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Employment, Social Affairs and Inclusion

THE SOCIO-ECONOMIC VALUE OF JOB QUALITY

European Employment and Social Outlook

Annual review – 2026

European Commission

Directorate-General for Employment, Social Affairs and Inclusion

European Employment and Social Outlook

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Abstract

Job quality in the EU has improved over the last decade. Progress has been made in pay, job security and working time. Yet major differences between sectors and occupations remain, with better-jobs concentrated in information and communication technology, finance and insurance, manufacturing, and public administration, while poorer-quality jobs are more often found in accommodation and food services and administrative and support services. Teachers face rising levels of involuntary temporary work, while care workers deal with unstable contracts and atypical working hours. Poorer job quality is also more concentrated among women, young people, lower-educated workers, people born outside the EU, the self-employed and outsourced workers. The report finds a positive link between job quality, productivity and economic performance. Better jobs can raise productivity by improving motivation, reducing staff turnover and encouraging skills development. European countries and sectors with more secure jobs and better work organisation are found to perform better on productivity. Higher wages can also help drive productivity by encouraging innovation, improving worker engagement and helping resources move towards more productive companies.

Keywords: quality jobs, occupations, sectors, outsourcing, productivity, wages, job security, working time, Artificial Intelligence

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Foreword

Over the last year, Europe's labour market and social outcomes remained strong despite geopolitical uncertainty. Employment continued to rise while unemployment remained close to its historic low. Real wages recovered to their 2019 level, although the recovery remains uneven across countries. Labour productivity increased above its longer-term average, but still lagged behind other major economies. Household incomes continued to grow and economic strain eased further, while Europe continues to deliver high wellbeing by international standards.

Yet challenges persist and new headwinds may be gathering. Employment growth is slowing down. Poverty and social exclusion are falling, but not fast enough. With high energy prices weighing especially on low-income households, we must strengthen protection alongside opportunity.

Required by Article 159 of the TFEU, the European Employment and Social Outlook (EESO) is a clear-eyed report on the progress we have made and the challenges still ahead. This year, the EESO puts at its core job quality focusing on what matters most to workers—earnings, job and career security, working time quality. Over the past decade, the EU has made clear progress across these dimensions, but not everyone has benefitted equally. Energy intensive industries continue to offer well-paid and secure jobs, though they offer fewer opportunities for training. By contrast, jobs in labour-intensive services, like hospitality, often offer poorer working conditions, even as these sectors face persistent shortages. In some sectors, long subcontracting chains and outsourcing erode job quality. Women, young people, migrants, the self-employed and workers with lower education are more likely to be in lower- quality jobs.

AI can bring benefits for workers and companies, by facilitating task reallocation and upskilling. But workers need strong representation to avoid displacement, wage pressure and deteriorating conditions. As algorithms increasingly shape how workers are managed and evaluated, social dialogue and skills will be all the more important to protect worker autonomy and fair workplaces.

The EESO also shows that job quality and economic performance go hand in hand. Higher job quality supports productivity and growth, and, in turn, productivity gains can enable better pay and working conditions. Job quality can also attract more people into employment, thereby also helping to reduce poverty.

In short, job quality is a key pillar of Europe's social model. This is why we have made it a focal point of our initiatives, including the forthcoming Quality Jobs Act. It will address some of the key factors shaping the quality of jobs today, including health and safety, subcontracting, algorithmic management and artificial intelligence.

Our ambition is clear: to make sure that work offers people not only a job, but a fair chance to build a good life.

Executive Vice-President Roxana Mînzatu

Social Rights and Skills, Quality Jobs and Preparedness

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Summary and main findings

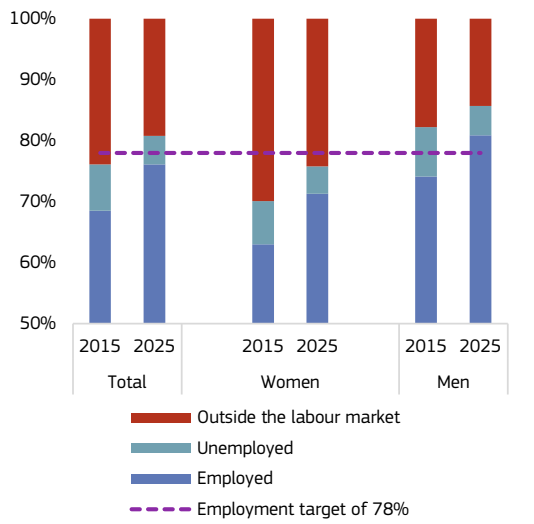
This report focuses on earnings, job security and working time dimensions of job quality.

The 2026 European Employment and Social Outlook investigates the importance and relevance of quality jobs for our economy and as a central goal for European policy making. It places this analysis firmly in the present socio-economic context and longer-term perspective, shaped by structural shifts and geopolitical challenges. This report builds on the Employment Committee's Job Quality Framework. It focuses on three dimensions of job quality that EU workers care about and want to see improved the most: earnings, job and career security, and working time.

In 2025, the EU labour market remained resilient with signs of weakening.

In 2025, the European labour market continued to show resilience, supported by a steady GDP growth of 1.5%. Around 1.6 million more people were in the labour market, driven by higher participation of older people and migrants. The employment rate reached 76.1%, advancing towards the EU's 2030 target of 78%. At the same time, employment growth slowed down from 0.8% in 2024 to 0.5% in 2025. Unemployment remained stable at a historic low of 6%, while labour productivity growth increased to 1% year-on-year. In manufacturing, employment declined by 0.7% and job losses linked to restructuring increased, while annual productivity growth fell from 1.8% in the years preceding the COVID-19 pandemic to 0.2% over the period 2022-25.

Chart 1: **Participation, employment and unemployment (20-64), EU**



Source: Eurostat, Labour Force Survey.

Student performance has worsened markedly over the past decade.

Declining student performance raises concerns about the future stock of human capital, labour market outcomes and EU's competitiveness. Over the past decade, the EU has recorded a substantial fall in Programme for International Student Assessment (PISA) scores in reading and mathematics, with only six Member States performing above the OECD average and only one Member State being among top 10. Increased distraction, declining attention spans and a drop in student engagement are key underlying factors, which are to large degree associated to the excessive use of handheld digital devices, and the consumption of short-form video content. Moreover, students spend less time devoted to sustained reading, which forms the basis for in-depth knowledge, and systemic and critical thinking. In addition, highest-performing students are also those who either do not use artificial intelligence at all or use it primarily to support active learning. This indicates that AI tools pose risks for skills development, especially when used excessively.

Social outcomes were broadly stable, while further efforts are needed to reduce poverty and improve living standards.

After decreasing in 2022 and 2023, in 2025 real wages recovered their 2019 levels in 21 out of 27 Member States but grew less than in 2024. Overall, since 2019, real wage gains have been limited due to weak productivity growth and the energy price shocks. Household income growth also moderated to 0.8% in the fourth quarter of 2025 compared to 2.1% in the fourth quarter of 2024. In the last two years, financial distress declined, wellbeing was high by international comparisons and living standards remained stable. In addition, income and wealth inequality stayed broadly unchanged at levels well below those seen in the US and China. Poverty and social exclusion rates showed little improvement. Compared with 2019,

3.5 million fewer people were at risk of poverty or social exclusion. This means that substantial progress is needed to meet the EU's 2030 target of lifting at least 15 million people out of poverty. This is unlikely to materialise with current trajectories. Developments in relation to children are particularly concerning as their poverty stayed broadly at 2019 levels.

The outlook points to weaker growth, slower job creation and greater price pressures, especially for low-income households.

Going forward, the EU economy and labour market are likely to continue showing subdued growth amid geopolitical tensions, structural changes, low productivity growth and the energy shock caused by the conflict in the Middle East. Real GDP is expected to increase by 1.1% this year and 1.4% in 2027, while employment growth is forecast at 0.3% and 0.4%, respectively. The unemployment rate is likely to stay stable as firms may reduce hiring rather than dismiss workers in a context of labour shortages. The energy shock is estimated to reduce employment growth by 0.2 pp in 2026, which would correspond to 440 000 fewer jobs created. This effect will be felt more in sectors such as manufacturing, transport, construction, and wholesale or retail trade. Higher energy prices and slowing wage growth will exert pressure on real wages and more broadly on household incomes. Low-income households may be impacted most as they tend to spend a larger share of their income on energy and food.

Job quality is important not only for workers' well-being but also for economic performance.

Europe faces a combination of structural challenges: slowing productivity growth, population ageing, labour shortages, rapid technological change and the green and digital transitions. These developments impact the types of jobs available in the market, as well as production processes and business models. In this context, job quality matters as good jobs impact people's health, motivation and financial security. As such, they also support productivity and competitiveness.

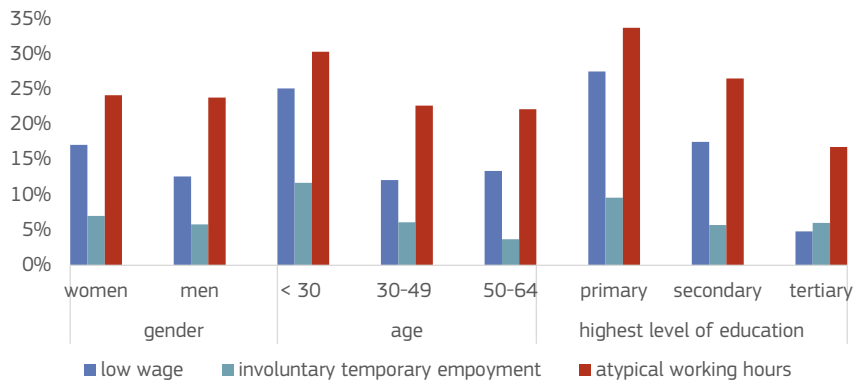
Job quality has improved over the past decade.

Over the past decade, the EU has made notable progress across all three dimensions of job quality; namely, earnings, job security and working time. This positive trend reflects improvements in job quality within most sectors, and to a lesser extent stronger job creation in sectors offering better-quality jobs. Looking ahead, demographic change, labour shortages, structural shifts and technological advancements may affect job quality and require policies to adapt.

Women, younger and lower-educated people have a higher probability of facing job quality challenges than men, older individuals and medium or higher-educated people

Job quality varies across categories of workers. Women, younger workers, those with lower levels of education, born outside the EU, and the self-employed are overrepresented in poor-quality occupations. Education matters most, as higher qualifications help people access better paid and more secure jobs. Job quality is also shaped by the way work is organised. For instance, based on the available analysis, outsourcing or subcontracting arrangements – which many consider as important for business efficiency and small and

Chart 2: **Share of employees receiving a low wage, holding a temporary position involuntarily or working atypical hours by demographic characteristic**



Source: DG EMPL calculations using Structure of Earnings Survey 2022, and Labour Force Survey 2024 data.

medium-sized enterprises – can be associated with lower job quality. This is especially the case in less knowledge-intensive services, while no penalty is found in knowledge-intensive services. However, when comparing people holding similar roles, wage differences between outsourced and non-outsourced workers decrease or disappear altogether. Yet, the concentration of certain outsourceable jobs in lower-paid and lower-quality segments of the labour market highlights that outsourcing can reinforce existing occupational and labour market inequalities.

Sectors of strategic and economic importance to the EU offer better-quality jobs.

Job quality differs between sectors. It is higher in sectors of strategic and economic importance to the EU, in particular manufacturing and knowledge-intensive service sectors. Energy-intensive industries also deliver solid earnings and job security. By contrast, some sectors requiring lower skills levels, such as accommodation and food services and administrative and support services, have poorer job quality. Improvements in earnings and job security were largest in certain lower-quality, low-skilled jobs, where the starting point was the lowest, while reductions in long and atypical working time have been strongest in higher-skilled sectors.

Poor job quality can contribute to labour shortages.

Labour shortage occupations often involve more atypical hours, less secure jobs and lower pay. In particular, personal care workers, agricultural workers, cleaners and helpers have poorer-quality jobs. Even in certain essential occupations where overall job quality is closer to the average, specific job quality challenges can still contribute to labour shortages. For instance, teachers face above-average and rising involuntary temporary employment.

Artificial intelligence is more widely used in better-quality jobs, while algorithmic management is used across different types of jobs.

Workers in better-quality jobs make greater use of digital tools and more than one-third of them also use artificial intelligence. Artificial intelligence can enhance productivity and job quality through task reallocation and upskilling, while it may also affect labour demand, on which evidence is still mixed and evolving. Digital monitoring and algorithmic management are used across different types of jobs, including jobs with better and worse job quality. However, physical monitoring and algorithmic evaluation are more common in jobs with longer and more atypical hours, such as service and sales workers. While it can improve efficiency, algorithmic management can potentially be associated with higher stress and work intensity and lower worker autonomy.

Job quality and macroeconomic performance are closely intertwined.

Productivity growth is driven by multiple factors, including innovation, human capital and the business environment. Its relationship with job quality is bi-directional: stronger productivity growth provides the economic basis for sustainable improvements in earnings and working conditions, while certain dimensions of job quality often, in turn, support productivity. For example, adequate earnings strengthen workers' motivation and retention; employment security encourages investment in firm-specific skills and improve the allocation of

Chart 3: **Average yearly productivity growth (2015-2024) per worker for selected job quality dimensions**

Note: A worker is in a better-quality job (respectively, poorer-quality job) if the value of the selected job quality indicator is in the bottom (respectively, top) half of the distribution of the indicator values for all sectors and countries.

Source: DG EMPL calculations using Eurostat, National Accounts, KLEMS database and Labour Force Survey.

human resources; and sustainable work patterns reduce fatigue, absenteeism and errors. Sectors combining high worker autonomy with moderate work intensity recorded the strongest productivity growth. This notably includes knowledge-intensive service sectors, including ICT activities.

High levels of involuntary temporary employment are associated with weaker productivity growth.

Between 2009 and 2021, sectors with an above-median share of involuntary temporary employment recorded, on average, productivity growth of around 1.4 pp lower than sectors with below-median shares. Where involuntary temporary employment is structurally high, more transitions to permanent employment are associated with stronger productivity growth. Such transitions do not necessarily reduce the initial incidence of temporary employment; rather, they can make temporary contracts function as stepping stones to more stable employment, supporting incentives for skills development, motivation and stronger job matches.

Higher wages and productivity can go hand in hand.

While labour productivity growth is a prerequisite for sustainable wage growth, higher wages in turn can contribute to supporting productivity. On the one hand, higher wages can affect firms' cost competitiveness, affecting their capacity to increase productivity over time. If not ultimately matched with labour productivity growth, pay rises may also weigh on employment, as firms face higher costs without higher revenues. On the other hand, wage increases provide incentives for firms to compete based on innovation and product quality rather than costs. It can also strengthen workers' engagement at work, or drive them towards more productive firms providing higher wages.

Under favourable economic conditions, moderate wage increases can foster productivity.

Moderate wage increases have on average not been accompanied by significant effects on productivity growth or employment. Under favourable economic conditions, they can be followed by productivity increases, as firms adapt by raising their productivity or more productive firms enter the market. In addition, higher minimum wages generally lead to a boost in labour productivity: a 1 pp increase in statutory minimum wages relative to average wages is estimated to lead to a 0.1 pp increase in productivity levels on average, with no significant employment effects.

Higher job quality increases labour supply and consumption.

Higher job quality encourages more people to enter into and stay in employment, and to work more hours. This is especially important for groups that are still underrepresented on the labour market. In economies with ageing populations and persistent labour shortages, improving job quality can unlock untapped labour potential. Job quality also influences household consumption and economic resilience. Employment insecurity increases income uncertainty, leading households to reduce spending more sharply in response to adverse developments and contributing to weaker domestic demand over the longer term. Households in countries with more secure labour markets reduce consumption less when labour market conditions deteriorate, and consumption growth tends to be higher over the longer term. More stable employment and earnings reduce income uncertainty and help households' smooth consumption over time, particularly for more discretionary purchases, such as durable goods. By supporting productivity, labour supply and domestic demand, job quality contributes to more resilient and sustainable growth.

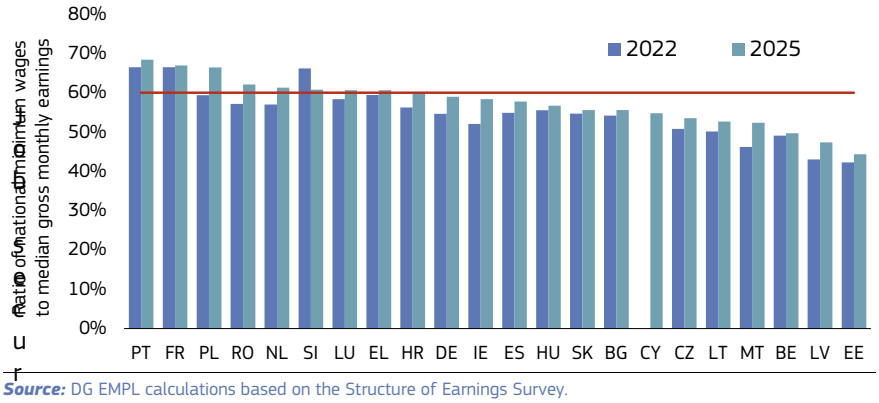
Collective bargaining, pay transparency measures, and minimum wages support earnings adequacy.

Extending collective bargaining coverage and ensuring pay transparency are powerful tools to strengthen the fairness of wages. They can empower workers in wage negotiations and promote equal pay for equal work, in particular for women, who are overrepresented in low-paid jobs. Adequate minimum wages protect not only minimum wage earners, but their increases also benefit other workers earning low wages.

Minimum wages have grown faster than other wages since the adoption of the Minimum Wage Directive.

The Minimum Wage Directive, adopted in 2022, has spurred minimum wage increases which have supported the purchasing power of low-wage earners during a period of high inflation. These increases have also improved the adequacy of minimum wages relative to the wages of other workers. Simulations suggest that the effect of further minimum wage increases on reducing in-work poverty would reduce only marginally in-work poverty at EU level, though more for single households without children. In turn, family benefits play a key role in reducing in-work poverty for households with children. In some Member States, taxes and social security contributions outweigh the poverty-reducing effects of benefits, thus increasing in-work poverty.

Chart 4: **National minimum wages as a proportion of gross median wages (excluding micro-firms)**



Source: DG EMPL calculations based on the Structure of Earnings Survey.

Recent reforms have improved job security for non-standard workers, but gaps remain.

Job security varies between standard and non-standard forms of employment including temporary and platform workers. While rules protecting workers in standard employment have remained relatively strict, some recent national measures adopted in EU countries have focused on workers in non-standard forms of employment. They limit the excessive use of fixed-term contracts, guarantee minimum hours for part-time workers, clarify the employment status of people in new or atypical forms of work, and close social protection gaps compared with workers in standard forms of work. Taken together, these reforms have strengthened job security for non-standard workers and improved overall job quality. However, enforcement challenges linked to certain non-standard workers and gaps in ensuring effective career security still remain. Furthermore, tailored active labour market policies, better access to training and lifelong learning can help workers advance in their careers and move smoothly between jobs and sectors.

Well-designed working-time arrangements improve job quality and help attract and retain workers.

In recent years, several EU countries have strengthened rules on overtime compensation, predictable schedules as well as the right to disconnect, in order to give workers greater predictability and control over their working hours. In addition, in some Member States working time reductions and flexible arrangements have been put in place. These arrangements can support participation and retention but require adequate changes in work organisation to avoid increasing work intensity. They also need to be adapted to sector-specific needs. This is particularly important in essential sectors facing persistent labour shortages, such as healthcare, long-term care, transport, hospitality and retail, which are characterised by continuous service provision. In these sectors, tailored working time arrangements, combined with other measures to improve working conditions, help improve job quality and make these jobs more attractive.

Well-functioning collective bargaining, alongside productivity and skills policies are key to improving job quality in the EU.

Collective bargaining enhances workers' earnings across the wage distribution and allows them to be better represented in decisions affecting work organisation and job quality. It also improves working conditions, promotes training and skills development, as well as ensures protection for vulnerable employees. Under the Minimum Wage Directive, most EU countries where fewer than 80% of workers are covered by collective agreements, have established action plans in which they have committed to strengthening their capacities and regulatory frameworks for collective bargaining. Policies that enhance productivity, including through skills development, are also crucial for creating and maintaining quality jobs in the EU. In this regard, EU initiatives such as the Competitiveness Compass, the Clean Industrial Deal and the Union of Skills help to create conditions for firms to offer better-quality jobs, increase labour market participation, and for workers to move to better quality jobs. Looking ahead, the forthcoming Quality Jobs Act – prepared in consultation with EU social partners – will aim to further improve job quality in a targeted and balanced way while promoting a more competitive and inclusive Europe.

1. Main labour market and social developments

1.1. INTRODUCTION

EU labour market and social developments were supported by resilient GDP growth in 2025. Despite rising geopolitical tensions, real GDP continued to grow, at 1.5% in 2025. The labour market remained robust, with positive but decelerating employment growth. Similarly, the unemployment rate stayed at a historic low, and the share of persons at risk of poverty remain broadly stable. At the same time, there have been some signs of weakening, with GDP growth being less job rich than before.

Looking ahead, the energy shock, as well as ongoing structural transformations pose challenges to the labour market. With the energy shock caused by the conflict in the Middle East that started early in the year, GDP growth decelerated to 0.8% in the first quarter of 2026, but bounced back to 1.4% in the second quarter ([1]). It is forecast to reach 1.1% in 2026, and 1.4 in 2027. Also, employment growth is set to further moderate. At the same time, inflation is forecast to increase to 3.1% in 2026, weighing on real wage growth. The energy shock hit the EU economy when it already showed signs of slowing down and productivity in the manufacturing sector declined considerably. The EU labour market also faces structural challenges linked to increased global competition, weak productivity growth, the twin transition, and demographic change.

Social outcomes in the EU marked modest progress in 2025. Real gross disposable income growth slowed down after expanding in 2024, reflecting weaker real wage growth and lower contribution of social benefits. By 2025, 3.5 million people had been lifted out of poverty and social exclusion compared with 2019. Faster poverty reduction is necessary to make progress towards the EU's 2030 headline target, in particular with regard to child poverty, where the gap to achieving the target is still close to 5 million. While wellbeing in the EU remained high by international standards, some groups remain very vulnerable. Particularly the unemployed and those further away from the labour market experience markedly higher AROPE and material-and-social-deprivation rates.

This chapter discusses main labour market and social developments and its underlying drivers. Section 1.2. outlines main macroeconomic developments and its implications for the EU labour market. Section 1.3. presents recent labour force developments, Section 1.4. discusses wage developments. Section 1.5. focuses on the evolution of living conditions and poverty as well as broader economic strain and wellbeing in the EU and Section 1.6. informs on spending on labour market policies and social protection. Section 1.7. concludes.

1.2. GENERAL LABOUR MARKET CONDITIONS

The EU labour market continues to be resilient, despite some easing in 2025. Although geopolitical and trade tensions were mounting, real GDP growth picked up to 1.5% in 2025, from 1.1% in 2024. GDP growth was mainly driven by private consumption and a rebound in public investment, whereas net exports contributed negatively ([2]). At the same time, employment growth, while remaining positive, continued to decelerate, from 0.8% in 2024 to 0.5% in 2025, the second lowest growth rate since 2013 ([3]) (Chart 1.1). This slowdown partly reflects the continuation of the labour market easing witnessed already in 2024, weaker economic activity and slowing labour demand in some sectors, notably manufacturing ([4]). The unemployment rate remained stable, at the historically low level of 6%, partly due to still-tight labour markets and slower growth of the working age population.

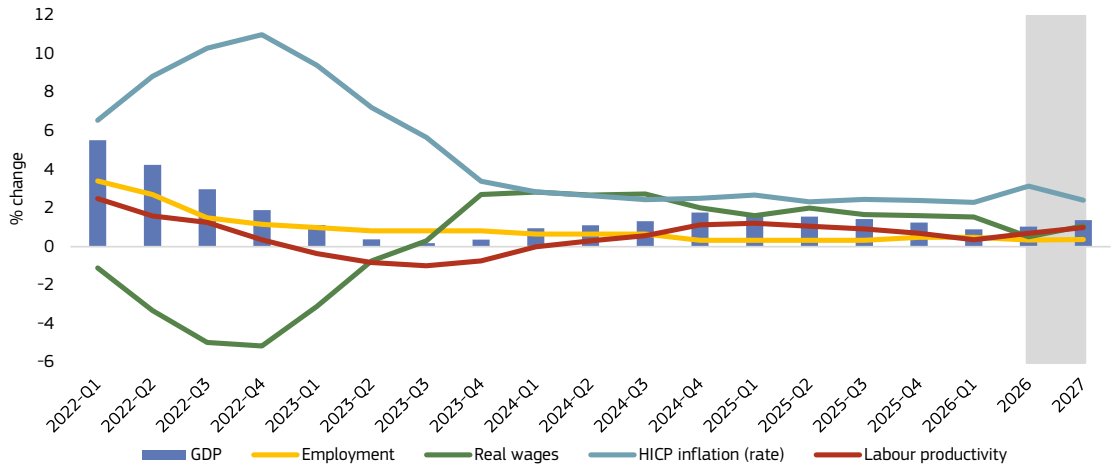
([1]) (European Commission, 2026) and Eurostat.

([2]) GDP growth varied significantly across the Member States, ranging from 0.2% in Finland and Germany to 12.3% in Ireland.

([3]) Employment declined by 1.4% in 2020 in the context of the COVID-19 pandemic crisis.

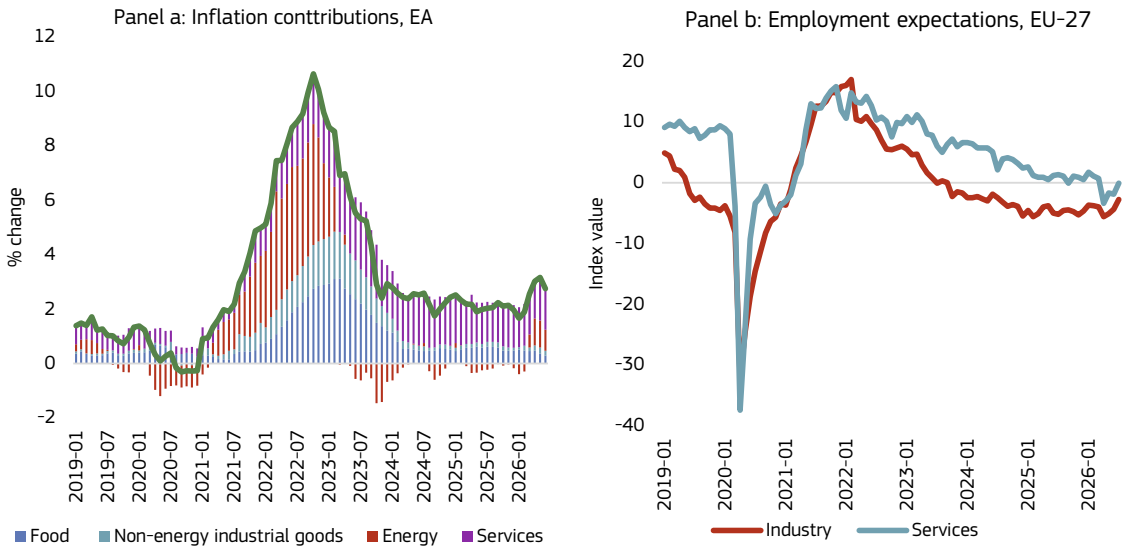
([4]) (European Commission, 2026); (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025c).

Chart 1.1: **Key labour market indicators, annualised growth rates, EU**



Source: AMECO [1100 OVGD, 1000 NETD, 3099427 XUNRQ, 1000 ZCPIH, 1000 ZUTN, 1000 UWCD, 1000 NWTD], Commission's European Economic Spring forecast 2026.

Chart 1.2: **Inflation and employment expectations**



Source: Eurostat [ei_bsee_m_r2, prc_hicp_ctr].

In the first half of 2026, the conflict in the Middle East triggered a surge in energy prices, driving up inflation and dampening economic growth. In 2025, inflation dropped marginally, to 2.5% from 2.6% in 2024, amid lower price pressures in services and processed food, as well as continued energy deflation. However, with the energy shock, energy prices turned again into the main driver of headline inflation, alongside services (Chart 1.2). Inflation has picked up to 3.2% in the second quarter of 2026 driven mainly by energy prices. At the same time, GDP growth, which had decelerated already to 0.2% in the fourth quarter of 2025, declined further to 0.8% in the first quarter of 2026 but increased in the second quarter, to 1.2%. Overall, GDP growth is set to moderate to 1.1% and inflation to reach 3.1% in 2026.

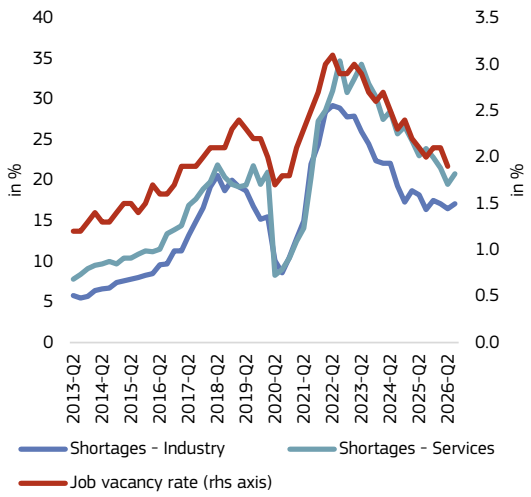
The surge in inflation and deceleration in GDP growth fuel the ongoing slowdown in the EU labour market. Employment expectations dropped below their historical average for both industry and services for the first time since the COVID-19 pandemic in early 2026 (Chart 1.2). Nonetheless employment growth has increased, from 0.3% in the second quarter of 2025 to 0.5% in the first and second quarter of 2026. At the same time, the unemployment rate has remained stable, at 6%. For 2026 as a whole, employment growth is set to fall to 0.3% and the unemployment rate to remain stable at 6%.

Simulations show that depending on the severity of the conflict in the Middle East, employment growth would be between 0.2 and 0.4 pp lower in 2026 (see Box 1.1).

Labour market outcomes reflect cyclical developments linked to the new energy shock, alongside other macroeconomic challenges and structural drivers. In particular, substantial uncertainty persists due to geopolitical and trade tensions, which undermines investment activity and job creation. Moreover, the twin transition, the need to reinforce strategic autonomy, and rapid advances in generative AI are fuelling both optimism – in terms of productivity growth – and concerns – related to possible job displacement and widening inequalities ([5]). Demographic change is mitigating the effect of labour market easing on the unemployment rate by reducing labour supply. However, demographic change may also exacerbate labour and skill shortages, which risks undermining potential growth and the EU's competitiveness (see also Section 1.3.) ([6]). Persistent labour shortages and untapped labour market potential also have a clear territorial dimension. Where employment is high and the working-age population is shrinking, additional labour can come mainly from more mobility and from mobilising under-represented groups, whose participation gaps are unevenly distributed across the EU ([7]).

Labour shortage indicators also suggest that the labour market remains tight but is easing. The latest Commission business surveys show a continued reduction in the share of firms citing labour force shortages as a factor limiting production in both industry and services (Chart 1.3). In the first quarter of 2026, this number declined to 21.5% for services, and 17.2% for industry, back to levels comparable to those witnessed before the COVID-19 pandemic. However, they are still high compared to their historical averages between 2013 and 2019, at 11.6% for industry and 14.1% for services (Chart 1.3) ([8]). Developments in the job vacancy rate also point to a cooling of labour markets at levels close to those observed in 2019. From a peak of 3% in 2022, it declined to 2.1% in 2025; and to 1.9% in the second quarter of 2026. Declining vacancies have not yet translated into higher unemployment for a number of reasons. First, vacancies are relatively abundant in historical terms, which means that jobseekers still have better job-finding opportunities than a decade ago. Second, demographic change constrains the size of the labour force. This is partially offset by high and increasing activity rates and net immigration in many countries. Finally, recent labour shortages and an ageing workforce may have made firms reluctant to lay off workers given that hiring could prove difficult later ([9]). In this context, the labour hoarding index increased from 9.2% in August 2025 to 10% in June 2026 but is still well below its COVID-19 pandemic peak (30.9% in April 2020) ([10]).

Chart 1.3: **Labour market tightness**



Note: Labour shortages are represented by the average across sectors of the proportion of firms reporting that labour is a factor limiting their production. The vacancy rate is calculated as the number of job vacancies divided by the sum of occupied posts and job vacancies.

Source: Eurostat, European Commission business and consumers' surveys. [ei_bsee_m_r2, jvs_q_isco_r21].

([5]) While the effect of AI on productivity and employment remains uncertain, ECB estimates suggest that faster adoption could yield large potential TFP gains of 0.3-0.4 pp per year over the coming decade. Slow adoption would instead lead to TFP increases of around 0.2 pp per year. AI is associated with higher employment, and might particularly complement labour in high-skilled occupations and for countries with stronger technological capabilities. (Guarascio and Reljic, 2025).

([6]) (Knez and Arpaia, 2026).

([7]) See forthcoming 10th report on economic, social and territorial cohesion (European Commission, 2026a) .

([8]) The EU is also facing a growing shortage of digital and green skills, which makes it harder for the EU to progress on the twin transition (European Labour Authority, 2026).

([9]) (European Commission, 2026).

([10]) The European Commission's Labour Hoarding Indicator (LHI) is a survey-based indicator that measures the percentage of business managers who expect their firm's output to decrease but still plan to keep or increase their workforce.

While declining in manufacturing, employment increased in services and construction. Between 2019 and 2025, employment in construction increased by 1.6% annually and by 4% year-on-year in the first quarter of 2026 ([11]). Also, the services sector registered an increase in employment, by 1.3% annually, with the strongest annual growth in ICT (4%) and health care (1.9%) ([12]). Meanwhile, employment in manufacturing declined by 0.7% in 2025 and by 0.4% in the first quarter of 2026 compared to the same quarter of the previous year. This decrease in employment has been accompanied by a rise in job reductions due to restructuring events ([13]). Labour productivity growth in manufacturing also decreased, from 1.8% annually in the six years preceding the COVID-19 pandemic, to 0.2% during 2022-25. This raises concerns about the future main driver of productivity growth and whether the service sectors can absorb displaced workers and create quality jobs at a larger scale than in the past ([14]).

Box 1.1: Labour market impacts of the conflict in the Middle East

The Middle East conflict caused a major energy shock in the EU. Disruptions to global oil and gas infrastructure increased energy prices and market uncertainty with firms facing higher production costs. However, the EU is more resilient than during the 2022 energy crisis due to lower fossil-fuel dependence and greater use of renewable energy.

The energy shock is expected to reduce economic growth and increase inflation. The Spring Economic Forecast revises the GDP growth from 1.4% to 1.1% for 2026 and from 1.5% to 1.4% for 2027. Inflation is expected to reach 3.1% in 2026, compared with the previous forecast of 2.1%. A prolonged crisis would cause stronger effects (GDP growth would drop by 0.7 pp in 2026 and 0.8 pp in 2027 and inflation increase by approximately 1.4 pp in both years).

Facing higher operating expenses, firms are expected to hire less and, in some cases, even reduce staff. In 2026, the employment growth in the EU is projected at 0.3%, against the 0.5% expected before the conflict, corresponding to around 440 000 fewer jobs created. In a downside scenario, employment growth remains close to zero in 2026, which means around 900 000 fewer jobs created ([1]). This slowdown in employment growth adds to already weakening labour markets. The economic context is hence different from the 2022 energy crisis, when employment rebounded strongly in contact-intensive services following the COVID-19 ([2]).

Real wage growth is also expected to moderate substantially, but remains positive. Real wage growth would fall to 0.4%, while before the conflict, it was expected to reach 1.2% in 2026. This reduction to roughly a third of the pre-conflict forecast mainly reflects that nominal pay adjusts to inflation with a lag. In 2027 real wage growth rebounds to 1.1%. In the downside scenario, it is held to around 0.2% in 2026 and close to zero in 2027. In neither scenario real wages decline, in contrast with the deep losses experienced in 2022.

Fewer jobs expected to be created throughout the economy, and the impact differs substantially across sectors. Transport, agriculture, construction and manufacturing are the most affected, reflecting their energy intensity (Chart 1). Agriculture stands out, being exposed to higher prices for fertilisers as well as for energy. In absolute terms the ranking differs, as it also reflects the size of each sector: manufacturing, transport, construction and wholesale and retail trade together account for 241 000 of the around 440 000 foregone jobs in 2026, rising to 494 000 out of around 900 000 under the downside scenario, while

([11]) This was supported by sustained demand for housing (also linked to the green transition) and public infrastructure (Cousin et al., 2025); (European Commission, Recovery and Resilience Scoreboard); (European Commission, Connecting Europe Facility (CEF) (2021/2027)).

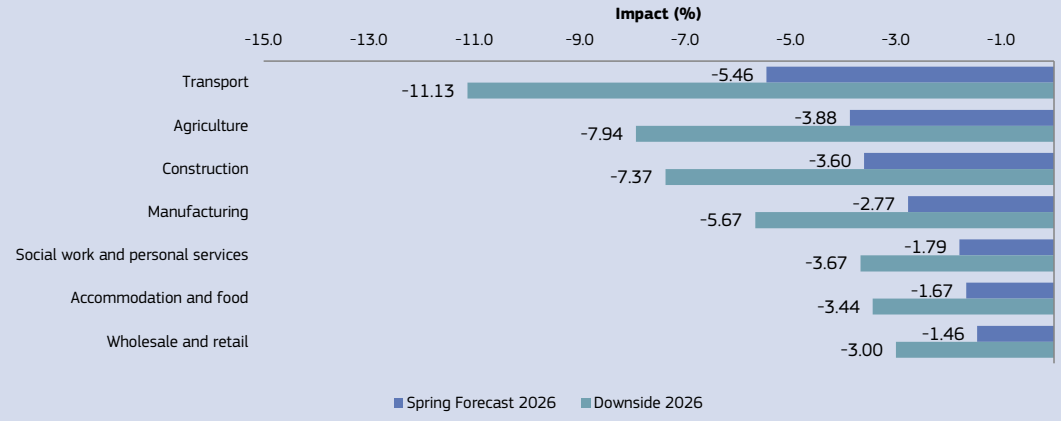
([12]) The pandemic has notably accelerated digitalisation in some services sectors, while there was a shift in consumer habits that boosted demand for digital services (Eurofound, 2025). In addition, employment in other service sectors, which were hit during the pandemic, such as hospitality and retail, strongly rebounded from 2021 and continued to grow at a lower pace after 2022 (European Commission: Directorate-General for Economic and Financial Affairs, 2025). Moreover, demographic trends also strengthened the demand for healthcare.

([13]) Announced net job losses due to restructuring events in the total economy have increased since 2024 (roughly 100,000 in 2024; 70,000 in 2025) compared to the pre-COVID19 pandemic period (20,000 annually on average between 2013 and 2019) (Eurofound's European Restructuring Monitor).

([14]) (European Commission: Directorate-General for Employment, 2026); (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025c).

agriculture accounts for 35 000 (72 000 under the downside scenario). In construction, the shock would stall further job creation after several years of sustained employment growth, while in manufacturing it compounds a continued decline in employment ([3]).

Chart 1: **Sectoral Employment Impact (% of Employment)**

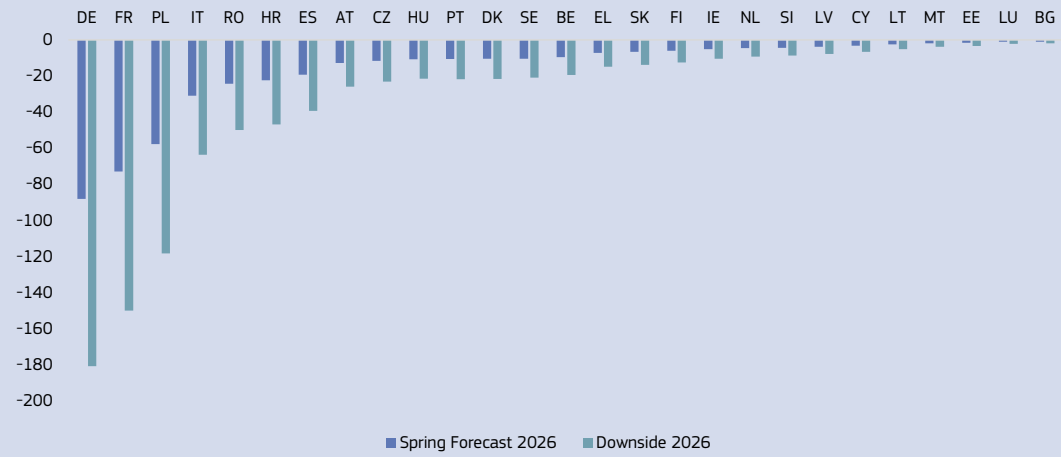


Notes: The markers show foregone job creation as a share of total employment in each sector. Behavioural responses and government support measures are not taken into account.

Source: Commission services based on FIDELIO modelling and the ECFIN-JRC Global Multi-Country model.

The impact differs across EU countries. Germany, Poland, France, and Italy account for more than half of the employment effects (Chart 2). Together, they represent about 222,000 of the 440,000 fewer jobs. Croatia, Czechia, and Spain are also significantly affected. Other countries, including Luxembourg and the Netherlands, face smaller employment effects.

Chart 2: **Foregone Job Creation (in thousands)**



Notes: The markers show foregone job creation in thousands across countries. Behavioural responses and government support measures are not taken into account.

Source: Commission services based on RHOMOLO modelling and the ECFIN-JRC Global Multi-Country model.

([1]) This analysis is based on (Amores et al., 2026). The analysis considers both the central scenario of the 2026 Commission Spring Economic Forecast, and a more pessimistic downside scenario involving a prolonged crisis and an extended closure of the Strait of Hormuz. Behavioural responses and government support measures are not taken into account.

([2]) EU employment growth reached 2.2% in 2022, against 1.4% in 2021, in part reflecting the post-pandemic rebound in contact-intensive service sectors.

([3]) Between 2019 and 2025, employment in construction increased by 1.6% annually, while employment in manufacturing declined by 0.4% annually.

Despite a recent pick-up, productivity growth remains low and is set to decline again. On an annual basis, labour productivity growth, measured as value added per worker, increased to 1% in 2025, compared to 0.3% in 2024 and 0.5% on average over the past decade (Chart 1.1). However, labour productivity growth gradually declined towards the end of 2025, to 0.8%, and further decelerated in the first quarter of 2026 (0.5%). This reflects the fact that employment adjusts more slowly than output during economic slowdowns. Labour productivity is set to increase strongest in Portugal (3.3%), Lithuania (3.1%) and Bulgaria (2.2%) ([15]). Productivity growth remains constrained by structural factors. High energy prices, subdued innovation, particularly digital innovation, and limited investment, fragmented markets, skill mismatches and labour shortages are pushing labour productivity down in the EU. Low productivity growth constrains the scope for larger wage increases, as wages growing faster than productivity risk undermining a country's cost competitiveness (see also Section 1.4).

Going forward, the EU economy and labour market are likely to continue to slow. The Commission's European Economic Forecast Spring 2026 predicts GDP growth to accelerate to 1.4% in 2027, supported mainly by private consumption and a recovery of net exports. Inflation is forecast to decelerate again, to 2.4%, as the effects of the energy crisis are expected to fade (Chart 1.1). Employment growth is forecast to remain positive but low, at 0.4% in 2027. This can be attributed to a small increase in the working-age population and participation rates. The unemployment rate is forecast to remain stable at 6% in 2027. Real wage growth is set to slow down in 2027, amid higher inflation, which will hold back disposable income growth (Section 1.5.).

1.3. LABOUR FORCE

1.3.1. Participation in the labour market

In 2025, the labour force continued to expand, largely due to the extended activity of older people ([16]). This is demonstrated for example by the additional 7.2 million people aged 65 or over participating in the labour market compared to ten years earlier, an increase of 80% ([17]). From 2024 to 2025, the whole labour force increased by 1.6 million additional people, aged 15 years or more joining the labour market. The labour market participation rate (15-64) reached another record high at 75.7%, ranging from 66.7% in Italy to 85.6% in the Netherlands. Within this, participation of those aged 55-64 increased fast. Nevertheless, it remains relatively low for women at 63.7%, 11.9 pp less than for men of the same age group (55-64). Older workers, as well as migrants, were the primary drivers in the rise of the labour force ([18]) (Chart 1.4).

Participation rates of non-EU born people (migrants) and native-born people ([19]) remained at high levels, at 74% and 75.7%, respectively ([20]). This gap is similar to 10 years ago ([21]). Also, the prime-age labour force (25-54-year-olds) remained broadly stable in 2025, at 152.1 million people, thanks to a 0.9 million increase in the number of non-EU born people. The prime-age labour force would have contracted by 0.8 million compared to the previous year without this contribution, a pattern that can be observed almost all years since 2009. However, for recent migrants, participation still remained behind the broader population at 66.8% (76.2% for men and 58.2% for women), due to multiple obstacles, such

([15]) The decline in labour productivity in Ireland in 2026 reflects volatile GDP figures (European Commission, 2026). Real GDP increased at an exceptional rate of 12.3% in 2025, primarily driven by strong pharmaceutical exports due to frontloaded shipments in anticipation of US tariffs and strong global demand for products produced in Ireland. Following the surge in 2025, GDP is projected to contract by 1.2% in 2026.

([16]) For more analysis on the impacts of demographic changes, see (European Commission: Joint Employment Centre, 2026).

([17]) 3.2% of the labour force in 2025 (+0.5 million in 2025 to 7.2 million), and 1.9% (4 million) in 2015.

([18]) For an analysis of underrepresented groups in the labour market, the challenges and the barriers they face, see (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b).

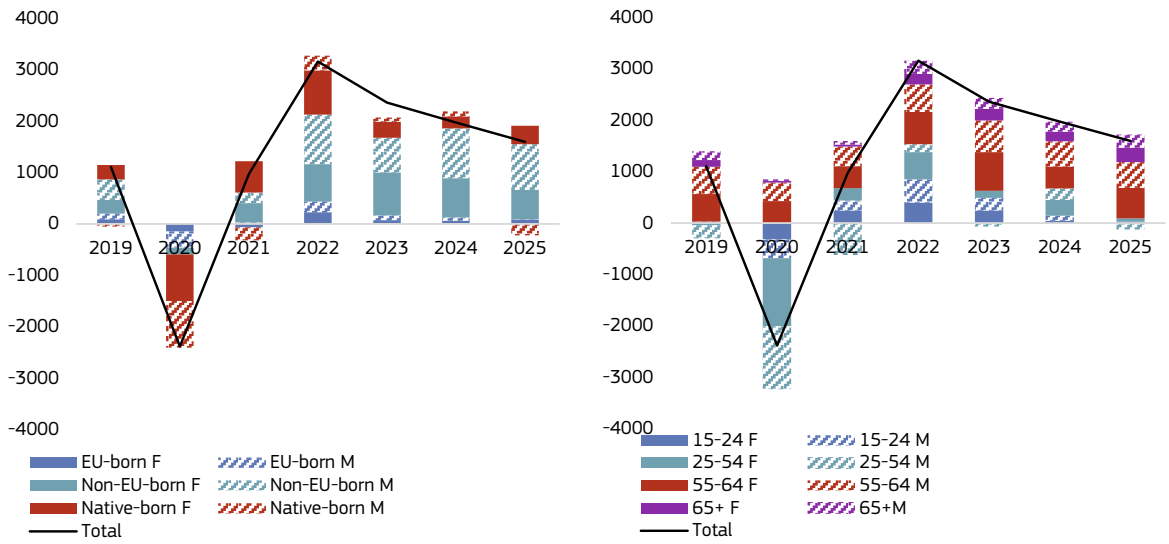
([19]) 'Native-born people' are born in their country of residence. 'EU-born people' reside and are born in an EU country; the country of residence and the country of birth can be the same or not. 'Migrants' or 'Non-EU-born people' reside in an EU country and are born outside the EU.

([20]) While migrant men have a higher participation rate than their domestic-born counterparts (82.9% against 79.5%), migrant women are lagging behind (65.3% against 71.8%).

([21]) For an analysis of the structural changes of the labour force between 2014 and 2024, see (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b). The relative share of non-EU born people in the population aged 20-64 remains small compared to the non-migrant population, at around 12% (31 million) in 2024.

as language barriers, lower educational attainment ([22]), difficulties with qualification recognition and discrimination ([23]). Despite higher participation rates of older people and migrants, the pressure on social security systems, especially on health care, pension and other age-related public expenditure, is expected to further increase due to population ageing ([24]). In 2025, the old age dependency ratio already corresponded to three working-age individuals (15–64) for every person aged 65 or over. Forward looking, the share of the EU population aged 65 or more is expected to reach 29% in 2050, up from 22% in 2025 ([25]).

Chart 1.4: **Contribution to the change of the labour force (15-74) by sex, and by country of birth (left) or by age group (right), 2019-2025, EU (thousand people)**



Source: Eurostat, Labour Force Survey, [lfsa_pgacws]

Chart 1.5: **Participation, employment and unemployment (20-64) by group of population, EU, 2015 and 2025**

Source: Eurostat, Labour Force Survey, [lfsi_emp_a], [une_rt_a], [lfsa_ergaedn], [lfsa_urgaed], [lfsa_ergaedcob], [lfsa_urgacob]

([22]) In general, labour market participation is much lower for people with low educational attainment, particularly for women (36.3% against 53.2% for men), than for people with high educational attainment (84.7% for women and 89.4% for men).

([23]) See (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b).

([24]) (European Commission: Directorate-General for Economic and Financial Affairs, 2024) and (European Commission: Directorate-General for Employment, Social Affairs and Inclusion; European Council: Social Protection Committee, 2024).

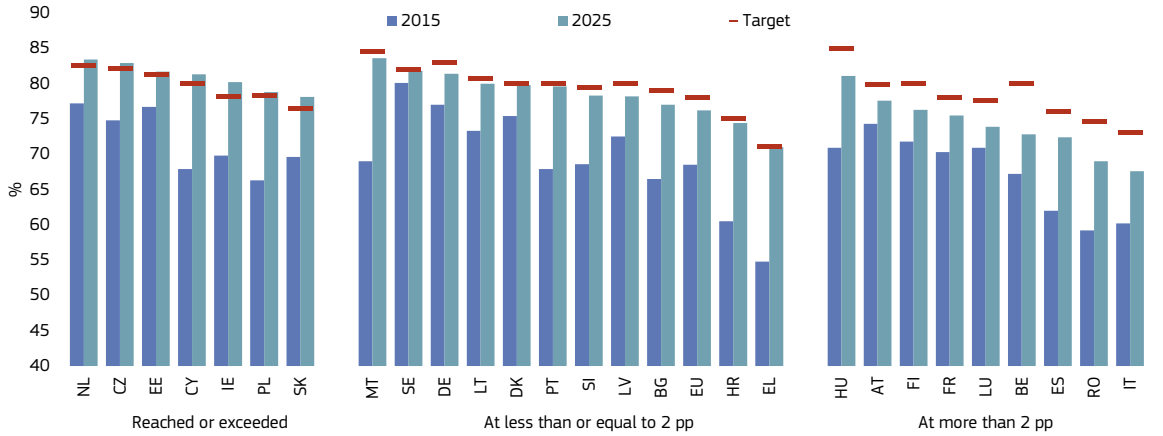
([25]) Population structure and ageing - Statistics Explained - Eurostat.

Compared to 10 years ago, all population groups benefited from labour market improvements, either through higher participation or lower unemployment. While participation rates changed little for groups like low-skilled workers and migrants, their unemployment fell sharply. Conversely, groups with already low unemployment in 2015 together with low participation, such as older workers (55–64), experienced the strongest growth in labour market engagement (see Chart 1.5).

1.3.2. Employment rates

Demonstrating its labour market resilience, the EU edged closer to its 2030 employment target. In 2025, with an employment rate of 76.1% in 2025, the EU was only 1.9 pp short of the 78% goal. Seven countries already met or exceeded their 2030 national targets ([26]). However, disparities persisted. Nine countries were still lagging behind their targets by more than two percentage points, including three countries ([27]) by more than five percentage points, whereas Eleven countries achieved employment rates of or above 80% ([28]) (Chart 1.6). The employment rate continued to rise in Q1 and Q2 2026, reaching a new record high of 76.4%.

Chart 1.6: **Employment rate (%) and target achievement by EU country, 2015 and 2025**



Source: Eurostat, Labour Force Survey, [lfsi_emp_a]

For some specific groups the employment rate remains below the EU average. This includes, not exhaustively, women, people aged 55-64, non-EU born, or those with low educational attainment ([29]). Furthermore, at 24.2%, the disability employment gap remains a concern, in particular for individuals with severe limitations who face more difficulties ([30]). In addition, complementary sources show that groups such as Roma and more generally persons with a minority racial or ethnic background face barriers in the labour market ([31]).

Although employment rates have generally improved, they fell for some groups, especially young people aged 15-24 and those with lower levels of education. For these two groups, the employment rate fell by 0.4 pp to 34.5% and by 0.3 pp to 58.2% between 2024 and 2025, respectively. Moreover, parents with low educational attainment saw their employment rates decline by 0.7 pp, after having increased since 2014. With this their employment rate reached 55.3% in 2025. The decline was

([26]) The Netherlands (83.4%, -0.1 pp), Czechia (82.9%, +0.6 pp), Estonia (81.7%, -0.1 pp), Cyprus (81.3%, +1.5 pp), Ireland (80.2%, +0.4 pp), Poland (78.8%, +0.4 pp), and Slovakia (78.1%, +0.0 pp). 2030 national targets vary between 71.1% (Greece) and 85.0% (Hungary). In 2024, Denmark was above its target (80.0%), but due to a 0.4 pp decrease is now below at 79.8%

([27]) Belgium (72.8%, +0.5 pp), Romania (69.0%, -0.5 pp) and Italy (67.6%, +0.5 pp), the latter two being the only countries below 70% (one country less than in 2024).

([28]) One country more than in 2024.

([29]) The employment rates for these groups stood at 66.4% (+1.2 pp), 68.7% (+0.7 pp), and 58.2% (-0.3 pp), respectively. Among individuals aged 25-54 with a medium educational attainment (ISCED 3-4), those with vocational education exhibit higher employment rates (85.1%) compared to those holding a general diploma (77.0%).

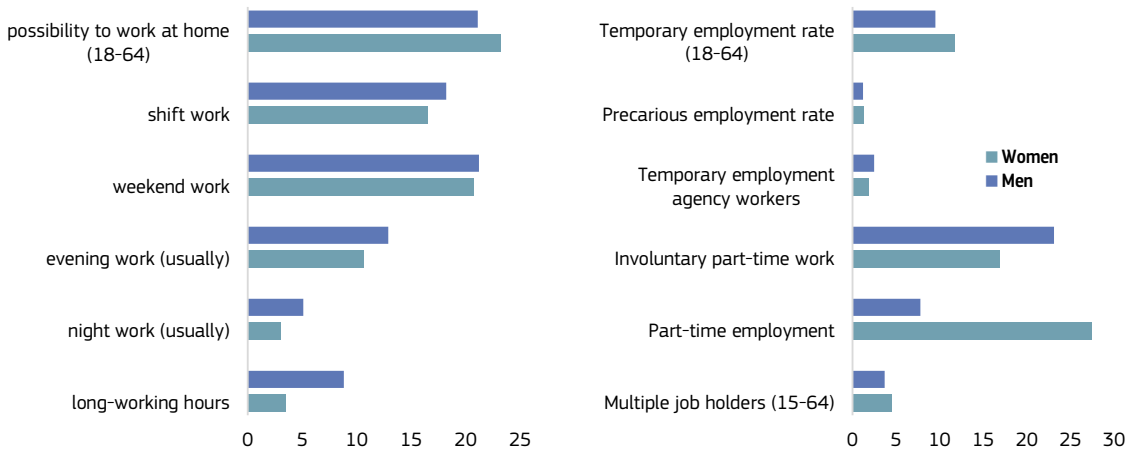
([30]) Eurostat, Survey on Income and Living Conditions, [hlth_dlm200].

([31]) For more information on the situation of Roma and persons with a minority racial or ethnic background and on the EU strategies on the matter, see (European Commission, 2026e) and (European Commission: Directorate-General for Justice and Consumers, 2020).

more pronounced for parents in larger families (-1.7 pp for 3 children or more to 46.0%) and for parents with young children (less than 6 years old), particularly mothers (20-49) whose employment rate declined by 3 pp, reaching 32.6% ([32]). Beyond these developments, the widespread increase in employment rates across almost all groups indicates that higher employment among people born outside the EU did not negatively affect the employment of native-born people. Instead, it helped alleviate labour supply bottlenecks ([33]).

The employment rate for 55-64-year-old women increased by more than 15 pp since 2015 and surpassed 60% for the first time. In fact, their employment rate rose by 1.5 pp to 60.8% in 2025, while it stood at only 45.1% a decade before ([34]). Compared to the previous year, women's overall employment grew by 0.6 pp to 71.4%, above the growth rate of 0.2 pp for men (81%). The employment rate for 55–64-year-old women rose significantly, by 1.5 pp (to 60.8%), compared to 0.9 pp for men (to 72.3%) ([35]). The gender employment gap (20-64) was for the first time slightly below 10 pp ([36]). These developments signalled progress made towards more gender equality in the labour market. Nonetheless, the EU remains far from its 2030 target of halving the gender employment gap compared to 2019, which has narrowed by only 1.7 pp since. In addition, gender inequalities are persistent in contractual and working arrangements, as women disproportionately shoulder unpaid care responsibilities ([37]). Mothers of young children or larger families disproportionately work from home or part-time. In 2025, 27% of women with children reported working from home. Part-time work was also more prevalent among women (27.5% versus men 7.8%) ([38]). However, involuntary part-time work, where workers sought but could not secure full-time employment, affected a higher share of men (23.1%) than women (16.9%) ([39]) (Chart 1.7).

Chart 1.7: **Selected working time and contractual arrangements, by sex, EU, 2025**



Source: Eurostat [lfsa_lfsa_qoe_3a2], [lfsa_ewpnig], [lfsa_ewpeve], [lfsa_qoe_3b3], [lfst_hhwahchi], [lfsa_esegatyp], [lfsa_ewpshi], [tqoe3a5], [lfsa_epgar], [lfsa_qoe_4a6r2], [lfsa_qoe_4ax1r2]

In 2025, most forms of temporary and atypical working arrangements continued their long-term decrease. However, they still represented a substantial share of employment. For instance, night work accounted for 4.1% of employment, while 11.8% worked evenings, 21% during weekends, and 17.4% in shifts. Additionally, 6.3% of employees worked long hours ([40]), and 4.1% held multiple jobs, a potential indicator of insufficient income or hours from a single position. Temporary contracts covered

([32]) Eurostat [lfst_hheredch].

([33]) See (European Commission: Directorate-General for Economic and Financial Affairs, 2026).

([34]) In 2025, the employment rate for men grew by 0.9 pp to 72.3%. 10 years before, it was at 58.1%.

([35]) Eurostat [lfsi_emp_a].

([36]) Eurostat [tesem060].

([37]) See (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b).

([38]) On average 17% of all employees worked reduced hours.

([39]) On average it affected 18.4% of all part-time employees in 2025, it has been following a decreasing trend since 2014 (32.7%).

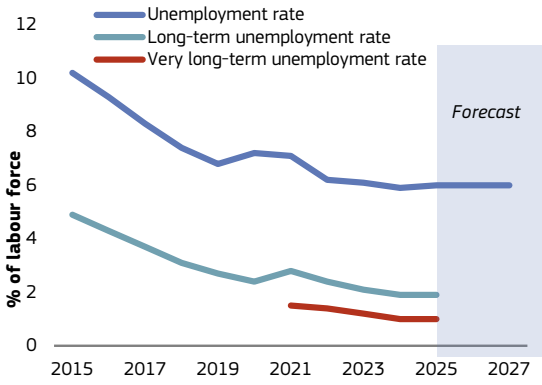
([40]) 49 hours or more per week.

11.5% of the workforce ([41]) (Chart 1.7), and have been declining since 2017 (14.7%), with an exception during the COVID-19 years. Atypical contracts and working arrangements may indicate greater job precarity, yet they can also provide necessary flexibility for both employees and employers. For instance, such arrangements enable quicker adaptation to labour market shifts, facilitate labour market access for those who struggle to secure standard contracts, and accommodate work-life balance preferences. Shift, weekend, and night work reflect the need for service continuity in sectors such as emergency and transport services, as well as for retail opening hours beyond standard office times. Thus, they are expected to remain an integral part of the labour market.

1.3.3. Unemployment

The EU unemployment rate remained at historic lows. Over the last decade the unemployment rate almost halved and ([42]) stabilised at 6.0% ([43]). At the same time, long-term unemployment and very long-term unemployment ([44]) also remained at their record low, 1.9% and 1%, respectively (Chart 1.8). These trends reflect different movements between labour market statuses. In some countries unemployed people found a job more quickly, while, in others, workers lost their jobs less often ([45]). Nevertheless, with economic uncertainty, unemployment expectations rose sharply from 23.5% in February to 32% in May 2026, before slowly declining until 28.3% in August ([46]). At the national level, unemployment rates ranged from 2.8% (+0.2 pp) in Czechia to 10.5% in Spain (-0.9 pp). Since 2022, persistently low unemployment has coexisted with high but falling labour shortages (See Section 1.2.), as strong job creation absorbed the additional labour supply ([47]) and firms opted to retain experienced workers rather than face recruitment and training costs due to a projected decline in the working-age population. These elements can explain the stabilisation of unemployment despite the softening of the labour market ([48]). Looking ahead, the EU unemployment rate is forecast to remain stable at 6.0% in 2026 and 2027 ([49]). In Q2 2026, it was 6.1%, up 0.1pp on the previous quarter and close to its historical low. In the EU's major economies, unemployment changed little between Q1 and Q2 2026: +0.8pp in Italy, +0.2pp in Germany, +0.1pp in France, and -0.1pp both in Spain and the Netherlands.

Chart 1.8: **Unemployment rate (%), 2015-2025, EU**



Source: Eurostat [une_rt_a], [une_ltu_a], and European Commission Economic Forecast Spring 2026

The labour market slack, a broader measure of the unmet needs for employment, remained at its record low of 11.8% of the extended labour force. In 2025, this indicator amounted to 27 million individuals aged 15-74 (+0.2 million) ([50]). Of this total, 13.3 million are unemployed (+0.22 million), while the remaining 13.7 million (-0.02 million) consisted of individuals available to work but not

([41]) Fixed-term contracts, in relative terms, affect disproportionately elementary occupations and service and sales workers.

([42]) Individuals aged 15-74. The lower unemployment rate since the series began in 2009 happened in 2024 (5.9%).

([43]) Marginal increase of 0.1 pp compared to 2024. Due to this stabilisation, unemployment rates are no longer contributing to employment growth, contrary to increased labour force participation rates and the slightly growing working-age population (European Commission, 2026).

([44]) Long-term unemployment = over one year; Very long-term unemployment = over two years.

([45]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026b).

([46]) While this indicator usually has a strong predictive power, it tends to react earlier and stronger to bad news and crises than the unemployment rate.

([47]) Labour supply rose due to decreasing unemployment rates, increasing labour force participation rates and a slightly growing working-age population.

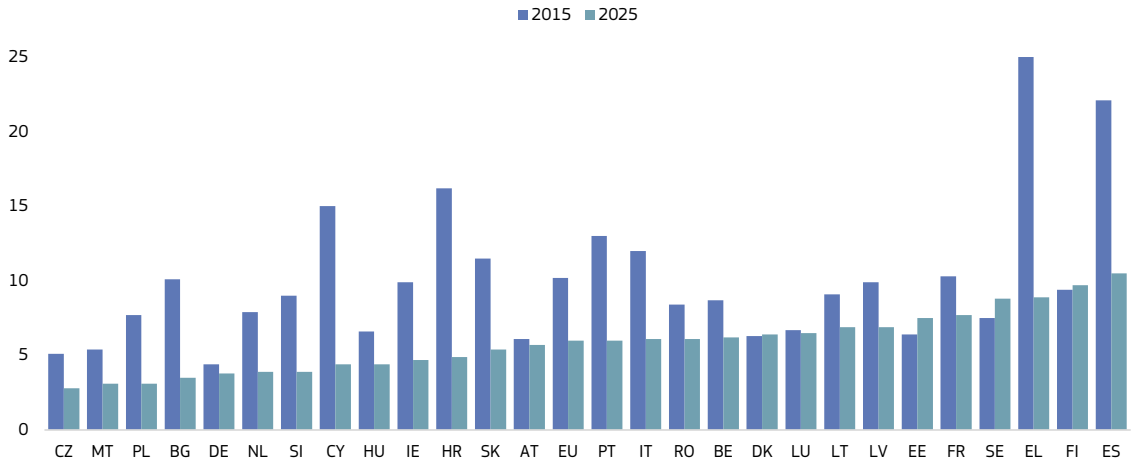
([48]) While improved labour market matching could also play a role, there is currently no evidence to support this hypothesis (European Commission, 2026).

([49]) (European Commission, 2026).

([50]) Despite stable relative figures, the absolute figures increased due to a growing number of people participating in the labour market.

seeking employment, part-time workers wishing to work more hours, and those seeking work but not immediately available ([51]).

Chart 1.9: **Unemployment rate by EU country, 2015 and 2025**



Source: Eurostat [une_rt_a]

The youth unemployment rate slightly deteriorated for the second year in a row. In 2025, 15.2% of young people aged 15-24 in the EU were unemployed (+0.2 in 2025 and +0.4 in 2024) ([52]). Increases were particularly pronounced in Romania (+2.2 pp), Finland (+3.0pp), and Estonia (+1.6pp), where levels were also alarmingly high ([53]). In Q2 2026, the youth unemployment rate reached 15.6%, continuing its gradual upward trend. Beyond young people, other vulnerable groups continued to face significant challenges, such as individuals with lower levels of education (12.1%, +0.3 pp), those with general upper secondary education (8.0%, -0.1 pp), and non-EU born individuals (10.7%, stable). Meanwhile, overall unemployment rates remained unchanged for both men (5.8%) and women (6.2%) ([54]).

The labour market slowdown is further evidenced by shifting transition patterns, declining hiring, and a reduction in temporary and agency work. Transitions into employment or to more conventional or secured contracts, such as full-time or permanent contracts, decelerated ([55]). In addition, temporary employment agency work and short-term fixed contracts, particularly those of shorter duration, also diminished. These types of contracts often tend to be the first ones not to be renewed when labour market slows down ([56]). Moreover, transitions from outside the labour force to employment or from unemployment to employment decreased (by -0.6pp and -0.5pp, respectively), while remaining outside the labour force or unemployed are on the rise (both by +0.4pp) ([57]). At the same time, the decline in hiring is reflected in a smaller share of recent job starters, dropping from 4.5% of total employment in Q2 2022 to 3.8% in Q4 2025 and 3.7% in Q2 2026, or in the proportion of workers with job tenures of less than one year ([58]).

([51]) Eurostat [lfsi_sla_a].

([52]) See subsection 1.3.4. on education and skills for additional information on the situation of young people.

([53]) Unemployment rates for young people (15-24) are above 20% in Romania (26.1%, +2.2 pp), Spain (24.9%, -1.6 pp), Sweden (24.3%, stable), Finland (21.8%, +3.0 pp), Estonia (20.7%, +1.6 pp) and Italy (20.6%, +0.3 pp).

([54]) Eurostat [une_rt_a], [lfsa_urgaed], [lfsa_urgacob].

([55]) Transitions from unemployment or from outside the labour force to employment, from fixed term contracts to permanent contracts or from part-time work to full-time work.

([56]) However, it may indicate implementation of reforms discouraging short-term contracting or labour hoarding (See Section 1.2.).

([57]) Eurostat [lfsi_long_a].

([58]) Eurostat [lfsi_sta_q].

1.3.4. Education and skills

The EU made some progress in reducing early leaving from education and training in 2025. The rate of early leavers from education and training (18–24) decreased by 0.3 pp to 9.1% and the NEET rate (15–29) by 0.1 pp to 11%, the latter ranging from 5.3% in the Netherlands to 19.2% in Romania. However, early leavers face significant challenges when entering the labour market, which is reflected in their low employment rate (46.2% in 2025) ([59]). Geographic disparities persisted, with cities (8.0%) at the level of the 2030 EU target of under 8% of early leavers, while towns and suburbs (10.1%) and rural areas (9.6%) ([60]) were lagging slightly behind. Experiencing interruptions in education is not rare. In 2024 ([61]), 17.2% of 25–34-year-olds had left formal education or training at least once. The primary reason for leaving was courses not meeting expectations or being too difficult (39.4%). Financial reasons were quoted by 6.8%. Critically, young people who had left education at least once were far more likely to be NEET, in particular the youngest ones ([62]).

Vocational Education and Training (VET) provides learners with labour market relevant skills. About 57% of workers in shortage occupations hold medium-level qualifications acquired through vocational education and training. By contrast, 20% of workers in surplus occupations have medium-level qualifications from general secondary education, which provides broader rather than occupation-specific preparation. In addition, eight of the top ten shortage occupations require a medium-level vocational qualification ([63]). This highlights the importance of VET for the current labour market needs. VET professionals are also key for growth and competitiveness of EU strategic sectors, notably the ones with medium-level vocational STEM qualifications. 36.5% of all pupils enrolled in medium-level VET were in STEM fields in 2024 – still far from the EU target of 45% to be reached by 2030 ([64]). Work-based learning is an effective learning environment to acquire labour market relevant skills and hands-on experience in real workplaces. The EU exceeded its 2025 target for work-based learning, with 66% of recent VET graduates participating, surpassing the 60% goal. In 2025, the employment rate for recent VET graduates reached 80.2%, just 1.8 percentage points below the 82% target. Additionally, VET offers pathways to higher education: 21% of young people with a medium-level vocational qualification progress to tertiary studies ([65]).

