importance of voluntary transitions to more productive firms paying higher wages ("job-to-job mobility"). The empirical analysis is based on linked employer-employee data from 17 OECD countries for the period 2000-19: Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden.

Job-to-job mobility plays a key role in growth-enhancing job reallocation and hence aggregate wage and productivity growth

- Growth-enhancing job reallocation primarily occurs through job-to-job mobility and to a much lower extent through movements in and out of employment (i.e. "employment mobility"). Although both types of mobility contribute equally to overall labour market dynamics, job-to-job transitions play a greater role in reallocating workers to higher-paying and more productive firms. This suggests that job-to-job moves are more often voluntary and career-driven, while mobility in and out of employment is more likely to be influenced by personal factors, such as decisions about labour force participation, or be involuntary.
- Job-to-job mobility is a key driver of overall growth, contributing 0.9 percentage points annually to wage and productivity growth on average between 2000 and 2019. However, a large part of this is offset by the negative effects of employment mobility, mainly due to life cycle dynamics as young workers start their careers in low wage, low productivity firms. As a result, overall job reallocation, the joint contribution of job-to-job and employment mobility, adds 0.3 percentage points to average wage and productivity growth respectively (16% and 22% of total growth).
- Cross-country differences in job reallocation are important for understanding cross-country differences in aggregate growth rates. Growth-enhancing job reallocation accounts for 44% of the cross-country variation in wage growth and 41% of the variation in productivity growth. The remainder is explained by differences in growth rates among workers who stay in the same firm, which in part may reflect the role of learning and innovation in the workplace. In countries with

high wage growth over the period considered (e.g. Estonia, Hungary, Lithuania), overall job reallocation plays a strong positive role, while in low-wage-growth countries (e.g. Belgium, France, Italy, Spain), its role is small or negative as the structure of employment shifts to lower wage firms and industries.

Population ageing has tended to slow growth-enhancing job reallocation and contributed to weaker aggregate wage and productivity growth

- Mid-career and older workers tend to be less mobile than younger workers and less likely to transition to higher-quality firms through the "job ladder". As a result, workforce ageing may contribute to slow down aggregate wage and productivity growth.
- Estimates suggest that, between the early 2000s and late 2010s, workforce ageing resulted in a slowdown of aggregate wage and productivity growth of, respectively, 0.13 and 0.10 percentage points on average across countries (compared with an average annual aggregate growth rate of, respectively, 0.6 and 1.0% among the set of countries considered). Going forward, given current policies, the impact of population ageing on the share of older workers in employment is expected to be modest.
- From a policy perspective, a key question is *why* workforce ageing tends to slow aggregate growth. It may reflect weaker incentives for job mobility because older workers feel that they have little to gain from changing employer, either because they have already climbed the job ladder or because they have fewer working years remaining in their careers. Alternatively, it may reflect larger barriers to job mobility among older workers, which keeps them locked in low productivity firms paying low wages. This would raise important concerns about the adaptability of the workforce to structural change and provide a case for developing policies that support job mobility toward higher wage and more productive firms among mid-career and older workers.
- There are important differences in the distribution of employment for young and older workers across firms of varying quality (in terms of productivity or wage-setting practices). Younger workers tend to be concentrated in lower-quality firms than mid-career and older workers, and this pattern has become slightly more pronounced over time. This reflects the importance of the job ladder for integrating new cohorts of young workers in the labour market. There is no evidence that workforce ageing has influenced opportunities of younger workers for moving up the job ladder.

Policies can support growth-enhancing job reallocation by providing sufficient flexibility to firms and promoting job mobility for workers

- Policies should ensure that firms have sufficient flexibility to adapt to changing business conditions, while at the same time providing adequate security for workers. This includes maintaining balanced employment protection for open-ended contracts, as overly strict rules not only reduce dismissal risks but also discourage hiring, limiting job mobility. Overly strict employment protection for open-ended contracts may also incentivise the use of fixed-term contracts, which increases worker mobility without necessarily moving workers to better jobs. Job retention schemes offer firms flexibility to reduce working hours during downturns, strengthening labour market resilience. However, if used to respond to permanent structural shifts, they can impede efficiency-enhancing worker reallocation.
- Policies should also remove unwarranted barriers to growth-enhancing job reallocation. This requires closer scrutiny of professional licensing regulations and the use of non-compete and other restraint clauses. While licensing helps to ensure service quality and non-compete clauses may protect legitimate business interests, their growing use may have negative impacts on competition and job reallocation. Voluntary certification, combined with consumer information

systems, could serve as an alternative to strict licensing requirements. Limiting non-compete clauses to certain workers (e.g. high-wage employees) or imposing compensation and notification requirements may be warranted. Strict enforcement of such regulations is key.

- A deeper understanding of how wage-setting institutions affect efficiency-enhancing reallocation is needed. Wage floors may reduce job mobility by compressing wages, making it harder for productive or newly created firms to attract workers. However, they can also force unproductive firms to downsize or exit – potentially moving workers to more productive firms and boosting overall productivity – as well as ensure fair wages for vulnerable workers with a weak bargaining position. To support productivity growth through job reallocation, policies limiting wage dispersion between firms should be paired with measures that enhance voluntary job mobility and drive innovation in low-productivity firms.
- Policies should support the mobility of mid-career and older workers. While many older workers have already moved up the job ladder, some face barriers that keep them in low-quality firms or hinder reemployment in good jobs after job loss. Targeted interventions, such as early support measures and wage insurance, can help displaced workers transition effectively. Job-search assistance and career guidance are crucial, especially for those with limited recent mobility. Public employment and career guidance should not just cater to unemployed workers but also to employed workers who are stuck in low-quality jobs. Addressing skill obsolescence changing skill needs through training is also key to ensuring continued career progression.

Introduction

Productivity growth has slowed and become less inclusive across OECD economies. Since the early 2000s, average annual hourly labour productivity growth has been weak, falling from just above 2% in the late 1990s to 1.4% in the 2000s and less than 1% in the 2010s (see Annex Table 5.A.1.). In several countries, the benefits of productivity growth have also become less evenly distributed, with wage growth, particularly for workers in the bottom half of the wage distribution, lagging behind even modest productivity gains. This has contributed to declining labour shares and increasing wage inequality in many countries. These developments partially reflect the difficulty of firms and workers in adapting to rapid and profound structural transformations (e.g. digital transformation, automation, net-zero transition) in a context of population ageing. Indeed, it is possible that workforce ageing due to its implications for learning and mobility has made it harder to adjust to structural change at a time when the need for adaptability is particularly high, with potentially important implications for future growth (Maestas, Mullen and Powell, 2023[1]) – see also Chapter 4. All in all, there are important questions about the ability of OECD economies to generate rising standards of living and well-being in a context of rapid structural changes and ageing populations. This has led to the development of far-ranging proposals to revive broadly shared productivity growth (e.g. Draghi (2024[2])).

Job mobility between firms can play a particularly important role in reviving broadly shared productivity gains in a context of an ageing workforce by promoting a more efficient allocation of resources across firms that differ in their productivity and wage-setting practices. Labour markets that are able to allocate workers to their most productive uses are typically also better able to support structural transformation and less likely to be characterised by persistent labour shortages. However, the process of efficiency-enhancing reallocation may be significantly affected by workforce ageing if older workers are less likely to transition to more productive higher-paying firms than younger workers. Older workers face higher costs and fewer benefits when changing employer. They risk losing job security, while potential wage increases are less valuable to them since they have fewer working years remaining in their careers. Consequently, there is a risk that older workers get stuck in jobs with limited prospects for career advancement, reinforcing labour

shortages and undermining the ability of high-performance firms to grow and flourish (OECD, 2024[3]) – see also Chapters 3 and 4.

As argued in the *OECD Employment Outlook* of 2022, job mobility between firms also has potentially important implications for the sharing of productivity gains with workers by containing the wage-setting power of firms and reducing wage gaps between firms (OECD, 2022[4]). The extent to which job mobility can contribute to a broader sharing of productivity gains and lower wage inequality depends crucially on the extent to which opportunities for job mobility are equally shared between different groups of workers. When opportunities for upward mobility are skewed towards workers with higher skills, there is a risk that job mobility deepens wage inequalities. Opportunities for moving up the job ladder may also be affected unevenly by workforce ageing for different groups of workers. To the extent that ageing results in lower turnover in good firms, it may reduce job opportunities for younger workers to move to better firms. However, to the extent that older workers have skills that complement those of younger workers, it is also possible that ageing increases opportunities for young workers, particularly in firms where firm-specific human capital is important (Carta, D'Amuri and Wachter, 2021[5]).

This chapter aims to enhance our understanding of aggregate wage and productivity growth through growth-enhancing job reallocation and the consequences of workforce ageing. Specific emphasis is given to the nature of job mobility (see Box 5.1 for a glossary of the mobility concepts used) by distinguishing between job-to-job mobility (direct flows between jobs in different firms), which is more likely to be voluntary and often driven by career considerations, and employment mobility (flows in and out of employment), which is more likely to be involuntary or driven by personal considerations (e.g. labour force participation decisions). This distinction is important because voluntary job mobility requires policies that tackle barriers of workers to changing employer and involuntary mobility requires policies that provide flexibility to firms by allowing them to adjust employment levels in line with changing business conditions. The empirical analysis is based on linked employer-employee data from 17 OECD countries for the period 2000-19: Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden.[1] Such data crucially allow documenting the role of job mobility in efficiency-enhancing reallocation across a diverse set of OECD economies, while assessing the extent to which this is shaped by workforce ageing.

The chapter is structured in three sections. Section 5.1 sets the scene by presenting key stylised facts related to the evolution of aggregate productivity, wages and wage inequality over the past two decades as well as that of labour market dynamism based on different measures of job mobility. Section 5.2 focuses on the importance of job-to-job and employment mobility for growth-enhancing job reallocation in general, as well as in the context of workforce ageing. It considers how moves from one employer to another, as well as moves in and out of employment, contribute to a changing structure of employment from less productive, or lower paying, firms to more productive, or higher paying, firms, and therefore contributes to wage and productivity growth. By looking at the worker-level trajectory across firms, it also sheds light on the implications of voluntary versus involuntary job mobility for aggregate wage and productivity growth. A key part of this section is dedicated to the differences in job mobility across age groups and the implications that workforce ageing may have for aggregate wage and productivity growth. Section 5.3 discusses how policies and institutions can revive broadly shared productivity growth through growth-enhancing reallocation by focusing on policies that determine the flexibility of firms and policies that support mobility to better firms for workers, including for mid-career and older workers.

Box 5.1. Mobility concepts

This chapter includes several mobility concepts that are laid out below. Each of these concepts is measured using annual linked employer-employee data (see Annex Table 5.A.3 for details), expressed as a share of private-sector non-agricultural dependent employment (average between previous and current year) and calculated in "excess" terms to abstract from changes in aggregate employment.[1] While the source data tend to be very comprehensive, often covering the population of workers and firms, much of the analysis is based on large random samples (typically 20% of firms).

Gross worker mobility

Gross worker mobility or gross worker flows (G_t) is defined as the sum of hires and separations in a country between two periods and includes gross job-to-job mobility and gross employment mobility. Gross job-to-job mobility refers to the sum of hires (H_{J_t}) and separations (S_{J_t}) through direct transitions between firms from one year to the next. Gross employment mobility refers to the sum of hires from outside private-sector employment (H_{N_t}) and separations out of private-sector employment (S_{N_t}). Workers not employed in the private sector may be employed in the public sector, self-employed, unemployed or inactive. Gross worker mobility consists of worker churn, i.e. the presence of simultaneous hires and separations within firms that are not associated with net employment changes in firms, and job flows, i.e. differences between hires and separations in firms that are associated with changes in net employment. This is one of the two concepts used in Section 5.2. Formally, it can be expressed as:

$$G_t = \underbrace{H_{J_t} + S_{J_t}}_{\text{Gross job-to-job mobility}} + \underbrace{H_{N_t} + S_{N_t}}_{\text{Gross employment mobility}}$$

Gross job mobility or gross job reallocation

Gross job mobility (R_t), also referred to as gross job reallocation, is defined as the sum of job creation and destruction across firms in the private sector during a specific period. Job creation refers to the sum of all employment gains at expanding firms between one year and the next ($\Delta E_{i_t} \geq 0$), while job destruction refers to the sum of employment losses in contracting firms ($\Delta E_{i_t} < 0$) (expressed in its absolute value). Job flows represent a subset of worker flows that result in changes in net employment at the firm level (denoted by i), but do not account for churn, i.e. simultaneous hires and separations in firms that do not change the level of employment in a firm.[2] Gross job mobility is the second concept used in Section 5.2. Formally, it can be expressed as:

$$R_t = \underbrace{\sum_{\Delta E_{i_t} \geq 0} \Delta E_{i_t}}_{Job\ creation} + \underbrace{\sum_{\Delta E_{i_t} < 0} |\Delta E_{i_t}|}_{Job\ destruction}$$

Net job mobility

Net job mobility refers to changes in the structure of employment across firms or groups of firms that differ in their productivity or wage-setting practices. For example, when grouping firms in productivity classes (e.g. quintiles of the productivity distribution), net job mobility ($N_{J_{q,t}}$) refers to the difference in hires and separations in that productivity class q in period t. It therefore does not take account of mobility between firms with similar levels of productivity or flows between low and high productivity firms

that cancel each other out. Net job mobility can be decomposed into net job-to-job mobility and net employment mobility, depending on whether hires and separations relate to direct movements between employers or movements in and out employment. This is the concept used in Section 5.2 (see Box 5.3. for further details). Formally, net job mobility in group Q can be expressed as:

$$N_{Q_t} = \underbrace{\sum_{i \in Q} H_{J_{i,t}} - S_{J_{i,t}}}_{\text{Net job-to-job mobility}} + \underbrace{\sum_{i \in Q} H_{N_{i,t}} - S_{N_{i,t}}}_{\text{Net employment mobility}}$$

1. The analysis excludes the public sector and self-employment for methodological consistency, as public sector employment is not recorded across all countries.
2. Gross job mobility also does not take account of the direction of flows along the distribution of wages and productivity. This is considered in the definition of net job mobility.

5.1. Setting the scene

This section provides key stylised facts related to the evolution of aggregate wage and productivity growth, labour market dynamism, as measured by the process of job reallocation between firms, and the possible role of workforce ageing.

5.1.1. Growth has weakened and become less broadly shared

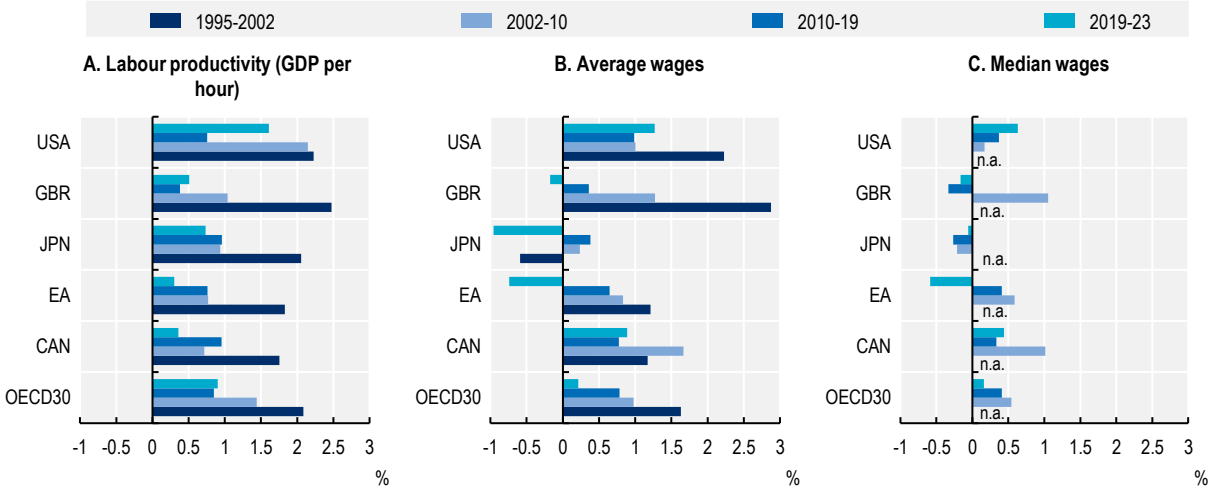
Labour productivity growth has been on a declining trend since the 1970s (André, Gal and Schief, 2024[6]; Goldin et al., 2024[7]) and has been particularly weak since the early 2000s (Figure 5.1, Panel A and Figure 5.2). While in the United States, productivity growth picked up briefly during the mid-1990s thanks to investments in ICT, the boom did not last and growth has been weak since the mid-2000s (Gordon and Sayed, 2020[8]). In other advanced economies, productivity growth has been on a secular downward trend from the early 1990s as the boom-and-bust cycle related to ICT was less pronounced or even absent. On average across countries, labour productivity growth declined from 2.1% during 1995-2002, to 1.4% during 2002-10 and 0.9% during 2010-19. Productivity growth has been marginally stronger since the COVID-19 crisis in about half of the OECD countries, and more notably so in the United States. However, it is too early to tell whether this reflects a short-term effect of the COVID-19 crisis or a change in the longer-term trend due to technological developments (digitalisation, AI) and changes in working practices (e.g. teleworking).

The long-term decline in productivity growth is typically attributed to a slowdown in multifactor productivity (MFP) growth, i.e. the slower pace of advancements in efficiency with which capital and labour are used in the production process. This may either reflect the pace of learning and innovation in the workplace, including through the adoption of more advanced production technologies and management practices, or the speed with which capital and labour are reallocated from less to more efficient firms. Baqaee and Farhi (2020[9]) show for the United States that each account for about half of productivity growth and its slowdown. In principle, both may be affected by population ageing if the productivity of older workers grows more slowly than that of younger workers or if older workers are less likely to move to more efficient firms. Ageing may also shift the structure of consumption towards less efficient, lower productivity sectors such as healthcare and leisure (André, Gal and Schief, 2024[6]). There is some indication that the process of efficiency-enhancing job reallocation between sectors has slowed as consumer services have gained in importance (see Annex Figure 5.A.1). Since the global financial crisis, weak MFP growth has been compounded by a reduced pace of capital deepening due to a prolonged decline in investment.

Labour productivity growth has also become less broadly shared (Figure 5.1, Panel B, and Figure 5.2). Declining productivity growth has not only led to weakening average wage growth but in addition average wage growth has increasingly fallen short of already weak productivity growth, resulting in a declining share of labour in national income.[2] Average wage growth for the OECD as a whole has declined from 1.6% during 1995-2002, to 1.0% during 2002-10 and 0.8% during 2010-19 and been consistently weaker than growth in labour productivity. Various factors may have contributed to the decline in the labour share, including capital-augmenting technological change, the rise in product market concentration, the decline in the bargaining position of workers or changes in the composition of firms due to reallocation (Karabarbounis, 2024[10]). Growth-enhancing reallocation has been shown to reduce the labour share because more productive firms also tend to be more capital intensive, see e.g. Autor et al. (2020[11]), Schwellnus et al. (2018[12]), and Cho et al. (2025[13]). The decline in the labour share has coincided with rising wage inequality, as median wage growth has failed to keep up with average wage growth (Figure 5.1 Panel C, and Figure 5.2). Median wage growth for the OECD as a whole amounted to just 0.5% during 2002-10 and 0.4% during 2010-19. In some countries, including Japan and the United Kingdom, median wage growth even has turned slightly negative.

Figure 5.1. Aggregate productivity growth has weakened and become less broadly shared

Real average annual growth rates in labour productivity, average wages and median wages by country and period



Note: Aggregates are weighted by GDP for 2015 expressed in PPPs. Panel C: Data refer to 2010-18 and 2018-22 instead of 2010-19 and 2019-23 respectively. Euro Area (EA): Belgium, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, the Slovak Republic, Slovenia and Spain. OECD30: Australia, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States. n.a.: not available. For detailed data by country, see Annex Table 5.A.1.

Source: OECD calculations based on OECD productivity database, http://data-explorer.oecd.org/s/1xl; OECD dataset on average annual wages http://data-explorer.oecd.org/s/1p0; OECD database on earnings distribution for median wages.