Tertiary education attainment in the EU reached a new record high in 2025, while basic digital literacy remains a challenge. In 2025, 44.8% of 25-34-year-olds held a tertiary education qualification (+0.7 pp from 2024), marking a new peak in educational attainment, although still below the 2030 EU target of 47%. Among the 4.5 million tertiary education graduates in 2024, 20.3% were following a curriculum in STEM ([66]), 9% in education and 14.7% in health and welfare. However, this masks enduring challenges: 13.4% of the same age group had not progressed beyond lower secondary education. Digital skills gaps remain particularly acute, with only 60.4% of the EU population aged 16-74 possessing at least basic digital literacy in 2025. The younger generation is not exempt from difficulties with 74.7% of 16-29-year-olds meeting the threshold ([67]).

([59]) In addition, 30.8% were unemployed but wanted to work, and 23.1% were not employed and did not want to work.

([60]) Respondents are classified according to their place of residence.

([61]) 8-yearly rolling module of the Labour Force Survey on Young people and the labour market (2024). Results were published at the end of 2025.

([62]) Young people dropping out of education and labour market participation and (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026a).

([63]) The eight of the top ten shortage occupations requiring medium-level vocational education are: Welders and flame cutters; Building and related electricians; Nursing professionals; Plumbers and pipe fitters; Bus and tram drivers; Heavy truck and lorry drivers; Sheet metal workers; Health care assistants. The additional two occupations of this top ten are: Specialist medical practitioners; Generalist medical practitioners. For more details, see (European Labour Authority, 2026).

([64]) With a least one out of every five students female, see (European Labour Authority, 2026).

([65]) (European Commission: Directorate-General for Education, Youth, Sport and Culture, 2025).

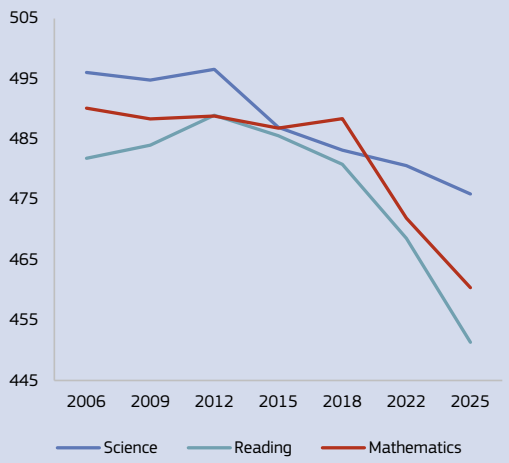
([66]) The EU target is a share of students enrolled in STEM fields at tertiary level should of at least 32 %, with at least two female students out of every five students, by 2030.

([67]) From 64.6% of young people with low educational attainment, to 87.8% of those with high educational attainment. The EU has set a target that, by 2030, fewer than 15% of eighth-grade students should be low achievers in computer and information literacy.

Box 1.2: Record lows in education performance

Over the last decade the EU experienced a substantial deterioration in student performance, especially in reading and mathematics. After already reaching record lows in 2022, PISA results ([1]) show a further fall in 2025, particularly in reading (Chart 1). Between 2015 and 2025, the EU average score plummeted by 34 points in reading and 26 in mathematics, with a 20-point drop equivalent to one year of schooling ([2]). However, this decline is not limited to the EU. It is part of a global trend. with the OECD ([3]) experiencing a similar trend. These medium-term trends suggest that COVID-19 intensified underlying multifactorial structural weaknesses rather than caused them. Factors underlying these trends include greater difficulty maintaining attention and falling student engagement. All these elements can be somewhat attributed to the negative cognitive impacts resulting from the excessive use of handheld digital devices and consumption of short video content by young people. While evidence also shows that young people still read and write extensively, this often happens in digital environments. Digital texts tend to be shorter and favour functional reading. Students switch tasks more frequently, and devote less time to sustained reading, which is closely linked to reading comprehension. While this does not establish a causal link between online activities and declining reading performance, sustained reading, information integration and critical evaluation are practiced less and thus also impact the development of these skills. Additional factors behind the falling performance include teacher shortages, limited teaching materials, changes in the classroom environment with more complex needs in increasingly diverse classes, weaker family support, and the slow adaptation of education systems ([4]). The 2026 Council recommendation on human capital aiming at tackling labour and skills shortages highlighted the necessity to strengthen basic skills and to invest in education, among others ([5]).

Chart 1: **Mean performance in science, reading and mathematics**



Source: OECD, PISA 2025

Only Estonia features among the ten best-performing education systems. The EU performs between 6 to 15 points lower than the OECD across science, reading and mathematics, with the most pronounced difference in reading. Only Belgium, Czechia, Estonia, Ireland and Poland are above the OECD average in all three areas, and 15 countries score below the OECD average in every subject ([6]). Between 2022 and 2025, Slovakia was the only EU country to improve in all subjects (by 1 point reading, 5 points in mathematics and 13 points in science). In science, four other EU countries also recorded improvements ([7]).

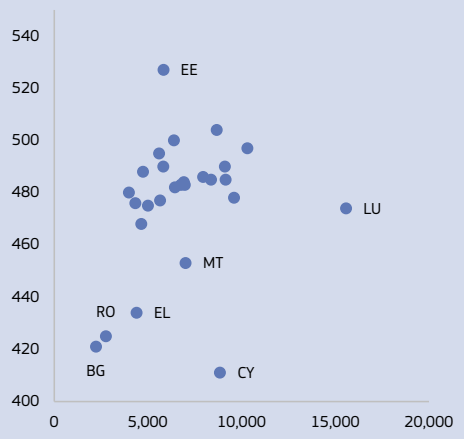
Chart 2: **Mean performance (points) in reading (left) and drop in reading performance (points) by socio-economic status, Member States, 2015-2025**

Source: OECD, PISA 2015 and 2025

Reduced inequalities conceal a sharp deterioration in performance of advantaged students. In the EU, the difference in performance between students in the top and bottom socio-economic quarters ([8]) narrowed by 12 points in science and mathematics, and by 18 points in reading between 2022 and 2025. These changes were broadly similar to those in the OECD ([9]). However, this reduced gap was primarily driven by a strong decline in performance among students with the highest socio-economic status. In fact, their score fell by 23 points in reading, 16 points in mathematics and 8 points in science, while students of the bottom quarter demonstrated an increased performance in science (+4 points) and a less pronounced decline in reading and mathematics (-5 and -4 points, respectively). This points to a systemic challenge rather than progress in equality.

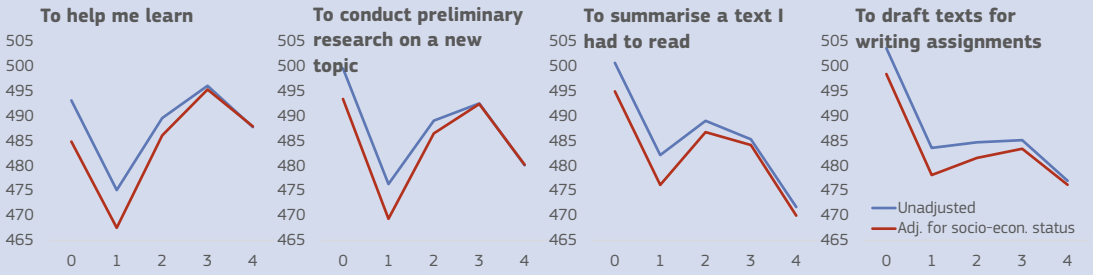
Higher public spending per student does not automatically translate in better quality in education or higher performance scores. Across OECD countries, GDP per capita explains for only 9% of the variation in performance ([10]). Well-designed policies and efficient allocation of financial resources are far better indicators of PISA outcomes than how much is spent per student. For instance, Luxembourg, the highest spender on education, allocated on average 15,571 PPS per full-time equivalent pupil in primary and lower secondary education each year between 2014 and 2023, yet its outcomes in all domains were well below those of Estonia, which spent on average 5,835 PPS per pupil and is the leading EU performer and among the strongest worldwide (Chart 3). Several elements of the Estonian education system help explain strong learning outcomes from moderate resources ([11]). For instance, Estonia's decentralised governance is a crucial feature of its efficient spending model. In fact, Estonia has a national framework, but schools and teachers have considerable freedom over how they achieve the educational objectives, reinforcing professional autonomy and individual engagement. Despite reports of teacher shortages, Estonia displays moderate class sizes, strongly rising teachers' salaries, and relatively limited compulsory instruction time with emphasis on core learning. In addition to PISA high scores, this system achieves high inclusion and relatively low socio-economic inequality too.

Chart 3: **2025 PISA results in science and average public spending (PPS, 2014-2023) in primary and lower secondary school per full-time equivalent**



Source: OECD, PISA 2025 and Eurostat [XXX]

Chart 4: **PISA results in science by purpose and frequency of AI use, EU, 2025**



Note: 0 = Never or almost never; 1 = About once or twice a year; 2 = About once or twice a month; 3 = About once or twice a week; 4 = Every day or almost every day
Source: OECD, PISA 2025

Students who achieve the highest results are mostly those who do not rely on artificial intelligence. Chart 4 shows that, when AI is used in active learning and to support research an intentional and moderate use (once or twice a month or week) can enhance PISA scores for student performance in science. Specifically, this applies to using AI for learning purposes or to conduct preliminary research on a new topic, also accounting for the socio-economic status. However, using AI for replacing tasks, such as summarising texts or draft assignments is largely associated with lower scores. This is especially important at a time when reading skills have declined most in areas that require critical thinking, such as weighing up evidence and distinguishing facts from opinions. When students are clearly taught how to critically interpret and assess the information produced by AI tools it can support student progress ([12]) and help reducing socio-economic inequalities.

(1) The Programme for International Student Assessment (PISA) tests the knowledge and skills of students directly, using an internationally agreed metric to collect data from students, teachers, schools and systems to understand performance differences.

(2) (OECD, 2026c)

(3) OECD average-23: arithmetic mean across OECD Member countries excluding Austria, Chile, Colombia, Costa Rica, Estonia, Israel, Lithuania, Luxembourg, the Netherlands, Slovakia, Slovenia, Spain, Turkey, the United Kingdom and the United States, to allow performance comparisons across PISA cycles from 2000 to 2025.

(4) (OECD, 2026c)

(5) Council Recommendation of 9 March 2026 on human capital in the European Union - Publications Office of the EU

(6) Bulgaria, Croatia, Cyprus, France, Germany, Greece, Hungary, Latvia, Luxembourg, Malta, Portugal, Romania, Slovakia, Slovenia and Spain.

(7) Austria (6 points), Estonia (1), Italy (6) and Lithuania (3).

(8) The top and bottom quarters refer to the 25% of students with the highest and lowest values of the PISA index of economic, social and cultural status (ESCS), respectively, within each country. See (Avvisati, 2024).

(9) -13, -17 and -11 points, respectively.

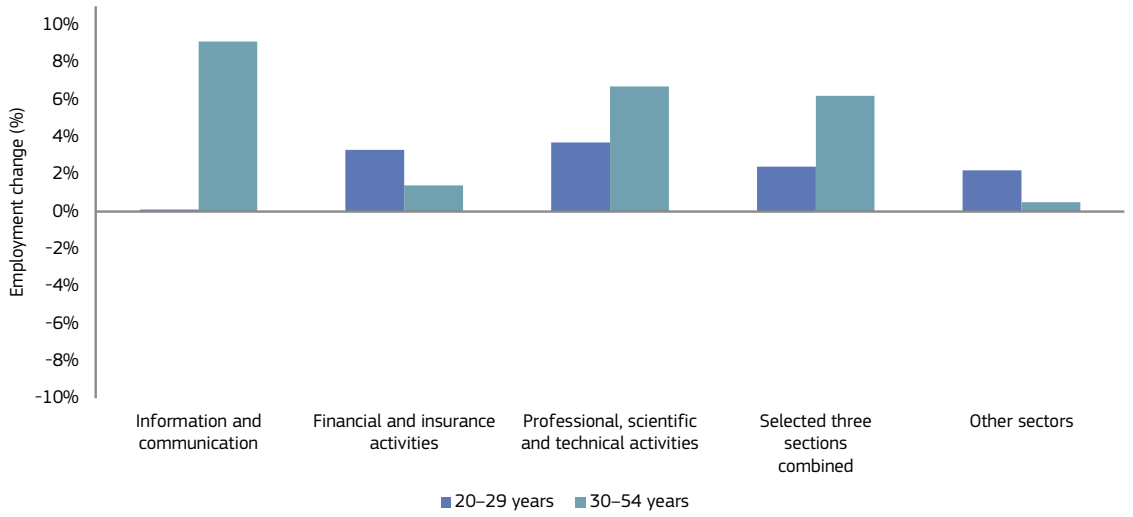
(10) Countries with higher national incomes tend to score better in PISA assessments, and 50% of the variation in performance is 'explained' by the per capita GDP when considering all participating countries (simple bivariate relationship). However, in OECD countries this share falls to only 9%, because the relationship is not linear and levels off among countries with higher national incomes.

(11) (OECD, 2026c), (OECD, 2026a), (OECD, 2025b)).

(12) (OECD, 2026c)

Employment outcomes for recent graduates improved slightly. In 2025, the employment rate for recent graduates ([68]) aged 20-34 showed gains (+0.8 pp to 82.1%), particularly for the lower-qualified (56.9%; +4.4 pp). Those with tertiary education maintained the highest employment rate (87.0%; +0.3 pp), followed by those with vocational upper secondary education (80.2%) and those with general upper secondary education (66.8%). At the national level, figures ranged from 54.5% in Greece to 85.7% in Czechia ([69]).

Chart 1.10: **EU employment growth, 2022-2025 in specific age groups and industries**



Source: Eurostat, EU Labour Force Survey, ad hoc extractions. DG EMPL calculations

Between 2022 and 2025, EU employment in sectors which seem particularly exposed to artificial intelligence (AI) breakthroughs grew slower among young people than in other age groups. These sectors include information and communication; finance and insurance; and professional, scientific and technical activities. Over this period, employment in these sectors grew by 2.4% among 20–29-year-olds, compared with 6.2% among 30–54-year-olds. This pattern is consistent with recent

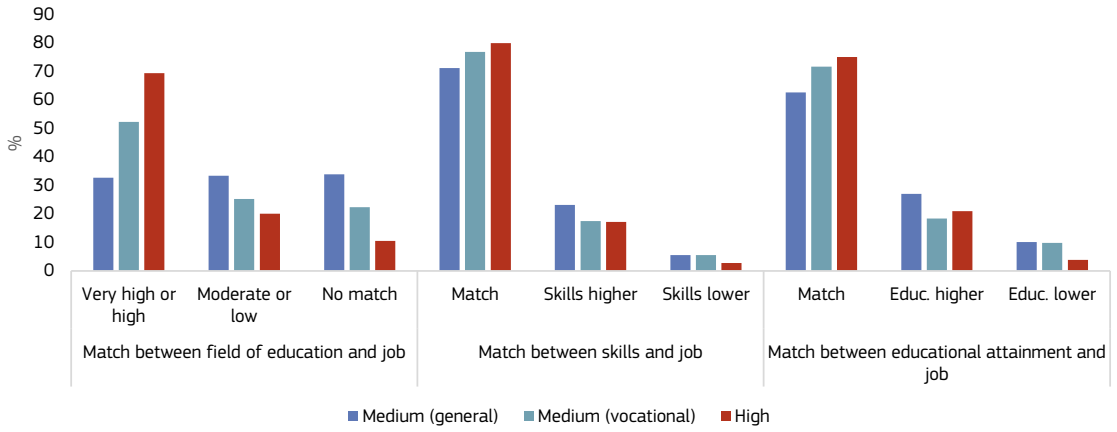
([68]) Graduation from 1 to 3 years before the survey.

([69]) Eurostat [edat_lfse_24].

evidence of weaker relative outcomes for junior or young workers in specific sectors without economy-wide displacement. In addition, several studies have found a potential negative impact of AI on entry-level jobs where AI automates tasks rather than creating employment ([70]) (see also Section 2.6. on how the digital transition is shaping job quality).

Overqualification remains persistently high in the EU, indicating ongoing inefficiencies in labour allocation and skills utilisation. In 2025, the overqualification rate ([71]) stood at 21.4%, with particularly elevated levels in sectors such as households as employers (95.2%), agriculture (71.2%), and accommodation and food services (66.5%). Disparities by origin are high in the overall economy: 35.7% of non-EU-born individuals aged 20–64 were overqualified in their current job, compared to 26.8% of EU mobile workers and 19.6% of domestic-born workers. The over-qualification rate of non-EU born workers is the highest in Greece (58.4%), Estonia (52.2%) and Italy (50.4%). Mismatches extend beyond education levels, with gaps in field-of-study alignment and skills utilisation. Recent data ([72]) show that among 25-34-year-olds, 20% were overqualified. At the same time, 17.4% reported being over-skilled ([73]). The most striking figures is the field-of-study misalignment, with 40.5% of those with medium or high education levels described a poor or no match between their qualifications and their current or previous job (Chart 1.11).

Chart 1.11: **Match between educational attainment, skills or field of education and the current or last main job, 25-34, EU, 2024**



Source: Eurostat [lfso_24match06]

1.4. WAGE DEVELOPMENTS

Nominal wage growth in the EU slowed down in 2025, but remained significantly above pre-COVID-19 rates ([74]). It decelerated markedly from a peak of 5.9% in 2023 to 4.3% in 2025 (Chart 1.12). This reflects in particular a moderation in negotiated wage growth linked to the continued recovery from past losses in purchasing power amid the high inflation in 2022 and 2023, but also the labour market slowdown (Chart 1.13). At the same time, nominal wage growth remained above its pre-COVID-19 pandemic average of 1.8%, reflecting some delayed effects from high inflation and still tight labour markets.

([70]) These studies refer to the US: (Brynjolfsson, Chandar and Chen, 2025) and (Hosseini Maasoum and Lichtinger, 2025).

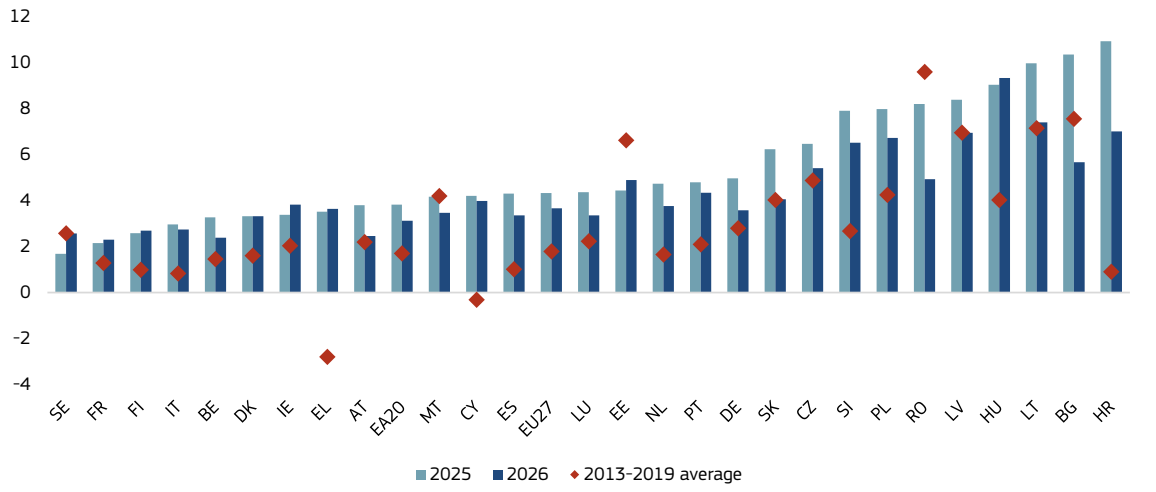
([71]) Share of people aged 20–64 who had a higher education level than required in their job. This is not a self-assessment. The over-qualification rate is the percentage of employed persons with a tertiary level of educational attainment who are employed in a low- or medium-skilled occupation. More information on the definition and the methodology can be found in Migrant integration statistics - over-qualification - Statistics Explained - Eurostat.

([72]) Labour Force Survey on Young people and the labour market (2024).

([73]) Overqualified: the respondent's educational attainment level is higher than the job requirements (self-assessment); Over-skilled: the respondent's skills exceed the job requirements (self-assessment). 'Skills' refers to the knowledge, abilities, competences and experience that a person has gained as part of their education, training, learning, internships and working activities.

([74]) Nominal wage growth is computed as nominal compensation per employee, based on AMECO.

Chart 1.12: **Nominal compensation per employee, annual percentage change**

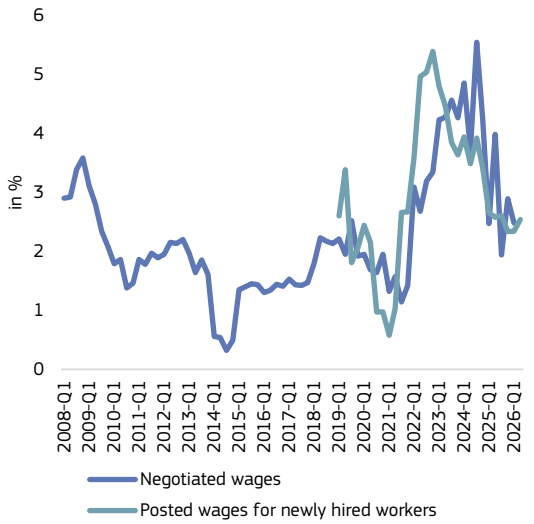


Note: Nominal compensation per employees is calculated as the total compensation of employees divided by the total number of employees. EA20 - the 20 countries in the euro area. Data for 2026 reflects projections calculated on the basis of the Commission's European Economic Forecast Spring 2026

Source: AMECO [1000 UWCD, 1000 NWTD] Commission's European Economic Spring forecast 2026.

Looking forward, nominal wage growth is set to continue decelerating, but at a slower pace. Nominal wage growth is forecast to slow to 3.7% in 2026 and 3.5% in 2027. In the context of the new energy crisis, the economic slowdown will reduce wage growth, notably in sectors directly impacted. Instead, the overall increase in inflation will exert an upward pressure on wages (see also Box 1.1). Negotiated wage growth and wages in job postings for newly hired workers also point to a further slowdown in nominal wage growth (Chart 1.13).

Chart 1.13: **Growth of negotiated wages and of wages in job postings (%), euro area**



Note: The negotiated wages indicator also covers the wages offered to incumbent workers. Q1 - first quarter; Q2 - second quarter: Q3 - third quarter: Q4 - fourth quarter.

Source: European Central Bank [STS.Q.U2.N.INWR.000000.3.ANR.], Indeed wage tracker, indeed-wage-tracker/posted-wage-growth-by-country.csv at main · hiring-lab/indeed-wage-tracker · GitHub.

Wage developments differ widely across Member States. In 2025, nominal wage growth was highest in Croatia (10.9%), Bulgaria (10.4%) and Lithuania (10%). This is to some extent consistent with the catching-up of these economies with EU peers. In some cases, fast wage growth was not matched by productivity increases, and therefore weighed on cost competitiveness ([75]). By contrast, wage growth was lowest in Sweden (1.7%), France (2.2%) and Finland (2.6%). In 2026, a marked slowdown in wage growth is expected in Bulgaria, Croatia, Lithuania and Romania. Hungary (9.4%), Lithuania (7.4%), Latvia (7%), and Croatia (7%) are forecast to see the highest nominal wage increases, while Belgium (2.4%) and Austria (2.5%) will experience the lowest.

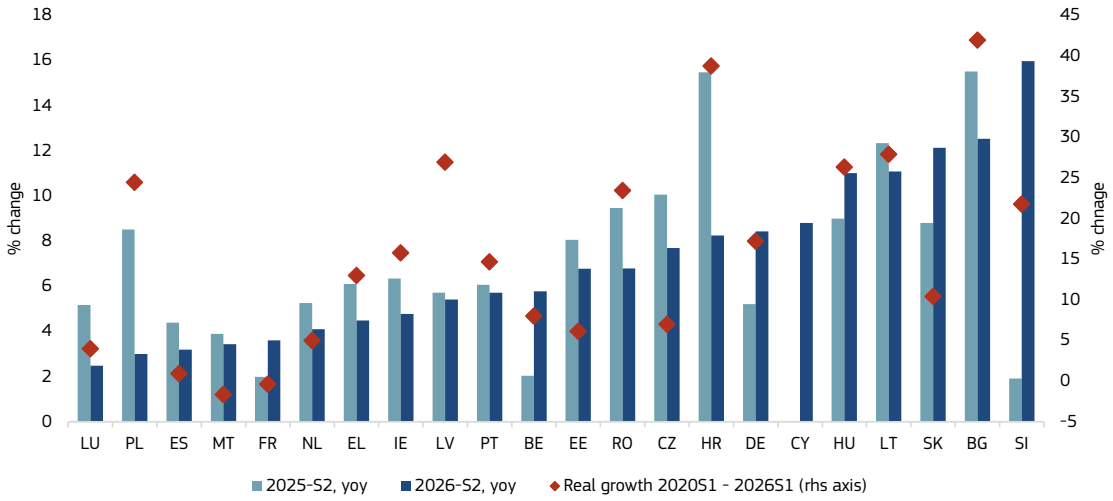
At the same time, minimum wages have continued to increase strongly in most Member States ([76]). After substantial increases in national minimum wages in nominal terms in most Member

([75]) (Výškrabka and Bodea, 2026). One reason for faster wage growth in catching up economies is the Balassa-Samuelson effect. It says that in a catching-up economy an increase in wages in the tradable goods sector also pushes wages up in the non-tradable (services) sector. In turn, inflation is also higher.

([76]) All but five Member States (Denmark, Italy, Austria, Finland and Sweden) have national minimum wages. Cyprus introduced a national minimum wage in 2023. Please note that in this report any use of the term 'national minimum wages' or 'statutory minimum wage' is without prejudice to the assessment that the Commission will carry out of the different systems of

States in 2024, they continued to rise at a rapid pace also between July 2025 and July 2026. The strongest increases were registered in Slovenia (16%), Bulgaria (12.5%), Slovakia (12.1%), Lithuania (11.1%) and Hungary (11%); they increased least in Luxembourg (2.5%) (Chart 1.14). 15 of the 21 Member States with national minimum wages recorded a more subdued increase compared to 2025. Between July 2025 and July 2026, minimum wages in real terms also increased in almost all Member States with national minimum wages, except in Cyprus (-2.8%) and Slovenia (-0.4%). They increased the most in Croatia (9.9%), Lithuania (8.6%), and Czechia (6.9). Minimum wage increases not only support the concerned workers directly; they can also lead to wage increases for workers with salaries above the national minimum wage level. A 1% increase in minimum wages results on average in a 0.3% increase in the wages of the 25% lowest paid employees ([77]).

Chart 1.14: **Developments in national minimum wage, in Member States where they exist**



Note: Five Member States (Denmark, Italy, Austria, Finland and Sweden) do not have national minimum wages. S2 refers to the second Semester of the year.

Source: Eurostat [earn_mw_cur, prc_hlcp_mldx].

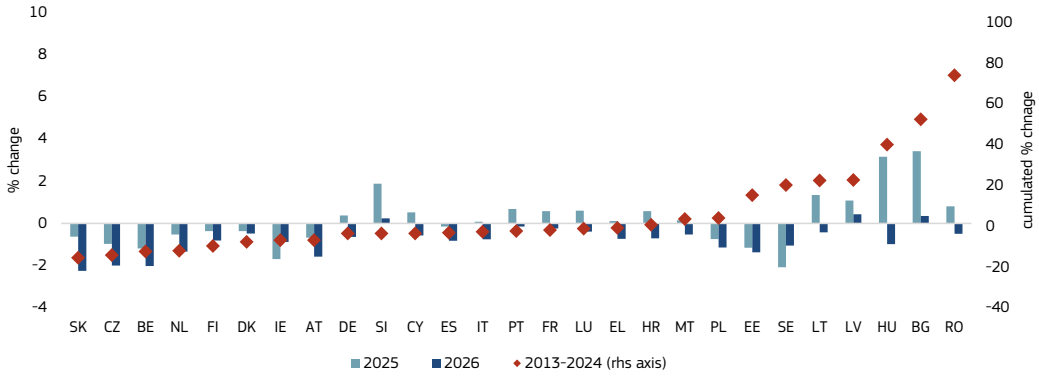
Wage growth remains be below what can be predicted on the basis of its main macroeconomic drivers in the majority of Member States ([78]). The growth of nominal compensation per employee can be compared with a 'benchmark' growth rate predicted by the main macroeconomic drivers of wages, including inflation, unemployment, and productivity. In 2025, wage growth remained below its benchmark (reflected by a 'negative gap') in 12 Member States (Chart 1.14). This represents a continuation of the overall slowdown in wage growth that started in 2024. The highest positive gaps were registered in Bulgaria (3.4 pp), Hungary (3.2 pp) and Slovenia (1.8 pp), and the most negative gaps in Sweden (-2.1%), Ireland (-1.7 pp), Belgium (-1.2 pp) and Estonia (-1.2 pp). In 2026, all Member States, except Bulgaria, Latvia and Slovenia, are expected to register a negative wage gap, amidst higher inflation caused by higher energy prices (see also Box 1.1.). The gap in wage growth is estimated to be most negative in Slovakia (-2.3 pp), Belgium (-2 pp) and Czechia (-2 pp). Over the longer horizon, between 2013-2024, wage growth was well above its benchmark by 40 pp or more in Bulgaria, Hungary and Romania. Nonetheless, wage levels remain low in these countries compared to the EU average.

minimum wage protection in line with the definition of 'statutory minimum wage' contained in Article 3(2) of Directive (EU) 2022/2041 on adequate minimum wages.

([77]) Larger minimum wage increases tend to have a stronger impact: Changes of less than 5% have little measurable effect. Larger hikes – those above 15% – have by far the most statistically significant and sizeable impact (Eurofound, 2025b).

([78]) The benchmark allows to assess if wage growth is broadly in line with the equilibrium in the domestic labour market. Assessing the appropriateness of wage growth is key to understand risks to the living standards of workers and cost competitiveness developments over time. However, such wage benchmarks need to be interpreted with caution, especially when used to assess current and future wage developments. For instance, their explanatory power may decrease in case of structural or policy changes.

Chart 1.15: **Gap in wage growth relative to its benchmark (%)**

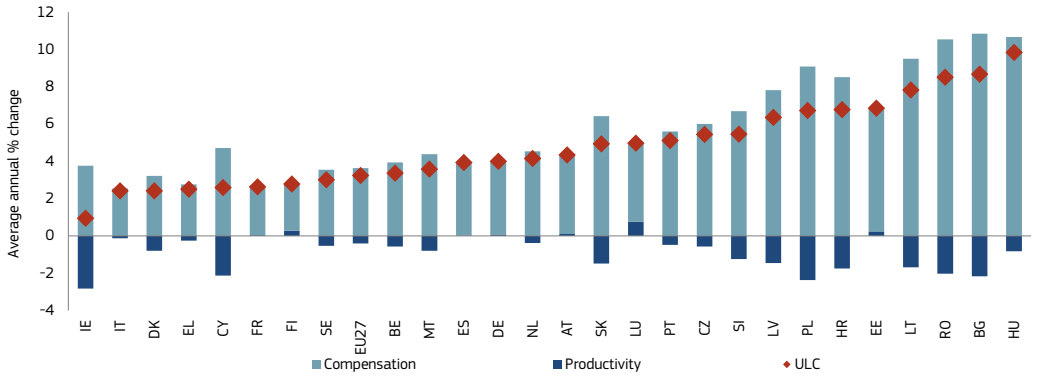


Note: Wage benchmark is predicted by developments in inflation, productivity and unemployment rate. A positive value indicates that nominal wages are above what could be predicted based on macroeconomic developments.

Source: DG EMPL calculations based on AMECO [1100 OVGD, 1000 NETD, 3099427 XUNRQ, 1000 ZCPIH, 1000 ZUTN, 1000 UWCD, 1000 NWTD], Commission's European Economic Spring forecast 2026..

Since the COVID-19 pandemic, some Member States have experienced significant unit labour cost (ULC) increases, which affected their cost competitiveness. Wage increases need to go hand in hand with competitiveness to ensure sustainable economic growth and job creation ([79]). However, weak productivity growth since 2019, at 0.4% annually on average in the EU, has constrained the scope for wage increases without hampering cost competitiveness. Between 2019 and 2026, ULCs have increased in all Member States and strongly increased in some Member States, particularly in Central and Eastern Europe, amid a sharp rise in inflation (Chart 1.16) ([80]). The strongest annual increases have been registered in Hungary (9.8%), Bulgaria (8.7%), Romania (8.5%) and Lithuania (7.8%), all Member States with wage growth above their wage benchmarks (Chart 1.14). Among these countries, labour productivity grew most in Bulgaria and Romania, at 2.2% and 2% respectively. Despite the notable rises in unit labour costs, these Member States have witnessed increases in export market shares over the period 2021-2025, reflecting strong gains in non-cost competitiveness ([81]). By contrast, several countries have improved their cost competitiveness positions relative to the EU average, amid moderate wage growth, including Denmark, Finland, France, Greece, and Italy.

Chart 1.16: **Unit labour costs, wages and productivity across countries, 2019-2026**



Note: Unit labour costs are defined as the ratio of total labour compensation per employee to output per persons employed (labour productivity). Therefore productivity growth is shown with a negative sign.

Source: AMECO [1100OVGD, 1000NETD, 1000ZCPIH, 1000ZUTN, 1000UWCD, 1000NWTD]Commission's European Economic Spring forecast 2026.

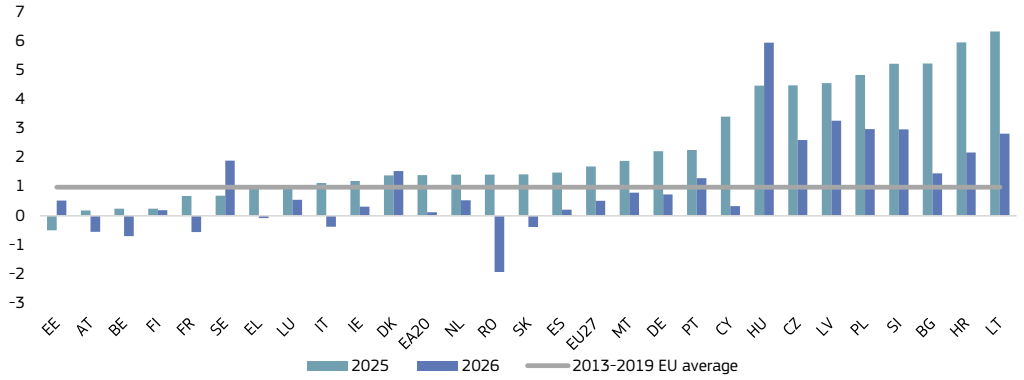
([79]) ULCs, the ratio of nominal compensation to productivity, is a commonly used measure of cost competitiveness. (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025c).

([80]) (European Commission: Directorate-General for Economic and Financial Affairs, 2026); (Výškrabka and Bodea, 2026).

([81]) Non-cost competitiveness can play an important role in supporting productivity and higher wages. If non-cost aspects of competitiveness such as the business environment or the quality of exported goods increase, demand is less likely to decline in response to higher prices and labour costs (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025c). Infact, despite marked increases in unit labour costs, export market shares increased in Romania (56.2%) Lithuania (35.4%), Bulgaria (32.7), and Hungary (6.2%), between 2012 and 2025.

Real wage growth also slowed down and is forecast to slow further. The rebound in real wages since mid-2023 has supported household consumption, in turn driving GDP growth. Real wage growth declined from 2.6% in 2024 to 1.7% in 2025, mainly due to the drop in nominal wage growth. It picked up towards the end of 2025 but has started to decline again in early 2026. This reflects the increase in inflation in the second quarter of 2026, to 3.2%, compared to 2.3% in the first quarter, due to the surge in energy prices caused by the conflict in the Middle East (see Box 1.1). For the year as a whole, real wage growth is forecast at 0.5% in 2026 (Chart 1.17), with the highest growth forecast in Hungary (5.9%), Latvia (3.3%), Poland (3%) and Slovenia (3%). It is set to be negative in Austria (-0.6%), Belgium (-0.7%), France (-0.6%), Italy (-0.4%) and Romania (-1.9%) and Slovakia (-0.4%). The decrease in real wage growth between 2025 and 2026 would be marked (more than 3 pp) in Bulgaria, Cyprus, Croatia, Lithuania and Romania. Going forward, real wages are projected to increase in 2027 by a moderate 1.1% in the EU, under the assumption that the effects of the conflict in the Middle East will subside.

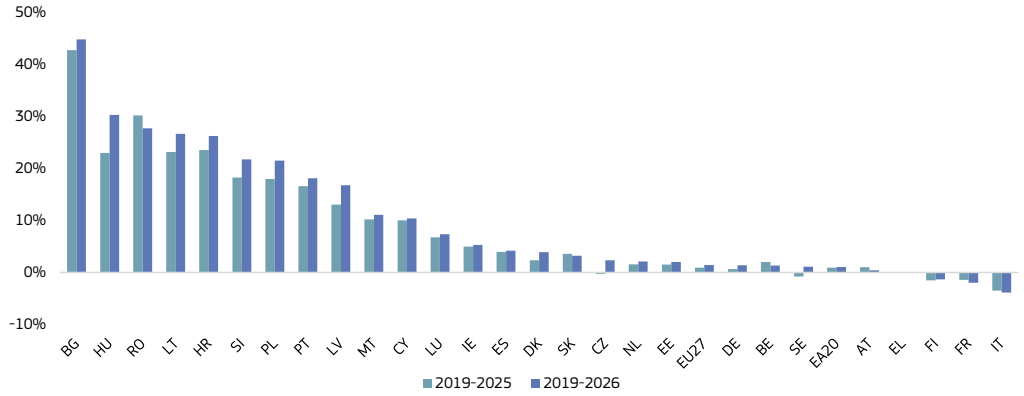
Chart 1.17: **Real wages, annual percentage change**



Note: EA-20, the 20 countries that have adopted the euro. Real wages were computed using the harmonised index of consumer prices as deflator. Data for 2026 reflects projections calculated on the basis of the Commission's European Economic Forecast Spring 2026.

Source: AMECO [5000HWWDW, 5000ZCPIH], Commission's European Economic Spring forecast 2026.

Chart 1.18: **Real wage changes (%) compared with pre-pandemic levels (2019)**



Note: Real wages were computed using the harmonised index of consumer prices as a deflator. EA-20 = the 20 countries in the euro area. Data for 2026 reflects projections calculated on the basis of the Commission's European Spring 2026 Economic Forecasts.

Source: AMECO [5000HWWDW, 5000ZCPIH] Commission's European Economic Spring forecast 2026.

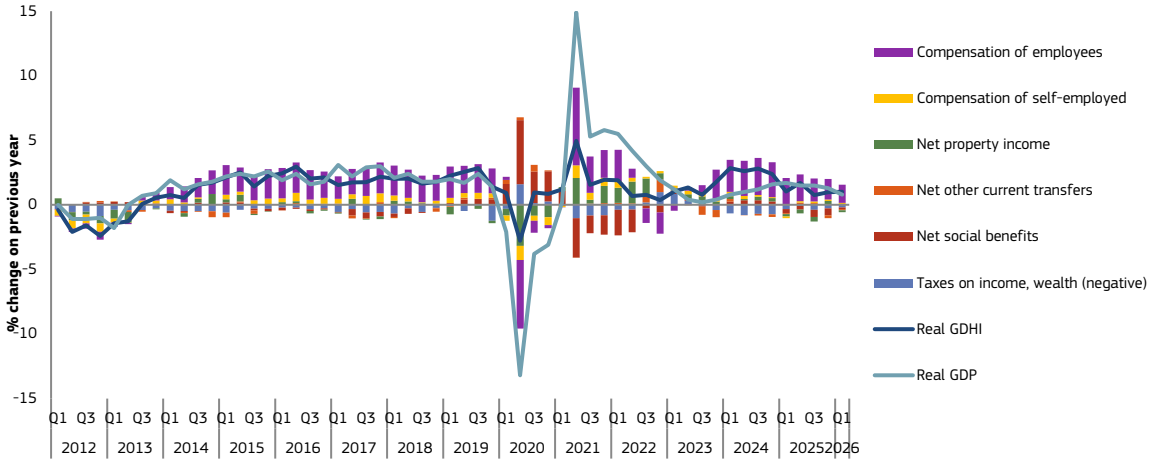
The successive crises since 2019 have taken a toll on households' purchasing power. Taking a longer perspective, real wages in 2026 are set to be only 1.4% higher than in 2019 (Chart 1.17). This means that while the losses incurred during the COVID-19 pandemic and the 2022 energy crisis have been recovered, households have not witnessed substantial improvements in their labour income over the last eight years. For 2026, real wages are forecast to remain below their 2019 levels in Greece (-0.1%), Finland (-1.3%), France (-2.4%), and Italy (-3.9%). In ten other countries they are also higher by less than 5% than in 2019 (Austria, Belgium, Czechia, Denmark, Estonia, Germany, The Netherlands, Slovakia, Spain and Sweden). Over the same period, in 13 countries real wages have increased by more than 5%. This concerns mainly catching-up countries, but also Cyprus (10.4%), Ireland (5.3%), Luxembourg (7.3%), Malta (11.1%) and Portugal (18.1%). They have increased the strongest in Bulgaria (44.8%), Hungary (30.3%), Romania (27.7%), Lithuania (26.6%), and Croatia (26.2%).

1.5. LIVING CONDITIONS, POVERTY, INCOME DEVELOPMENTS

1.5.1. Income and consumption trends

After expanding considerably in 2024, real gross disposable household income (GDHI) grew more moderately in 2025. Reflecting the broader macroeconomic and labour market slowdown, it rose by 1% in Q4 2025, slowing from 2.4% recorded in Q4 2024. This constitutes a slower expansion compared to real GDP (1.3%). This reverses the pattern seen throughout 2024 when household income outpaced output growth. The main driver of GDHI growth was the compensation of employees, followed by compensation of the self-employed. These positive contributions were partially offset by negative contributions from net social benefits reflecting the continued unwinding of support measures, net property income and other net current transfers (Chart 8). Against the backdrop of the new energy shock, slowing employment growth and the broader challenges discussed in Sections 1.2 and 1.4, household incomes might come under increasing pressure, raising concerns for lower and middle-income households.

Chart 1.19: **Real GDHI and real GDP (% change on previous year), and contribution of GDHI components (pp), 2012-2025, EU**



Note: Nominal GDHI and its components are converted into real terms by deflating with the households and NPISH final consumption expenditure price index [namq_10_gdp].

Source: DG EMPL calculations based on Eurostat data, national accounts [nasq_10_nf_tr] and [namq_10_gdp], data non-seasonally adjusted.

Growth in real median household income slowed after the pandemic ([82]). Compared to pre-pandemic levels, the overall growth has been much slower (1.6% on average from 2020 to 2025 against 3.6% on average from 2015 to 2020). This pattern broadly mirrors the real wage developments described in Section 1.4. However, household income proved somewhat more stable during the crisis years, as social benefits partially cushioned the impact (Graph 1.20).. Between 2015 and 2025, the real median income increase (+29.3%) was mostly driven by significant growth in Eastern European Member States, more than doubling in Romania (+165.2%) and almost doubling in Bulgaria (+95.3%). By contrast, growth was minimal in several western and northern Member States, including France (+0.2%), Finland (+4.6%) and Denmark (+6.9%).

During the same period, sharp rise in prices of essential items particularly impacted the living standards of lower-income households. Between 2015-2025, overall prices increased by 32.9%, with even higher rates for electricity, gas and other fuels (+62.7%) and food prices (+48%) ([83]). These essential items and services represent a particularly large share of the consumption basket of low-income households, and this surge disproportionally impacted this group. This affects their ability to acquire basic goods, smooth consumption overtime, build wealth and savings and reduces their ability to protect themselves from unforeseen economic shocks. As a result, 61.2% of people at-risk-of poverty were

([82]) Measured using Eurostat's EU-SILC indicator on income in real terms [ilc_di18] based on equivalised disposable household income. Total household income includes income from work (employee and self-employment income) and private income from investment and property, plus transfers between households; disposable income adds social transfers (e.g., pensions, unemployment, family, and housing benefits) and deducts taxes and social contributions.

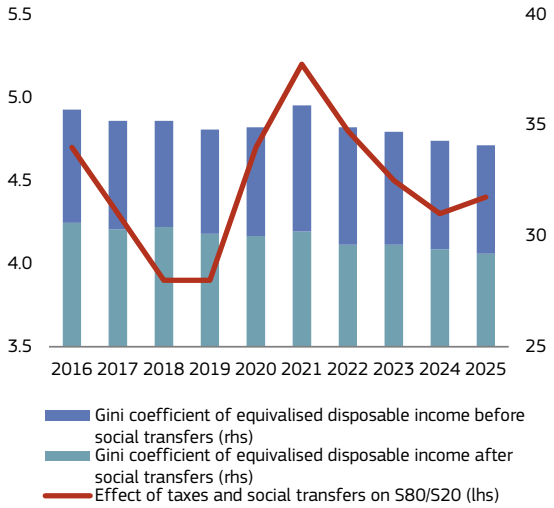
([83]) Eurostat [prc_hicp_ainr] [tipsho20].

unable to face unexpected financial expenses in 2025, up from 59.8% in 2024 (but down from 71.9% in 2015) ([84]). With geopolitical tensions in the Middle East risking further price increases, this vulnerability may worsen.

In 2025, income is expected to have grown in both nominal and real terms, though at a slower pace than in 2024 ([85]). According to Eurostat flash estimates based on 2025 incomes, the EU median equivalised disposable income is expected to have increased by 3.5% in nominal, and by 1.2% in real terms. This largely reflects labour market and wage developments in 2025, as wages represent the largest component of household disposable income ([86]). Among EU Member States and compared with 2024 incomes, 2025 nominal income is projected to rise in all countries for which data are available, whereas 2025 real income is expected to increase in 18 out of 25 countries, and to stagnate in the remaining seven ([87]).

1.5.2. Income and wealth inequality

Chart 1.20: **GINI coefficient before and after social transfers and effects of taxes and social transfers on income quintile share ratio**



Note: GINI coefficient and S80/S20 are computed from equivalised disposable incomes

Source: Eurostat [ilc_di11i] [ilc_di12] [ilc_di12c]

Income inequality remained stable in 2025. The income quintile share ratio (S80/S20), i.e. the total income received by the top 20% relative to the bottom 20%, remained around 4.62 in 2025 (4.66 in 2024). Across Member States, income inequality ranged from 3.25 in Belgium to 6.94 in Bulgaria ([88]). Tax-benefit systems, and especially non-means tested benefits continued to play a significant role in complementing households' income in 2025. As a result, social transfers (excluding pensions) reduced income inequality, leading to a decrease of the Gini coefficient from 34.1 before social transfers to 29.2 after their disbursement in 2025 (Chart 1.20). Yet, the impact of social transfers seems to have weakened since 2021, possibly reflecting the recovery in employment after the pandemic, which reduced households' reliance on them.

Income inequality in the EU stood well below levels in the US and China. The US Gini coefficient stood at 41.8 in 2024, surpassing the highest level of inequality within the EU (38.4 in Bulgaria in 2024). In parallel, income inequality in China has been on a declining trend since 2017, falling from 43.7 to 36 in 2022, the latest available year, placing it above the EU average but below the US ([89]).

([84]) Eurostat [ilc_mdes04].

([85]) In May 2026, Eurostat published early estimates for 2025 incomes (2026 EU-SILC survey year). These estimates provide more timely information compared to standard information from the National Statistical Institutes, which are generally available with more delay – e.g. EU-SILC 2025 data were released in April 2026 and refer to 2024 incomes. For more information on flash estimates, see Eurostat - Statistics Explained.

([86]) This is broadly consistent with wage developments in Section 1.4, though the projected income rise (3.5% nominal, 1.2% real, per Eurostat flash estimates) is somewhat below realized 2025 wage growth (4.3% nominal, 1.7% real). This partly reflects scope differences, as income covers all household sources, including negative self-employment income and social benefits, whereas wages reflect compensation per employee only. The income figure is also a preliminary estimate, subject to revision once final EU-SILC 2025 data are available.

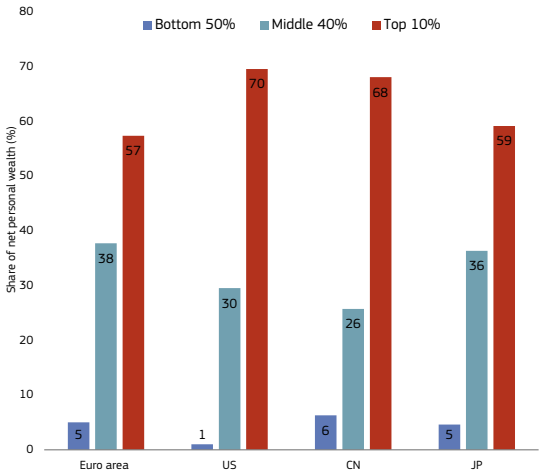
([87]) Data not available for Poland and Slovakia.

([88]) Eurostat [ilc_di11]. The EU-27 value for this indicator is the population-weighted average of Member States' national S80-S20 values, rather than a figure computed on a single pooled EU-wide income distribution.

([89]) GINI coefficients and S80/S20 are computed from equivalised disposable incomes. Data is not available starting from 2025 for the US, and from 2023 for China. Given the data lags for both the US and China, direct year-on-year comparisons with the EU should be treated with caution. Source: Eurostat [tessi190] for the EU and World Bank [SI.POV.GINI] for the US and China.

In the EU, wealth concentration is pronounced, yet significantly lower than the one observed in the US and China. According to the European Central Bank 2025 data for the Euro area, the wealthiest 10% owned around 57% of total net wealth of households (largely unchanged compared to 2023), whilst the bottom 50% owned around 5% ([90]). While such low proportions of wealth owned by the bottom 50% is common across non-EU countries as well, wealth concentration at the top in other major economies such as the US and China tends to be more pronounced where the wealthiest 10% account for close to 70% of total net wealth (Chart 1.21). In contrast, the middle 40% of the wealth distribution holds around 38% of household net wealth in the euro area, compared to around 30% in the US and 26% in China, showing that wealth in the EU is more broadly shared across the middle class.

Chart 1.21: **Distribution of net personal wealth among groups of income, Euro area vs international comparison**



Note: Net wealth is the total value of non-financial assets (housing, land, deposits, bonds, equities, etc.) held by households, minus their debts, it includes all households and private individuals (including those living in institutions), as well as unincorporated enterprises whose accounts are not separated from those of the households who own them.

Source: European Central Bank for the average of Euro area quarterly figures (2025 values); World Inequality database for international comparisons (2024 values) [shwealj992].

Wealth inequality in the Euro area ([91]) has remained broadly unchanged between 2010–2021, being more resistant to change than income inequality ([92]). Between 2017 and 2021, 28% of individuals moved from the bottom to the middle class when class is defined by income, compared with 22% when class is defined by wealth ([93]). Inheritances further entrench these disparities: the net wealth gap between those who inherit and those who do not is statistically significant across all age and education groups. These transfers are also highly concentrated: in many EU countries, the top decile of inheritance recipients receives close to half of the total value transferred ([94]). This confirms that wealth status is more stable over time than income status.

The wealth of the world's top 0.0001% amounts to over 13% of global GDP ([95]). This group is composed of roughly the top 3,000 billionaire households. Over the last three decades, their wealth grew at an average real rate of 7.1% per year, far outpacing the growth of average global wealth per adult (3.2%) ([96]). Within the EU, the wealth share of the top 0.01% rose from 4.5% in 1995 to 5.7% in 2023, driven in part by rising asset prices and continued growth in pension and financial portfolios among the wealthiest ([97]). The wealth of the top 1% has risen from 22.6% to 25.0% of total EU wealth over the

([90]) ECB [DWA]. This is also confirmed by estimates from other data sources covering most EU Member States such as The World Inequality Database and the OECD database on income and wealth distribution.

([91]) This analysis is based on a report from Eurfound, which draws on the ECB's Household Finance and Consumption Survey (HFCS). The 2010–2021 trend uses the EU-15 aggregate, the 15 countries with data available in all four survey waves (2010, 2014, 2017, 2021): Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovenia, Slovakia and Spain, rather than the full EU-22 sample, to avoid distortions from countries joining the survey in later waves. All 15 countries in this aggregate are euro-area members. This survey is not conducted at an EU level – it is coordinated by the ECB.

([92]) (Eurofound, 2025d).

([93]) Low, middle and high class are defined as follows. Under the income-based definition, the low class is below 75% of the national median gross income, the middle class is between 75% and 200% of median gross income, and the high class is above 200%. Under the wealth-based definition, the low class is the bottom quintile (0–20th percentile) of the net wealth distribution, the middle class is the middle three quintiles (21st–80th percentile), and the high class is the top quintile (80th–100th percentile). The 2010–2021 'no change in overall inequality' finding is based on a cross-sectional analysis: it compares the Gini coefficient calculated independently at each of the four HFCS survey waves (2010, 2014, 2017, 2021). Conversely, the 28%/22% mobility figures come from a panel analysis, following the same households across two waves to observe how individuals moved between classes. This panel could only be constructed for the 2017–2021 wave-pair, because of data limitations.

([94]) (OECD , forthcoming).

([95]) (Zucman, 2024).

([96]) Idem.

([97]) (Robaszewski et al.VATT Institute for Economic Research (VATT), 2026).

same period ([98]). This concentration is further reinforced by low effective tax rates. This largely stems from the individual income tax failing to capture the full extent of economic income at the top: controlling shareholders can instruct their companies to withhold dividend distributions, retaining and reinvesting profits instead, which raises the share price without generating taxable income. By then holding onto their shares rather than selling, they also avoid realising (and thus being taxed on) the resulting capital gains ([99]). This pattern is also observed at EU level, where unrealised capital gains, heavily concentrated among the wealthiest, largely escape taxation ([100]).

In France and the Netherlands, where comparable data is available, billionaires pay markedly less taxes than the rest of the population ([101]). In France, for instance, they pay only 27% of their income in taxes, about half the rate paid by the rest of the population, when their income is measured to include not only declared income, but also profits that companies retain and reinvest rather than distribute as dividends ([102]). Additionally, recent analysis in France and the Netherlands indicates that, once individual income and wealth taxes are combined and expressed as a share of wealth, billionaires pay the equivalent of only around 0.1–0.2% of their wealth annually. Furthermore, evidence from Italy shows that effective tax rates start to decline from around the top 5% of the income distribution ([103]). This largely reflects the mechanisms described above, whereby billionaires report little taxable income ([104]). This low effective tax burden further reinforces wealth concentration at the top, as it allows a larger share of returns on already substantial wealth to be retained and reinvested rather than being redistributed through taxation ([105]). This growing concentration of wealth is not only a matter of rising inequalities. It also translates into significant economic and, in some cases, political influence ([106]). Additionally, this also carries a fiscal cost: the revenue foregone from low effective tax rates could otherwise help finance public investment in areas such as education, health, infrastructure, and the green transition ([107]).

1.5.3. Risk of poverty and social exclusion

The share of persons at risk of poverty or social exclusion (AROPE) remained broadly stable. It declined only marginally from 21.0% in 2024 to 20.9% in 2025 ([108]). Similarly, the share of people living in households with very low work intensity (7.9% in 2024 to 8.0% in 2025) ([109]) and those in severe material and social deprivation rate (6.4% to 6.3%) ([110]) remained broadly stable between 2024 and 2025. Significant disparities persist across and within EU countries ([111]), with AROPE rates ranging from 11.5% in Czechia (followed by 15% in Poland and 15.5% in Slovenia) to 29% in Bulgaria (followed by 27.5% in Greece and 27.4% in Romania) ([112]). The unemployed and people outside the labour market are at significantly higher risk of poverty or social exclusion. In 2025, 44.3% of the EU population outside the labour market and 66.3% of the unemployed were living in a household at-risk-of-poverty or social exclusion, compared to 10.9% for employed people (Chart 1.23). Additionally, within the EU, non-EU migrants (38.9%), those with low educational attainment (34.2%), persons with disabilities (28.8%) are

([98]) Idem.

([99]) Idem.

([100]) (European Commission: Directorate-General for Taxation and Customs Union, 2025).

([101]) Idem. Analysis of the effective tax rates of the ultra-wealthy remains limited, as tax data on this group are generally confidential and not published by statistical offices. Comparable estimates are currently available for only a few EU Member States, notably France and the Netherlands and, to a more limited extent, Italy. For more information about this topic read (Zucman, 2024) and (Robaszewski et al.VATT Institute for Economic Research (VATT), 2026).

([102]) Idem.

([103]) (Zucman, 2024).

([104]) (Zucman, 2024) and (Robaszewski et al.VATT Institute for Economic Research (VATT), 2026).

([105]) Idem.

([106]) (Zucman, 2024).

([107]) Idem.

([108]) Eurostat [ilc_peps01n].

([109]) Eurostat [ilc_lvhl13n].

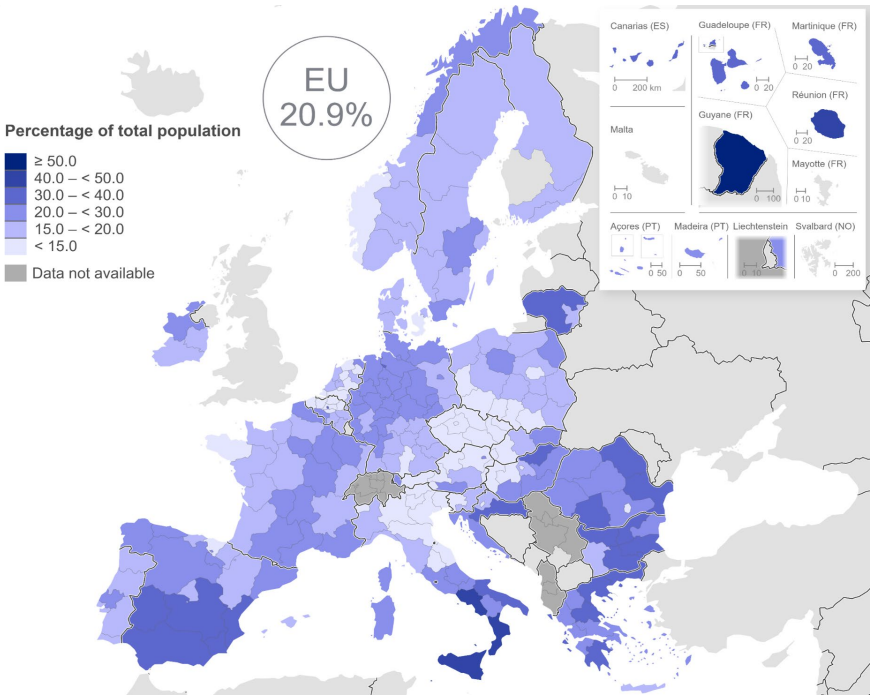
([110]) Eurostat [ilc_mdsd11].

([111]) The [10th Report on Economic, Social and Territorial Cohesion] (Chapter 1.2) notes that poverty and social vulnerability remain highly uneven across EU regions, and progress has been particularly limited in parts of the south, where employment losses from past crises have had more persistent social effects.

([112]) Eurostat [ilc_peps01n].

also particularly vulnerable to poverty or social exclusion (Chart 1.23). Moreover, complementary data from the EU Agency for Fundamental Rights (FRA) show that Roma population remains markedly more exposed to poverty and social exclusion. For instance, in 2024, 70% of Roma and Travellers across 13 surveyed EU countries were at risk of poverty ([113]).

Chart 1.22: **At risk of poverty or social exclusion rate, by NUTS2 region, 2025**



Source: Eurostat [ilc_peps11n]

Further efforts are needed to achieve the 2030 target of lifting at least 15 million people out of poverty, including at least 5 million children. In 2025, a total of 92.7 million people, including 19.3 million children (under 18 years old), were at-risk-of-poverty or social exclusion (AROPE). This represents a reduction of 3.5 million people compared to 2019 (-0.5 million compared to 2024), though progress for children has stalled, with numbers remaining broadly unchanged since 2019 (-0.2 million compared to 2024) ([114]). Yet, progress was still achieved in a context of multiple crises (COVID-19 pandemic, Russia's war of aggression against Ukraine and energy crisis). To meet the 2030 target, the EU would need to reduce the AROPE population by an average of 2.3 million per year ([115]), meaning the gap to achieving the target now stands at around 11.5 million ([116]). Across the Member States, progress towards national targets varied significantly, with only Belgium and Cyprus having achieved their targets for overall and child poverty reduction respectively. To bridge this gap, the European Commission adopted the EU Anti-Poverty Strategy in May 2026, aimed at accelerating progress by addressing the structural drivers of poverty through strengthened measures on child poverty, labour market inclusion, housing, and access to essential services ([117]).

([113]) (European Parliamentary Research Service, 2026). For more information on the situation of Roma and persons with a minority racial or ethnic background and on the EU strategies on the matter, see (European Commission, 2026e) and (European Commission: Directorate-General for Justice and Consumers, 2020).

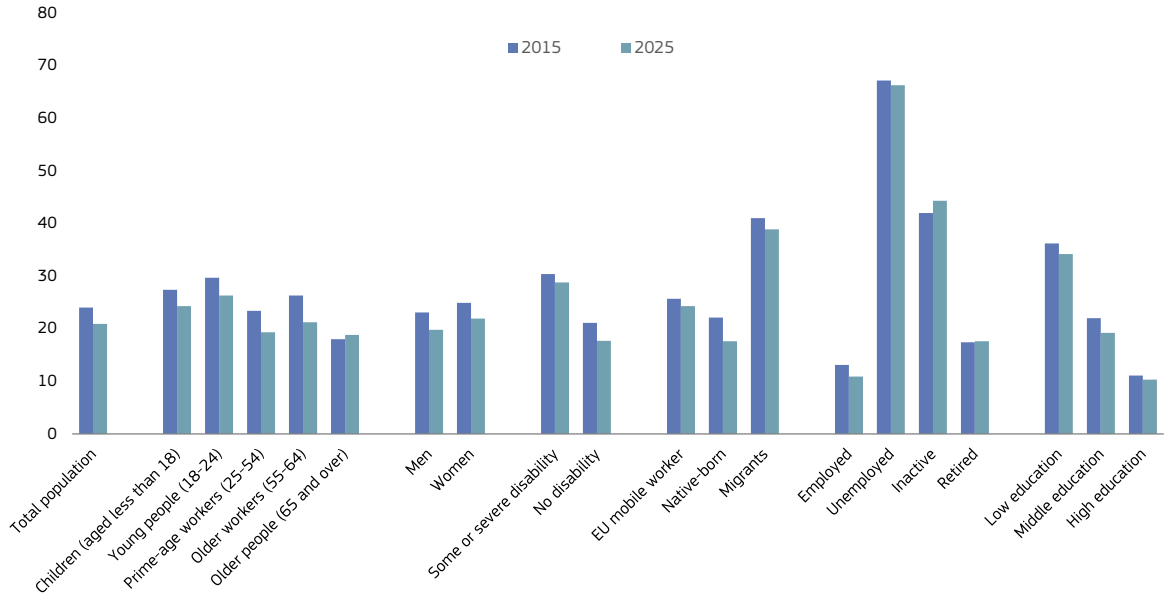
([114]) The EU aggregate for 2030 AROPE target uses figures for 'Metropolitan France' rather than 'France' to be in line with the 2019 figure for France.

([115]) Eurostat [ilc_peps01n] and Eurostat [ilc_pecs01].

([116]) Eurostat [ilc_peps01n] and Eurostat [ilc_pecs01].

([117]) For more information about the Anti-Poverty strategy visit EU Anti-Poverty Strategy - Employment, Social Affairs and Inclusion

Chart 1.23: **At-risk-of-poverty or social exclusion (AROPE) rates by socio-demographic characteristic, EU, 2015 vs 2025**



Note: AROPE refers to 2025 EU-SILC year, i.e. that values refer to 2024 for AROP and VLWI, and to 2025 for SMSD

Source: Eurostat [ilc_peps01], [ils_peps06n], [ils_peps02n], [ils_peps04n], [hlth_dpe010]

The share of people at-risk-of-poverty (AROP) remained stable, ticking up marginally from 16.2% in 2024 to 16.3% in 2025 ([118]). Social transfers continued to play a crucial role in supporting households and keeping a significant share of the population above the poverty line, with the AROP rate before social transfers (excluding pensions) standing at 24.4% ([119]). According to Eurostat flash estimates for 2025 incomes, the EU AROP rate is expected to remain broadly stable compared to 2024 incomes (2025 EU-SILC survey), stagnating in 18 Member States, decreasing in Spain and Romania, and rising in Germany, Croatia, Hungary, Ireland and Slovenia ([120]).

Severe material and social deprivation in the EU remained broadly unchanged between 2024 and 2025 and remains high for vulnerable groups. It affected 6.3% of the population in 2025, down slightly from 6.4% in 2024 ([121]). Important disparities remain within ([122]) and across Member States (Graph 1.24) as well as across different population subgroups. The unemployed (23%), those in the lowest income quintile (18.1%), those outside the labour market (11.3%), non-EU migrants (12.6%), and people with low educational attainment (11.9%) face the highest rates of severe material deprivation ([123]). Severe material and social deprivation is consistently higher among children under 18 than for the total population, standing at 7.9% in 2025 ([124]).

([118]) The at-risk-of-poverty rate refers to the share of people living in households where equivalised disposable income is below 60% of the national median. In EU-SILC, the 2025 AROP figure is based on 2024 income data.

([119]) Eurostat [ilc_li10].

([120]) Data not available for Poland and Slovakia.

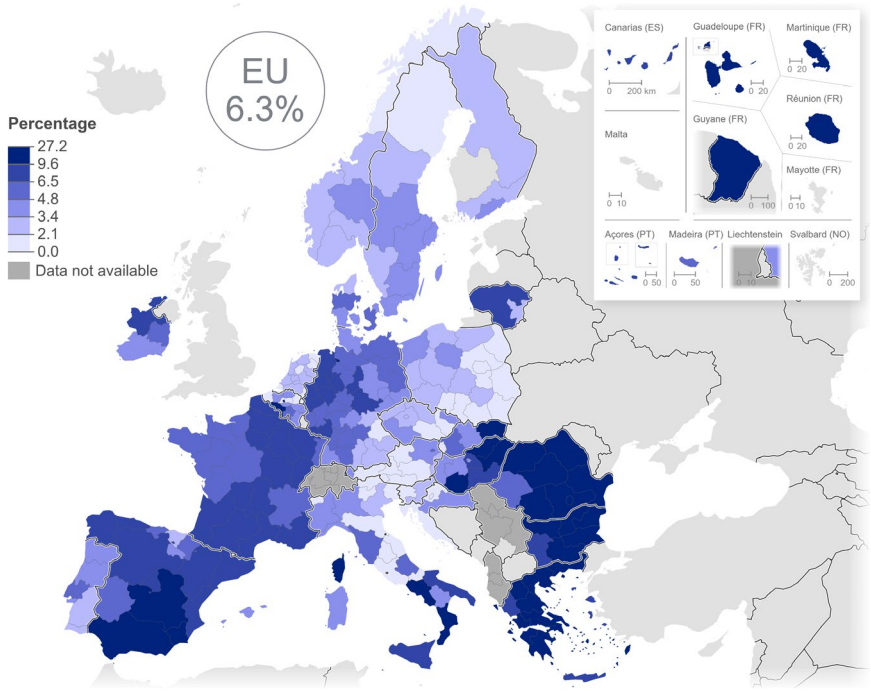
([121]) Eurostat [ilc_mdsd11].

([122]) While EU averages remain broadly stable, severe material and social deprivation is regionally concentrated, particularly across parts of southern and eastern Europe (10th Report on Economic, Social and Territorial Cohesion, Chapter 1.2 (European Commission 2026).

([123]) Eurostat [ilc_mdsd12, ilc_mdsd13, ilc_mdsd14, ilc_mdsd16].

([124]) Eurostat [ilc_mdsd11].

Chart 1.24: **Severe material and social deprivation rate, by NUTS2 region, 2025**



Source: Eurostat [ilc_mdsd18]

In 2025, falling interest rates and rising real incomes helped offset accelerating house prices (+5.5% in EU-27), slightly easing the overall financial burden of housing costs ([125]). Housing costs ([126]) as a share of households' disposable income slightly decreased to 18.9% (19.2% in 2024) ([127]), reversing a steady increase since 2020 (Chart 1.25). Despite this decline, the housing cost overburden rate ([128]) remains high for women (8.2% vs. 7.2% for men), non-EU migrants (15.5% vs. 6.8% for nationals), and individuals with disabilities (9.9% vs. 7.2% for those without disabilities) ([129]). Additionally, 29.1% of those at-risk-of-poverty and 25.9% in the lowest income quintile continue to experience housing cost overburden (Chart 1.25) ([130]). Across Member States, the housing cost overburden rate ranged from 2.4% in Cyprus to 26.4% in Greece. The housing cost overburden rate was higher in cities (9.6%), compared to towns and suburbs (7.1%) and rural areas (5.6%) ([131]). At the same time, housing affordability, including the concentration of demand pressures in urban and capital regions, the fall in residential building permits and an under-utilised housing stock remains strongly differentiated across EU regions ([132]).

While the housing cost overburden rate has been recently declining, other indicators suggest that housing affordability pressures persist, or are intensifying. EU house prices rose by around 62% (Chart 1.25) in nominal terms since 2015 ([133]). In real terms, house prices rose strongly until 2022 (+28.7% since 2015), before moderating in 2023 as inflation accelerated. In 2024 and 2025, the upward

([125]) (ECB, 2025) and Eurostat [prc_hpi_a].

([126]) Housing costs refer to monthly costs connected with the household's right to live in the accommodation as well as the costs of utilities, gross of housing benefits. Only housing costs that are actually paid are considered. They are measured based on income from the previous year. For more information, see EU-SILC - Housing conditions (methodology)

([127]) Eurostat [ilc_mded01].

([128]) The **housing cost overburden rate** refers to the percentage of the population living in households where the total housing costs represent more than 40 % of disposable income. For more information about this indicator visit Glossary:Housing cost overburden rate - Statistics Explained - Eurostat.

([129]) Eurostat [ilc_lvho07a, ilc_lvho26, hlth_dhc060].

([130]) Eurostat [ilc_lvho07a, ilc_lvho07b].

([131]) Eurostat [ilc_lvho07d].

([132]) As discussed in the 10th Report on Economic, Social and Territorial Cohesion, see (European Commission: Directorate-General for Regional and Urban Policy, 2026)

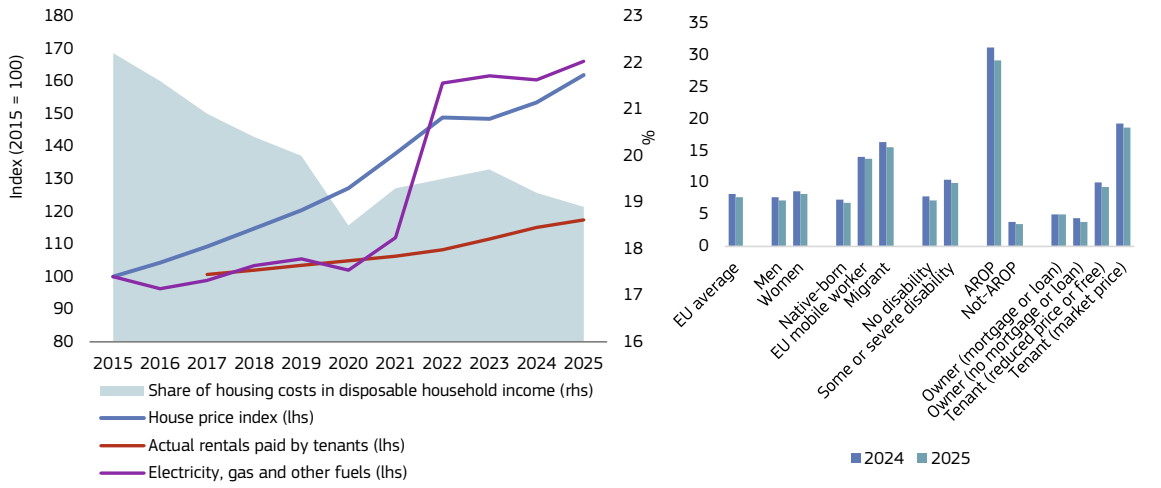
([133]) (European Commission, 2025).([134]) (European Commission, 2025).

trend resumed (+24.8% since 2015). Since 2016, house price growth has consistently outpaced income growth across the EU, a gap that widened sharply during the pandemic and has only partially closed since ([134]). The house price increases were much sharper in capital and high-demand cities. For instance, in Lisbon, nominal house prices rose by around 130% since 2013, reaching more than double the national price per square metre. Additionally, flat prices in Prague nearly tripled since 2015 and Amsterdam prices rose by close to 11% in 2025 alone ([135]).

The decline in the overburden rate may partly reflect the decline in real terms of rents and a switch in households' choices. Over the last 15 years, while nominal rents increased by 25%, real rents declined by 10% ([136]). Additionally, households may forego housing upgrades, choose to live in an overcrowded or suboptimal housing unit, or move further away from their workplace to reduce housing costs, often at the expense of longer commutes ([137]). For instance, almost half of young people aged 18–34 still live with their parents ([138]). Additionally, 26.9% of 15–29-year-olds lived in overcrowded housing in 2025 (26.5% in 2024), 10.1 percentage points above the general population (16.8%) ([139]).

Housing insecurity has also risen sharply. The share of the EU population perceiving a high risk of losing their home within three months due to affordability increased six-fold, from 1% in the preceding decade to 6% in 2020–2022 and further increased to 7.6% in 2025 ([140]). Buying is out of reach for many altogether. Low-income households now need more than a lifetime of earnings to purchase a 70m² home ([141]). The pressure is also strong for middle-income households, particularly in regions offering the best employment opportunities, where even 30% of average households' income is no longer enough to secure a small apartment on a 30-year mortgage ([142]). Social housing also remains scarce across most of the EU: the Netherlands, Austria and Denmark hold the largest stocks (21–34% of total housing), France, Ireland, Finland and Poland range between 6.6% and 14.0%, and most other Member States fall below 5%, with the share declining in nearly all countries with comparable data since 2010 ([143]).

Chart 1.25: **Left-chart: Share of housing costs in disposable household income and prices of selected items, EU; Right-chart: Housing cost overburden rate by socio-demographic characteristic, EU**



Note: On the left chart, yearly average of monthly values has been computed for actual rents paid by the tenants and energy prices

Source: Eurostat [ilc_mded01] [prc_hicp_midx] [prc_hpi_a] [ilc_lvho07a] [ilc_lvho07c] [ilc_lvho26] [hlth_dhc060

([134]) (European Commission, 2025).

([135]) (Balouktsi et al., 2026) and CBS [Existing own homes; purchase prices, price index 2020=100, region] and Czech Statistical Office [Price indices of real estate – territorial comparison]

([136]) 2ad4c9f2-602b-43ba-9ed9-ef2ee059cf97_en.

([137]) (European Commission, 2025).

([138]) (European Commission, 2025).

([139]) Eurostat [ilc_lvho05].

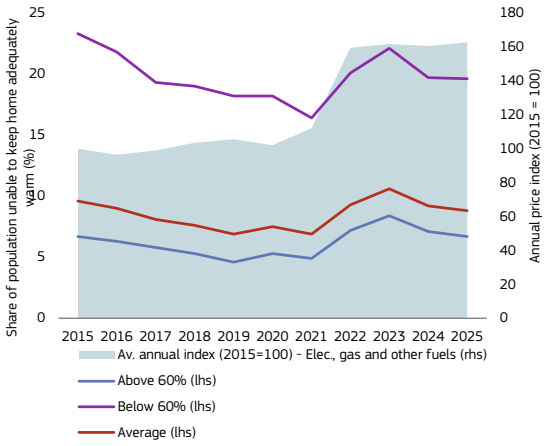
([140]) (European Commission, 2025) and Eurofound [Living and Working in the EU e-survey 2025].

([141]) (European Commission, 2025).

([142]) (European Commission, 2025).

([143]) OECD [Affordable Housing Database].

Chart 1.26: **Share of population below/above the at-risk-of-poverty threshold (60%) unable to keep home adequately warm (lhs), and average annual index (2015=100) for electricity, gas and other fuels (rhs), 2015-2025, EU**



Source: Eurostat [ilc_mdes01] [prc_hicp_aind]

Prior to the 2026 energy shock, energy poverty in the EU had declined for the second consecutive year. Energy poverty, measured as the share of individuals unable to keep their homes adequately warm due to financial reasons, decreased from 9.2% in 2024 to 8.8% in 2025 (Chart 1.26) – pre-dating the 2026 energy shock. Unlike in 2024, this improvement was not driven by falling energy prices but by a more modest, though continued, rise in real income (see Section 1.5.1). Despite this, nearly one-fifth of those at-risk-of-poverty (AROP) still faced energy poverty in 2025 (19.6%), a significantly higher share than the non-AROP population (6.7%). The gap slightly widened compared to 2024. Albeit most EU countries experienced a decline in energy poverty, significant disparities, including large intra-national disparities ([144]), persist, with rates exceeding 15% in Bulgaria, Greece, Lithuania, Portugal, and Spain ([145]). In parallel, the share of individuals having utility bill arrears remained stagnant at 7% ([146]).

The sharp increase in transport fuel prices driven by the conflict in the Middle East is a growing source of affordability pressure for households reliant on private transport. Unlike energy prices such as electricity, gas and other fuels, which rose more modestly (between 0.0% and 1.1% month-on-month) throughout the first half of 2026, transport fuel and lubricant prices rose sharply following the onset of the conflict in the Middle East. They increased by 13.5% month-on-month in March 2026 alone, and by a further 4.8% in April. While prices eased in May and June, falling by 1.9% and 5.0% month-on-month respectively, the scale of the earlier spike means price levels are still significantly above the levels of the same month of the previous year. The annual inflation rate amounts to 13.7% in July ([147]). This induces affordability problems for low and middle-income households dependent on private vehicles.

1.5.4. Economic strain

As of the beginning of 2026, the decline in financial distress observed over the previous two years stagnated, likely reflecting the impact of the conflict in the Middle East ([148]). The share of people reporting financial distress in the EU has moved only marginally since January 2026, from 14.5% to 14.4% in July (Chart 1.27). Comparing year-on-year, however, some progress is still visible: financial distress in July 2026 stood 0.5 pp below its July 2025 level (14.9%). Those in the lowest income quartile remain most exposed: 25.3% reported experiencing financial distress in July 2026, 0.2pp more than a year earlier (25.1%). Among those reporting financial distress, 10.4% had to draw on savings, (11% in July 2025), and 4.1% had to run into debt (4% in July 2025).

Making ends meet remains a challenge for a significant share of EU households, particularly single-parent and families at risk of poverty. In 2025, 6.4% of EU households reported making ends meet with great difficulty, 11.2% with difficulty, and a further 24.9% with some difficulty, broadly stable compared to 2024 ([149]). Taken together, over four in ten EU households experience strain to make ends meet. Among those at risk of poverty, nearly seven in ten struggle to make ends meet. Single parents are the most exposed, with nearly four in ten single-parent households facing serious financial strain.

([144]) Energy vulnerability shows a strong territorial gradient running south, concentrated where lower incomes intersect with poorer housing quality, see the Regional Energy Poverty Index in the [10th Cohesion Report, Chapter 1.2].

([145]) Eurostat [ilc_mdes01].

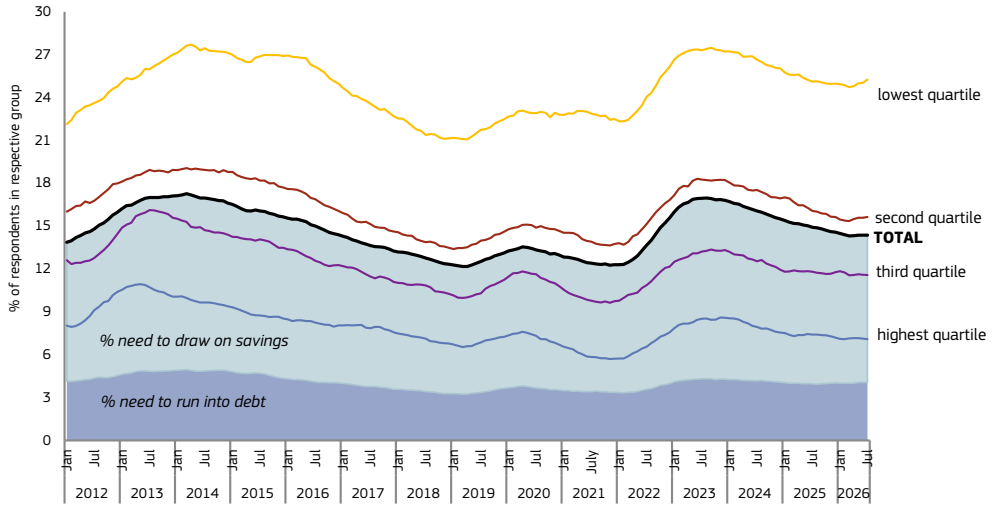
([146]) Eurostat [ilc_mdes07].

([147]) Eurostat [prc_hicp_minr]. Against an annual inflation rate was at 5% for electricity, gas and other fuels.

([148]) Financial distress is defined as the perceived need to draw on savings or to run into debt to cover current expenditures, calculated as a moving average over 12 months. For further analysis on the social impacts of the Middle East energy shock on social impacts see: (De Agostini et al., 2026)

([149]) Eurostat [ilc_mdes09].

Chart 1.27: **Reported financial distress by income quintile, EU**



Note: Reported financial distress by income quartile and its components (share of adults reporting necessity to draw on savings and share of adults reporting need to run into debt)

Source: DG EMPL calculations based on Business and Consumer Survey, 12-months moving average

While the financial burden of healthcare on the EU population has grown, unmet medical needs have remained low across the EU. In 2025, 13.5% of the population reported a high financial burden from medical care (up from 11.6% in 2017), indicating that healthcare affordability concerns are spreading beyond those at risk of poverty, even as the share among this group eased slightly to 19.1% (from 19.6% in 2017) ([150]). Unmet needs for medical care due to cost, distance, or waiting lists stayed broadly stable in 2025, affecting 3.6% of people aged 16+ (and 5.9% among those at risk of poverty) ([151]). This suggests that public health systems have remained accessible despite rising pressures. The picture is less positive for dental care, with its financial burden considerably higher than other medical care across all income groups, and 6.3% of the total population reporting unmet dental care needs in 2025 ([152]).

1.5.5. Wellbeing

Though still the dominant yardstick of economic output, GDP has always been considered an imperfect proxy of living standards or human wellbeing. During the setup of the UN's System of National Accounts, the production-focused GDP concept prevailed for reasons of comparability over the proposal of household (and personal) income and consumption-based aggregates. Since the early 2000s, efforts to go 'beyond GDP' have advanced under the auspices of the United Nations and national governments. These have urged emphasis on distribution, non-market activity, and multidimensional quality of life. Measures aiming to capture directly and comprehensively what the economy does for human societies, include the Human Development Index (UNDP, from 1990), satellite accounts within the System of National Accounts, and the UN Statistical Commission's measurement of sustainable development including SDG indicators ([153]).

The wellbeing of citizens is an overarching objective of the European Union. Article 3(1) TEU states that 'The Union's aim is to promote peace, its values and the well-being of its peoples'. Accordingly, to better capture the benefits of the economy for current and future generations, the European Commission has developed measures of wellbeing adapted to policy needs, such as the Sustainable and Inclusive Wellbeing dashboard (SIWB), as a multidimensional conceptual and measurement framework, with 140 indicators streamlined into a smaller dashboard of 50 indicators (for a detailed explanation see Annex 1). A similar approach, albeit based solely on self-reported subjective scores, is Eurostat's

([150]) Eurostat [ilc_hch01].

([151]) Eurostat [hlth_silc_08b]. Percentage of persons having needs for medical examination.

([152]) Eurostat [hlth_silc_09b]. Percentage of persons having needs for dental examination.

([153]) 'Beyond GDP' metrics can be uni- or (most often) multi-dimensional, objective or subjective, expressed in raw or synthetic values, and in monetary or other terms.

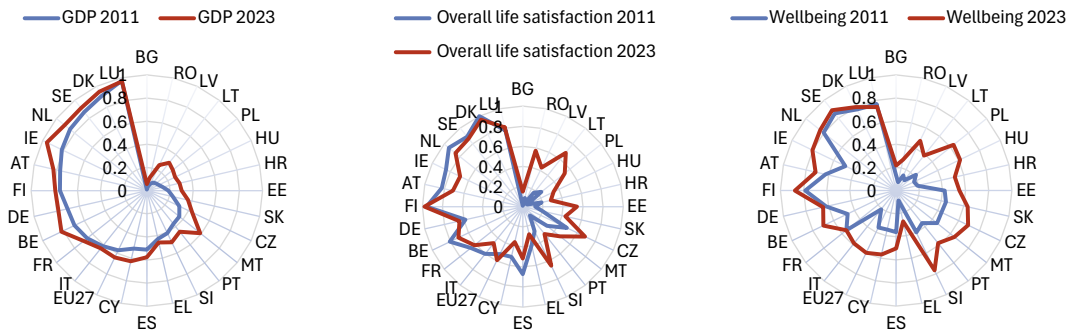
framework of '8+1 quality of life' indicators. While eight indicators concern capabilities for pursuing self-defined wellbeing, this report looks closely at the '+1' indicator 'overall life satisfaction' as it is a summative appraisal of one's experience of life. Some of the other 8 dimensions are already covered in the previous sections (e.g. education).

In 2025, EU residents on average rated their overall life satisfaction at 7.2 on a scale of 1-10, unchanged from 2024. The highest average scores occurred in Finland and Romania (7.8), followed by Denmark, Austria and Poland (7.7), while Bulgaria (6.3, up from 6.2 in 2024), Greece (6.9, up from 6.7 in 2024) and Latvia (stable at 6.9) registered the lowest scores. All Member States averaged life satisfaction scores over 6, indicating more satisfied than dissatisfied respondents ([154]).

Self-reported life satisfaction in the EU increased with income and education levels, while it varied little between men and women. Average life satisfaction in 2025 as well as in previous years increases progressively across income quintiles, from 6.7 among individuals in the lowest income quintile to 7.8 among those in the highest income quintile ([155]). This substantial gap of 1.1 points between the lowest and highest income groups highlights meaningful differences in perceived life satisfaction by income level ([156]). Also, life satisfaction varied from 6.9 among people with less than primary to lower secondary education, to 7.2 for people with upper secondary and post-secondary non-tertiary education, culminating at 7.6 for tertiary education graduates ([157]). In the same year, women reported an average life satisfaction score of 7.2 and men 7.3 ([158]).

Citizen wellbeing in the EU and its Member States has also improved over the last 15 years, by most measures. Chart 1.28 shows this improvement by three different measures: a) GDP; b) overall life satisfaction; and c) 'wellbeing' (See Annex 1). This last indicator aggregates key variables including employment rate, household income, housing cost overburden, life satisfaction, the NEET rate, the AROP rate, the road deaths, the suicide mortality rate, trust in government. The charts indicate improvement in the EU and in the majority of Member States across all three measures. A more nuanced view emerges from a closer look into each of these measures:

Chart 1.28: **GDP per capita, overall life satisfaction, and wellbeing in the EU and MS, 2011,2023**



Note: MS sorted by the 2011 GDP/capita values in all measures. All indicator values are normalised on a 0-1 scale, based on their percentile position in the pooled distribution of all EU MS values in 2011-2023. Higher values always indicative of more favourable outcomes. The synthetic index for Wellbeing is the median value across the normalized values of all corresponding indicators.

Source: JRC elaboration based on data from Eurostat, AMECO, EEA, Eurobarometer, European Social Survey, OECD, UN, WHO, EUROSTAT/Figaro, SDG Transformation Center, World Bank, World Happiness Report/Gallup. The overall life satisfaction is sources from the latter.

At the EU level, GDP and overall life satisfaction improved modestly, while the improvement of wellbeing was more pronounced. Hence, the EU did better in delivering wellbeing to citizens,

([154]) Eurostat ilc_pw01].

([155]) Eurostat [ilc_pw02].

([156]) The positive relationship between life satisfaction and income is consistent with research (Filip Fors Connolly, 2023) finding that higher incomes are associated with better living conditions, greater financial security and lower economic stress. This can be explained by the fact that higher income enables broader access to opportunities, healthcare, leisure activities and social participation, while it facilitates individuals' evaluations of life satisfaction in relation to their perceived socio-economic position.

([157]) This is consistent with the recurrent empirical finding that higher levels of education are associated with higher income.

([158]) Eurostat [ilc_pw01].

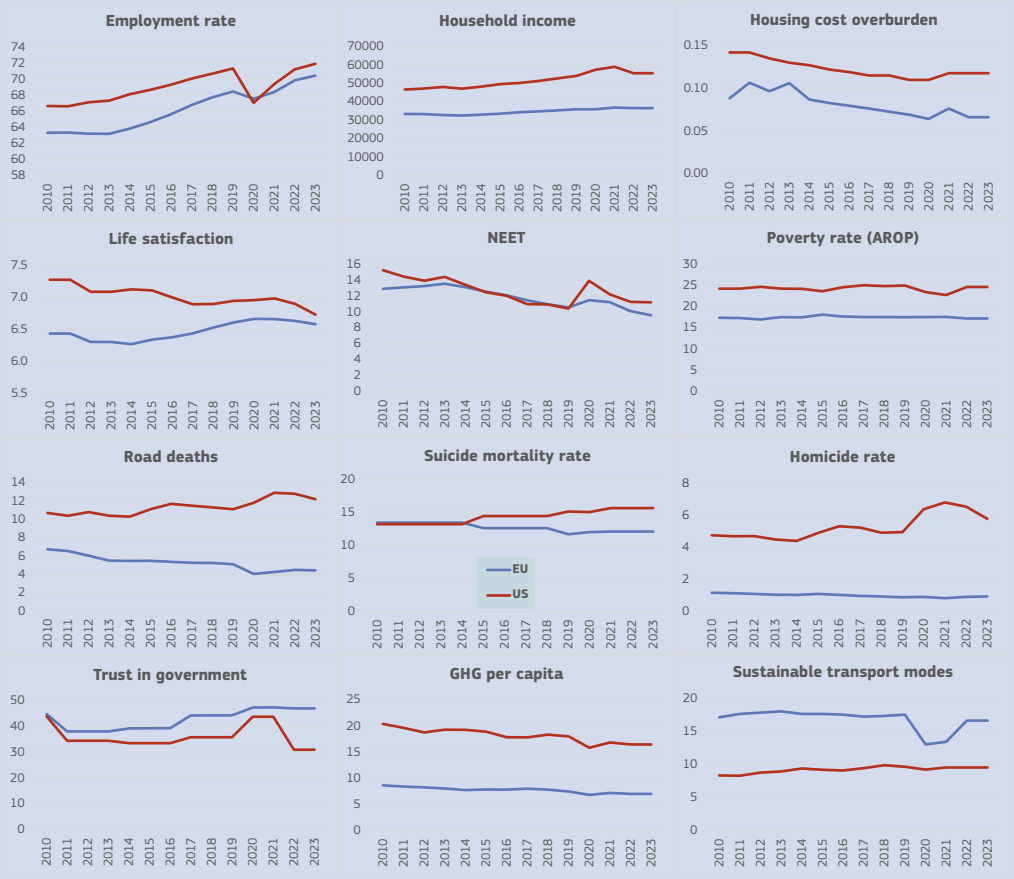
suggesting that wellbeing is driven by more than economic factors. Nevertheless, stronger economic performance could have enabled even higher levels of wellbeing.

Citizen wellbeing varied across Member States, converging faster than GDP, demonstrating that the 'EU convergence machine' delivers efficiently what matters to people. In Romania, Latvia, Lithuania, Poland, Hungary, Croatia, Estonia, Slovakia, Czechia, Malta, Slovenia and Cyprus, GDP increases mostly outpaced those in the pre-2004 Member States. Moreover, in almost all of the aforementioned Member States joining the EU in 2004 or later, life satisfaction and wellbeing grew even faster than GDP. Conversely, pre-2004 Member States (with the exception of Portugal) registered lower or almost the same levels of life satisfaction in 2023 compared to 2011.

Box 1.3: How well is the EU doing in people's wellbeing compared to the US?

International comparisons based on standard GDP per capita underestimate living standards in the EU. For instance, GDP per capita comparisons overstate the disparity in living standards between the United States and the EU. From 2010 to 2023, GDP per capita grew 17% in the EU and 25% in the US.

Chart 1: **Evolution of key variables of wellbeing in the EU and US, 2011-2023**



Note: The first 10 charts present variables of the 'current wellbeing' component of the SIWB dashboard while GHG per capita and sustainable transport modes are from the 'nature' component of the same dashboard. All are presented in their 'raw' (non-normalised) indicator values. This global dashboard was created based on the EU SIWB dashboard's 50 indicators (as documented in this 2024 and then 2025 reports). Many other plausible indicators are in the 'social and economic resources for future wellbeing', and 'resilience: societal challenges and sustainability transitions' components, as explained in Annex 1.2. The underlying structure (dimensions) of the current wellbeing component is very similar to that of the Eurostat Quality of Life framework.

Source: Data from Eurostat, ILO, OECD, UN, World Happiness Report/Gallup

Conversely, looking at key aspects of wellbeing points to the EU as a global reference point, grounded in high quality of life, resilience, and strong institutions. For instance, from 2010 to 2023, wellbeing (as defined in the Annex) in the EU improved by 9.5 percentage points versus 1.2 percentage points in the US ([13]). Chart 1 elaborates on this EU achievement, comparing the EU (blue line) and the US (red line) from 2010 to 2023 across wellbeing indicators. The following trajectories can be distinguished:

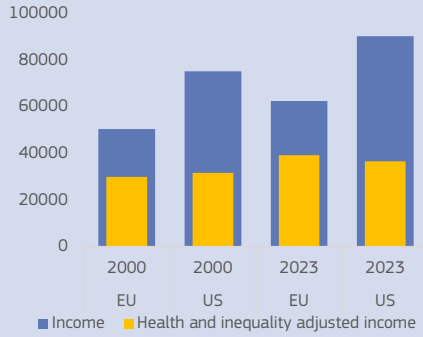
– **The EU has performed consistently better on key aspects of well-being throughout this period**

in housing cost overburden, monetary poverty, road deaths, homicide rate, as well as in the green-transition-relevant indicators of greenhouse gas emissions per capita and use of sustainable transport modes. The EU and US started in 2010 at very comparable levels of NEET, suicide mortality, and trust in government but then diverged placing the EU better off. The EU did substantially better over this period in suicide mortality and in trust in government. In the latter, the gap widened in the EU's favour following a sharp decline in the US in 2022. NEET values declined more (albeit not uninterruptedly) in the US, with the EU performing better from 2010 to 2014, while the gap widened again in the EU's favour from 2020 to 2023.

– **The US has performed better for the employment rate, household income, and self-reported life satisfaction.** The EU has substantially narrowed the gap in employment, where it also proved more resilient at the onset of the pandemic, while the gap in life satisfaction had almost closed by 2023 following faster EU improvement in 2020-2024 and a sharp decline in US values from 2021 on. Conversely, the gap in household income increased by 2023 in favour of the US.

Adjusting income per capita for health outcomes and inequality also reveals that the EU economy translates its resources into more balanced societal outputs than the US one. This measure calculates income that is sensitive to within country disparities in lifespan and income. Between 2000 and 2023, income adjusted for life expectancy (proxy for health outcomes) and for the dispersion of income per capita and life expectancy (proxies for inequality) has only slightly increased in the US, while the EU has seen a much more pronounced expansion, starting from similar levels. In 2023, the EU surpassed the US by USD 2616 (Δ between the respective yellow columns).

Chart 2: **Income per capita and health- and inequality-adjusted income per capita in the EU and US, 2000, 20223 (values in USD at 2023 PPP)**



Source: JRC elaboration on the experimental methodology of Da Costa (2025), Da Costa (2026) and Benczur et al. (2023); data from the World Inequality Database and UN Population Statistics.

([13]) Based on globally comparable indicators of the SIWB component 'current wellbeing' in (Benczur et al., 2026).

1.6. SPENDING ON LABOUR MARKET POLICIES AND SOCIAL PROTECTION

1.6.1. Spending on labour market policies

The case for active labour market policies in the EU is likely to become more pressing as AI adoption, efforts to strengthen strategic autonomy and reduce critical dependencies on China accelerate sectoral restructuring. Labour market policy expenditure is one of the most consequential pillars of social investment. Its importance lies not merely in cushioning income shocks, but in shaping employment trajectories: the economic literature broadly finds that well-designed active labour market programmes tend to have modest short-run effects but stronger medium-run impacts, especially when they build human capital or improve job matching ([159]).

Total EU spending on labour market policies has gradually declined over the last decade, in part thanks to improvements in the labour market. According to the European Commission's Labour Market Policy (LMP) statistics, around 60% of these expenses are unemployment benefits and other out-of-work income maintenance and support benefits. The active LMP interventions amount to 26%. These include training, supported employment and rehabilitation, employment incentives, direct job creation, and start-up incentives. Total LMP expenditure (on services, measures, and supports) declined from 2.2% of GDP in 2014 to 1.5% of GDP in 2023, i.e. by almost one-third. In the recent years, this expenditure helped

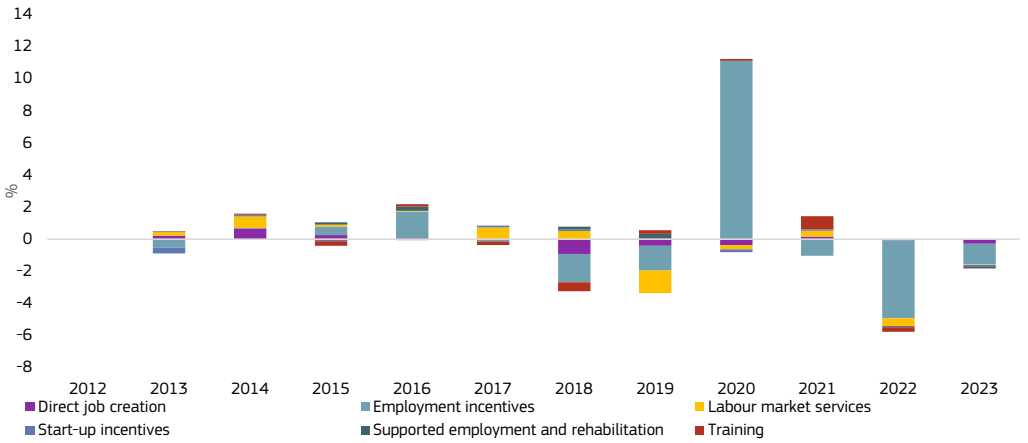
([159]) (Card, Kluve and Weber, 2017).

cushion the impact of the COVID-19 pandemic. In 2020, this was the case particularly for the employment incentives, and in 2021 for training expenditure. In the following two years, LMP expenditure change was shaped mainly by reductions of spending on employment incentives.

Active labour market policies are an important instrument for anticipating and managing restructuring. This role goes beyond the activation of unemployed and inactive people. ALMP packages – combining early skills assessment, career guidance, targeted up- and reskilling, certification, job matching, mobility support and carefully targeted hiring incentives – can support job-to-job transitions before unemployment occurs, shorten unemployment spells where displacement cannot be avoided, and help workers move towards occupations and sectors where labour demand is growing ([160]). The LMP methodology explicitly includes persons 'currently in work but at risk of involuntary job loss due to the economic circumstances of the employer, restructuring, or similar' ([161]).

There are large differences in ALMP coverage, spending and participation across Member States. In 2023, participation in ALMP measures ranged from above 60% of unemployed persons wanting to work in Belgium, Denmark and Spain to below 10% in Slovenia, Latvia, Cyprus. Spending was highest in Denmark and Finland, and very low in Cyprus, Malta, Bulgaria. Spending levels should, however, be read alongside labour-market conditions and institutional capacity: Austria, Denmark and Finland combined relatively high ALMP spending with low long-term unemployment, whereas Spain, Italy and Belgium combine sizeable ALMP budgets with still high labour market challenges. The most concerning configuration is low spending combined with above-average long-term unemployment, notably in Bulgaria, Lithuania and Slovakia. Access also differs across groups: on average, women and under-25s participate less than the overall EU average, with very low female participation reported in Bulgaria, Slovenia, Lithuania, and very low under-25 participation in Sweden, Luxembourg, Lithuania, and several other countries. Integration challenges are especially visible in Spain, Greece, Italy, where both youth unemployment and NEET rates remained high in 2024. These patterns point to the importance of design, timing and targeting rather than spending alone.

Chart 1.29: **Contribution to real labour market policies expenditure growth by selected components, EU, 2012-2023**



Source: Labour Market Policy statistics database, [lmp_expsumm] dataset.

1.6.2. Spending on social protection

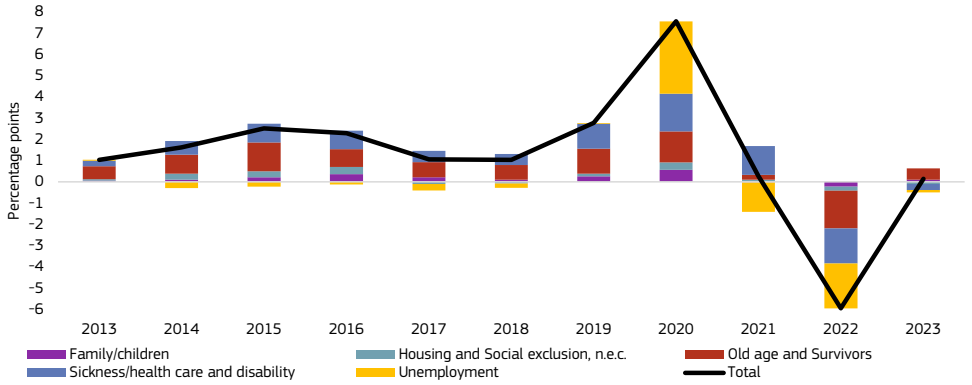
After falling significantly in real terms in 2022, social spending in nominal terms grew more than inflation in 2023. While the drop in 2022 was linked to a reduction in unemployment and sickness benefits as countries moved away from the pandemic spending, the increase in 2023 was driven mainly by a real growth of old-age-related and survivors' benefits, followed by expenditure related to family and child transfers. Against the backdrop of slowing employment growth, weakening real wages, rising inflation and ongoing structural transformations discussed throughout this chapter, the composition and

([160]) (European Commission: Directorate General for Employment, Social Affairs and Inclusion., 2025); (Lauringson, Pantelaiou and Westlake, 2025).

([161]) (European Commission. Directorate General for Employment, Social Affairs and Inclusion., 2018).

adequacy of social protection spending is likely to play an increasingly important role in supporting household incomes in the period ahead.

Chart 1.30: **Social protection expenditure real growth and its decomposition**



Source: DG EMPL calculations based on Eurostat datasets [spr_exp_func] and [prc_hicp_aind].

1.7. CONCLUSION

In 2025, the EU labour market and social situation remained resilient, but the pace of improvement slowed and underlying vulnerabilities became more visible. Despite rising geopolitical tensions, real GDP continued to grow steadily. In this context, the labour market remained robust, with positive but decelerating employment growth and the unemployment rate was stable around a historic low. Yet the employment gains were more modest than in 2024 and were achieved amid signs of GDP growth being less job rich than before

The labour market slowdown reflects cyclical developments but also deeper structural factors. Geopolitical tensions and uncertainty undermine investment activity and job creation. Moreover, the energy shock caused by the conflict in the Middle East is forecast to lead to a deceleration in GDP growth and a rise in inflation. This is estimated to lower employment growth by 0.2 pp in 2026, which would correspond to 440 000 fewer jobs created. Higher energy prices and slowing nominal wage growth will also exert pressure on the purchasing power of households. Moreover, wages and employment are held back by subdued labour productivity growth due to high energy prices, subdued innovation and investment, and persistent skills and labour shortages. The twin transition, the drive to enhance the EU's strategic autonomy and the rapid diffusion of generative AI may reshape labour demand, with potential gains for productivity but also risks of job displacement and widening inequalities. Demographic change is helping to keep unemployment low by limiting labour supply, but it also contributes to labour and skills shortages.

Social outcomes were broadly stable, but challenges remain and may increase as the effect of structural transformations and the energy shock become more visible. After experiencing losses in 2022 and 2023, real wages recovered their 2019 levels in 2025 but grew slower than in 2024. Household income growth also moderated. Financial distress continued to ease, and energy poverty declined for the second consecutive year. However, measures of poverty and social exclusion showed little improvement. The situation of the youngest is particularly concerning, as the number of children being at risk of poverty-or-social exclusion poverty is close to 2019 levels.

Overcoming structural challenges is key to promote a competitive economy, job quality and upward social convergence. The structural challenges that the EU is facing, including slowing productivity growth, population ageing, labour and skills shortages, the green and digital transitions and potential disruption from the use of cutting-edge technologies, are transforming how firms compete and how people work. Households are exposed to external shocks and firms face mounting adjustment pressures. In this context, job quality is not only important for workers' wellbeing but also for economic performance and competitiveness. Quality jobs help translate employment growth into rising living standards, lower poverty risks and stronger productivity, while supporting workers through structural and green and digital transitions. Thereby, improving job quality is not only a social objective, but can also contribute to a more competitive, inclusive and resilient European economy.

Annex 1: Main labour market and social developments

A1.1. MEASURING WELLBEING

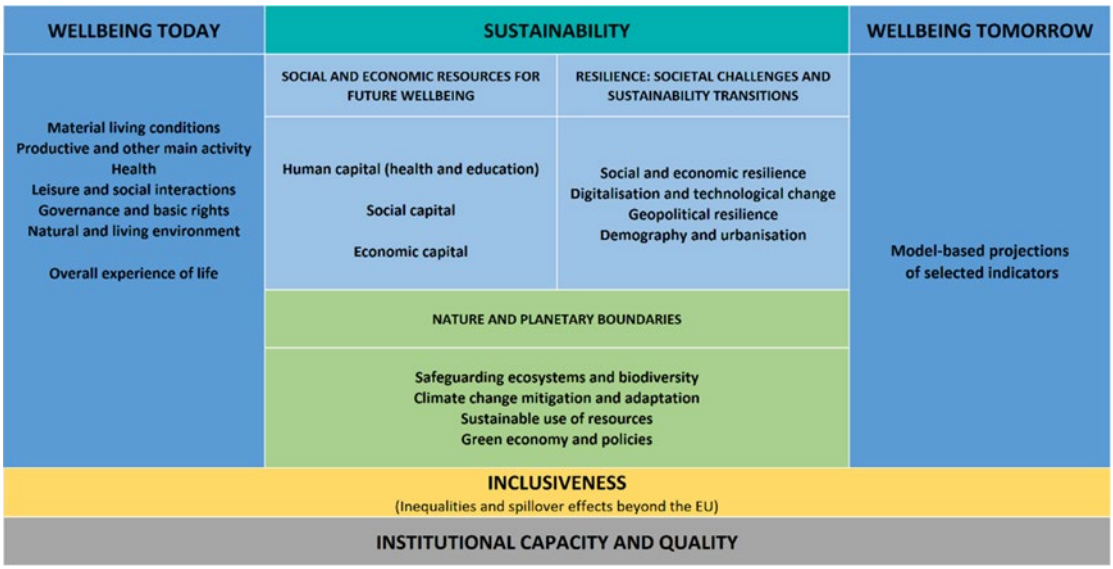
Measuring wellbeing has been part of the overall effort to develop 'beyond-GDP metrics'. In the 21st century, criticism of the limitations of GDP, notably through works such as the report of the Stiglitz-Sen-Fitoussi Commission (2009), convened by the government of France, has intensified. At the global level, this effort culminated in 2024 with the adoption by the United Nations of the Pact for the Future, which provided the mandate for the High-Level Expert Group on Beyond GDP. The final report of the Group, issued in May 2026, makes concrete recommendations on how to move beyond GDP. The report argues that societal progress means equitable, inclusive, and sustainable wellbeing. It proposes a conceptual framework, an indicator dashboard, and recommendations on how to implement this agenda on the statistical and policy side.

Beyond-GDP measures are of three broad types: unidimensional, multidimensional, and hybrid.

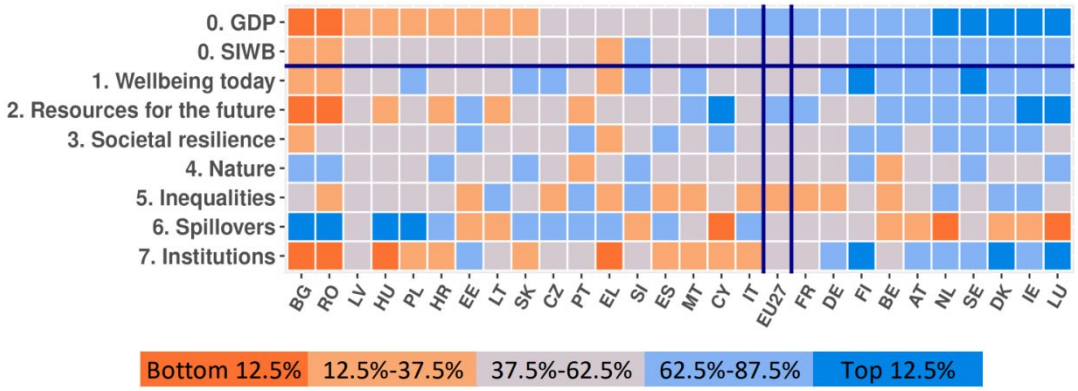
- **Unidimensional measures** prioritize a single dimension (other than the economic one), on the assumption that this dimension is paramount over others or subsumes other dimensions as inputs. Health and environmental metrics are typical of this approach: for instance, Health-Adjusted Life Expectancy (HALE) of the World Health Organization measures years of healthy life, in a single non-monetary value that ignores the economic dimension entirely. Similarly, the Ecological Footprint per capita privileges the environmental dimension over all others. This unidimensional approach can appear too reductionist, but it is very simple to communicate.
- **Multidimensional metrics measure societal progress/wellbeing through overt use of multiple interconnected dimensions.** Each dimension is represented by one or more indicators, such as health, education, environmental sustainability, social equity, and quality of life, quality of institutions, etc. Such measures may be expressed in a single value (score) or visual representation, such as a single 'spider web graph', but also allow drill-down views into individual dimensions. Prominent examples are the OECD Better Life Index, the UN's Human Development Index, as well as self-reported wellbeing scores (such as Eurostat's 8+1 Framework), the Social Progress Index, and the **SIWB dashboard**.
- **Hybrid measures tend to internalize multiple dimensions into a single one.** Typical of this approach are **'augmented-GDP' metrics**. They utilize the public's familiarity with the monetary value of GDP (or income), which they adjust (by inflating or deflating it) for performance in other dimensions. Such is the **'Health and inequality adjusted income'** presented in Box 1.2.

The Sustainable and Inclusive Wellbeing (SIWB) dashboard was completed in 2025. Announced in the European Commission's 2023 Strategic Foresight Report, the objective of the SIWB initiative was to progressively complement the use of GDP in EU policymaking with wellbeing indicators. The SIWB dashboard was also a response to the call by the 8th Environmental Action Programme (the EU's legally agreed common agenda for environmental policy from 2021 to 2030) for the development of a summary dashboard to measure economic, social, and environmental progress 'beyond GDP'. While recognizing the usefulness of GDP in proxying living standards, SIWB fulfils the need for complimentary indicators to fully capture all aspects of the quality of life, inclusiveness, and sustainability over time.

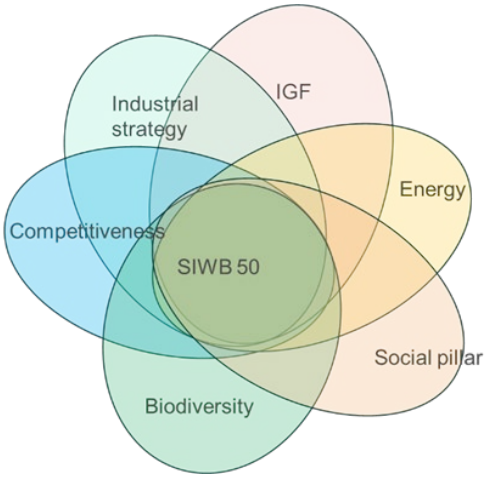
The structure of the SIWB dashboard comprises six components (see figure below): wellbeing today, social and economic resources for future wellbeing, resilience: societal challenges and sustainability transitions, nature and planetary boundaries, inclusiveness (further subdivided between 'inequalities' and 'spillovers' beyond the EU) and institutional capacity and quality. These components are populated with 140 indicators, selected for data quality and policy relevance from an initial pool of over a thousand measures in pre-existing frameworks. A summary dashboard of a **subset of 50 key indicators** was also created and used to produce **summary synthetic indices**, which can provide a detailed view into each of the above components (and subcomponents in the case of the inclusiveness component).

1. 

These total and component-level synthetic indices can be visualized as in the figure below, with Member States ordered by GDP per capita (2023 values):



Source: (Pagano et al., 2025)



By construction, the SIWB dashboard is connected to the analytical frameworks of several sectoral policies (see figure to the left). It can thus provide a strategic overview of the combined wellbeing outcomes of these policies at EU and Member-State level.

In addition to tracking EU and Member States wellbeing performance over time, an objective of the SIWB initiative was to compare the EU to other major economies. For this purpose, the original multidimensional summary dashboard of 50 indicators was extended beyond EU countries, mimicking the original indicators closely. From the original 50 indicators, 30 are (almost) identical, 8 are missing, 5 are related (similar measure of a similar concept), and 7 are loosely related (a different measure of a similar concept). The country set contains 22 EU countries, the EU, Australia, Canada, Iceland, Japan, Norway, South Korea, Switzerland, Türkiye, the UK, and the US. The latest available year is 2023. Among other, the global extension for the SIWB dashboard shows that GDP-based comparisons substantially overstate the American economy's and society's advantage vis-à-vis Europe.

The aforementioned global extension of the SIWB dashboard is the source of the indicators presented in Chart 1 of Box 1.2 and expressed in the following units of measurement:

- Employment rate: age group 15-64 (ILO).
- Household income: Household net adjusted disposable income, measured in USD at 2021 PPPs per capita (OECD Wellbeing Database).
- Housing cost overburden: Percentage of households spending more than 40% of their disposable income on housing costs. Housing costs cover only those relating to mortgage costs (principal repayment and interest payments) and rental costs (for both private market and subsidised rental housing). For some countries, there can be small deviations from the general definition (OECD Affordable Housing Database).
- Life satisfaction: Average score reported by people when asked to evaluate their current life from 0 (worst possible) to 10 (best possible) (World Happiness Report, based on Gallup).
- NEET: Percentage of youth (aged 15-24) not in employment, education or training (NEET) (ILO, SDGs).
- Poverty rate (AROP): Proportion of population below 60% of the national median of disposable income (OECD Income Distribution Database).
- Road deaths: Road deaths, rate per 100 000 population. Road deaths refer to persons killed immediately or dying within 30 days because of a road accident, excluding suicides (OECD Wellbeing Database).
- Suicide mortality rate: deaths by suicide per 100,000 population (UN SDGs).
- Homicide rate: deaths by intentional homicide per 100,00 population (UN SDGs).
- Trust in government: Proportion of the population responding “yes” to a question about confidence in the national government (OECD Wellbeing Database, based on Gallup).
- GHG per capita: Greenhouse gases (total emissions including land use, land-use change, and forestry) expressed in thousands of kilogrammes of CO2-equivalent per person (OECD Greenhouse gas emissions inventories).
- Sustainable transport modes: share of collective transport modes (buses, coaches and trolley buses, and trains) in total inland passenger transport (passenger cars, buses, coaches and trolley buses, and trains), expressed in passenger-kilometres (pkm) (OECD data, with Eurostat data for Luxembourg, Cyprus, Ireland, Austria, Türkiye, Latvia, Estonia, Romania, Bulgaria, and EU27).

2. Job quality disparities across the EU

2.1. INTRODUCTION

Quality jobs are the cornerstone of an economy that works for the people. Quality jobs benefit worker's health, well-being, and can be a driver of their labour market participation ([162]). A skilled, secure, and motivated workforce is also better equipped to respond to the demands of a rapidly evolving labour market and the green and digital transitions. Recent research has stressed the importance of job quality for addressing persistent labour shortages and enabling longer working lives, particularly in the context of demographic ageing ([163]). Around 40% of the EU population lives in a region that have experienced population decreases over the past decade, with working-age populations shrinking fastest in rural and peripheral regions. Quality jobs are therefore also central to ensuring that certain regions are not left behind ([164]). Overall, quality jobs can enhance productivity and innovation, which in-turn are also key drivers of job quality (see Chapter 3.).

Job quality is multidimensional and impacted by on-going structural shifts. The quality of a job is made up of several elements spanning objective (i.e. wages and contract type) and more subjective factors (i.e. well-being at work). These include working time and conditions, safety and health at work, adequate earnings and fair wages, job and career security, access to training, and professional development opportunities, worker inclusion in anticipation and management of change, collective interest representation and work-life balance. At the same time, on-going structural shifts in the labour market have an impact on job quality. Notably the digitalisation of work – including the increasing use of artificial intelligence (AI) and algorithmic management (AM) - the decarbonisation of the economy, and demographic ageing. These shifts also interact with pronounced territorial disparities across the EU.

Selected dimensions of job quality are analysed in this chapter. It provides an in-depth analysis of adequate earnings, job and career security, and working time developments across the EU ([165]). These job quality dimensions are found to have on average improved over the last ten years and to be important for workers themselves. Yet, understanding where and for whom job quality is better or worse requires analysis beyond averages. Women and EU residents born outside the EU (henceforth "migrants"), younger, lower-educated, and self-employed workers encounter greater job quality challenges. In addition, large differences in job quality across occupations and sectors are identified. Knowledge-intensive service sectors (KIS), including information and communication technology (ICT) activities, have better earnings, job and career security, as well as working times. Higher quality jobs also tend to use more AI at work. Manual labour-intensive jobs are found to have on average lower job quality. Additionally, workers in certain jobs – particularly in less knowledge-intensive service sectors (LKIS) and in jobs that are typically outsourced have on average lower job quality, including wages, across the EU. At the same time, there is no job quality penalty in outsourceable jobs in knowledge-intensive service sectors and some outsourceable jobs, including in professional business services, are associated with higher wages. Specific quality challenges are also identified for jobs that are facing labour shortages in several EU countries and are crucial for the functioning of the EU economy, including care workers and teachers.

This chapter is structured as follows. Section 2.2. outlines the current frameworks used for measuring job quality and presents the approach taken. Section 2.3. analyses adequate earnings, job and career security, and working time developments over the last years, also exploring trends across different jobs and countries. Section 2.4 investigates which types of workers experience better or worse job quality. Section 2.5. looks at job quality differences across sectors and occupations, providing in-depth insights into developments for workers in manufacturing, education, care, and defence. Section 2.6. focuses on the opportunities and challenges for job quality of the digital transition, with a specific focus on the uptake of AI tools and algorithmic management practices across jobs. Providing evidence on the development of new forms of work organisation, Section 2.7. discusses the prevalence and implications of subcontracting and outsourcing for job quality in the EU. Lastly, Section 2.8. draws out the main conclusions of the chapter.

([162]) (EMCO, 2025).

([163]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023a); (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023c).

([164]) (European Commission, 2024d).

([165]) The selected dimensions are part of the EMCO Job Quality Framework - which is discussed in Section 2 - and were selected also due to the ability to disaggregate their relevant main indicators by occupations and sectors at 2-digit level.

2.2. MEASURING JOB QUALITY DIMENSIONS

2.2.1. Outlining the multiple ways that job quality can be measured

Job quality is measured in different ways across organisations. The International Labour Organisation (ILO), the Organisation for Economic Cooperation and Development (OECD), the European Foundation for the Improvement of Living and Working Conditions (Eurofound), as well as other organisations have produced multidimensional frameworks for measuring the quality of employment ([166]). They focus on similar dimensions such as earnings, job security, social dialogue, and working time and include work-life balance, skills development, and occupational health and safety. The European Trade Union Confederation (ETUC) and IndustriALL's frameworks specifically emphasise collective bargaining, fair wages, training opportunities, access to social protection, and representation as key components of quality employment. Frameworks developed or updated more recently often add new dimensions to job quality related to the development of the organisation and the individual. The framework developed in 2025 by Jobs for the Future ([167]), a USA-based non-governmental organisation, for instance, includes "advancement" (opportunities to grow in the firm or industry), and "agency and culture" (including being supported to drive change in the organisation and sense of belonging).

At EU-level, the Employment Committee's (EMCO) updated Job Quality Monitoring Framework reflects the complexity and multidimensionality of job quality. Agreed on with Member States in 2026, the EMCO Job Quality Monitoring Framework guides analytical work and policy recommendations including also in the context of the European Semester. Its 13 dimensions encompass adequate earnings and fair wages, job and career security, skills development and career progression, employability, safety and health at work, workplace well-being, working time, autonomy, collective interest representation and organisation, work-life balance, gender equality and equal opportunities, social protection, as well as undeclared or underdeclared work as work to be eliminated ([168]). The updated Job Quality Monitoring Framework has been published in the 2026 Employment Performance Monitor (EPM) ([169]).

There are multiple ways to measure job quality, many of which the EMCO framework builds on. The ILO Framework on the Measurement of Decent Work ([170]), established in 2008, is aligned with the four strategic pillars of the Decent Work Agenda. Within this, it covers the following ten elements (i) employment opportunities; (ii) adequate earnings and productive work; (iii) decent working time; (iv) combining work, family, and personal life; (v) work that should be abolished; (vi) stability and security of work; (vii) equal opportunity and treatment in employment; (viii) safe work environment; (ix) social security; and (x) social dialogue, employers' and workers' representation. Given its wide and comprehensive structure, the framework is largely used for global comparisons of labour standards. Launched in 2015, the UNECE Framework for Measuring Quality of Employment ([171]) encompasses seven dimensions, covering similar elements ([172]). To monitor progress in a comprehensive way, this framework relies on more than 50 indicators and provides detailed guidance on how to use them. In addition, the OECD Framework for Measuring and Assessing Job Quality ([173]) developed in 2015 rests primarily on earnings quality, labour market security and quality of working environment. It includes headline indicators, to be used for monitoring job quality over time and across countries, such as average earnings, unemployment risk, and work autonomy.

([166]) (ILO, 2013); (OECD, 2016); (Eurofound, 2026d).

([167]) (Jobs for the Future, 2025).

([168]) Building on the indicators used in the Job Quality module presented in the 2017 Employment Performance Monitor (EPM) and taking into account other sources such as the Joint Assessment Framework (JAF) and other available job quality frameworks, the Indicator Group of EMCO mapped and assessed available indicators for each of the job quality dimensions. Indicators were categorised as either main or context indicators, with the selection process guided by the principles of statistical quality, comprehensive country coverage, and parsimony.

([169]) Employment Performance Monitor 2026, in Annex C.

([170]) (International Labor Organisation, 2012).

([171]) (UNECE, 2015).

([172]) These are (1) safety and ethics, (2) income and benefits, (3) working hours, (4) balancing work and non-work life, (5) employment security and social protection, (6) skills development and training, and (7) workplace conditions and motivation.

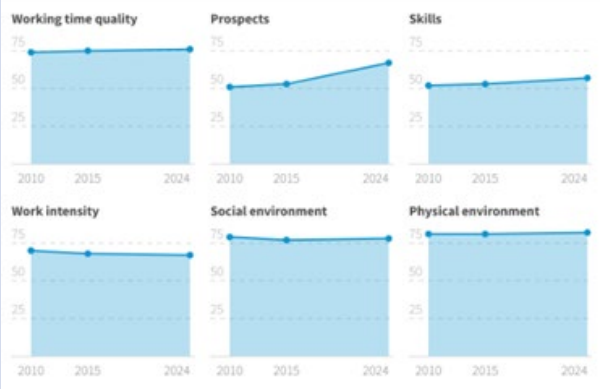
([173]) (OECD, 2015c).

Eurofound's job quality framework focuses on developments based on the European Working Conditions Survey (EWCS). The Eurofound framework encompasses seven dimensions, namely physical environment, social environment, working time quality, work intensity, skills and discretion, prospects and earnings ([174]). Its European Working Conditions Survey is a key source of data on job quality in the EU and is conducted approximately every 5 years, with the latest round in 2024. A recent Eurofound report presents its main results (see Box 2.1). For past EWCSs, the 'job strain' index, based also on the OECD framework, was used to capture situations where workers face more job demands than the number of resources they have at their disposal. Job demands correspond to time pressure, physical health risk factors, and hard work, while job resources reflect work autonomy, learning opportunities and good workplace relationships. In addition, the European Trade Union Institute (ETUI) has developed a job quality framework that aligns with trade union priorities, emphasising worker well-being, fairness, and sustainable working conditions. Given the emphasis on social and relational quality, this framework is often used for assessments of advancements in labour rights.

Box 2.1: Summary of findings from the 2024 European Working Conditions Survey

Eurofound's 2026 Overview Report provides key insights into the multiple dimensions of job quality based on the 2024 EWCS. As highlighted, Eurofound defines job quality as those characteristics of work and employment that have an impact – either positive or negative – on worker's health and well-being, encompassing seven dimensions. Overall, it finds that job quality has been improving in the last 15 years in all dimensions except social environment and work intensity (Chart 1). This box focuses on the main results for four dimensions that are not covered in-depth in this report - skills and discretion, work intensity, social environment, and physical environment (Eurofound, 2026d).

Chart 1: **Job quality indexes trends 2010-2024, EU27, (0-100)**



Note: Does not include earnings, as trend data is not available.
Source: Eurofound calculations, EWCS Series.

Skills and discretion: Overall, skills use, development opportunities, and access to training have slightly improved, with men scoring higher than women. However, in 2024 still only about 40% of employees are involved in improving the work organisation or work processes of their own department or organisation. Men score higher than women and workers in higher-skilled occupations report more frequent paid training opportunities. For older workers (aged 55 to 64), access to training has increased by 19 pp since 2005, but remains modest, with only 45% having received training in 2024.

Work intensity: Work intensity refers to the amount of effort – mental, emotional or physical – that a worker must exert to meet the expectations of their job role. Eurofound's work intensity index refers to the rhythm at which work is performed during working time – with a decrease in score indicating an intensification of work. Over time, work has on average slightly intensified for workers across the EU. However, gender differences persist. While work has intensified for women - who are more likely to have high-speed work, frequent interruptions and higher emotional demands – it has declined for men. Women are generally overrepresented in professions that require extensive human interactions, such as health and education, with healthcare sector in particular having grown in recent years. Despite the increasing penetration of technology in the workplace, the pace of work is primarily driven by human factors. Specifically, for 62% of workers the pace depends on direct customer demands and for 50% it is driven by colleagues and 38% by the hierarchy.

Social environment: Worker's perception of the social environment has slightly decreased since 2010. Direct and frequent interaction with the public (customers, patients, and pupils) increases the likelihood of experiencing adverse social behaviours, particularly verbal abuse, threats and physical violence. As a result,

([174]) (Eurofound, 2026d).

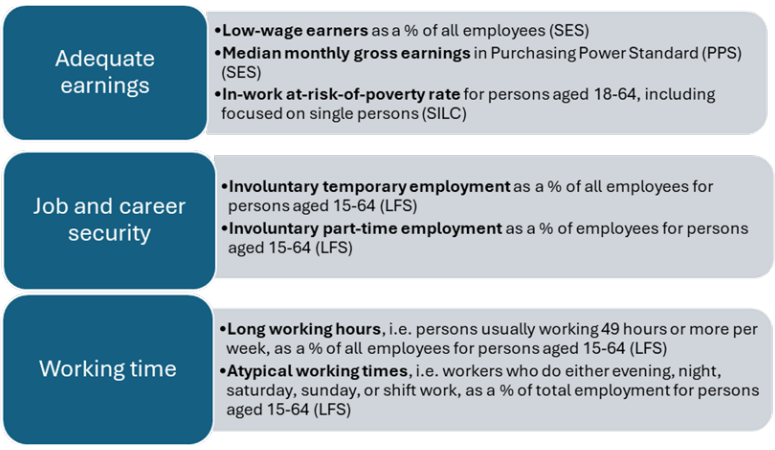
certain sectors, such as health, education, and public administration, are particularly vulnerable to most of these behaviours. Women and younger workers (16–29 years old) are disproportionately more affected.

Physical environment: Overall, the quality of the physical work environment has been improving since 2010, due to a reduction in many physical risks and demands. The largest reduction has been observed in posture-related risks such as tiring or painful positions, carrying or moving heavy loads, and repetitive hand or arm movements. However, exposure to high temperatures has increased, as has contact with hazardous chemicals and infectious materials, albeit to a lesser degree. Occupational hazards are a concern for workers in specific fields, such as crafts, agriculture and machine operation, as they face a higher accumulation of multiple physical risks. Men are more exposed to risks like vibrations, noise, and heavy loads, while women are more exposed to risks posed by lifting people, sitting for prolonged periods, and contracting infectious diseases.

2.2.2. Job quality dimensions selected for the analysis

This chapter's analysis focuses on adequate earnings, job and career security, and working time differences across the EU. Also, in line with those dimensions that matter most to workers (see Section 2.2.3.), an in-depth analysis of the EMCO Job Quality Framework's adequate earnings and fair wages, job and career security, and working time dimensions is undertaken (see Chart 2.1)([175]). The selection of dimensions also took into account data considerations, including the possibility to analyse granular sectoral and occupational breakdowns. Besides the dimensions under the EMCO framework, this chapter additionally covers two emerging areas, the use of AI tools and algorithmic management practices by different types of jobs in Section 2.6. and the job quality of workers in outsourceable jobs in Section 2.7.

Chart 2.1: **Selected dimensions of the EMCO Job Quality Framework and specific indicators used as for analysis in this chapter and report**



Note: The indicators from the EMCO Job Quality Framework used were calculated based on the agreed statistical specifications at the time of writing. The latest available data at the time of drafting is considered for all indicators. All indicators are used in the analytical work presented in this chapter but not evenly.

Source: EMCO Job Quality Framework, based on EMCO Opinion of June 2025.

Adequate earnings, job and career security, as well as working time have also been the focus of recent research. Previous academic literature ([176]) has identified earnings inadequacy and employment insecurity, alongside a lack of social protection, as dimensions related to vulnerable

([175]) Data used for the descriptive analysis, cluster analysis, and regressions throughout the chapter correspond to the latest available data for each indicator at the time of the analysis in early 2026. Low-wage earnings: 2014–2022 (SES); median monthly earnings: 2014–2022 (SES); temporary contracts and involuntary temporary work: 2014–2024 (LFS); long working hours: 2014–2024 (LFS); and atypical working time: 2014–2023 (LFS). Unless otherwise indicated, figures are based on DG EMPL own calculations using the most recent microdata available from each dataset at the time of the analysis. For an analysis of aggregate trend developments, Chart 2.4 was updated with the latest 2025 data for select indicators.

([176]) (Kreshpaj et al., 2020) (International Labor Organisation, 2012).

employment. Job and career security are traditionally associated with full-time and open-ended employment relationships. In the context of work relationships becoming more diverse, temporary and part-time work have been widely used to proxy job and career insecurity, when these forms of employment are not voluntarily chosen. Non-standard employment arrangements entail both advantages and drawbacks, reflecting well-established trade-offs in the economic literature. They provide flexibility for firms and facilitate labour market entry and adjustment to changing economic conditions, particularly for young people and individuals with weaker labour market attachment ([177]). They may also act as a stepping stone to more stable employment, especially for unemployed individuals, by enabling the accumulation of work experience and sustained labour market attachment ([178]). Working time covers how many hours people work and at what times. Long working hours and atypical working times have also been associated with lower workplace rights. These factors can negatively impact the well-being, health, and work-life balance of workers and their families ([179]) (see also Section 4.4. in Chapter 4). However, they can also be associated with voluntary choices.

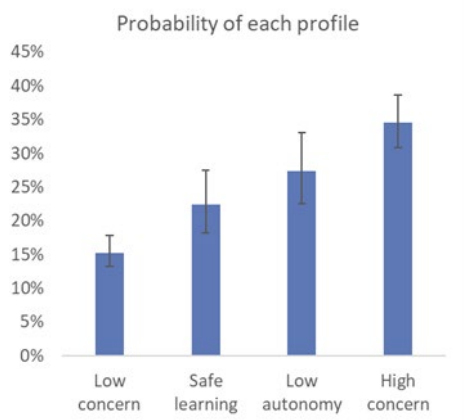
2.2.3. Worker's perceptions of job quality

Workers in the EU attach high importance to safe working environments (71%), good pay (67%), working hours (66%) and job security (65%) ([180]). Many workers would also like to see improvements in pay and benefits (68%), followed by working hours (31%), and job security (26%). Beyond concerns about individual factors, looking at profiles of worker preferences can give insights into which multiple job quality dimensions different types of workers care about.

Job quality preferences are subjective and depend on circumstances. Previous research shows that some workers care about job quality in a comprehensive way, some care about certain job characteristics only, and others show less concern overall ([181]). For example, less skilled workers tend to emphasise job security and good pay, whereas those with tertiary education highlight work safety, learning and autonomy ([182]). This sub-section uses 2024 European Working Conditions Survey data to analyse the most common job quality profiles demanded in the EU.

More than a third of workers have comprehensive job quality demands (high concern profile) (Chart 2.2). They consider all quality dimensions covered in the analysis as very important: good pay, good hours and manageable workloads, safe working environment, job security, opportunities to learn, and the ability to use own initiative (Chart 2.3).

Chart 2.2: **Estimated probability of belonging to a specific job quality profile**



Note: Based on a sample of workers aged 16-64. Job quality profiles identified through latent class analysis.

Source: DG EMPL calculations based on European Working Conditions Survey (2024) microdata.

About a fourth care about pay and working conditions but show less concern about learning and autonomy (low autonomy profile). They care about earning well within good working hours (80% probability or higher), and they also stress the importance of reasonable workloads, safe workplaces, and secure contracts. This goes a long way to satisfy their needs – they usually have fewer concerns about learning or use of own initiative.

Over 20% consider occupational safety important and have moderate concerns about learning and autonomy (safe learning profile). They consider safety a priority with a 74% probability and are almost 50% likely to care strongly about learning opportunities and use of own initiative at work. They show limited concern about other

([177]) (OECD, 2015b).

([178]) (Boeri, 2011).

([179]) (Campus-Ugaz, 2022).

([180]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026c) based on 2024 European Working Conditions Survey microdata.

([181]) (Hadju and Sik, 2015); (Gallie, 2019); (Esser and Lindh, 2018); (Hauff and Kirchner, 2014); (Kaasa, 2011); (Valero et al., 2024).

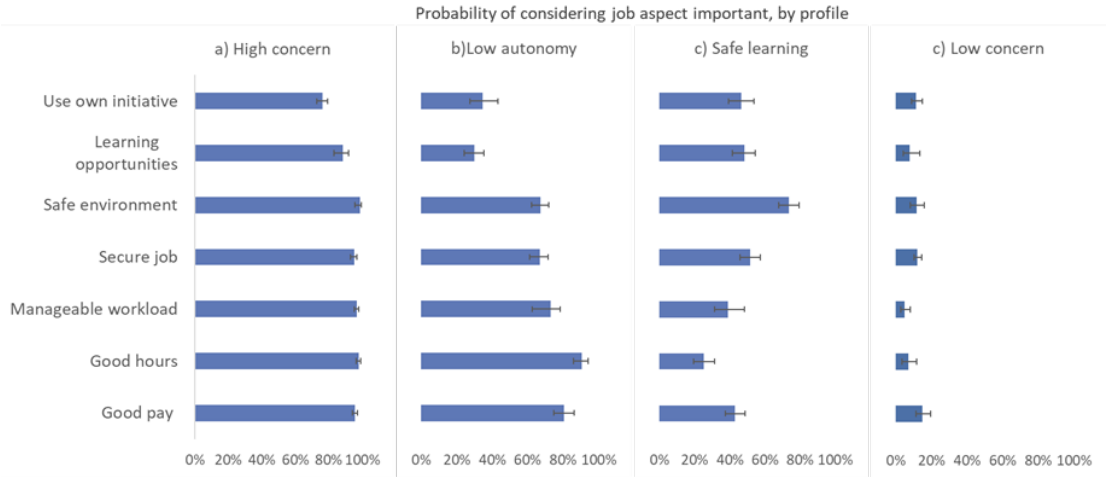
([182]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026c).

working conditions. Around 15% have limited job quality concerns (low concern profile) (Chart 2.2). They are 15% or less likely to consider job quality important, regardless of which quality aspect they are asked about.

Highly educated workers in skilled occupations are common in the high concern and safe learning profiles, whereas their less-skilled peers often belong to the low autonomy profile. The probability of the safe learning profile is 11 to 19 pp higher for tertiary educated workers, professionals and managers compared to their peers with lower educational attainment or in less skilled occupations. Professionals are also more likely to belong to high concern profile (by about 7 pp), suggesting that some among them have very comprehensive job quality demands ([183]). Lower skilled workers are primarily concerned about their lower pay and worse working conditions. They care considerably less about skill development or autonomy.

A high concern profile is common among migrant ([184]) workers who are 11 percentage points (pp) more likely to be highly concerned than EU-born population. It reflects their vulnerable position in the labour market, marked by high in-work poverty, work at atypical times and on temporary contract (see Section 2.4.), and low participation in training ([185]). There are no large differences in prevalence of the low concern profile across population groups.

Chart 2.3: **Estimated probabilities of considering a specific job characteristic as very important by job quality profile**



Note: Based on a sample of workers aged 16-64. Job quality profiles identified through latent class analysis.
Source: DG EMPL calculations based on European Working Conditions Survey (2024) microdata.

The prevalence of different job quality profiles varies from country to country. In the South and the East of Europe, the high concern profile is usually the most common, followed by the low autonomy one – together they tend to account for at least 70% of workers. Given that both these profiles emphasise the importance of good pay, their predominance can be linked to relatively low monthly earnings in some of the Southern and Eastern countries. In the North and the West, where earnings tend to be higher, the safe learning profile is more prevalent. It often accounts for the same proportion of workers as the low autonomy and high concern profiles. It is especially common in the Nordics, accounting for more than 30% of all employed. Such cross-country differences reflect different structures of national economies, which help shape some of the labour market outcomes crucial for job quality perceptions.

([183]) These depend on a range of reasons, including poor working conditions, better awareness of importance of all working conditions, or involvement in activities to promote workers' rights such as trade unions.

([184]) Defined as people born outside the EU, irrespective of citizenship.

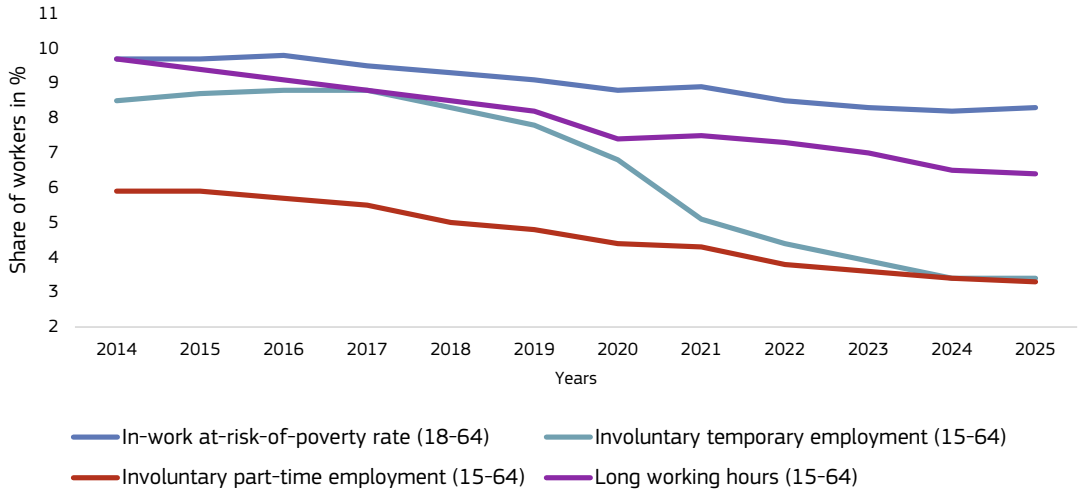
([185]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026c).