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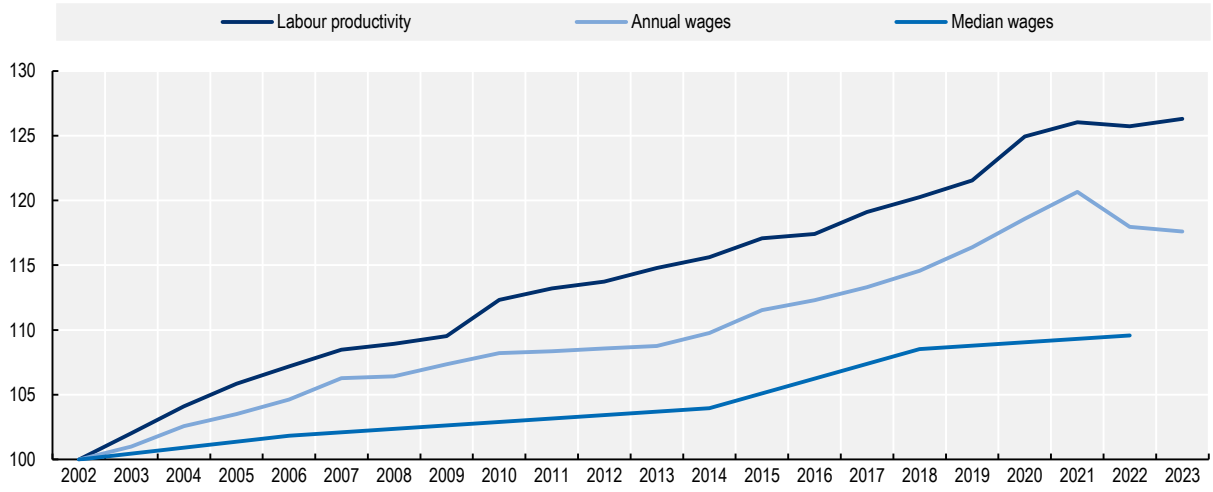
Figure 5.2. Real wages have decoupled from labour productivity

Real average annual growth rates in labour productivity, average wages and median wages, index 2002 = 100



Note: Aggregates are weighted by GDP for 2015 expressed in PPPs. Average of 30 OECD countries: Australia, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States. For detailed data by country, see Annex Table 5.A.1. Data on median wages are not available for 2023.
Source: OECD calculations based on OECD productivity database, http://data-explorer.oecd.org/s/1xl; OECD dataset on average annual wages, http://data-explorer.oecd.org/s/1p0; OECD database on earnings distribution for median wages.

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5.1.2. Slower growth may in part reflect a decline in the pace of growth-enhancing job reallocation between firms

Weaker aggregate wage and productivity growth can stem from declining growth *within* firms, for example due to changes in the pace of innovation, technology adoption and skill development, or from changes in how labour reallocates *between* firms that differ in their wage-setting practices or productivity (see definition in Box 5.1). While the main focus of this chapter is on the latter, Box 5.2 provides some stylised facts on the evolution of within-firm productivity growth.

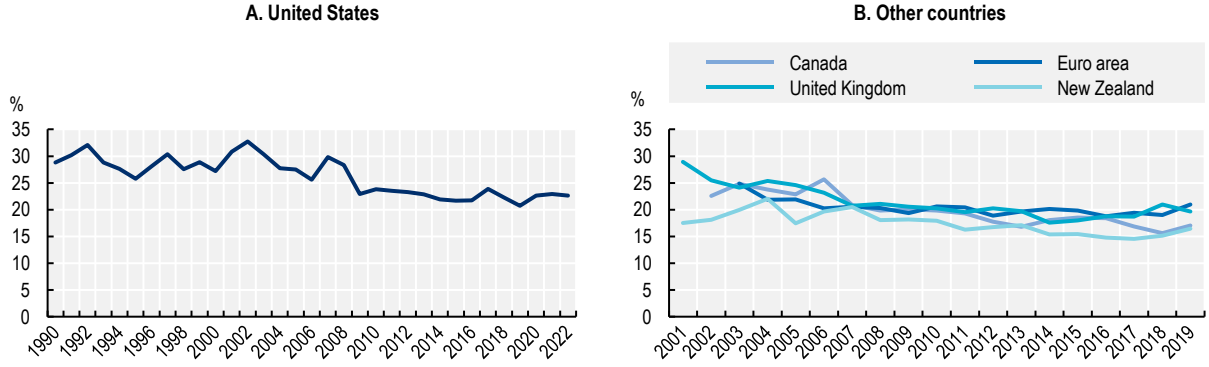
In many OECD countries, there has been a decline over time in economic dynamism, as measured by the rate of gross job reallocation between firms, with potentially important implications for aggregate wage and productivity growth (Figure 5.3). Job reallocation has significantly declined from 29% in 1990 to 23% in 2022, from 23% in 2002 to 17% in 2019 in Canada, from 18% in 2001 to 16% in 2019 in New Zealand and from 25% in 2003 to 21% in 2019 on average across selected Euro area countries. These stylised facts are broadly in line with previous evidence for the United States (Decker et al., 2020[14]) and a subset of OECD countries (Cho, Manaresi and Reinhard, 2025[13]; Causa, Luu and Abendschein, 2021[15]). To the extent that high-wage and high-productivity firms are typically more likely to expand and low-wage and low-productivity firms more likely to contract, the decline in gross job reallocation may also have slowed aggregate wage and productivity growth.

Given its potential implications for aggregate wage and productivity growth, the decline in job reallocation raises important policy questions. A first question is whether this reflects reduced *returns* to job reallocation, as differences in productivity and wages between firms have tended to narrow, for example due to declining volatility in product markets, or alternatively, increased *costs* to job reallocation, weakening the responsiveness of firm employment to changes in productivity. While developments vary across countries,

the evidence suggests that disparities in productivity and wages among firms have, if anything, increased (Andrews, Criscuolo and Gal, 2016[16]; Berlingieri, Blanchenay and Criscuolo, 2017[17]; OECD, 2022[4]). If so, a decline in the pace of job reallocation is more likely to reflect a change in responsiveness. A second question is to what extent a reduced responsiveness of firm employment reflects greater costs on the side of firms associated with adjusting employment levels to changing business conditions or greater barriers on the side of workers to changing employers. The latter may reflect, among others, the role of skills or geographical mismatches and employers' market power but also the role of workforce ageing for labour shortages.

Figure 5.3.The pace of job reallocation has tended to slow

Gross job reallocation rates over time, selected countries, percentage of employment



Note: Gross job reallocation rate: the sum of job creation (net employment changes in expanding firms) and job destruction (net employment changes in contracting firms) in the private sector as a share of total employment. Total employment is defined as employment in private-sector firms on average between the current and previous year. Gross job reallocation rates are calculated in "excess" terms to abstract from changes in aggregate employment. For more details on the definition of gross job reallocation, see Box 5.1. Euro Area (EA): average for Austria, Estonia, Finland, France, Germany and Portugal.
Source: Bureau of Labour Statistics for the United States (Panel A); Longitudinal Business Database from the Office for National Statistics for the United Kingdom, and national linked employer employee data for the other countries (see Annex Table 5.A.3 for details).

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Box 5.2. The slowdown in productivity growth within firms in selected OECD countries

This box complements the analysis of *between-firm* productivity growth through job reallocation with descriptive statistics on *within-firm* productivity growth based on data from five OECD countries. More specifically, it compares within firm-productivity growth in the first year available before the global financial crisis and the last year before the COVID-19 crisis on average across countries and firms or specific groups of firms.

There is some indication that within-firm productivity growth has slightly declined in the period considered for the selected countries. On average across countries, within-firm productivity growth amounted to 2.7% in the early 2000s and 2.3% in the late 2010s (Figure 5.4).

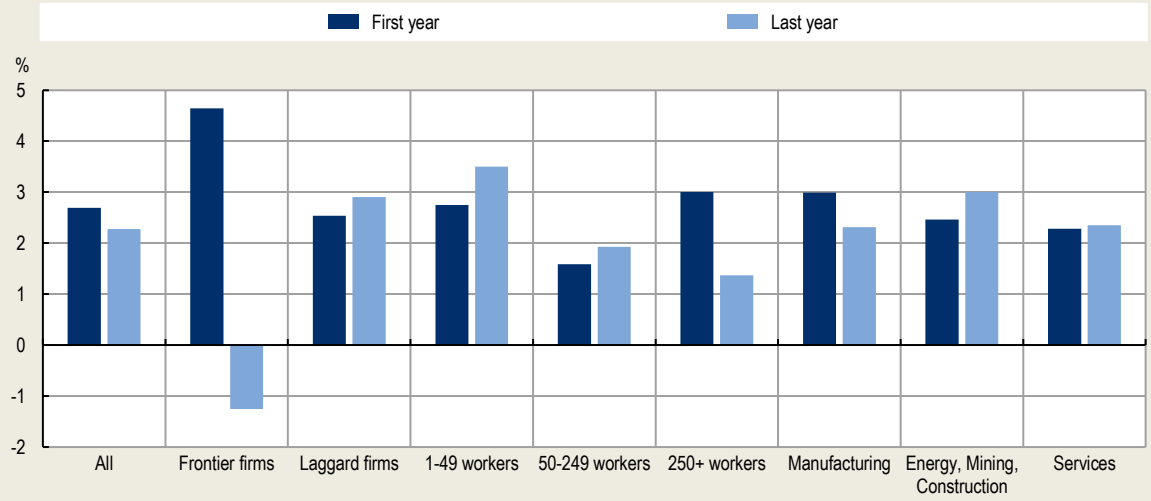
The decline in within-firm productivity growth is primarily driven by large frontier firms in manufacturing. Productivity growth in frontier firms, defined as those in the top 10% of the employment-weighted firm distribution, fell sharply from just above 4.6% to almost -1.3%, while it also slowed among large firms and firms in manufacturing. At the same time, lagging firms (the other 90%), small firms and firms in

the services sector saw slight increases in within-firm productivity growth. While these figures hide substantial heterogeneity across countries, the decline in dynamism among frontier firms is present in all countries considered.

These stylised facts suggest that to understand the decline in broadly shared productivity gains, it is not sufficient to focus on growth-enhancing reallocation, but attention should also be given to factors that determine within-firm productivity growth such as learning, innovation and technology adoption.

Figure 5.4. Within-firm wage and productivity growth has tended to decline

Average annual within-firm productivity growth on average and by group of firms, first and last sample period, percentage



Note: First year: first year of the sample period before 2007 for each country; last year: last year of sample period, usually 2019. Productivity refers to labour productivity defined as value-added per worker or sales per worker. Averages are employment weighted. Frontier firms are defined as the top 10% of firms in terms of productivity levels, within each industry and year. Laggard firms are all other firms not at the productivity frontier. Average for Canada, Denmark, Finland, France, Hungary, Italy, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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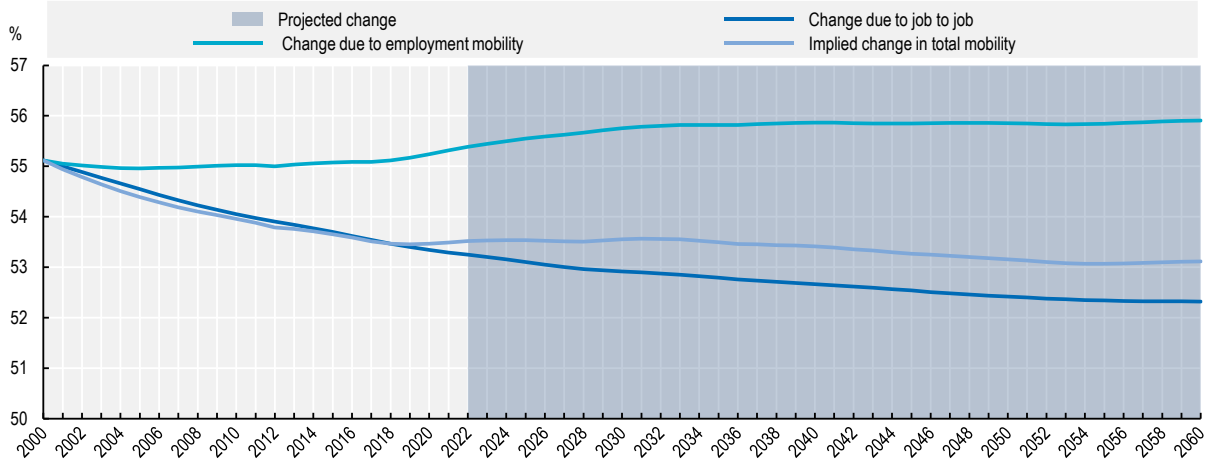
5.1.3. Workforce ageing tends to slow worker mobility

Demographic developments in the form of workforce ageing and declining youth cohorts have tended to weigh down on worker mobility and are expected to slow mobility further in the coming decades (Figure 5.5). On average across countries, more than one in two workers changed employer or employment status from one year to the next (see Box 5.1 for details). However, older workers are much less likely to change job status than younger workers. Only 37% of older workers aged 55-74 change employer or employment status from one year to the next, compared with 54% for workers aged 15-54. Consequently, both workforce ageing and declining youth cohorts drag down mobility (see also André, Gal and Schief (2024[6]) and Engbom (2019[18])). On average across countries, and assuming no change in age-specific mobility (admittedly, a strong assumption),[3] changes in the age of structure of employment reduced worker mobility by 1.6 percentage points between 2000 and 2022 and is expected to further lower mobility between 2022 and 2060 by 0.4 percentage points based on population and employment projections. The overall decline in worker mobility due to workforce ageing between 2000 and 2060 is expected to amount to 2 percentage points or almost 4%. The decline is entirely driven by direct job-to-job mobility between firms, i.e. transitions

without intermediate spells out of work. Employment mobility i.e. transitions in and out employment (including those related to decisions to participate in the labour force) slightly increased but is expected to remain broadly constant from now on. These overall patterns reflect the fact that older workers are much less likely than younger workers to change employer voluntarily. However, as will be shown in the next section, this is precisely the type of mobility that is most relevant for growth-enhancing job reallocation.

Figure 5.5. Workforce ageing is weighing down on worker mobility

Implied evolution of gross worker mobility and its components between 2000 and 2060 due to actual and projected changes in the age structure of the workforce (projected since 2022)



Note: Gross worker mobility: the total number of hires and separations as a share of total employment. Total employment is defined as employment in private-sector firms on average between the current and previous year. Gross job-to-job mobility: the total number of hires and separations related to transitions between employers from one year to the next (without an intermediate year out of work). Gross employment mobility: the total number of hires and separations related to transitions in and out of employment from one year to the next. Gross mobility is measured in excess terms which means that only hires and separations over and above those needed to accommodate changes in aggregate employment are taken into account. For more details, see Box 5.1. For the purposes of this exercise, gross worker mobility by age group is held constant at its value in 2017. Changes over time are entirely driven by changes in the age structure of the workforce. Average across 16 countries: Austria, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden.
Source: National linked employer employee data for linked employer-employee data, see Annex Table 5.A.3 for details; Labour force participation (historical data and projections) based on Fluchtmann, Keese and Adema (2024[19]); Population (historical data and projections) based on United Nations (2024[20]).

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5.2. Growth, reallocation and ageing

This section documents the importance of job mobility for growth-enhancing job reallocation and its implications for aggregate wage and productivity growth in the context of an ageing workforce. It starts by looking at the role of job mobility in growth-enhancing job reallocation and aggregate wage and productivity growth using annual linked employer-employee data for 17 countries for the period 2000-19.[4] It then proceeds by drawing out the implications of workforce ageing for the evolution of wage and productivity growth between 2001 and 2019.

5.2.1. Job mobility, job reallocation and growth

Efficiency-enhancing job reallocation is defined as the reallocation of labour towards more productive firms. Since this increases the weight of more productive firms in the economy, it raises aggregate productivity.[5] Since more productive firms tend to pay higher wages, changes in the structure of employment towards more productive firms may also be wage-enhancing. However, the link between wages and productivity across firms is far from perfect (OECD, 2022[4]).[6] Job reallocation between firms that differ in their pay practices may therefore look somewhat different from that between firms that differ in their productivity and yield important insights about the extent to which job mobility contributes to the career progression of workers, aggregate wage growth and improvements in the living standards of workers. This section therefore considers both wage and productivity-enhancing job reallocation. It refers to the general process of reallocation towards more productive firms or higher-paying firms as growth-enhancing reallocation.

Growth-enhancing job reallocation mainly takes place through job-to-job mobility

Job reallocation tends to shift employment towards higher paying and higher productivity firms (Figure 5.6). The difference in average annual employment growth in the bottom 20% of incumbent firms[7] in terms of wages and productivity and aggregate average annual employment growth is consistently negative, whereas it is consistently positive in the top 20% of incumbent firms. In other words, employment is continuously being reallocated from low-wage, low-productivity firms to high-wage, high-productivity firms, contributing to higher aggregate wage and productivity growth. A detailed description of the methodology used here can be found in Box 5.3.

Box 5.3. Methodology I: Growth-enhancing job reallocation

Growth-enhancing job reallocation is defined as the change in the structure of employment from lower quality to higher quality firms, either in terms of wages or productivity. In practice, it is measured by the coefficient from an employment-weighted firm-level regression of employment growth (ΔE_{jt}) on lagged firm quality (π_{jt-1}), lagged employment (E_{jt-1}) and a set of fixed effects (δ) (Decker et al., 2020[14]).[1] Since the model can only be estimated for incumbent firms, firm entry is ignored. Firm quality may be measured in terms of log labour productivity (value added per worker or, if not available, sales per worker) or average log wages.[1] To reduce the role of measurement error, firm quality is averaged between $t-1$ and $t-3$. Firm quality may be measured as a continuous variable or dummies for quintiles of the distribution.[2] Formally, this yields:

$$\Delta E_{jt} = \beta_0 + \beta_1 \pi_{jt-1} + \beta_2 E_{jt-1} + \delta_{st} + \varepsilon_{jt}$$

where employment growth in firm *j* is defined as the change in employment divided by the average level of employment between the current and previous year. Employment growth can be replaced by either the contribution to employment growth of job-to-job mobility or the contribution to employment growth of employment mobility.

Equation (1) is estimated separately with industry-by-year fixed effects and just year fixed effects. The estimated coefficient on firm quality in the regression with industry fixed effects, β_1, provides an indication of the speed of growth-enhancing job reallocation within industries, while the coefficient in the regression without industry fixed effects provides an indication of the speed of the overall process across firms no matter their industry. The role of growth-enhancing job reallocation between industries can be obtained by taking the difference between these two coefficients.

The coefficients on firm quality are normalised by the standard deviation of firm quality in the corresponding year to enhance their comparability across countries or age groups. This takes account of the fact that the speed of growth-enhancing job reallocation depends not only on the responsiveness of employment growth to firm quality but also the dispersion of firm quality between firms. The model is estimated for the full sample as well as for sample splits by year, broad sector (manufacturing, services), age group and gender.

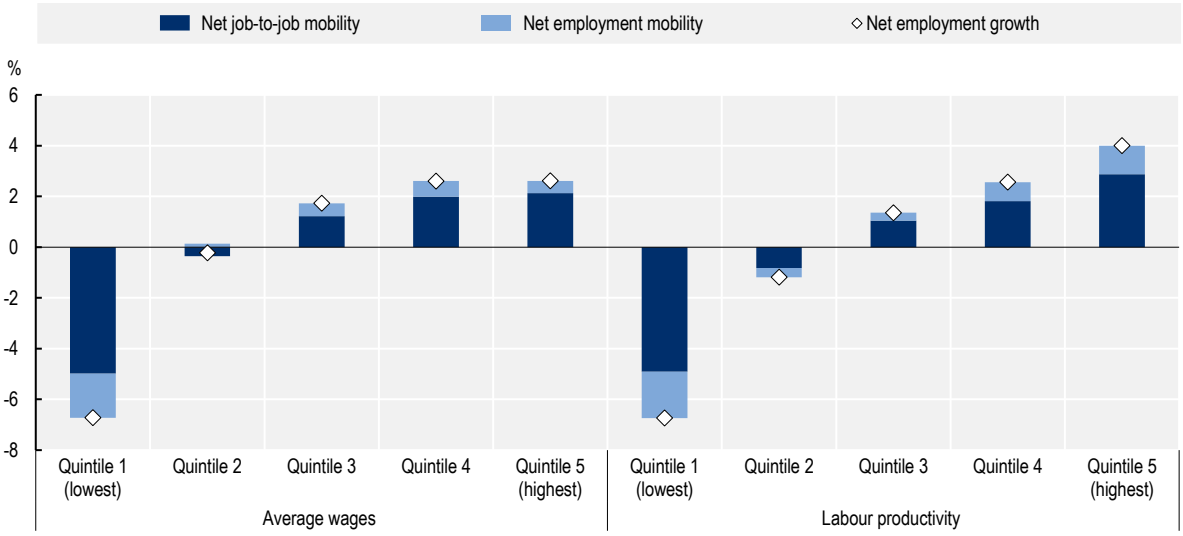
1. Note that measuring firm quality in terms of wages and labour productivity ignores several other aspects of firm quality that can be important for job mobility such as job security, the quality of the working environment, and geographical proximity (Cazes, Hijzen and Saint-Martin, 2015[21]; Sorkin, 2018[22]; Le Barbanchon, Rathelot and Roulet, 2021[23]).
2. Results based on dummies for quintiles of the firm-distribution of wages and productivity are expressed in deviation from the aggregate employment growth rate, ensuring that the sum of the coefficients on the quintile dummies equals zero.