2.3. HOW HAS JOB QUALITY DEVELOPED IN THE EU?

2.3.1. Job quality dimensions have improved throughout the EU, but challenges remain

Adequate earnings and fair wages, job and career security, as well as working time have improved in the EU over the past decade (Chart 2.4). At the same time employment levels have risen to a record high on average across the EU (see Section 1.3.2. in Chapter 1). Improvements are particularly evident for the share of low-wage earners, which has decreased in the EU from 16.4% in 2014 to 14.7% in 2022, while in-work poverty decreased from 9.7% in 2014 to 8.3% in 2025 ([186]). Yet successive crises since 2019 have weighed on households' purchasing power in general, with overall real wages in 2026 set to be only 1.4% higher than in 2019 (see Section 1.4. in Chapter 1, also for country differences). Similarly, the share of workers who work part-time and could not find a full-time job has declined from 5.9% in 2014 to 3.3% in 2025 (Chart 2.4) ([187])([188]). In 2025, 6.2% of employed people in the EU worked long hours of equal to or more than 49 hours per week, down from 9.7% in 2014. Historically, the growth of part-time work for women has been a contributor to the decline in longer working hours in the EU, especially until 2014 ([189]).

Chart 2.4: **Trends in adequate earnings and fair wages, job and career security as well as working time indicators 2014-2025 in the EU-27**



Note: Here involuntary temporary employment is defined as 'no permanent job was found', given that for involuntary temporary employment there is a break-in-series for all Member States in 2021. The age ranges used are noted by indicator.

Source: Eurostat [ilc_iw01] [lfsa_eetpgar] [lfsa_etpgar] and [lfsa_qoe_3a2].

The share of employed people working at atypical times - encompassing different types of unsocial hours - fell from 38.6% to 32.6% between 2014 and 2025. This primarily reflects broad reductions in evening, night, and weekend work across most occupations and sectors ([190]). However, shift

([186]) Low wage is defined as two-thirds or less of the national median gross hourly earnings. This refers to all employees (excluding apprentices) working in enterprises with at least 10 employees operating in economic activities defined by NACE Rev. 2 sections B-N and P-S (excluding agriculture, forestry and fishing; and public administration and defence, compulsory social security). In work at-risk-of-poverty rate measures the share of persons who are employed and have an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers).

([187]) Involuntary part-time employment is defined as the reported inability to find a full-time position. Involuntary temporary work is measured as the inability to find a permanent position or the current job only being available on a fixed-term basis. For the reason 'job only available with a temporary contract' data is only available after 2021. As a result, there is a break-in-series that year for all Member States and we have excluded this reason in Chart 2.4. Definition differs for ES and FR in 2021-2024.

([188]) In terms of their historical development, involuntary temporary, as well as part-time, employment had previously expanded during the Great Recession, before contracting (Eurofound, 2026c).

([189]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023b); (European Central Bank, 2023).

([190]) Atypical working time refers to the share of workers reporting that they frequently work evenings, nights, Saturdays, Sundays, or in shifts.

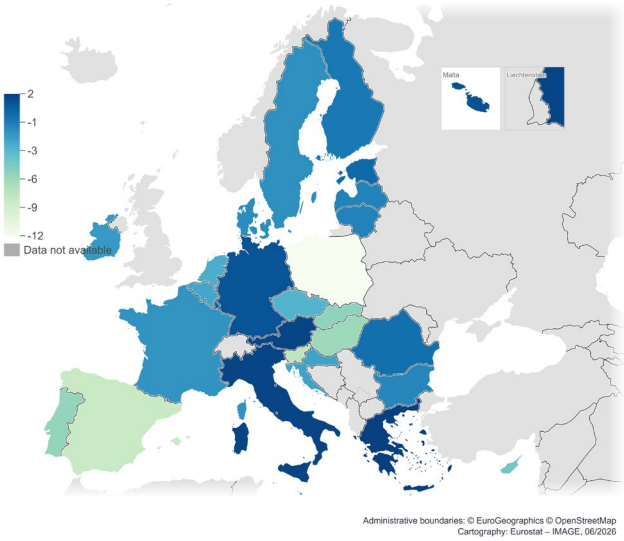
work specifically has not declined from 2014-2023, with this form of atypical work only recently decreasing slightly to 17.4% in 2025, from 18.1% in 2014. The growth of sectors where shift work is common (such as those related to healthcare and care activities) – not least due to demographic ageing – may in-part explain why shift work has not fallen on aggregate over ten years ([191]). At the same time, research has also highlighted the emergence of a 24/7 economy where many services are provided on a continuous basis, impacting particularly lower-skilled jobs, as an explanation for the lack of decline in shift work ([192]). Given that structural population ageing is expected to drive health care and long-term care demand, this also makes it likely that shift work will not decline across the EU in the immediate future.

2.3.2. Developments in job quality dimensions are varied across countries

Some countries showcase improvements in their share of low-wage earners. Declines in the share of low-wage earners from 2014-2022 were particularly pronounced in Portugal (-10.3 pp) and Slovenia (-9.1 pp). Lithuania also saw a relatively large decrease in low-wage earners (-6.1 pp) from nearly a fourth of workers being low-wage earners in 2014. However, a recent report by Eurofound found an overall widening of disparities across Member States for low-wage employment from 2017-2022 ([193]). Starting from respectively lower and higher shares of low-wage earners, increases for this group were pronounced in Belgium (+12.1 pp) and Bulgaria (+8.7 pp). Other countries such as Sweden (+1.4 pp) and Finland (+1.2 pp) also experienced some (albeit smaller) rises in inadequate earnings.

Several countries have seen declines in involuntary temporary employment. Involuntary temporary employment improved in Spain (-8.4pp) and Slovenia (-7.8pp) over a ten-year timespan. Both countries saw large improvements starting from much higher than EU average rates in 2014. On the other hand, shares of involuntary temporary employment particularly increased in Greece (+2.2 pp) and Italy (+2 pp), reaching much above EU average levels in 2024 (Chart 2.5). While Austria also experienced a slight increase (+2 pp), the rate remained below the EU average in 2024. Recent evidence points to a reduction in cross-country dispersion in involuntary temporary employment ([194]). Regarding involuntary part-time work, Ireland (-7.9 pp), Spain (-4.7 pp), Greece (-4.6 pp) and the Netherlands (-4.4 pp) saw sizeable improvements. Involuntary part-time work, however, increased in a few countries. These include Belgium (+2.5 pp), Estonia (+0.8 pp), Finland (+0.5 pp) and Czechia (+0.4 pp).

Chart 2.5: **Percentage points change in shares of involuntary temporary contracts by EU-27 countries**



Source: DG EMPL calculations based on breakdowns of Eurostat [lfsa_etpgar] for 2014-2024.

([191]) (Anttila, Harma and Oinas, 2021).

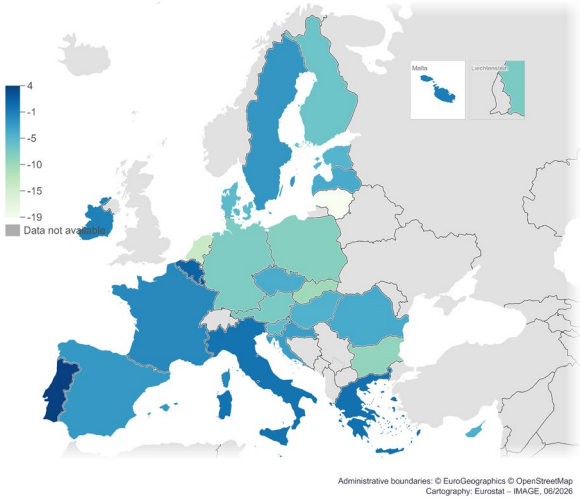
([192]) (Riekhoff, Krutova and Nätti, 2019).

([193]) (Eurofound, 2026a).

([194]) (Eurofound, 2026a).

While some countries experienced large improvements, cross-country disparities in atypical work also seem to have increased. Improvements within countries were most substantial for atypical working times, particularly in Lithuania (-19.5 pp), the Netherlands (-13.6 pp), and Slovakia (-10.3 pp), reaching rates below the EU average in 2024 (Chart 2.6). However, more workers are also doing their jobs at atypical working times in Portugal (+3.9 pp) and Luxembourg (+3.1 pp). Research by Eurofound also highlights that cross-country disparities widened overall for atypical working times across Member States. In general, a large majority of Member States saw improvements in long working hours. The prevalence of long working hours decreased particularly in Greece (-6.1 pp) and Czechia (-5.1 pp). Exceptions include Sweden (+2.2 pp), Lithuania (+0.7 pp), and the Netherlands (+0.3 pp), where in 2024 rates remained below or close to the EU average.

Chart 2.6: **Percentage points change in atypical working time rates by EU-27 countries**



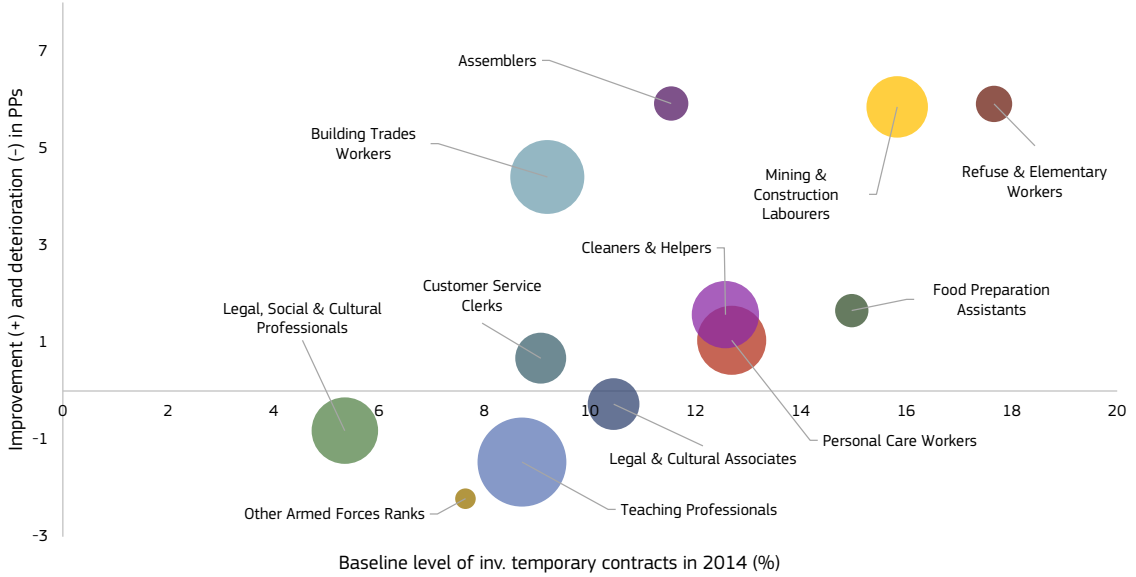
Source: DG EMPL calculations based on breakdowns of Eurostat [lfsa_esegatyp] for 2014-2023.

Job quality deteriorations across more than one of the selected indicators only occurred in a few countries. Overall, only a few countries - Belgium, Estonia, Greece, Luxembourg, Finland, and Sweden - experienced deteriorations in job quality for two or more of the selected indicators. Despite deteriorations in some job quality dimensions, all EU countries experienced increases in employment over the past decade (see also section 1.3.2. in Chapter 1) in a post-financial crisis context and through several crises. Beyond cross-country differences, disparities in wages, household incomes, and labour market outcomes are also increasingly driven by divergence within Member States, notably between capital or metropolitan regions and the remaining territories ([195]).

Some sectors and occupations have seen greater increases in job quality than others. Improvements in adequate earnings and job security are particularly pronounced in jobs with worse indicator scores, i.e. job quality performance within this dimension, to begin with. They encompass mostly manual labour-intensive occupations. On average in the EU the share of low-wage earners has declined by 1.7 pp from 2014 to 2022. Declines were more pronounced for personal service (-6.7 pp), care (-4.4 pp) - which both make up around 10% of jobs - and workers in the accommodation (-7.6 pp), and food and beverage sector (-7.2 pp). At the same time, agricultural (-8.4 pp) and both mining and construction workers (-5.9 pp) saw particular improvements in involuntary temporary work from 2014-2024 (Chart 2.7), relative to the EU average (-2 pp).

([195]) (European Commission, 2026a).

Chart 2.7: **Developments in the share of involuntary temporary contracts by select ISCO 2-digit occupations, 2014-2024, EU-27**



Note: Selected occupations based on the relevance of size, change, or baseline level. Size of the circles proxy the employment size of each occupation compared to the others. 36.7% of agriculture, forestry and fishery workers were involuntary temporary employment in 2014 and saw a large 8.4 pp decline (i.e. improvement) that is not depicted on the graph, due to being an outlier.

Source: DG EMPL calculations based on Eurostat [lfsa_egai2d] for 2024 and breakdowns of [lfsa_etgar] for 2014-2024.

Reductions in long and atypical working time have been strongest in higher-skilled sectors and occupations. Working time, both in terms of long working hours and atypical working times, improved more for managers and professionals, who together make up around 28% of the EU workforce. Long working hours were particularly reduced, from higher starting points, for senior managers (-11.5 pp) but also business and administration professionals experienced improvements (-5.1 pp). Sectors relevant to trade and infrastructure also saw greater than EU average (-3.2 pp) improvements in long working hours. This included jobs in the water transport (-8.3 pp), architecture and engineering (-6.1 pp), and wholesale trade (-5.4 pp) sectors. Senior managers (-9.4 pp), health (-6.7 pp), and ICT professional occupations (-6.3 pp) also saw substantial decreases in atypical work rates. Similarly, pronounced decreases relative to the baseline were observed in information and communication (–8.3 pp), real estate activities (–7.9 pp), and professional, scientific and technical activities (–5.5 pp) sectors. This indicates a move away from non-standard schedules in higher-skilled segments of the labour market.

For some jobs certain quality dimensions have deteriorated. This includes essential workers contributing to the functioning of the economy and society, who also make up a sizeable share of the workforce (see also Boxes 2.2 and 2.5). From 2014 onwards, building and related trades workers and teaching professionals have both seen slight deteriorations in adequate earnings and job and career security ([196]). These workers together make up nearly 10% of the EU workforce. In terms of magnitude, certain clerical support workers (+5 pp) ([197]) experienced the largest increases in low-wage earners. Workers in motion picture, television, sound, and music (+8.1 pp) and in arts & entertainment (+4.9 pp) have had particularly pronounced increases in involuntary temporary employment over ten years (Chart 2.7). Atypical working times have risen in particular for certain jobs that have comparatively worse scores across other job quality dimensions. These includes labourers in mining, construction, and transport (+2.9 pp) and food preparation assistants (+1.3 pp). At the same time, legal, social, and cultural associates (+4.2 pp) have also experienced a sizeable increase (Chart 2.8). This deterioration is consistent with a growing labour market segmentation of some atypical hours in lower quality jobs ([198]). For instance, from 2014-2023 shift work has increased for sales workers (+6 pp) and food preparation assistants (+5.3 pp).

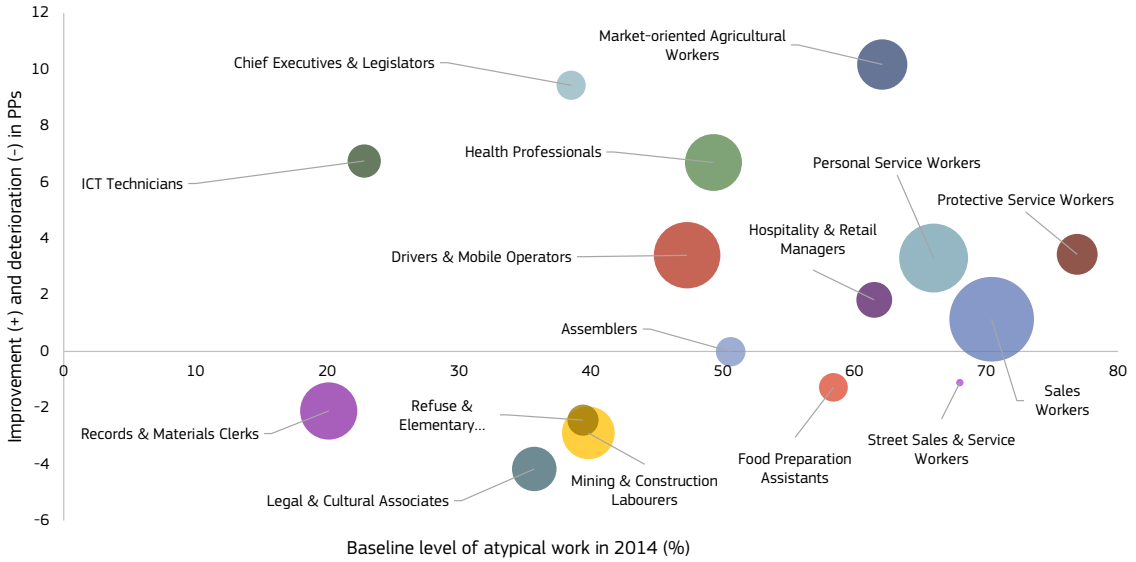
([196]) Based on the latest available data, teaching professionals saw increases in involuntary temporary contracts and building and trades workers in involuntary part-time work, with both experiencing increase in the share of low-wage earners.

([197]) Specifically, the category 'other clerical support workers'. This encompasses jobs such as library clerks, mail carriers and coding, proofreading, and related clerks.

([198]) (Riekhoff, Krutova and Nätti, 2019).

These also experienced slight increases in night/evening work and weekend work. Refuse workers and other elementary occupations experienced increases in shift (+3.5 pp), evening (+1.7 pp), Saturday (+0.8 pp) and Sunday (+2.2 pp) work.

Chart 2.8: **Developments in the share of atypical work by select ISCO 2-digit occupations, 2014-2023, EU-27**



Note: Occupations selected based on the relevance of size, change, or baseline level. Size of the circles proxy the employment size of each occupation compared to the others.

Source: DG EMPL calculations based on Eurostat [lfsa_egai2d] for 2024 and EU-LFS microdata for 2014-2023.

2.4. WHO EXPERIENCES BETTER AND WORSE JOB QUALITY?

2.4.1. Job quality differs by characteristics of workers

Job quality varies by educational attainment, gender, age, disability, migrant, and employment status. Understanding these differences is essential - not only to identify systemic inequalities in the labour market but also to design targeted policies that foster fairer and more inclusive workplaces. This section examines job quality through a demographic lens in three steps. First, it presents descriptive statistics across earnings, job and career security, and working time dimensions. Due to data limitations, the analysis focuses mainly on employees, while the findings on the self-employed are presented separately to the extent possible ([199]). Although these statistics highlight some key divides, it remains unclear to what extent they overlap or interact. To address this, the second step uses regression models to disentangle the effects for each job quality indicator. Finally, adding occupational controls allows to compare employees in similar jobs.

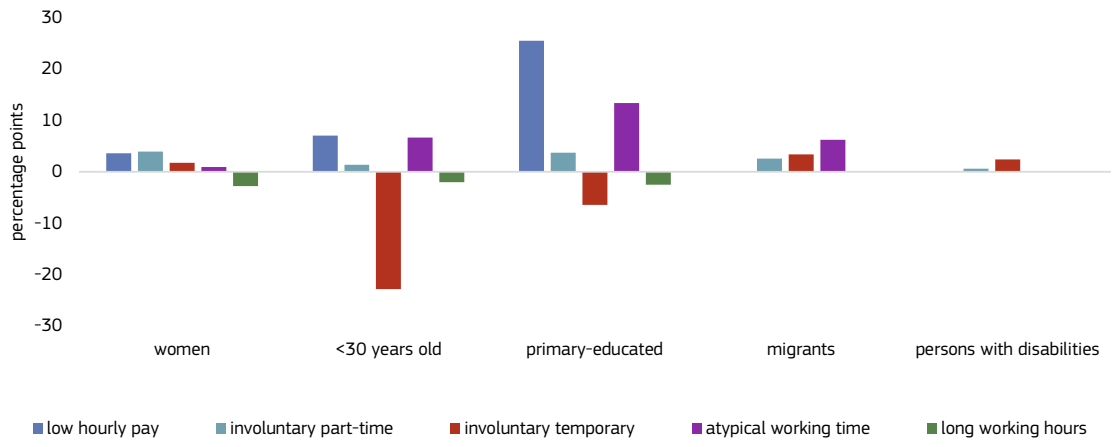
Lower-educated workers are paid less and experience significantly higher in-work poverty. 27.5% of workers with at most primary education are low-wage earners, compared to 17.5% for workers with secondary and just 4.8% for those with tertiary education. Their median monthly earnings ([200]) are up to EUR 1 300 lower (EUR 1 817 vs EUR 2 203 for those with secondary and EUR 3 104 for those with tertiary education). This translates into respectively 2 times and 5 times higher in-work poverty rates, 14.7%, as compared to 6.6% for secondary- and 2.8% for tertiary-educated workers.

Workers with primary education only are more exposed to less secure jobs and atypical work schedules. They face higher rates of temporary (20.7% vs 12% for secondary- and 10.7% for tertiary-educated workers) and part-time (24.2% vs 19.1% for secondary- and 15% for tertiary-educated workers) employment. Involuntary arrangements are also more common: 9.6% for involuntary temporary

([199]) Where available, Eurostat data is used as indicated. The remaining figures are DG EMPL calculations.

([200]) This refers to median monthly earnings adjusted for purchasing power standard (PPS) which eliminates cross-country price differences and enables more accurate comparisons of purchasing power of wages across occupations and sectors.

Chart 2.9: **Estimated probabilities of key indicators by demographic group**



Note: Low hourly pay not available for migrants and persons with disabilities. Atypical working time not available for persons with disabilities. All estimates significant at 1% significance level, except for involuntary temporary employment for persons with disabilities (significant at 5% significance level). Reference categories in parenthesis: women (men); <30 years old (aged 50-64); primary-educated (tertiary-educated); migrants (EU-born); persons with disabilities (persons without disabilities).

Source: DG EMPL calculations using Eurostat SES 2022 and EU-LFS 2023 and 2024 data.

(vs 5.7% for secondary- and 6% for tertiary-educated workers) and 6.6% for involuntary part-time (vs 3.3% and 2.1%, respectively) employment. Compared to workers with tertiary education (16.8%), atypical work schedules are 2 times more prevalent among workers with primary education (33.7% vs 26.5% for those with secondary education). However, long working hours (49+ per week) are less common for primary-educated workers (2.7%) than for secondary- (2.6%) or tertiary-educated (4.8%) workers.

Women earn less than men but face lower in-work poverty rates. Women's median monthly earnings stand at EUR 2 220, compared to EUR 2 502 for men. Also, a higher share of women (17.1%) are low-wage earners (vs 12.6% for men). Yet, fewer female employees (6%) experience in-work poverty than men (6.6%) which may be partly explained by differences in household income pooling among couples. However, many especially older women, and women with lower educational level, migrant status or disabilities are outside the labour market, contributing to higher overall poverty rates among women aged 18 or over (16.5% vs 14.5% for men) ([201]).

Women experience greater job insecurity but work fewer long hours of paid work. The share of women in temporary (13.6%) and involuntary temporary employment (7%) is higher than for men (12% and 5.8%, respectively) ([202]). Female employees also work part-time far more often (28.8% vs 8.5% for men) which is partly linked to their greater needs in balancing employment with caregiving responsibilities and the persisting gender care gap ([203]). In fact, more than 1 in 4 part-time working women indicate care responsibilities as the main reason for part-time work, compared to less than 10% for men. At the same time, women also report more involuntary part-time work (5% vs 1.9% for men). As regards working time, women (2%) are half as exposed to long hours as men (4.6%), likely due to caregiving duties and higher number of unpaid hours ([204]). Atypical work schedules show minimal gender differences.

Younger workers earn less and face higher risk of in-work poverty when living alone. The share of low-wage earners under 30 (25.1%) is roughly double that of older groups (12.1% for those aged 30-49 and 13.4% for those aged 50 and above). Their median monthly earnings are also around EUR 500 lower - standing at EUR 1 984 (vs EUR 2 437 for workers aged 30–49 and EUR 2 512 for those aged 50 and above). Younger employees living alone face in-work poverty rate which is up to twice as high as for

([201]) Eurostat [ilc_iw01]; Eurostat [ilc_li02].

([202]) Eurostat [lfsa_etpgan].

([203]) More information on the Gender Equality Strategy 2026-2030.

([204]) Eurostat [lfsa_qoe_3a2].

other age groups (14.1% vs 7% for those aged 30-49 and 9.1% for those aged 50-64) ([205]). Staying in parental homes is a common coping strategy among young people, with a much lower in-work poverty rate of 6.1% among young employees living with other household members.

Younger workers hold less secure jobs and have more atypical schedules. Nearly one-third of workers under 30 are in temporary employment - almost 6 times the rate of those aged 50–64 (5.8%). Around 1 out of 5 younger workers is on a temporary contract due to apprenticeships, while 1 out of 8 reports not wanting a permanent position. When focusing solely on involuntary temporary work, the gap between younger and older workers narrows to threefold (11.7% vs 3.7%, respectively). Younger workers are also more exposed to part-time employment (23.9% vs 18.7% for workers aged 50-64), with over half citing education or training as the main reason. They somewhat more often report part-time employment to be involuntary (4.4% vs 3.4% for workers aged 50-64). Almost one-third of employees under 30 work atypical schedules, compared with up to 23% for other age groups. Conversely, the prevalence of long working hours somewhat increases with age, from 2.3% among workers under 30 to 4% for those aged 50-64. Low-quality work, characterised by low or stagnant earnings and unpredictable working hours, can delay the transition to financial independence and affect decisions around partnership formation and childbearing ([206]). By contrast, predictable working hours and the possibility to adjust working patterns can reduce tensions between employment and care responsibilities, particularly for women ([207]).

Migrants experience challenges across all three job quality dimensions. They face 3 times higher in-work poverty rates than employees born in the EU (16.5% vs 5.1%, respectively). Their prevalence of temporary (19.1% vs 12.1%, respectively) and part-time (23% vs 17.7%, respectively) employment is also higher, with migrants being twice as exposed to both involuntary temporary (10.7% vs 5.9%, respectively) and involuntary part-time (6.9% vs 3%, respectively) employment. Migrants work more atypical schedules (33.3% vs 22.9% for EU-born), though rates of long working hours are comparable.

Persons with disabilities face higher rates of in-work poverty and part-time work. 7.8% of employees with disabilities experience poverty as compared to 6.1% of employees without disabilities ([208]). The gap almost doubles when considering overall poverty rates, partly reflecting the high disability employment gap (24 pp on average in the EU in 2024). Further, employees with disabilities are 2 times more exposed to part-time work, with around one-third citing own illness or disability as the main reason. Involuntary part-time employment is also higher among persons with disabilities (4.1% vs 3.6% for persons without disabilities). By contrast, the incidence of temporary employment (12.3%), involuntary temporary employment (6.1%), and long working hours (3.5%) is slightly lower for persons with disabilities (vs 13.2%, 7% and 3.6% for persons without disabilities, respectively).

The self-employed are also exposed to significantly higher rates of in-work poverty, atypical schedules and long hours. Their in-work poverty rate is more than 3 times that of employees (20.9% vs 6.3%, respectively), with almost 1 out of 3 self-employed in single-person households being at-risk-of-poverty (30% vs 9.1% for employees), although income from self-employment is known to be underreported in surveys. Beyond financial struggles while working, the self-employed also face gaps in social protection, leaving them more vulnerable in cases of unemployment, sickness, or retirement (see Chapter 4.) ([209]). Further, nearly half of the self-employed work atypical schedules (44.7%), substantially above the rate for the employees (24%). Also, the self-employed are 8 times more exposed to working long hours (28.9% vs 3.5% for employees). This figure rises to 41% for the self-employed workers with employees, reflecting the dual burden of securing their business' success while managing staff.

([205]) In-work poverty is a multifaceted challenge shaped by job quality, intensity of employment and the structural characteristics of the household (D'Aguanno, Guio and Van Kerm, 2026); (European Commission, 2026i). Focusing on single working persons helps to isolate the effects of job quality, work intensity and worker's characteristics from those of household composition. However, this approach does not capture the structural constraints that may prevent some individuals from forming their own households or force them to cohabit.

([206]) (OECD, 2024b).

([207]) Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers and repealing Council Directive 2010/18/EU (OJ L 188, 12.7.2019, p. 79).

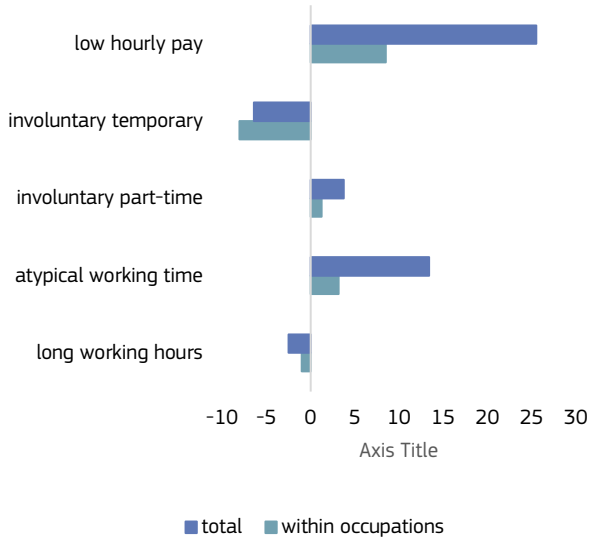
([208]) Eurostat [hlth_dpe050].

([209]) (Eurofound, 2024b).

Most of the observed differences across groups persist even after controlling for other factors (Chart 2.9). Having only primary education is most strongly associated with low hourly pay and atypical working time, increasing these risks by +25.5 pp and +13.4 pp, respectively. Being under 30 is the second strongest factor, raising these risks by +7.1 pp and +6.7 pp, respectively. However, younger workers are by far less likely to hold temporary positions involuntarily when other factors are taken into account. This could be partly linked to younger workers with little experience perceiving temporary jobs as a stepping stone to the labour market (see Chapter 3.3.). A clear gender disparity exists in involuntary part-time employment, with women facing a +4 pp higher probability than men. Migrants experience higher risks across nearly all analysed indicators, except for long working hours. This may explain migrants' heightened concerns regarding job quality (see Section 2.2.3.). Meanwhile, having a disability does not appear to significantly shape job quality risks.

The type of occupation a person works in largely explains job quality disparities among demographic groups, especially for lower-educated workers. When considering differences within specific occupations, estimated probabilities for most demographic characteristics either decline in magnitude or become statistically insignificant (see Annex A2.2.). This suggests that people in situations of vulnerability more often work in occupations with poorer job quality. Among the different circumstances associated with vulnerability, educational attainment stands out as particularly relevant as its association with job quality changes most once occupational differences are taken into consideration. For instance, for workers with only primary education, the type of occupation accounts for two-thirds of the elevated risk of low hourly pay and three-quarters of the higher probability of atypical working schedules (see Chart 2.10). In particular, workers in elementary occupations, sales and services workers, and plant and machine operators, and assemblers face a substantially higher risk for both indicators. This implies that lower education primarily restricts access to higher-quality jobs rather than creating disadvantages within comparable roles.

Chart 2.10: **Differences between total estimated impacts and impacts within occupations for workers with at most primary education**



Note: Tertiary-educated workers as reference category. All estimates significant at 1% significance level. Model with occupations includes occupations at ISCO-1-digit level.

Source: DG EMPL calculations using Eurostat SES 2022, and EU-LFS 2023 and 2024 data.

2.5. WHERE ARE THE HIGHER AND LOWER QUALITY JOBS IN THE EU?

2.5.1. The quality of jobs differs greatly across sectors in the economy

Jobs in the ICT sector are better paid and more secure. Overall, jobs in the ICT, finance and insurance, manufacturing, and public administration sectors score better than the EU average across all the indicators - for which data is available - and make up around one third of the EU workforce (Chart 2.11). The finance and insurance and ICT sectors had amongst the lowest shares of low-wage earners (3.3% and 4.8%), involuntary temporary employment (1.9% and 3.7%), as well as atypical working times (12.7% and 15.4%). Retention of highly skilled workers, including through better job quality, in the ICT sector can be considered important for reaping the benefits of the digital transition and strengthening the EU's competitiveness. Currently this sector represents 4% of the EU workforce, with women still being underrepresented and making up only 19.4% of ICT workers in 2024. The professional, scientific and technical activities sector also has better scores across most dimensions, except for long working hours.

Chart 2.11: **Heat map of sector group (NACE 1-digit) job quality scores across select indicators, as compared to the EU-27 average**

Scores	Sectors in the EU	# Workers (ths)		Low-wage	Involuntary temporary	Involuntary part-time	Long working hours	Atypical working time
	Sectors with better scores across the select indicators							
0	Public administration and defence; compulsory social security	14124	7%	na	5.9	1.3	2.8	20.9
0	Water supply; sewerage; waste management and remediation activitie	1699	1%	10.3	5.4	na	3.1	27.2
0	Information and communication	7917	4%	4.8	3.7	1.1	6.2	15.4
0	Financial and insurance activities	5543	3%	3.3	1.9	na	6.5	12.7
0	Manufacturing	31161	16%	10.4	3.9	0.8	4	33.1
1	Professional; scientific and technical activities	11946	6%	7.2	4.2	1.5	9.8	16.9
1	Construction	13829	7%	12.2	5.1	1.1	10.2	13.3
1	Real estate activities	1697	1%	14.2	3.1	na	8.6	21.3
2	Education	14976	7%	7.1	11.6	4.7	3.6	18.8
	Sectors with worse scores across the select indicators							
3	Transportation and storage	10803	5%	16.5	5.4	2.3	9.1	44.5
3	Human health and social work activities	22495	11%	10.7	6.9	4.2	3.8	42
4	Wholesale and retail trade; repair of motor vehicles and motorcycles	26929	13%	20.6	4.8	4.1	6.8	48.1
4	Administrative and support service activities	8180	4%	32.3	8.2	8.8	4.8	32.7
4	Agriculture; forestry and fishing	6370	3%	na	19.6	3.1	21.2	49.7
4	Arts; entertainment and recreation	3435	2%	22.2	14.1	7.6	5.8	50.3
5	Other service activities	4911	2%	21	7.3	6.3	6.8	41.7
5	Accommodation and food service activities	9656	5%	35.0	11.8	8.6	10.4	73.0

Note: The heatmap uses a three-colour scale ranging from green (lower shares), through yellow (values around the EU average), to red (higher shares). The score indicates the number of indicators in which a sector performs worse than the EU average. Sectors with worse scores across the selected indicators are defined as those performing worse, i.e. higher, than the EU average in at least 3 indicators.

Source: DG EMPL calculations based on breakdowns of Eurostat [earn_ses_pub1s] for 2022, [lfsa_etgar] for 2024, [lfsa_eetpgar] for 2024, [lfsa_qoe_3a2] for 2024, and EU-LFS microdata for 2023.

Accommodation, food, and other service activities sectors have comparatively worse earnings, security, and working times. These sectors together account for around 7% of EU employment and have a large share of occupations with worse scores across the analysed job quality dimensions. Certain jobs within these sectors are also experiencing labour shortages. In accommodation and food service and administrative and support service activities around 1 out of 3 workers earns a low gross hourly wage (Chart 2.11). Accommodation and food services also have amongst the highest shares of involuntary part-time work (8.6%) and atypical working times (73%), due to service-specific opening hours or seasonality. This sector is mostly made up of personal service workers (42.8%), such as cooks, waiters, and housekeeping related workers. Specifically, 40% of food and beverage servers are low-wage earners and have substantially higher than average involuntary temporary and part-time work rates. The lacking job and career security is also in part due to the cyclical demand for these jobs. As mentioned, labour shortages are considered a significant challenge, especially for cooks and waiters, with an increased number of workers leaving these jobs since the COVID-19 pandemic having contributed to these gaps ([210]).

Essential workers in human health and social work and education have lower job and career security. These are two sectors key to the functioning of the EU's economy and society, making up 18% of the EU workforce and are predominantly knowledge-intensive. The education sector has close to double the EU average share of workers who are on fixed-term contracts involuntarily (see Box 2.2). The human health and social work sector also struggles with job and career security. This sector includes occupations experiencing persistent labour shortages, such as professionals providing long-term care for older persons, who are also becoming more important in the context of demographic ageing ([211])(see Box 2.5). Within it, one in five workers engaged in social activities – including nursery workers and carers for the elderly without accommodation - are low-wage earners and residential care workers are more often on involuntary fixed-term contracts.

([210]) (European Labour Authority, 2024); (European Labour Authority, 2025).

([211]) (European Labour Authority, 2025).

Box 2.2: Job quality in education

A high number of teaching professionals will be needed in the future. The education sector ([1]) employed around 14.9 million workers in 2024 (7% of total EU employment) and is considered knowledge-intensive. Teaching professionals make up the majority of this workforce (64%, or 9.6 million) and ranks among the top three occupations with higher future employment needs ([2]). Driven by factors such as an ageing workforce and a declining supply of graduates (Thomas Dotta et al., 2025), persistent shortages highlight the importance of job quality for the sector's attractiveness.

Low pay is less widespread but involuntary temporary work is relatively high and rising. Low-wage earners make up 7.1% of employment in the education sector. This share is below the EU average across sectors (14.7%) and has decreased by 0.9 pp since 2014. Higher shares of low pay in Latvia (32%), Estonia (21.1%) and Lithuania (17.7%) raise concerns about pay adequacy. Involuntary temporary employment affects 11.6% of education workers, well above the EU average (6.4%), and has increased by 1.5 pp since 2014. The issue is particularly pronounced in Finland (26.1%), Italy (21.9%), Spain (20.9%), Greece (19.4%) and Cyprus (18.6%). Trends have worsened in most of these countries (except Cyprus), with especially sharp deteriorations in Italy (+11.0 pp), Austria (+9.4 pp) and Lithuania (+7.8 pp). This division can be partly explained by a segmentation of the sector between workers with secure public-sector status and those on temporary contracts.

Working time in education is more manageable than the average across sectors. The sector has lower shares of long (3.6% vs 6.5% EU average) and atypical hours (18.6% vs 33.9%), both declining since 2014 (−0.5 and −3.4 pp). While some countries show higher levels - long hours in Portugal (8.0%) and France (7.2%) and atypical hours in France (32.0%), Italy (29.2%) and Greece (26.4%) - these remain below the EU average. Yet, teachers face particular challenges. Only around half of teachers' working time is spent on teaching, with overtime often devoted to other tasks (e.g., grading, administrative, lesson planning, dialogue with peers), especially at higher education levels, and not always reflected in wages (Boeskens and Nusche, 2021). Administrative workload remains a key source of stress, affecting around 50% of teachers across OECD countries. It has been found that stress can be driven less by general resource shortages and more by frequent, unsupported changes in teaching requirements (OECD, 2025a).

([1]) The education sector is measured at 1-digit level (P).

([2]) Based on Cedefop's Skills Intelligence database (Future employment needs | CEDEFOP). The future employment needs indicator captures the sum of future needs that will arise due to a) the need to replace existing workforce and b) the need to cover new jobs because the economy is growing.

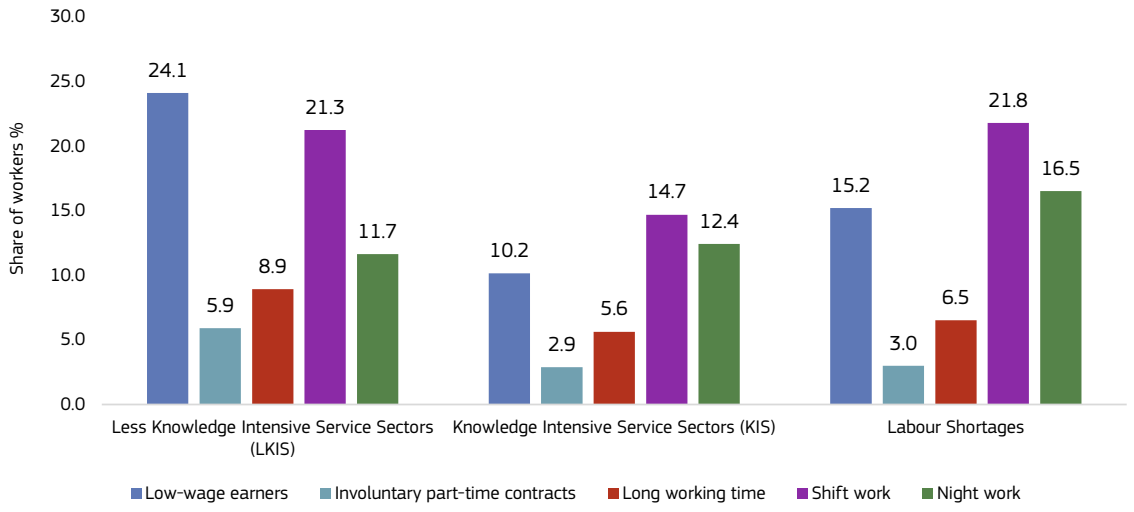
Knowledge-intensive service sectors generally have better job quality. Based on Eurostat's definition, knowledge-intensive services (KIS) ([212]) include high-tech, market, financial and other service sectors, such as human health, education, and social work, which employ at least 33% of tertiary educated persons in the EU. Less knowledge-intensive service sectors (LKIS) ([213]), as defined by Eurostat, include sectors such as accommodation and food services and postal and courier activities, requiring workers to have lower levels of education ([214]). Overall, 83.2 million Europeans are working in KIS, while 61.3 million are employed in LKIS. Overall, KIS sectors have better, i.e. lower, than EU average scores across the adequate earnings, job and career security, and working time dimensions (Chart 2.12). However, involuntary temporary employment remains similar across both types of sectors. Except for night-work, all other dimensions fare worse, i.e. are higher, in less knowledge-intensive service sectors, as compared to the EU average. While working on Saturdays is higher than the EU average in both of these groups of sectors, for less knowledge-intensive industries this form of atypical work is higher by 20 pp.

([212]) Based on Eurostat's definition, these include NACE 2-digit level subsectors: 50, 51, 58, 59, 60, 61, 62, 63, 64, 65, 66, 70, 71, 72, 73, 74, 75 78, 80, 84, 85, 86, 87, 88, 90, 91, 92, 93.

([213]) Based on Eurostat's definition, these include NACE 2-digit level subsectors: 45, 46, 47, 49, 52, 53, 55, 56, 68, 77, 79, 81, 82, 94, 95, 96, 97, 98, 99.

([214]) Services are mainly aggregated into knowledge-intensive service sectors (KIS) and less knowledge-intensive service sectors (LKIS) based on the share of tertiary educated persons at NACE 2-digit level.

Chart 2.12: **Shares of job quality dimensions across LKIS, KIS and labour shortage occupations**



Note: For low-wage earners in labour shortage occupations, data for AT, HR, HU, IE, NL, RO, SE, SI are missing. The EU average across sectors for low-wage earners is 14.7%, for involuntary part-time contracts is 3.4%, for long working time is 6.5%, for shift work is 18.0%, and for night work is 12.9%.

Source: DG EMPL calculations based on extractions of Eurostat [earn_ses_pub1s] for 2022, [lfsa_eetpgar] for 2024, [lfsa_qoe_3a2] for 2024, and EU-LFS microdata for 2023.

In labour shortage occupations atypical working times are higher than and low pay slightly above the EU average. Labour shortages occupations span a wide variety of jobs, including health care, construction, skilled trades, ICT, manufacturing, and hospitality workers ([215]). In 2024, 45.3 million workers were employed in current and future labour shortage occupations. Shortages in these jobs are in-part driven by skills shortages, demographic change, lacking labour market participation of underrepresented groups and, in certain cases, the comparatively worse job quality. The most recent European Investment Bank (EIB) survey also found that 79% of firms identified shortage of skilled labour as a barrier to investment ([216]). Specifically, certain labour shortages occupations have been identified to have higher job strain, as compared to the EU average, concentrated in sectors such as healthcare, transport, accommodation and food, and construction ([217]). In general, labour shortage occupations have a slightly higher than EU average rate of low-wage earners (15.2% vs 14.7%) (Chart 2.12). Recent research has also found that sectors with higher labour shortages generally experienced lower wage growth, indicating that labour shortages do not systematically lead to upward wage adjustments ([218]). These workers do more nightwork and Sunday work than average, as well as slightly more shift work (21.8% vs 18% in the EU). They also have a much higher than average (more than 20 pp) share of work done in the evenings and Saturdays.

Box 2.3: Job quality in manufacturing

Manufacturing is central to the EU's strategic autonomy. It is a key sector to the Union's capacity to produce critical goods, maintain technological and industrial capabilities, and reduce dependencies in strategic value chains. It is also a key employer, accounting for 16% of the EU workforce (31.1 million workers) ([1]). Germany alone accounts for nearly a quarter of EU manufacturing jobs. Together with Italy, France, Spain and Poland, these countries represent around two-thirds of total employment in manufacturing. Recent employment trends raise concerns. Since 2022, EU manufacturing employment has declined by 524.700 workers. Driven by, among others, competition from outside the EU, structural energy costs, and automation, these job losses were significant in Germany, while Italy, France and Poland are already showing signs of recovery. In Germany, job losses have been concentrated in key industrial subsectors, including the manufacture of motor vehicles, electrical equipment, and machinery and equipment ([2]). At the same time,

([215]) In the context of the EU Talent Pool proposal, the Commission has identified 42 EU-wide labour shortage occupations, including based on European Labour Authority reports using PES data.

([216]) (European Investment Bank, 2025).

([217]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023a).

([218]) (European Commission, 2026h).

employment has grown in other areas, mainly in the manufacture of chemicals, pointing to an ongoing reallocation within the sector rather than a uniform decline. This reallocation had in addition a marked territorial dimension ([3]). This shift is particularly relevant given that a significant share of skills in manufacturing is highly transferable to strategic industries such as defence ([4]). Against this background, job quality is key to sustaining the sector's attractiveness and transitions.

Manufacturing has comparatively good job quality. Manufacturing jobs score better than the EU average across all the selected job quality dimensions (see Chart 2.11). Specifically:

- **Low-wage employment is below the EU average but highly concentrated in subsectors and countries.** Overall, 10.4% of manufacturing workers are low-wage earners - compared to 14.7% for total workers - down by 2 pp since 2014. Yet, the incidence is higher in labour-intensive subsectors such as wearing apparel (38.9%), leather and related products (22.1%), food products (20.8%) and wood products (20.4%). At country level, low-wage employment is particularly prevalent in Bulgaria (30.3%), Romania (25.5%) and Cyprus (23.5%). Strong improvements were seen in Portugal and Croatia, while deteriorations occurred in Romania, Bulgaria and Belgium.

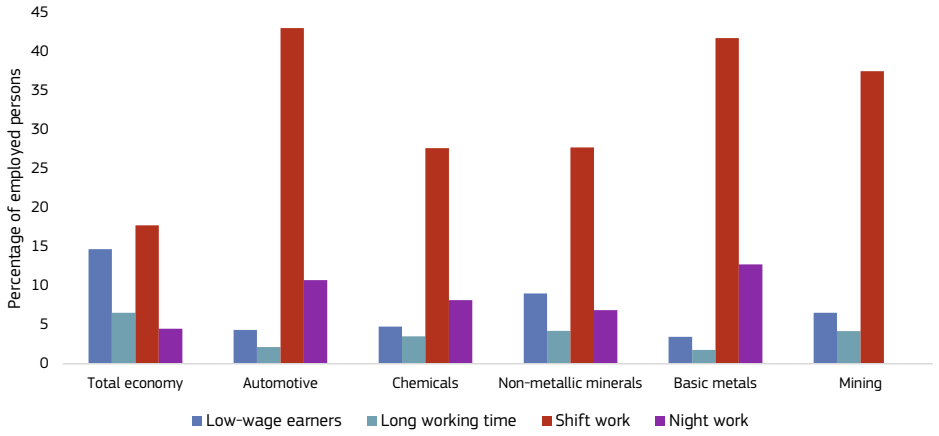
- **Contracts and working times have been improving in the manufacturing sector, but shift-based production is very prevalent in some countries.** Involuntary temporary employment stands at 3.9% - compared to 6.4% on average across sectors - and has decreased by 3.2 pp since 2014. Spain (6.9%), Italy (6.6%), Poland (6.4%) and France (6.0%) remain slightly above the sectoral average, although trends have been broadly improving. Similarly, long working hours are below the EU average (4.0% vs 6.5%) and atypical working time is close to the EU benchmark (33.1% vs 33.9%). Nevertheless, some countries such as Greece (54.6%), Romania (47.6%), Slovakia (42.3%), Luxembourg (40.7%) and Poland (40.7%) have greater incidence of atypical hours, reflecting country-specific employment structures (e.g., the prevalence of shift work linked to production processes).

([1]) Eurostat [lfsa_egan2].
([2]) Eurostat [lfsa_egan22d].
([3]) (European Commission, 2026a).
([4]) (Hlavac and Tanzarella, 2026).

Energy-intensive industries are a cornerstone of the EU's economy, with earnings and job security currently being comparatively high. They encompass sectors classified as "declining" under the Just Transition Mechanism, as well as "transforming" sectors with energy-intensive and often greenhouse gas emission-intensive processes and outputs. Energy-intensive industries include the following industrial sectors: automotive, chemicals, non-metallic minerals, basic metals, and mining ([219]). Although these industries only account for around 4% of total EU employment ([220]), they are firmly anchored in many regional production systems and strategic value chains. The proportion of low-wage earners is markedly lower in energy-intensive industries than in the broader economy (5% versus 15%). The share is particularly low in the basic metal and automotive and chemical industry (see Chart 2.13). The prevalence of involuntary temporary contracts and involuntary part-time work is also lower in energy-intensive industries than in the wider economy ([221]).

([219]) These sectors correspond to codes C29, C20, C23, C24 and B of the 'Statistical Classification of Economic Activities in the European Community' (NACE), Rev. 2.
([220]) Eurostat [lfsa_egan22d], EU LFS 2024, accessed on 26/03/2026.
([221]) Based on an EU LFS extraction requested to Eurostat on 21 January 2026.

Chart 2.13: **Selected job quality indicators for earnings and working time in energy-intensive industries**

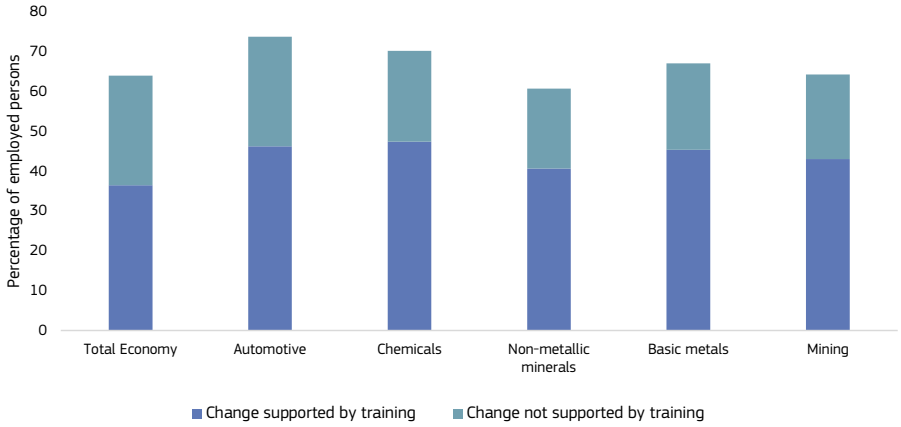


Note: Data are based on an extraction requested to Eurostat on 21 January 2026. Estimates for the share of employed persons working at night in the non-metallic minerals industry are not reliable due to small sample size and should be interpreted with caution. Estimates for involuntary part-time contracts and night work for the mining sector are not shown due to low sample sizes.

Source: Eurostat [earn_ses_pub1s] for 2022, [lfsa_qoe_3a2] for 2024, [lfsa_ewpnig] for 2023 and [lfsa_ewpshi] for 2023.

Working time patterns in energy-intensive industries reflect their continuous production processes and show a mixed picture. On the one hand, long working hours and weekend work are less prevalent than in the economy as a whole. On the other hand, shift and night work are considerably more widespread, particularly in the automotive and the basic metals industry (Chart 2.13). This pattern is consistent with the continuous production logic of large-scale industrial plants, where multi-shift systems are employed to maximise capital utilisation ([222]).

Chart 2.14: **Share of workers in energy-intensive industries experiencing change, 2022-2023**



Note: Share of employed responding "Marked" to one of the questions on changed working environment: Machinery; Information, and communication technologies; Working methods and practices; Outsourcing and relocation practices; Products or services; The amount of contact you have with clients or customers (question H2_Q18a).

Source: PIAAC, 2nd Cycle.

Workers in energy-intensive industries are increasingly exposed to transition-related pressures, which may impact job quality and raise training needs. Despite relatively favourable working conditions, strong global competition and higher and volatile energy prices pose significant challenges to these industries ([223]). In addition, the twin green and digital transformation are reshaping production processes and thereby altering skills requirements. These pressures lead to widespread

([222]) (OECD/European Commission, 2026).

([223]) European Commission, Impact Assessment report, Proposal for a Regulation of the European Parliament and of the Council establishing a framework of measures for the acceleration of industrial capacity and decarbonisation in strategic sectors and amending Regulations (EU) 2018/1724, (EU) 2024/1735 and (EU) 2024/3110 [ef967653-d886-4c14-a68a-65ea6ef25bce_en].

changes in the working environment in some of these industries, which are not consistently matched by adequate training support. Evidence from the OECD Survey of Adult Skills (PIAAC) shows that workers in the automotive, chemicals, and basic metals industries are more likely than average to report substantial changes in their working environment (Chart 2.14). Although training is provided more often alongside these changes than in the broader economy, important gaps remain. Only around two-thirds of workers report receiving such support, with an even lower share in the automotive sector.

In addition, on-going labour market challenges are in part related to climate change and environmental degradation. New and emerging occupations relevant to the green transition (e.g. renewable energy engineers and green policy planning managers) have higher job quality (fewer physical risks and demands), as compared to the EU average ([224]). On the other hand, however, environmental and climate trends also affect job quality, for example in the form of heat, air pollution, UV radiation and natural disasters which, all together, take a significant toll on labour productivity and economic output ([225]). At the same time, shortages for green jobs and skills are high, with the global demand for green skills increasing more than twice as fast as supply. This rapidly widens the mismatch between labour demand and supply. Based on current trends, as a result nearly 1 in 5 jobs requiring green skills could go unfilled by 2030 ([226]). In 2025, highly green occupations accounted for 11% of all shortage occupations ([227]). Plumbers and pipe fitters, air conditioning and refrigeration mechanics, roofers, insulation workers and civil engineering technicians are among the green transition relevant occupations reported in shortage by at least five EU Member States ([228]). The most prominent skills identified among green transition occupations in shortage regard environmental compliance and legislation, environmental monitoring and assessment and energy efficiency and renewable energy. Alongside these technical skills, transversal and interdisciplinary ones such as communication, advisory capacities, sustainability awareness, and knowledge of environmental legislation, are also key. The persistence of labour and skills shortages in green transition occupations across several years points to the need to expand access to reskilling and upskilling opportunities to support workers' adaptation to changing labour markets demands.

2.5.2. Job quality differs across occupations and groups of jobs with specific challenges identified

Focusing on the job quality of occupations enables further insights. The previous section examined job quality within sectors, which is also relevant for understanding how to contribute to improving the EU's productivity. While sectors can include workers with different skills, task contents, and levels of education (i.e. engineers and electricians in the construction sector), a focus on job quality across different occupations allows for additional insights linked to these elements.

Overall, occupations with higher skills levels have better earnings, job security, and working times. Professionals – including scientific, business, and engineering professionals – technicians and clerical support workers - such as data entry clerks and office support staff – have on aggregate no major job quality challenges across the selected dimensions, relative to the EU average. Managers and crafts and trade workers also have better than average scores across most dimensions. Specifically, managers have the highest median monthly earnings (EUR 4 245) across all occupations, which is more than 2.5 times greater than that of workers in elementary occupations (EUR 1 689). At the same time, more workers in these jobs experience longer weekly working hours. Well above the EU average of 6.5%, 21% of managers report working 49 hours a week or more. In total, jobs with better job quality across the earnings, job and career security, and working time dimensions (see Chart A2.2 in the Annex) - i.e. scoring worse (or higher) than the EU average in only 1 out of 5 indicators or less - make up 65% of the EU workforce. They also on average have higher skills levels ([229]), as compared to occupations with lower scores.

([224]) (European Commission, 2026g).

([225]) (European Environment Agency, 2026).

([226]) (LinkedIn Economic Graph, 2024).

([227]) (Cedefop, 2026).

([228]) (European Commission, 2026j).

([229]) Skill-levels are defined based on ISCED education classifications in 4 categories. Professionals have the highest skills level (4), managers have skills levels 3 and 4 and technicians and associate professionals have level 3. Clerical support workers and craft and related trades workers have better than average scores across the select job quality dimensions and skills level 2, ranging from lower secondary to post-secondary levels of education.

Conversely, the share of low-wage earners is 2.7 times higher for manual-labour intensive elementary jobs compared to the EU average. Overall, elementary, service and sales workers, and skilled agricultural, forestry, and fishery occupations make up around 26% of the EU workforce. These are generally manual labour-intensive jobs that have medium to lower skills levels, many of which involve routine tasks. These groups of jobs have worse than the EU average scores in 3 out of the 5 analysed indicators or more. Out of all occupations, elementary workers - including carers, cleaners, and construction workers - have the highest share of low-wage earners (40.5%). In addition, more than double the EU average of these workers are on involuntary temporary contracts (at 13%). Specifically, half of cleaners and helpers are low-wage earners and nearly one third are in involuntary part-time employment. For skilled agricultural workers, 25.8% - the highest share out of all occupational groups - reported working 49 hours or more a week. Armed forces occupations and plant and machine operators also have a comparatively higher share of low-wage earners, and more atypical working times (see Box 2.4).

Box 2.4: Job quality in defence-related sector and armed forces occupations

Job quality aspects are increasingly relevant for recruitment, retention, and the long-term attractiveness of military careers. This is especially the case in the context of rising defence investment and heightened geopolitical tensions. This box provides evidence on industries linked to defence-related production and services, while recognising that these activities are dual-use and also serve civilian markets. As such, the employment discussed in this box refers to both those working in the armed forces and those working in defence related industries (which cover activities relevant to defence as well as for civilian purposes ([1]).

Pay and job security in defence-related sectors are better than average but differ widely across armed forces ranks. Involuntary temporary employment stands at 4.3% below the EU average (6.4%) and decreased by 1.6 pp from 2014. However, it remains high in Portugal (14.7%) and Italy (6.5%), as well as having increased in Germany (+2.5 pp) and Italy (+1 pp) ([2]). While temporary arrangements may provide flexibility and reflect structured entry or training pathways, they also create less stable entry points into military careers in some national systems. In addition, the incidence of low-wage earners is much higher among non-commissioned officers (28.1%) and other ranks (20.9%) than among commissioned officers (11.1%). Overall, 15.4% of armed forces workers are low-wage earners, slightly above the EU average (14.7%) ([3]). This dual structure points to persistent financial constraints at lower ranks, commonly taken by younger people. This may weaken the attractiveness of military careers, particularly for technically skilled profiles.

Defence personnel have a lower incidence of long working hours but remain highly exposed to atypical schedules. The share of personnel working long hours is 6.2% (compared to the 6.5% EU average), down -3.8 pp since 2014. Higher shares remain in Greece (14.4%), Portugal (9.0%), Belgium (8.5%), France (8.4%) and Italy (8.4%). By contrast, atypical working time remains structurally high at 39.2% (compared to 33.9% on average), despite a modest improvement of +1.1 pp. It is higher among non-commissioned personnel (41.4%) and other ranks (39.7%) than among commissioned officers (34.8%), ranging from relatively low levels in Germany (18.5%) to very high shares in Greece (65.9%), Sweden (61.3%), Ireland (61.2%) and Italy (56.9%). These patterns reflect the operational nature of the sector, including missions, exercises, alert duties and rotation systems. However, their implications for wellbeing and sector attractiveness remain.

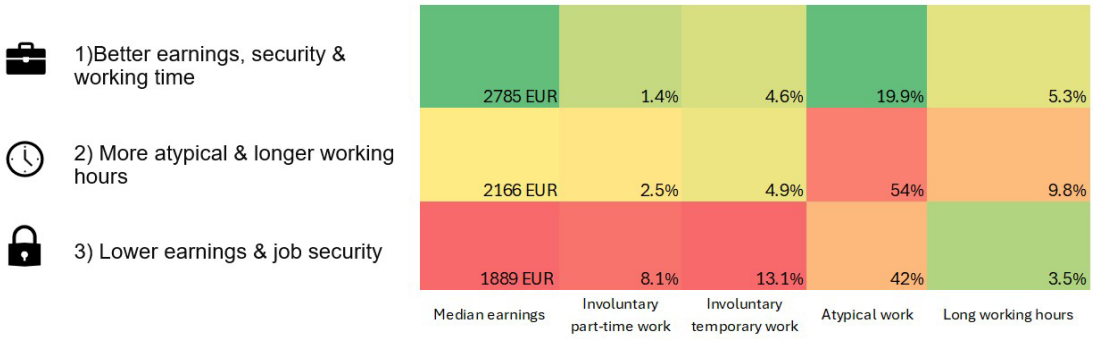
([1]) Defence-related sectors are identified using a broad NACE-based classification. 1 C25.4 Manufacture of weapons and ammunition; C30.4 Manufacture of military fighting vehicles; C30.30 Manufacture of air and spacecraft; C30.11 Building of ships and floating structures; C26.30 Manufacture of communication equipment; C26.51 Manufacture of instruments and appliances for measuring, testing and navigation; C26.70 Manufacture of optical instruments and photographic equipment; C20.51 Manufacture of explosives; C24 Manufacturing of basic metals; C25.11 Manufacture of metal structures; C33.13 Repair of electronic and optical equipment; C33.16 Repair and maintenance of aircraft and spacecraft; C33.15 Repair and maintenance of ships and boats; M71.12 Engineering activities; M72.1 Research and experimental development on natural sciences and engineering. The armed forces are considered separately using ISCO codes 01–03. They are used as a proxy for the armed forces for low-wage earnings and atypical working time.

([2]) Reliable data at the member-state level is only available for Germany, Spain, Finland, Italy, the Netherlands, Portugal, and Sweden.

([3]) Data on low-wage earners at the 2-digit ISCO level for armed forces occupations are only available for Latvia and Germany.

Three distinct groups of jobs - or 'clusters' - with different challenges can be identified. To better capture the various job quality dimensions across occupations, a cluster analysis of jobs was carried out based on indicators in the three selected dimensions. As a result, selected jobs were grouped into three main clusters (Chart 2.15). This helps to understand the groups of jobs that have distinct and multiple job quality challenges (for further results see Annex A2.3)([230]). A first cluster encompasses jobs that have on average no challenges across the selected dimensions, i.e. that are 'better-quality' jobs. The second cluster groups jobs with workers doing longer and/or more atypical working hours, as compared to the EU average. A third cluster includes jobs with lower earnings and/or job and career security.

Chart 2.15: **Three job quality clusters by average scores per cluster across the 5 select EMCO Job Quality Framework indicators**



Note: Green colouring indicates values scoring much better than the EU average. Yellow indicates values scoring better but also closer to the EU average and orange values worse than the EU average. Red colouring indicates substantially worse scores than the EU average. Numbers in the heatmap are the figures or rates per indicator.

Source: DG EMPL calculations based on breakdowns of Eurostat [earn_ses_pub1s] for 2022, [earn_ses_monthly] for 2022, [lfsa_etgar] for 2024, [lfsa_eetpgar] for 2024, [lfsa_qoe_3a2] for 2024, and EU-LFS microdata for 2023.

Professionals, clerical support, and crafts-related workers have 'better-quality' jobs. Firstly, the 'better-quality' job cluster generally groups occupations with comparatively higher median monthly earnings (EUR 2 785), lower involuntary temporary and part-time employment, and lower atypical working times (Chart 2.15). This encompasses jobs such as science and engineering professionals, ICT technicians, and electrical trades workers ([231]). However, certain jobs within this cluster still score worse than the EU average for some indicators. For example, teachers report higher than EU average involuntary temporary employment (see Box 2.2). In addition, some jobs also have longer working hours, particularly building workers (9.7%) and legal, social, and cultural professionals (8.1%). A detailed breakdown of the performance of occupations across the five selected indicators can be found in Annex A2.3. The 'better-quality' cluster is slightly more male-dominated (56%) and has higher levels of education, with the majority of workers having tertiary education (52%) (see Annex A2.4).

Atypical work and long working hours are common for jobs including nurses, drivers, and sales workers. The second cluster of jobs encompasses service and sales workers, health professionals, agricultural workers and drivers ([232]). These occupations have a higher-than-average share of workers doing long working hours (9.8% vs 6.5%) and/or atypical working times (54% vs 33.6%), also in comparison to the other two clusters. In addition, they are on average characterised by a more

([230]) Applying hierarchical clustering analysis, using Ward's method, a bottom-up approach was used where each of the 29 occupations – for which data was available - starts as its own cluster. These are then merged to limit within-cluster variance and ensure a certain degree of homogeneity within groups. Where there were missing values in the occupational group, it was removed from the clustering. This led to the exclusion of 13 occupations at ISCO 2-digit level. The clustering was run on 29 occupations.

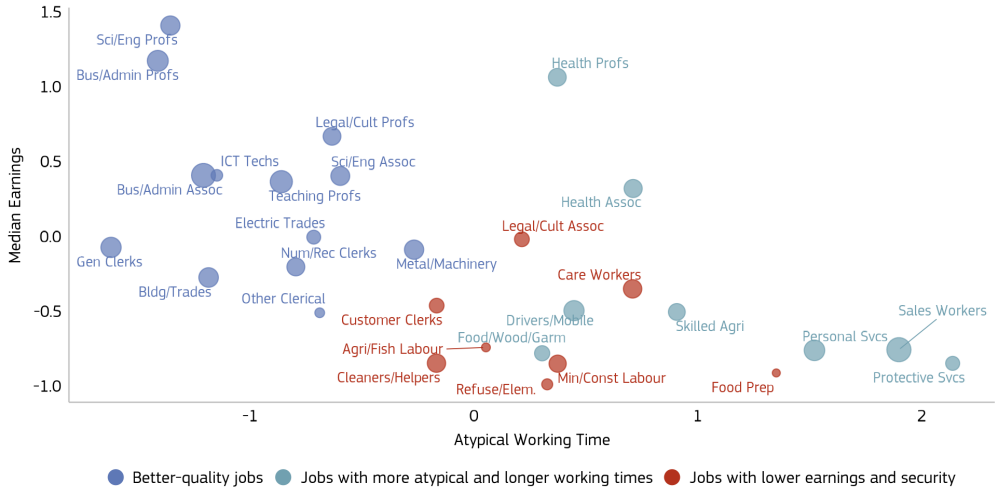
([231]) 'Better-quality jobs' (Cluster 1) is made up of 13 occupations including science and engineering professionals, teaching professionals, business and administration professionals, legal, social, and cultural professionals, science and engineering associate professionals, business and administration associate professionals, information and communication technicians, general and keyboard clerks, numerical and material recording clerks, other clerical support workers, building and trades workers, metal, machinery and related trades workers and electrical and electronic trades workers.

([232]) 'Jobs with more atypical and longer working times' (Cluster 2) encompasses 8 occupations including health professionals, health associate professionals, personal service workers, sales workers, protective services, market-oriented skills agricultural workers, food processing, wood working, garment and other craft and related trade workers and drivers and mobile plant operators.

advantageous combination of median monthly earnings and job and career security than the third cluster, but not nearly as favourable as the first encompassing 'better-quality' jobs ([233]). Indeed, within this group, manual-labour intensive service occupations, such as drivers and sales workers, have both lower median monthly earnings and higher atypical working hours (see Chart 2.16). In terms of worker's characteristics, the 'atypical and longer working time' cluster is broadly gender-balanced but masks strong occupational divides (see Annex A2.4). Health professionals and health associate professionals are predominantly female (72% and 78%), whereas drivers, protective services workers and skilled agricultural workers are heavily male dominated (with women representing 5%, 17% and 29% of workers, respectively).

Workers with vocational education and training (VET) qualifications are common in different types of occupations. Jobs with 'atypical and longer working hours' have a slightly higher concentration of VET-educated workers (48%), as compared to 'better-quality' (36%) jobs and 'lower earnings and security' (41%) clusters. On average, VET-educated workers are concentrated in crafts and related-trades and plant and machine operator jobs (representing over 70% of workers) ([234]), which have varying job quality. Therefore, whether VET education offers a pathway to good quality jobs depends on the specific occupation chosen. Amongst crafts and related-trades jobs, metal, machinery, and electrical and electronic trades workers have smaller shares of workers on low wages (8.4% and 7.5%), as well as better than EU average job and career security.

Chart 2.16: **Median monthly earnings in PPS and shares of workers engaged in atypical working time for the occupations within the three identified job clusters**



Source: DG EMPL calculations. A cluster analysis was conducted including based on breakdowns of Eurostat [earn_ses_monthly] for 2022 and EU-LFS microdata for 2023.