The shift in the structure of employment towards higher wage and higher productivity firms mainly takes place through job-to-job mobility, while the contribution of employment mobility is relatively minor. This insight is based on the decomposition of wage and productivity-enhancing job reallocation in its contributions related to job-to-job mobility, which is likely to be voluntary, and those related to employment mobility, i.e. movements in and out of private sector-dependent employment. The latter reflects a range of factors, such as the decision to participate in the labour force, the risk of unemployment and the choice of working in the public sector or being self-employed. The bulk of growth-enhancing job reallocation is driven by job-to-job mobility rather than employment mobility. This is despite job-to-job mobility and employment mobility being approximately equally important in overall worker mobility.[8] It suggests that job-to-job mobility is more likely to be voluntary and driven by wage considerations, whereas employment mobility is more likely to be involuntary or driven by personal considerations, including the decision to participate in the labour force. The positive role of job-to-job mobility in growth-enhancing job reallocation is sometimes interpreted as a job ladder at work, i.e. the process through which workers climb the rungs of the ladder as they advance in their careers.

The importance of the job ladder is a highly robust stylised fact. First, it is present in all countries considered irrespective of ranking of firms on wages or productivity. Second, it is robust to different modelling choices. Whereas the present results use the country-wide distribution to rank firms, consistent with the aggregate growth decompositions discussed below, results are quantitatively similar when focusing on the average pattern within detailed industries, indicating that firm quality plays only a limited a role for between-industry reallocation. This suggests that job reallocation between industries is not predominantly driven by efficiency differences, but rather by changes in the structure of product demand (e.g. the growing demand for consumer services due to population ageing). The results are also similar when focusing on the correlation between net employment growth and firm quality as in Decker et al. (2020[14]) instead of quintiles of the firm-quality distribution. Third, the results presented here are consistent with previous evidence for the United States (Haltiwanger et al., 2018[24]), France and Italy (Berson, de Philippis and Viviano, 2020[25]), Denmark (Bertheau and Vejlin, 2024[26]) and Norway (Hijzen, Lillehagen and Zwysen, 2024[27]).[9]

Figure 5.6. Growth-enhancing job reallocation is primarily driven by job-to-job mobility

Average annual net employment growth among incumbent firms and its components due to net job-to-job and employment mobility by quintile of the firm-distribution of wages and productivity, relative to average employment growth



Note: Net employment growth: average annual employment-weighted growth rate in employment among incumbent firms between one year and the next in deviation from aggregate employment growth rate. Net job-to-job mobility: average annual employment-weighted growth rate employment among incumbent firms due to workers changing employer from one year to the next in deviation from aggregate employment growth rate. Net employment mobility: average annual employment-weighted percentage change in employment among incumbent firms due to workers entering or existing employment from year to the next in deviation from aggregate employment growth rate. The figure shows the average annual change in the structure of private sector non-agricultural dependent employment across quintiles of the employment-weighted distribution of firm wages and productivity and the extent to which this is driven by job-to-job mobility and employment mobility. It is based on employment-weighted firm-level regressions of employment growth on quintile dummies, lagged firm size and year fixed effects for each country (Equation 1). Firms are ranked based on the moving average in wages and productivity over the previous three years. As an example, it shows that net employment growth in the least productive firms is about 6.7% lower than aggregate employment growth, of which 4.9 percentage points are due to job-to-job mobility and 1.8 percentage points due to employment mobility. For more details, see Box 5.3.Unweighted average across countries. Firm-level average wages (17 countries): Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden. Firm-level labour productivity (9 countries): Canada, Denmark, Finland, France, Hungary, Italy, the Netherlands, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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Job-to-job mobility accounts for a sizeable part of aggregate wage and productivity growth, while that of overall job reallocation is more modest

Aggregate wage and productivity growth reflects a combination of *within-firm growth* – increases in wages and productivity driven by workers who remain in the same firm from one year to the next (i.e. "stayers") – and *between-firm growth* – increases in wages and productivity driven by the reallocation of workers across firms through job-to-job and employment mobility (i.e. "job reallocation)". We now analyse how much of aggregate wage and productivity growth is accounted for by job reallocation between firms, including its components related to job-to-job mobility and employment mobility, and how much by within-firm growth. A detailed description of the methodology used here can be found in Box 5.4.

By shifting the structure of employment to high wage and high productivity firms, job-to-job mobility plays a significant role in aggregate wage and productivity growth (Figure 5.7). On average across countries, job-to-

job mobility contributes 0.9 percentage points to average annual wage and productivity growth (which, in contrast to Figure 5.6, here also includes wages and productivity in entering firms). While the contribution of job-to-job mobility is considerable, it is largely offset by the negative contribution of employment mobility. This mainly reflects life cycle effects that arise as young workers start their careers in low wage and low productivity firms. Consequently, the large contribution of job-to-job mobility primarily reflects its role in integrating new entrants into the labour market. On net, overall job reallocation, which is the sum of job-to-job and employment mobility, contributes 0.3 percentage points to aggregate wage and productivity growth (respectively, 16% and 22% of total growth). The remaining part reflects wage and productivity growth within continuing worker-firm matches ("stayers"). The importance of job-to-job mobility for aggregate wage growth is consistent with previous findings by Hahn, Hyatt and Janicki (2021[28]) for the United States and Hijzen et al. (2024[27]) for Norway.

Box 5.4. Methodology II: Decomposing aggregate growth

The contribution of the different types of labour market mobility to aggregate wage and productivity growth (Δy_t) between *t* and *t-1* is documented using a worker-level decomposition following Hahn, Hyatt and Janicki (2021[28]). In each period *t*, and for each worker *i*, dummy variables capture the mobility state for job stayers (r_{it}), job-to-job movers (j_{it}), hires from non-employment ($h_{N\,it}$) and separations to non-employment ($s_{N\,it}$). The total number of each worker type is further defined as R_t, J_t, $H_{N\,t}$, and $S_{N\,t}$, respectively. The number of workers employed in period $t-1$ is then $E_{t-1} = R_t + J_t + S_{N\,t}$ and $E_t = R_t + J_t + H_{N\,t}$ in period t.[1] With this, Δy_t can be decomposed into the contributions of different labour market mobility types:

$$(2)\ \Delta y_t = \underbrace{\frac{\left(\frac{R_t}{E_t}+\frac{R_t}{E_{t-1}}\right)\sum_i r_{it}\Delta y_{it}}{2R_t}}_{Stayers} + \underbrace{\frac{\left(\frac{\mathrm{J_t}}{E_t}+\frac{\mathrm{J_t}}{E_{t-1}}\right)\sum_i j_{it}\Delta y_{it}}{2\mathrm{J_t}}}_{Job-to-job\ movers} + \underbrace{\frac{\frac{H_{N\,t}}{E_t}\sum_i h_{N\,it}\left(y_{i,t}-\widetilde{y_t}\right)}{H_{N\,t}}}_{Entrants\ from\ non-employment} - \underbrace{\frac{\frac{S_{N\,t}}{E_{t-1}}\sum_i s_{N\,it}\left(y_{i,t-1}-\widetilde{y_t}\right)}{S_{N\,t}}}_{Exits\ to\ non-employment}$$

where y_{it} denotes the firm quality (average wage or productivity) for individual *i* and year *t* and $\widetilde{y_t}$ a reference level for firm quality for non-employed workers based on a weighted average for stayers and job-to-job movers:

$$\tilde{y}_t = \frac{R_t}{R_t + \mathrm{J_t}}\left(\frac{\sum_i r_{it}\left(y_{i,t} + y_{i,t-1}\right)}{2R_t}\right) + \frac{\mathrm{J_t}}{R_t + \mathrm{J_t}}\left(\frac{\sum_i j_{it}\left(y_{i,t} + y_{i,t-1}\right)}{2\mathrm{J_t}}\right)$$

In contrast to the firm-level analysis of growth-enhancing job reallocation, the worker-level decomposition of aggregate wage growth is not restricted to workers in incumbent firms and therefore also includes workers in entering firms. In addition, it measures firm wages and productivity in period *t,* rather than as an average between $t-1$ and $t-3$ and is performed on the universe of workers (where available).

1. Note that job stayers (R_t) and job-to-job movers ($\mathrm{J_t}$) do not change total employment between period t-1 and t. Any changes in total employment represent hires from non-employment (H_{N_t}) and separations to non-employment (S_{N_t}).

The contribution of job-to-job mobility to aggregate wage and productivity growth is particularly strong in good times, in line with the literature (Haltiwanger et al., 2018[24]). Its contribution to aggregate wage growth is 1.2 percentage points in periods of below-average cyclical unemployment compared with 0.6 percentage points in periods of above-average cyclical unemployment. Similarly, its contribution to aggregate productivity growth is 1.0 percentage point in periods of below-average cyclical unemployment compared with 0.7 percentage points in periods of above-average cyclical unemployment. This shows that the job ladder slows during periods of high unemployment. This is sometimes referred to as the "sullying effect" of recessions as this slows the speed of job reallocation (Haltiwanger et al., 2025[29]). In the literature, there is also some indication that recessions have a "cleansing effect" that increases the speed of job reallocation by destroying jobs in low-quality firms (Haltiwanger et al., 2025[29]). Wage growth among job stayers also slows during periods of high unemployment. This may in part reflect reduced worker bargaining power as

workers may be at greater risk of losing their job and face fewer opportunities of moving to a better job. In contrast, labour shortages during the initial years following the COVID-19 pandemic were associated with stronger wage growth through job-to-job mobility as the competition for workers increased, while high inflation depressed wage growth among all workers (see Box 5.5).

It is difficult to draw firm conclusions about the long-term evolution of the contribution of net job-to-job mobility to aggregate wage and productivity growth due to the relatively short period considered here. Decker et al. (2020[14]) show for the United States that firm-level employment in the 2000s was considerably less responsive to productivity differences across firms than in the 1980s and that this reduced aggregate productivity growth by a non-trivial amount of about 2 to 3%. They argue that this reflects increases in the cost of adjusting employment for firms rather than changes in the need for job reallocation in response to changes in business opportunities. Similarly, Baksy, Caratelli and Engbom (2024[30]) show using CPS data for the United States that wage-enhancing job reallocation through job-to-job mobility decreased during the period 1979-2023 and that this reduced average annual wage growth by 1 percentage point, with most of the decline taking place before the 2000s. They argue that this is not because workers are better matched in recent years but rather that increased labour market concentration reduced the ability of workers to transition to higher paying firms.[10]

Figure 5.7. Job-to-job mobility accounts for a large part of aggregate wage and productivity growth

Decomposition of aggregate wage and productivity growth, all years, good/bad years, first/last year, percentage

Note: Total: average annual aggregate growth. Stayers: average annual aggregate growth associated among staying in the same firm due to e.g. learning and innovation. Job-to-job mobility: average annual between-firm growth due to the effect of net job-to-job mobility on the employment-weighted quality-composition of firms. Employment mobility: average annual between-firm growth due to the effect of net employment mobility on the employment-weighted quality-composition of firms. Good years: years with negative Kalman-filtered unemployment rates. Bad years: years with positive Kalman-filtered unemployment rates. The figure provides a worker-level decomposition of aggregate wage and productivity growth in percentage based on Hahn, Hyatt and Janicki (2021[28]) into components associated with stayers, net job-to-job mobility and net employment mobility (Equation 2). As an example, the first bar represents aggregate wage growth on average across all years (1.6%) and the contributions of job-to-job mobility, employment mobility and on-the-job growth. For more details, see Box 5.4. Unweighted average across countries. Firm-level average wages (17 countries): Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden. Firm-level labour productivity (9 countries): Canada, Denmark, Finland, France, Hungary, Italy, the Netherlands, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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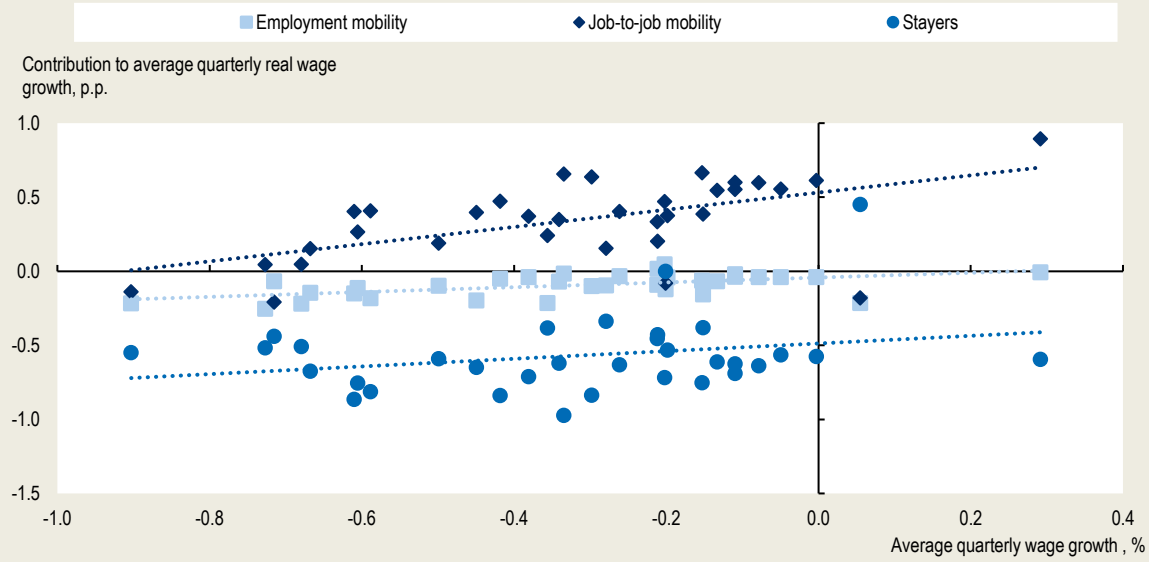
Box 5.5. Labour shortages and job reallocation in the aftermath of the COVID-19 crisis in Austria

While labour shortages were already present prior to the COVID-19 pandemic, especially in high-skill sectors, the recovery from the pandemic saw a rapid intensification (OECD, 2024[31]; 2024[32]; Causa et al., 2025[33]). This gap in labour demand and supply may have had significant implications for job mobility and wage dynamics. To analyse these issues, this box provides a decomposition of aggregate real wage growth in each detailed industry in the aftermath of the pandemic into components related to on-the job wage growth, and those related to job-to-job mobility and employment mobility using quarterly data between Q1 2022 and Q4 2023 for Austria. Note that average wage growth tended to be negative during this period due to the impact of energy price shocks on inflation.

Industry differences in average quarterly real wage growth during the post-COVID-19 period in Austria are to a large part explained by differences in the contribution of job-to-job mobility (Figure 5.8). These are typically manufacturing industries characterised by significant labour shortages. Labour shortages increase competition between firms for employed workers, with high productivity firms poaching workers from low productivity firms, generating a strong job ladder. There is also some indication that wage growth among stayers was stronger in high-wage industries. In part, this is mechanical since stayers comprise the majority of workers in an industry. However, it may also partially reflect the role of labour shortages on the bargaining position of stayers.

Figure 5.8. High wage growth was driven by net job-to-job mobility

Decomposition of aggregate real wage growth by STAN A38 industry, Q1 2022 – Q4 2023, Austria



Note: Average quarterly real wage growth: average quarterly aggregate wage growth between Q1 2022 and Q4 2023. Stayers: average quarterly aggregate wage growth among workers staying in the same firm. Job-to-job mobility: average quarterly between-firm wage growth due to the net job-to-job mobility on the employment-weighted quality composition of firms. Employment mobility: average quarterly between-firm wage growth due to the effect of net employment mobility on the employment-weighted quality composition of firms. The figure shows the results of a worker-level decomposition of aggregate quarterly wage growth based on Hahn, Hyatt and Janicki (2021[28]) separately by STAN A38 industry into components associated with stayers, job-to-job mobility and employment mobility. For more details, see Box 5.4.
Source: Austrian AMS-BMASK Arbeitsmarktdatenbank.

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Cross-country growth differences reflect a combination of within and between-firm growth

A key question is to what extent differences in growth-enhancing job reallocation can account for the large variation in aggregate growth rates across countries. To look at this important issue, we assess to what extent cross-country differences in aggregate wage and productivity growth reflect differences in within-firm growth ("stayers") or between-firm growth ("job reallocation"), and the extent to which differences in between-firm growth rates are driven by differences in the contributions of job-to-job and employment mobility (Figure 5.9) – see Box 5.6.

In countries with high wage growth (Panel A), such as Estonia, Hungary, Norway and Lithuania, the positive contribution of job reallocation is particularly important, whereas in countries with low wage growth such as Belgium, France, Italy and Spain, the contribution of job reallocation tends to be negative.[11] Among the countries with information on labour productivity (Panel B), job reallocation contributes negatively in Finland, Italy and Portugal. Negative contributions of job reallocation are likely to reflect the shift in employment towards lower wage or productivity industries rather than that of reallocation towards lower wage or productivity firms within industries. Italy stands out as a country with negative aggregate productivity growth due to negative on-the-job productivity growth.

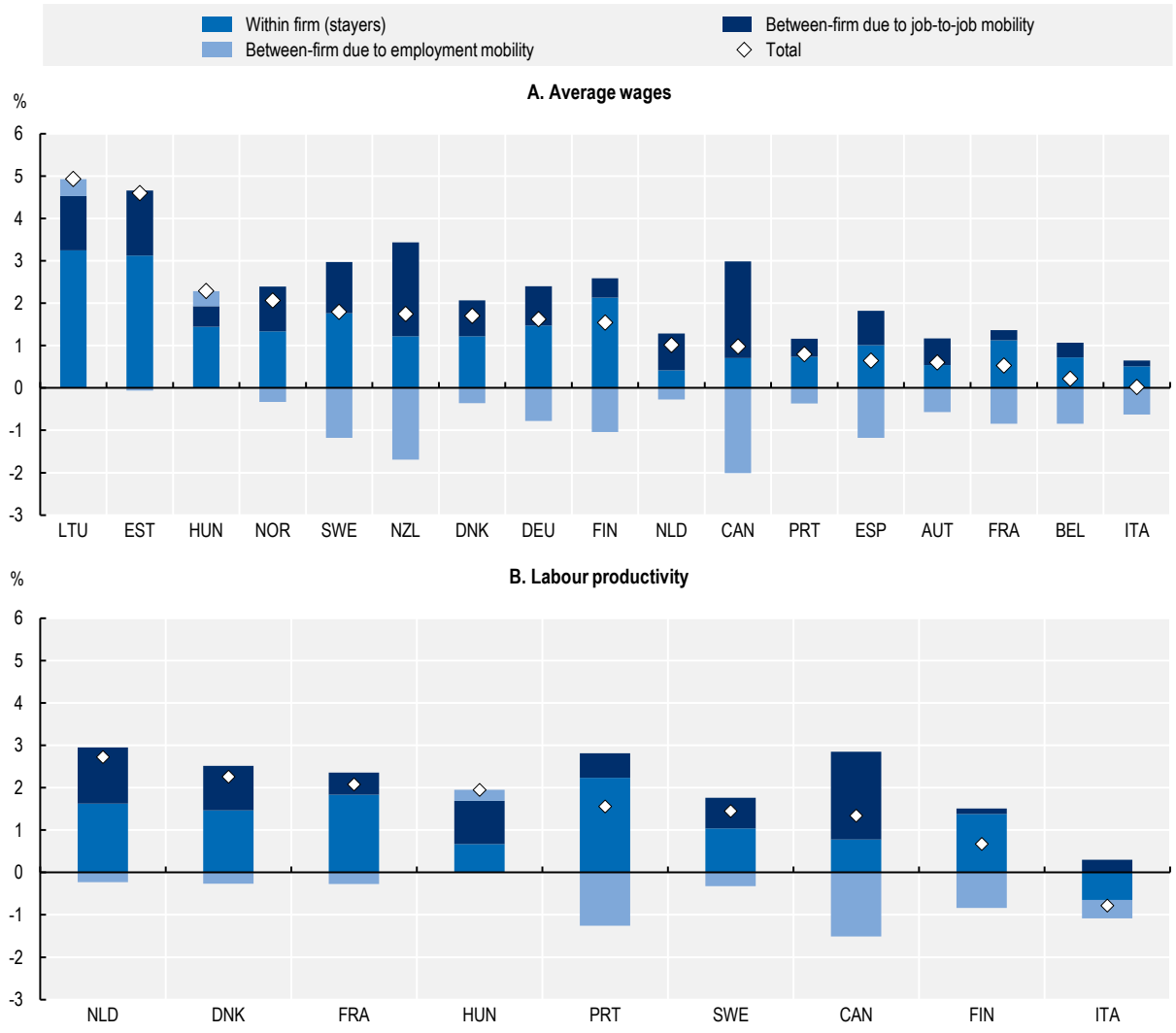
To quantify the part of the cross-country variation that can be explained by the different components presented in Figure 5.9, supplemental "beta values" are calculated (Annex Figure 5.A.2), following Fujita and Ramey (2009[34]).[12] This suggests that about 56% of the cross-country variation in aggregate wage growth is accounted for by on-the-job wage growth and 44% by job reallocation of which almost half (20%) is accounted for by job-to-job mobility.[13] Similarly, about 59% of the cross-country variation in aggregate productivity growth is accounted for by within-firm productivity growth and 41% by between firm-productivity growth due to job reallocation, of which about two-thirds (27%) reflects the role of job-to-jo mobility.