Manual labour-intensive jobs tend to have both worse earnings and job and career security. Jobs in the third cluster are generally characterized by lower-than-average median monthly earnings and higher involuntary part-time and/or temporary work ([235])(Chart 2.17). Workers in these 'lower earnings and security' occupations report amongst the lowest median monthly earnings and highest either involuntary temporary or involuntary part-time employment out of all analysed occupations. This includes cleaners and helpers, personal care workers (see Box 2.5), and manual workers in mining, construction, manufacturing, and transport ([236]). However, on average, long working hours are also less common in this job cluster, as compared to the other two (Chart 2.15). This is also related to the higher rates of

([233]) Exceptions include health professionals have higher-than-average median monthly earnings but lower-than-average involuntary temporary and part-time work. Personal service and sales workers also have lower-than-average median monthly earnings and job and career security.

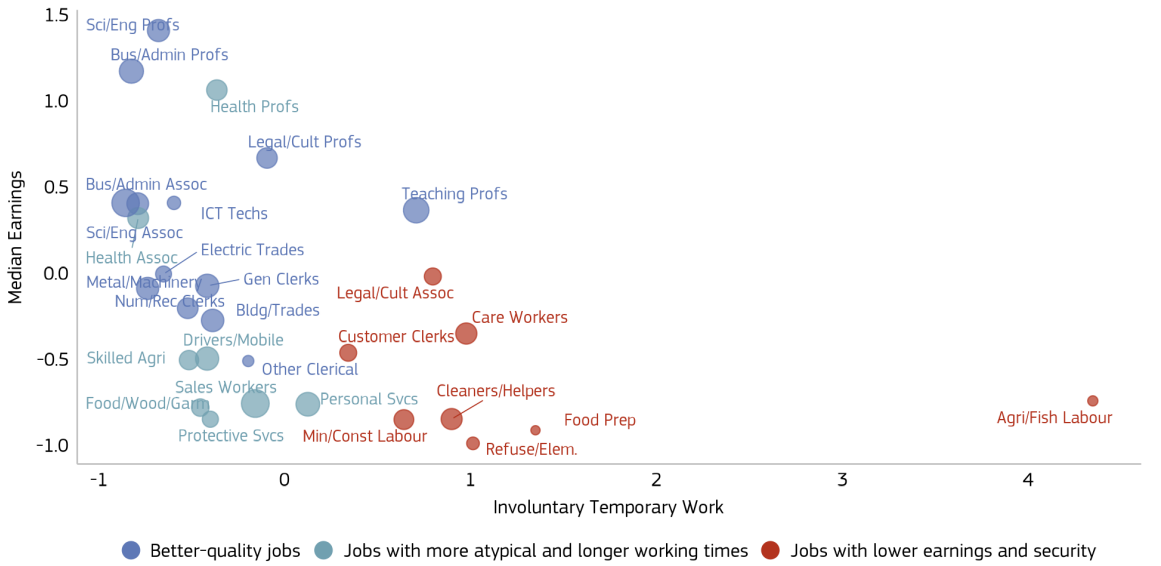
([234]) Based on Cedefop's Skills Intelligence database (VET occupations | CEDEFOP).

([235]) 'Jobs with lower earnings and security' (Cluster 3) encompasses 8 occupations including legal, social, and associate professionals, customer clerks, personal care workers, cleaners and helpers, agricultural, forestry, and fishery labourers, labourers in mining, construction, manufacturing and transport, food preparation assistants, and refuse workers and other elementary workers.

([236]) It is to be noted that median monthly earnings in PPS in the Structure of Earnings Survey are measured for companies of 10 or more employees. Hence, self-employed workers who make up a large share of, for example, care-related work and construction workers, are not included.

involuntary part-time work for this cluster of jobs. Gender differences are most pronounced in this group, where women account for 64% of workers and are concentrated in care and service roles, such as personal care (88%), cleaners and helpers (84%), customer service clerks (70%) and food preparation assistants (68%). Yet, men dominate certain manual-labour intensive elementary occupations, such as agricultural, forestry, and fishery and mining, construction, manufacturing and transport work (at around 71–78%). This grouping also has comparatively lower levels of education, with 32% of workers having at most primary education. Migrants account for 19% of workers in the 'lower earnings and security' cluster, as compared to 8% of workers in "better-quality" jobs. They are particularly present in occupations such as food preparation assistants (24%), personal service workers (22%) and cleaners and helpers (22%). Similarly, persons with disabilities are overrepresented in this group (13%), while their share is lower in 'better-quality' jobs (8%) (see Annex A2.4).

Chart 2.17: **Median monthly earning in PPS and shares of workers in involuntary temporary employment for the occupations within the three job clusters**



Source: DG EMPL calculations. A cluster analysis was conducted based on Eurostat [earn_ses_monthly] for 2022 and [lfsa_etgar] for 2024.

Box 2.5: Job quality for care-related workers

Care workers ([1]) make up around 9.91 million workers in the EU in 2024, up 16% since 2014. While the population aged 65+ is projected to grow by 23% by 2035, employment in the LTC sector is expected to increase by only 7% (Cedefop, 2023b). At the same time, the workforce is ageing faster than in the overall economy (Eurofound, 2020b). This imbalance is expected to generate around 4.3 million job openings between 2022 and 2035, including 3.9 million replacements and 373,000 additional jobs (Cedefop, 2023a), yet labour shortages are already persistent (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023a). Vacancy pressures intensified during the COVID-19 pandemic, when around 421,000 residential care workers left the sector (FORESEE, 2022). Moreover, the sector is highly female-dominated and insufficient access to LTC services further constrains general labour market participation (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023a). Attracting and retaining long-term care workers is therefore essential to address shortages but also ensure access to care and improve participation.

Contract instability and atypical schedules remain prevalent among care workers. Although improving since 2014 (1.7 pp), the share of care workers in involuntary temporary employment (7.8%) remains above the EU average (6.4%). This ranges from 75.5% in Cyprus to 1.7% in Germany, with Greece having experienced the largest decline over 10 years (at 12 pp). Simultaneously, atypical working time ([2]) affects nearly half (48.3%) of personal care workers (2.26 million ([3])). Although a 3.4 pp improvement was observed across the EU, levels remain particularly high in Italy (64.7%), Sweden (59.5%), Spain (59.2%), Finland (58.3%), and Czechia (56.7%). These patterns are largely driven by shift work, which is reported by approximately a third of personal care workers.

Care workers work longer hours, earn low wages in some Member States, and largely engage in informal and undeclared activities. Although the share of low-wage earners ([4])(11.0% vs 14.7% EU average, -3.5 pp since 2014) and long working hours (3.6% vs 6.5%) are below the EU average, both mask significant country variation. Low pay remains high in Latvia (46.2%), Estonia (40.7%), Malta (37%), Spain (32.2%), and Greece (29.8%). Similarly, long hours range from 1.5% in the Netherlands to 27.9% in Cyprus, with worsening trends at EU level over the past 10 years (+3.5 pp). These figures may underestimate actual pressures due to the large role of informal undeclared care in personal and household services, which is difficult to capture in official statistics (Eurofound, 2025c). Around 44 million people provide frequent informal care with migrant workers and women playing an important but not fully captured role (Eurofound, 2020b) (Cedefop, 2023b). Reflecting these measurement challenges, the EMCO Job Quality Framework currently does not include an indicator for its last dimension "Undeclared or underdeclared work to be eliminated".

([1]) This corresponds to Care-related workers as defined here by NACE activities 871-873, 881, 869 and 970.

([2]) Due to data availability, the share of atypical working time is computed for 2023 based on personal care workers (ISCO 53).

([3]) Human health and social work activities employ approximately 22.5 million workers in the EU, of whom around 4.67 million are personal care workers (20.75%), 4.82 million are health professionals (21.45%), and 4.72 million are health associate professionals (20.96%). So, around 2.26 million personal care workers do atypical working time.

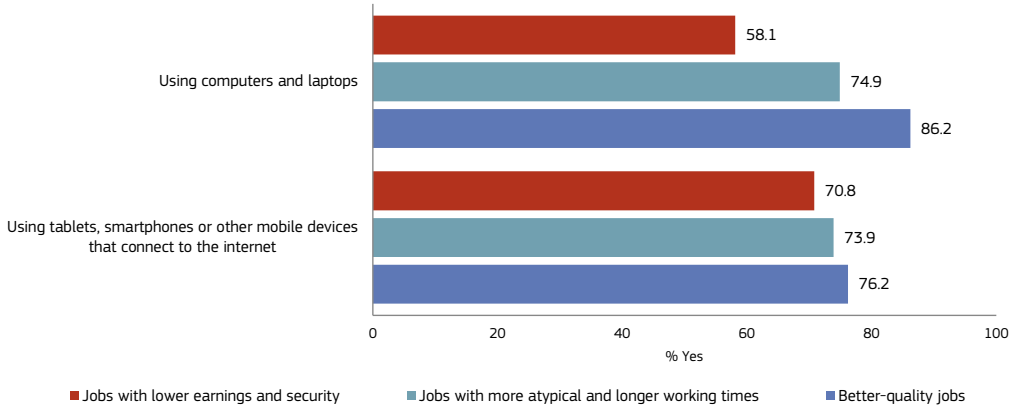
([4]) Due to data availability, the share of low-wage earners was computed for 2022 based on residential care activities (NACE 87).

2.6. HOW IS THE DIGITAL TRANSITION SHAPING JOB QUALITY?

2.6.1. The digital transition has shaped job quality in different ways

The last few decades have witnessed a significant expansion in the use of digital tools at work. According to the recent AIM-WORK survey, above 90% of EU workers use some type of digital devices, tools, and equipment to do their job, such as computers or laptops, and tablets, smartphones or other mobile devices that connect to the internet ([237]). However, there are differences in the use of digital tools across occupations with different job quality.

Chart 2.18: **Use of digital tools in the workplace by the three identified job clusters**



Source: DG EMPL calculations based on AIM-WORK survey (2025).

Workers in better-quality jobs more often use digital tools, and specifically computers and laptops. This highlights that people in better-quality jobs may additionally also be better equipped to

([237]) Conducted between 2024 and 2025 in collaboration between DG EMPL and DG JRC, the AIM-WORK survey collected representative data in all EU Member States about the prevalence of algorithmic management and its characteristics, as well as some initial data on the use of AI driven tools at the workplace. The data sources used in this section are not included in the EMCO Job Quality Monitoring Framework.

benefit from the digital transition. Based on the AIM-WORK survey findings, 86.2% of workers in the identified 'better-quality' jobs make use of computers and laptops to do their job (Chart 2.18). This is higher than the EU average (80.2%) and 31.2 pp more than for jobs with lower earnings and security (58.1%). Recent research has also found that digital skills have been associated with higher job satisfaction and wage premia ([238]).

The adoption of AI tools in the EU has risen starkly. Around 30% of workers in the EU are using AI tools, against 43% in the US, pointing to still some important potential to be unlocked ([239]). Also, the share of EU firms using AI rose from 7.6% in 2021 to 13.4% in 2024 and then almost 20% in 2025 ([240]). At the same time, AI adoption in the EU relies for over 80% on non-EU providers for key digital products, services, infrastructure, and intellectual property, raising concerns for competitiveness and strategic autonomy ([241]).

Overall, AI use remains uneven within the EU. In the EU, record rates of AI use for work are close to 36% in Sweden and the Netherlands. Firm-level AI adoption ranges from over 35% in Denmark, Finland, and Sweden to less than 10% in Romania, Poland, Bulgaria, Greece, and Cyprus ([242]). Recent evidence finds that finds that AI adoption raises labour productivity by about 4%, with no adverse effect on firm-level employment in the short run, and that adopting firms pay higher wages. The gains are concentrated in medium and large firms and are larger when adoption is accompanied by investment in workforce training, software, and data ([243]). In economies with strong innovation systems, high skills endowments, and coordinated training policies, such as Denmark and Sweden, adoption is more likely to be associated with internal upskilling, job transformation, and high-skilled employment growth. Lower-capacity contexts may be more likely to reduce the workforce or shift hiring externally rather than retraining current staff, reflecting differences in labour market flexibility, digital penetration, and sectoral composition ([244]). Where AI adoption complements labour, it can support higher-quality jobs through task reallocation and upskilling, particularly in knowledge-intensive sectors, although outcomes depend on institutional settings such as VET systems and social dialogue ([245]).

AI offers gains from higher productivity, while posing potential challenges for workers ([246]). Currently, 67% of European workers believe that AI helps them to complete tasks more quickly ([247]). Increased demand for jobs that involve problem-solving is expected as a result of increased AI use and deployment. Recent empirical evidence particularly highlights potential declining demand for standardised cognitive tasks (e.g., clerical, transcription, translation) and growing demand for analytical and technical roles (e.g., supervisory and analysis), with the labour market impacts of AI requiring close monitoring ([248]).

The current assessment of risks of worker displacement by Artificial Intelligence (AI) is evolving and varies across jobs. There is significant debate on how AI, including generative technologies, is reshaping both the quantity and quality of jobs. By affecting both routine and non-routine tasks, AI is for now leading to a reconfiguration of job content rather than widespread job displacement ([249]). Employment outcomes in the future are expected to depend on whether AI substitutes or complements labour ([250]). A recent JRC study highlights the transversal impact of AI ([251]). While the

([238]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025a); (OECD, 2023b).

([239]) (Gonzalez Vazquez et al., 2025); (Bick et al., 2026).

([240]) Eurostat [isoc_eb_ai].

([241]) (Ionașcu, 2025).

([242]) (Bick et al., 2026).

([243]) (European Investment Bank, 2026).

([244]) (Guarascio and Reljic, 2025); (Engberg et al., 2024).

([245]) (OECD, 2023b). Research has found that collective bargaining and social dialogue can facilitate AI adoption and use in the workplace, as well as shape and implement rights to address AI-related issues. It is also found that robust VET systems can support workers adaptation to AI by providing upskilling and reskilling opportunities, strengthening complementarity between workers and AI and improving job quality.

([246]) (Fossen and Sorgner, 2022).

([247]) (Cedefop, 2025).

([248]) (Brynjolfsson, Chandar and Chen, 2025); (Engberg et al., 2024).

([249]) (Acemoglu, 2021).

([250]) (Acemoglu and Restrepo, 2018); (Cazzaniga et al., 2024).

([251]) (Casas et al., 2026).

evidence base is continuously evolving with the on-going adoption of AI, the study shows an exponential increase in AI exposure across all occupations, with higher-skilled occupations generally more exposed than elementary ones. Focusing on generative AI specifically, occupations that are found to have a particularly high exposure to AI include different types of managers, finance professionals, and legislators.

Data show some declines in jobs for new graduates, but the link with AI remains uncertain. Regarding the impact of AI on labour market dynamics, current evidence from the US finds that fewer entry-level jobs are available in AI-exposed sectors, such as customer service and software development ([252]). However, uncertainty persists around whether these findings can be causally linked to increased AI adoption and the role of other explanatory factors, such as increased telework and the potentially greater sensitivity of occupations exposed to generative AI to macroeconomic developments ([253]). This underlines that continuous monitoring of labour market dynamics is needed. In addition, policies should consider the AI impact on different types of jobs and workers, going beyond a focus on merely the level of skills. Research has also highlighted the potential cognitive, social, and emotional costs of frequent AI use (see Box 2.6).

Box 2.6: The silent erosion: emerging evidence on AI and the cognitive, emotional and social capacities of workers

Emerging evidence suggests that sustained use of generative artificial intelligence could affect workers' cognitive, emotional and social capacities ([1]). The gains from workplace AI are real and well-documented. However, when each act of delegation to AI is voluntary, reasonable and immediately rewarded, its effect on the worker's underlying capacities also accumulates gradually and without notice. This is a dimension currently not captured by employment and job-quality indicators ([2]). More standard indicators tend to register the visible outcomes of AI adoption: output rises and tasks are completed faster. They do not register the trajectory of the human capacity beneath the output. This box reviews the emerging evidence on this silent erosion and its implications for the quality of jobs and the organisation of work.

A growing body of research finds that intensive reliance on generative AI is associated with measurably reduced critical engagement, even as task performance improves. In a survey of 319 knowledge workers reporting on 936 real instances of AI use at work, higher confidence in AI predicted lower critical-thinking effort, and workers shifted from producing and evaluating content to overseeing it (Lee et al., 2025). A mixed-methods study of 666 participants in the UK found a significant negative correlation between frequent AI use and critical-thinking performance, mediated by cognitive offloading and strongest among younger users (Gerlich, 2025). Workplace experiments show why such effects can coexist with rising performance. In a pre-registered field experiment with 758 consultants, generative AI raised the speed and quality of work on tasks within the system's capability. On a task going beyond its capacity, consultants using AI were 19 percentage points less likely to reach a correct solution, having accepted plausible but flawed output (Dell'Acqua et al., 2023)([3]).

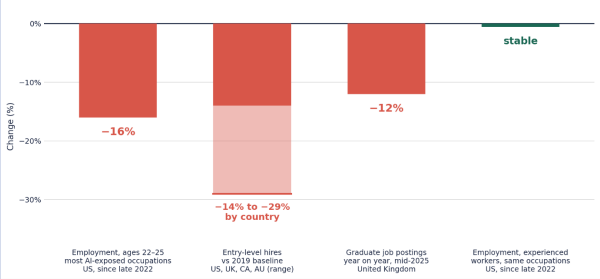
The effects could extend beyond cognition to the emotional and social capacities on which working life depends, although the evidence base here is more recent. While cognitive effects are well documented in the literature, the emotional and social effects remain for now limited and rely on adjacent research. Quasi-experimental evidence on the first wave of attention-shaping systems, i.e. social media driven by algorithms that seek to keep users in the app, shows measurable damage to mental health (Braghieri, Levy and Makarin, 2022). The first direct evidence on conversational AI points the same way: in a four-week randomised controlled trial with 981 participants, heavier daily use was associated with higher loneliness, greater emotional dependence on the system and less socialisation with other people (Fang et al., 2025)([4]). Evidence on emotional capacities in work settings, such as the regulation of frustration and uncertainty that demanding work normally trains, remains scarce and is a priority for research. At the same time, concerns arise as AI is altering the way workplaces transmit skills. Skill formation in most occupations is a relational process. Junior workers acquire judgement by performing routine tasks under the observation, correction and feedback of experienced colleagues (Polanyi, 1966). When AI absorbs precisely those routine tasks, it severs the relational pathway through which expertise passes between generations of workers.

([252]) (Brynjolfsson, Chandar and Chen, 2025).

([253]) (OECD, 2026b).

There is evidence that these effects are not evenly distributed across the workforce and may widen, rather than narrow, existing differences in expertise. In the consultant experiment, the least experienced workers recorded the largest immediate gains, an improvement of 43 per cent against 17 per cent for top performers (Dell'Acqua et al., 2023). The workers gaining most in visible output are therefore those with the least judgement to correct mistakes from AI. As discussed in Section 2.6.1, labour market data suggest that the entry level is where the pressure might concentrate and developments should be closely monitored. While the evidence points to some declining trends in the hires of new graduates, AI causality is difficult to establish. US payroll records show a 16 per cent relative employment decline among workers aged 22 to 25 in the occupations most exposed to generative AI. This is concentrated in occupations where AI automates rather than augments work, while employment of more experienced workers in the same occupations has held stable (Brynjolfsson, Chandar and Chen, 2025) ([5]). An update of this research in August 2026 even finds a 19% relative employment decline for younger workers. A cross-country study of 243 million new-hire records and 407 million job postings confirms the scale of the contraction, with entry-level hires down between 14 and 29 per cent depending on the country. Notably, however, its authors attribute the decline primarily to the persistence of remote work, which raises the cost of supervising and training junior staff, rather than to AI exposure as such (Lambert and Schindler, 2026)([6]). In the United Kingdom, graduate vacancy postings in the United Kingdom fell by 12 per cent year-on-year in mid-2025, to their lowest share since at least 2018 (Indeed Hiring Lab, 2025). Other analyses caution against over-attribution altogether, finding that the overall occupational mix has so far changed no faster than during previous technological transitions (Gimbel et al., 2025). The 2026 OECD Employment Outlook notes that unemployment among recent graduates began rising before the adoption of generative AI, pointing to the growing importance of skills relative to formal qualifications and other factors (OECD, 2026b). While the attribution debate is open, the suggested explanations highlight that the pipeline that turns junior workers into the experienced professionals of the next decade is under structural pressure (Chart 1). At EU-level, a high-level expert group on AI will further investigate the labour market implications of AI.

Chart 1: **The entry level hires are down in many countries**



Note: Measures differ across bars (employment, new hires, vacancy postings) and are not directly comparable.

Sources: Brynjolfsson, Chandar and Chen (2025); Lambert and Schindler (2026); Indeed Hiring Lab (2025).

For the quality of jobs, the implication is that several established dimensions of job quality could deteriorate as a result of AI use. This could happen, even as wages, contracts and measured productivity improve. As seen in the Chapter, skills and discretion, prospects and the social environment at work are core dimensions of a quality job, alongside earnings, working time and the physical environment (Eurofound, 2021c) (Eurofound, 2026d). Each is implicated by the evidence above.

Shifting key tasks to AI agents and generative AI can lead to a deterioration of cognitive skills. While automating certain routine tasks has the potential to enhance productivity and skills, by increasing the time available for tasks with greater learning potential, the same process can also lead to a deterioration of cognitive skills. Skill use narrows when workers move from producing to overseeing. Discretion narrows incrementally when judgement is delegated. Learning opportunities and prospects may contract when the routine tasks that carry them are automated. The social environment is diluted when the feedback relationship between junior and senior workers loses its daily occasion. There is a potential occupational safety and health dimension too. A working environment that erodes workers' confidence in their own judgement constitutes a psychosocial risk factor. A job can therefore satisfy most existing quality indicators while becoming, in developmental terms, a worse job. Namely, it can be better paid, more productive, but also less capable of producing experienced workers.

For the organisation of work, work design and training matter most when introducing AI. The risk of leaving human oversight to habit was identified long before generative AI as the irony of automation. The more a system takes over, the less able the human becomes to step in at the rare moment it matters (Bainbridge, 1983). For example, aviation answered this by keeping pilots' manual skills deliberately current. Within firms, the levers to counteract the discussed impacts are organisational. Namely, retaining a share of

formative, judgement-building tasks at the entry level and beyond, even where automation is feasible, structuring supervision so that AI outputs are verified using critical-thinking skills rather than ratified, and protecting the mentoring relationships through which judgement is transmitted. Large organisational surveys converge on the finding that the binding constraint in AI adoption is the redesign of workflows, incentives and culture rather than the technology itself. This suggests that capacity-preserving work design and training is thus an important aspect during firms' adoption processes (Boston Consulting Group, 2025). In summary, existing indicators measure the conditions and outcomes of work, not the trajectory of workers' capacities over time. This is an area of interest and may need to become an important work strand in the near future.

(1) Box written by Vladimír Šucha – European University Institute.

(2) The term refers to the gradual loss of human cognitive, emotional and social capacities through sustained reliance on well-functioning AI systems; see Šucha (2026) and Šucha (forthcoming).

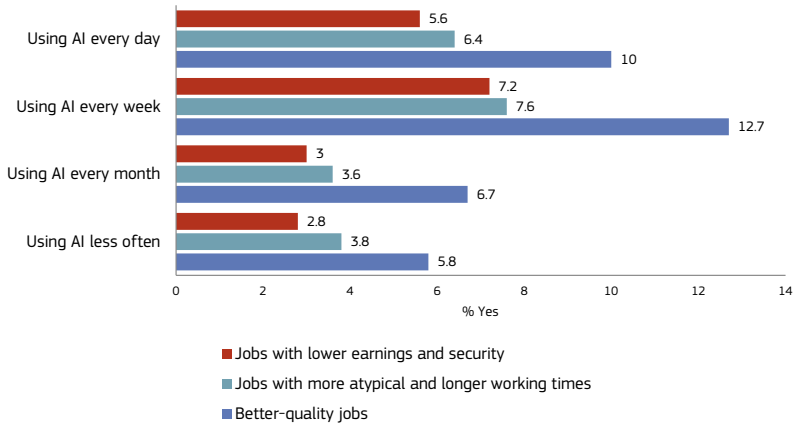
(3) The field experiment was conducted with the Boston Consulting Group and covered approximately 7 per cent of the firm's individual-contributor consultants.

(4) The trial concerned consumer rather than workplace use of conversational AI.

(5) Based on ADP payroll records; revised version of November 2025.

(6) Data cover the United States, the United Kingdom, Canada and Australia, 2017–2025.

Chart 2.19: **Frequency of AI use by the three identified job clusters**



Source: AIM-WORK survey (2025).

More than one third of workers in better-quality jobs use AI at work. The use of AI captured in the AIM-WORK survey refers primarily to AI-driven tools used consciously by workers to assist them in their work, mostly AI chatbots such as ChatGPT and Claude, automated data analysis systems, predictive maintenance software, and automated customer support. Generally, the use of AI tends to be coupled with the usage of other digital tools and is more common in higher-skilled occupations. Based on findings from the AIM-WORK survey, the use of AI at the workplace is therefore also highest for 'better-quality jobs', with 35.3% reporting use (Chart 2.20). This is both above the EU average (29.9%) and much higher than for jobs with 'more atypical and longer working times' (19.3%) and for 'lower earnings and security' (16.9%). Reflecting general country differences in the uptake of AI, 'better-quality' jobs have a particularly high rate of AI use at the workplace in Denmark (54.7%), Belgium (49.7%), and the Netherlands (47.6%). Looking at the frequency of AI use, nearly double the share of workers in 'better-quality jobs' (12.7%) use AI every week, as compared to workers in jobs with 'lower earnings and job security' (7.2%) (Chart 2.19). More workers in 'better-quality' jobs use AI every week in Denmark (20.5%), Austria (17.9%), Germany (17.7%) and the Netherlands (17.7%). Conversely, less workers in these jobs use AI this frequently in France (5.4%) and Greece (6.6%).

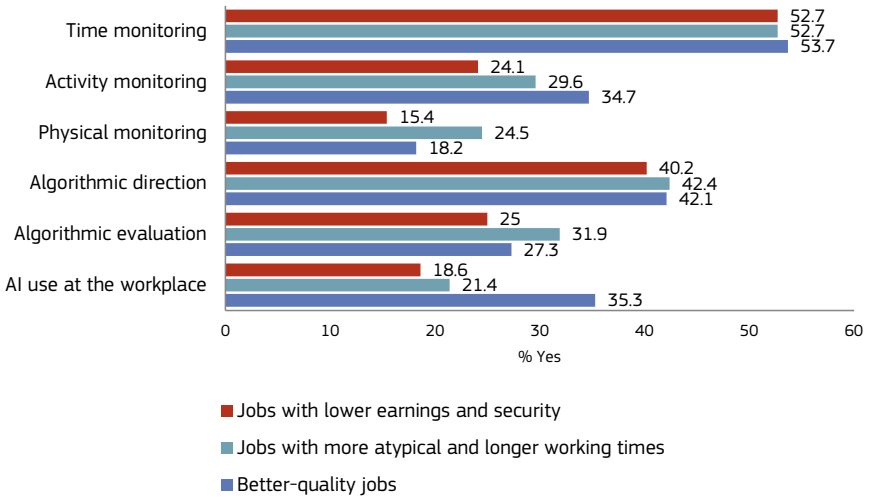
Digital monitoring and algorithmic management are used across different types of jobs. Practices and tools in this area can enhance productivity and competitiveness but are also associated with job quality challenges. Time monitoring is the most prevalent form of digital monitoring in the EU. It involves the use of digital systems to monitor working time, as well as workers' entry, exit and/or movement (i.e. with track cards), which implies a monitoring of the time spent in various locations ([254]). Physical monitoring is comparatively less common and concerns tracking and monitoring systems of the physical location of workers, either in the workplace (i.e. through CCTV and sensors), or in corporate

([254]) The three concepts are defined in the AIM-WORK survey through a series of questions.

vehicles through GPS, mobile devices, etc. Algorithmic management refers to the use of algorithms to manage (e.g. direct, evaluate, and discipline) and coordinate the workforce, and can rely on digital monitoring to do so. Algorithmic management and digital monitoring use advanced data-driven technologies, including AI and machine learning, for automative workforce coordination. Here, algorithmic direction – where algorithms provide instructions to workers - is most prevalent at EU level, with approximately 40% of workers in all three clusters of job quality reporting being subject to this practice (Chart 2.20). While both digital monitoring and algorithmic management can improve efficiency and productivity, they can potentially be associated with higher stress, workload and pace, and reduced autonomy ([255]).

Jobs with atypical and/or longer working times are subject to slightly more physical monitoring. Based on the JRC's AIM-WORK survey findings, around one fourth of workers in jobs (24.5%) with more atypical and longer working hours (Chart 2.20) report being subject to some type of physical monitoring, which is respectively higher than in the other two job clusters (18.2% and 15.4%). Conversely, activity monitoring affects more than one third of workers (34.7%) in 'better-quality' jobs, which is above the EU average (31.9%). This is also due to the high proportion of these jobs typically carried out in office settings, where such monitoring - i.e. monitoring the use of keystrokes, screen, or document usage - is more common. On the other hand, time monitoring is similar across all three job clusters.

Chart 2.20: **Digital monitoring and algorithmic management by the identified three job clusters**



Source: AIM-WORK survey (2025).

Algorithmic evaluation is also slightly more common for jobs with longer and more atypical working times. As defined within the AIM-WORK survey and analysed by the JRC, algorithmic management can in practice take numerous forms. Algorithmic evaluation uses systems for automatic rewarding and benchmarking of workers, and to assign them tasks according to customer ratings. This is reported for nearly one third of workers in jobs with 'atypical and longer working times' (31.9%), which is slightly above than the EU average (28.2%) and higher than for the other two job clusters (Chart 2.20). This group encompasses drivers and sales workers. Across countries, algorithmic evaluation in these jobs impacts nearly half of workers in Spain (48.3%) and Portugal (47.4%). The overall picture of algorithmic management across EU Member States is diverse. It is more frequent in Spain, Poland, Ireland, and Romania, where the use of most types of algorithmic management is around or above the EU average.

([255]) (Guarascio, Reljic and De Simone, 2026); (Giuntella, Konig and Stella, 2025); (OECD, 2023b).

2.7. HOW DOES OUTSOURCING IMPACT JOB QUALITY?

2.7.1. Subcontracting is more prevalent in certain sectors

Fragmentation of employment relationships has been found to reshape labour markets. Multiparty work relationships (MWR) are used to define a broad array of these "fragmented" working arrangements, in which workers are not directly employed by the company to which they provide services ([256]). They can involve subcontracting and domestic outsourcing to third-party firms and workers, including through temporary agency work and self-employed contracts, encompassing platform work. Domestic outsourcing generally includes work that is structurally done by another company within the same country rather than in-house (i.e. examples of auxiliary type services can include ICT services, accounting, janitor services, or catering). Subcontracting refers to a contractual arrangement whereby a lead firm delegates specific tasks or components of its activities to a third-party company (for example companies relying on specialised subcontractors systematically or on a project-basis). Therefore, not all subcontracting reflects an outsourcing decision, with the contracting company often maintaining varying degrees of control. Offshoring more specifically describes the subcontracting of work to another country and is not the focus of this section.

Multiparty work relationships, including subcontracting, can impact job quality and productivity in various ways. Within the EU single market, they can enhance efficiency and innovation by providing specialised expertise. This enables companies to focus on core competencies, adapt quickly to changing business needs and stay competitive. For instance, subcontracting contributes to the efficiency of manufacturing processes and service provision and also allows small and medium enterprises (SMEs) to take on contracts which they could not cover alone. On the other hand, for certain economic activities subcontracting and outsourcing has been associated with lower job quality, especially for certain economic activities, based on the available data and evidence (see Section 2.7.2.).

Subcontracting often involves SMEs within national contexts, particularly in the construction sector. Based on available measures, subcontracting is most intensive in construction, reflecting project-based work and specialised trades. Comprehensive cross-country time series data on the prevalence of subcontracting does not currently exist. However, survey data and business statistics provide insights into the extent of subcontracting relationships across sectors in the EU. Using a representative sample of SMEs in 27 Member States in 2009, a report found that 3.7 million SMEs in the EU are engaged as subcontractors, representing 17% of all EU SMEs ([257]). Most of the European SME subcontractors (90%) were found to operate with client enterprises located within their own country. Subcontracting and contracting activities were also found to be highest in the construction sector, with about 36% of subcontracting SMEs and 26% of contractor enterprises involved in construction in 2009. Newer Structural Business Statistics (SBS) data show that payments to subcontractors accounted for nearly one third (27.6%) of net turnover in construction in 2023. Payments to subcontractors amounted to 507,749 million in construction, followed by 358,041 million in the manufacturing sector in 2023.

National studies in the EU Member States have also identified country-specific evidence on the use of subcontracting. In France, research based on a 2021 survey has found that 38% of companies in non-agricultural, non-financial market sectors used subcontracting, with 83% of companies with over 250 employees doing so. It also found that large companies more often subcontract transport, logistics and IT, while small companies focus on administrative and financial services ([258]). In Belgium, the share of subcontractors was found to be highest in masonry and concrete works (15.3%) ([259]). A case study of the meat industry in Spain found that outsourcing of slaughtering and cutting activities, which forms part of the industries' core activities, has grown by 68% from 2008 to 2015 ([260]). Yet, in general, data on the incidence of subcontracting is not available in many Member States.

([256]) (Weil, 2015).

([257]) (EIM, 2009).

([258]) (Larmat, 2024).

([259]) (De Smedt and De Wispelaere, 2024).

([260]) (ETUC, 2021).

Self-employed contractors are often engaged for project-based work in construction, industry, and transportation and storage, notably to add capacity in peak periods. Much of the research on subcontracting and outsourcing focuses on employees, while the evidence base for the situation of self-employed persons remains comparatively under-developed. However, based on the 2021 EWCS, a recent Eurofound report found that subcontractors make up around 10% of self-employed workers in the EU ([261]). The report finds that subcontractors out of all self-employed workers are overrepresented in construction (25%) and also more likely to be found in industry (12%) and transportation and storage (8%). In this context, the institutional set up of occupational regulations, tax and benefits system can be factor contributing to the prevalence of self-employment ([262]).

2.7.2. In some occupations, outsourcing is associated with lower job quality

The available evidence indicates that outsourcing is associated with lower overall job quality. Due to data limitations, researchers have developed indirect approaches to identify jobs that are more likely to be outsourced. Recent research by the EU's Joint Research Centre (JRC) ([263]), based on Eurofound's job quality indices ([264]) and the EWCS, uses occupational and sectoral combinations commonly associated with outsourcing as a proxy for identifying potentially outsourced jobs. They found that jobs classified as 'outsourceable' ([265]) have lower job quality. Precisely, outsourceable jobs had on average job quality index scores that were -0.047 points (on a 0-1 scale) lower - constituting a small-to-moderate difference - as compared to non-outsourceable jobs (Chart 2.21). Specifically, workers in outsourceable jobs were found to have lower intrinsic job quality (focused on the content and nature of work), employment quality and - to a lesser extent – worse working time conditions ([266]). Workers in outsourceable jobs were also found to have lower career development opportunities, linked to fewer possibilities of trainings by their employer. Additionally, they work more at nights and weekends and at a higher intensity, whether in terms of tight schedules or at high speeds. While a link between a job being outsourceable and reduced health and safety at EU-level was not found, national research in France has shown that the average accident frequency rate was higher for subcontractors than for client firms ([267]).

([261]) (Eurofound, 2024b).

([262]) (Milanez and Bratta, 2019).

([263]) (Fana et al., 2026).

([264]) The job quality index proposed by (De Bustillo et al., 2011) was used and elaborated on by the authors of this study.

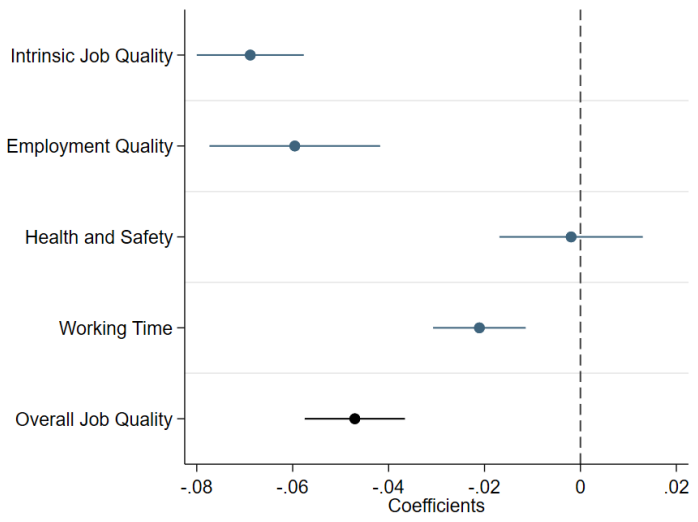
([265]) Authors' own elaboration, based on the outsourcing classification proposed by (Goldschmidt and Schmieder, 2017). Potentially outsourced jobs are identified by combining occupations (ISCO-08, 2-digit) and sectors (NACE Rev. 2.1, 2-digit). While potentially non-outsourced jobs include: (1) workers employed in outsourceable occupations but non-outsourceable sectors; (2) workers in non-outsourceable occupations within outsourceable sectors; and (3) workers in non-outsourceable occupations and non-outsourceable sectors. The analysis controls for socio-economic and workplace characteristics.

([266]) The authors controlled for socio-demographic characteristics, supervisory role, and the presence of workers representative at the workplace level.

([267]) (Ministère du travail, de l'emploi et de la santé, 2011). Authors controlled for comparable characteristics including sector and firm size.

The lower job quality associated with outsourcing is predominantly concentrated in less knowledge-intensive service sectors. Outsourcing is found not to be a homogenous phenomenon. Another key finding of the JRC study is that in less knowledge-intensive service sectors (LKIS) outsourcing is associated with significant penalties across most dimensions of job quality, except for working time. These include warehousing and support activities for transportation, land transport, postal and courier, food service, and services to building activities. In contrast, in knowledge-intensive service sectors (KIS) no significant overall job quality penalty for outsourceable jobs compared to their non-outsourceable counterparts, is found. These include computer programming, legal and accounting, and consultancy services. This suggests that outsourcing in KIS sectors may operate under different mechanisms, potentially driven by firms' strategic needs to acquire specialised expertise rather than primarily to reduce labour costs. These findings are in line with recent evidence that the job quality penalty depends on the type of job being outsourced, concentrated in the lower end of the wage distribution ([268]).

Chart 2.21: **Estimated coefficients (outsourceable vs. non-outsourceable) across indicators**



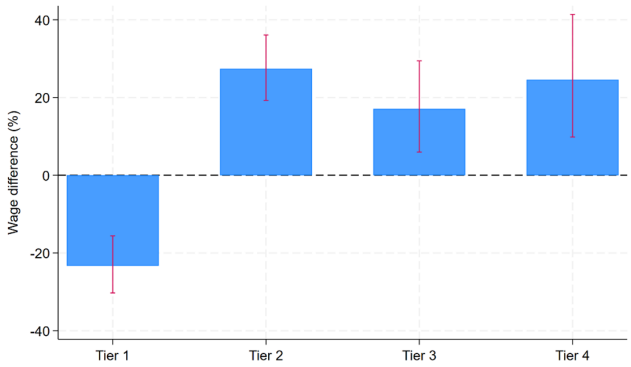
Note: Estimates coefficients and 95% confidence intervals are from OLS regressions for four dimensions of job quality and an Overall Job Quality index. The coefficients represent the association between being outsourced and the respective job quality measure, controlling for the variables of a large set of individual and institutional covariates. The dashed vertical line at zero represents the baseline for non-outsourced workers

Source: JRC calculations based on EWCS 5th and 6th waves.

Directly comparing jobs in the same subsectors, specific outsourceable jobs are identified as having lower job quality. Comparing outsourceable to non-outsourceable jobs in the same 11 sub-sectors, lower overall job quality is found for outsourceable jobs in 7 sub-sectors. The JRC's analysis finds that these encompass personal services activities, warehousing and support activities for transportation, building and landscape, advertising and market research, postal and courier, security and investigation, and other personal service activities. Specifically, workers in outsourceable jobs in the warehouse and support services for transportation sector - which includes construction workers and drivers - were found to also have lower health and safety. Workers in outsourceable jobs in personal service activities (including cleaners and helpers) were shown to have much lower employment quality, as compared to workers in non-outsourceable jobs within the same subsector. On the other hand, overall job quality improved for outsourceable workers in 4 sub-sectors, including computer programming, professional, scientific and technical activities, and office and business support services.

([268]) (Fana, Giangregorio and Villani, 2024).

Chart 2.22: **Wage differences between outsourceable and non-outsourceable jobs, in percent, by different tiers of activities**



Note: 'Tier 1' includes operational services such as cleaning, security, logistics, catering (strongly validated in the literature, typically involving low-skills and on-site work). 'Tier 2' encompasses professional business services such as IT, accounting, consulting (typically high-skills and remote/hybrid work). 'Tier 3' involves project-based and knowledge services such as engineering and advertising (high-skills). 'Tier 4' includes other typically outsourced occupations such as legal services, ICT, facility management – generally more ambiguous cases, grouped together mainly for robustness analysis. For the full breakdown of jobs, see the Annex.

Source: JRC calculations based on EWCS (2024).

Depending on the activity, outsourcing can be associated with lower or higher wages, while differences diminish or disappear within similar occupations. Another recent JRC analysis ([269]), focused on wages using 2024 EWCS data, identified outsourceable workers by combining more detailed occupations and sectors (see Annex 2, Chart A2.5 for details on which occupation-sector combinations are identified as typically outsourced in the analysis) ([270]). Based on this, it finds that outsourcing is associated with large wage differences for different types of jobs (Chart 2.22). On the one hand, operational outsourcing (cleaning, security, catering, logistics) - typically on-site work and requiring lower skills levels - is associated with lower wages of around 22%. Specifically, women in outsourceable jobs have lower wages, as compared to men. Densely populated areas also have lower wages, as compared to intermediate or thinly populated areas. On the other hand, outsourcing in higher-skilled activities is associated with more positive wage outcomes. Particularly, outsourcing for professional business services such as IT, accounting, consulting - which are typically hybrid and remote - is associated with positive wage outcomes of +23%. However, once comparisons are restricted to workers within the same detailed occupations, wage differences become smaller or disappear. This suggests that observed wage disparities are linked to the type of occupation and activity, rather than reflecting a uniform wage penalty for outsourceable jobs within the same occupation. This does not imply that outsourcing is neutral, since firms' decisions to externalise specific activities, in specific sectors and occupations, may themselves contribute to labour-market segmentation. In this sense, outsourcing may contribute to the concentration of certain workers and occupations in segments of the labour market characterised by lower wages, weaker protections, and more limited career progression opportunities.

2.8. CONCLUSION

Adequate earnings and fair wages, job and career security, as well as working times are key aspects of job quality. While job quality is a multidimensional concept, these dimensions are, amongst others, important to worker's themselves and can be analysed using several indicators presented in the EMCO Job Quality Monitoring Framework.

Overall, the quality of jobs in the EU is better than a decade ago but challenges remain. However, it is important to understand the improvements and deteriorations that hide behind these averages. Improvements in adequate earnings and fair wages as well as job and career security are particularly pronounced in lower-quality jobs – i.e. with a lower starting point - encompassing mostly manual labour-intensive occupations. Reductions in long and atypical working times have been among the strongest in more highly skilled sectors and occupations. Yet, certain jobs have deteriorated in quality more than others. This includes workers who are essential to the functioning of the economy and society. In particular, building and related trades workers and teaching professionals have experienced some

([269]) (Farinha, Fusaro and Conte, 2026).

([270]) Authors' own elaboration, based on outsourcing classifications proposed by (Goldschmidt and Schmieder, 2017), (Bergeaud, Mazet-Sonilhac and Malgouyres, 2025), and (Gürer and Taymaz, 2026). Potentially outsourced jobs are identified by combining detailed occupations (ISCO-08, 4-digit) and sectors (NACE Rev. 2.1, 3-digit) in four tiers of jobs, based on activities commonly performed through contractors. See the annex for further specifications.

declines in both adequate earnings and job and career security. Atypical working times also increased the most amongst certain jobs of lower quality to begin with.

Women, younger, lower-educated, migrant and self-employed workers experience greater job quality challenges. These vulnerable groups are disproportionately concentrated in roles that perform poorly across the three selected dimensions, while differences across workers holding comparable jobs are far less pronounced. Among demographic characteristics, education has the strongest association with job quality.

Occupations that require higher skills levels, including in ICT, have better earnings, security, and working times. Overall, workers in knowledge-intensive service sectors, which are key to innovation and productivity, have better job quality. This underlines that competitiveness and job quality can go hand-in-hand in the EU and its regions. 'Better-quality' jobs in the EU encompass managers, professionals and technicians. Specifically, ICT jobs perform above the EU average across the analysed job quality dimensions. Conversely, manual labour-intensive elementary, service and sales, and agricultural, forestry, and fishery jobs score worse than average across most of the analysed dimensions. Certain crafts and trade-related workers, the majority of whom are VET-educated, have comparatively good earnings, job security, and working hours. However, VET-educated workers are more often in jobs with atypical and longer working hours.

Select jobs that are essential to the functioning and future of the EU economy and society have specific job quality challenges. In general, labour shortage occupations are found to have more workers than average working at atypical times. Higher and rising involuntary temporary employment is a key challenge for teaching professionals and is found to be particularly pronounced in certain countries. Manual labour-intensive labour shortage occupations, including personal care workers, agricultural workers and labourers in construction, often both have worse earnings adequacy and job and career security. Many workers relevant for long-term care also do their job at atypical working hours, which can be associated with health, work-life balance, and well-being challenges.

The digital and green transitions are shaping job quality in the EU. Workers in energy-intensive industries are exposed to transition-related pressures, which are likely to impact their job quality scores across the earnings and security dimension. At the same time, job quality is also affected by climate change in the form of air pollution, UV radiation, and natural disasters, while new and emerging occupations relevant to the green transition have relatively better job quality. 'Better-quality jobs' along the analysed quality dimensions have a higher use of digital, and specifically AI, tools at work. This could potentially mean that they are also more likely to benefit from the task augmentation and productivity benefits of AI. However, the concrete labour market impacts of AI for different types of jobs still need to materialise and should be closely monitored. Some forms of algorithmic management are found to be slightly more widespread across jobs with longer and/or atypical working times, which could create negative pressures on working conditions.

In lower-skilled occupations, workers in typically outsourced jobs have lower job quality and wages, while in knowledge-intensive occupations wages can be higher. Outsourcing is also related to substantial wage differences, with these also varying greatly by types of activity. On the one hand, lower-skilled operational outsourcing (cleaning, security, catering, logistics) is linked to significantly lower wages. On the other hand, higher-skilled professional outsourcing (IT, consulting, accounting) is associated with higher wage outcomes. Therefore, outsourcing should not be treated as a singular phenomenon. Higher-skilled jobs could potentially benefit more in terms of job quality, including wages, from more autonomous and specialised contractual arrangements. However, occupations that require lower skills levels, where cost considerations are a likely driver of their outsourcing, could be more negatively impacted by arms-length work relationships. Outsourceable jobs in lower-paid and more vulnerable segments of the labour market may reinforce existing occupational and labour market inequalities. In some sectors, these dynamics may compound with other risks documented in subcontracting chains, including weaker social protection, or undeclared work.

Annex 2: Job quality disparities across the EU

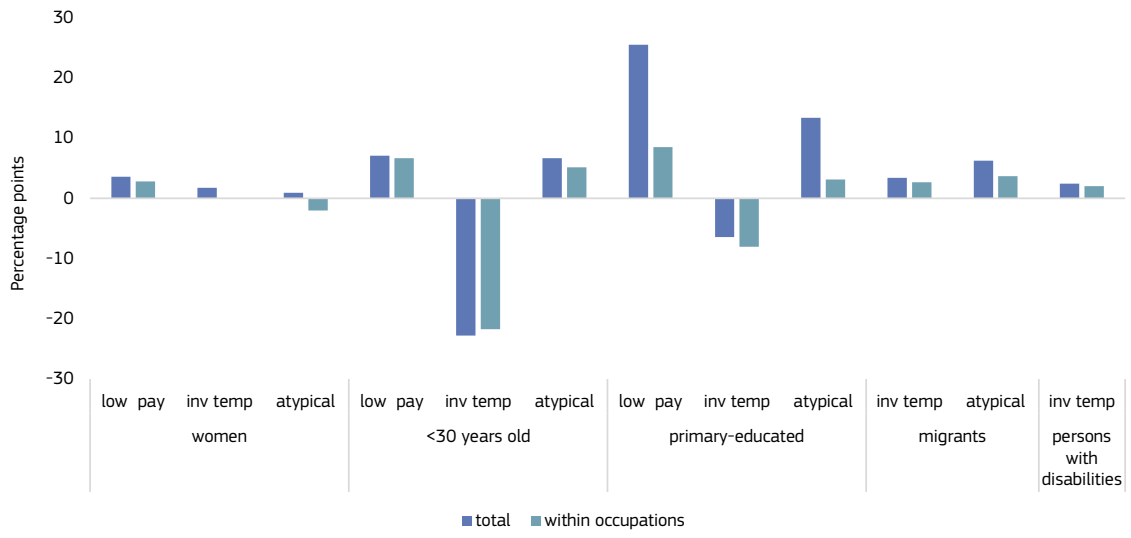
A2.1. JOB QUALITY DIMENSIONS SELECTED FOR THE ANALYSIS

Analysis in the chapter is based on the dimensions and relevant indicators of the EMCO Job Quality Framework. The datasets used to construct and analyse the selected indicators in the outlined three dimensions span the 2022 Structured Earnings Survey (SES), 2024 EU Statistics on Income and Living Conditions (EU-SILC) and the 2023 and 2024 European Labour Force Survey (EU-LFS). For all indicators, 2014 is used as the date to analyse developments over time. The selection of dimensions and indicators also reflects data constraints, as not all those in the EMCO Job Quality Framework can be disaggregated by sector and occupation.

A2.2. WHO EXPERIENCES BETTER AND WORSE JOB QUALITY

Separate regression models are used to estimate the probabilities of receiving a low hourly wage, working on a temporary contract involuntarily and working atypical schedules for employees. In the first step, the models do not account for occupations which allows to measure the total impact. In the second step, occupational controls are added to compare employees in similar jobs (i.e. within occupations). After accounting for occupations, estimated probabilities for most demographic characteristics either decline in magnitude or in statistical significance. This suggests that the type of occupation a person works in largely explains job quality risks.

Chart A2.1: **Differences between total estimated impacts and impacts within occupations of key selected indicators by demographic group**



Note: 'Inv temp' stands for involuntary temporary employment. Results are significant at 1% significance level, except for involuntary temporary employment of persons with disabilities. For them, the total impact is significant at 5% significance level and impact within occupations at 10% significance level, while data on low hourly wage and atypical work is not available for persons with disabilities. Data on low hourly wage is also not available for migrants. The sample is restricted to employees only. Reference categories in parenthesis: women (men); <30 years old (aged 50-64); primary-educated (tertiary-educated); migrants (EU-born); persons with disabilities (persons without disabilities).

Source: DG EMPL calculations using SES 2022, and EU-LFS 2023 and 2024 data.

A2.3. JOB QUALITY DIFFERENCES ACROSS OCCUPATIONS AND GROUPS OF JOBS WITH SPECIFIC CHALLENGES IDENTIFIED

In addition to job quality differences across sectors, disparities across occupations were also analysed. Graph A2.2 presents a heat map of job-quality indicators for one-digit ISCO occupational groups, benchmarked against the EU-27 average. Each cell reports the indicator value and, in terms of the colouring, the deviation of a given occupation group's score on a specific indicator from the corresponding EU-27 average. It also includes a score based on how many job quality indicator values are worse (i.e.

score higher) than the EU-27 average across the 5 selected indicators for each occupational group. Information on what share of the EU workforce each occupational group represents is also included.

Chart A2.2: **Heat map of occupation group (ISCO 1-digit) job quality scores across select indicators, as compared to the EU-27 average**

Scores	Occupation groups	# Workers (ths)		Low-wage	In-voluntary temporary	In-voluntary part-time	Long working hours	Atypical working time
	Occupations with better scores across the select indicators							
0	Professionals	45779	23%	2.7	6.2	1.6	6.5	19.6
0	Technicians & associate professionals	32250	16%	5.6	4.1	1.9	4.8	26.6
0	Clerical support	19416	10%	13.8	5.4	2.9	1.2	18.2
1	Managers	10458	5%	2.8	1.9	na	21.0	30.1
1	Craft & related trade	22710	11%	10.0	4.7	1.0	6.8	27.0
	Occupations with worse scores across the select indicators							
3	Armed forces	1224	1%	15.4	5.9	na	7.6	39.4
3	Plant & machine operators	14577	7%	16.7	5.3	1.2	6.8	48.8
4	Service & sales	32025	16%	26.0	8.5	7.1	5.8	63.7
4	Skilled agricultural workers	4986	2%	25.0	12.8	3.3	25.8	51.0
4	Elementary occupations	16375	8%	40.5	13.0	10.9	1.8	40.1

(1) The heatmap uses a three-colour scale ranging from green (lower shares), through yellow (values around the EU average), to red (higher shares). The score indicates the number of indicators in which a sector performs worse than the EU average. Occupations with worse scores across the selected indicators are defined as those performing worse than the EU average in at least 3 indicators.

Source: Eurostat [earn_ses_pub1s] for 2014-2022, [lfsa_etgar] for 2014-2024, [lfsa_eetpgar] for 2014-2024, [lfsa_qoe_3a2] for 2014-2024, [lfsa_esegatyp] and 2014-2023.

Section 2.5.2 also identified three job clusters. By applying hierarchical clustering analysis, using Ward's method, 3 job profiles – or similar groups of occupations called clusters – were identified. Hierarchical cluster analysis is a bottom-up approach, where each of the 29 occupations considered - i.e. for which data at 2-digit level was available - starts as its own cluster, which are then iteratively merged to limit within-cluster variance and ensure a certain degree of homogeneity within occupation groups. This then allowed the identification of the three distinct three job profiles, after the appropriate sensitivity checks. Where there were missing values for a 2-digit level ISCO occupational group, it was removed from the clustering. This led to the exclusion of 13 occupations at ISCO 2-digit level, which means the clustering was run on 29 occupations. Graph A2.3 presents a heatmap of standardized mean values (z-scores) for each occupation across the five selected indicators, with occupations grouped according to their cluster membership (Clusters 1–3). Cluster 1 represents 'better-quality jobs', Cluster 2 jobs with 'more atypical and/or longer working hours' and Cluster 3 jobs have comparatively 'lower earnings and job and career security'.

Each cell reports the deviation of that occupation's mean score from the overall sample mean, expressed in standard deviation units. Positive values (shaded yellow) indicate that an occupation scores above the overall average on a given indicator (i.e. has worse job quality within this indicator), while negative values (shaded blue) indicate scores below average (i.e. has better job quality within this indicator).

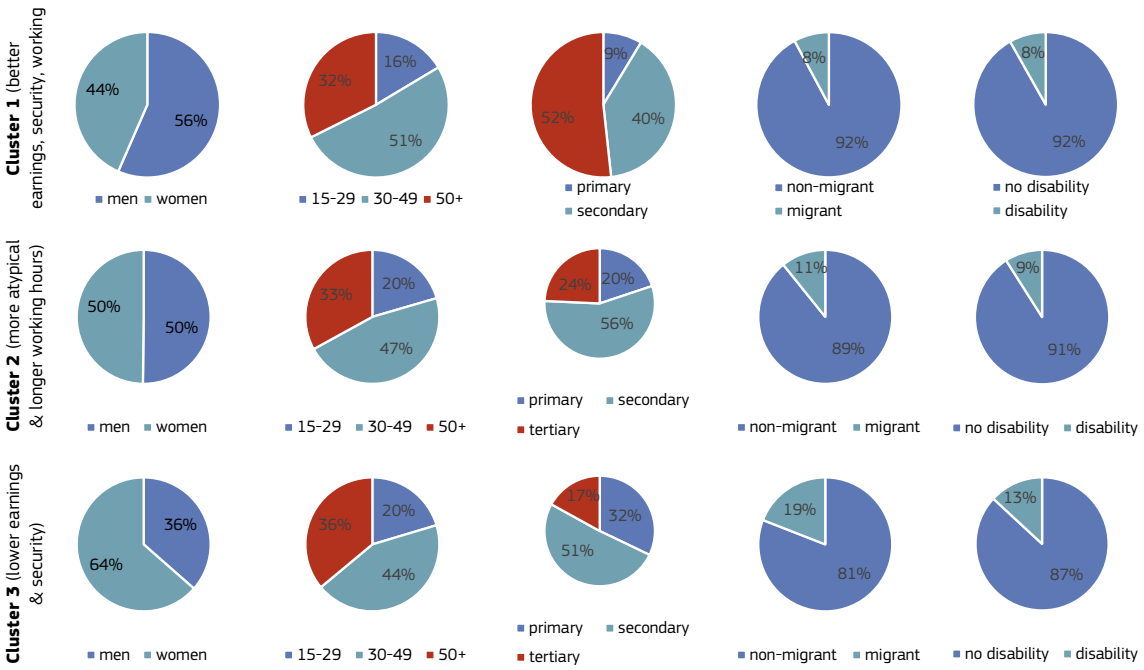
Chart A2.3: **Standardized job-quality indicators (z-scores) by occupation and 3 identified clusters (Hierarchical clustering, Ward's Method)**

		Atypical Working Time	Involuntary Part-Time Work	Involuntary Temporary Work	Long Working Hours	Median Earnings
Cluster 1	Teaching Profs	-0.86	-0.06	0.71	-0.57	0.36
	Sci/Eng Profs	-1.36	-0.77	-0.68	-0.1	1.41
	Sci/Eng Assoc	-0.6	-0.75	-0.79	-0.29	0.4
	Other Clerical	-0.69	-0.24	-0.2	-0.91	-0.51
	Num/Rec Clerks	-0.79	-0.47	-0.52	-0.9	-0.2
	Metal/Machinery	-0.27	-0.75	-0.74	-0.48	-0.09
	Legal/Cult Profs	-0.63	-0.35	-0.09	0.04	0.67
	ICT Techs	-1.15	-0.61	-0.6	-0.55	0.41
	Gen Clerks	-1.62	-0.16	-0.42	-1.05	-0.07
	Electric Trades	-0.72	-0.76	-0.65	-0.29	-0.01
	Bus/Admin Profs	-1.41	-0.77	-0.82	-0.1	1.17
	Bus/Admin Assoc	-1.21	-0.65	-0.86	-0.39	0.41
	Bldg/Trades	-1.18	-0.67	-0.39	0.29	-0.27
Cluster 2	Skilled Agri	0.91	-0.62	-0.51	2.72	-0.51
	Sales Workers	1.9	0.7	-0.16	-0.22	-0.76
	Protective Svcs	2.14	-0.46	-0.4	-0.42	-0.85
	Personal Svcs	1.02	0.46	0.12	-0.09	-0.76
	Health Profs	0.37	-0.58	-0.36	0.3	1.08
	Health Assoc	0.71	-0.42	-0.79	-0.74	0.32
	Food/Wood/Garm	0.3	-0.36	-0.45	-0.18	-0.78
	Drivers/Mobile	0.45	-0.49	-0.42	0.96	-0.5
Cluster 3	Refuse/Elem.	0.33	0.85	1.31	-0.68	-0.99
	Min/Const Labour	0.37	-0.07	0.64	-0.73	-0.85
	Legal/Cult Assoc	0.21	0.71	0.8	-0.37	-0.02
	Food Prep	1.86	2.09	1.26	-0.64	-0.91
	Customer Clerks	-0.17	0.21	0.34	-0.93	-0.46
	Cleaners/Helpers	-0.17	3.73	0.9	-0.82	-0.85
	Care Workers	0.71	2.46	0.98	-0.64	-0.35
	Agri/Fish Labour	0.05	0.42	4.35	-0.19	-0.74

Source: EMPL own calculations. Hierarchical cluster analysis calculated based on Eurostat [earn_ses_monthly] for 2014-2022, [lfsa_etgar] for 2014-2024, [lfsa_eetpgar] for 2014-2024, [lfsa_qoe_3a2] for 2014-2024, [lfsa_esegatyp] and 2014-2023.

This chart compares the demographic characteristics of employees across the three clusters of occupations identified in Chapter 2.

Chart A2.4: **Demographics by cluster of occupations**



(1) The analysis covers employees only.

Source: Author's calculations using SES 2022, and EU-LFS 2023 and 2024 data.

A2.4. SUBCONTRACTED OR OUTSOURCED WORKERS CAN HAVE LOWER JOB QUALITY AND WAGES

'Outsourceable' occupations are identified in order to analyse potential associations of job quality and wage with outsourcing. For the definition of 'outsourceable' occupations used for the wage analysis in this section, authors produced their own elaboration, based on outsourcing classifications proposed by (Goldschmidt and Schmieder, 2017), (Bergeaud, Mazet-Sonilhac and Malgouyres, 2025), and (Gürer and Taymaz, 2026). Typically outsourced jobs are identified by combining detailed occupations (ISCO-08, 4-digit) and sectors (NACE Rev. 2.1, 3-digit) in four tiers of jobs, based on activities commonly performed through contractors (see Chart A2.5). This classification is then validated through EWCS 2024 information on working conditions (e.g. working at client premises). This approach focuses on service activities where outsourcing relationships are more likely to be identifiable in the data (e.g. cleaning, security, IT services). Construction and manufacturing are not covered, given that in these sectors outsourcing often takes the form of subcontracting within core production processes (e.g. construction projects or production fragmentation in manufacturing), which is difficult to identify using an occupation-sector approach. The analysis controls for socio-demographic and workplace characteristics.

Chart A2.5: **JRC TEDAM Outsourcing classification (ISCO-NACE Combinations)**

JRC TEDAM Outsourcing classification (ISCO-NACE combinations)

TIER 1: Low-skill services (based on Goldschmidt & Schmieder 2017, and related literature)

ISCO	Occupation	Function	NACE	Sector
9111	Domestic Cleaners and Helpers	Cleaning	81.1 / 81.2	Facilities support & Cleaning
9112	Cleaners (Offices, Hotels, etc.)	Cleaning	81.1 / 81.2	Facilities support & Cleaning
5414	Security Guards	Security	80.1	Private security activities
9333	Freight Handlers	Logistics / Warehousing	52.1 / 52.2	Warehousing, storage & Transport
9621	Couriers	Logistics / Warehousing	53.2	Other postal and courier activities
5120	Cooks	Food / Catering	56.2	Catering activities
9411	Fast Food Preparers	Food / Catering	56.2	Catering activities
9412	Kitchen Helpers	Food / Catering	56.2	Catering activities

TIER 2: IT and business services (Fana et al 2024, Bergeaud et al. 2025, Gürer & Taymaz 2026, and related literature)

ISCO	Occupation	Function	NACE	Sector
2511	Systems Analysts	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2512	Software Developers	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2513	Web & Multimedia Developers	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2514	Applications Programmers	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2519	Software Developers NEC	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2521	Database Designers/Admin	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2411	Accountants	Accounting	69.2	Accounting activities
3313	Accounting Associate Professionals	Accounting	69.2	Accounting activities
2421	Management & Organization Analysts	Consulting	70.2	Management consultancy
2423	HR / Personnel Professionals	HR consulting	70.2	Management consultancy

TIER 3: Professional services (Fana et al 2024, Bergeaud et al. 2025, Gürer & Taymaz 2026, and related literature)

ISCO	Occupation	Function	NACE	Sector
2431	Advertising & Marketing Professionals	Advertising	73.1 / 73.2	Advertising & market research
2432	Public Relations Professionals	Advertising	73.1 / 73.2	Advertising & market research
2161	Architects	Engineering	71.1	Architecture & engineering
2141	Industrial Engineers	Engineering	71.1	Architecture & engineering
2142	Civil Engineers	Engineering	71.1	Architecture & engineering
2149	Engineering Professionals NEC	Engineering	71.1	Architecture & engineering
3112	Civil Engineering Technicians	Engineering	71.1	Architecture & engineering

TIER 4 – Extended, for robustness only (several literature references)

ISCO	Occupation	Function	NACE	Sector
2513	Web and Multimedia Developers	IT	73.1	Advertising
2522	Systems Administrators	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
3511	ICT Operations Technicians	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
3512	ICT User Support Technicians	IT	62.1 / 62.2 / 62.9 / 63.1	IT services
2611	Lawyers	Legal	69.1	Legal activities
2619	Legal Professionals NEC	Legal	69.1	Legal activities
3411	Legal Associate Professionals	Legal	69.1	Legal activities

Separate mechanism: Labour intermediation (temporary agency work)

ISCO	Occupation	Function	NACE	Sector
All	All occupations	Several	78.2	Temporary employment agencies

Source: JRC TEDAM own elaboration based on Goldschmidt & Schmieder (2017), Fana et al. (2024), Bergeaud et al. (2025), Gürer & Taymaz (2026), and related literature.

Source: JRC TEDAM own elaborations based on the relevant literature.

3. The importance of job quality for economic outcomes

3.1. INTRODUCTION

Job quality matters not only from a social perspective but also influences how the economy functions. Job quality affects whether people participate in the labour market, their health and wellbeing (Chapter 2), and also influences firms' investment decisions, how much people work, where they work as well as households' consumption and saving behaviour. At the same time, job quality both shapes and is shaped by how firms organise production, adopt technologies and invest in human capital. While economic growth and technological progress can support improvements in job quality, many dimensions of job quality also require upfront and often long-term investment – such as training, safe workplaces and stable employment. The previous chapter documented significant disparities in job quality across workers, sectors and countries in the EU. It showed that, despite overall improvements, gaps persist across socio-economic groups and types of employment, sectors and occupations. Building on these findings, this chapter examines why these differences matter for economic performance.

Job quality is increasingly recognised as an important dimension of labour market performance. While job quality is a policy objective in its own right, there is also growing evidence that it influences broader economic outcomes including productivity, innovation, labour supply and labour market resilience ([271]). Understanding these relationships is particularly relevant in the context of demographic change and the green and digital transitions, which are reshaping labour demand and skills needs. Against this background, this chapter explores the links between job quality and economic performance and discusses their implications for sustainable growth, competitiveness and social cohesion

This chapter is structured as follows. Section 2 presents the conceptual framework linking job quality to economic growth. Section 3 analyses supply-side effects, discussing the relevance of selected job quality dimensions, for productivity. Section 4 focuses on the relation between wages and productivity, while section 5 examines demand-side implications of job quality, particularly for consumption and its composition. Section 6 draws out the main conclusions of the chapter.

3.2. JOB QUALITY AND ITS EFFECT ON ECONOMIC PERFORMANCE

This section sets out the conceptual framework describing the relationship between job quality and macroeconomic performance. It outlines the key transmission channels, highlighting the role of employment security, work organisation, and earnings conditions in shaping economic outcomes. This provides a clear structure for interpreting the evidence presented in the following sections. Given data limitations, the results are to be interpreted as associations rather than causal relationships.

As a benchmark, standard economic theory emphasises that productivity can itself shape job quality. Technological progress and capital accumulation raise productivity, and, in competitive labour markets, these gains are reflected in workers' compensation as firms compete for labour. In perfectly competitive labour markets, firms are wage takers, workers are fully informed, contracts are complete, and mobility is costless. Under these conditions, firms offering poorer working conditions would need to compensate workers through higher pay or risk losing them to employers offering better conditions, leading to more efficient outcomes. In practice, however, deviations from this benchmark due to employer monopsony power, mobility and information frictions, incomplete contracts, externalities and coordination failures prevent this adjustment, leading to under provision of job quality.

A key insight from the literature is that job quality may be systematically underprovided by markets. While higher job quality can lead to higher macroeconomic performance, firms may choose to lower-quality working arrangements for several reasons. Improving job quality often requires upfront and sometimes non-recoverable costs for firms — such as higher wages, more stable contracts, training, and greater worker autonomy — while the benefits are realised with a lag or not fully internalised by the firm. For instance, trained workers may be poached by competitors ([272]), greater employment stability may reduce short-term flexibility, and higher autonomy may require complementary changes in management

([271]) (OECD, 2014); (Cazes, Hijzen and Saint-Martin, 2015); (International Labour Organization, 2026).

([272]) (Acemoglu and Pischke, 1999).

practices and organisational capabilities ([273]). At the same time, firms may benefit from short-term cost-saving strategies, especially in fragmented or low-capital-intensity sectors or subcontracting chains (see also section 2.7. and Box 4.2), even when these generate broader social costs, including higher turnover, weaker human capital accumulation and greater reliance on social transfers. Therefore, firms may rationally choose lower-quality working arrangements even when higher job quality would be socially efficient.

Some benefits of higher job quality materialise only gradually, creating a coordination problem. Lower levels of job quality than would be socially optimal are characterised by high turnover, weak incentives for training and lower labour market attachment. By contrast, improvements in job quality can generate mutually reinforcing gains in skills, productivity, labour market participation, creating a virtuous cycle over time. Because many of these benefits accrue beyond the firm and materialise only gradually, market incentives alone may not be sufficient to sustain socially efficient outcomes, providing a rationale for policy intervention. This logic is also reflected in the EMCO opinion on job quality and in the Commission Communication on the Quality Jobs Roadmap, which highlight how improvements in job quality can support a virtuous cycle of stronger labour market participation, productivity and social outcomes ([274]).

Labour market frictions further reinforce these dynamics. Mobility constraints — arising from housing costs, family considerations, or migration status — can increase the market power (also called "monopsony power") of firms in the labour market, allowing firms to retain workers without offering high job quality ([275]). Information asymmetries limit workers' ability to assess job characteristics including pay, and many dimensions of job quality, such as autonomy or work intensity, are difficult to specify in contracts and to enforce ([276]). As a result, individual rational choices made under constraints may lead to an equilibrium with too many low-quality jobs and suboptimal outcomes from a societal perspective.