Cross-country differences in the importance of job reallocation and job-to-job mobility in aggregate wage and productivity growth may reflect different factors (Decker et al., 2020[14]). First, differences across countries may reflect differences in frictions that determine the responsiveness of firm employment to differences in average wages or and productivity. This may reflect frictions on the side of firms related to the costs of adjusting employment in line with business conditions or on the side of workers related to the costs of changing jobs. Second, differences across countries may reflect changes in the volatility of business conditions (i.e. idiosyncratic productivity shocks). To the extent that volatility has declined, consistent with narratives before the global financial crisis of the "great moderation" (Clark, 2009[35]), this may have slowed the speed of job reallocation. Similarly, transition and emerging economies undergoing particularly fast structural change may see a higher speed of reallocation without necessarily having a higher responsiveness of firm-level employment to business conditions. Third, changes in the structure of employment towards high-wage or high productivity firms are more "valuable" in terms of aggregate growth in countries where differences in productivity and wages between firms are more important. The degree of dispersion between firms in a country depends to an important extent on the volatility of productivity shocks and the responsiveness of firms to changes in business conditions.

To provide an indication of the importance of responsiveness in the cross-country variation in wage and productivity growth between firms, a counterfactual analysis is conducted that isolates the contribution of responsiveness from any other factors that contribute to between firm productivity and wage growth, following a similar exercise is conducted in Decker et al. (2020[14]) (see Box 5.6 for details). This exercise shows that responsiveness accounts for 51% of the cross-country variation in between-firm wage growth and 49% of the cross-country variation in between-firm productivity growth (Annex Figure 5.A.4). This indicates that frictions related to firms or workers account for a sizable component of cross-country differences in aggregate growth between firms.

Figure 5.9. Within and between firm growth both contribute to cross-country differences in aggregate growth rates

Decomposition of aggregate wage and productivity growth, all years, by country, percentage



Note: Total: average annual aggregate growth. Within-firm (stayers): average annual aggregate growth associated with workers staying in the same firm due to learning and innovation. Between-firm due to job-to-job mobility: average annual between-firm growth due to the net job-to-job mobility on the employment-weighted quality composition of firms. Between-firm due to employment mobility: average annual between-firm growth due to the effect of net employment mobility on the employment-weighted quality composition of firms. The figure provides a worker-level decomposition of aggregate wage and productivity growth based on Hahn, Hyatt and Janicki (2021[28]) into components associated with stayers, job-to-job mobility and employment mobility (Equation 2). Firms are ranked based on the moving average in wages and productivity over the previous three years. As an example, average annual aggregate wage growth in Lithuania was 4.9%, of which most came from on-the-job growth and to a lesser extent job-to-job and employment mobility. For more details, see Box 5.4.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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Box 5.6. Methodology III: Comparing aggregate growth rates across countries

The pace of growth-enhancing job reallocation depends both on initial conditions, i.e. the current allocation of jobs across firms, and the responsiveness of employment to firm quality, i.e. employment adjustment costs for firms and barriers to job mobility for workers. A convenient feature of the regression-based job reallocation model (Equation 1) is that it can be used to conduct counterfactual analyses of aggregate growth, keeping constant the estimated coefficient on firm quality ("responsiveness") or the distribution of firm quality ("dispersion"). More specifically, the difference in aggregate growth (Δy) due to job reallocation between two countries 1 and 0 can be decomposed in a component that reflects differences in responsiveness (β) for a given distribution of firm quality and a component that reflects differences in the dispersion in firm quality (X) for a given level of responsiveness, as follows:

$$(3)\ E[\Delta y_1|X_1] - E[\Delta y_0|X_0] = \beta_1|X_1 - \beta_0|X_0 = \underbrace{[\beta_1|X_0 - \beta_0|X_0]}_{Responsiveness} + \underbrace{[\beta_1|X_1 - \beta_1|X_0]}_{Dispersion}$$

In practice, this decomposition is implemented in three steps, alternatively fixing the responsiveness or the level of dispersion. First, partial predictions of net employment growth, net job-to-job mobility and net employment mobility are retrieved for each quintile of the employment-weighted firm-quality distribution. Second, the corresponding employment shares for each segment of the employment-weighted firm quality distribution are recalculated. Third, the contribution to aggregate growth is calculated by taking the employment-weighted average of firm quality across segments.[1]

1. The decomposition presented in Equation 3 can alternatively be expressed using $\beta_0|X_1$ as the counterfactual (i.e. using the responsiveness of country 0 and the level of dispersion in country 1). As both approaches can result in slightly different contributions of responsiveness and dispersion to differences in wage and productivity growth, the results of both counterfactual approaches are averaged.

5.2.2. The role of workforce ageing

This sub-section explores the influence of workforce ageing for growth-enhancing job reallocation as well as aggregate wage and productivity growth.[14]

Older workers are less likely to transition to better firms

The lower mobility of older workers was used in Section 5.1 of this chapter to draw out the implications of workforce ageing for the long-term evolution of gross worker mobility. In this section, the attention is instead placed on the extent to which an ageing workforce exhibits lower rates of net job mobility toward higher-paying and more productive firms. This is analysed by focusing on the responsiveness of employment of a given age group to differences in firm wages or productivity (see Box 5.3). A positive correlation between firm employment growth and lagged firm quality suggests that the structure of employment shifts towards higher quality firms and hence that reallocation is growth-enhancing. This approach is preferred in the present case for expositional purposes as it is very synthetic. The results are very similar when focusing on employment growth by quintile of the firm-quality distribution as in the previous section.

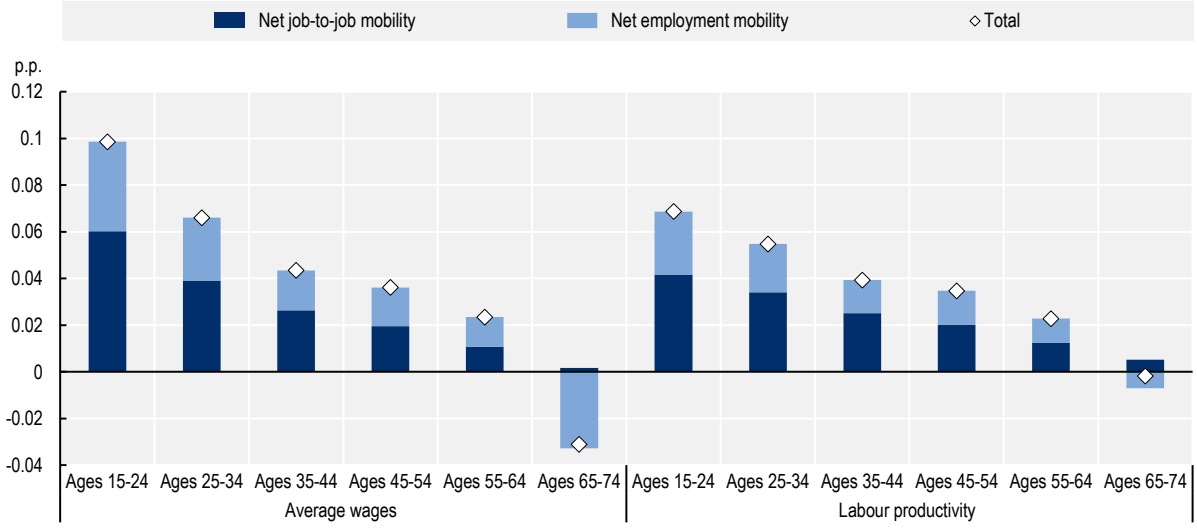
Older workers are not only less mobile but also less likely to transition to better firms in terms of average wages or and productivity (Figure 5.10). An increase of 10% in average firm wages (conditional on observed worker characteristics) is associated with an increase in firm-level employment growth of workers aged 15-24 of 1.0 percentage points, while a similar increase in labour productivity is associated with an increase of 0.7 percentage points in firm-level employment growth of young workers. This confirms the importance of job-to-job mobility for the careers of young workers and growth-enhancing job reallocation (Topel and Ward, 1992[36]; BLS, 2017[37]). The employment-growth response monotonically decreases with age. For workers aged 65-74, it even turns slightly negative due to the tendency of older workers to retire

from high quality firms. Differences in the employment-growth response mainly reflect differences in the role of job-to-job mobility in job reallocation, suggesting that the "job ladder", through which workers move from lower to higher quality firms, operates more slowly for older workers. As a result, workforce ageing could have important implications for the speed of efficiency-enhancing reallocation and its contribution to aggregate wage and productivity growth.[15]

Several factors may explain the lower responsiveness of employment growth to firm quality at older ages. First, the structure of older-worker employment across firms may be less sensitive to differences in firm quality because older workers face more important barriers or constraints to changing employers (e.g. home ownership, job security, social ties, family responsibilities; see Chapter 3). Older workers may also place a higher value on flexible working environments in terms of working time and location (OECD, 2024[38]).[16] Second, a lower responsiveness of employment growth to firm quality at older ages also may stem from higher costs of adjusting employment levels of older workers for employers, or because high quality employers prefer to hire younger workers (see Chapter 3 for a discussion of hiring discrimination against older workers). Third, older workers may also feel that they have little to gain from changing employers either because they have already climbed the job ladder, or because they have fewer working years remaining in their careers.

Figure 5.10. Growth-enhancing job reallocation is most important for young workers

Growth-enhancing reallocation among incumbent firms as measured by the employment-weighted impact of firm-quality on net employment growth across firms, by age group, percentage points (p.p.)



Note: Total: responsiveness of net employment growth to firm quality. Net job-to-job mobility: responsiveness of net job-to-job mobility to firm quality. Net employment mobility: responsiveness of net employment mobility to firm quality. The figure shows the coefficients of employment-weighted firm-level regressions of employment growth on log firm quality in the previous period, lagged firm size and year fixed effects based on Equation (1). A positive coefficient indicates that job reallocation shifts the structure of employment towards better firms and is growth-enhancing. Coefficients are normalised with respect to the global standard deviation in firm quality. Firms are ranked based on the moving average in wages and productivity over the previous three years. As an example, an increase of 1% in average firm wages is associated with an increase in firm-level employment growth of workers aged 15-24 of 0.1 percentage points. For more details, see Box 5.3. Unweighted average across countries. Firm-level average wages (16 countries): Austria, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden. Firm-level labour productivity (9 countries): Canada, Denmark, Finland, France, Hungary, Italy, the Netherlands, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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Ageing is associated with a slowdown of growth-enhancing job reallocation

Next, the impact of demographic change on the evolution of between-firm wage and productivity growth between 2001 and 2019 is analysed. This is done using a shift-share decomposition on changes in between-firm wage and productivity growth within and across age groups (Box 5.7).[17] The shift-share analysis accounts for the effects of demographic change through its impact on the age structure of employment (changes in age-specific employment shares), as well as changes in the mobility behaviour of older workers relative to younger workers in response to, for example, changes in retirement age or life expectancy (age-specific shifts in growth-enhancing reallocation). Figure 5.10 shows that in some countries between-firm growth rates due to job mobility to better firms have become somewhat more important for older workers relative to younger ones.

Box 5.7. Methodology IV: The role of ageing in the evolution of aggregate growth

The role of workforce ageing in the evolution of between-firm wage and productivity growth (Δy_t) is analysed using a shift-share decomposition. The share component captures changes in between-firm growth due to changes in the age structure of employment – which, in turn, arise from changes in age-specific employment rates and population shares (composition). The shift component instead measures the change in between-firm growth rates within age groups due to changes in age-specific mobility behaviour (growth rates). Formally, this can be written as:

$$(4)\ \Delta y_t = \underbrace{\sum_a \bar{y}_a \, \Delta s_{t,a}}_{Share\ (composition)} + \underbrace{\sum_a \bar{s}_a \, \Delta y_{t,a}}_{Shift\ (growth\ rates)}$$

where $\Delta s_{t,a}$ measures the change in the share of employment of age group a between time t and $t-1$ and $\Delta y_{t,a}$ measures the change in between-firm wage or productivity growth rates of age group a between time t and $t-1$ due to age-specific shifts in growth-enhancing job reallocation. The average employment share of age group a over the entire period is given by $\bar{s}_a$ and the average growth between-firm wage or productivity growth rate of age group a due to growth-enhancing job reallocation is given by $\bar{y}_a$.

The shift component in turn can be decomposed as the sum of an average shift component related to general changes in labour market dynamism that affect all age groups equally, and of a differential shift component that differs across age groups. One factor that may give rise to differential changes in between-firm growth due to growth-enhancing job reallocation across age groups may be ageing as longer working lives may change the incentives for job mobility to better firms disproportionately among older workers. Formally, the decomposition can therefore be extended as follows:

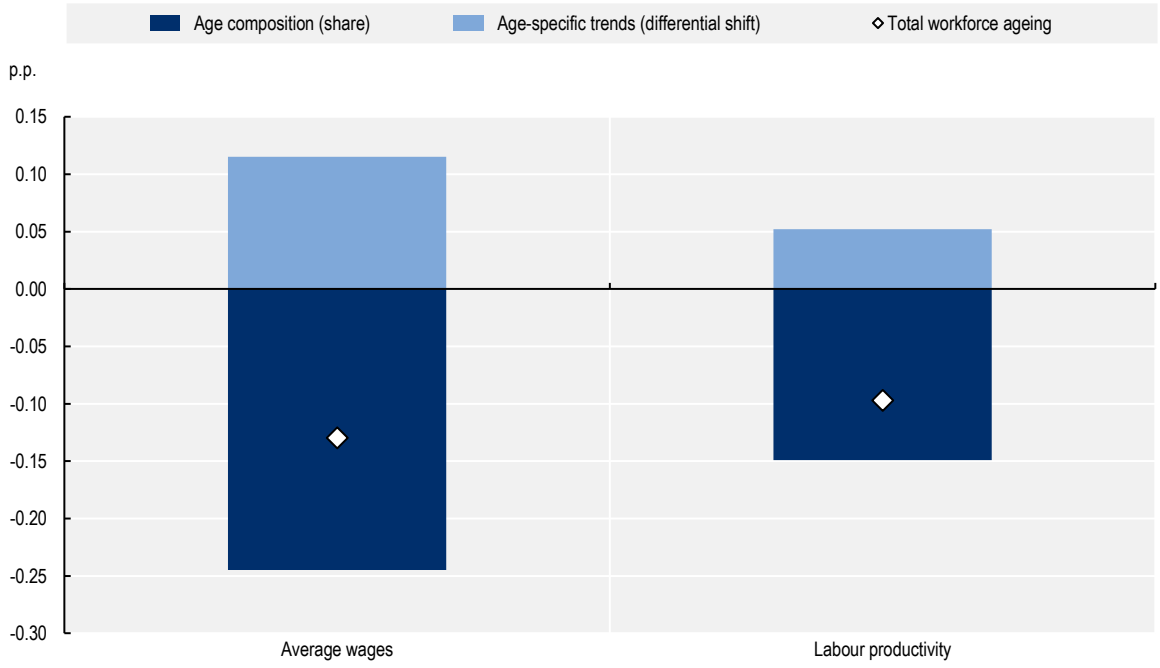
$$(5)\ \Delta y_t = \underbrace{\sum_a \bar{y}_a \, \Delta s_{t,a}}_{Share\ (composition)} + \underbrace{\sum_a \bar{s}_a \, (\Delta y_{t,a} - \Delta \bar{y}_t)}_{Dif.shift\ (growth\ rates)} + \Delta \bar{y}_t$$

where $\Delta \bar{y}_t$ measures the common shift component. For the present purposes, the differential shift component is entirely attributed ageing. The total effect of ageing on changes in between-firm growth rates is then given by the sum of the share component and the differential shift component. Note that, even though this chapter only considers the sum of these two components as the role of ageing, it might increase mobility and growth-enhancing reallocation at any age – for youth, who will be in short supply, and for the old, who will have longer time working lives. The common shift component might therefore also contain some effect of ageing among many other factors.

Demographic developments have tended to weaken growth-enhancing job reallocation (Figure 5.11). More specifically, demographic change is associated with slower wage and productivity growth due to reallocation by respectively 0.13 and 0.10 percentage points between 2001 and 2019, which represents a considerable part of the average annual aggregate growth rate of, respectively, 0.6 and 1.0% among the set of countries considered. This is driven by the change in the age structure of employment towards older workers and the lower responsiveness of their mobility choices to between-firm differences in pay or productivity. The shift of the structure of employment to older workers mainly reflects the impact of workforce ageing, but to a lesser extent also declining employment rates among youth due to the long-term reduction in fertility and the tendency of youth to study longer (see Annex Figure 5.A.5). The adverse effects of changes in the age composition of employment are partially offset by differential trends in age-specific growth rates due to job reallocation.[18,19]

Figure 5.11. Ageing weakens aggregate between-firm wage and productivity growth

Difference in between-firm wage and productivity growth rates based on a shift-share decomposition on the evolution of age-composition of employment and age-specific trends in between-firm wage and productivity growth rates, early 2000s to late 2010s, percentage points



Note: Age composition (share): the p.p. change in between-firm growth rates due to changes in the age-composition of employment. Age-specific trends (differential shift): the p.p. change in between-firm growth rates due to changes in age-specific trends in between-firm growth rates. Total workforce ageing: the p.p. change in between-firm growth rates due to changes in the age composition of employment and to changes in age-specific trends in between-firm growth rates. The figure shows the p.p. changes in between-firm wage and productivity growth rates between the early 2000s to late 2010s that are accounted for by workforce ageing in a shift-share decomposition on the evolution of age-composition of employment and age-specific between-firm wage and productivity growth rates (Equation 5 in Box 5.7). The age composition (share) component accounts for changes in the age-composition of employment over time, while the age-specific trends component accounts for changes in age-specific trends in between-firm growth rates over time, net of average changes across age groups. The exercise is restricted to countries with sufficiently long and uninterrupted time series (2005-18, see Annex Table 5.A.3).Unweighted average across countries. Firm-level average wages (11 countries): Austria, Canada, Denmark, Estonia, Finland, Germany, Italy, Lithuania, New Zealand, Portugal and Sweden. Firm-level labour productivity (6 countries): Canada, Denmark, Finland, Italy, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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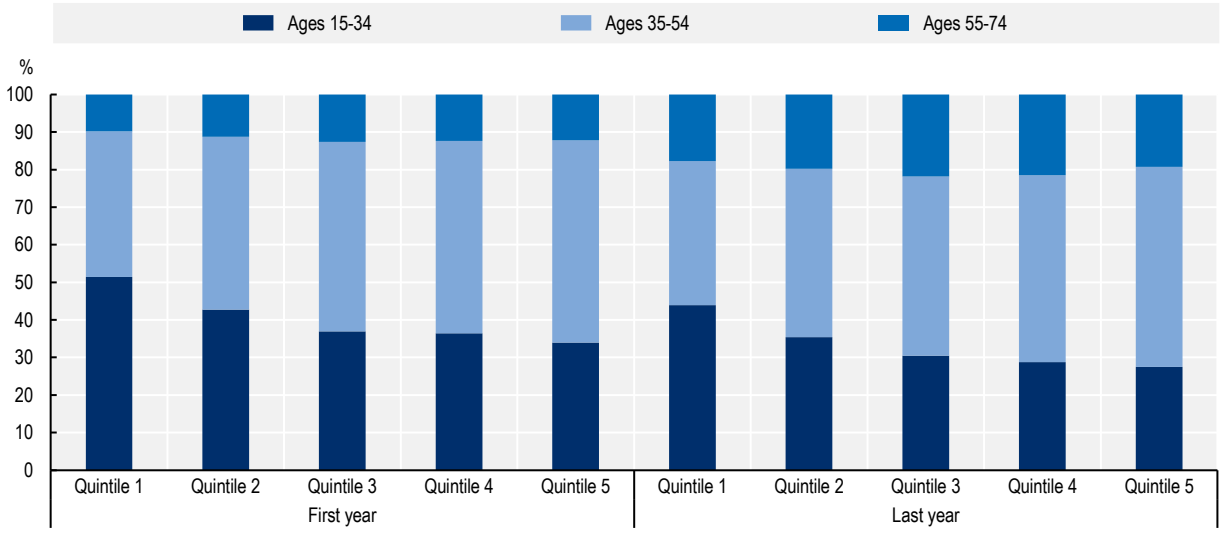
From a policy perspective, a key question is *why* workforce ageing tends to slow aggregate wage and productivity growth. If this reflects a lower responsiveness of firm-level employment growth to differences in firm quality among older workers, this raises concerns about the adaptability of the workforce to structural change and there may be a case for developing policies that can support job mobility among such workers. For example, the structure of older-worker employment across firms may be less sensitive to differences in firm quality because older workers face more important constraints to changing employers (e.g. home ownership, job security, social ties, family responsibilities), because adjusting employment levels of older workers is more costly for employers, or because high quality employers prefer to hire younger workers (see Chapter 3 for a discussion of hiring discrimination against older workers). By contrast, if workforce ageing slows aggregate wage and productivity because older workers feel that they have little to gain from changing employers either because they have already climbed the job ladder, or because they have fewer working years remaining in their careers, this would require policies to increase the returns to mobility at older ages via training and career guidance.

The segregation of employment by age across firms of different quality has tended to deepen slightly over time

An interesting question is the extent to which workforce ageing affects the careers of younger workers and their contribution to efficiency-enhancing job reallocation. To the extent that older workers are concentrated in better firms and older workers continue to work longer, this may dampen opportunities for younger workers for moving up the firm job ladder. For the most recent year, older workers aged 55-74 account for 17% of employment in the bottom quintile of the employment-weighted firm distribution of wages and 19% of employment in the top quintile (Figure 5.12). However, young workers aged 15-34 account for 43% of employment in the bottom quintile and 27% in the top quintile. This age-based employment segregation has increased slightly since the early 2000s and reflects the importance of the job ladder for integrating new cohorts of young workers in the labour market. The empirical literature does not appear to have directly addressed the growing segregation of employment by age across firms nor the impact of workforce ageing on the opportunities of younger workers for upward mobility between firms. Recent evidence instead has focused on the effects of delayed retirement on the employment opportunities of young workers within firms,[20] while earlier research clearly dismissed the idea that older workers crowd out younger ones in employment at the aggregate level (the “lump-of-labour fallacy”, i.e. the incorrect premise that there is a fixed quantity of aggregate employment).

Figure 5.12. Age-segregation across the firm-distribution of wages has deepened slightly

Age composition across quintiles of the firm-distribution of wages, first and last year



Note: First year: initial year of coverage for each country (typically 2001, but with variation). Last year: last year of coverage for each country (typically 2019, with little variation). The figure shows the average age composition of employment across quintiles of the employment-weighted distribution of firm. For more details, see Box 5.3. Unweighted average across 16 countries: Austria, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

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5.3. Policy implications

Policies have a key role to play in supporting growth-enhancing job reallocation by promoting flexibility for firms and supporting job mobility between firms for workers. Special emphasis is placed in policies that can promote job mobility among mid-career and older workers.

5.3.1. Policies that provide flexibility to firms

The OECD has consistently emphasised the importance of flexibility for firms for well-functioning labour markets, including the process of efficiency-enhancing job reallocation. However, flexibility can take different forms, and some forms of flexibility are better than others (OECD, 2018[39]). This sub-section focuses on the role of employment protection and job retention schemes for efficiency-enhancing job reallocation.

Employment flexibility is important for efficiency-enhancing job reallocation

Job security provisions, whether in the form of employment protection or job retention schemes, can have important implications for broadly shared productivity growth. They can contribute to stronger productivity growth by strengthening incentives for the accumulation and preservation of firm-specific human capital in the workplace by promoting long-term employer-employee relationships (Belot, Boone and Van Ours, 2007[40]) and the use of high-performance work and management practices (Bloom and Van Reenen, 2010[41]). However, they can also undermine productivity growth. For example, by reducing the tendency of firms to adjust employment in line with changing business conditions and weakening the incentives of

workers to move to more productive firms, they may undermine efficiency-enhancing job reallocation across firms.

The literature suggests that overly strict employment protection against the dismissal of workers on open-ended contracts reduces efficiency-enhancing job reallocation. In particular, overly strict employment protection legislation can slow job reallocation by reducing vacancy creation and hence opportunities for job mobility (Bassanini, Nunziata and Venn, 2009[42]; Andrews and Cingano, 2014[43]; Bartelsman, Haltiwanger and Scarpetta, 2013[44]).[21] The challenge for policy makers is therefore to provide sufficient employment flexibility to firms to allow jobs being reallocated to their most productive uses, while providing incentives for learning and innovation in the workplace and protecting workers against abuse, for which employment protection legislation remains essential.

If not well designed, employment flexibility can increase turnover without supporting growth-enhancing job reallocation

Net job mobility only represents a small fraction of gross worker mobility as worker flows often take place between similar firms or offset each other. In fact, net job flows that shift the structure of employment between quintiles of the firm-quality distribution only account for about 5% of gross worker mobility in the linked employer-employee data used in this Chapter.[22] While this share increases when segmenting the firm-quality distribution more finely, the qualitative pattern remains unchanged.[23] This suggests that gross worker flows are predominantly driven by factors unrelated to differences in firm wages, including personal considerations, but also policies and institutions.

One factor that may contribute to gross worker mobility rates, but not growth-enhancing job reallocation, is a strong reliance on overly flexible work arrangements, including short-duration fixed-term contracts. While a moderate use of temporary work can help to provide additional job opportunities to unemployed workers by enhancing the matching process between firms and workers, an excessive use comes at the expense of permanent contracts and results in low opportunities for contract conversion and high job turnover (OECD, 2018[39]). In some countries with an excessive reliance on temporary work, this results in part from a strict protection of open-ended contracts which creates incentives for the use of flexible work arrangements, resulting in labour market duality (Hijzen, Mondauto and Scarpetta, 2017[45]; Bassanini and Garnero, 2013[46]; OECD, 2018[39]). To avoid providing incentives for an excessive use of temporary work, employment protection should remain moderate, be balanced across contract types and effectively protect workers against unfair dismissal, including dismissal based on age discrimination – see Chapter 3.

Another factor affecting the relationship between worker mobility and reallocation relates to the role played by unemployment insurance and job retention schemes during deep economic crises (Giupponi, Landais and Lapeyre, 2022[47]). To the extent that economic crises represent episodes of creative destruction during which jobs in low quality firms are destroyed followed by the creation of jobs in high quality firms in the recovery, no attempt should be made to preserve worker-firm matches that are under pressure and support should focus on providing income and job-search support to unemployed workers. However, to the extent that economic crises only temporarily put worker-firm matches at risk that remain viable in the medium term, there is a case for policies that promote labour hoarding, including job retention schemes.[24] The optimal response is likely to vary depending on the nature of the crisis and a country's policies and institutions. Evaluations of job retention schemes in European countries during the COVID-19 crisis tend to suggest that their negative impact on growth-enhancing job reallocation was limited (Calligaris et al., 2023[48]).

5.3.2. Policies that support mobility of workers to better firms

The analysis in this chapter demonstrates that, while employment flexibility for firms is important for growth-enhancing job reallocation, barriers to the mobility of workers may be even more important. Consequently,

more attention should be given to addressing barriers to job mobility and strengthening incentives for job mobility. This sub-section focuses on policy barriers to job-to-job mobility in the form of occupational licencing and non-compete agreements, and the role of wage-setting policies in shaping incentives for it (see Chapter 3 for additional discussion in relation to older mid-career and older workers).

Professional licensing regulations are under increased scrutiny amid growing concerns about their consequences for growing-enhancing job reallocation

Licensed or regulated professions must follow rules on entry and conduct in their field. Licensing regulations may include administrative procedures, qualification requirements and mobility restrictions (von Rueden and Bambalaite, 2020[49]; OECD, 2022[4]). As credence goods, the quality of professional services is difficult for consumers to assess. Professional licencing aims to correct market failures caused by information asymmetries between consumers and service providers. However, by creating entry barriers, licensing regulations can curtail competition, restrict business dynamism and slow growth-enhancing job reallocation.

The share of professions subject to licensing regulations is significant and has expanded over time, covering up to 30% of jobs in some countries. While their use was traditionally limited to liberal professions like lawyers and engineers, it has tended to expand to include occupations, such as dockers, driving school instructors, transporters, and hairdressers (Bambalaite, Nicoletti and von Rueden, 2020[50]; Kleiner and Krueger, 2010[51]). Evidence on their broader economic consequences is limited. There is some indication that licensing slows firm-level productivity growth, harms entry of innovative firms and lowers employment growth in the most productive ones (Bambalaite, Nicoletti and von Rueden, 2020[50]). For example, in the United States, separation and hiring rates tend to be lower in states with a higher share of occupations under professional licensing regulations and job mobility across states is generally lower towards states with more stringent licensing requirements (Hermansen, 2019[52]). Licensing may also curtail employment growth and reduce earnings in occupations with similar skill-profiles (Dodini, 2023[53]).

Amid growing concerns over the unintended consequences of professional licensing regulations in a context of weak productivity growth, the design and implementation of such regulations is receiving increased scrutiny from policy makers. While they remain crucial in reducing information asymmetries, care should be taken that they do not unwittingly create barriers to growth-enhancing job mobility and remain pertinent as technological developments are rapidly changing the delivery of professional services (OECD, 2023[54]). To limit unintended consequences, policy makers should weigh the use of compulsory licensing measures against voluntary certification approaches that can be combined with consumer information systems (e.g. service quality comparison platforms) (OECD, 2022[4]). Shifting the emphasis from input quality (ensuring professional service providers possess adequate qualifications) to output quality (ensuring the services provided meet certain minimum standards) may also have more limited negative side effects on competition and job reallocation (OECD, 2018[55]).

There is growing evidence that non-compete and other restraint clauses are not just used to protect legitimate business interests but also to limit competition.

Non-compete and related restrictive clauses are contractual provisions that limit employees' activities after they leave their current job. Such clauses can prevent former employees from working for a competitor, starting a competing business, or competing firms from hiring each other's employees ("poaching"). In most OECD countries, these restraints are permitted and governed by law to safeguard legitimate employer interests, such as trade secrets, client information or specific investment in the employment relationship (e.g. training) (Andrews and Garnero, 2025[56]). However, these clauses can also be used to reduce competition in product and labour markets, potentially hindering growth-enhancing job reallocation.

Surveys from selected countries indicate that the prevalence of non-compete clauses is high, potentially covering up to a quarter of the workforce and used by as many as half of firms, with usage possibly on the rise (Andrews and Garnero, 2025[56]; OECD, 2022[4]; OECD, 2019[57]). While non-competes are especially common in knowledge-intensive fields, protecting legitimate business concerns, they are increasingly found in sectors where access to proprietary information and trade secrets is highly unlikely, such as among entry-level fast-food workers in the United States (Andrews and Garnero, 2025[56]). Non-compete clauses are often packaged with other restraint clauses that directly impede worker mobility, including non-disclosure, non-solicitation, and non-recruitment agreements. Where the use of non-competes is formally limited, they can also be substituted with clauses that do not explicitly restrict worker mobility but effectively serve as functional equivalent.

Importantly, non-compete clauses can stifle job mobility, growth-enhancing job reallocation and technology diffusion. As such, they may have contributed to the slowing of productivity growth and the decline in the labour share (Buckley, Rankin and Andrews, 2024[58]; FTC, 2024[59]). For example, non-compete clauses have negatively impacted competitive labour market conditions in the United States by hindering efficient matching between workers and employers, as well as in product and service markets by inhibiting new business formation and innovation (FTC, 2024[59]).[25] The 2024 Draghi report on EU competitiveness echoes these concerns, recommending that competition policy address practices that limit labour mobility between companies, including non-compete agreements (Draghi, 2024[2]). Recent evidence from Austria on the introduction of a ban on non-competes for low-wage workers in 2006, suggests that the ban of non-competes had only a modest positive impact on overall job mobility, somewhat in contrast with the evidence for the United States, although several context-specific factors can explain the result (see Box 5.8).

Given the growing concerns about the excessive use of non-compete clauses and their consequences, there are multiple options to restrict their use, many of which are already in place in several OECD countries, e.g. Andrews and Garnero (2025[56]) and OECD (2022[4]; 2019[57]). These measures include, among others, complete bans, partial bans targeting low-wage workers or those on fixed-term contracts, limitations on their application in terms of time or geographic scope or requirements related to compensation and notification. Additionally, competition authorities in some countries have also acted against other restraint clauses (e.g. a ban on non-solicitation clauses). Nevertheless, the evidence suggests that regulations limiting the enforceability of non-compete clauses may not suffice to prevent their unlawful use in the absence of significant penalties for their abuse by employers (Starr, Prescott and Bishara, 2020[60]; Boeri, Garnero and Luisetto, 2024[61]).

Box 5.8. The economic effects of restrictions on non-compete agreements and the role of policy design: The case of Austria

Evidence for the United States suggests that non-compete agreements can have large negative effects on job mobility, wages and innovation – see Starr (2024[62]) for an overall review. However, empirical evidence outside of the United States is scarce (Andrews and Garnero, 2025[63]). A study of a 2006 reform in Austria which banned non-compete clauses for low-wage workers finds a modest negative effect of non-compete clauses on job mobility, and no effect on earnings growth (Young, 2024[64]). Beyond the inherent differences in their labour markets, several design factors may play a role in explaining the differing effects of non-compete regulations in Austria and the United States.

- *First, non-compete clauses are not the only post-employment restraint that matters.* While the 2006 reform in Austria restricted the use of non-compete agreements, it also expanded the use of training repayment clauses, allowing firms to recover training costs from up to five years before a worker's departure (previously three years). While training repayment clauses do not directly restrict worker mobility, they add costs to workers who may want to leave (Harris, 2021[65]). Considering all the clauses that may limit workers' mobility (e.g. non-recruitment/non-solicitation of colleagues, non-solicitation of clients, repayment of training costs or repayment of benefits) is therefore key to ensure that limitations to the use of non-compete clauses do not simply translate into a higher use or higher enforcement of other clauses.
- *Second, lack of clarity about the applicability of non-compete agreements hinders the effect of reforms aimed at reducing their use.* The Austrian reform introduced a threshold below which non-competes are not enforceable. The threshold changes every year and only certain wage components are included in its definition. Moreover, what matters in the case of Austria is not the wage at the moment of signing the contract but the wage at the end of the employment relationship. This may result in considerable uncertainty by the workers concerned about the actual enforceability of non-compete agreements hindering the intended effects of the reform.
- *Third, even unenforceable clauses can stifle job mobility.* Banning or restricting non-compete agreements is not enough if they are still used in employment contracts. Research for the United States and Italy shows that even unenforceable non-compete agreements can have a chilling effect on worker mobility, as workers often do not realise that they are unenforceable and cite them as a reason for not taking a job offer from a competitor (Starr, Prescott and Bishara, 2020[60]; Prescott and Starr, 2024[66]; Boeri, Garnero and Luisetto, 2024[61]). Since the use of non-compete agreements in Austria was made merely non-enforceable among workers with incomes below the threshold but applicable to workers whose incomes increase beyond the threshold, employers in Austria have a clear incentive to include "dormant" non-compete agreements that become enforceable in case the threshold is passed. However, and as discussed above, workers may think that they are enforceable even if they fall below the threshold.

Another reform in 2015 in Austria, which, differently from the 2006 reform, was done in agreement with social partners, significantly increased the threshold and clarified the wage components to be taken into account. The reform also brought back the time period for repayment to three years. The effects of the 2015 reform have not yet been evaluated and hence it is not clear how effective it has been in restricting the use of non-compete agreements and promoting job mobility.

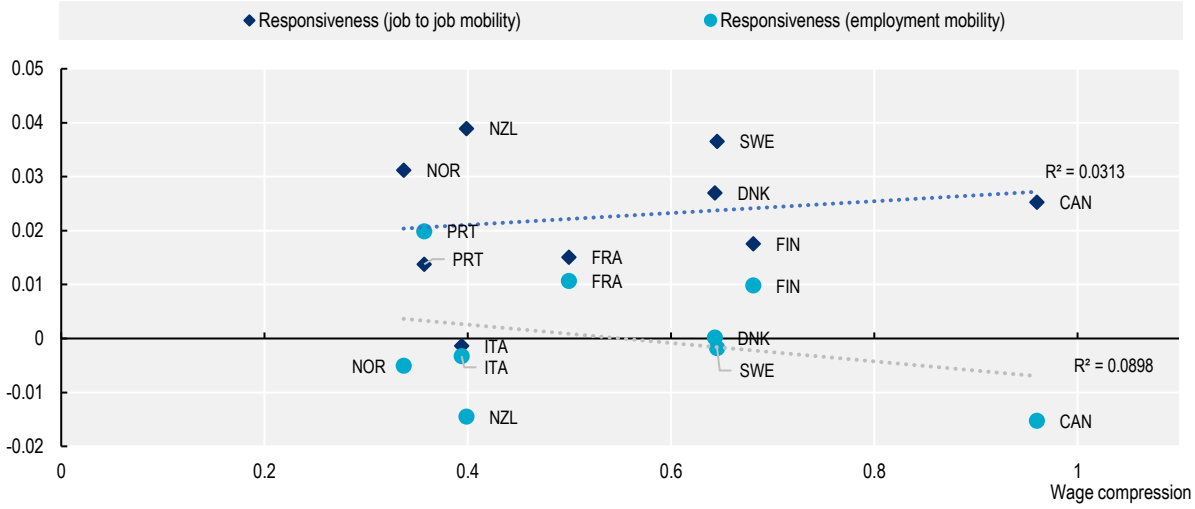
Note: This box was prepared with contributions from Sindri Engilbertsson, Andrea Garnero and Sergio Pinto.

A better understanding of the role of wage-setting institutions for efficiency-enhancing reallocation is needed

The role of wage-setting institutions, such as minimum wages and collective bargaining, in efficiency-enhancing job reallocation remains a topic of debate. While potentially suppressing incentives for job mobility, minimum wages may ensure fairer wages for workers with a vulnerable bargaining position in labour markets where employers have significant wage-setting power, and therefore enhance rather than impede efficient labour allocation and worker mobility (Manning, 2020[67]). Descriptive evidence suggests that a stronger compression of wages is not associated with growth-enhancing reallocation (Figure 5.13). When measuring growth-enhancing reallocation in terms of average wages, there is no significant relationship between the responsiveness of net employment to wages, through either job-to-job or employment mobility, and wage compression across countries, as measured by the ratio of dispersion in firm-level productivity to dispersion in firm-level wages.