In turn, job quality can affect macroeconomic performance through several interrelated channels. At the micro level, higher job quality can raise labour productivity by strengthening incentives for effort, facilitating skills accumulation, and encouraging firm-level investment in human capital and complementary technologies. Better working environments, supportive management practices and higher job satisfaction increase effort, reduce absenteeism and enhance individual performance ([277]). Training plays a central role by raising skills and expected lifetime earnings ([278]), particularly when stable employment encourages investments in firm-specific human capital ([279]). Conversely, poor job quality may reduce performance, partly through its negative effects on physical and mental health and motivation (Chart 3.1). Aggregated across firms and workers, these mechanisms can translate into differences in productivity growth and economic performance at the macroeconomic level.

([273]) (Bloom and van Reenen, 2011).

([274]) Council of the European Union, note from the Employment Committee, Opinion of the Employment Committee on the dimensions of job quality; Communication from the Commission to the European Parliament and the Council COM(2025) 944 final, Quality Jobs Roadmap.

([275]) Employers' market power may arise not only from constraints on geographical mobility, but also from frictions limiting job-to-job mobility within the same local labour market. These include search and information frictions, switching costs and contractual restrictions (e.g. non-compete clauses) that make it costly for workers to move between employers (Manning, 2003); (Andrews et al., 2026).

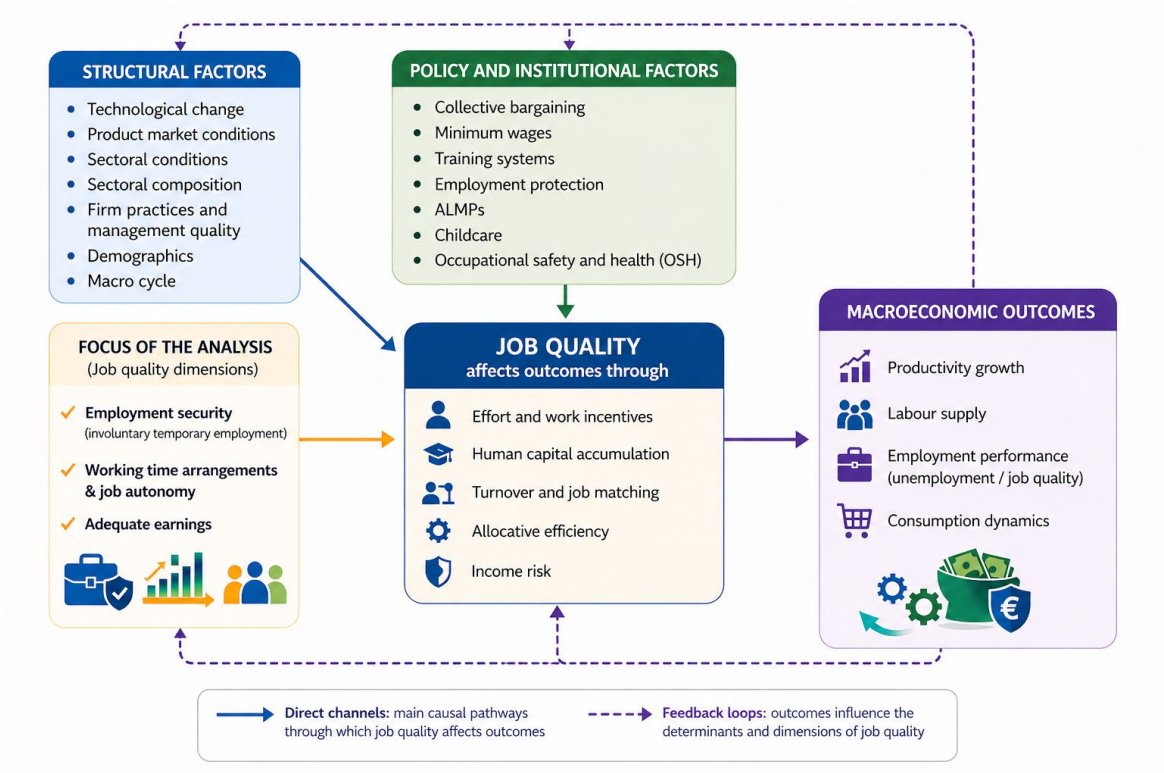
([276]) (Grossman and Hart, 1986).

([277]) (Arends, Prinz and Abma, 2017); (Saint-Martin, Inanc and and Prinz, 2018)

([278]) Empirical evidence confirms that training improves workers' ability to meet job requirements and enhances productivity and work quality (Punia and Kant., 2013); (Huang, 2020) .

([279]) E.g. (Becker, 1964); (Acemoglu and Pischke, 1999).

Chart 3.1: **Job Quality and macroeconomic outcomes**



Source: DG EMPL based on the reading of the literature

At the firm level, job quality affects productivity through organisational and investment channels. Beyond these direct effects, job quality also shapes how labour is allocated across firms and sectors. Higher-quality jobs may improve job matching and reduce inefficient turnover, thereby reducing hiring costs and possibly supporting a more efficient allocation of workers across firms and tasks. They can also support innovation through greater investment in human capital and organisational changes. More stable employment relationships can strengthen incentives to invest in skills and facilitate the accumulation and retention of firm-specific knowledge. Greater autonomy and better work organisation can give workers more scope to use this knowledge, experiment, solve problems and contribute to improvements in products and production processes ([280]), especially in knowledge intensive activities such as R&D. Conversely, low job quality can weaken organisational efficiency and limit the adoption of advanced technologies.

Job quality also shapes both labour supply and demand decisions. Low pay and adverse working conditions increase the disutility of work, reducing participation and hours supplied — particularly among groups with relatively high labour supply elasticities ([281]). Conversely, improvements in job quality can raise labour supply especially among groups with weaker attachment — such as women, older workers, low-skilled, and those with care responsibilities or irregular employment histories. They can strengthen labour market attachment by increasing job attractiveness, reducing income risk and supporting career

([280]) Empirical studies show that better management practices and higher job quality are associated with higher firm-level productivity (Bloom and van Reenen, 2011). Adverse working conditions—such as high job strain, unsocial schedules, low autonomy, and insecurity—are associated with worse health and lower productivity at work. For a panel of Finnish manufacturing firms, Bockerman and Ilmakunnas estimate a positive impact of job satisfaction on productivity (Bockerman and Ilmakunnas, 2012). Since health is a key determinant of labour market participation and job retention, this provides an important link between job quality and labour supply (Arends, Prinz and Abma, 2017).

([281]) People with weaker labour market attachment—such as low-skilled individuals or many women with care responsibilities—have a more elastic labour supply because their working decisions are highly sensitive to incentives and constraints. They are often at the margin of participation, so small changes in net wages can shift them into or out of work. When expected earnings are low, a small pay increases can make working worthwhile. Their greater exposure to unstable or low-quality jobs also means that improvements in pay, stability, or flexibility can boost participation. High fixed costs of working (e.g. childcare or commuting) also play a role, so small wage changes can trigger large responses (Cazes, Hijzen and Saint-Martin, 2015); (Arends, Prinz and Abma, 2017); (Saint-Martin, Inanc and and Prinz, 2018).

stability ([282]). Training and skills development further reinforce these effects by improving employability and facilitating career progression and transitions and can improve staff motivation and retention. In ageing economies facing labour shortages, enhancing job quality therefore represents an important lever to mobilise underutilised labour resources and sustain economic growth ([283]). At the same time, improving job quality through higher pay may involve a trade-off between labour supply and labour demand: while higher pay can increase the attractiveness of work and strengthen labour supply, wage increases that are not matched by productivity gains may weigh on labour demand and cost competitiveness. This trade-off may, however, be mitigated by firms' adaptation to higher labour costs, or the acquisition of skills by workers (see section 3.4.1).

At the macroeconomic level, these effects translate into differences in production efficiency and the allocation of labour across firms. In the presence of hiring frictions and skill mismatches, persistent segmentation may trap workers in low-quality jobs with limited opportunities for training, skill development and career progression, preventing moves toward better job matching. Repeated spells of temporary employment and excessive turnover may further weaken incentives for firms and workers to invest in skills. These mechanisms can hinder the efficient allocation of labour and weigh on productivity growth. Conversely, labour mobility that supports upward transitions and skill accumulation can improve matching and productivity-enhancing reallocation. Together, these mechanisms affect the diffusion of new technologies and the efficiency with which labour and capital are combined, thereby influencing total factor productivity (TFP). At the same time, these economic returns are not territorially uniform: regions with stronger skills, higher participation rates and institutional capacity are better placed to benefit, while lagging regions may require complementary investment and stronger delivery capacity.

Job quality and productivity also reinforce each other over time. Technological progress and higher educational attainment are often associated with higher productivity ([284]), which can support improvements in wages and better working conditions ([285]). Moreover, better work organisation, stronger worker engagement and greater investment in skills create an environment that can support productivity growth ([286]). This points to an interplay between job quality and productivity also with regard to their evolution over time ([287]). Different patterns of employment growth may therefore be associated with different productivity outcomes. In particular, employment expansions concentrated in lower-quality jobs may be accompanied by weaker productivity growth, whereas improvements in job quality can help sustain productivity gains over the longer term. More broadly, the quality of employment may influence not only the level but also the persistence of productivity growth ([288]).

Job quality also affects consumption dynamics. More stable employment relationships and adequate wages reduce income uncertainty, lower precautionary savings and support consumption smoothing over the business cycle (Chart 3.1), which in turn strengthens aggregate demand ([289]). By contrast, widespread insecurity and volatile incomes increase perceived income risk, dampen consumption and amplify cyclical fluctuations ([290]). These effects are particularly important when low job quality is associated with wage dispersion and in-work poverty, which weaken the consumption capacity of

([282]) A recent study on OECD countries finds that job security ranks among the most important job attributes affecting worker behaviour and attachment (Clark, 2024a); (Clark and Kozák, 2024b).

([283]) It is also in line with supporting longer and healthier working lives as one of the main ways to address demographic change in Member States. (European Commission: Directorate General for Employment, Social Affairs and Inclusion, 2022); (European Commission, 2022); (European Commission, 2023a); (IMF, 2025); (European Commission: Joint Research Centre, 2026).

([284]) (Acemoglu and Autor, 2011).

([285]) (OECD, 2023a).

([286]) (Shapiro and Stiglitz, 1984); (Akerlof and Yellen, 1986).

([287]) (WTO, 2017).

([288]) However, while the literature suggests that there are important instances in which working conditions can be strengthened without a significant deterioration in the competitive position of an individual firm or a country's economy, there can also be cases in which very fast wage growth, for example not in line with economic fundamentals, or some overly strict regulation can result in adverse economic developments.

([289]) In models with incomplete markets and borrowing constraints, income risk leads households to engage in precautionary saving, dampening consumption (Carroll, 1997).

([290]) (Stiglitz, Sen and Fitoussi, 2009) insecurity arises from uncertainty about the material conditions that may prevail in the future. Recent research has explored the links between employment insecurity and support for populist parties (Guiso et al., 2024); (Guriev and Papaioannou, 2022); (Rebechi and Rohde, 2022) and the weakening trust toward the EU (e.g. (Algan et al., 2017)).

households with higher propensities to consume. As a result, labour markets with a high share of low-quality jobs tend to exhibit weaker and more volatile domestic demand.

3.3. THE RELATION BETWEEN JOB QUALITY AND PRODUCTIVITY GROWTH

This section examines the relationship between the dimensions of job quality more closely related to economic performance and productivity. To this end, the analysis focuses on the job quality dimensions of employment security, work organisation (autonomy and work intensity) and pay adequacy ([291]). These dimensions can affect productivity through several channels, including human capital accumulation, the allocation and utilisation of labour, incentives for innovation and technology adoption, and firms' ability to attract, retain and motivate workers. This narrower set of job quality indicators – involuntary temporary employment, working time intensity, autonomy, and wages - can be measured consistently and is directly linked to labour allocation, productivity dynamics, labour supply and consumption ([292]). Across all dimensions, multiple measures of productivity are considered ([293]). Nonetheless, other dimensions of job quality not considered in this section, notably opportunities for skills development and the ability to fully leverage/use existing skills can have a substantial impact on productivity.

3.3.1. Sectoral differences in productivity growth are associated with differences in job quality

Sectors with a higher share of better-quality jobs tend to record stronger productivity growth. The job quality clusters defined in Chapter 2 — based on adequate earnings, job and career security and working time – group occupations representing different job quality challenges. The corresponding sectoral share ([294]) of better-quality jobs (cluster 1) and jobs with lower earnings and job security (cluster 3) can be compared to its productivity performance. Better-quality jobs are concentrated in activities that draw heavily on advanced skills, intensive use of technology and standardised employment relationships. For instance, these jobs are mostly in information and communication and advanced manufacturing, where they account for over 90% of employment ([295]). These job quality features are correlated with productivity outcomes: sectors with an above-median share of better-quality jobs record average annual productivity growth of around 1.6%, compared with near-zero growth in sectors below the median (Chart 3.2). The pattern is most pronounced in high-technology manufacturing and knowledge-intensive services — notably IT and telecommunications — which combine the highest shares of better-performing jobs with the strongest productivity dynamics — see section 2.5.1. ([296]).

([291]) Given data limitations, the results are interpreted as associations rather than causal relationships, except for the minimum wage analysis.

([292]) As in Chapter 2, involuntary temporary employment is defined as the share of employees in temporary employment because no permanent job was found (LFS); for working time intensity and work autonomy, the analysis considers indicators going beyond the EMCO framework and uses data from Eurostat ad-hoc module on work organisation and working time arrangements. Work autonomy is proxied by the percentage of employees with *some or large autonomy on content and order of tasks*. Work intensity is proxied by the percentage of employees *always working on time pressure.*

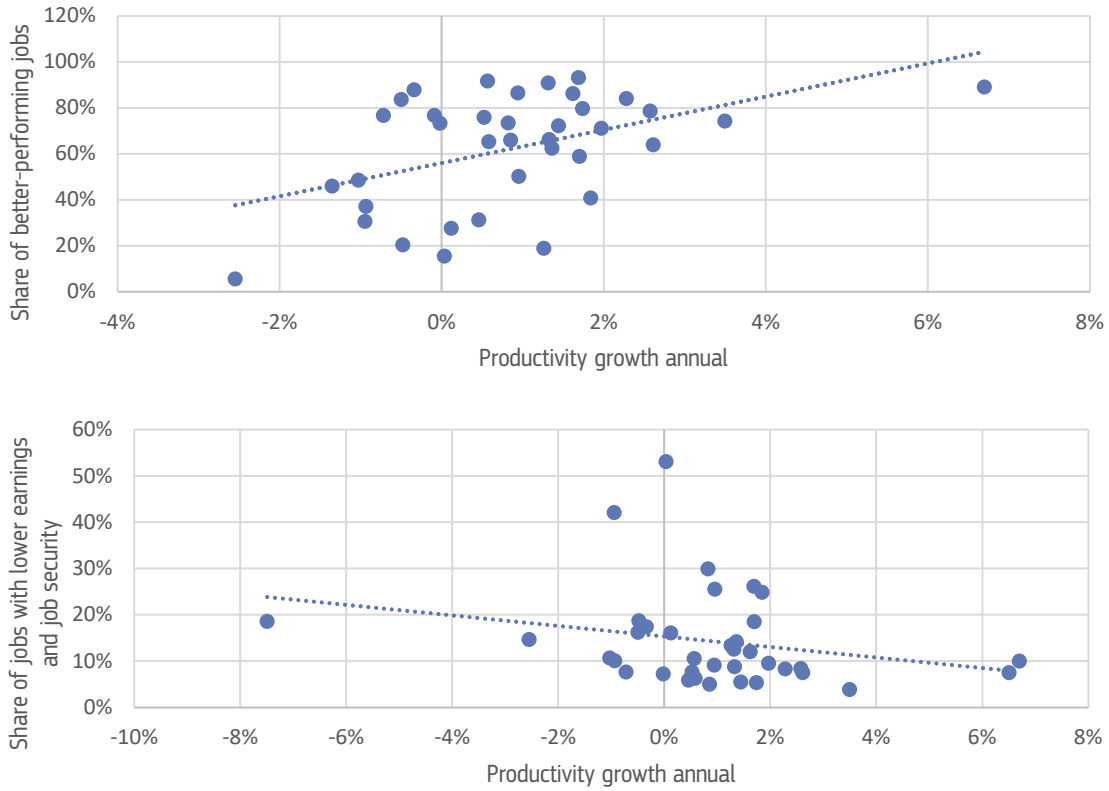
([293]) Including labour productivity on head-count basis, hourly labour productivity, and total factor productivity. Hourly productivity is a better measure than productivity per person because the latter depends also on the adjustment of hours worked, in addition to capital deepening and cyclical fluctuations. TFP removes these mechanical effects. TFP is more sensitive to match quality, organisational efficiency and the effective use of skills, while labour productivity measures may be influenced by adjustments in hours worked and capital intensity that partly offset efficiency losses.

([294]) The clusters in Chapter 2 are defined at the level of occupations (ISCO 2-digit). It notably distinguishes better-performing jobs (Cluster 1) and jobs with lower earnings and job security (Cluster 3). The sectoral analysis presented here aggregates these occupational shares to the NACE 2-digit sectoral level using the occupational composition of each sector. A technical note is provided in the Annex.

([295]) The clusters draw on selected objective indicators (adequate earnings, job and career security, working time) and do not capture qualitative aspects of the working environment — notably high work pressure and exposure to psychological harassment — which are not observed in the data.

([296]) The Pearson correlation between the share of better-quality jobs and annual productivity growth is 0.36 and is statistically significant. A correlation coefficient ranges from −1 (perfectly opposite) to +1 (perfectly aligned); a value of zero means no linear relationship.

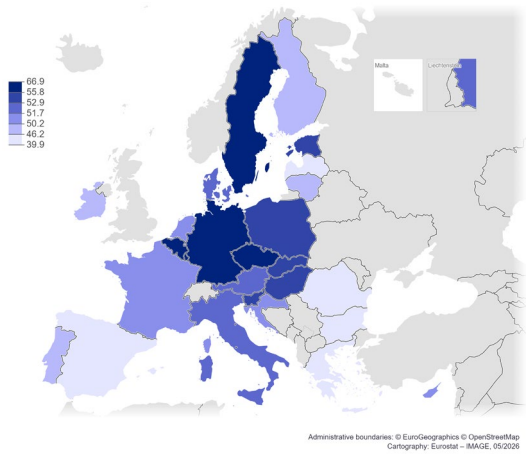
Chart 3.2: **Share of better or worse quality occupations relative to productivity by sector**



Note: The relationship shown reflects an average cross-sectional tendency. Industry-specific dynamics generate sectoral heterogeneity around it — some sectors with high shares of better-quality jobs record negative productivity growth, and vice versa.

Source: DG EMPL calculations based on Eurostat LFS and national accounts.

Chart 3.3: **Share of better-quality occupations across Member States**

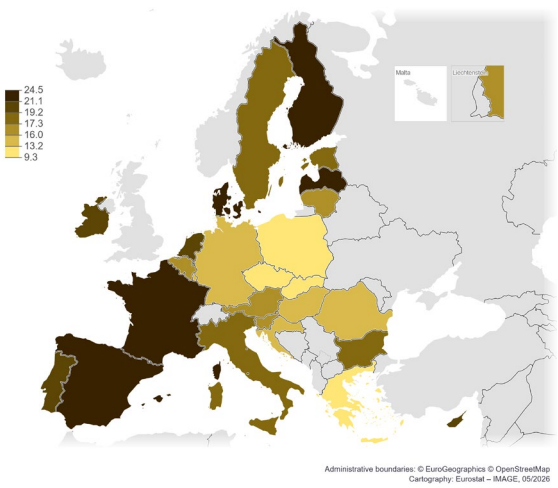


Note: Country shares of *occupations classified according to clustering presented in Chapter 2, based on selected variables from the Labour Force Survey, Eurostat.*
Source: *DG EMPL calculations.*

The negative correlation between jobs with lower earnings and job security and productivity growth is weak, reflecting sector-specific features. Lower paid and less secure jobs are concentrated in activities such as, accommodation and food services, administrative services and agriculture (Chart 3.2), which typically are labour-intensive, do not have substantial scale effects, and rely on flexible employment arrangements. Services have historically exhibited slower productivity growth, partly because opportunities for automation are more limited, and competitive pressures to upgrade production processes and innovation rates are weaker than in manufacturing. At the same time, these activities rely heavily on flexible and often insecure employment arrangements as an inherent feature of their production model — to accommodate seasonal and variable demand at low capital intensity — rather than as a by-product of weak productivity. Because the same sectoral characteristics independently generate both low productivity growth and weaker job quality, the correlation between the two is correspondingly weak once these structural features are taken into account. As a result, sectoral characteristics may jointly shape both productivity dynamics and working conditions. This suggests that the relationship between job quality and productivity differs across sectors in this cluster and reflects underlying differences in capital intensity, technological opportunities and the scope for organisational innovation.

Member States differ markedly in the share of better-quality jobs and those with lower earnings and job security, reflecting their economic structure and institutional settings. Belgium, Germany and Sweden record the highest shares of better-quality jobs, comprising large knowledge-intensive sectors (Chart 3.3). Denmark, Finland, France, Latvia and Spain, conversely, record the highest shares of jobs with lower earnings and job security (Chart 3.4). In Spain, the pattern reflects the duality of the labour market and a large hospitality sector with a structurally high reliance on temporary and seasonal arrangements. In France and Latvia, it notably reflects the economy's sectoral composition, with a comparatively large weight of retail, personal and administrative services for France, and agriculture and lower value-added services for Latvia. In Denmark and Finland, the result largely reflects the above-EU-average weight of personal, social and health-care services linked to ageing populations ([297]).

Chart 3.4: **Share of worse-quality occupations across Member States**



Note: Country shares of *occupations classified according to clustering presented in chapter 2, based on selected variables from the Labour Force Survey, Eurostat.*

Source: DG EMPL calculations.

3.3.2. The impact of temporary employment on productivity growth depends on whether it serves as a pathway to stable employment

Job security is intertwined with productivity outcomes. Stable employment relationships can strengthen incentives for training and facilitate the accumulation of firm-specific skills ([298]). At the same time, some degree of labour mobility is essential for efficient reallocation and improved matching between workers and firms. Temporary jobs and other flexible employment arrangements can support labour market entry and productivity growth when they facilitate upward mobility and act as stepping stones to more stable employment ([299]). However, when mobility takes the form of repeated spells of involuntary temporary employment, it may reduce workers' incentives and opportunities to acquire new skills and accumulate firm-specific human capital. In turn, this may impair the efficient allocation of labour across firms, ultimately weighing on productivity. These mechanisms provide a useful framework for interpreting the results below, while recognising that job security itself is shaped by broader economic conditions and institutions.

Recent improvements in job security reflect better employment conditions within sectors, rather than shifts in the structure of the economy, and a tighter labour market. Since 2009, job security has improved for workers. This is particularly visible in the decline in involuntary temporary employment (-3.5 percentage points) and involuntary part-time employment (-1.1 percentage points) within the same industries, rather than as a result of workers moving into different sectors (Box 3.1). These improvements took place against the background of economic recovery in the aftermath of the financial crisis, paired with labour market reforms.

([297]) The clusters are constructed at the EU level and therefore the assessment reflects the prevalence of certain sectors in the country, but not the assessment of their job quality compared to other EU countries. For instance, job quality in worse-quality occupations is likely higher in Denmark and Finland than in other Member States, even if such occupations may remain below their national average.

([298]) (Boeri, 2011); (Cahuc, Charlot and Malherbet, 2016); (OECD, 2015b).

([299]) Evidence on temporary employment is mixed. It can facilitate entry into the labour market but also become traps when workers alternate between temporary jobs with limited training, low pay and weak career progression. See, for example, (Autor, 2001); (Booth, Francesconi and Frank, 2002).

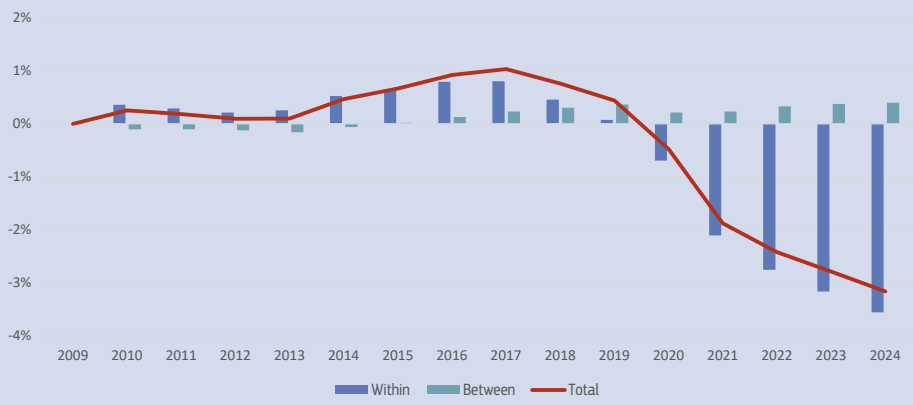
Box 3.1: Trends in job security: Decomposition of job quality shifts

Aggregate changes in job security reflect either within-sector improvements in job quality or shifts in the sectoral composition. The two indicators considered in this subsection — the share of workers in involuntary temporary employment and the share in involuntary part-time work — capture the degree to which employment arrangements align with worker's preference. This has implications on income volatility, career progression and access to employer-provided training, channels through which job quality affects productivity and consumption. This box decomposes them into within-sector and between-sector components for the EU between 2009-2024. The within-sector component captures changes in involuntary temporary or part-time work within individual sectors that reflects genuine shifts in the quality of employment relationships. The between-sector component captures the contribution of employment shifting across sectors: if employment grows faster in sectors where involuntary arrangements are structurally more common, the aggregate indicator rises even without any change in sectoral job quality. Between-sector shifts thus largely reflect structural economic transformation and intergenerational differences in job quality — as younger entrants take up employment in sectors with different structural characteristics than those from which older cohorts retire — while within-sector changes more directly reflect improvements in the quality of employment relationships experienced by workers within their jobs.

The share of involuntary temporary employment declined substantially between 2009 and 2024 in the EU, though the trajectory was uneven. Following a rise of approximately 1 percentage point between 2009 and 2017 — as firms across sectors increased temporary contracts, reflecting demand weakness and excess labour supply — the share reversed sharply, reaching a cumulative improvement of around 3.2 percentage points by 2024. This improvement was driven almost entirely by within-sector change (Chart 1): the within component fell from near-zero to approximately −3.6 percentage points, consistent with labour market tightening, sectoral shortages, and a growing firm preference for permanent contracts during the post-covid recovery.

Involuntary temporary contracts declined significantly after 2020. From around 2015, a positive between-sector component emerged as employment began to grow faster in sectors with structurally higher rates of involuntary temporary contracts — a structural composition effect that partially offset within-sector gains. This structural shift reflects which sectors are growing rather than whether jobs within sectors have become more or less secure. The empirical analysis in the following sections therefore focuses on within-sector variation, which more directly captures changes in employment relationships.

Chart 1: **Shift-share decomposition of cumulative change in involuntary temporary employment, EU aggregate, 2009-2024**

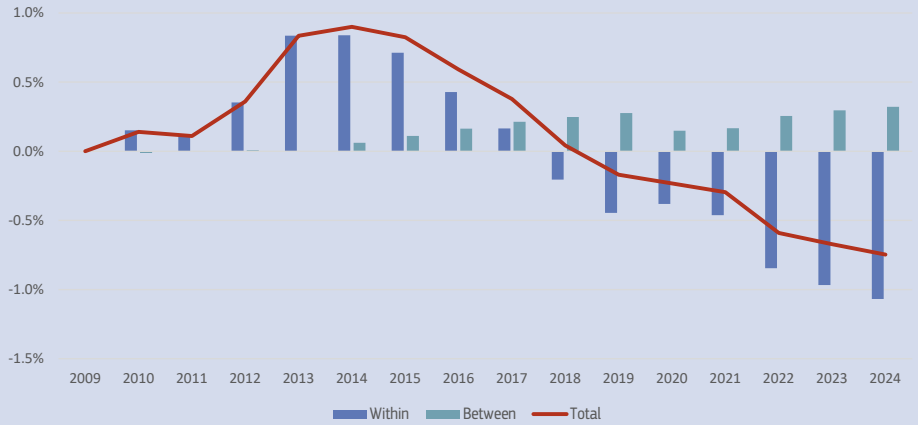


Note: Shift-share decomposition of cumulative chage in involuntary temporary employment, EU aggregate, 2009-2024.
Source: DG EMPL calculations based on EU Labour Force Survey.

Developments in involuntary part-time largely reflect to a large extent within-sector patterns. The within-sector component rose to approximately +0.8 percentage points by 2013 — capturing the widespread use of reduced-hours arrangements during and after the crisis — before declining steadily to −1.1 percentage points by 2024 as conditions within sectors improved (Chart 2). The between-sector component grew consistently to +0.3 percentage points by 2024, reflecting employment expansion in sectors where part-time work is structurally more prevalent. As with temporary employment, this structural composition effect

reflects the changing sectoral mix of employment. Some sectors — notably accommodation, food services, and parts of retail — structurally rely more heavily on part-time arrangements because of the temporal pattern of demand (European Commission, 2025). The small between-sector component indicates that employment shifts toward such sectors have not been the main driver of aggregate part-time trends; instead, the dominant movement is the within-sector decline in involuntary part-time work, observed broadly across the sectoral composition.

Chart 2: **Shift-share decomposition of cumulative change in involuntary part-time employment, EU aggregate, 2009-2024**



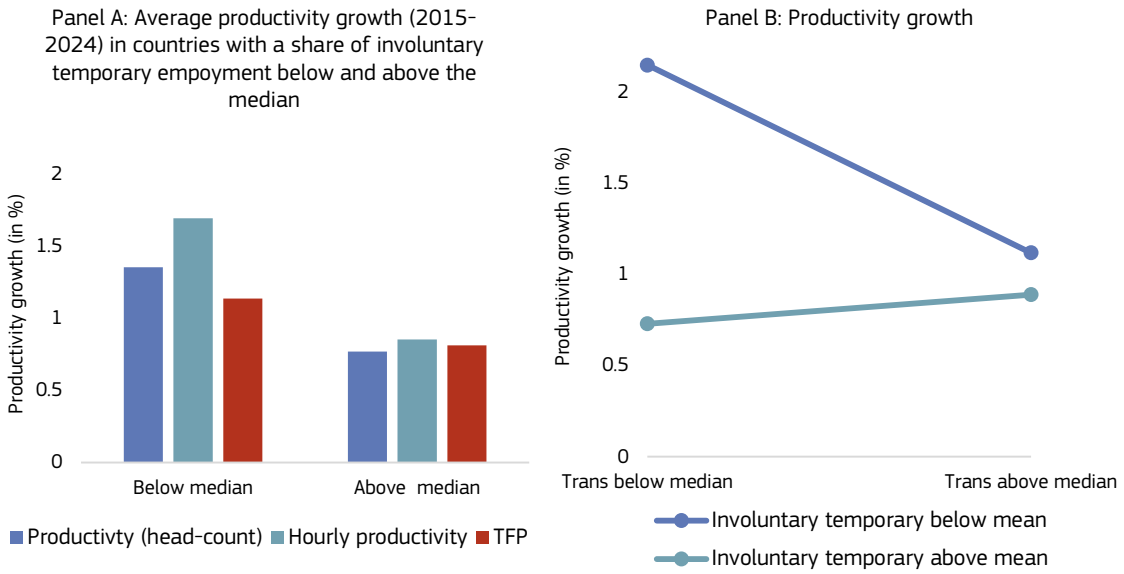
Note: Cumulative change relative to 2009=0. Whithin component reflects changes in involuntary part-time rates whithin sectors; between component reflects shifts in sectoral employment composition.
Source: DG EMPL calculations based on EU Labour Force Survey

Trends in increasing job security within sectors have varied substantially across Member States. For involuntary temporary employment, cumulative within-sector changes between 2009 and 2024 ranged from improvements of around −13 percentage points in Poland — by far the largest reduction — and around −8 percentage points in Spain and Portugal, to small increases of around +1 percentage point in Cyprus and broadly unchanged outcomes in Romania and Ireland. The resulting cross-country spread of roughly 14 percentage points reflects contrasting reform trajectories, bargaining institutions, demand conditions and the pace of labour market tightening. For involuntary part-time employment, the cross-country spread of within-sector changes amounts to roughly 9 percentage points, ranging from improvements of around −5 percentage points in Germany and −4 percentage points in Latvia, to deteriorations of around +4 percentage points in the Netherlands and +3 percentage points in Belgium. It is this within-sector variation — across countries and over time — that the empirical framework in this chapter exploits to identify the macroeconomic returns to improvements in employment relationships.

On the one hand, higher labour market insecurity is associated with weaker productivity growth. Countries with above-median shares of involuntary temporary employment record lower productivity growth by around one percentage point - across labour productivity, hourly productivity and total factor productivity (Chart 3.5). A similar pattern is observed within countries as sectors with higher share of involuntary temporary employment - such as construction, water transport and accommodation – consistently exhibit weaker productivity growth. In these sectors, labour productivity growth is around 1.4 percentage points lower, while total factor productivity growth is about 1 percentage point lower (Chart 3.6 and table A3.2). Although these results reflect only correlations and not necessarily a causal relationship, they are consistent with involuntary temporary employment affecting productivity mainly through lower efficiency in the use of labour – for example through higher turnover, weaker accumulation of firm-specific skills, and reduced learning-by-doing - rather than through lower working hours. The weaker TFP performance further points to the possibility of poorer job matching and less effective allocation of workers across firms and tasks. This is confirmed by the econometric analysis, pointing to

poorer job matching and less effective allocation of workers across firms and tasks as the main transmission channels (Table A3.1) ([300]).

Chart 3.5: **Productivity growth by involuntary temporary employment and temporary-to-permanent transitions**

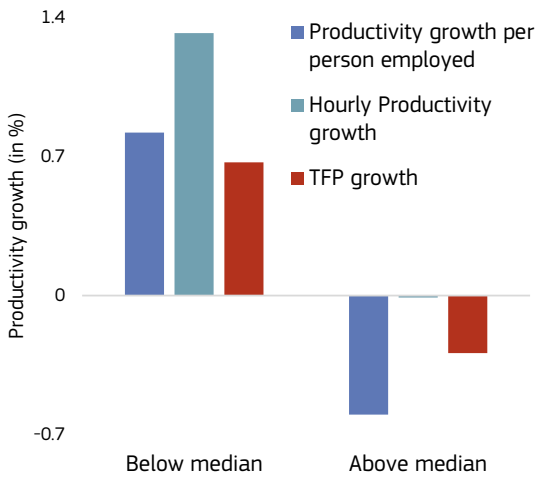


Note: Data for Ireland in 2015 have been excluded due to a break in the series. Countries with a share of involuntary temporary contracts below the median are Bulgaria, Czechia, Germany, Estonia, Ireland, France, Cyprus, Lithuania, Malta, Austria, Poland, Portugal, Romania and Slovakia

Source: DG EMPL calculations based on Ameco database and LFS

On the other hand, the impact of involuntary temporary employment on productivity depends on whether temporary jobs facilitate upward mobility or reflect persistent labour market segmentation. Transition rates from temporary to permanent employment do not show a uniform relation with productivity growth. In countries with high levels of involuntary temporary employment, higher transition rates are associated with stronger productivity outcomes (Chart 3.5 right panel). This suggests that temporary jobs may function as stepping stones to stable employment and better job matching, thereby mitigating the negative effects of labour market duality ([301]). By contrast, in countries where involuntary temporary employment is already low, higher transition rates are associated with weaker productivity growth, likely reflecting worker turnover and repeated short-duration employment transitions rather than genuine job upgrading. The econometric results support this interpretation (Table A3.1 and Chart A3.1).

Chart 3.6: **Average productivity growth (2009-2021) for sectors with share of involuntary temporary contracts below and above the median**



Note: Calculations based on 64 NACE Rev 2 sectors.

Source: DG EMPL calculations based on KLEMS database and LFS micro-data

The sectoral analysis confirms these patterns. The negative association between job insecurity and productivity is stronger in manufacturing, where production relies more on firm-specific skills and stable employment relationships (Table A3.3). In such settings, unstable employment relationships weaken

([300]) The regression controls for country specific characteristics, which means that differences across countries in institutions and structures do not affect the results. Due to data limitations, the regression does not control for sector heterogeneities that are common across countries. For this reason, part of this association also reflects sectoral characteristics that shape both contract use and productivity.

([301]) The cluster analysis in Section 2.5.2 shows that lower earnings and involuntary temporary employment go hand-in-hand.

incentives for training and limit productivity-enhancing improvements in production processes. In services, where production depends more on general skills and is less capital-intensive, the effects are smaller.

3.3.3. Sectors with high autonomy and moderate work intensity exhibit higher productivity growth

Work organisation plays an important role in shaping productivity outcomes. Greater job autonomy can enhance motivation, reduce absenteeism, and improve the allocation of tasks within firms, allowing workers to better match their skills to job requirements (see Chapter 2). It can also support problem-solving and innovation, particularly in activities requiring adaptability. However, firms may limit autonomy when tasks are highly standardised or require tight coordination, as greater discretion can increase output variability or monitoring costs. By contrast, excessive work intensity – such as long or irregular working hours- can reduce efficiency due to fatigue, stress, absenteeism and diminishing returns to effort. While longer hours may increase output in the short run, productivity per hour tends to decline as additional hours become less productive ([302]). High work intensity can also increase turnover and thereby limit the accumulation of firm-specific human capital, potentially slowing productivity growth over time.

On the one hand, sectors with higher work autonomy exhibit stronger productivity growth ([303]). Between 2019 and 2025, productivity per worker increased by around 5.5% in high-autonomy sectors ([304]), compared with 1.6% in low-autonomy sectors, while hourly productivity rose by 7.5% versus 4.1% (Chart 3.7 left panel). Within high-autonomy sectors, the relatively smaller gap between productivity growth per worker and per hour suggests that productivity gains mainly reflect more efficient use of labour rather than longer working hours ([305]). These comparisons do not control for other factors jointly affecting both work organisation and productivity, such as country-specific characteristics, sectoral structure, or macroeconomic conditions. Additional econometric analysis exploits within-country variation over time to isolate the relationship between work organisation and productivity net of these influences ([306]). The regression analysis largely confirms the general trends in productivity discussed before: a 10 percentage points increase in autonomy is associated with about 0.04% higher productivity growth. Results are similar for hourly productivity, suggesting that the effect is not driven by longer working hours (Table A3.4 columns 3 and 4) ([307]).

On the other hand, those with higher work intensity exhibit weaker productivity growth. Sectors with a higher share of workers under constant time pressure ([308]) show weaker outcomes: productivity per worker grew by around 3.0% compared with 6.6% in low-intensity sectors (Chart 3.7 right panel), with a similar pattern for hourly productivity. This suggests that greater work pressure does not necessarily translate into more efficient use of labour but is instead associated with weaker productivity

([302]) (Pencavel, 2015).

([303]) Job autonomy is not randomly distributed across jobs but varies systematically with occupations, educational attainment, managerial practices and the nature of tasks. The descriptive comparisons presented here should therefore be interpreted as associations rather than causal effects. The econometric analysis further mitigates this concern by exploiting within-country variation and controlling for country and sector fixed effects, although the results remain interpreted as associations rather than causal effects.

([304]) In the 2019 Eurostat ad hoc LFS module on work organisation and working time arrangements, job autonomy is defined as whether workers have some or large autonomy on content and order of tasks.

([305]) Part of this relationship may reflect differences in sectoral composition. High autonomy sectors tend to employ more high-skilled workers and operate in higher-productivity activities, so the association may partly capture occupational structural differences rather than work organisation alone. Nevertheless, their stronger performance is consistent with more effective use of skills and greater task flexibility supporting productivity growth.

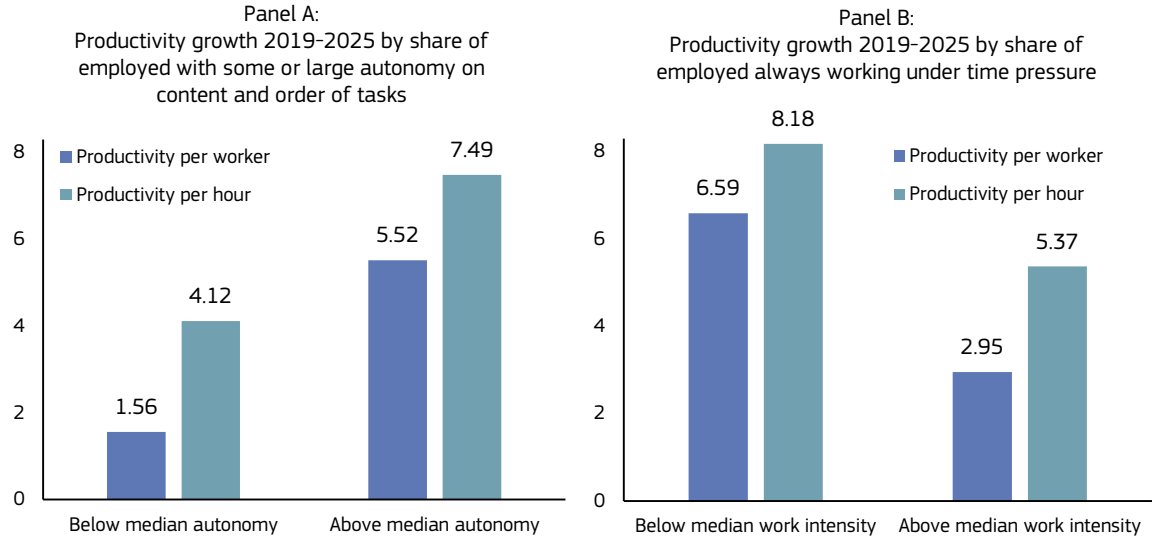
([306]) Since data on autonomy and work intensity are available for 2019, the analysis relates these initial characteristics to subsequent productivity growth, controlling for country-specific factors and exploiting variation across sectors within countries. Measuring job autonomy at the start of the period ensures a clear temporal ordering between autonomy and productivity. This reduces concerns of reverse causality, as productivity developments between 2019 and 2025 are less likely to influence pre-existing conditions. Using 2025 values would instead risk capturing adjustments in job quality driven by productivity changes, cyclical factors, or firm-level restructuring, complicating the interpretation.

([307]) This is obtained as it follows. The coefficient in table A3.4 of the Annex for the share of workers with some autonomy is 0.38. The share is measured between 0 and 1. Therefore 0.38 is the effects when the share changes by 1 i.e. 100 percentage points. Therefore, an increase by 10 percentage points corresponds to 0.38 x 0.10= 0.038 which is approximately 0.04.

([308]) The variable measures the frequency with which respondents adapt their working time to fulfil work tasks. It therefore captures actual reported behaviour rather than perceived workplace pressure or expectations. Such adjustments may result from workload, tight or changing deadlines or, in the case of employees, employers' requests.

performance. This pattern is consistent with evidence on 'greedy jobs' where long and inflexible working hours reflect organisational choices rather than technological necessity ([309]). The econometric analysis further supports the robustness of the findings: a 10 percentage points increase in the share of workers under constant time pressure is associated with around 3 percentage points lower cumulative productivity growth between 2019 and 2025(Table A3.4) ([310]).

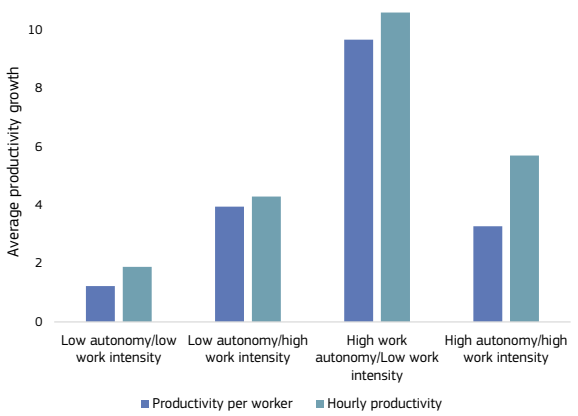
Chart 3.7: **Productivity growth, work intensity and work autonomy**



Source: DG EMPL calculations based on Eurostat, National Accounts and ad-hoc module on work organisation and working time arrangements

Considering both dimensions jointly, productivity growth has been strongest in sectors combining high autonomy and moderate work intensity in recent years. In these sectors, productivity per worker grew by 9.7% and hourly productivity by 10.6% between 2019 and 2025 (Chart 3.8), significantly above all other combinations. This pattern may partly reflect the sectoral composition of the post-pandemic recovery, including the expansion of ICT and other knowledge-intensive services, while manufacturing and agriculture declined as shares of employment and hours worked. At the same time this pattern is consistent with the notion that work environments combining greater worker discretion with sustainable work intensity can support more efficient task allocation and better use of skills. By contrast, low autonomy is associated with weak productivity performance for the same level of work intensity, while high work intensity appears to dampen productivity even where autonomy is relatively high. Overall, these patterns, further corroborated by the regression results (Table A3.4), indicate that both autonomy and work intensity matter, and that their interaction is key for productivity outcomes.

Chart 3.8: **Productivity growth by combinations of work autonomy and work intensity**



Source: DG EMPL calculations based on Eurostat, National Accounts and Ad-hoc module on work organisation and working time arrangements

([309]) (Goldin, 2014).

([310]) The estimates should be interpreted with caution. The analysis exploits variation across a relatively small number of broad sectors and identifies within-country relationships after controlling for country and sector fixed effects. Accordingly, the results should be viewed as evidence of associations rather than causal effects and may partly reflect persistent sectoral characteristics. Therefore, controlling for factors that determines sector and country specific productivity growth, workers autonomy may contribute to reduce productivity growth gaps across sectors.

The results highlight the close relationships between work organisation and productivity growth. They are consistent with theories emphasising the role of worker autonomy, engagement and organisational practices in supporting better task allocation and more efficient use of skills. This has positive implications for productivity ([311]). At the same time, more productive sectors may be better able to adopt high-autonomy practices and improve working conditions, while management quality and technological opportunities may jointly shape both job organisation and performance. Nevertheless, the results highlight that organisational choices — particularly the balance between worker autonomy and work intensity — are closely associated with productivity outcomes ([312]).

3.4. WAGES AND PRODUCTIVITY GROWTH

It is well established that higher productivity allows firms to pay higher wages. The literature shows that in the long run productivity gains increase workers' real purchasing power. Productivity growth causes consumer prices to decline, leading to real wage increases in the aggregate. However, in the short-term wages depend on a broader set of factors beyond productivity developments. This includes market power (e.g. monopsony) versus workers' bargaining power, wage-setting arrangements, and the presence of labour or skills shortages.

By contrast, the question about the effects of wage increases on productivity remains less researched. On the one hand, increasing wages may reduce firms' profits and affect their capacity to invest and boost productivity over time. If not ultimately matched with labour productivity growth, pay rises may also weigh on employment, as firms face higher costs without higher revenues. On the other hand, wage increases can reshape firms' incentives, technological choices and workforce composition in ways that may raise productivity. The literature identifies five channels through which wage increases can raise productivity. Whether these productivity-enhancing forces offset the cost of higher wages likely depends on the economic context, the size of wage hikes and the capacity of firms to adapt. Establishing causal effects is complicated because wages are shaped by economic developments rather than acting solely as a driver, making it difficult to disentangle cause from effect. The remainder of this section accordingly presents two complementary analyses: an overview of how productivity and employment evolved following sustained real wage increases since 2000, and an analysis of the impact of increases in statutory minimum wages on productivity and employment ([313]).

3.4.1. Channels through which wage increases can raise productivity

The channels through which wage increases can raise productivity operate at different margins — the worker, the firm, the technology, the firm distribution, and aggregate demand.

First, higher pay may strengthen worker effort and reduces shirking, thereby increasing output per worker. When wages rise above the market-clearing level, workers face a higher cost of job loss, which incentivises greater effort and reduces the incidence of shirking. This mechanism ([314]), also referred to as "efficiency wages" implies that higher wages (and mandatory wage floors) can improve productive efficiency at the firm level ([315]). Higher wages can also reduce absenteeism and voluntary turnover, lowering the adjustment and replacement costs that firms bear when labour is unstable. The net effects are more stable employment relationships with higher worker productivity and lower labour adjustment costs.

([311]) (Kochan and Osterman, 1994).

([312]) The analysis conditions on the 2019-2025 growth rate to reduce the risks of reverse causality.

([313]) The analyses presented in this section do not assess the effect of a formal indexation mechanism on productivity. As concerns the analysis of the link between average wages and productivity (subsection 3.4.1.), there would be too few observations in countries with such mechanism to allow for robust findings. Regarding the analysis on the impact of minimum wage increases on productivity (subsection 3.4.2), the estimated effect relates to an increase in the minimum wage to average wage ratio. Therefore, the model only captures an effect when minimum wages increase more than average wages. Since inflation would increase both minimum and average wages, there would be no change in their relationship if they grow at a similar pace.

([314]) Formalised in the efficiency wage models of (Akerlof and Yellen, 1986) and (Shapiro and Stiglitz, 1984).

([315]) (Akerlof and Yellen, 1986), (Coviello, Deserranno and Persico, 2022), (Dube, 2019), and (Shapiro and Stiglitz, 1984).

Second, higher wages attract more and better-qualified workers to the firms that offer them. In particular, with better pay, some jobs become more attractive to workers who may previously have opted out of the labour market or sought employment in other sectors. This compositional shift can improve average match quality if more qualified workers are matched to more productive (and higher-paying) firms, raising aggregate output through better allocation rather than mere redistribution. For lower-productivity firms this can imply that they lose their better workers and face higher hiring costs ([316]). Moreover, when the expected duration of employment increases — as higher wages reduce turnover — both firms and workers have stronger incentives to invest in firm-specific human capital and on-the-job training. The flip side is that lower turnover reduces hiring rates, so outsiders — the unemployed and new entrants — may face longer spells before finding work. Research in the tradition of Becker (1964) and Acemoglu and Pischke (1999) has shown that employment stability and wage levels are important determinants of training investment, with potentially significant returns to aggregate productivity.

Third, faced with higher labour costs, firms have stronger incentives to invest in productivity-enhancing technologies or automation to avoid those costs. When wage developments compress the returns to labour, firms may find it profitable to substitute capital for labour or to reorganise production around higher-skill tasks. This innovation response has been documented in a number of empirical studies ([317]). Firms in more exposed sectors tend to increase investment in machinery, equipment, and process innovation, particularly where automation is technically feasible. This may increase productivity. Alongside this technological substitution, employment may face displacement and demand for labour may be reduced, leading to lower employment in affected segments. The broader effects on employment over time depend on the extent to which more productive firms can absorb the displaced workers.

Fourth, wage increases can raise aggregate productivity by forcing the exit of the least productive firms, while survivors adapt and become leaner. Firms operating at the lower end of the productivity distribution may be unable to sustain higher wages and are consequently more likely to exit the market. This competitive pressure can generate a reallocation effect: the remaining firms tend to be more productive, either because they were already operating more efficiently or because the threat of exit incentivised cost reduction and process improvement. As for technological substitution of labour, the overall employment effects depend on the absorption of displaced workers by more productive firms.

Fifth, higher incomes translate into increased consumption, stimulating output and supporting scale economies that further boost productivity. A boost to domestic consumption can support output and capacity utilisation, improving average productivity through scale effects. These demand-side mechanisms are particularly relevant when domestic demand plays a larger role in driving growth. Moreover, as low-wage workers exhibit on average a higher marginal propensity to consume, wage increases at the bottom of the distribution are likely to have more sizeable demand effects ([318]), particularly in regions or sectors with a high share of near-minimum wage workers ([319]). These demand-side effects are, however, conditional: they may be dampened if higher wages reduce employment, and even a boost to consumption may prove unsustainable if it strains capacity, contributing to overheating or macroeconomic imbalances rather than durable productivity gains.

3.4.2. Heterogeneity in productivity developments following real wage increases

Productivity developments following real wage increases can shed some light on the interplay between wages and productivity. The analysis below examines wage increases occurring between 2000 and 2025 which were not driven by prior increases in productivity, and the subsequent developments in productivity and employment ([320]).

([316]) (Becker, 1964); (Acemoglu and Pischke, 1999).

([317]) (Acemoglu and Restrepo, 2018); (Autor, Levy and Murnane, 2003).

([318]) (Aaronson, Agarwal and French, 2012); (Dautović, Hau and Huang, 2019).

([319]) (Cengiz et al., 2019); (Dube, 2019).

([320]) The model follows the literature that studies the dynamics of macroeconomic variables around discrete events. To avoid capturing short-run volatility in wage growth, events are restricted to moderate increases in real wage growth with no rebound from previous real wage moderation. The approach is further discussed in section A3.4. in the Annex.

On average, moderate real wage increases are followed by no statistically significant change in productivity growth and employment. There is a great heterogeneity across countries and sectors**.** The impulse response derived from the model, that shows how productivity growth evolves following the selected wage increases, is slightly positive after two years before returning toward the baseline by the fourth year. However, it is not significant at 90%, highlighting heterogeneity in productivity developments across countries or sectors (see section A3.4.) ([321]). Similarly, the effects of real wage increases on employment and hours worked are not significant at 90% either (respectively slightly positive and slightly negative). In addition, there are methodological limitations, which are difficult to address, given the interplays between average wage developments and other economic factors.

The results do not rule out that, under certain economic conditions, moderate wage hikes can be followed by productivity increases. Different mechanisms are at play and can be facilitated by favourable economic conditions, allowing existing firms to adapt by raising their productivity, or facilitating the entry of new productive firms. Firms can cope with higher labour costs by increasing their productivity over time, or wage increases reshape the firm distribution, inducing the exit of low-productivity firms and the entry of more productive ones. The overall effects on employment then depend on the capacity of more productive firms and sectors to absorb workers displaced by the exit of less productive firms. In addition, there may be common underlying factors that drive both wages and productivity, such as a higher demand or technology shocks.

3.4.3. Minimum wage updates can support productivity growth

Minimum wages are a central labour market policy instrument, with various links to job quality. They affect job quality of many low-paid workers, beyond those earning the minimum wages, due to spillover effects of minimum wage increases on other wages. Besides, minimum wage increases further affect the non-wage dimensions of working conditions, with evidence pointing to lower worker turnover, more stable employment relationships and reduced reliance on involuntary part-time arrangements ([322]).

They can also affect macroeconomic outcomes. Since the seminal contribution of Card and Krueger (1994), which challenged the prediction of substantial dis-employment effects, the empirical literature continues to explore the magnitude of the economic effects of minimum wages. Empirical evidence suggests that minimum wage increases are associated with higher firm-level productivity growth among surviving firms and an increase in the average productivity of the firm distribution ([323]). Minimum wage increases also raise demand, reflecting the high marginal propensities to consume at the lower end of the income distribution. The latest evidence also points to either very limited or no negative aggregate employment impacts ([324]) and modest price increases and inflation effects ([325]).

Minimum wage increases may have a positive causal effect on labour productivity. The a priori exogenous nature of minimum wage increases allows adopting a quasi-causal empirical strategy to understand the effect of minimum wage increases on macroeconomic outcomes. The average marginal effect of a 1-percentage increase in the minimum wage to average wage ratio would be associated with a 0.1 pp higher hourly labour productivity. Such an effect on productivity growth is temporary, but would lead to a higher productivity level (see section A3.5. for a presentation of the empirical design and results). The strength of firm-level adjustment depends on the share of the workforce directly affected by an increase of the wage floor. The productivity gains may therefore be the largest in sectors where more workers earn wages close to the minimum wage.

The same empirical design shows that minimum wage increases do not lead to statistically significant employment effects. Applying the same empirical design as for the estimation of productivity effects ([326]), estimates show no negative employment effects of minimum wage increases.

([321]) The 68% bands, as considered in (Kappler et al., 2012), excludes zero. Productivity growth returning toward the baseline by the fourth year is consistent with transitory effects on productivity growth. Effects on productivity levels can nevertheless remain.

([322]) (Dube, Lester and Reich, 2016); (Brochu and Green, 2013).

([323]) (Hsieh and KLenow, 2009); (Autor et al., 2020); (Dustmann et al., 2022).

([324]) (Dube and Lindner, 2024); (Neumark and Shirley, 2022); (Belman and Wolfson, 2014).

([325]) (Ashenfelter and Jurajda, 2022); (Lemos, 2008).

This is consistent with most of the recent empirical literature ([327]), which finds limited aggregate employment responses to minimum wage increases, even where wage floors bind more tightly. Together with the productivity results presented above, this suggests that firm-level adjustment occurs primarily along non-employment margins – wages, prices, technology adoption, and worker reallocation – rather than through reductions in headcount.

The estimated productivity-enhancing effects might be accompanied by some potential adverse impacts on prices, and positive impacts on consumption. Several of the same firm-level mechanisms that generate productivity gains — labour-saving technological upgrading, worker reallocation and the exit of less productive firms — can also entail short-run sectoral job displacement, particularly in the most exposed sectors ([328]). Similarly, firms may pass through part of the higher labour costs to consumers in the form of higher output prices, although the empirical evidence suggests that such price pass-through effects are generally modest ([329]). A comprehensive welfare assessment of minimum wage policy would therefore need to weigh these productivity gains against potential costs along other margins, which is beyond the scope of the present analysis.

3.5. JOB SECURITY AND CONSUMPTION

Beyond its association with productivity, employment security also influences macroeconomic outcomes through the demand channel. A higher incidence of involuntary temporary employment increases income uncertainty and weakens expectations about future labour market prospects. This tends to raise precautionary savings and reduce consumption, dampen aggregate demand and amplifying cyclical fluctuations. Labour market insecurity also affects the sensitivity of consumption to economic shocks and its composition across spending categories (durables, semi-durables, non-durables, and services ([330]) depending on how easily expenditures can be postponed and how sensitive they are to income risk and uncertainty ([331]). Given data limitations, the results presented below are interpreted as associations rather than causal effects. Yet, they provide useful evidence on how labour market conditions transmit shocks to households' consumption.

3.5.1. Job insecurity amplifies the negative relationship between uncertainty and consumption growth

Involuntary temporary employment can amplify the response of consumption to labour market risks through two mechanisms. The first is a risk perception channel, whereby deteriorating labour market expectations increase precautionary savings and reduce consumption. The second is an unexpected shock channel, whereby realised labour-market outcomes deviate from expectations and generate unanticipated income changes, that trigger consumption adjustments. These mechanisms are captured empirically using, respectively, household unemployment expectations for the year ahead and unexpected unemployment changes (see section A3.3.) ([332]).

([326]) Differential-exposure framework to employment outcomes, with exposure thresholds set at 105% and 110% of the minimum wage, yield coefficients that are statistically insignificant at conventional levels (see Annex A3.5.).

([327]) Building on (Card and Krueger, 1994) and reinforced by more recent meta-analyses and large-sample studies, e.g. (Cengiz et al., 2019); (Dube and Lindner, 2024); (Harasztosi and Lindner, 2019); (Neumark and Shirley, 2022).

([328]) (Cengiz et al., 2019); (Dube and Lindner, 2024); (Neumark and Shirley, 2022).

([329]) (Aaronson, 2001); (Ashenfelter and Jurajda, 2022); (Lemos, 2008).

([330]) The Classification of Individual Consumption According to Purpose (COICOP) is the standard classification used in National Accounts for recording household expenditure. Under the COICOP framework, durable, semi-durable, non-durable goods and services are classified according to their expected period of use and consumption. Non-durable goods are goods with an expected use of one year or less (e.g. food); semi-durable are goods with an expected period of use between one and three years (e.g. clothing); durable goods (e.g. cars and furniture) have an expected period of use of more than three years. Services (e.g. housing services; restaurants and hotels) are intangible items consumed at the time of purchase.

([331]) Durable goods involve larger and often irreversible expenditures and are therefore more responsive to perceived income risk. The following paragraphs first report the results for total consumption and then examine differences across consumption categories based on durability of consumption.

([332]) Therefore, the focus of the analysis is narrower than in the framework proposed by (Stiglitz, Sen and Fitoussi, 2009) report, where insecurity is defined more broadly to encompass individuals' overall future labour market prospects, including the risk of job loss, the expected duration of unemployment, unemployment benefit replacement rates, and the quality of subsequent employment.

Household consumption depends not only on realised income changes, but also on expectations about future risks. Unexpected increases in unemployment reduce consumption growth by around 0.44 to 0.54 percentage points for a one percentage point surprise increase in unemployment, reflecting both income losses and increased uncertainty (Table A3.5 and Chart 3.9) ([333]). At the same time, even in the absence of actual shocks, deteriorating expectations about future labour market conditions lead households to cut spending (Table A3.5). Comparing these two channels ([334]), the risk-perception channel appears quantitatively stronger: a one-standard-deviation increase in perceived income risk reduces consumption growth by around 0.8 pp, compared with about 0.5 pp for an equivalent unemployment surprise ([335]). This suggests that changes in households' perceptions of future income risks are at least as important—and possibly more important—than unexpected changes in unemployment. Household consumption reacts strongly to both unexpected increases in unemployment and worsening labour market expectations ([336]).

These responses are stronger in more insecure labour markets. In countries with a high share of involuntary temporary employment (henceforth called "'high-insecurity countries') both unemployment shocks and deteriorating expectations lead to larger reductions in consumption. For example, an adverse shock is associated with a decline in consumption growth of around 0.6% in low-insecurity countries ([337]), compared with about 0.9% in high-insecurity countries (Chart 3.11), implying that the estimated negative consumption response is around 50% larger in high-insecurity countries ([338]). A similar amplification is observed for changes in expectations, pointing to stronger precautionary saving behaviour where employment conditions are more unstable. These adjustments occur both immediately and over time, reflecting factors such as liquidity constraints and the postponement of discretionary spending.

([333]) This indicates that negative labour-market surprises translate into immediate reductions in household spending, consistent with realised income shocks and precautionary saving responses.

([334]) Since the unexpected unemployment and perceived income risk shocks are measured on different scales, their coefficients are not directly comparable. Considering the volatility of each shock by considering the impact of a one-standard-deviation increase provides a common basis for comparison.

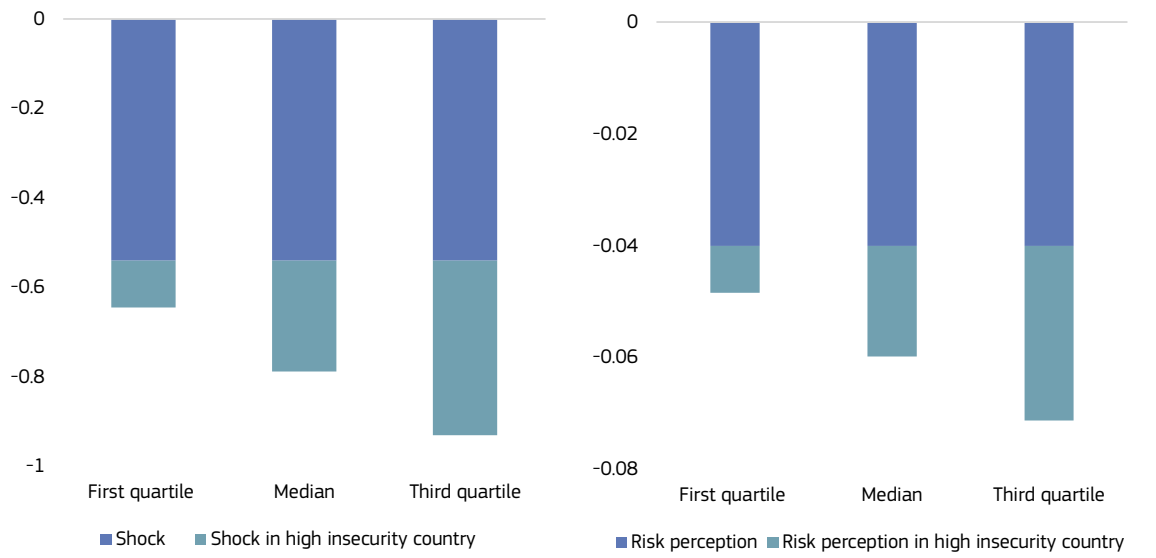
([335]) Since the standard deviation of perceived income risk differs from that of the unemployment surprise, the shocks are not comparable when measured in the variables' original units. Therefore, the corresponding coefficients cannot be compared directly. The coefficients are normalised consequently to represent the response of each variable to an equally sized shock.

([336]) Unexpected deteriorations in labour market conditions are associated with lower consumption growth: a one percentage point increase in the unemployment shock is linked to a reduction of around 0.5 percentage points. The effect is stronger in countries with higher involuntary temporary employment, consistent with the amplification mechanism of labour market insecurity. Although not statistically significant, estimates are stable across specifications. Limited precision likely reflects the small sample size (27 countries), clustered bootstrap inference and the two-step estimation.

([337]) For illustrative purposes, countries are classified according to the distribution of involuntary temporary employment. Low-, medium- and high-insecurity countries correspond respectively to the first quartile, the median and the third quartile of the cross-country distribution of the share of involuntary temporary employment.

([338]) This is obtained as follows. In low insecurity countries consumption falls by 0.6%, while it falls by 0.9% in high insecurity countries. The relative change is (0.9-0.6)/0.6 which equals 0.5, i.e. the decline is 50% larger in high-insecurity countries.

Chart 3.9: **Effects on consumption growth of unexpected unemployment shocks and risk perception shocks by level of involuntary temporary employment**



Note: The dark bars show the baseline effect of the shock, while the red bars show how this effect becomes stronger in countries with higher involuntary temporary employment. Moving from the first to the third quartile of the distribution of involuntary temporary employment, the total negative effect on consumption becomes larger. Calculation based on column 2 Table A3.5. Risk perception is proxied by households' unemployment expectations for the next 12 months from the European Business and Consumer survey.

Source: DG EMPL calculations based on Eurostat, National Accounts and COICOP

Over the longer term, persistent exposure to employment insecurity is associated with weaker domestic demand. While involuntary temporary employment shows limited variation within countries over time, cross-country differences remain substantial ([339]). When long-run cross-country differences are taken into account, countries with structurally higher levels of involuntary temporary employment exhibit lower average consumption growth ([340]). A difference of around 5 percentage points in involuntary temporary employment —comparing countries in the top and bottom quartiles — is associated with about half a percentage point lower consumption growth (Table A3.5). This suggests that labour market insecurity acts as a structural drag on domestic demand ([341]).

3.5.2. Job security affects the composition of household consumption

The impact of labour market shocks varies markedly across consumption categories. Durable goods show the strongest response. These purchases – such as car or household equipment — are costly and largely irreversible and can be postponed, which makes them highly sensitive to income risk and uncertainty (Chart 3.10). Therefore, unexpected increases in unemployment lead to sharp declines in durable consumption, particularly in more insecure labour markets. Semi-durable goods also decline following labour-market shocks, though to a lesser extent. These items, such as clothing, remain discretionary but are easier to adjust. By contrast, non-durable consumption, including essential goods such as food, is relatively stable, reflecting consumption smoothing behaviour. Services consumption is also less responsive, as many services are either necessary or can be less easily postponed ([342]).

([339]) For all Member States, the volatility - the coefficient of variation — of the share of involuntary temporary contracts is lower than the volatility of consumption growth with a median that is 30% lower. Therefore, its direct effect is difficult to identify using only short-run within-country changes.

([340]) See section A3.3. for a technical discussion.

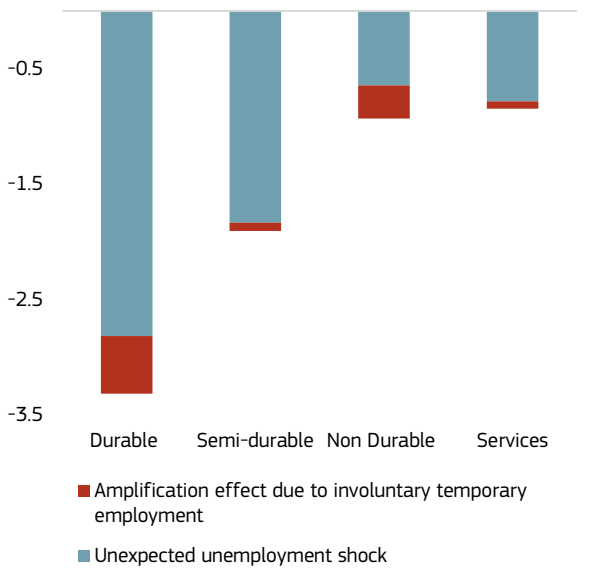
([341]) However, because this coefficient is identified from cross-country variation, it should be interpreted cautiously: it may reflect other structural features jointly correlated with labour market insecurity (e.g. institutions, welfare systems, industrial structure).

([342]) Services include cleaning and hire of clothing, actual and imputed housing rental, repair services, domestic services, outpatient and hospital services, transport services, post and telecommunication services, recreational and cultural services, education, catering, accommodation, hairdressing, insurance and financial services; (Handbook on Supply and Use Tables and Input-Output Tables with Extensions and Applications, UN, SNA, 2018); Eurostat.

Employment insecurity affects not only consumption levels but also its composition and cyclical sensitivity. In more insecure labour markets, adverse shocks lead to sharper reductions in discretionary spending — especially on durable goods — thereby amplifying fluctuations in aggregate demand. Conversely, in more secure labour markets, households are better able to smooth consumption over the cycle.

Overall, the evidence points to two mechanisms. Within countries, employment insecurity amplifies the response of consumption to labour market shocks (short-run channel); across countries, it is associated with persistently weaker domestic demand (long-run mechanism). This suggests that labour market duality acts as a macroeconomic amplifier, increasing consumption volatility and highlighting the role of job quality not only for individual welfare but also for economic stability and resilience.

Chart 3.10: **Impact of unemployment unexpected shocks on consumption growth by durability**



Note: Marginal effect of an unexpected increase in unemployment by 1 pp for a share of involuntary temporary employment that corresponds to the third quartile of the cross-country distribution; panel regression on 27 Member States controlling for country and year fixed effects.