Figure 5.13. Wage compression does not have major effects on growth-enhancing job reallocation

Wage compression and growth-enhancing reallocation among incumbent firms as measured by the employment-weighted impact of firm-quality on net employment growth across firms, net job-to-job mobility and net employment mobility



Note: Job-to-job mobility: responsiveness of net job-to-job mobility to firm quality. Employment mobility: responsiveness of net employment mobility to firm quality. Wage compression: dispersion of wages over the dispersion in productivity between firms (lower scores represent stronger compression). The figure shows the relationship of wage compression and the responsiveness of employment growth on log firm wages in the previous period (controlling for lagged firm size and year times industry fixed effects), following Decker et al. (2020[14]). Positive responsiveness indicates that job reallocation shifts the structure of employment towards higher-paying firms and contributes to aggregate wage growth. For more details, see Box 5.3.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

StatLink https://stat.link/wrdcyg

The ambiguous effects of wage floors for growth-enhancing job reallocation could be the result of two competing mechanisms. By compressing the wage distribution between firms and reducing incentives for voluntary job mobility, wage floors may weaken the job ladder and reduce net job-to-job mobility, making it more difficult for highly productive firms to attract workers (OECD, 2018[39]). For example, Hijzen, Lillehagen and Zwysen (2024[27]) show that higher wage compression in Norway leads to a weaker job ladder as compared to the United States, even though the overall pace of growth-enhancing reallocation is similar in both countries.[26] At the same time, wage floors can force the least productive firms to reduce employment or exit the market (Aaronson et al., 2018[68]; Chava, Oettl and Singh, 2023[69]). If workers from

exiting firms find jobs in more productive ones, overall employment may remain unaffected while aggregate productivity increases. Recent evidence from Germany (Dustmann et al., 2022[70]) and the United States (Rao and Risch, 2024[71]) confirms the importance of this firm-driven process of efficiency-enhancing job reallocation. These effects are more pronounced when less productive firms that employ a relatively large share of minimum-wage workers experience greater declines in profitability, employment, and survival, while more productive firms expand employment (Dube and Lindner, 2024[72]).

To promote productivity growth through job reallocation, wage-setting institutions that limit wage dispersion should be complemented with policies that enhance voluntary job mobility and foster innovation in low-productivity firms. The consequences of wage floors for growth-enhancing reallocation depend crucially on the extent to which they shift job opportunities for workers from less to more productive firms and the ability and willingness of workers to move to more productive firms. The former is likely to require flexible product and labour markets while the latter can be supported through comprehensive activation policies and career guidance services. To promote worker-driven job mobility between firms, activation and career guidance services should also be made available to workers who are stuck in low-quality jobs and would like to make a career change. In addition, pay transparency measures might incentivise worker driven-job mobility by making the benefits of potential transitions more salient (see Box 5.9).

Box 5.9. The role of pay transparency measures in growth-enhancing job reallocation

Pay transparency measures mandate wage posting in job ads or making firm-level statistics on median/average pay by occupation public, often also by gender OECD (2021[73])). Such measures may not only help to promote gender equality at work but also may enhance growth-enhancing job-to-job mobility by making outside options with wage gains more salient to workers. This type of transparency could complement wage floors that compress wage differences by making remaining differences more visible.

Workers often face substantial information barriers when assessing external opportunities. Most notably, workers tend to anchor their expectations about potential earnings elsewhere on their current wages, leading to systematic underestimation of the potential wage gains of outside job opportunities, particularly among lower-paid workers who tend to underestimate the potential wage gains of outside job opportunities (Cullen, 2024[74]; Jäger et al., 2024[75]). Mandated wage posting in job ads and public wage statistics may be able to correct these misconceptions.

Recent evidence on mandating public disclosure of median employee pay in the United States shows that employees are more likely to depart firms introducing the disclosure of median employee pay. This suggests that pay transparency can increase job mobility by facilitating pay comparisons both within and across firms, with companies experiencing higher employee churn (Dambra et al., 2025[76]). Similarly, when the Slovak Republic mandated salary information in job postings, workers applied to a more diverse range of positions across sectors, and those hired after implementation earned approximately 3% higher wages than pre-reform hires (Skoda, 2022[77])). Similar effects were observed in Denmark, where information about external job offers flowing through networks facilitated transitions to higher-paying positions (Caldwell and Harmon, 2019[78]).

With the EU Pay Transparency Directive, companies in EU countries are required to inform job seekers about starting salary or pay range of advertised positions by 2026. Several US states – notably California, Colorado, Connecticut, Maryland, Rhode Island and Washington – have introduced similar requirements in recent years (OECD, 2023[79]).

5.3.3. Policies directed at securing and supporting the mobility of mid-career and older workers

Workforce ageing tends to reduce the contribution of growth-enhancing job reallocation to aggregate wage and productivity growth. To some extent, this might reflect the fact that older workers have already progressed up the job ladder to better firms and contributed to growth-enhancing job reallocation. However, some older workers may face specific barriers to job mobility that keep them locked in low-quality firms or undermine their job-finding prospects following job displacement. Addressing these barriers requires effective policy interventions that tackle barriers to job mobility among mid-career and older workers.

Securing transitions of mid-career and older displaced workers through targeted support

The consequences of job loss tend to be particularly severe for mid-career and older workers. For instance, workers aged 46- 50 lose about half of their annual pre-displacement earnings on average over the first 5 years following job loss, while workers aged 18 to 20 only lose about 20% on average (OECD, 2024[3]). Older workers face larger earnings losses in part because they are more likely to exit the labour force permanently following job loss, reducing effective labour supply and potentially undermining economic growth and the sustainability of public finances.

The risk of older workers leaving the labour force following job loss can be mitigated amongst others by early intervention measures targeted at workers at risk of dismissal or those who have been given notice of dismissal, as well as measures to adapt to structural transformation. For example, in Germany, the *Qualifizierungsgeld* allows for training and adaptation towards new roles within the same firm to support those who are affected by strong transformation pressures, while “basic support” for continuing vocational education and training (with subsidies depending on company size) is also available. Irrespective of transformation pressures, there is support for vocational education and training for those who have been given notice of dismissal. Further, *Transfergesellschaften*, which are part of a social plan during mass layoff, can temporarily employ displaced workers while offering support in finding new jobs and opportunities for skill development. Such programmes are particularly beneficial for workers who face a higher risk of long-term unemployment, many of whom are older workers (Fackler, Stegmaier and Upward, 2024[80]).

While labour force exits explain a part of the earnings losses among mid-career and older workers, they also tend to experience a decline in job quality when returning back to work. For example, mid-career and older workers aged 46-50 experience a 28% decline in wages relative to their job before displacement compared with practically zero average wage losses for workers aged 18 to 30 (OECD, 2024[3]). By providing an in-work benefit partially covering the difference in a worker’s current and pre-displacement wages, wage insurance can be a particularly useful instrument to mitigate wage losses among older workers following job loss. Importantly, this not only mitigates wage losses, but also tends to speed up the return to work by strengthening incentives for job search and lowering reservation wages.

So far, wage insurance has been primarily targeted at older workers OECD (2024[31]), for example through the *Reemployment Trade Adjustment Assistance* (RTAA) programme for trade-displaced older workers in the United States. Evidence on this programme suggests that wage insurance significantly accelerated re-employment and resulted in higher long-run cumulative earnings (Hyman, Kovak and Leive, 2024[81]). The reduction in unemployment duration was sizeable, and as a result, the costs of the programme were largely offset by reduced expenditures on unemployment insurance and increased tax revenues. There is no evidence that wage insurance led to lower re-employment wages or a faster wage progression up the job ladder upon re-employment. This may, to some extent, reflect the programme’s focus on older workers.

A wider availability of employment services can support mobility of employed workers

Employment services should be available for mid-career and older workers who have been displaced as well as those who have become stuck in low-quality jobs. Job-search assistance and career guidance can be particularly important for older workers who do not have recent experience with job mobility (OECD, 2024[3]). While public employment services traditionally focus on the unemployed, expanding these services to include employed job seekers, particularly those in dead-end jobs, could help prevent involuntary job losses and early labour market exit. For example, Switzerland's *Viamia* programme offers free career guidance to employed workers aged 40 and over, helping them identify development opportunities and supporting job transitions (OECD, 2024[3]).

Career guidance in the form of career counselling and coaching might help older workers fill knowledge gaps and gaining the confidence needed for successful job search. In the Netherlands, the *Programme for Sustainable Employability and Early Retirement* (MDIEU) provides subsidies to employers and sectors to offer career counselling and coaching specifically designed for older job seekers.

Building professional networks is another critical challenge, with many older workers reporting they needed help finding contacts to "break into" desired jobs (OECD, 2024[3]). Local and national governments can strengthen the access to professional and social networks by creating public spaces that facilitate network building, such as group career counselling sessions specifically, designed for older workers. PES can also assist older workers in growing their networks and fostering intergenerational knowledge transfers through networking events and mentoring programmes.

Removing barriers that disincentivise job and geographic mobility

While direct interventions and employment services play a vital role in supporting job mobility, mid-career and older workers may also face other barriers, beyond the realm of the public employment services, that undermine job transitions.

Mid-career and older workers may hesitate to leave long-held positions due to the risk of losing accumulated severance entitlements and other tenure-related benefits. An increased portability of social benefits and severance pay entitlements could boost job mobility among mid-career and older workers. For example, in 2003, Austria replaced tenure-based severance pay by portable savings accounts funded through employer contributions, which workers can access in the case of job loss or transfer when directly moving to another job and convert in a pension at retirement. There is some evidence that this increased job mobility, especially among workers distressed firms (Kettemann, Kramarz and Zweimüller, 2017[82]). A sensible cap on severance entitlements for long tenures may also be an option.

Geographic constraints may create additional obstacles, especially for mid-career and older workers who are more likely to be homeowners. For example, overly restrictive housing policies can make relocation difficult, even when better opportunities exist elsewhere. Housing policy reforms could boost mobility, for example by lowering property transaction taxes, and easing overly strict rental regulations (Causa, Abendschein and Cavalleri, 2021[83]; Causa and Pichelmann, 2020[84]). Making housing assistance and access to social housing portable could also help some workers relocate more easily, particularly those on lower incomes. For example, the removal of queuing or residency requirements, such as the *Right to Move* in English housing associations, may increase job and geographic mobility (OECD, 2020[85]). While such approaches can benefit workers of all ages that want to relocate for a job, mid-career and older workers may often have stronger preferences for geographic stability and might benefit more from approaches that support local career transitions.

Training and work experience are necessary to keep up with changing labour markets

A changing world of work, with rapid advances in artificial intelligence and other technologies, makes continuous skill development crucial for maintaining high-quality employment at older ages. However, skill

obsolescence poses a particular challenge for older workers, who are often less likely to participate in training and whose skills may therefore become obsolete as the skill demand on the labour market changes – see Chapter 4. This is in part related to fewer opportunities for training at older ages, and in part due to worries over whether acquiring new skills will lead to better outcomes (OECD, 2024[3]).

To foster continued learning and upskilling at older ages, governments can implement targeted training initiatives that help older workers leverage their existing skills while developing new competencies – see Chapter 4 for a more extensive discussion. For example, Australia's *Career Transition Assistance Program* provides tailored support for workers aged 45 and over, focussing on improving digital literacy and identifying transferable skills. The programme includes skills assessments and the development of career plans, helping participants to navigate transitions into new jobs. However, the success of such approaches often hinges on financial barriers. Latvia targets low-qualified older workers by covering 90-95% of training costs through the *Improvement of Professional Competencies of Employed Person Program*. This has increased training participation among workers who might otherwise be unable to afford such upskilling programmes (OECD, 2024[3]). Employers also play an important role in identifying relevant training initiatives. For example, Finland's competence-based qualification system for adults in vocational training allows individuals to focus on areas where they need development without attending entire training programmes, with such areas for development assessed by committees of educational institutions and representatives of industry employers.

Work experience programmes can also be important for fostering transitions for mid-career and older workers – see also Chapter 4. For example, in partnership with local employers, the United Kingdom's *Returnership* Initiative offers training programmes (*Skills Bootcamps*), apprenticeships as well as pre-employment training and work-experience programmes (*Sector-based Work Academy Programmes*). These approaches allow workers to gain experience in different sectors before committing to enter new occupations and/or industries, while simultaneously helping employers address skills shortages (OECD, 2024[3]).

Recognition of prior learning (RPL) programmes is another important tool for supporting mobility among experienced workers. These programmes can shorten the duration of training by acknowledging existing competencies – e.g. those acquired on the job or outside of formal education – making upskilling more attractive for older workers who may be hesitant to invest in lengthy training programmes – see also Chapter 4. Several European countries have implemented RPL frameworks – for instance, the Dutch *Ervaringscertificaat* and the French *Validation des Acquis de l'Expérience* can formally recognise skills acquired through work experience. This can, for example, ensure that access to higher education can be granted without the necessary formal qualifications (OECD, 2024[3]).

5.4. Concluding remarks

This chapter has provided new insights into how growth-enhancing job reallocation contributes to aggregate wage and productivity growth in the context of workforce ageing using linked employer-employee data from 17 OECD countries. It provides two key insights. First, the "job ladder", i.e. job-to-job mobility to better firms, plays a key role in growth-enhancing job reallocation and hence aggregate wage and productivity growth. Second, workforce ageing tends to slow growth-enhancing job reallocation and may further result in weaker aggregate wage and productivity growth. Each of these findings has important implications for policies.

The importance of the job ladder in efficiency-enhancing job reallocation implies that policies that provide flexibility for firms need to be combined with policies that can facilitate job mobility for workers. In the policy discussion on efficiency-enhancing job reallocation, there has traditionally been a strong emphasis on policies that can provide employment flexibility (e.g. employment protection, product market regulations). This is consistent with the competitive market paradigm, in which firms determine employment given wages

and workers are indifferent where they work, all else equal. However, if markets are imperfectly competitive, a more encompassing perspective on policies is needed. In an imperfectly competitive labour market, there are persistent wage gaps between firms, even for workers with the same skills, signalling the importance of frictions to job mobility and shaping the preferences of workers across different firms (OECD, 2022[4]). Consequently, there is a need to combine policies that provide employment flexibility for firms with policies that promote mobility for workers, including by addressing policy-related barriers to job mobility, such as professional licensing or the use of non-compete clauses, as well as policies that can help overcome barriers to job mobility between employers related to differences in skill requirements and location.

Policies that can help to maintain a flexible workforce at all ages and support job mobility among mid-career and older workers are particularly relevant. The chapter shows that since mid-career and older workers are less mobile, workforce ageing tends to slow growth-enhancing job reallocation, leading to lower aggregate wage and productivity growth. Whether lower mobility of mid-career and older workers is a result of larger costs of moving, for example because they face larger moving expenses (e.g. loss in job security, home ownership) or because they may have fewer working years to recover those implicit charges, or whether mid-career and older workers are already significantly better matched than younger workers and therefore have little to gain from job mobility, remains an open question. Irrespective of the origin of lower mobility among mid-career and older workers, policy has an important role to play in supporting job transitions of older workers to higher quality firms. Such policies should include employment and training services targeted at mid-career and older workers but also policies that reduce the costs of moving by making severance pay portable or reforming housing policies by reducing transaction taxes on selling and buying a home or relaxing overly strict rental regulations. There is also a role for increasing the returns to mobility at older ages via training and career guidance.

It is worth pointing out that climbing the job ladder matters not just for growth-enhancing job reallocation, but also for the integration of workers in the labour market and the subsequent advancement in their careers. Indeed, the role of the job ladder for individual wage growth is much larger than that for aggregate wage and productivity growth. In fact, the effect of upward job-to-job mobility on aggregate growth is partly offset by the negative contribution of employment mobility related to the entry of young cohorts in low quality firms. If anything, the potential importance of climbing the job ladder for the integration of the workers in the labour market may be increasing as younger cohorts tend to start their careers in lower quality firms. Consequently, it is even more important to ensure that opportunities for climbing the job ladder are equally shared by preventing that one’s socio-economic background is a determinant of success in the labour market.

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Annex 5.A. Supplementary material

Annex Table 5.A.1. Real average annual growth rates in labour productivity, average wages and median wages by country group and period

Percentages

	Average annual growth rates (%)													
	Labour productivity GDP per hour				Annual wages FTE employees				Median wage FT employees			Low pay (P10)		
	1998-2002	2002-10	2010-19	2019-23	1998-2002	2002-10	2010-19	2019-23	2002-10	2010-18	2018-22	2002-10	2010-18	2018-22
Australia	2.44	1.02	1.20	-0.09	1.70	1.57	0.62	-0.05	1.42	1.01	0.14	1.08	1.28	-0.96
Austria	1.68	1.40	0.68	0.93	0.76	0.95	0.31	-0.19	0.56	0.33	-0.51	..	..	..
Belgium	1.19	0.97	0.42	0.46	1.43	0.12	0.42	0.20	0.81	0.95	-0.84	0.77	0.08	-1.75
Canada	1.75	0.72	0.96	0.36	1.17	1.67	0.78	0.89	1.02	0.34	0.44	1.42	1.21	1.12
Chile	..	2.12	1.46	1.41	4.87	4.76	0.13	..	..	..	..	..	..	..
Colombia	-0.92	2.01	2.15	2.40	..	..	1.23	..	..	1.22	0.53	..	..	..
Costa Rica	0.61	3.08	2.84	2.71	1.45	1.33	3.41	..	..	1.23	..	..	..	..
Czechia	2.66	2.95	1.92	0.27	4.16	3.13	2.59	-1.91	2.38	2.45	0.28	1.85	2.81	1.79
Denmark	0.98	1.12	1.32	0.60	1.30	1.76	0.65	-0.22	1.24	0.95	-0.29	0.98	0.66	-0.46
Estonia	..	4.24	2.35	-1.70	6.30	5.76	3.37	0.43	5.45	4.68	0.61	7.05	5.45	1.28
Finland	2.66	1.34	0.56	-0.45	1.44	1.72	0.26	-0.13	2.16	0.41	-0.10	2.04	0.32	-0.32
France	1.95	0.62	0.82	-0.60	1.28	1.26	0.70	-0.61	0.80	0.39	-1.31	1.07	0.08	-3.55
Germany	1.80	0.69	1.06	0.41	0.74	0.21	1.55	-0.76	-0.21	0.72	0.66	-1.07	0.95	2.37
Greece	2.64	1.08	-1.70	0.42	5.70	0.67	-2.74	-0.22	2.50	-2.80	-2.58	2.41	-4.41	1.38
Hungary	3.11	2.98	1.38	1.70	3.17	2.12	1.37	1.74	2.47	4.70	4.54	2.27	6.81	0.46
Iceland	3.33	2.96	1.28	1.55	3.90	-0.87	3.60	0.46	-7.31	6.55	-2.65	-6.80	6.33	-1.65
Ireland	5.94	2.91	3.77	4.30	3.62	3.60	0.02	-1.47	0.43	0.09	-0.42	0.25	0.78	0.06
Israel	1.48	1.53	1.46	1.91	2.74	-0.68	1.27	1.54	-0.31	3.26	2.11	0.28	2.85	1.31
Italy	0.82	0.00	0.14	0.19	0.72	0.63	-0.28	-1.46	0.75	-0.01	-2.38	0.00	0.84	-2.58
Japan	2.05	0.94	0.96	0.73	-0.59	0.23	0.38	-0.96	-0.21	-0.27	-0.06	-0.19	0.25	0.71
Korea	..	..	..	2.07	1.46	1.78	1.93	-0.40	1.59	1.61	1.87	2.05	3.83	3.13
Latvia	5.65	5.84	2.64	3.72	3.39	6.46	4.15	3.28	4.39	5.64	1.10	5.69	6.52	-0.23
Lithuania	5.42	4.43	3.24	1.15	6.83	4.94	4.51	1.61	3.10	5.17	9.28	4.15	6.71	9.67
Luxembourg	1.11	0.60	-0.28	-0.93	1.66	0.95	0.52	2.10	0.39	0.74	0.05	-0.05	1.78	-0.86
Mexico	..	..	0.01	-0.62	3.26	-1.75	0.70	0.32	..	..	..	..	..	..
Netherlands	1.72	1.07	0.39	0.39	0.40	1.01	-0.14	-1.29	0.65	-0.03	-0.89	0.40	0.05	-0.83
New Zealand	1.46	0.95	0.65	0.76	0.81	2.04	1.37	1.46	1.63	1.05	0.52	1.48	1.78	1.70
Norway	2.41	0.16	0.49	0.43	2.78	2.55	1.06	0.28	2.19	0.83	0.42	1.71	0.27	0.74
Poland	5.31	3.12	3.12	1.17	4.32	1.45	3.01	-0.17	3.67	2.95	2.32	3.80	3.80	3.72
Portugal	1.42	1.30	0.46	2.22	1.81	0.20	-0.18	1.01	2.19	-0.45	1.53	2.13	1.49	2.24
Slovak Republic	4.63	4.12	2.00	2.44	4.54	3.48	1.85	-0.52	2.39	3.20	1.79	1.77	3.87	3.07

	Average annual growth rates (%)													
	Labour productivity GDP per hour				Annual wages FTE employees				Median wage FT employees			Low pay (P10)		
	1998-2002	2002-10	2010-19	2019-23	1998-2002	2002-10	2010-19	2019-23	2002-10	2010-18	2018-22	2002-10	2010-18	2018-22
Slovenia	3.85	2.49	1.61	1.11	2.88	2.71	1.05	1.98	1.27	1.18	1.85	2.18	1.15	3.67
Spain	0.01	0.91	0.86	0.37	-0.04	0.99	-0.49	0.34	0.97	-0.34	-0.36	1.21	-0.42	0.19
Sweden	2.54	1.47	0.80	0.41	2.99	2.03	1.23	-0.40	1.86	1.48	-0.57	1.82	0.98	-1.02
Switzerland	1.70	1.36	0.78	1.10	1.66	0.47	0.53	0.47	0.30	1.10	0.06	0.43	1.13	0.21
Türkiye	1.88	3.69	3.52	..	0.70	2.92	3.80	..	..	-7.15	..	..	..	..
United Kingdom	2.47	1.04	0.38	0.51	2.87	1.27	0.36	-0.17	1.05	-0.33	-0.16	1.07	0.27	1.50
United States	2.23	2.15	0.76	1.61	2.23	1.00	0.99	1.27	0.17	0.37	0.63	-0.16	0.70	2.45
European Area	**1.83**	**0.77**	**0.76**	**0.30**	**1.21**	**0.83**	**0.65**	**-0.74**	**0.59**	**0.41**	**-0.59**	**0.20**	**0.60**	**-0.49**
OECD 30	**2.09**	**1.44**	**0.85**	**0.90**	**1.63**	**0.98**	**0.78**	**0.21**	**0.54**	**0.41**	**0.16**	**0.32**	**0.74**	**1.09**
OECD	**1.85**	**1.42**	**0.90**	**0.88**	**1.66**	**0.98**	**0.92**	**0.18**	**0.53**	**0.20**	**0.21**	**0.36**	**0.78**	**1.05**

Note: Aggregates are weighted by the GDP 2015 expressed in PPPs. OECD: average of countries shown. OECD30: Australia, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States. Euro Area: Belgium, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, the Slovak Republic, Slovenia and Spain.
Source: OECD calculations based on OECD productivity database, http://data-explorer.oecd.org/s/1xl; OECD dataset on average annual wages, http://data-explorer.oecd.org/s/1p0; OECD database on earnings distribution for median wages.