Source: DG EMPL calculations based on National Accounts, LFS Eurostat

3.6. CONCLUSION

Improving job quality is associated with macroeconomic outcomes. This chapter has shown that key dimensions of job quality — wages, employment security, work autonomy and work intensity — are linked to productivity growth and consumption dynamics. Good macroeconomic outcomes allow working conditions to improve in a sustainable way. Job quality is not only an important social objective but can also contribute to improve some aspects of economic performance and resilience, including allocative efficiency, stability and social convergence.

Employment security can support both labour productivity and labour market functioning. Higher levels of involuntary temporary employment are associated with weaker productivity growth, potentially reflecting lower incentives for human capital accumulation, poorer job matches and reduced allocative efficiency. At the same time, stronger transitions from temporary to permanent employment can mitigate these negative effects when they reflect genuine upward mobility, supporting the 'stepping-stone' hypothesis. However, this channel is effective only when involuntary temporariness is high. Where labour market segmentation is limited, higher mobility may instead reflect inefficient churn. This highlights that what matters for both productivity is not mobility per se, but whether it leads to stable and productive employment relationships that support skill accumulation and sustained labour market attachment.

Work organisation also matters. Higher worker autonomy has been associated with stronger productivity growth across sectors in recent years, while excessive work intensity has been associated with weaker performance. The interaction of these dimensions is also significant: productivity growth has been strongest in environments combining high autonomy with moderate work intensity. While this may partly be due to the sectoral patterns of the post-pandemic economic recovery, it is also consistent with the notion that organisational models based on effective use of skills, workers engagement and sustainable working conditions are more conducive to productivity than those relying on intensified labour input. At the same time, such environments can enhance job attractiveness and support longer and more stable careers.

While productivity growth remains a key precondition for sustainable wage increases, higher wages can in turn contribute to productivity improvements, depending on economic conditions.

Over the last 25 years, moderate wage hikes have been followed by increases in productivity with no decrease in employment in a majority of cases. However, the results are not statistically significant. Under favourable economic conditions, firms can adapt to higher labour costs by raising their productivity and that possible employment losses in less productive firms are absorbed by more productive firms. Moreover, minimum wage increases, provided that they take into account their effects on competitiveness, can generate productivity gains. This can reflect a number of factors, including increased worker effort and engagement, labour-saving technological improvements, higher human capital investment, and firm selection eliminating less productive companies.

Job quality also affects macroeconomic dynamics through household consumption. Employment insecurity amplifies the response of consumption to labour market risks, through both precautionary savings and income shocks. Households facing greater insecurity reduce consumption more strongly in response to adverse developments, particularly for durable goods, which are more sensitive to uncertainty. This implies that job quality affects not only the level of consumption, but also its composition and cyclical sensitivity. Moreover, countries with persistently higher employment insecurity tend to exhibit weaker average consumption growth, pointing to longer-term effects on domestic demand.

Overall, the findings of this chapter have important implications for resilience and policy design. Labour market duality and persistent job insecurity can weigh on both productivity growth and domestic demand, slowing economic growth and convergence across EU Member States. By contrast, improving job quality — through more stable employment, better work organisation and adequate wages — can support productivity, strengthen labour supply and stabilise consumption. This suggests that, as highlighted in Chapter 4, achieving key policy objectives depends not only on the quantity of jobs, but also on their quality.

A3.1. THE LINK BETWEEN JOB SECURITY AND PRODUCTIVITY GROWTH

The analysis in section 3.3.2. shows that higher labour market insecurity is associated with weaker productivity growth. Countries with above-median shares of involuntary temporary employment record lower productivity growth. A similar pattern is observed within countries as sectors with higher share of involuntary temporary employment.

While descriptive patterns may reflect structural differences across countries, the econometric analysis exploits within-country variation over time, controlling for common shocks and time-invariant heterogeneity. A panel estimate based on 27 Member States over the 2011-2024 period, confirm a robust negative association between involuntary temporary employment and productivity growth, strengthening the interpretation that job insecurity weighs on economic performance (Table A3.1 below).). Country fixed effects absorb time-invariant structural differences (institutional frameworks, long-run sectoral composition), while time fixed effects capture common macroeconomic shocks. Standard errors are clustered at the country level. The coefficient on involuntary temporary employment is consistently negative across different specifications. This result is robust to the inclusion of country specific fixed effects and alternative lag structures. These results should be interpreted as conditional associations rather than causal effects, although the use of fixed effects - to capture unobserved structural differences across countries and overtime - and lagged variables helps mitigate some sources of bias.

Table A3.1: **The relation between productivity growth and involuntary temporary employment and the temporary-to-permanent transition**

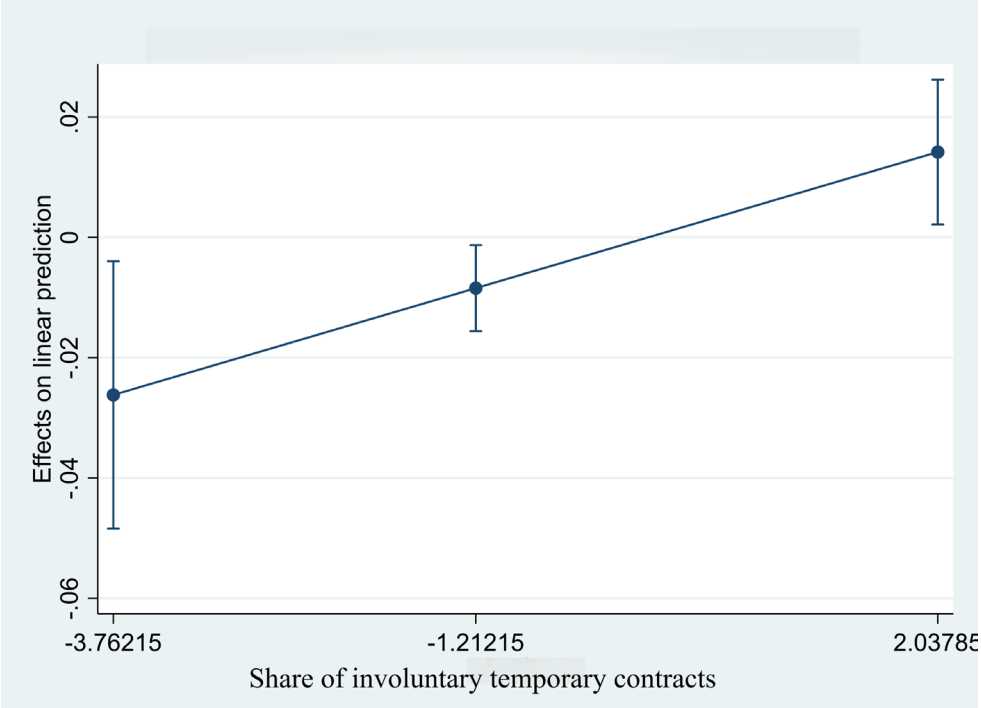
	Productivity Growth					Total Factor Productivity growth				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Share of involuntary temporary employment	-0.2**		-0.26*		-0.10	-0.2**		-0.17*		-0.13**
	(0.094)		(0.14)		(0.08)	(0.08)		(0.11)		(0.07)
Share of involuntary temporary employment 1-year lag		-0.26**		-0.31**			-0.25***		-0.23**	
		(0.098)		(0.12)			(0.07)		(0.10)	
Transition rate from temporary to permanent	3.8		0.33		-0.3	2.8		-3.6		-1.10
	(2.7)		(2.91)		(2.96)	(2.3)		(3.3)		(2.49)
Transition rate from temporary to permanent 1 year lag		4.2		3.7			2.9		0.08	
		(2.7)		(3.0)			(1.97)		(2.1)	
INVTEMP x TRANS	1.09*		1.34			1.2**		0.6		
	(0.57)		(0.85)			(0.5)		(0.8)		
INVTEMP (-1) x TRANS(-1)		1.23**		0.85			1.3***		0.45	
		(0.52)		(0.78)			(0.42)		(0.69)	
INVTEMP x TRANS(-1)					0.38					0.7**
					(0.34)					(0.3)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes			Yes	Yes	Yes			Yes
Country specific trend	No	No	Yes	Yes	No	No	No	Yes	Yes	No
No Obsevations	333	309	333	309	306	333	309	333	309	306
R2	0.43	0.43	0.47	0.47	0.43	0.26	0.27	0.32	0.32	0.27

Note: Standard error in parentheses; standard errors clustered at country level to account for serial correlation. The coefficients capture the average within-country association between changes in job quality and changes in macroeconomic performance, net of time-invariant structural heterogeneity and common shocks. The share of involuntary temporary employment is mean-centred. Therefore, the coefficients on transition rates reflect their effect at a representative level of involuntary temporary employment. Specifications with country-specific linear trends identify the effect of labour-market transitions from short-run deviations around country-specific productivity paths and therefore capture cyclical effects rather than long-run convergence dynamics. Given the short time dimension of the panel, our baseline results focus on specifications without country trends (col 1,2,5), but control for common shocks through year fixed effects; country specific trend-based specifications are used as a robustness check. Period 2009-2021.

Source: Estimates based on Eurostat LFS, National Accounts, AMECO

Upward mobility mitigates the negative effects of labour market insecurity, particularly for productive efficiency. As illustrated in Graph A3.1, transition rates are negatively associated with TFP growth in countries with low involuntary temporariness but become positive when involuntary temporariness is high. This indicates that transitions capture different underlying dynamics: in less segmented labour markets they may reflect inefficient churn, while in more segmented systems they signal genuine upgrading, improved matching and stronger incentives for skill accumulation. Overall, the macroeconomic impact of temporary employment depends critically on its role in the labour market - whether temporary jobs represent a persistent condition or a transitional phase; this is visible from the interaction between involuntary temporary employment and transition rates into permanent jobs—capturing upward mobility from insecure to stable employment— with a positive sign and statistically significant once EU-wide cyclical conditions are controlled for (column 1 of table A3.1). Temporary jobs can support productivity when they provide a pathway to better jobs, but when they reflect persistent insecurity, they tend to weaken efficiency and slow productivity growth. What matters is not flexibility per se, but whether it leads to stable and productive employment relationships.

Chart A3.1: **Effect on productivity growth of temporary to permanent transitions by share of involuntary temporary employment**



Note: The chart reports the average marginal effects of lagged temporary-to-permanent transitions on TFP growth, evaluated at different levels of involuntary temporary employment relative to its mean.

Source: Own calculations based on regression five of Table A1

Employment insecurity is associated with weak productivity growth within countries. Table A3.2 compares average productivity growth over the period 2009-2021 for sectors with a share of involuntary temporary employment respectively below and above the median. Three different measures of productivity, notably productivity per person employed, per hour work and total factor productivity. These different measures are informative of the mechanisms linking involuntary temporary employment to productivity growth. The comparison with the median is made within each country and year. This removes cross-country differences (such as those due to different institutions or economic structures) and time trends (due to business cycle). Within the same country-year, sectors with higher involuntary temporary employment grow much less – between 1 and 1.4 percentage points depending on the measure of productivity considered. The fact that sectors with high involuntary temporary employment underperform irrespectively of productivity measurements suggests that such gaps are not driven by hours worked and reflect genuine efficiency differences rather than in factors accumulation. This point to high employment insecurity being accompanied by loss of firm specific human capital, weaker job matches and lower incentives to invest.

Table A3.2: **Average productivity growth (2009-2021) for sectors with share of involuntary temporary contracts below and above the median**

	Productivity growth per person employed	Hourly Productivity growth	TFP growth
Below median	0.82	1.32	0.67
Above median	-0.6	-0.01	-0.29
Difference	1.42***	1.33***	0.95
p-value	0.0048	0.004	0.028

Source: DG EMPL calculations based on KLEMS database and LFS micro-data

Sectors with more involuntary temporary employment tend to experience weaker productivity growth. Country-level productivity growth measures average outcomes across industries with different exposure to involuntary temporariness and heterogeneous productivity responses. Country-level productivity growth measures average outcomes across industries with different exposure to involuntary temporariness and heterogeneous productivity responses. By exploiting within-country variation across sectors and over time, the sectoral analysis provides a more precise assessment of the link between involuntary temporary employment and productivity growth (table A3.3). Exploiting within-country, across-sector variation shows that sectors with higher shares of involuntary temporary employment consistently exhibit lower productivity growth within the same country and year. This relationship remains robust when comparing sectors within the same country and year, and after accounting for structural differences across countries and common macroeconomic shocks. This means that estimates compare sectors within the same country and year, net of structural differences and common shocks. As a result, the relationship is not driven by cross-country differences (e.g. countries with both lower productivity and more temporary employment), differences in the sectoral structure, or economy-wide fluctuations affecting all sectors simultaneously.

Weaker job security is mainly associated with lower efficiency in how labour is used rather than with changes in hours worked or capital accumulation. This pattern is most evident in broader measures of productivity (TFP), where the relationship is stronger and more robust, with consistently larger and statistically significant effects, while the association with labour and hourly productivity is smaller and less precisely estimated. Overall, this suggests that involuntary temporary employment primarily weakens allocative efficiency and matching quality rather than influencing capital deepening ([343]) or working time ([344]) (table A3.3 below).

([343]) Capital deepening refers to the increase in the capital-to-labour ratio, which can occur investing in machinery, technology or infrastructure.

([344]) Hourly productivity is a better measure than productivity per person because the latter depends also on the adjustment of hours worked, in addition to capital deepening and cyclical fluctuations. TFP removes these mechanical effects. TFP is more sensitive to match quality, organisational efficiency and the effective use of skills, while labour productivity measures may be influenced by adjustments in hours worked and capital intensity that partly offset efficiency losses.

Table A3.3: **Effect of temporary involuntary employment on productivity growth by sector**

	Impact of 1pp increase in the share of involuntary temporary employment 1-year lagged								
	Productivity Growth (1)	Hourly Productivity Growth (2)	TFP growth (3)	Productivity Growth (4)	Hourly Productivity Growth (5)	TFP growth (6)	Productivity Growth (7)	Hourly Productivity Growth (8)	TFP growth (9)
All economy	-0.29	-0.35**	-0.41***	-0.15	-0.25	-0.32***	-0.26	-0.35*	-0.44***
	(0.20)	(0.16)	(0.11)	(0.19)	(0.17)	(0.11)	(0.24)	(0.18)	(0.11)
No Obsevations	4891	4640	4490	4889	4640	4490	4889	4640	4490
R2	0.14	0.1	0.12	0.35	0.25	0.28	0.17	0.14	0.16
Manufacturing	-0.7**	-0.6*	-0.6***	-0.6*	-0.5	-0.6***	-0.7**	-0.6*	-0.6****
	(0.33)	(0.32)	(0.15)	(0.31)	(0.32)	(0.16)	(0.34)	(0.34)	(0.15)
Non-manufacturing	0.06	-0.12	-0.26	0.21	0.004	-0.06	0.12	0.1	-0.25
	(0.23)	(0.15)	(0.16)	(0.21)	(0.15)	(0.13)	(0.3)	(0.16)	(0.17)
F-statistic for equality of the effects between manufacturing and services	3.92*	1.64	3.07	4.61**	2.52	9.79***	3.84**	1.76	3.17*
p-value	0.06	0.22	0.1	0.046	0.13	0.006	0.07	0.2	0.09
Country x Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	No	No	No	No	No	No
Sector x Year fixed effects	No	No	No	Yes	Yes	Yes	No	No	No
Country x Year fixed effects	No	No	No	No	No	No	Yes	Yes	Yes
No Obsevations	4891	4640	4490	4889	4640	4490	4889	4640	4490
R2	0.14	0.1	0.12	0.35	0.25	0.28	0.17	0.14	0.16

Note: The table shows the relation between involuntary temporary and productivity growth under different assumptions about the confounding factors. Columns 1 to 3 control for common EU wide productivity growth developments and for differences across countries in sectoral specific specialisation and institutional setting (i.e. country-sector fixed effects). In this case, the identification of the effect comes from variation in the share within each county and sector combination. Columns 4 to 6 controls, in addition to sectoral specialisation, for EU common sector specific shocks. In this case, the effect is identified within country as deviation from the common EU sector trends. Finally, columns 7 to 9 control for sectoral heterogeneity and for country specific macroeconomic shocks (i.e. shocks common to all sectors of one country, but differing across countries, i.e. EU-wide shocks with asymmetric effects across countries). This specification isolates within country-year cross sector variation, while removing the effects of macroeconomic shocks and differences in structural specialisation. *,**,*** statistically different from zero at 10%, 5% and 1% of confidence; standard error in parentheses.

Source: Estimates based on Eurostat LFS, KLEMS database

There is a substantial heterogeneity across industries. The relationship is consistently larger and statistically significant in manufacturing, while effects in services are generally smaller and not statistically significant. This pattern is consistent with the greater role of firm-specific human capital and organisational capital in manufacturing, where unstable employment relationships may weaken incentives for training and limit the scope for productivity-enhancing improvements in production processes. By contrast, in many service sectors, production processes are typically less capital-intensive and rely more on general rather than firm-specific skills. As a result, shorter employment relationships may entail lower productivity losses, and the scope for efficiency gains through long-term matching, training, or process innovation is more limited. Finally, the estimated effects are larger at the sectoral level than in country-level regressions, indicating that aggregation may mask important cross-sector differences and attenuate the relationship

A3.2. THE LINK BETWEEN AUTONOMY AND PRODUCTIVITY GROWTH

Table A3.4: **Productivity growth (2019-2025) and working arrangements (2019)**

	Productivity Growth (panel a)				Hourly Productivity growth (panel c)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Share of employed with some or large autonomy on content and order of tasks	013	0.07	0.38***	0.38**	009	0.02	0.33**	0.22
	(0.095)	(0.13)	(0.09)	(0.16)	(0.10)	(0.13)	(0.12)	(0.15)
	Productivity Growth (panel b)				**Hourly Productivity growth (panel d)**			
Share of employed with some or large autonomy on content and order of tasks	013	0.08	0.31***	0.28***	009	0.02	0.25**	0.13
	(0.093)	(0.13)	(0.10)	(0.14)	(0.10)	(0.13)	(0.11)	0.13
Share of employed always working under time pressure	-0.79	-0.57	-2.44*	-3.03*	-0.73	-0.31	-2.54	-2.83
	(0.67)	(0.65)	(1.36)	(1.64)	(0.84)	(0.81)	(1.73)	(1.94)
Country fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
Sectors fixed eeffects	No	Yes	No	Yes	No	Yes	No	Yes
Number of observations	124	124	124	124	119	119	119	119

Note: Data clustered by country

Source: Eurostat, National Accounts and Ad-hoc module on work organisation and working time arrangements

A3.3. THE LINK BETWEEN JOB SECURITY AND CONSUMPTION

In standard intertemporal consumption models, households choose consumption based on expected lifetime income and the degree of income uncertainty. Higher uncertainty increases precautionary saving and reduces current consumption. Employment Job insecurity—captured here by involuntary temporary employment—raises the perceived probability of future income losses and therefore increases precautionary saving.

Two mechanisms can be distinguished. First, changes in labour -market expectations affect consumption through precautionary savings behaviour. When households expect labour market conditions to deteriorate, they increase savings and postpone consumption, particularly for durable goods. This mechanism reflects forward-looking behaviour based on perceived income risk. Second, unexpected labour- market shocks affect consumption through realised income changes. When unemployment rises more than expected, households experience negative income shocks and adjust consumption accordingly. This channel captures deviations of realised labour -market outcomes from prior expectations and reflects ex-post income adjustments rather than precautionary behaviour.

The empirical analysis examines whether involuntary temporary employment amplifies the response of consumption to labour market risk through both channels. Expectations-based risk perceptions are proxied by indicators of expected unemployment developments, while unexpected shocks are measured by the forecast error between realised and expected unemployment.

The baseline specification is $\Delta C_{i,t} = b\ shock_{i,t} + d\ shock_{i,t} tempinv_{i,t-1} + c_i + l_t + e_{i,t}$

where $shock_{i,t} = \begin{cases} u_{t+1} - u^*_{i,t} & \text{surprise shock channel} \\ uexp & \text{risk perception channel} \end{cases}$

uexp denotes households' unemployment expectations over the next 12 months; the unexpected unemployment component is defined as the deviation between the change in the unemployment rate realised one year ahead and the change expected one year earlier on the basis of the consumers' unemployment expectations: $Du^*_{i,t+1} = b_1 + b_2 uexp_{i,t} + g_t + u_{it+1}$, where $Du^*_{i,t+1}$ measures the unexpected change in unemployment and $tempinv_{i,t-1}$ is the share of involuntary temporary employment in country i one year earlier. tempinv is mean-centred, so that the coefficient β measures the effect of labour market shocks at the average level of job insecurity; the interaction term δ captures whether

employment insecurity amplifies effect the response of consumption to labour-market risk. A negative δ would indicate that higher involuntary temporary employment strengthens the decline of consumption associated to adverse expectations or unexpected increases in unemployment. This would be consistent with precautionary saving behaviour and stronger income adjustments in insecure labour markets. Identification relies on within-country variation over time, net of common shocks. The effects are expected to be stronger for durable consumption, which is typically more sensitive to income risk and expectations about future employment.

Under this framework, the interaction term captures whether job insecurity amplifies the response of consumption to labour market risks. A negative interaction coefficient d would indicate that higher involuntary temporary employment strengthens the decline in consumption associated with worsening expectations or unexpected increases in unemployment. This would be consistent with precautionary saving behaviour and stronger income adjustments in more insecure labour markets. The direct effect of involuntary temporary employment is generally not statistically significant in specifications with country fixed effects. Once country and year effects are included, limited within-country variation remains, increasing standard errors and reducing statistical significance. To test whether its effect is relevant for consumption in cross-country differences in long-run exposure to employment insecurity, specifications (3) and (4) are augmented to include the country-specific average share of involuntary temporary employment (TEMPINV bar), following a Mundlak-type approach. It allows the country-specific effect to be written as

$$\Delta cons_{i,t} = b_i + b_1 * TEMPINV_{\ it} + \cdots . e_{it} \ ; b_i = b_0 + \delta * \ TEMPINVBAR_{\ t} + \cdots . e_{it}$$

$$TEMPINVBAR_{\ t} = \frac{1}{T_{\ i}} \sum_i TEMPINV_{\ it}$$

and is estimated by the RE model. This specification combines within-country and between-country variation while allowing country effects to be correlated with involuntary temporariness.

Household consumption depends not only on realised income changes, but also on expectations about future risks. Unexpected increases in unemployment reduce consumption growth by around 0.44 to 0.54 percentage points for a one percentage point surprise increase in unemployment, reflecting both income losses and increased uncertainty (Table A3.5 and Graph 3.9) ([345]). At the same time, even in the absence of actual shocks, deteriorating expectations about future labour market conditions lead households to cut spending (Table A3.5).

Unexpected deteriorations in labour market conditions are associated with lower consumption growth: A one percentage point increase in the unemployment shock is linked to a reduction of around 0.5 percentage points. The effect is stronger in countries with higher involuntary temporary employment, consistent with the amplification mechanism of labour market insecurity. Although not statistically significant, estimates are stable across specifications. Limited precision likely reflects the small sample size (27 countries), clustered bootstrap inference and the two-step estimation.

Comparing these two channels ([346]), the risk-perception channel appears quantitatively stronger. Since the unexpected unemployment and perceived income risk shocks are measured on different scales, their coefficients are not directly comparable. Considering the volatility of each shock by considering the impact of a one-standard-deviation increase provides a common basis for comparison ([347]). A one-standard-deviation increase in perceived income risk reduces consumption growth by around 0.8 pp, compared with about 0.5 pp for an equivalent unemployment surprise. This suggests that changes in households' perceptions of future income risks are at least as important—and possibly more important—than unexpected changes in unemployment. Household consumption reacts strongly to both unexpected

([345]) This indicates that negative labour-market surprises translate into immediate reductions in household spending, consistent with realised income shocks and precautionary saving responses.

([346]) Since the unexpected unemployment and perceived income risk shocks are measured on different scales, their coefficients are not directly comparable. Considering the volatility of each shock by considering the impact of a one-standard-deviation increase provides a common basis for comparison.

([347]) Formally, the effect on consumption growth of a one-standard-deviation deterioration in unexpected unemployment is $\Delta C_u = \beta_u \ \sigma_u$; *for the risk perception is* $\Delta C_r = \beta_r \ \sigma_r$, *where* σ_u *and* σ_r are the standard deviation of unexpected unemployment changes and of unemployment expectations for the 12 month ahead. $\beta_u = -0.54$ *and* β_r*=-0.04* estimates of the coefficients reported in table A3.5.

increases in unemployment and worsening labour market expectations ([348]). Results are robust to repeatedly estimation on resampled data at the cluster level (bootstrapping the full two-step procedure).

Overall, the evidence points to two mechanisms. Within countries, employment insecurity amplifies the response of consumption to labour market shocks (short-run channel); across countries, it is associated with persistently weaker domestic demand (long-run mechanism) ([349]). This suggests that labour market duality acts as a macroeconomic amplifier, increasing consumption volatility and highlighting the role of job quality not only for individual welfare but also for economic stability and resilience.

Table A3.5: **Effect of employment insecurity on consumption growth**

	(1)	(2)	(3)	(4)
	Unexpected unemployment		Perceived income risk	
Shock	-0.54**	-0.44**	-0.04**	-0.06***
	(0.26)	(0.22)	(0.016)	(0.010)
Shock x TEMPINV	-0.05**		-0.004***	-0.003***
	(0.025)		(0.001)	(0.001)
Shock lagged x TEMPINV lagged		-0.07**		
		(0.031)		
TEMPINV bar		-0.11***		0.14
		(0.04)		(0.06)
Country fixed effects	Yes	Yes	FE	RE
Year FE	Yes	Yes	Yes	Yes
No Observations	347	309	333	309
R2	0.65	0.43	0.47	0.47

Note: The share of involuntary temporary employment is expressed as deviation from mean. Data clustered by country. The coefficient on the country average of involuntary temporary employment captures persistent cross-country differences and can therefore be interpreted as a long-run structural effect. In contrast, the interaction terms identify how the short-run response of consumption to shocks varies with the degree of labour market insecurity

Source: Eurostat, national Accounts and COICOP

([348]) Unexpected deteriorations in labour market conditions are associated with lower consumption growth: a one percentage point increase in the unemployment shock is linked to a reduction of around 0.5 percentage points. The effect is stronger in countries with higher involuntary temporary employment, consistent with the amplification mechanism of labour market insecurity. Although not statistically significant, estimates are stable across specifications. Limited precision likely reflects the small sample size (27 countries), clustered bootstrap inference and the two-step estimation.

([349]) To distinguish between within-country and structural cross-country effects of labour-market insecurity, a correlated random-effects (Mundlak) specification that augments the model with country-level averages of involuntary temporariness is estimated.

A3.4. THE INTERPLAY OF WAGES AND PRODUCTIVITY DEVELOPMENTS – EVENT STUDY DESIGN

Examining whether wage increases are followed by periods of higher productivity growth requires identifying wage increases that are not themselves driven by prior increases in productivity. The model follows the literature that studies the dynamics of macroeconomic variables around discrete events ([350]). These events consist of selected, country-level, increases in real wage growth that were not preceded by a period of productivity growth and occurred between 2000 and 2025 ([351]). To avoid capturing short-run volatility in wage growth in some countries or sectors, events are further restricted to moderate increases in real wage growth, with no rebound from previous real wage moderation. Nonetheless, there may be other factors not accounted for which first affect wages and then productivity, moderating the effect.

The aim is to estimate the productivity response to episodes of real wage acceleration using a dummy-augmented panel. The sample consists of industries (NACE Rev. 2 A64) across 27 EU Member States from 2000 onward, constructed from Eurostat national accounts (nama_10_a64 and nama_10_a64_e).

A wage event is identified when real hourly compensation has risen by 1 to 10% cumulatively over the last two years. We remove rebounds, defined as events where wages decreased by 3% or more over the past three years, as well as prior productivity upswings, defined as episodes where productivity increased by more than 1% per year for the past three years. This yields 85 events across 20 countries, with an average wage increase of about 3.5%.

The model that we estimate is:

$$\Delta y_{cst} = \alpha_{cs} + \lambda_t + \sum_{j=1}^{4} \beta_j \, \Delta y_{cst-j} + \sum_{j=1}^{4} \delta_s \, \mathrm{E}_{\mathrm{c,t-s}} + \epsilon_{cst},$$

where Δy is productivity growth, α and λ are country (c) × sector (s) and year (t) fixed effects, E are event indicators, and ϵ is an idiosyncratic error term.

The model is used to compute impulse responses by simulating the system forward from an impulse to the event indicator at t=0. The confidence bands (68, 90%) are constructed from bootstrapping over the joint distribution of the estimated coefficients.

While the mechanical connection between wages and productivity is removed, concerns regarding endogeneity remain, which are difficult to address, given the overall interplays between average wage developments and other economic factors. Some other factors may be at play, possibly jointly impacting wages and productivity. In this case, wage events are not exogenous. For instance, the events identified are not randomly drawn from sectors and years – possibly suggesting other important underlying factors (such as shortages) or the selection of beneficial (growth) periods. More generally, sectoral demand shocks can raise wages and productivity jointly (through tighter labour markets and higher capacity utilisation), but with varying delays; forward-looking firms can also raise wages in anticipation of expected productivity gains (e.g. if they already attract some skills when a new technology is being diffused).

The results in this section should therefore be read as conditional associations that are consistent with wage-led productivity responses. The same model is used to estimate how employment, instead of productivity growth, evolves following wage hikes.

([350]) It consists of a dummy-augmented autoregressive panel model as in Cerra and Saxena (2008); Kappler et al. (2012). We use a dummy-augmented autoregressive panel model, and cases of real wage increases not linked to a preceding increase in productivity. The model considers 71 cases of sustained moderate wage growth increases over EEA countries, that occurred neither as a result of preceding increases in labour productivity growth, nor of a preceding lower real wage growth.

([351]) This criterion ensures an absence of direct link between past productivity developments and the initial increase in real wage growth – which can then result from various factors, such as wage negotiations, or discretionary increases in public sector or minimum wages. At the same time, a full exogeneity of the real wage events is difficult to assess, as some common factors may be at play, such as sectoral demand shocks, which would jointly increase wages, productivity and employment with different delays.

A3.5. THE EFFECTS OF MINIMUM WAGES ON PRODUCTIVITY – QUASI-EXPERIMENTAL DESIGN

Table A3.6 reports the continuous difference-in-differences estimates of the relationship between minimum wages and labour productivity growth. The specification follows the baseline empirical framework that exploits variation across countries, sectors, and time in both the relative level of the minimum wage and the share of workers earning close to it. The preferred specification defines exposure as the share of workers earning at or below 110% of the statutory minimum wage, while it also presents robustness checks using alternative exposure thresholds of 105% of the minimum wage. The estimated interaction effects are positive and statistically significant.

The empirical strategy is based on a continuous difference-in-differences design that exploits cross-country and cross-time variation in both minimum wage levels and minimum wage exposure. The baseline specification takes the form:

$$\Delta productivity_{cst} = \alpha + \beta\,(MW_{ct} \times Mwshare_{cs}) + \gamma_{cst} + \delta_{ct} + \varepsilon_{cst}$$

Index i represents country and t year. The dependent variable, Δproductivity, is the annual growth rate of real value added per person employed, drawn from EU KLEMS (2023 release). The treatment variable, MW, is the ratio of the statutory minimum wage to the average wage, sourced from Eurostat (Minimum wages relative to average wages (earn_mw_avgr2)). The exposure variable, MWshare, is the share of employed workers earning at or below 110% of the national minimum wage, that does not vary through time to avoid contemporaneous endogeneity (Structure of earnings survey). The interaction term MW × MWshare is the key identifying variable: it captures the differential productivity response to a given change in the minimum wage depending on how binding that minimum wage is for the local wage distribution. Country-sector fixed effects γ_{cst} all time-invariant heterogeneity at the country-sector level — including the level effect of MWshare, which is time-invariant by construction — and year fixed effects δ_t absorb common aggregate shocks, so that identification comes from within country-sector variation in the minimum wage ratio, differentially weighted by exposure, net of aggregate business-cycle conditions and country-sector specifics. Year fixed effects δ_t capture common trends, so that identification comes from cross-country variation in minimum wage levels and exposure, net of aggregate business-cycle conditions and country specifics.

To assess the validity of the parallel trends assumption, we test the joint significance of two leads of the treatment interaction. Each of the leads are highly insignificant separately and cannot be distinguished from null hypothesis. Moreover, the F-test fails to reject the null of no pre-existing differential trends (F(2, 211) = 0.23, p = 0.796), consistent with parallel pre-treatment productivity trajectories across units with different minimum wage exposure. This strengthens the inference of causal effect of the minimum wage on productivity.

Table A3.6: **Minimum wages and annual productivity growth: continuous DiD estimates**

MW cutoff	Variable	Coefficient	SE	t-stat	p-value	95% Conf. Interval
105%	MW × Mwshare	0.022	0.0052	4.25	0.001	[0.012, 0.032]
110%	MW × MWshare	0.014	0.0056	2.49	0.032	[0.001, 0.027]

Source: DG EMPL calculations. The dependent variable is the annual growth rate of real value added per person employed (EU KLEMS, 2023 release). MW is the statutory minimum-to-average wage ratio (Eurostat). MWshare is the share of workers earning at or below 105% or 110% of the minimum wage, measured at t−1 (Structure of Earnings Survey, Eurostat). Year fixed effects absorb common EU-wide productivity shocks.

The marginal effect of a 1-percentage increase in the minimum wage to average wage ratio would be associated with a 0.08-0.12pp higher labour productivity. This is computed at representative share of workers near the minimum wage of 5% and 10%. The marginal effect is computed as β · MWshare · ΔMW, where β = 0.014 and β = 0.022 are the estimated coefficients on the interaction term MW × MWshare in the baseline specification for the cutoff at 110% and 105% respectively (Table A3.6); MWshare is the share of workers earning at or near the minimum wage (mean = 19% and 8% across country-sectors the cutoff at 110% and 105% respectively); and ΔMW is the change in the minimum-to-average wage ratio. Evaluated at the sample mean MW/AW ratio of 0.435, a 1% proportional increase in

the minimum wage relative to the average wage (ΔMW ≈ 0.435) is associated with additional annual productivity growth in range of 0.08 and 0.12 pp for the cutoff at 105% and 110% respectively. As minimum wage increases discretely and is often subject to electoral cycles, an increase in MW to AW ratio is often followed by a gradual decline, reflecting that the effect on productivity persists only if MW to AW ratio change is permanent. In the main text we present the average effect of 0.1pp.

Table A3.7: **Minimum wages and employment: continuous DiD estimates**

MW cutoff	Variable	Coefficient	SE	t-stat	p-value	95% Conf. Interval
105%	MW × Mwshare	0.00031	0.004	0.08	0.938	[-0.007, 0.008]
110%	MW × MWshare	0.0005	0.0051	-0.09	0.925	[-0.01, 0.009]

Source: DG EMPL calculations. The dependent variable is the employment (EU KLEMS, 2023 release). MW is the statutory minimum-to-average wage ratio (Eurostat). MWshare is the share of workers earning at or below 105% or 110% of the minimum wage, measured at t−1 (Structure of Earnings Survey, Eurostat). Year fixed effects absorb common EU-wide productivity shocks

Table A3.7 reports the corresponding estimates for employment outcomes. Across both exposure thresholds (105% and 110% of the minimum wage), the interaction between the minimum wage ratio and the share of workers earning close to the minimum wage is close to zero and statistically insignificant. The estimated coefficients are small in magnitude, with confidence intervals spanning zero, providing no evidence that changes in the minimum wage have differential effects on employment in country-sectors with greater minimum wage exposure. These findings suggest that the productivity gains associated with higher minimum wages are not accompanied by adverse employment effects.

4. Policies to increase job quality

4.1. INTRODUCTION

Well-designed and targeted policy interventions play a key role in improving job quality. While economic growth tends to improve job quality overall, market forces alone do not automatically ensure quality jobs for all workers. This can in turn affect both social and economic progress. Indeed, job quality matters not only for workers' well-being, but research suggests it may also affect labour market participation. While productivity growth is driven by many factors, job quality and productivity growth may reinforce each other in certain sectors and settings (see Chapter 3). Therefore, addressing the various challenges workers face in lower quality jobs, that often accumulate (see Chapter 2), requires tailored policies. This chapter analyses existing measures aimed at improving job quality.

How labour market policies influence job quality and wider macroeconomic outcomes depends on their design. Policy debates often highlight potential trade-offs, particularly between job quality, employment creation and labour market flexibility. On the one hand, a too strict regulation may constrain job creation or firm adaptability. On the other hand, better job quality can support more stable employment, encourage workers and jobseekers to invest in skills, and may improve overall economic performance (see Chapter 3). In this context, policies play a central role in shaping both job quality at the individual level and the capacity of the economy to provide quality jobs.

This chapter reviews how national and EU-level policies address key dimensions of job quality. It focuses on three selected areas, which correspond to the main aspects of job quality analysed in Chapters 2 and 3: adequate earnings and fair wages, job and career security, and working time. The chapter draws, wherever possible, on existing policy evaluations to identify what works in practice and highlights remaining challenges. It is structured as follows: Section 4.2 examines policies that promote adequate earnings and offers new analytical results on their interplay with the tax-benefit system and in-work poverty. Section 4.3 analyses measures aimed at strengthening job and career security. Section 4.4 reviews policies regulating working time.

4.2. POLICIES TO SUPPORT ADEQUATE EARNINGS AND FAIR WAGES

4.2.1. Adequate minimum wage protection plays a key role in supporting adequate wages for the low-paid

Minimum wages can help to ensure adequate earnings for low-wage earners. In most Member States, minimum wage protection is implemented through statutory national minimum wages, but some rely only on collective agreements ([352]). In addition to directly affecting the level of pay for minimum wage earners, increases in minimum wages can also lead to positive spillover effects on wages close to the minimum. In some Member States, the pay for certain occupations, as well as some benefits and bonuses, also depends on the level of the minimum wage.

At the EU level, the Minimum Wage Directive provides a procedural framework for ensuring adequate minimum wage protection. It establishes a framework for improving the adequacy of statutory minimum wages, promoting collective bargaining on wage-setting (see Section 4.2.2) and enhancing the effective access of workers to minimum wage protection. However, it does not establish the level of pay or harmonise minimum wage levels or oblige Member States that do not have a statutory minimum wage to introduce one.

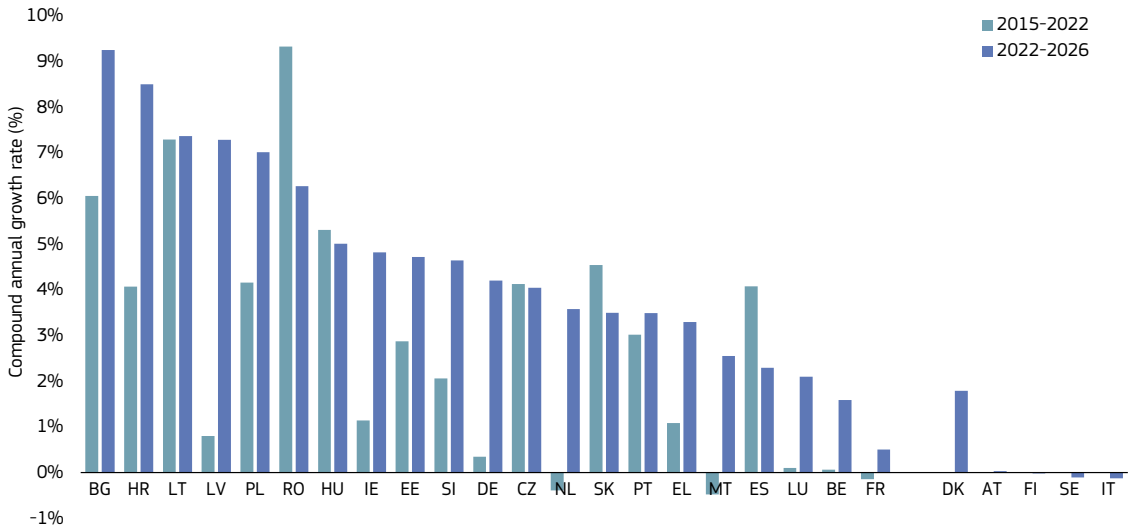
National minimum wages have grown faster since the adoption of the Minimum Wage Directive in 2022, especially in Member States with low wages and many minimum-wage earners ([353]). In the context of the high inflation over 2022-2023, all Member States increased their

([352]) National minimum wages apply to all or nearly all employees in a country. They can be set by law (often after consultation with social partners) or, in the case of Belgium and Estonia, in a national collective agreement covering all workers. In Member States without national minimum wages, minimum wage protection is provided through the lowest pay rates found in sectoral collective agreements covering low-wage earners.

([353]) At the EU level, the Minimum Wage Directive establishes a framework for improving the adequacy of statutory minimum wages, promoting collective bargaining on wage-setting (see Section 4.2.2) and enhancing the effective access of workers to

national minimum wages, following a sharp fall in real wages in 2022 ([354]). Between 2022 and 2026, they have, in real terms, grown fastest in Bulgaria (9.3% per year) and Croatia (8.5%), and slowest in France (0.5%) and Belgium (1.6%) (Chart 4.1). Overall, real national minimum wages grew faster between 2022 and 2026 than over the time period from 2015 to 2022 in 16 out of the 21 Member States that have them. In addition, for both periods 2015-2022 and 2022-2026, many countries with the largest real increases also had below-average wage levels, consistent with their catching-up process, and above-average shares of workers earning the minimum wage (Chart A4.1).

Chart 4.1: **Growth rates of real minimum wages pre- vs. post-2022**



Note: National minimum wages on the left; collectively agreed minimum wages on the right.
(*) Due to data availability, real growth in collectively agreed minimum pay rates reported only for 2022-2025. Presented as the average of collectively agreed lowest pay rates for the following 10 low-paid jobs:: (1) domestic cleaners, (2) cleaners and helpers in offices, hotels and other establishments, (3) shop sales assistants, (4) waiters and bartenders, (5) cooks, (6) home-based personal care workers, (7) childcare workers, (8) agricultural, forestry and fishery labourers in standard employment, (9) agricultural, forestry and fishery labourers in seasonal employment and (10) couriers and newspaper or parcel deliverers. Cyprus is not included in the chart, as it introduced a national minimum wage in 2023.

Source: Eurostat [earn_mw_cur]; Eurofound (2022), Minimum wages in 2022: Annual review;
Eurofound (2025), Minimum wages in 2025: Annual review

At the same time, collectively agreed minimum pay rates have grown slower than national minimum wages in recent years. Since the adoption of the Minimum Wage Directive in 2022, real collectively agreed minimum pay rates have grown fastest in Denmark, but only at a rate of 1.8% per year. They have stagnated, or even declined somewhat in real terms, in all other Member States where minimum wage protection is provided only through collective agreements. This may reflect the fact that collectively agreed minimum pay rates were already relatively high compared to national minimum wages in other Member States. Furthermore, in countries where minimum wage-setting requires engaging in collective bargaining, adjustments to sudden changes in economic circumstances, including sudden surges of inflation, may take more time ([355]).

One way to gauge the adequacy of minimum wages is by comparing them to average and median wages. The Minimum Wage Directive requires Member States to use indicative reference values in their assessment of the adequacy of statutory minimum wages. While the choice remains at the Member States' discretion, the Directive mentions 60% of the gross median wage and 50% of the gross average wage as examples of reference values commonly used at the international level. These values have, furthermore, been adopted by most Member States. In 2025, eight out of 22 Member States with

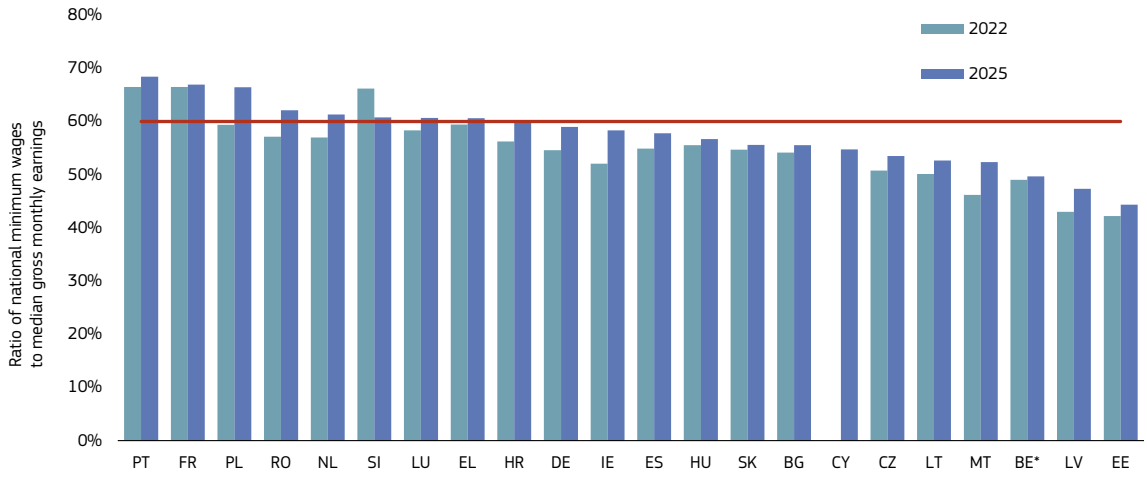
minimum wage protection. However, it does not establish the level of pay or harmonise minimum wage levels or oblige Member States that do not have a statutory minimum wage to introduce one.

([354]) Nominal minimum wages vary widely across Member States but disparities are considerably smaller after differences in price levels are taken into account. While the highest gross monthly minimum wage in the EU is 4.4-fold greater than the lowest in euro terms, the difference shrinks to 2.4 when expressed in PPS. This reflects the fact that prices tend to be lower in Member States with lower minimum wages (European Commission, 2026f).

([355]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2024b); (OECD, 2023b) (OECD, 2023b); (European Commission, 2026f).

national minimum wages were above at least one of these two indicative reference values ([356]) (Chart 4.2). Moreover, in nearly all of these EU countries, minimum wage adequacy – as measured by these reference values – had increased since 2022 ([357]).

Chart 4.2: **National minimum wages as a proportion of gross median wages (excluding micro-firms)**



Note: Median and average national wages are based on a harmonised calculation method using SES 2022 data, adjusted using the Labour Cost Index (LCI) for the relevant years. Earnings data covers full-time and part-time work, the latter converted into full-time equivalents, excluding apprentices. Wages and salaries exclude overtime pay, 13th/14th month payments, shift premiums, allowances, bonuses, etc. SES data includes information on enterprises with at least 10 employees, in NACE sectors B to S excluding O. For Belgium, figure for 2024 rather than 2025 is presented, due to unavailability of Labour Cost Index data for 2025.

Source: DG EMPL calculations based on the Structure of earnings survey (SES).

Increasing minimum wages to these indicative reference values would protect some vulnerable workers but would reduce in-work poverty only marginally. Simulations suggest that the aggregate reduction in in-work poverty at the EU level would be rather limited (Box 4.1). First, several Member States have already reached the reference values of 60% of the gross median and 50% of the gross average wage or are close to them. Second, in-work poverty depends on multiple factors, including the work intensity in a household (that is not directly affected by changes in minimum wage rates) and other sources of revenue for a household (minimum wage earners are often second earners in a household). Nevertheless, more significant decreases in in-work poverty rates could be expected in some Member States with larger increases in minimum wages (e.g. Latvia and Estonia), for some vulnerable households (especially single-earner households without children) and some sectors and occupations (especially the hospitality sector and elementary occupations).

Box 4.1: The uneven effect of minimum wage increases on in-work poverty

Microsimulation models can be used to predict how minimum wages hikes affect in-work poverty rates and other labour market outcomes. The analysis described in this box uses the EUROMOD ([1]) model to understand the impact that a hypothetical increase in minimum wages to the commonly used indicative reference values discussed above would have on in-work poverty ([2]).

Simulations suggest only limited reductions of in-work poverty rates following minimum wage increases to these indicative reference values. The modelled increases in minimum wages to 50% of the average wage or 60% of the median wage would decrease in-work poverty by 0.04 -0.05 pp, affecting approximately 100 000 persons employed. Member States which have already reached these reference values are not affected by the hypothetical reforms, leading to limited aggregate effects at the EU level. However, in some Member States, larger effects can be expected. In particular, the most sizeable decreases in in-work poverty rates are predicted for the two EU countries with the largest gaps to the indicative reference values – namely, Latvia (-1.8 pp in both scenarios) and Estonia (-1.6 pp in both scenarios) (Chart 1). The limited effect at the EU level does not capture other benefits which might accrue to households affected by

([356]) France, Greece, Luxembourg, the Netherlands, Poland, Portugal, Romania, Slovenia.

([357]) The only exception is Slovenia.

minimum wage increases. For households for whom the increase is not enough to lift them out of poverty it will nevertheless reduce the depth of poverty.

The effectiveness of reducing in-work poverty by raising minimum wages depends on several factors. While the two Member States with the largest simulated minimum wage increases, i.e. with the largest increases in the Kaitz index([3]) record the largest reduction in in-work poverty rates, the relationship is not linear (Chart 1). For instance, an almost 10-percentage point increase in the Kaitz ratio in Lithuania would lead to virtually no change in the in-work poverty rate. The extent to which an increase in minimum wages reduces in-work poverty depends partly on the share of workers earning at or below the minimum wage. The magnitude of the reduction also depends on the household's distance from the poverty line.

Chart 1: **In-work poverty reduction due to minimum wage increase, 2024**

Note: Countries ranked by gap between current Kaitz index and 50% of average wage ratio. Only Member States displayed for which increases in minimum wages were simulated, i.e. where the current Kaitz index was below 50% of average wage.

Source: JRC calculations using EUROMOD.

Household composition moderates the effectiveness of minimum wage hikes, with larger decreases in in-work poverty for single households. Single households without children show the largest decreases in in-work poverty rates (-0.18 pp to -0.19 pp depending on the scenario.). This reflects that individual earnings from work make up the largest share of disposable income for single households, thus increases in the single income have a proportionally larger effect on household disposable income. For other household compositions, disposable income is also dependent on the work intensity of other household members as well as benefits and income support for family members. As in-work poverty risks are higher among households with multiple children or other dependents and among single earner households (European Commission, 2026i), the analysis highlights that adequate wages alone may not suffice to protect specific household groups from in-work poverty.

At the sectoral level, the largest decreases in in-work poverty would occur in the hospitality sector. The hotel and restaurant sectors record the largest in-work poverty reduction among sectors. At the EU level, in-work poverty in this sector would fall by over -0.2 pp in both scenarios, followed by the wholesale and retail sector and construction sectors (-0.06 to -0.08 pp depending on the scenarios). At the occupational level, elementary occupations concentrate both the largest share of minimum wage earners and the largest in-work poverty reductions. In this occupational group, in-work poverty falls by -0.18 pp to -0.26 pp depending on the scenario, followed by service and sales workers at -0.09 pp to -0.14 pp.

([1]) EUROMOD is the European Union's tax-benefit microsimulation model, which calculates household disposable income under specified policy parameters. The model simulates taxes, social insurance contributions, and benefits for representative samples of households. For more information see A4.2. and https://euromod-web.jrc.ec.europa.eu/.

([2]) This analysis only considers first round effects of an increase in minimum wages. Potential labour supply responses and general equilibrium effects are not considered. In-work poverty is measured by disposable household income, once taxes and benefits are accounted for.

([3]) The Kaitz index denotes the ratio between the level of the minimum wage and the average and or median wage. The indicative reference values to which minimum wages are raised in this simulation exercise are 50% of average wage and 60% of median wage, respectively.

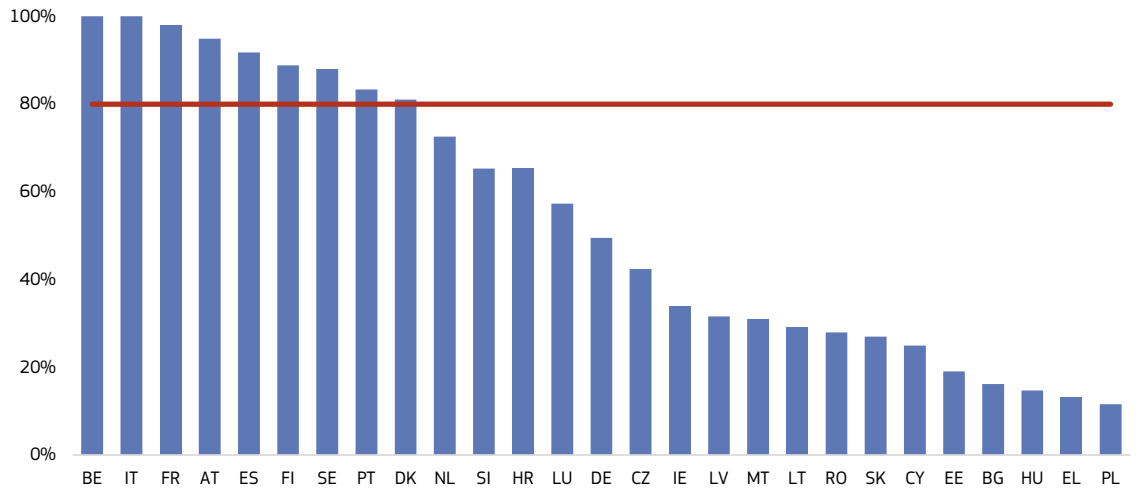
4.2.2. Collective bargaining, pay transparency and higher productivity can support earnings adequacy beyond low wages

Collective bargaining on wages can enhance the level and fairness of workers' earnings across the wage distribution. Combined with a high coverage of workers by collective agreements and a high degree of coordination among bargaining parties, it improves pay across the wage distribution by empowering workers in negotiations. Well-functioning collective bargaining can also promote the fairness and sustainability of wages over time. It can do so by taking into account developments in productivity and inflation, as well as by considering the macroeconomic consequences of wage growth on competitiveness and the price level.

The benefits of collective bargaining for workers extend well beyond wages. Collective agreements regulate a wide range of employment conditions and protections and can also allow workers to be better represented in enterprise decision-making, as well as in the anticipation and management of change. They often provide non-monetary benefits, which focus increasingly on training and skills development, the well-being of employees (including reasonable accommodations for workers with disabilities), work–life balance or special protection for both younger and older workers ([358]). They can also complement statutory liability arrangements in subcontracting chains (e.g., in Germany and the Netherlands) ([359]) and can include provisions on supply chain liability and related obligations relevant for (long) subcontracting chains (see more in Box) ([360]), which have been linked to lower job quality (Chapter 2.7.2.).

Member States with a collective bargaining coverage rate below 80% are required to prepare action plans to promote collective bargaining. The Minimum Wage Directive also promotes collective bargaining on wage-setting as it can support adequate minimum wage protection for low-wage earners. There are currently 18 Member States to which the action plan requirement applies (Chart) ([361]), of which 14 have so far established an action plan ([362]).

Chart 4.3: **Collective bargaining coverage rates relative to the 80% threshold**



Note: Croatia, France, Greece, Ireland and Lithuania have not reported their collective bargaining coverage rate. Therefore, for these countries, the report relies on the most recent available rates from the OECD/AIAS ICTWSS database: Croatia (2024), France (2024), Greece (2017), Ireland (2017) and Lithuania (2023).

Source: Member State submissions under Article 10(2) of the Minimum Wage Directive. OECD/AIAS ICTWSS database.

([358]) (Eurofound, 2025a).

([359]) (European Parliament, 2017).

([360]) (Cremers and Houwerzijl, 2021).

([361]) Bulgaria, Croatia, Cyprus, Czechia, Estonia, Germany, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Romania, Slovakia and Slovenia.

([362]) Bulgaria, Czechia, Estonia, Germany, Greece, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Romania and Slovakia.

Box 4.2: Policies to balance efficiency and workers' protection in subcontracting

Subcontracting can have negative effects on job quality. Based on the available analysis of outsourceable jobs and associated conditions, the strongest negative association between subcontracting and job quality is in the subdimension of wages([1]). However, wage differences between subcontracted and non-subcontracted ones diminish or disappear when comparing workers within the same occupations, suggesting that the overall wage gap largely reflects the concentration of subcontracted workers in lower-paid, lower-quality labour-market segments (see Chapter 2.). Evidence also points to weaker employment quality, fewer opportunities for skills development and career progression, and, in some sectors, poorer working conditions and higher occupational health and safety risks (International Labour Organisation, 2024); (for a more comprehensive discussion of these effects please see Section 2.7.2. of Chapter 2.).

At the EU level, several instruments aim to strengthen accountability, transparency and the enforcement of labour standards in subcontracting chains. The Enforcement Directive on the Posting of Workers ([2]) seeks to improve compliance with posting rules across sectors and prevent abuse. In the construction sector, it requires Member States to provide for direct subcontracting liability, or other appropriate enforcement measures, for outstanding net remuneration corresponding to minimum rates for pay and certain contributions to social-partner funds. More broadly, the 2014 Public Procurement Directive ([3]) aims to ensure that public contracts respect labour and social standards by allowing contracting authorities to impose conditions on subcontracting. The Commission's 2026 proposal for a new Public Procurement Regulation ([4]) would further strengthen these provisions by increasing transparency in subcontracting chains, prohibiting the subcontracting of entire contracts and promoting socially responsible public procurement. In addition, newer frameworks, such as the Corporate Sustainability Due Diligence Directive (CSDDD)([5]) and the Corporate Sustainability Reporting Directive (CSRD)([6]), further reinforce this approach through due diligence and reporting obligations concerning labour conditions, including in value chains and subcontracting arrangements. However, the 2026 Omnibus I ([7]) amendments have restricted the application of both Directives to larger companies, limiting the CSDDD to companies with more than 5,000 employees and a net worldwide turnover of EUR 1.5 billion, and the CSRD to those with more than 1,000 employees and EUR 450 million net annual turnover. Building on this framework, the Commission has identified workers' rights in subcontracting chains as one of the five priority areas of the second-stage social partner consultation on the Quality Jobs Act, which ran until September 2026.

Against this background, liability rules may help to strengthen accountability in subcontracting chains, as they provide additional avenues for enforcing wage claims and other obligations([8]) In fragmented production structures, long and complex subcontracting chains are associated with a higher risk of labour law violations and can make it more difficult to identify and hold the responsible actors accountable (Andriescu et al., 2024); (Borelli et al., 2025). Liability mechanisms seek to address these enforcement gaps and may take the form of direct subcontracting liability (as provided for under EU law in construction and extended to other sectors in some Member States), subsidiary liability, joint and several liability (JSL) for unpaid wages or full chain liability. Under direct subcontracting liability, workers can enforce covered claims against the contractor immediately above their employer in the chain. Subsidiary liability mechanisms instead refer to the obligation to pay a debt if the principal debtor is unable to meet its obligations. Joint and several liability (JSL) shifts part of this responsibility beyond the direct employer to one or several contractors higher up the subcontracting chain, recognising their ability to influence working conditions and compliance throughout the chain (Heinen, Muller and Kesslet, 2017). Under JSL, the contractor can be held responsible for labour law violations committed by subcontractors, allowing workers to recover unpaid wages (e.g. unpaid minimum wages and unpaid wages) and other employment-related entitlements, such as overtime pay, holiday pay or collectively agreed remuneration, even if their direct employer fails to comply. At the same time, liability rules can raise compliance and verification costs for contractors and create legal uncertainty where the obligations covered, the number of tiers concerned or the conditions for exoneration are unclear. Lead firms may respond by shifting risks contractually onto subcontractors, or by reducing their use of SMEs. Conversely, SMEs operating as subcontractors may benefit when liability improves payment discipline along the chain.

Liability regimes in subcontracting chains vary significantly across Member States in terms of who can be held liable, for what obligations and under what conditions. Some Member States apply full chain liability regimes, under which liability may extend beyond the direct contractual relationship and cover multiple levels of subcontracting, as in Italy. Others limit to specific obligations, sectors or

circumstances, as in France and Belgium (Andriescu et al., 2024). Their effectiveness also depends on how easily workers can enforce their rights in practice. For example, in Germany, the absence of collective enforcement mechanisms limit, to some extent, the practical effectiveness of liability provisions (Heinen, Muller and Kesslet, 2017).

Beyond liability rules, some countries have introduced sector-specific measures to limit excessive subcontracting and prevent abusive practices. For instance, in construction, Spain restricts subcontracting to a limited number of tiers and requires transparency tools such as subcontracting logbooks, while Belgium has introduced rules targeting purely financial subcontracting arrangements (SPARK Legal and Policy Consulting, 2026).

These frameworks can be complemented by monitoring and enforcement tools aimed at improving compliance. For instance, Italy's DURC system helps verify compliance with social security and insurance obligations. Estonia uses digital worker registration systems to support monitoring and inspections. Belgium combines digital reporting tools with coordinated inspections to detect irregularities in subcontracting chains. Labour inspectorates and financial control authorities also play a key role across countries, although their effectiveness is often constrained by limited resources and the complexity of subcontracting chains.

Despite the existing EU and national measures, enforcement challenges continue to limit the effectiveness of subcontracting regulations. Long and often cross-border chains, combined with limited inspection capacity, make it difficult to ensure full compliance with labour and health and safety standards in subcontracting chains. This highlights that beyond formal rules, the effectiveness of worker protection in subcontracting chains depends critically on enforcement capacity, notably the labour inspectorates or equivalent bodies and cooperation of authorities in cross-border cases. In this context, the European Labour Authority provides support to Member States carrying out cross-border concerted or joint inspections to support targeted and preventive enforcement actions. It also provides strategic analysis to identify monitoring and enforcement challenges.

(1) (Fana et al., 2026); (Farinha, Fusaro and Conte, 2026)

(2) Directive of the European Parliament and of the Council of 15 May 2014 on the enforcement of Directive 96/71/EC concerning the posting of workers in the framework of the provision of services and amending Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System, (EU) 2014/67/EU.

(3) Directive of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC, (EU) 2014/24/EU.

(4) Proposal for a Regulation of the European Parliament and of the Council on public contracts and concessions, COM(2026) 590 final.

(5) Directive of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859, (EU) 2024/1760.

(6) Directive of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU as regards corporate sustainability reporting (CSRD), (EU) 2022/2464.

(7) Directive (EU) 2026/470 of the European Parliament and of the Council of 24 February 2026 amending certain corporate sustainability reporting and due diligence requirements.

(8) (Jorens, Peters and Houwerzijl, 2012); (Andriescu et al., 2024)

In their action plans, some Member States have committed to strengthening capacities and regulatory frameworks for collective bargaining. Some EU countries intend to strengthen the capacity of social partners to bargain collectively by offering training directed at social partners ([363]), improving the capacity of public institutions involved in social dialogue ([364]), or providing direct financial and institutional support ([365]). Others have proposed improvements to the collective bargaining regulatory framework, through revisions of the legal framework ([366]), concrete legislative initiatives or structured reviews of existing laws ([367]), or analytical and preparatory work that may lead to legislative change ([368]).

([363]) Bulgaria, Greece, Lithuania.

([364]) Romania, Slovakia.

([365]) Czechia, Malta, Poland.

([366]) Bulgaria, Czechia, Estonia, Greece, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Slovakia.

([367]) Bulgaria, Estonia, Greece, Lithuania, Malta, the Netherlands, Poland.

Additional measures to promote collective bargaining planned by Member States include awareness-raising, data improvements, better enforcement and other incentives. The proposed policies are also largely in line with the Council Recommendation on strengthening social dialogue ([369]), which was adopted in 2023 ([370]).

The EU Pay Transparency Directive requires Member States to take the necessary measures to ensure that employers have pay structures ensuring equal pay for equal work or work of equal value ([371]). The directive also aims to improve pay transparency both before and during employment. During the recruitment process, it guarantees a right to information on the initial pay or its range and prohibits employers from asking about the job applicant's salary history. During employment, the directive requires employers to make criteria used to determine pay accessible to their workers and prohibits non-disclosure agreements on salaries. The provisions of the Pay Transparency Directive help to ensure equal pay rights, reinforce pay transparency, and improve workers' position in the recruitment process and wage negotiations ([372]). By doing so, they may enable workers to better capture the return on the investments they have made in their skills and human capital.

Productivity gains, if equitably shared, can enable firms to offer more adequate wages and improve job quality. Firms whose productivity level or growth is not high enough may struggle to pay their workers higher wages. Higher productivity may allow them to adopt technologies and operational methods that improve working conditions – for example, by enhancing work flexibility. Policies to strengthen skills, increase labour market participation and prevent exclusion can also raise productivity levels ([373]). Such social investment can, furthermore, improve public finances through a lower need for spending on social benefits and higher tax revenues ([374]).

At the EU level, a variety of policies and initiatives contribute to enhancing productivity, and promote the development of workers' skills. The Competitiveness Compass aims to close the innovation gap, decarbonise the EU economy and reduce dependencies ([375]). The Clean Industrial Deal complements these efforts by fostering a framework that accelerates the transition to net-zero industries, ensuring that sustainability and competitiveness go hand-in-hand ([376]). The Union of Skills supports the development of quality, inclusive and adaptable education, training and skills systems to increase the EU's competitiveness ([377]). In addition, the forthcoming 2026 Quality Jobs Act will help to ensure that employment policies keep pace with the EU's fast-evolving economy, while appropriately balancing competitiveness with worker protection.

Policies to enhance job quality should consider small and medium-sized enterprises (SMEs), which form the backbone of the EU economy. Accounting for more than half of Europe's GDP and providing two out of three jobs, SMEs are essential to Europe's competitiveness and prosperity ([378]). To reduce administrative and regulatory burdens, some national and EU policies exempt businesses whose

([368]) Czechia, Latvia, Slovakia.

([369]) Council Recommendation of 12 June 2023 on strengthening social dialogue in the European Union, C/2023/1389.

([370]) Under the Council Recommendation on strengthening social dialogue, Member States were invited to submit to the Commission by 7 December 2025 a list of measures, drawn up in consultation with social partners, which are taken or have already been taken in each Member State to implement this Recommendation.

([371]) Directive of the European Parliament and of the Council of 10 May 2023 to strengthen the application of the principle of equal pay for equal work or work of equal value between men and women through pay transparency and enforcement mechanisms, (EU) 2023/970.

([372]) Under the Pay Transparency Directive, the coverage for pay reporting is limited to employers having at least 100 workers, with the frequency of pay reporting tailored to the employers' size and gradually phased in between 2027 and 2031. Smaller employers are exempt from this requirement unless they are already subject to pay reporting under existing national measures in Member States.

([373]) Opinion of the Employment Committee and the Social Protection Committee on the value added of social investment and the role of the EPSCO Council filière in the governance of the European Semester, SOC 769, EMPL 552, ECOFIN 1179, 15418/2/23 REV 2.

([374]) Voluntary guiding principles for EU Member States for evaluating economic effects of reforms and investments in the labour market, skills and social policy domains, SOC 431, EMPL 249, ECOFN 649, 10779/24

([375]) https://commission.europa.eu/topics/competitiveness/competitiveness-compass_en

([376]) https://commission.europa.eu/topics/competitiveness/clean-industrial-deal_en

([377]) https://commission.europa.eu/topics/competitiveness/union-skills_en

([378]) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An SME Strategy for a sustainable and digital Europe, COM/2020/103 final.

size is under specified thresholds from selected obligations or allow a more gradual rollout. ([379]). In addition, the impact assessment process should take into account the effects of new legislation on SMEs. The 'think small first' principle, applied in the EU's impact assessment process, calls for legislation, rules and procedures to be simple, easy to understand and straightforward to apply for small and medium-sized enterprises ([380]).

4.2.3. The design of the tax-benefit system matters for income adequacy

The tax benefit system further influences income adequacy. Households' disposable income depends not only on hours worked and wage levels, but also on how these interact with the wider tax benefit system. Disposable income is also frequently used as a key indicator of monitoring frameworks. One of the EMCO Job Quality Framework indicators, namely the in-work poverty rate, compares equivalised disposable household income of those who declared to be at work to the risk-of-poverty threshold (see also Chapter 2). This requires an in-depth understanding of how tax benefit policies influence disposable income and in-work poverty.

In 2024, tax and benefit policies reduced in-work poverty in the EU by almost 3 percentage points ([381]). The in-work poverty rate of market income, i.e. before any tax-benefit policies are considered, stood at 9.4% in 2024, following steady reductions over the last decade (Box 4.3). This rate reduces by 2.7 percentage points (pp) ([382]) for disposable income (hereafter simply 'the in-work poverty rate'), after accounting for effects of the tax-benefit system ([383]). Pensions provide the largest contribution to in-work poverty reduction (-3.7 pp), followed by family benefits (-2.0 pp) and replacement incomes such as unemployment and sickness benefits (-1.4 pp) (Chart 4.4)([384]). Social assistance programmes contribute to a more modest reduction (-0.8 pp), likely due to low coverage and take-up issues, as well as low adequacy of those benefits ([385]). By contrast, social insurance contributions increase in-work poverty by 3.1 pp, and taxes increase it by 2.2 pp, reflecting the withdrawal of income from low-earning households through mandatory contributions and taxation, which in some cases pushes household income below the poverty line. A lighter tax burden on low-wage earners can raise take-home pay without raising the costs for the employers.

([379]) For instance, the exemption from pay reporting for employers with fewer than 100 workers, and the gradual phase-in of reporting obligations, under the Pay Transparency Directive.

([380]) See European Commission's 'Better regulation' toolbox, December 2025 edition.

([381]) The analysis uses a Shapley decomposition to decompose the in-work poverty reduction achieved to individual policies. This is explained in detail in Annex A4.2.