Annex Table 5.A.2. Difference in annual growth rates in labour productivity, average wages and median wages by country group and period

Percentage points

	Differences in annual growth rates									
	Difference labour productivity and annual wage				Difference annual wage and median wage			Difference median wage and low pay		
	1998-2002	2002-10	2010-19	2019-23	2002-10	2010-18	2018-22	2002-10	2010-18	2018-22
Australia	0.74	-0.54	0.58	-0.04	0.14	-0.39	-0.19	0.35	-0.26	1.09
Austria	0.92	0.45	0.37	1.12	0.39	-0.02	0.32	..	..	..
Belgium	-0.24	0.85	0.00	0.27	-0.69	-0.53	1.04	0.04	0.87	0.91
Canada	0.58	-0.95	0.18	-0.53	0.65	0.44	0.45	-0.40	-0.88	-0.68
Chile	..	-2.64	1.33	..	..	..	..	..	..	..
Colombia	..	..	0.93	..	..	0.01	..	..	..	..
Costa Rica	-0.84	1.75	-0.56	..	..	2.18	..	..	..	..
Czechia	-1.50	-0.18	-0.67	2.18	0.75	0.14	-2.19	0.53	-0.36	-1.52
Denmark	-0.32	-0.64	0.67	0.82	0.52	-0.30	0.06	0.26	0.29	0.17
Estonia	..	-1.53	-1.02	-2.13	0.31	-1.30	-0.19	-1.60	-0.77	-0.66
Finland	1.22	-0.38	0.30	-0.32	-0.44	-0.16	-0.03	0.12	0.09	0.22
France	0.67	-0.64	0.12	0.01	0.46	0.32	0.70	-0.27	0.31	2.24
Germany	1.07	0.47	-0.49	1.17	0.43	0.82	-1.42	0.86	-0.23	-1.71
Greece	-3.06	0.41	1.04	0.64	-1.82	0.07	2.35	0.08	1.61	-3.96
Hungary	-0.06	0.87	0.01	-0.04	-0.35	-3.33	-2.80	0.20	-2.10	4.08
Iceland	-0.57	3.83	-2.32	1.10	6.44	-2.95	3.11	-0.51	0.22	-1.00
Ireland	2.32	-0.69	3.75	5.77	3.17	-0.08	-1.05	0.18	-0.68	-0.48
Israel	-1.26	2.20	0.19	0.37	-0.37	-1.98	-0.57	-0.59	0.41	0.80
Italy	0.09	-0.63	0.42	1.65	-0.12	-0.26	0.92	0.75	-0.85	0.20
Japan	2.64	0.70	0.58	1.69	0.45	0.65	-0.90	-0.02	-0.52	-0.76

	Differences in annual growth rates									
	Difference labour productivity and annual wage				Difference annual wage and median wage			Difference median wage and low pay		
	1998-2002	2002-10	2010-19	2019-23	2002-10	2010-18	2018-22	2002-10	2010-18	2018-22
Korea	..	..	..	2.47	0.19	0.32	-2.27	-0.46	-2.22	-1.26
Latvia	2.27	-0.62	-1.51	0.44	2.07	-1.49	2.18	-1.30	-0.89	1.34
Lithuania	-1.41	-0.52	-1.27	-0.46	1.84	-0.66	-7.67	-1.05	-1.54	-0.39
Luxembourg	-0.55	-0.35	-0.80	-3.03	0.56	-0.22	2.05	0.44	-1.04	0.91
Mexico	..	..	-0.69	-0.94	..	..	..	..	..	..
Netherlands	1.32	0.06	0.53	1.67	0.36	-0.12	-0.39	0.25	-0.08	-0.06
New Zealand	0.65	-1.09	-0.72	-0.70	0.42	0.32	0.94	0.15	-0.73	-1.18
Norway	-0.37	-2.39	-0.57	0.15	0.37	0.23	-0.13	0.47	0.57	-0.33
Poland	0.99	1.67	0.12	1.34	-2.21	0.05	-2.49	-0.14	-0.85	-1.40
Portugal	-0.39	1.10	0.64	1.21	-1.99	0.27	-0.52	0.06	-1.94	-0.71
Slovak Republic	0.09	0.64	0.15	2.96	1.09	-1.35	-2.31	0.62	-0.66	-1.28
Slovenia	0.97	-0.23	0.55	-0.86	1.44	-0.12	0.13	-0.91	0.02	-1.83
Spain	0.06	-0.08	1.35	0.03	0.02	-0.15	0.70	-0.25	0.08	-0.55
Sweden	-0.45	-0.56	-0.42	0.81	0.17	-0.26	0.17	0.03	0.51	0.45
Switzerland	0.04	0.89	0.25	0.63	0.17	-0.56	0.41	-0.13	-0.04	-0.14
Türkiye	1.17	0.77	-0.28	..	..	10.95	..	..	..	..
United Kingdom	-0.40	-0.23	0.02	0.68	0.22	0.69	-0.01	-0.02	-0.60	-1.66
United States	0.00	1.15	-0.23	0.34	0.84	0.62	0.63	0.33	-0.34	-1.81
European Area	**0.62**	**-0.07**	**0.11**	**1.04**	**0.25**	**0.24**	**-0.15**	**0.38**	**-0.19**	**-0.10**
OECD 30	**0.46**	**0.46**	**0.07**	**0.69**	**0.44**	**0.37**	**0.06**	**0.22**	**-0.33**	**-0.93**
OECD	**0.19**	**0.44**	**-0.03**	**0.69**	**0.45**	**0.73**	**-0.03**	**0.17**	**-0.58**	**-0.84**

Note: Aggregates are weighted by the GDP 2015 expressed in PPPs. OECD: average of countries shown. OECD30: Australia, Belgium, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the United States. Euro Area: Belgium, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, the Slovak Republic, Slovenia and Spain.

Source: OECD calculations based on OECD productivity database, http://data-explorer.oecd.org/s/1xl; OECD dataset on average annual wages, http://data-explorer.oecd.org/s/1p0; OECD database on earnings distribution for median wages.

Annex Table 5.A.3. Data sources

Country	Name	Source	Sample	Period
Austria	AMS-BMASK Arbeitsmarktdatenbank	Social security administration	Universe	2000-19
Belgium	Sample from data warehouse – Kruispuntbank Sociale Zekerheid	Social security data, linked with census information	10% random sample of workers in private sector employment	2002-19
Canada	Canadian Employer-Employee Dynamics Database	Tax administration	Universe	2001-19
Denmark	Integrerede Database for Arbejdsmarkedsforskning (IDA) and other data from Statistics Denmark	Tax administration	Universe	2000-19
Estonia	Data from the Tax and Customs Board Register	Tax administration	Universe	2003-19
Finland	FOLK employment data from Statistics Finland, Employer Payroll Report from Tax Admin.	Tax administration	Universe	2000-19
France	Panel DADS	Social security administration	8.5% random sample of workers	2002-19[27]
Germany	Integrierte Erwerbsbiographien (IEB)	Social security administration	10% random sample of workers	2000-19
Hungary	ADMIN – I – Panel of administrative data (OEP, ONYF, NAV, NMH, OH)	Social security administration	50% random sample of workers	2003-17
Italy	INPS-INVIND Panel	Social security administration	8.6% random sample of firms	2002-19
Lithuania	SoDra microdata	Social Security administration	25% random sample of Social Security population	2000 – 2019
Netherlands	CBS Microdata from Statistics Netherlands	Tax administration	Universe	2006-19
New Zealand[1]	Integrated Data Infrastructure (IDI) and Longitudinal Business Database (LBD) from Stats NZ	Tax administration	Universe	2000-19
Norway	Arbeidsgiver- og arbeidstakerregister (Aa-registeret), Lønns- og trekkoppgaveregisteret (LTO)	Tax administration	Universe	2008-19
Portugal	Quadros de Pessoal	Mandatory employer survey	Universe	2002-19
Spain	Muestra Continua de Vidas Laborales con Datos Fiscales (MCVL-CDF)	Social security and tax administration	4% random sample of workers	2006-19
Sweden	Longitudinell integrationsdatabas för sjukförsäkrings- och arbetsmarknadsstudier (LISA), Företagens ekonomi (FEK), Jobbregistret (JOBB)	Social security administration	Universe	2002-18

1. Access to the data used in this study was provided by Stats NZ under conditions designed to give effect to the security and confidentiality provisions of the Data and Statistics Act 2022. The results presented in this study are the work of the author, not Stats NZ or individual data suppliers. These results are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) and Longitudinal Business Database (LBD) which are carefully managed by Stats NZ. For more information, please visit www.stats.govt.nz/integrated-data/. The results are based in part on tax data supplied by Inland Revenue to Stats NZ under the Tax Administration Act 1994 for statistical purposes. Any discussion of data limitations or weaknesses is in the context of using the IDI for statistical purposes, and is not related to the data's ability to support Inland Revenue's core operational requirements.

Annex Figure 5.A.1. Annualised change in hourly productivity and wages within and between industries

Annex Figure 5.A.1. Annualised change in hourly productivity and wages within and between industrie

Note: Note: Unweighted average of Austria, Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom.
Source: OECD STAN database, http://data-explorer.oecd.org/s/248.

StatLink https://stat.link/dev48s

Annex Figure 5.A.2. Accounting for the role of mobility for cross-country differences in aggregate growth rates

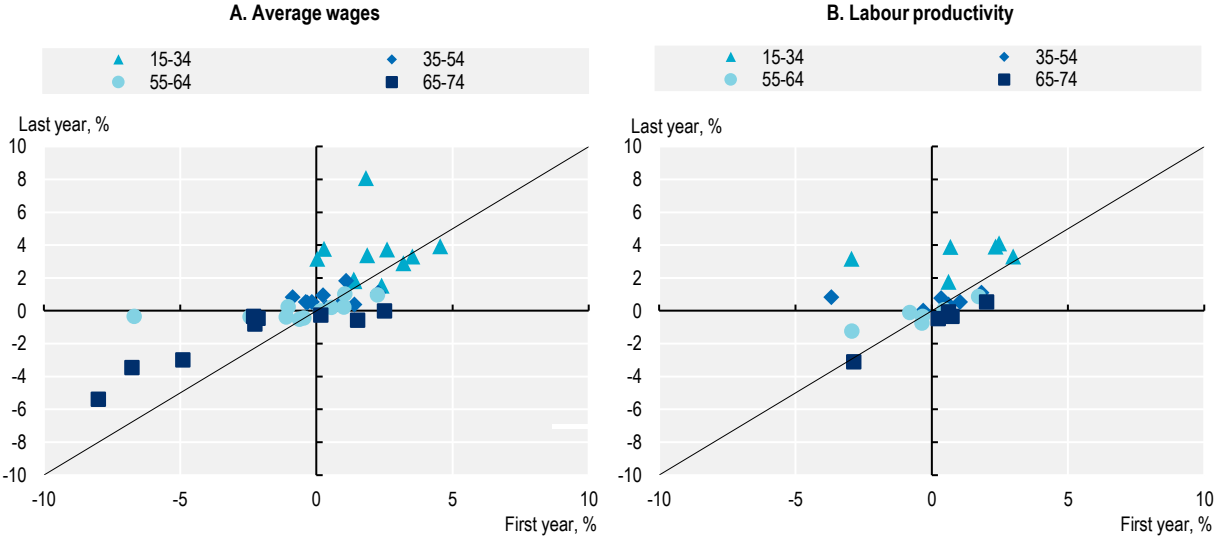
Share of the cross-country variances in growth rates in aggregate wages and productivity explained by the covariance of each mobility component (beta values)

Note: Within-firm (stayers): average annual aggregate growth associated with workers staying in the same firm due to learning and innovation. Between-firm due to job reallocation: average annual between-firm growth due to net job reallocation across the employment-weighted quality distribution of firms. Job-to-job mobility: Between-firm due to job-to-job mobility: average annual between-firm growth due to net job-to-job mobility across the employment-weighted quality distribution of firms. Between-firm due to employment mobility: average annual between-firm growth due net employment mobility across the employment-weighted quality distribution of firms. The figure provides a decomposition of aggregate wage and productivity growth across countries as shown in Figure 5.9 based on "beta values" following Fujita and Ramey (2009[34]). "Beta values" are calculated by the covariance of within-firm growth and total growth across countries divided by the variance of total growth and the covariance of between-firm growth and total growth across countries divided by the variance of total growth. Firm-level average wages (17 countries): Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden. Firm-level labour productivity (9 countries): Canada, Denmark, Finland, France, Hungary, Italy, the Netherlands, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

StatLink https://stat.link/fezn8m

Annex Figure 5.A.3. Time trends in responsiveness

Age-specific between-firm aggregate wage and productivity growth rates, by age group, first vs. last year, percentage

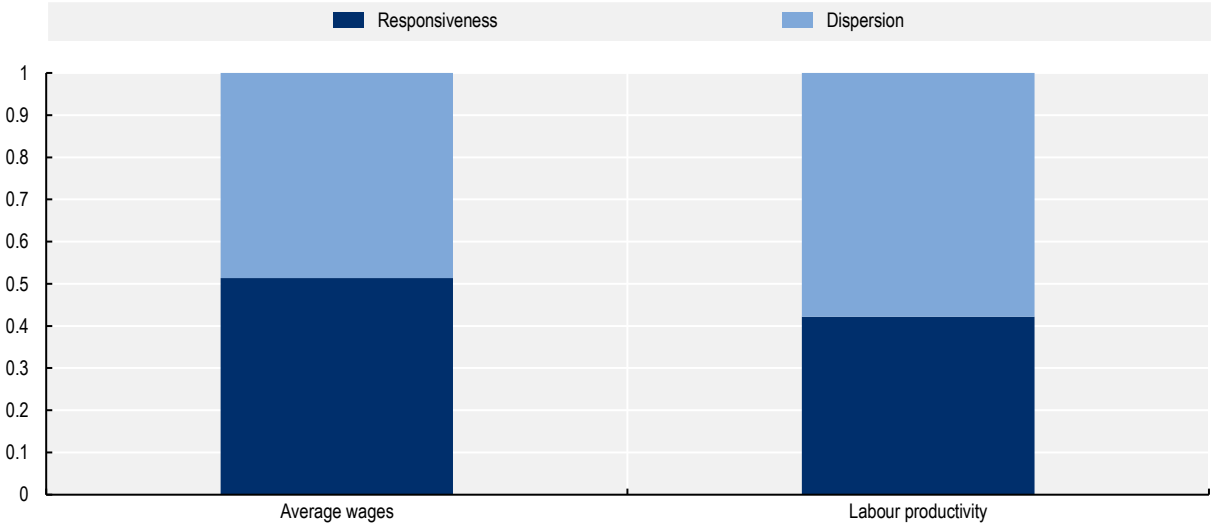


Note: First year: initial year of coverage for each country (typically 2001, but with variation). Last year: last year of coverage for each country (typically 2019, with little variation). The figure shows the age-specific between-firm aggregate wage and productivity growth rates based on Hahn, Hyatt and Janicki (2021[28]). For more details, see Box 5.4. The exercise is restricted to countries with sufficiently long and uninterrupted time series (2005-18, see Annex Table 5.A.3). Firm-level average wages (11 countries): Austria, Canada, Denmark, Estonia, Finland, Germany, Italy, Lithuania, New Zealand, Portugal and Sweden. Firm-level labour productivity (6 countries): Canada, Denmark, Finland, Italy, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

StatLink https://stat.link/0iqjpd

Annex Figure 5.A.4. Accounting for the role of dispersion and responsiveness for cross-country differences in aggregate growth rates

Share of the cross-country variances in between-firm growth rates in aggregate wages and productivity explained by the covariance of dispersion in firm quality and responsiveness to firm quality (beta values)

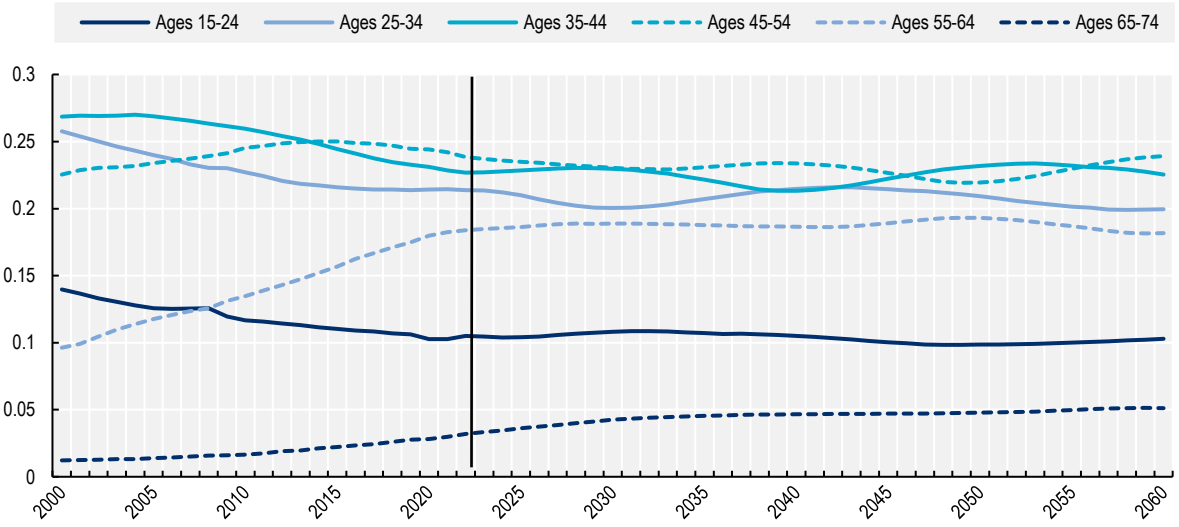


Note: Responsiveness: share of the cross-country variances in between-firm growth rates in aggregate wages and productivity explained by responsiveness of employment growth to firm quality. Dispersion: share of the cross-country variances in between-firm growth rates in aggregate wages and productivity explained by the dispersion to firm quality. The figure provides a decomposition of aggregate wage and productivity growth across countries as shown in Figure 5.9 based on "beta values" following Fujita and Ramey (2009[34]). "Beta values" are calculated by the covariance of between-firm growth related to responsiveness and total between-firm growth across countries divided by the variance of total between-firm growth and the covariance of between-firm growth related to dispersion and total between-firm growth across countries divided by the variance of total between-firm growth. Firm-level average wages (17 countries): Austria, Belgium, Canada, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, New Zealand, Norway, Portugal, Spain and Sweden. Firm-level labour productivity (9 countries): Canada, Denmark, Finland, France, Hungary, Italy, the Netherlands, Portugal and Sweden.
Source: National linked employer employee data, see Annex Table 5.A.3 for details.

StatLink https://stat.link/i5xhnm

Annex Figure 5.A.5. The age-composition of employment has undergone significant change since 2000

Historical and projected evolution of age-composition of employment, 17 OECD countries, 2000-60, percentage



Note: Unweighted average across Austria, Canada, Denmark, Estonia, Finland, Germany, Italy, Lithuania, New Zealand, Portugal and Sweden.
Source: Labour force participation (historical data and projections) based on Fluchtmann, Keese and Adema (2024[19]); Population (historical data and projections) based on United Nations (2024[20]).

StatLink https://stat.link/tehi4f

Notes

[1] The analysis using linked employer-employee data is based on contributions by Eliana Viviano (Bank of Italy), Patrick Bennett (University of Liverpool and IZA), Cesar Barreto (OECD and FAU), Felipe Bento Caires (European University Institute), Lucas Chen (Reserve Bank of New Zealand), Jose Garcia-Louzao (Bank of Lithuania, Vilnius University and CESifo), Dogan Gülümser (Uppsala University), Salvatore Lattanzio (Bank of Italy and Bocconi University), Benjamin Lochner (FAU, IAB and IZA), Stefano Lombardi (VATT, IFAU, IZA and UCLS), Tahsin Mehdi (StatCan), Jordy Meekes (Leiden University and IZA), Balázs Muraközy (University of Liverpool), Marco G. Palladino (Banque de France), Kjell Salvanes (NHH and IZA), Oskar Nordström Skans (Uppsala University, UCLS, IZA and IFAU), Rune Vejlin (Aarhus University and IZA), and Wouter Zwysen (ETUI). This chapter is part of a broader OECD project that mobilises linked employer-employee data for cross-country research and policy analysis (LinkEED 2.0). For more details, please visit: www.oecd.org/en/about/projects/linkeed-200.html.

[2] This is to an important extent driven by large countries, including the United States. When taking the simple average across countries, there is no evidence of a decoupling between wage and productivity growth.

[3] This approach keeps age-specific mobility fixed in 2017 and assumes no change in this measure over time. However, it is likely that the mobility of older workers increases over time as careers become longer. For example, there is some indication that the contribution of job mobility to aggregate wage and

productivity growth among older workers has increased between the early 2000s and late 2010s (Annex Figure 5.A.3).

[4] Employment refers to private sector non-agricultural dependent employment.

[5] In contrast to the concept of job reallocation discussed in Section 5.2, efficiency-enhancing job reallocation takes account of both the amount of job reallocation and its direction.

[6] In perfectly competitive labour markets, firms are wage-takers and there is no link between wages and productivity across firms. In that case, wage differences between firms reflect "compensating differentials" for differences in non-wage working conditions.

[7] Since the model used for Figure 5.6 can only be estimated for incumbent firms, entering firms are excluded from the analysis.

[8] Gross worker mobility is extensive, with about 58% of workers hired or separating from their employer each year. On average, job-to-job mobility accounts for 53% of this gross worker mobility, while employment mobility accounts for 47%.

[9] As noted by Bertheau and Vejlin (2022[93]) annual data may overstate the relative importance of gross job-to-job mobility in overall gross worker mobility. It is not clear, *a priori,* how aggregation bias affects the role of net job-to-job mobility in efficiency-enhancing job reallocation. The role of net job-to-job mobility only captures the *direction* of job mobility across firms that differ in their wages and productivity and does not depend on the importance of gross worker flows. We find, using quarterly data for Austria for 2018 and 2019, that it does not significantly alter the role of net job-to-job mobility in growth-enhancing job reallocation, i.e. its direction across the firm distribution in productivity and wages.

[10] Cohort effects can also play a role in explaining declining responsiveness of employment growth to firm quality. For example, more recent cohorts may be less mobile because they tend to be more skilled and more specialised, rendering the matching process between firms and workers more complex (Baksy, Caratelli and Engbom, 2024[30]).

[11] To some extent, this reflects the larger negative contribution of employment mobility in countries with low wage growth.

[12] "Beta values" are calculated by the covariance of within-firm growth and total growth across countries divided by the variance of total growth and the covariance of between-firm growth and total growth across countries divided by the variance of total growth.

[13] Based on quarterly data for the United States in Hahn, Hyatt and Janicki (2021[28]), on-the-job wage growth contributed about 0.3 percentage points to the average quarterly to earnings growth between 1996 and 2017. The contribution of job-to-job mobility was about 0.4 percentage points and employment mobility -0.5 percentage points.

[14] All exercises in this section exclude evidence for Belgium, as the source data does not contain workers beyond the age of 69 and is therefore not comparable to data used for other countries in this chapter.

[15] Differences in the responsiveness of employment growth to firm quality by gender are negligible.

[16] This is also reflected by a willingness of older workers to accept a decline in hourly wages in exchange for fewer working hours (Ameriks et al., 2020[86]).

[17] In practice, this exercise is restricted to countries with uninterrupted time-series between at least 2005 and 2018.

[18] Under a strong assumption of unchanged trends in between-firm growth rates across age groups, projections on demographic developments between 2020 and 2060, following Fluchtmann, Keese and Adema (2024[19]) as well as UN (2024[20]) (not shown here), only marginally depress annual aggregate wage and productivity growth further. This is mainly a result of more muted projected changes in the age composition of employment over future decades.

[19] The common shift, which may also capture some effects of ageing, is positive. How much of this can be attributed to ageing itself is unclear.

[20] Boeri et al. (2022[91]), and Bianchi et al (2023[92]) find that delaying retirement reduces opportunities for younger workers in the same firm, while Carta et al. (2021[5]) find the opposite, possibly due to the benefits of age diversity for productivity (OECD, 2020[94]). Hernæs et al. (2023[87]), who find reduced demand for young workers through delayed retirement, also find a small positive effect on labor productivity in the short run.

[21] Recent evidence from Sweden on the role of employment protection for older workers demonstrates that overly strict employment protection can preserve jobs that firms would prefer to terminate as they are no longer sufficiently productive. While this affects a relatively small fraction of older workers, most of which remain sufficiently productive, it can lower firm productivity (Saez, Schoefer and Seim, 2023[88]).

[22] Gross worker mobility is somewhat over 50% as shown in Figure 5.5, while net job mobility is around 2.5% on average across quintiles in Figure 5.6. This suggests that the share of net mobility in overall worker mobility is around 5%.

[23] The rate of excess job reallocation, based on job creation and destruction as defined in Section 5.1, accounts for about a third of gross worker mobility. However, this is an upper bound since not all changes in net firm employment contribute to changes in the firm quality distribution.

[24] Job retention schemes are not effective in dealing with structural shocks and indeed risk slowing job reallocation in response to permanent shocks.

[25] Johnson et al. (2024[89]) show that non-competes in the United States have potentially far-reaching consequences for labour market dynamics. However, they do not find important differences across age groups.

[26] Similarly, Forth et al. (2025[90]) find that the minimum wage tends to reduce job-to-job mobility in the United Kingdom.

[27] Due to methodological breaks affecting employment levels and productivity measures, data for France exclude the years 2008-09 and 2015-17.

Annex A. Statistical annex

Sources and definitions

The tables of the statistical annex show data for all 38 OECD countries where available. Data for Argentina, Brazil, China, India, Indonesia, Peru, South Africa, OECD accession countries from the EU, Bulgaria, Croatia and Romania, as well as other non-OECD EU Member States are also compiled and included in a number of datasets.

The standard tabulations (Tables A to R of former editions of the Employment Outlook) are replaced by web links pointing to data and indicators reported in the new OECD central data repository OECD Data Explorer, https://data-explorer.oecd.org/, which contains all data available. Some additional web links entitled Table S to W complete the statistical annex referring respectively to data and indicators on statutory minimum wages, trade union density, collective bargaining coverage and synthetic indicators of employment protection. A richer set of labour market data and indicators is accessible in the OECD Data Explorer. The metadata section of the online datasets reports definitions, notes and sources retained in national data sources.

In general, Tables A to K report annual averages of monthly and quarterly estimates based on labour force surveys. Those shown for European countries in Tables A to C and G to K are mainly data from the European Labour Force Survey (EU-LFS), which are more comparable and sometime more consistent over time than national LFS results. Data for the remaining Tables L to V are from a combination of survey and administrative sources or national reporting for Table W.

A broader set of data can be found in the OECD Employment Database (ED), https://www.oecd.org/en/data/datasets/oecd-employment-database.html, which contains both raw data and indicators for longer time series and more detailed individual characteristics and type of main job such as data by age group, gender and employee job tenure, part time employment, involuntary part time employment, temporary employment, duration of unemployment. The data portal includes more data series than those shown in the web links of the Statistical Annex, such as, the distribution of employment by weekly usual hours worked intervals, potential labour force including so-called people marginally attached to the labour force, etc. The online database contains additional series on working time, earnings and features of institutional and regulatory environments of labour markets. Among these are the following:

- Annual hours actually worked per person in employment for comparisons of trends over time
- Employment by long usual weekly hours worked in the main job
- Average gross annual wages per dependent employee in full time equivalent unit
- Distribution of gross earnings of full-time employees by gender and earnings dispersion measures and wage gaps (between men and women and broad age groups)
- Statutory minimum wages – levels and ratio of minimum to mean and median wages
- Public expenditure on labour market programmes, number of beneficiaries and inflows into the labour market
- Trade union density and collective bargaining coverage
- Synthetic indicators of employment protection

Major breaks in series

Tables A to K: Most of the breaks in series in the tables occurred for any of the following reasons: changes in survey design, survey questionnaire, survey frequency and administration, revisions of data series based on updated population census results. These changes may have affected the comparability over time of employment and/or unemployment levels and to a certain extent the ratios reported in the aforementioned tables:

- **Change in the measurement of the labour force status and methodology in the European Labour Force Survey since 2021:** Data between 2020 and 2021 are affected by a break in series in Tables A-C and G-K. The size and direction of the breaks vary by country and statistics as reported in the national documentations on Eurostat website. See: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_Labour_Force_Survey_-_new_methodology_from_2021_onwards.
- **Introduction of a continuous survey producing quarterly results**: Austria (2003/04), Brazil (2011/12), France (2002/03), Germany (2004/05), Hungary (2005/06, monthly results), Iceland (2002/03), Italy (2003/04), Luxembourg (2002/03, quarterly results as of 2007) and Türkiye (2013/14).

  Data revisions in the following OECD countries:

  - 2009 to 2015: Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.
  - Australia (since 2017), Denmark (2021), Italy (2018-20), Spain, Portugal and Sweden (since 2021) and Poland (2015).
  - Chile: Re-estimation since 2010 implementing the quality estimation standards for household surveys set by the National Statistics Institute of Chile.
- **Redesign of labour force survey**: Introduction of a new survey in Chile since April 2010 (see below), Germany (2010/11), Hungary (2002/03), Poland (2004/05), Portugal (2010/11) and Türkiye (2004/05 from quarterly to monthly results). Israel (2011/12), change from quarterly to monthly survey results and a change from “civilian” to “total” labour force (including those who are in compulsory or permanent military service). New Zealand (2015/16), the survey includes non-civilian personnel. Annual results for Colombia in 2020 are averaged over three-quarters (Q1, Q3 and Q4) as a result of the COVID-19 pandemic outburst and suspension of the survey in the 2nd quarter. Since July 2020, a new edition of the continuous quarterly survey was re-introduced in Mexico (Encuesta Nacional de Ocupación y Empleo, New edition ENOE^{N}) after its suspension in April 2020 following the COVID-19 pandemic outburst and lockdown measures. It was replaced in Q2 by a telephone interview survey (ETOE) with partial results. The annual results are averages of three-quarters (Q1, Q3 and Q4). For the United Kingdom (2003/04), data for Tables A to C are annual averages of quarterly estimates from the Annual Population Survey (APS); prior to 2004, they refer to the spring quarter (April-June) Labour Force Survey (LFS). Data for Tables G to K are annual averages of quarterly estimates from APS from 2016 onwards.
- Change in the operational definition of employment:
  - Neat application of the criterion of “at least one hour worked in a gainful job” in the Chilean Nueva Encuesta Nacional de Empleo (NENE), a quarterly continuous survey, from April 2010 onward.

- Change in the operational definition of usual working time:
  - In Israel, the Labour Force Survey questionnaire was expanded and changed since January 2018. Workers absent from work are asked “how many hours they usually work”. This affects the number of workers reporting usual weekly hours worked in their main job prior and after 2018 notably Table G on the incidence and composition of part-time employment according to a common 30-hour threshold-based definition.
- Change in the operational definition of unemployment regarding:
  - Active job-search methods: in particular a change from registration to contact with the public employment service: France (2002/03) and Spain (2000/01).
  - Duration of active job search: In Australia (2014/15), the duration of unemployment has been replaced by duration of job search. In Belgium (2010/11), the duration of job search has been changed from an unlimited duration to previous four weeks including the survey reference week. In Chile (2009/10), the duration of active job search has been shortened from last two months to previous four weeks including the survey reference week.
  - Availability to work criterion: In Sweden (2004/05), the work availability criterion changed from the reference week to two weeks from the reference week to be consistent with the operational definition in other EU countries. In Chile, the work availability criterion did not exist prior to 2010 in the Encuesta Nacional de Empleo (ENE) and was introduced in the Nueva Encuesta Nacional de Empleo (NENE) since April 2010. It has been fixed to two weeks from the end of the reference week.
  - Persons on lay off considered as employed instead of unemployed: Norway (2005/06).
  - Other minor changes: Australia (2000/01) and Poland (2003/04).
- **Changes in the questionnaire with impact on employment and unemployment estimates:** Germany (2010/11): new questionnaire design ensures better coverage of small jobs. This led to a higher-than-normal annual employment increase. Impact on employment and unemployment statistics in New Zealand (2015/16) with the inclusion of army personnel. Spain (2004/05): impact on employment and unemployment and impact on unemployment estimates in Norway (2005/06) and Sweden (2004/05).
- **Change from seasonal to calendar quarters:** Switzerland (2009/10) and the United Kingdom (2005/06). However, there is no break in series between 2005 and 2006 for the United Kingdom as calendar quarter based historical series are available since 1992.
- Introduction of new EU harmonised questionnaire: Sweden (2004/05) and Türkiye (2003/04).
- **Change in lower age limit from 16 to 15 years:** Iceland (2008/09), Norway (2005/06) and Sweden (2006/07).
- Change in lower age limit from 15 to 16 years: Italy (2007/08).
- **Change in data collected in Denmark since the first quarter of 2017:** the LFS response rate increased and resulted in a significant break in series between 2016 and 2017.
- **Inclusion of population controls based on latest census results in the estimation process:** Mexico (2009/10) and Türkiye (2006/07). In Canada, LFS population control totals have been revised from January 2011 to December 2024. Similarly, in Portugal, Labour Force Survey weights were calibrated using the resident population estimates calculated from the final results of the 2021 Population Census. Back series were revised accordingly since 2011.
- **Other**
  - In Norway, as of 2006 age is defined as years reached at the survey reference week, instead of completed years at the end of the year, as in previous years.
  - In Japan, data for Table I on temporary employees has a break in series between 2013 and 2017.

Table A. Employment/population ratios by age and gender

As a percentage of the population in each age group and each gender

http://data-explorer.oecd.org/s/26v

Table B. Labour force participation rates by age and gender

As a percentage of the population in each age group and each gender

http://data-explorer.oecd.org/s/26x

Table C. Unemployment rates by age and gender

As a percentage of the total labour force in each age group and each gender

http://data-explorer.oecd.org/s/26y

Table D. Employment/population ratios by educational attainment

Persons aged 25-64, as a percentage of the population in each gender

http://data-explorer.oecd.org/s/26z

Table E. Labour force participation rates by educational attainment

Persons aged 25-64, as a percentage of the population in each gender

http://data-explorer.oecd.org/s/270

Table F. Unemployment rates by educational attainment

Persons aged 25-64, as a percentage of the labour force in each gender

http://data-explorer.oecd.org/s/271

Table G1. Incidence of part-time employment by age and gender

As a percentage of part-time employment in each age group and each gender

http://data-explorer.oecd.org/s/272

Table G2. Women's share in part-time employment by age

As a percentage of part-time employment in each age group

http://data-explorer.oecd.org/s/273

Table H1. Incidence of involuntary part-time employment by age and gender

As a percentage of total employment in each age group and each gender

http://data-explorer.oecd.org/s/275

Table H2. Involuntary part-time employment as a share of part-time employment by age and gender

As a percentage of part-time employment in each age group and each gender

http://data-explorer.oecd.org/s/274

Table I1. Incidence of temporary employment by age and gender

As a percentage of dependent employment in each age group and each gender

http://data-explorer.oecd.org/s/276

Table I2. Women's share in temporary employment by age

As a percentage of dependent employment in each age group

http://data-explorer.oecd.org/s/282

Table J. Incidence of job tenure shorter than 12 months by age and gender

As a percentage of total employment in each age group and each gender

http://data-explorer.oecd.org/s/278

Table K. Incidence of long-term unemployment, 12 months and over by age and gender

As a percentage of total unemployment in each age group and each gender

http://data-explorer.oecd.org/s/279

Table L. Average annual hours actually worked per person in employment

National accounts concepts unless otherwise specified (Hours per person per year)

http://data-explorer.oecd.org/s/27a

Table M. Real average annual wages

Average wages in in constant 2024 prices at 2024 USD PPPs for private consumption expenditures

http://data-explorer.oecd.org/s/27b

Table N. Earnings dispersion by gender

http://data-explorer.oecd.org/s/27c

Table O. Incidence of high and low pay by gender

http://data-explorer.oecd.org/s/27d

Table P. Relative earnings: Gender gap

http://data-explorer.oecd.org/s/27e

Table Q. Relative earnings: Age gap

http://data-explorer.oecd.org/s/27f

Table R1. Public expenditure in labour market programmes

As a percentage of GDP

http://data-explorer.oecd.org/s/27i

Table R2. Participant stocks in labour market programmes

As a percentage of the labour force

http://data-explorer.oecd.org/s/27h

Table S. Real hourly minimum wages

Statutory minimum wages in constant 2023 prices at 2023 USD Purchasing Power Parities (PPPs) for private consumption expenditures

http://data-explorer.oecd.org/s/28d

Table T. Minimum wage relative to mean and median earnings

As a percentage of median and mean earnings of full-time employees

http://data-explorer.oecd.org/s/27l

Table U. Trade union density

As a percentage of the number of employees

http://data-explorer.oecd.org/s/27m

Table V. Collective bargaining coverage

As a percentage of eligible employees with the right to bargain

http://data-explorer.oecd.org/s/27n

Table W1. Strictness of employment protection – individual and collective dismissals (regular contracts)

Index varying from 0 to 6, from the least to the most stringent

http://data-explorer.oecd.org/s/27o

Table W2. Strictness of employment protection – temporary contracts

Index varying from 0 to 6, from the least to the most stringent

http://data-explorer.oecd.org/s/27p

OECD Employment Outlook 2025

Can We Get Through the Demographic Crunch?

Population ageing is one of the megatrends shaping the future of societies and labour markets. The old-age dependency ratio – the ratio of individuals aged 65 and older to the working-age population – is projected to reach unprecedented high levels in many OECD countries in the next 35 years. This edition of the *OECD Employment Outlook* discusses the enormous challenges this megatrend poses to current living standards, and social cohesion more generally. The consequences of an ageing workforce for productivity growth are also analysed. The main message of this edition is that without swift changes in policies and behaviours, GDP per capita growth will slow down significantly in most OECD countries. Mobilising untapped labour resources, including older workers but also women in many countries, will be key to offsetting this trend. This Outlook examines policies to address these demographic changes, with a focus on increasing employment of older workers while ensuring that they can thrive in the labour market. It shows that a successful strategy must be built around incentives, employability and opportunities. Policies to preserve and develop worker skills and job mobility will also be essential to maintaining productivity growth.

PRINT ISBN 978-92-64-38816-1
PDF ISBN 978-92-64-39175-8