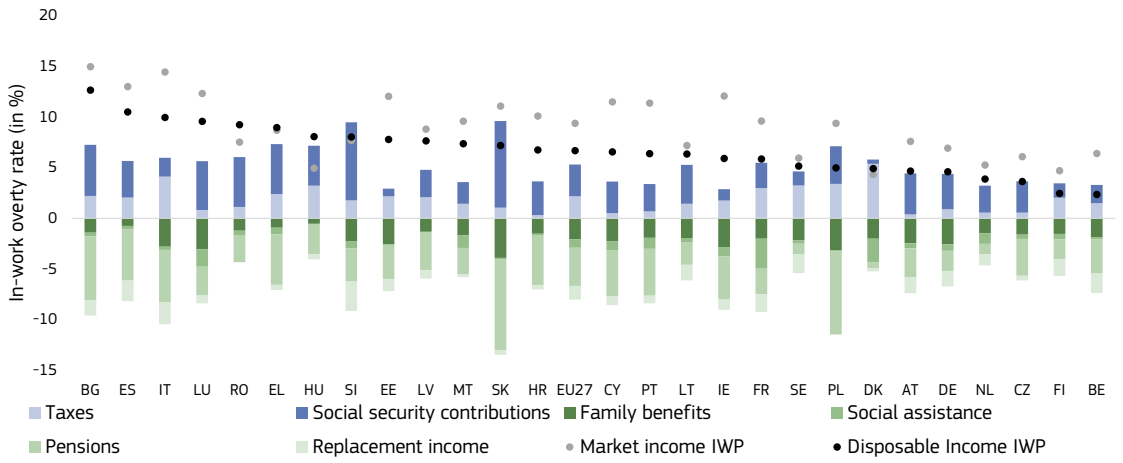
([382]) EUROMOD poverty rates differ from poverty rates provided by Eurostat due to several factors, among them different treatment of the year of income and simulated instead of self-declared taxes and benefits. More details are available here: https://euromod-web.jrc.ec.europa.eu/resources/indicators/discrepancies.

([383]) For this analysis, the tax-benefit system is divided into six policy categories: taxes; social contributions; family and education benefits; social assistance and housing benefits; pensions (including old-age and disability pensions); and other replacement incomes (such as unemployment and sickness benefits). In the analysis of tax-benefit policy changes, only measures that go beyond indexation, i.e. which exceed or fall short of inflation are taken into account.

([384]) While in-work poverty is measured at the individual level, household income is used to assess whether a worker is in-work poor. Thus, in-work poverty depends also on the income of other members of the household. Consequently, policies for individuals who do not work such as unemployment benefits play a contributory role in this analysis.

([385]) (Almeida, De Poli and Hernández, 2025).

Chart 4.4: **Decomposition of in-work poverty reduction by tax-benefit policy**



Note: Countries ranked by in-work poverty rate of disposable household income

Source: JRC calculations using EUROMOD

Substantial cross-country variation exists in both initial in-work poverty rates and the net impact of tax-benefit systems. Initial market income in-work poverty rates range from 4.3% in Denmark to 15% in Bulgaria. The overall poverty-reducing impact of the tax-benefit system varies considerably across Europe. The largest poverty reductions are observed in Ireland (-6.2 pp), Portugal (-5 pp), Cyprus (-4.9 pp), and Italy (-4.5 pp). In five countries, taxes and social security contributions outweigh the poverty-reducing effects of benefits, resulting in net increases in poverty in Hungary (+3.1 pp), Romania (+1.7 pp), Denmark (+0.6 pp), Slovenia (+0.4 pp), and Greece (+0.3 pp) (Chart 4.4). This shows the potential to address in-work poverty in these countries without increasing unit labour costs. The impact of tax-benefit systems on in-work poverty depends on the design of policies with respect to low-wage earners, market levels of in-work poverty and household composition. The latter drives the impact of benefits such as pensions, child benefits and unemployment benefits to reducing in-work poverty, as the prevalence of in-work poverty is higher among households with a higher number of children or non-working or dependent adults ([386]).

The extent to which the tax-benefit system reduces in-work poverty depends in part on the level of taxes and contributions for low-wage workers. The countries where in-work poverty is reduced most strongly share a set of common features. Their personal income tax systems are typically progressive and, more importantly, shield the bottom of the earnings distribution through tax credits, generous tax-free allowances or dedicated in-work benefits ([387]). The five countries where the tax-benefit system raises in-work poverty show an opposite pattern, characterised by flat tax and social contribution rates with no or limited tax allowances ([388]), while not matched by benefits.

The expansion of child-related and means-tested transfers have led to sizeable decreases in the in-work poverty rate of single-parent households. In 2024, tax and benefit policies reduced the in-work poverty rate in this group by 11.1 percentage points. This protection strengthened over time: single parents experienced the largest in-work poverty decline of any group, decreasing by 3.8 pp between 2019 and 2024, driven by increased child-related and means-tested transfers. Family benefits play a dominant role in poverty reduction for households with children. They reduce the in-work poverty rate among single-parent households by 12.1 percentage points, and by 4.4 percentage points for multi-adult households with children.

([386]) (European Commission, 2026i); (European Commission, 2026i).

([387]) For instance, in Ireland its two-band personal income tax at 20% and 40% is combined with personal, employee and rent tax credits, and sits alongside a Universal Social Charge exemption below EUR 13,000 a year, so that a full-time worker at the minimum wage faces an effective income tax rate close to zero. Belgium and France achieve a similar result through family quotients and in-work tax credits (France also uses low-wage top-ups).

([388]) Hungary, for instance, applies a flat 15% personal income tax combined with flat social contributions on top. Denmark has a somewhat different pattern among this group with a high-income tax burden on the lower part of the earnings distribution. Earned income tax credit exists, but its amount is not high enough to completely offset the high tax burden. The benefit package is not weak in absolute terms, but it is dominated by universal transfers that are not targeted on working households.

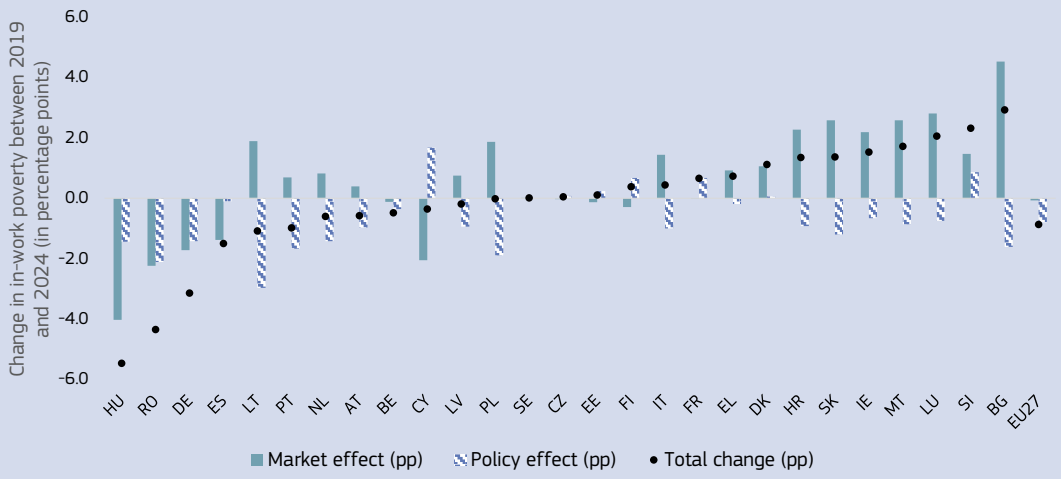
For self-employed persons, the net poverty reduction through the tax-benefit system is close to zero. Tax and benefit policies reduce in-work poverty by only -0.02 pp for this group, as taxes (+2.76 pp) and social insurance contributions (+5.48 pp) absorb the poverty-reducing impact of benefits received The higher impact of social insurance contributions is explained by the existence of statutory floors for contributions in several countries, which either apply to self-employed only or where the floor is more likely to be relevant in case of self-employment. Other underlying drivers require further research but could be linked to benefit design, compliance gaps or income measurement (see also Box 4.4 on differences in social protection for the self-employed).

Box 4.3: The role of policies in reducing in-work poverty

The decrease of in-work poverty between 2019 and 2024 has largely been driven by policy changes. Chapter 2 discusses that in-work poverty steadily decreased over the last decade. Analysis decomposing the drivers of changes in in-work poverty into market and policy effects ([1]) shows that discretionary policy changes alone reduced in-work poverty between 2019-2024 by -0.8 pp (Chart 1). The market effect, on the other hand, was approximately neutral (-0.1 pp). As the effect of minimum wage increases is accounted for in the market effect, this may in part explain the market force neutrality in this period.

In-work poverty has developed differently across Member States in the last decade. Despite the average decline in in-work poverty at the EU aggregate level, 15 out of 27 Member States experienced an increase in in-work poverty during 2019-2024. The overall EU-27 decline was driven by reductions in in-work poverty in relatively large countries like Spain and Germany. The interplay between market and policy effects also differs strongly by Member States. Changes in population structure, employment patterns and market income distribution led to reductions in in-work poverty in 10 out of 27 Member States. Policy changes reduced in-work poverty in 20 of the 27 countries (Chart 1).

Chart 1: **In-work poverty change by component in 2019-2024 across Member States (in pp)**



Note: Countries ordered by total change in in-work poverty rate, from smallest to largest. Policy effect captures changes beyond CPI indexation. EU-27 average is weighted by working population.
Source: JRC calculations using EUROMOV v.J2.0+.

Larger reductions in in-work poverty rates were achieved via various policy instruments. In Lithuania, which recorded the largest policy effect between 2019 and 2024, several policy instruments contributed to the reduction. First, a personal income tax allowance was raised repeatedly above inflation rates, which was concentrated on low-to-middle income earners through increasingly steep withdrawal rates. Second, repeated increases in the basic social amount and state-supported income above inflation led to increases in the real amounts of child benefits, social assistance, and maternity/paternity benefit floors. In Romania, reductions in in-work poverty were driven by wage increases above the CPI. Sectoral social insurance contribution exemptions for agriculture, food and construction workers further raised net wages for low-paid workers in these industries.

Policy-induced increases of in-work poverty rates were often the result of benefit erosion and the

introduction of additional contributions. In the instances where policy changes led to increases in in-work poverty, this was largely driven by a lack of adequate benefit indexation, resulting in benefit erosion ([2]). Cyprus recorded the largest poverty-increasing policy effect, in part driven by the sustained absence of indexation to benefit and tax parameters. Several countries also introduced new contributions (e.g. a new obligatory healthcare contribution in Cyprus and Slovenia). No compensating changes were made to direct taxes or means-tested benefits to offset this additional burden for low-wage workers, leading to increases in in-work poverty rates.

([1]) To understand the mechanisms behind the decrease in in-work poverty and the role of policies in these developments, EUROMOD can be used to separate changes in in-work poverty rates between two time periods into two distinct components: the market effect, which captures changes in in-work poverty rates due to shifts in population structure, employment patterns and market income distribution including minimum wage increases; and the policy effect, which captures any changes in the tax-benefit system which go beyond inflation indexation and affect in-work poverty rate. (see Annex A4.2.).

([2]) This was the case in Cyprus, Finland and France. In Cyprus there was a sustained absence of indexation while Finland and France saw an underindexation of benefits relative to inflation. See e.g. (Bornukova et al., 2025).

4.3. POLICIES TO SUPPORT JOB AND CAREER SECURITY

A balanced combination of job and career security ([389]) with labour market flexibility can support both high job quality and strong economic performance. For individuals, stable employment improves working and living conditions, enhances wellbeing, and supports access to training and career development. These factors strengthen employability, facilitate smoother job transitions and contribute to more stable career progression over time. At the same time, a certain degree of flexibility can facilitate labour market entry and help reconcile work with other responsibilities ([390]). For firms, stable employment relationships may foster productivity growth (see Chapter 3), employee engagement and investment in skills ([391]), while flexibility enables adaptation to changing economic conditions. From a macro-economic perspective, flexibility can facilitate the reallocation of labour across firms, sectors and occupations, helping workers move towards expanding activities and supporting structural transformation. Conversely, insufficient job and career security can weaken not only employment stability but also longer-term career prospects, with negative effects on wellbeing, organisational commitment and broader economic outcomes ([392]).

4.3.1. Protection of workers in standard employment remains relatively strong, but enforcement gaps persist

Job security ([393]) for workers in standard employment remains relatively strong in many EU countries, compared to other advanced economies. OECD indicators on employment protection legislation show that dismissal regulations for permanent workers in most EU countries tend to be stronger than in non-EU OECD countries, including the United States. This reflects Member States' frameworks, consistent with the right to protection against unjustified dismissal (Article 30 of the Charter of Fundamental Rights of the European Union). At EU level this was complemented by actions supporting stable employment relationships, recognising that job security can promote investments in firm-specific

([389]) Job and career security refer to the stability and continuity of employment and career progression over time. This concept has recently regained prominence as labour markets have become more diverse, with non-standard forms of employment often involving lower job stability, less predictable career transitions and fewer opportunities for upward mobility.

([390]) Employment Committee (EMCO), Opinion of the Employment Committee on the dimensions of job quality, 5 June 2025, Council of the European Union, doc. 9417/25, 6 June 2025, Annex ('Updated framework on the dimensions of job quality').

([391]) (OECD, 2018). While in the short-term, non-standard employment can be beneficial to firms, notably through increased flexibility which allow to better respond to spikes in demand and reduced costs, productivity decreases as workers' commitment and performance weakens (ILO, 2016).

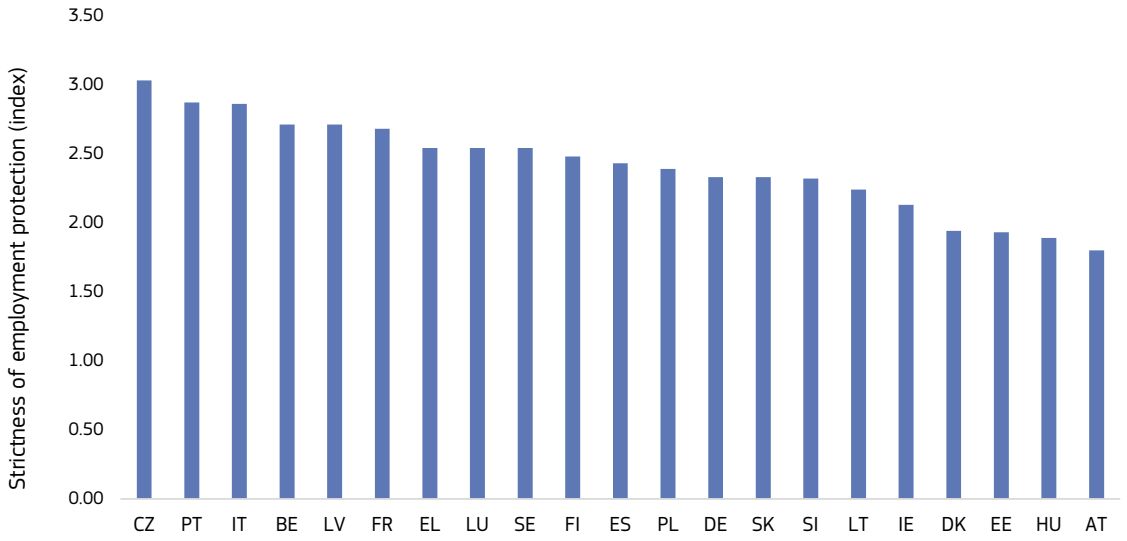
([392]) (European Foundation for the Improvement of Living and Working Conditions, 2023); (ILO, 2016).

([393]) Job security relates to the degree of protection workers have against job loss, encompassing both the existing legal provisions and how they are implemented, namely in terms of enforcement, collective bargaining, firm practices and economic conditions. This subsection mostly focuses on its formal dimension, which is measured through employment protection legislation (EPL).

skills and knowledge by both workers and companies. However, there is considerable cross-country variation within the EU.

Variations in job security across EU countries can be gauged by looking at differences in the strictness of employment protection legislation for permanent workers. OECD indicators show significant cross-country differences in the strictness of dismissal regulations, assessed based on variations in procedural requirements, severance pay and protection against unfair dismissal. Some Member States, such as Czechia, Italy and Portugal maintain relatively stringent dismissal protection, while others, like Denmark and the Netherlands, have more flexible regulatory frameworks combined with strong income support and active labour market policies ([394]). A third group, including countries such as Germany and Austria, combines intermediate levels of employment protection with specific procedural or institutional features.

Chart 4.5: **Employment protection legislation for permanent workers (2019)**



Note: Data are not available for the EU Member States that are not shown in the chart.
Source: OECD EPL database.

Over the past decade, employment protection legislation for permanent workers has remained relatively strong, with some liberalisation in Southern Europe. Following the financial and sovereign debt crises, countries such as Spain, Italy and Portugal implemented targeted EPL reforms. These reforms reduced protection for permanent workers by easing dismissal procedures and reducing severance costs, though overall protection levels remained above OECD averages ([395]). Since 2019, EU countries have generally not pursued major reforms aimed at substantially reducing employment protection for workers on permanent contracts ([396]). Instead, reforms have focused on decreasing protection gaps for workers in non-standard forms of employment (see Section 4.3.2.). While some degree of convergence can be observed, cross-country differences in EPL persist across the EU with countries such as Italy and Portugal still characterised by stronger EPL for permanent workers compared to the rest of the EU ([397]).

Within this broader framework, collective dismissal rules play a distinct role in managing large-scale labour market adjustments. Across the EU, protection tends to be more stringent in the case of collective redundancies, reflecting their broader economic and social implications. Rules governing collective dismissals are typically more demanding than those for individual ones and generally involve additional procedural requirements such as prior notification to public authorities as well as consultation

([394]) Denmark and the Netherlands are often cited as examples of the flexicurity approach, which aims to combine labour market flexibility with employment security by supporting workers through labour market transitions rather than protecting individual jobs.

([395]) (OECD, 2019a); (OECD, 2020); OECD Employment Protection Legislation Database.

([396]) (OECD, 2024a) and OECD Employment Protection Legislation Database.

([397]) OECD Employment Protection Legislation Database and (European Commission, 2024a).

or negotiation with workers and their representatives. These provisions are well established in national frameworks and are designed to ensure coordination between employers, workers and public authorities. Rather than simply increasing the level of protection, they shape the process and timing of workforce reductions, helping to mitigate negative spillovers on local labour markets and support policy responses to large-scale job losses. As such, collective dismissal rules complement broader employment protection systems across different institutional models.

Beyond formal legal protections, overall job security also depends on de facto security, which varies across the EU. Actual job security depends on the specific provisions applying to different groups of workers, such as workers with short tenure, on the effectiveness of enforcement and implementation of regulations as well as on the extent to which workers are covered by employment protection regulations (on the latter, see Section 4.3.2) ([398]). For example, in Italy, employers have continued to rely extensively on successive fixed-term and other non-permanent contracts despite reforms aimed at promoting permanent employment. This illustrates that strong formal employment protection alone does not necessarily translate into job security for all workers but requires also stringent implementation and application. This has contributed to an overuse of temporary employment, and, in turn, an increase in job insecurity. In recent years, the Italian Government has introduced various incentives aimed at increasing permanent employment and reducing the use of temporary contracts. However, despite some progress, temporary contracts remain common. In some Member States, such as Ireland, workers with short job tenure are not yet entitled to the full range of protections against unfair dismissal, as general statutory protection normally requires 12 months of continuous service. This qualifying period is distinct from the rules applying during probationary periods and results in lower levels of employment security during the initial period of employment. Meanwhile, Denmark and Sweden show how strong collective bargaining—covering over 80% of workers—and robust labour inspections help extend protections to workers on non-standard contracts ([399]).

4.3.2. Protection gaps remain for workers in non-standard forms of employment, despite improvements

Non-standard forms of work, which entails both advantages and drawbacks, benefit less from employment protection than standard employment. Non-standard workers are typically less covered by dismissal protection, income security and social protection schemes, and are more likely to face unstable or unpredictable working conditions. As a result, labour markets across the EU remain segmented. These forms of work provide flexibility to adjust to changing economic conditions for firms and facilitate labour market entry, particularly for young people and other groups with weaker labour market attachment ([400]). They may also act as a stepping stone into more stable employment (see Chapter 3), especially for unemployed individuals, by facilitating the accumulation of work experience and fostering sustained labour market attachment ([401]). In some cases, they allow workers to better align working time with personal preferences. However, these benefits are often accompanied by lower employment stability, more limited access to labour rights and social protection, and greater exposure to labour market risks, particularly when such arrangements are involuntary or persist over time ([402]). When their use becomes widespread or prolonged, these dynamics can contribute to labour market segmentation, with adverse effects on productivity (see Chapter 3), skills development and inequality ([403]).

Recent national initiatives have increasingly focused on addressing these challenges for workers in non-standard forms of employment. They reflect a growing recognition of protection gaps associated with non-standard work, which became evident during the pandemic, and have been further highlighted by broader labour market transformations such as digitalisation and the expansion of platform work ([404])**.** The EMCO framework on job quality also explicitly recognises social protection available to different forms of employment as integral components of job quality. In particular, policy

([398]) (OECD, 2009); (ILO, 2015).

([399]) (OECD , 2019); (Eurofound, 2024a).

([400]) (OECD, 2015a); (Cahuc and Zylberberg, 2004).

([401]) (OECD, 2015a); (Boeri, 2011).

([402]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026d).

([403]) (European Commission, 2020a); (OECD, 2019a).

([404]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026d).

responses tackle differences in employment status, working conditions as well as unequal access to social protection. According to Eurofound, nearly 35% of the policies implemented in recent years to improve job security for workers in non-standard employment focused on part-time workers, 31% on temporary workers, and 25% on informal workers ([405]). In addition, over 40% were directed at 'other non-standard workers', which included platform workers, on-call workers, temporary agency workers and the self-employed, as well as measures targeting multiple groups of workers.

First, several Member States have introduced measures to limit excessive reliance on temporary contracts and reduce labour market segmentation. While approaches vary across countries ([406]), many reforms aim to discourage repeated use of fixed-term contracts and strengthen employment stability. For example, Portugal restricted the use of fixed-term contracts to specific temporary needs and shortened their maximum duration, while France introduced a "bonus–malus" mechanism increasing employers' social security contributions when firms rely heavily on short-term contracts. Some Member States such as Italy also use incentives for employers to convert temporary into permanent contracts, introduced in the 2026 Budget Law ([407]).

Second, other recent reforms focus on addressing involuntary part-time work and improving access to more stable working hours. Several countries have introduced minimum working hours or measures facilitating transitions from part-time to full-time employment. For instance, France established a minimum weekly working time of 24 hours for part-time contracts to reduce underemployment, while Ireland restricted the use of zero-hours contracts through the Employment (Miscellaneous Provisions) Act 2018. In Austria, employers must inform existing part-time employees when additional working hours become available ([408])([409]).

Third, increasing attention has been given to clarifying the employment status of workers in new or atypical forms of work, particularly to prevent cases of bogus self-employment. Ensuring correct classification, including, where appropriate, reclassifying workers as employees, is essential for access to labour rights and social protection. Nevertheless, misclassification remains widespread, especially among platform workers ([410]). Policy responses have focused on three main approaches. First, several countries have strengthened guidance and information tools to support correct classification, for example through self-assessment tools and official guidelines in countries such as the Netherlands and Ireland. Second, some Member States such as Czechia, Spain and Greece have strengthened enforcement mechanisms, including labour inspections and sanctions. Third, legislative reforms have aimed to clarify employment status, notably through the introduction of legal presumptions of employment for platform workers. Before the adoption of the Platform Work Directive in 2024, this approach had already been adopted in countries such as Spain (2021), Portugal (2023) and Belgium (2023). The Directive now requires all Member States to establish an effective rebuttable legal presumption by 2 December 2026.

Fourth, legislative changes have been put in place to equalise rights between standard and non-standard workers. In this context, labour status neutrality has emerged as a concept to shape labour and social security law in a way that everyone is entitled to social protection considering their needs and characteristics ([411]). Several Member States have taken action to promote equal treatment across employment forms, by ensuring that workers in non-standard employment benefit from similar protections regarding adequate wages, social benefits (see Box 4.4) and information rights. In France, self-employed platform workers in transport and delivery have gained rights to occupational accident insurance, training contributions, collective representation and bargaining, greater access to data used by platforms to manage work. For example, Cyprus has prohibited discrimination against part-time workers

([405]) (European Foundation for the Improvement of Living and Working Conditions, 2023). The data collection was done in 2022 and refers to policies implemented "in the past few years", excluding temporary pandemic-related ones.

([406]) It is important to note that measures differ also as the prevalence of non-standard forms of employment varies across Member States, depending on labour market dynamics and institutions, and other structural factors. For instance, central and eastern European countries display relatively low share of part-time employment, see (Eurofound, 2023c) Chapter 1.

([407]) (European Commission, 2026b).

([408]) (European Foundation for the Improvement of Living and Working Conditions, 2023).

([409]) (ILO, 2016).

([410]) (European Commission , 2025); (Eurofound, 2024c).

([411]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025d).

and requires equal benefits with full-time workers and Austria have obliged companies advertising jobs with increased hours to inform current part-time employees. Ireland ensures access to certain types of statutory protective leave for part-time workers and minimum hourly wages for all workers. These gaps in job security are closely linked to differences in access to social protection, which play a key role in providing income security across employment forms (Box 4.4).

Box 4.4: Policies to improve social protection across employment forms

Social protection plays a central role in supporting job security by providing income stability when employment is interrupted. It is also one of the dimensions of job quality, as highlighted in the EMCO framework. In most Member States, workers in standard employment benefit from relatively comprehensive social protection coverage, which ensures income security in the event of risks during working life—such as unemployment, sickness or disability—as well as in old age. However, unequal access to social protection remains an important challenge and tends to disproportionately affect workers already at risk of labour market insecurity, further increasing poverty risks.

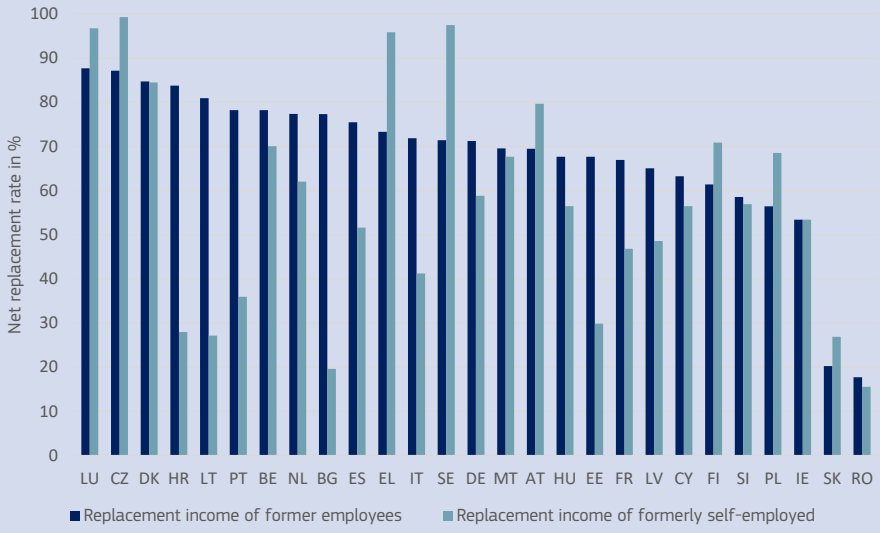
The adequacy of social protection varies significantly across Member States. Even among workers with similar contribution histories and earnings, income replacement during unemployment differs widely across the EU. For example, in the second month of unemployment ([1]), net replacement rates range from around 18% in Romania to 88% in Luxembourg for former employees with an 18-month contribution history (Chart 1 below). The maximum duration of unemployment benefits also varies across countries, ranging from three months in Hungary to more than two years in France. Within countries, the entitlement duration also varies depending on contribution history, which can disadvantage workers with more fragmented careers. In Slovakia, for example, at least two years of unemployment insurance contributions during the last four years are required, leaving individuals with a shorter record not qualifying for unemployment benefits (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2024a).

Coverage gaps are particularly pronounced for non-standard workers, especially the self-employed, whose majority cannot access unemployment benefits. This reflects the fact that social protection systems have traditionally been built around standard employment relationships. At the same time, while 14% of all workers are self-employed, their contributions account for only 4% of total contributions (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025e). Since mid-2023, less than half of Member States have taken measures to extend formal coverage to non-standard workers. Where these measures exist, they tend to focus on the self-employed and few address other non-standard workers (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025e). Nevertheless, formal coverage gaps for at least one group of self-employed in at least one branch of social protection exist in 19 Member States (European Commission - forthcoming, 2026). More than half of self-employed workers in the EU (15 million) lack access to unemployment benefits, 5.1 million are not covered by sickness benefits and 4.4 million lack workplace accident insurance, highlighting gaps across multiple dimensions of social protection (European Commission and SPC-ISG, 2024). In several countries, including in Belgium ([2]), Bulgaria, Cyprus, France ([3]), Latvia and the Netherlands, the self-employed are not covered against the risk of unemployment regardless of their contribution history ([4]). In other countries, unemployment benefits are only available through voluntary schemes with low take-up (e.g. in Romania) or specific schemes targeting restricted groups of previous self-employed (European Commission and SPC-ISG, 2024). In response, some Member States have taken steps to improve social protection coverage for the self-employed, for instance by extending unemployment or sickness benefits (11 and 15 countries respectively). In Belgium, a new law entered into force making occupational accident insurance mandatory for self-employed platform employees (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026d). However, while these measures help expand formal coverage, challenges related to effective access or adequate benefit levels remain.

When self-employed are covered by social protection, their replacement income is often substantially below that of former permanent employees. As shown in Chart 1, in 18 Member States, the replacement income for the self-employed remains below that of former employees, reflecting gaps in coverage and benefit design ([5]). Eight Member States provide higher replacement rate to the formerly self-employed. In these cases, the replacement income itself is not higher but previous disposable income from work for the same gross income was lower for the self-employed, leading to higher effective replacement rates. This is due to either higher social insurance contributions for the self-employed, or the self-employed not benefitting from additional tax credits. In Bulgaria, Croatia and Lithuania, the gap between the

replacement rates of the self-employed and employees is particularly large. For these three countries, replacement income for the self-employed in the second month of unemployment amounts to 20%, 28% and 27%, respectively, of previous disposable income when in work compared to replacement income of 77% (Bulgaria), 84% (Croatia) and 81% (Lithuania) among former employees.

Chart 1: **Net replacement rate for single former employees and self-employed earning 67% of the average wage, with 18 years of contributory history, at the second month in unemployment**



Note: The net replacement rate measures total net disposable income as a percentage of net previous income, accounting for all benefits an individual may be eligible for, including e.g. unemployment benefits and social protection. Countries ordered according to net replacement rate for former employee.

Source: JRC calculations using EUROMOD v.J.1.136+

Similar challenges also affect platform workers. Despite ongoing efforts to clarify their employment status, many platform workers remain only partially covered. This is evident in low effective coverage: according to a 2022 Eurostat pilot survey, only around 6% of platform workers receive unemployment insurance through a platform employer, while about a quarter access benefits through another job. In this regard, a Eurofound report shows that, as of 2023, all EU Member States but six (Bulgaria, Cyprus, Czechia, Hungary, Luxembourg and Slovakia) have introduced measures to enhance platform workers' access to social protection (Eurofound, 2024b). The main tools used include legislative changes (e.g., presumption of employment, third-worker status), court decisions granting platforms workers social benefits, and collective agreements.

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(1) EUROMOD simulation using the EUROMOD Hypothetical Household Tool (HHoT). This includes unemployment benefits but also other benefits that individuals may be eligible for when unemployed, such as housing benefits, social assistance benefits and family benefits. The indicator compares the income of unemployed individuals with those who were employed, taking into account any taxes or social security contributions which may have been levied on individuals when being unemployed or employed, respectively.

(2) In Belgium, if self-employed have worked as employees in the past, they can benefit from the unemployment insurance scheme for employees under very specific conditions. Belgium also operates a bridging right scheme (droit passerelle) providing largely flat-rate, non-contributory income support for up to 12 months when business activity ceases. These schemes are not covered by this analysis.

(3) In France, self-employed can access the Allocation des travailleurs indépendants (ATI): a flat-rate, non-contributory support for up to 6 months when business ceases.

(4) See the Mutual Information System on Social Protection (MISSOC).

(5) Self-employment income is difficult to define and measure accurately in the context of surveys. Accounting practices and tax regulation as well as underreporting imply difficulties in providing an accurate estimation in surveys and definitions differ across the EU (European Commission: Eurostat, 2017); (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2026e).

Despite these efforts, enforcement challenges linked to bogus self-employment and certain non-standard forms of work remain significant in several Member States. In Spain, the widespread hiring of delivery platform workers as self-employed, which prompted the adoption of the 2021 "Riders' Law", reflects difficulties in ensuring the effective application of labour protections for platform workers ([412]). In Italy, complex subcontracting chains and quasi-self-employed arrangements in sectors such as logistics and food delivery continue to complicate the enforcement of labour standards and employer accountability ([413]). In the Netherlands, the high number of solo self-employed ("zzp'ers") has raised concerns about bogus self-employment, whereby workers are formally engaged as self-employed but, in practice, work under conditions characteristic of an employment relationship. This has highlighted challenges in effectively enforcing the relevant rules. Since 2025, the Dutch tax administration has resumed an active enforcement on bogus self-employment to reduce the misuse of self-employed status ([414]). Finally, in Romania, weak enforcement capacity creates additional challenges in monitoring and addressing bogus self-employment and other forms of non-standard work ([415]).

Social partners also play a key role in strengthening rights and security for workers in non-standard forms of employment. Collective agreements have addressed issues such as employment protection and occupational health and safety for these workers. For example, agreements have introduced protections for agency workers in Denmark ([416]). In the German metal and electrical industry, collective agreements have improved pay and created pathways to permanent employment for temporary agency workers ([417]). Other agreements have also strengthened occupational health and safety provisions for temporary and other non-standard workers in countries such as Spain, while in Italy social partners have established joint training arrangements, including on health and safety, for temporary agency workers ([418]). However, the effectiveness of these actions depends on the extent to which non-standard workers are covered by collective agreements.

Beyond traditional areas, social partners also play an increasing role in addressing new challenges related to self-employment and platform work. Trade unions have contributed to identifying and preventing bogus self-employment and promoting better access to labour rights and social protection. For example, trade unions in Sweden have supported stronger labour inspections ([419]), while in Belgium they have developed tools to help workers assess their employment status ([420]). Social dialogue has also increasingly addressed social protection for the self-employed, particularly in countries such as Germany and France.

At the EU level, a range of initiatives has been introduced to strengthen job security and improve protection for workers in non-standard employment. The Directive on Transparent and Predictable Working Conditions ([421]) establishes minimum rights regarding working conditions and predictability of work. The Council Recommendation on access to social protection ([422]) encourages Member States to extend coverage to non-standard workers. More recently, the Platform Work Directive ([423]) and the AI Act ([424]) have addressed emerging challenges related to digital labour platforms and algorithmic management, aiming to reinforce transparency and worker protection.

([412]) (Waeyaert, Laenaerts and Gillis, 2022).

([413]) (European Foundation for the Improvement of Living and Working Conditions., 2018).

([414]) (Netherlands Tax Administration (Belastingdienst), 2025); (European Commission, 2026d).

([415]) (European Commission, 2026c); (ILO, 2021).

([416]) (ILO, 2016).

([417]) (Eurofound, 2012); (IG Metall, 2026).

([418]) (Social partners in the Spanish temporary employment agency sector, 2018); (Assolavoro, Felsa CISL, NIdiL CGIL & UILTemp, 2025).

([419]) (Eurofound, 2023d).

([420]) (Eurofound, 2021b).

([421]) Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union, OJ L 186, 11.7.2019, pp. 105–121.

([422]) Council Recommendation of 8 November 2019 on access to social protection for workers and the self-employed (2019/C 387/01), OJ C 387, 15.11.2019, pp. 1–8.

([423]) Directive (EU) 2024/2831 of the European Parliament and of the Council of 23 October 2024 on improving working conditions in platform work, OJ L, 2024/2831, 11.11.2024.

([424]) Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), OJ L, 2024/1689, 12.7.2024.

4.3.3. Career security is supported through skills policies and active labour market measures

Member States have introduced policies aimed at strengthening career security, as this is becoming an increasingly important dimension of job quality. Looking ahead, as AI, the twin transition and other structural changes are expected to increase restructuring and labour transitions, career security will likely become even more important. Member States have thus introduced measures to ensure that workers can adapt to evolving labour market demands while maintaining stable and sustainable career paths. These measures include investments in reskilling and upskilling programmes, and career guidance services, particularly for workers affected by restructuring. Many countries have also strengthened active labour market policies, such as training schemes for unemployed workers and programmes supporting transitions to new sectors or occupations. In addition, career security policies increasingly focus on anticipating skills needs and supporting career mobility, including through stronger cooperation between public employment services, training providers and employers.

Despite this progress, significant challenges remain in ensuring effective career security across the EU, especially for some groups of the population and in some sectors. Access to training, career guidance and active labour market measures remains uneven across Member States and is often more limited for low-skilled workers, workers in non-standard forms of employment and SMEs ([425]). In many cases, support is still provided too late or is insufficiently aligned with evolving skills needs, limiting its effectiveness in facilitating timely labour market transitions ([426]). These shortcomings pose particular challenges to some groups, such as persons with disabilities, whose career security also depends on effective access to reasonable workplace accommodation—including flexible working hours and adapted work assignments—and to personalised and sustained employment support ([427]). Examples of sectors still characterised by high career insecurity are, among many others, cultural and creative industries.

4.4. WORKING TIME POLICIES

Working time, another central dimension of job quality, concerns not only how many hours people work, but also when and where they work, as well as the flexibility of work schedules. These aspects of working time ([428]) organisation all play an important role in shaping working conditions, with implications for workers' health, well-being and their ability to balance work and private life. In recent years, labour shortages, demographic trends and the digital transition have brought renewed attention to working time arrangements. At the same time, technological developments and new forms of work have increased both the flexibility and the complexity of working time arrangements ([429]).

Greater flexibility in the duration and scheduling of working time, as well as in the location of work, creates both opportunities and risks for workers and firms. On the one hand, greater flexibility in working time can support business adaptation, productivity and labour market participation. On the other hand, it may also lead to longer or more irregular working hours, blurred boundaries between work and private life, and increased work intensity, with implications for workers' health, well-being and overall job quality ([430]).

4.4.1. Working time policies aim to either limit excessive overtime or reduce overall working time

Policies which regulate working hours differ in their objectives. While overtime policies seek to regulate the negative effects of additional working hours, especially when involuntary, working time

([425]) (OECD, 2024a); (OECD, 2021c).

([426]) Communication from the Commission of 5 March 2025 'The Union of Skills' (COM (2025) 90 final); (Cedefop, 2023c).

([427]) Communication from the Commission of 3 March 2021 'Union of Equality: Strategy for the Rights of Persons with Disabilities 2021–2030' (COM (2021) 101 final); (Gareis et al., 2025).

([428]) This section provides an overview of the different types of working time policies and evidence on their effectiveness, when available. It builds on Chapter 3 of (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023b), which focused mostly on the recent evolution of working time in EU, its individual and country level determinants as well as past research on the effects of working time reduction.

([429]) (Eurofound, 2021c); (OECD, 2023b).

([430]) (International Labour Office., 2017); (Eurofound, 2020c).

reduction policies aim to decrease the total number of hours worked, typically through shorter standard working weeks, with implications for job quality, productivity and labour market participation (see Box 4.7 for the current debate in some Member States on working hours).

Box 4.5: Work more or work less? Diverging approaches in the EU

Over the long term, working time in Europe has declined alongside productivity growth and technological change, although this relationship has weakened in recent decades. Reductions in working hours were historically driven by productivity gains and structural shifts, which allowed output to be maintained with fewer hours worked (Huberman and Minns, 2007); (Bosch, 1999). More recent research suggests that the relationship between productivity and working time has become less direct, with institutional arrangements and worker preferences playing a greater role (Torrejón Pérez et al., 2024). Advances in digitalisation and artificial intelligence are again raising expectations of shorter working hours, but evidence suggests that these technologies often lead to work intensification or task expansion rather than reduced hours (Acemoglu and Restrepo, 2020).

Recent debates show diverging policy positions across Member States, with some countries favouring longer working hours to address labour shortages. In some countries, including Germany and Greece, discussions have focused on increasing working hours or facilitating overtime as a way to sustain economic activity and address labour shortages (European Commission, 2024b); (German Federal Government, 2024) particularly in sectors facing acute staffing constraints such as healthcare, long-term care, construction, manufacturing and transport (European Commission, 2024c). These approaches typically prioritise short-term adjustment by making greater use of the existing workforce, for example by easing restrictions on overtime or strengthening incentives to extend working time.

Other countries are exploring working time reduction to address longer-term challenges. In France, four-day workweek pilots have been introduced in parts of the public sector, reflecting efforts to reorganise working time while maintaining service delivery. As previously mentioned, Spain and Portugal have also supported pilot projects and initiatives aimed at reducing working hours. Furthermore, discussions and smaller-scale pilot initiatives have recently emerged in Poland, particularly in the context of debates on work–life balance and labour shortages (Eurofound, 2026b). These initiatives are often linked to broader objectives related to job quality, work–life balance and labour market participation and aim to make jobs more attractive in tight labour markets. More recently, advances in AI have also brought working time reduction back into the policy debate, in some countries like Poland.

Policies to regulate overtime

Overtime can benefit both firms and workers when it is used flexibly and on a voluntary basis. It allows firms to adjust labour input along the intensive margin, increasing hours rather than hiring additional workers, which helps them respond to temporary demand fluctuations or labour shortages ([431]). For workers, overtime can provide an opportunity to raise earnings or address underemployment. When additional hours are freely chosen and compensated, this reflects standard labour supply decisions, where individuals trade off income and leisure ([432]).

When overtime is genuinely voluntary and financially compensated, it can enhance workers' welfare, particularly for those who are underemployed. Some workers would prefer to work more hours than they currently do, and overtime offers a way to increase income without changing jobs. Evidence shows that unmet demand for working hours is a persistent feature of labour markets, and that access to additional hours can improve both earnings (if compensated by increased pay) and job satisfaction ([433]). Overtime premia further strengthen incentives to supply additional hours, increasing the benefits for workers who choose to do so ([434]).

([431]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2023b); (OECD, 2023b).

([432]) (Borjas, 2016) ; (Blundell and MaCurdy, 1999).

([433]) (Bell and Blanchflower, 2011); (Golden, 2012).

([434]) (Trejo, 1991).

However, overtime can have negative implications when it becomes excessive or constrained by employer demand. Extended hours may reduce recovery time and strain work–life balance. In addition, productivity per hour tends to decline beyond certain thresholds as fatigue accumulates, reducing efficiency despite longer schedules (see Chapter 3). Long working hours are also associated with increased health risks, including cardiovascular diseases and premature mortality ([435]). While workers are granted the right to refuse overtime in a few countries, this right typically entails conditions which vary by Member State.

Regulation is important for ensuring that overtime remains beneficial to workers. Well-designed policy frameworks are needed to set clear limits on working time, guarantee adequate compensation and safeguard workers' ability to choose whether to work additional hours. Such protections help ensure that overtime remains a source of flexibility and income gains, rather than a source of strain. In their absence, the risk increases that overtime becomes excessive or involuntary, undermining job quality and worker well-being ([436]).

Existing regulatory frameworks shape how overtime rules are implemented and enforced across countries. At the EU level, the Working Time Directive ([437]) sets a common framework, including a 48-hour weekly limit on average and rules on daily and weekly rest periods, while allowing derogations and sector and activity-specific arrangements ([438]). National systems complement this with limits on daily working hours, minimum daily rest periods and compensation rules, often reinforced through collective bargaining ([439]). When officially approved, overtime tends to be compensated either in monetary form or through additional time off ([440]). Nevertheless, these regulations do not apply to some groups of workers, most commonly managerial roles due to their autonomy over working hours ([441]). However, countries differ considerably in how these rules are designed and enforced in practice. For instance, France and Spain combine statutory limits on overtime with mandatory compensation requirements, while Germany relies more extensively on working-time accounts negotiated through collective bargaining to regulate the use and compensation of additional working hours ([442]). At the same time, reforms in Portugal and Slovakia have focused on strengthening overtime premia. Overall, evidence suggests that combining limits, effective enforcement and proper compensation is key to reducing excessive hours, supporting compliance and mitigating negative effects on job quality.

Policies to reduce working time

Working time reduction policies can improve well-being and participation but also involve trade-offs. Reducing working hours can among others support better work–life balance and encourage labour market entry, particularly for those with care responsibilities. They may also improve job satisfaction and worker retention and, in some cases, contribute to lower absenteeism and higher productivity per hour worked. However, in a context of population ageing and labour shortages, these policies may constrain labour supply, increase labour costs and require significant adjustments in firms' organisation. If poorly designed, namely without adjustments in workload and work organisation, they can also lead to unintended effects such as higher work intensity. Therefore, their overall impact depends on policy design, sectoral context and supporting measures ([443]).

The French experience shows that the benefits of shorter working hours depend on accompanying measures and workplace adaptation. France's Aubry reforms, introduced between 1998 and 2000, reduced the statutory working week from 39 to 35 hours for full-time employees. The reform combined shorter working hours with financial incentives for firms and greater flexibility in the organisation of working time. Evaluations suggest that it contributed to short-term job creation and

([435]) (Eurofound, 2021c); (WHO and ILO, 2021).

([436]) (OECD, 2023b); (ILO, 2018).

([437]) Directive 2003/88/EC of the European Parliament and of the Council of 4 November 2003 concerning certain aspects of the organisation of working time, OJ L 299, 18.11.2003, pp. 9–19.

([438]) (European Commission, 2023c).

([439]) (European Commission, 2023c); (Eurofound, 2023e).

([440]) (Eurofound, 2022).

([441]) (Eurofound, 2022).

([442]) (Eurofound, 1998); (Hartl et al., 2025).

([443]) (Pencavel, 2015); (Golden, 2012); (OECD, 2023b).

improved the well-being of workers particularly in the early years of implementation, while encouraging firms to reorganise work processes. However, results on its long-term impact on labour productivity and job creation are mixed. In addition, its effects varied across sectors and firms, highlighting the importance of implementation design and workplace adaptation ([444]).

Several EU countries and regions have recently introduced pilot policies to reduce working hours while maintaining workers' pay with different results. In Belgium, a 2024 pilot programme supports private companies that voluntarily reduce working hours by at least two hours per week without reducing pay. Portugal launched a voluntary four-day week pilot project in 2023 involving 39 companies, allowing weekly hours to fall to between 32 and 36 hours with full pay retention. Spain has also introduced several initiatives, including national grants for manufacturing SMEs testing a four-day week with at least a 10% reduction in working time. In addition, the Valencia regional government introduced financial support schemes for companies reducing working hours, while the Valencia City Council tested a city-wide four-day week pilot in 2023 involving both public and private sector workers. In terms of outcomes, Belgium's pilot had a low uptake with critics signalling higher costs; in Portugal's trial participating firms reported productivity gains as well as higher workers' well-being and satisfaction. Finally, Spain's project on national grants for manufacturing SMEs saw limited uptake while Valencia City Council's pilot led to gains in workers' well-being ([445]). Recent studies have also analysed the consequences of these policies (see Box 4.6).

The implementation of working time reductions varies across sectoral and organisational contexts. Reducing working hours often requires adjustments in staffing, workflows and production processes, which may generate additional costs and organisational challenges. These adjustments can be more demanding in sectors requiring continuous service, fixed staffing levels or characterised by high work intensity, such as healthcare, retail and hospitality. At the same time, sectors with more flexible forms of work organisation and greater worker autonomy may find it easier to reorganise working time arrangements (Chapter 3). Overall, the impact of working time reductions is shaped not only by policy design, but also by how work is organised across sectors and firms.

Box 4.6: Recent research on effects of working time reduction policies

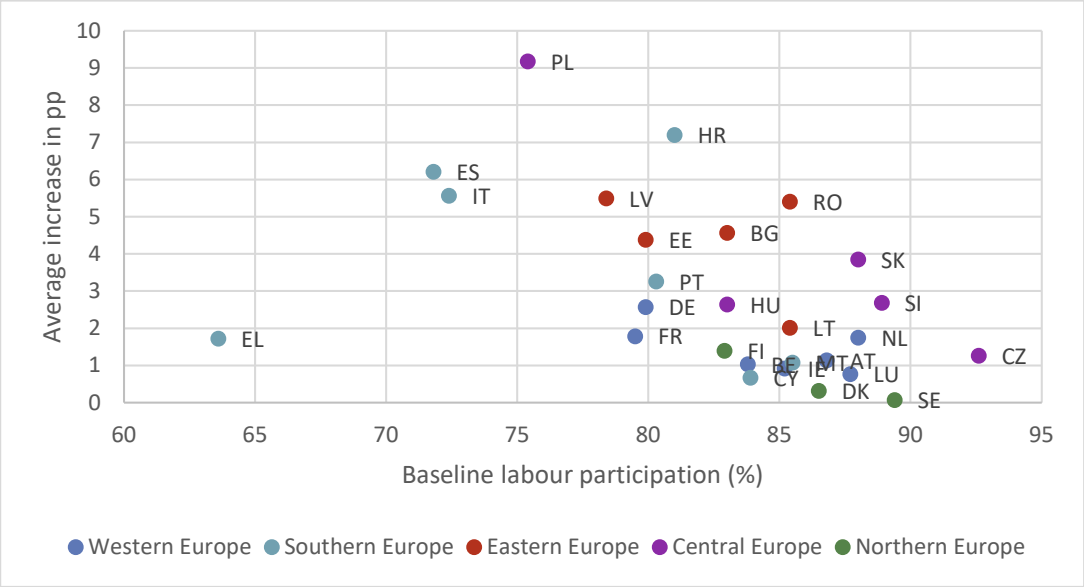
Evidence shows that working time reduction policies could raise participation, particularly among underrepresented groups. A new Eurofound simulation (Eurofound, 2026e) has found that a reduction in standard working hours could lead to sizeable participation gains, especially in countries with initially low participation rates, such as Poland, Spain and Italy (Chart 1). Women benefit disproportionately, with larger gains among those in couples and single mothers, reflecting improved possibilities to reconcile work and care. The effects are also progressive, with stronger responses among lower-income groups. Impacts also vary across sectors, with larger participation gains in industry and retail, and more limited effects in the public sector. However, the net effects on total hours worked and the implications for employers' labour costs are not assessed in the study. These patterns are consistent with labour supply considerations, as shorter standard hours can make employment more compatible with workers' preferences and constraints, thereby encouraging labour market entry (see Chapter 3); (Altonji and Paxson, 1988); (Lang and Kahn, 2001).

Working time reduction can also influence productivity, though outcomes vary depending on how work is reorganised. Eurofound's research (Eurofound, 2026f) also shows that shorter working hours may increase productivity per hour worked, as reduced fatigue and improved work–life balance can enhance worker performance and motivation and improve retention and recruitment (see also Chapter 3). However, such gains are not automatic and often require adjustments in work organisation, management practices and the use of technology. In other cases, reduced hours may lead to work intensification or additional overtime to maintain output, which can support productivity but also increase work pressure (OECD, 2022); (European Commission, 2023b).

([444]) (Askenazy, 2013); (OECD, 2021a).

([445]) (Eurofound, 2026b).

Chart 1: **Average increase in labour market participation across three scenarios compared to baseline participation**



Note: Baseline labour participation rate versus average increase in participation across the three scenarios of the microsimulation analysis, by EU country and region. The three policy scenarios are 1) a reduction in working hours from 40 to 32 hours per week, while maintaining wages and commuting time unchanged (32/5), 2) the reduction in hours of the previous scenario combined with a compressed schedule to 4 days from 5 (32/4), 3) a compression of the original hours worked into 4 days without changing working hours or wages (40/4).

Source: Eurofound's report on "Labour supply and welfare effects of the four-day work week scenarios: A microsimulation analysis for the EU".

4.4.2. Predictable schedules and workers' control mitigate the risks of atypical working hours

Beyond the duration of work, the timing and predictability of working hours are important determinants of job quality. Atypical working hours ([446]) are a structural feature of sectors requiring continuous service provision, such as healthcare, retail, transport, utilities and manufacturing ([447]) (see also Chapter 2, section 2.2.2). These working patterns support operational continuity and economic activity but are also associated with risks for workers, including disrupted sleep, fatigue, poorer physical and mental health, and reduced work–life balance ([448]). In addition, atypical hours, long duty, insufficient rest times ([449]), as well as very long time away from home and inappropriate sleeping conditions ([450]) may reduce efficiency due to, among others, fatigue and stress (see Chapter 3). These patterns are also more prevalent among workers in non-standard or lower-quality jobs, suggesting that atypical working hours may reinforce existing labour market inequalities ([451]). These findings show that the timing of work matters for job quality, even when total hours remain unchanged.

Policy frameworks at EU and national level aim to mitigate these risks while preserving the flexibility required by firms. At EU level, the Working Time Directive establishes minimum standards on rest periods and working schedules, including specific provisions for night and shift work ([452]). At national level, these principles are complemented by more detailed rules that regulate shift patterns, set limits on consecutive working hours and extra-compensation for night and weekend work, often through collective agreements ([453]). In Germany, Denmark, Finland and Sweden sectoral agreements define shift

([446]) Atypical working hours include night work, shift work and weekend work.

([447]) (Eurofound, 2021c); (OECD, 2023b).

([448]) (ILO, 2022); (Eurofound, 2021c); (OECD, 2023b); (Eurofound, 2023e).

([449]) These arrangements are common, for instance, in aviation.

([450]) These are common characteristics of working time arrangements in, for instance, maritime transport.

([451]) (Golden, 2012); (Eurofound, 2023e).

([452]) In addition, sector-specific working time rules are in place at EU level, for instance in aviation (i.e., Flight Time Limitations requirements), sea fishing and road transport, since these sectors are characterised by specific working time arrangements (e.g., long duty periods, night operations, irregular schedules and operational pressures) and related risks.

([453]) (Eurofound, 2023e); (OECD, 2023b).

rotations and rest periods in industries such as manufacturing and healthcare, while, for example, in France, night work is subject to specific compensation and health monitoring requirements.

Evidence suggests that policy effectiveness depends not only on extra-compensation, but also on how atypical working hours are scheduled and managed. Measures that limit the intensity and sequencing of night work, ensure adequate rest periods and improve predictability are more effective in reducing health risks than financial compensation alone ([454]). In addition, policies that increase workers' influence over their schedules are associated with better work–life balance and job quality outcomes ([455]). In this context, collective bargaining plays a key role in adapting general principles to sector-specific conditions and supporting implementation.

Recent policy developments increasingly focus on improving the predictability and transparency of atypical working hours. Several Member States have strengthened rules on working time recording, scheduling and transparency, reflecting growing concerns about irregular working patterns ([456]). While comparable data on the number of countries introducing such measures is limited, available evidence points to reforms across different parts of the EU. For example, reforms in Denmark have reinforced obligations to record working time ([457]), while other countries have introduced measures to improve predictability and worker control over schedules ([458]). These trends suggest a broader shift towards more structured and predictable working time arrangements, going beyond reliance on financial compensation ([459]).

4.4.3. Policies that regulate flexible working time aim at increasing workers' control

Working time flexibility has become a central feature of modern labour markets, enabling higher adaptation of companies and autonomy for workers. Working time flexibility refers to arrangements that allow variation in the timing, or scheduling of working hours, rather than fixed or standard working patterns. On the one hand, greater employer-driven flexibility in working hours can support business adaptation and productivity, particularly in the context of labour shortages and structural change ([460]). On the other hand, worker-oriented flexibility can increase autonomy, work–life balance and labour market participation ([461]).

However, the effects of working time flexibility on job quality depend on how it is designed and who controls it. A key distinction in the literature is between worker-oriented and employer-driven flexibility, which are associated with different job quality outcomes. Evidence shows that workers who have control over their working time report higher job satisfaction and better work–life balance. Employer-driven arrangements—such as variable schedules, on-call work or short notice of shifts—tend to reduce predictability and increase work-related stress and intensity ([462]). The prevalence of worker-oriented or employer-driven flexibility varies across sectors and occupations: higher-skilled and office-based roles tend to offer more control over schedules, while jobs in sectors such as retail, hospitality and care services are more likely to involve employer-driven flexibility with limited worker choice. This highlights a broader divide in job quality, as workers with less bargaining power are more likely to face unpredictable and employer-driven working time arrangements.

Policy frameworks across the EU increasingly address negative consequences of working time flexibility, improving predictability and workers' control. At EU level, the Directive on Transparent

([454]) (ILO, 2022); (Eurofound, 2021c).

([455]) (OECD, 2023b); (Eurofound, 2023e).

([456]) (Eurofound, 2023e).

([457]) This followed the judgment of the European Court of Justice of 14 May 2019, Federación de Servicios de Comisiones Obreras (CCOO) v Deutsche Bank SAE, C-55/18. The Court's ruling established that Member States must require employers to set up an objective, reliable and accessible system for measuring each worker's daily working time, in order to ensure the effectiveness of the rights provided under the Working Time Directive and Article 31(2) of the Charter of Fundamental Rights of the European Union.

([458]) (OECD, 2019b).

([459]) (OECD, 2021b).

([460]) (OECD, 2023b); (Eurofound, 2021c).

([461]) (OECD, 2023b); (Eurofound, 2021c).

([462]) (Eurofound, 2021c); (OECD, 2022).

and Predictable Working Conditions ([463]) introduces rights related to advance notice of work schedules and limits on unpredictable working patterns. It also introduces an entitlement to compensation when the employer cancels after a specified reasonable deadline the work assignment previously agreed. At national level, several Member States have introduced or strengthened provisions on minimum notice periods, restrictions on last-minute schedule changes and the right to request flexible working arrangements. For example, Belgium extended the advance notice period for variable work schedules of part-time employees, while Ireland and Luxembourg introduced provisions linked to more predictable working conditions and limits on highly unpredictable scheduling practices. In the Netherlands, workers have stronger rights to request adjustments to their working hours and schedules. Some countries also provide compensation and minimum protections for on-call work and short-notice shifts. In Ireland, workers on on-demand contracts are entitled to a minimum payment when they are called into work but not provided with the expected hours. In Luxembourg, workers with unpredictable work schedules may refuse work requested outside previously agreed reference hours and days ([464]).

Evidence suggests that the effectiveness of working time flexibility policies depends on how they are reflected in day-to-day scheduling practices at workplace level. Measures such as minimum notice periods for shifts, limits on last-minute changes and clearer expectations on scheduling are associated with better worker well-being ([465]). For example, in Denmark and the Netherlands, practices such as self-rostering or negotiated scheduling are used to increase worker control within organisational constraints ([466]). In some sectors, these arrangements allow workers to choose or swap shifts within defined limits, improving predictability and satisfaction while maintaining operational coverage.

To conclude, flexibility can improve job quality, when it is accompanied by transparency, predictability and some workers' control. The impact of flexibility depends on the extent to which it enhances predictability and gives workers meaningful control over their working time. In light of all this, this section shows that improving job quality requires not only clear rules on the amount and timing of work, but also on how working time is organised and controlled in practice.

4.4.4. Policies increasingly regulate the right to disconnect and digitalisation of working time

The expansion of flexible working time arrangements has been reinforced by digital technologies, which have increased both autonomy and permanent connectivity at work. The spread of digital technologies and teleworking—accelerated by the COVID-19 pandemic—has enabled greater flexibility in the organisation of work and supported business continuity ([467]). In some occupations, it has also increased workers' autonomy over working time arrangements. Voluntary teleworking can also reduce employment barriers for workers with care responsibilities and some persons with disabilities ([468]). However, this flexibility has made it easier for work to extend beyond traditional working hours, blurring the boundary between professional and private life. Evidence suggests that teleworkers are more likely to work during their free time than on-site workers, with implications for job quality and well-being ([469]). These developments illustrate the dual nature of digital flexibility: the same technologies that support autonomy and flexibility can also contribute to longer working hours, permanent connectivity and increased work intensity, in turn, harming job quality.

The right to disconnect has emerged as a policy response aimed at restoring clearer boundaries between working time and rest. It generally refers to the ability of workers to refrain from engaging in work-related electronic communication outside working hours and during periods of rest or leave ([470]). This concept builds on existing provisions on working time, including maximum working

([463]) Directive (EU) 2019/1152 of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union, OJ L 186, 11.7.2019, pp. 105–121.

([464]) (Eurofound, 2023e); Employment (Miscellaneous Provisions) Act 2018 (Ireland); Wet flexibel werken (Flexible Working Act, Netherlands); Loi du 24 juillet 2024 portant transposition de la Directive (UE) 2019/1152 relative à des conditions de travail transparentes et prévisibles (Luxembourg) ; (Eurofound, 2023a).

([465]) (Eurofound, 2023e); (OECD, 2023b).

([466]) (Eurofound, 2023e).

([467]) (International Labour Office., 2017); (Eurofound, 2020a).

([468]) (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b).

([469]) (Eurofound, 2020a).

([470]) (Eurofound, 2021a).

hours and minimum rest periods as defined in EU law ([471]). In this sense, it builds on traditional labour protections to address the realities of digital work, aiming to preserve the benefits of flexibility while limiting its unintended consequences.

Across the EU, policy approaches reflect different ways of balancing flexibility and protection in this area. At EU level, the Quality Jobs Roadmap ([472]) highlights the growing challenges posed by digital connectivity and telework for work-life balance. As regards national policies, Eurofound identifies a range of models, including countries with specific legislation introducing a right to disconnect—such as France, Belgium, Italy and Spain—as well as those relying on broader working time frameworks or company-level practices ([473]). France is often considered a forerunner, having introduced legislation in 2016 requiring companies to define rules on the use of digital tools outside working hours, typically through social dialogue. In other countries, such as Germany, the issue is often addressed through collective agreements and internal company policies. These differences illustrate how national systems adapt common challenges to their institutional context.

Evidence from recent studies suggests that the effectiveness of the right to disconnect depends less on formal provisions and more on how these are implemented in practice. Evaluations at company and national level indicate that policies relying solely on general legal principles tend to have limited impact if not accompanied by clear organisational measures. More effective approaches combine formal rights with concrete practices. This includes setting explicit limits on out-of-hours communication, introducing automatic restrictions or delayed delivery of emails outside working hours, or defining clear expectations regarding availability. Evidence also points to the importance of managerial behaviour and workplace culture, as these strongly influence whether workers feel able to disconnect in practice. In this context, social dialogue plays a key role in translating general principles into enforceable arrangements adapted to sector-specific needs. This contributes to better outcomes in terms of working time, well-being and overall job quality ([474]).

4.4.5. Social partners contribute to shaping working time arrangements, especially in some sectors

Social partners play a central role in determining working time arrangements by defining detailed rules within a common regulatory framework. Across the EU, collective bargaining sets provisions on working hours, overtime and other aspects of working time organisation, often at sectoral or company level ([475]). This institutional role is particularly important in coordinated systems of industrial relations, which are better able to manage trade-offs between flexibility and protection, supporting both productivity and worker well-being ([476]).

In practice, collective agreements shape how working time is organised through concrete instruments and sector-specific arrangements. These include regulation of working hours, working time accounts, shift scheduling systems and rules on flexible working hours. For example, in Austria, the 2019 reform enabled four-day weeks via collective agreements (covering ~430,000 white-collar workers), while collective agreements in the Dutch construction sector have expanded options for older workers (55+) to reduce working hours with partial or substantial income compensation. ([477]). In the German manufacturing sector, collective agreements use working time accounts to adjust hours to changes in demand ([478]). Sector-specific working time rules on shift rotations, rest periods and night work are also in place in industries such as healthcare as well as different subsectors of transport (air, rail, road, sea). In retail and hospitality, collective agreements in Spain and France often regulate scheduling practices,

([471]) European Parliament (2021), *Resolution of 21 January 2021 with recommendations to the Commission on the right to disconnect (2020/2018(INL)).*

([472]) European Commission (2025), *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Quality Jobs Roadmap*, COM (2025) 944 final, 4.12.2025.

([473]) (Eurofound, 2021a).

([474]) The whole paragraph draws on (Eurofound, 2021a) and (Eurofound, 2023b).

([475]) (Eurofound, 2023e).

([476]) (OECD, 2023b); (Eurofound, 2021c).

([477]) (Eurofound, 2026b).

([478]) (Eurofound, 1998).

including advance notice and compensation for atypical hours ([479]). More recently, social partners in countries such as Spain ([480]), Italy ([481]) and France ([482]) have agreed temporary adjustments to working hours during periods of extreme heat, including earlier start times, additional rest breaks and changes to shift schedules ([483]).

Box 4.7: Social dialogue and collective bargaining as drivers of job quality

Social dialogue and collective bargaining are fundamental enablers of quality jobs across the EU. Strong collective bargaining systems are essential to secure adequate and fair wages, improve working conditions and support balanced work-life arrangements. In a fast-changing world, with major socio-economic transitions (green, digital and demographic) and profound structural transformations in the labour market, social partners also support workers and employers in navigating this change. The Commission assesses the situation of social dialogue in Member States through the European Semester. It is also supporting the Employment Committee in monitoring the implementation of the 2023 Council Recommendation on strengthening social dialogue in the European Union.

Ensuring wage adequacy remains a key priority in social dialogue, as Member States are reinforcing their frameworks for collective bargaining systems. As discussed in section 4.2.1., well-functioning collective bargaining on wages, together with a high collective bargaining coverage, can improve pay across the wage distribution and promote the fairness and sustainability of wages. Many EU countries are preparing actions to further promote collective bargaining, also in the context of the action plans required under the Minimum Wage Directive to be established by Member States whose collective bargaining coverage rate is below 80%.

Beyond wages, social dialogue and collective bargaining help ensure that labour standards and workers' rights are effectively implemented and enforced. Through structured dialogue between employers and workers' representatives, social partners help translate legal rights into real protections in the workplace, including in the areas of job security and working time. They can also help identify gaps between formal rights and workplace practices, provide channels for workers to raise concerns, and facilitate the prevention and resolution of disputes. In this way, social dialogue can strengthen compliance with agreed standards and help ensure that workers' rights are effectively applied in practice.

Social partners also support work-life balance through collective bargaining, social dialogue, framework agreements and workplace policies. At sectoral and company level, they agree on concrete arrangements, including on how flexible schedules, telework, part-time work or additional leave operate in practice (section 4.4.5.). The cross-industry and the 44 sectoral social dialogue committees at EU level regularly discuss and develop joint outcomes on the various dimensions of issues related to job quality.

Social dialogue is equally important in helping adapt workplaces to economic, technological and social change. Social dialogue contributes to the competitiveness and resilience of European companies. It also has a critical role to play in restructuring and managing transitions. This is particularly relevant in the context of the digital, green and demographic transitions, where early information and consultation of workers can improve anticipation of change, enable quicker intervention and contribute to fairer outcomes. In this context, the Information and Consultation Directive ([1]) requires workers' representatives to be informed and consulted on decisions likely to lead to substantial changes in work organisation or in contractual relations. In a number of Member States and sectors, social partners have adopted and applied specific rules on algorithmic management at the workplace in collective agreements.

However, trade union membership and the share of workers covered by collective agreements have declined over time. They fell on average from 21% in 2012 to 18% in 2023. This trend reflects several factors, including the lower propensity of younger workers to join trade unions, but also the expansion of non-standard forms of employment, the decline of traditionally highly unionised industrial sectors, and the

([479]) (Eurofound, 2023e)

([480]) (Ministry for the Ecological Transition and the Demographic Challenge, 2022).

([481]) (Ministry of Labour and Social Policies, 2025).

([482]) (Ministry of Labour and Solidarities, 2025).

([483]) (International Labour Organisation, 2024).

growth of relatively recent sectors such as ICT which have less established traditions of trade union organisation (European Commission: Directorate-General for Employment, Social Affairs and Inclusion, 2025b). At the same time, there has been some reversal of this trend since 2020, with trade union membership increasing by around 3 pp. This improvement may be partly related to the adoption of the Minimum Wage Directive.

Recent initiatives reaffirm the Commission's commitment towards a reinforcement of social dialogue. The Pact for European Social Dialogue ([2]), signed in March 2025, introduced concrete actions to promote more timely and meaningful consultation of social partners and strengthen their role in shaping EU employment and social policies. This approach was reflected in the preparation of the Quality Jobs Roadmap, which involved an unprecedented consultation process with European and national social partners: around 200 organisations across the EU were consulted, providing more than 100 written contributions and participating in over 50 discussions across all Member States. Building on this engagement, the Commission continues to involve social partners in the preparation of the Quality Jobs Act, including on emerging challenges such as AI at work, occupational safety and health, subcontracting, fair transitions and the effective enforcement of workers' rights.

([1]) Directive 2002/14/EC of the European Parliament and of the Council of 11 March 2002 establishing a general framework for informing and consulting employees in the European Community, OJ L 80, 23.3.2002.

([2]) European Commission, Pact for European Social Dialogue, signed on 5 March 2025 by the European Commission and the European cross-industry social partners (ETUC, BusinessEurope, SGI Europe and SMEunited).

4.5. CONCLUSIONS

Job quality is an important lever to attract and retain people in employment while supporting the EU's competitiveness. Measures to increase job quality can improve working conditions and job satisfaction, strengthen labour market participation, reduce absenteeism and support productivity. These policies remain key to help firms to attract talent in a context of labour shortages and structural change. Investments in skills are particularly important in this respect, as they can help workers move into better quality jobs while supporting competitiveness and productivity.

Policies to improve job quality require a multi-dimensional approach. This chapter focused on policies that enhance the adequacy and fairness of workers' earnings, support job and career security and improve working time. As shown in the chapter, the policies discussed can also contribute to improving additional dimensions of job quality, such as collective interest representation and organisation, gender equality and equal opportunities or social protection. These interconnections highlight the need for policymakers to consider job quality in a holistic manner, rather than targeting its dimensions individually.

Collective bargaining together with an array of policy measures can improve the adequacy and fairness of earnings. Well-functioning collective bargaining and pay transparency measures support the fairness of wages, by enhancing workers' bargaining power and access to information. Moreover, policies supporting productivity growth and skills acquisition are critical for ensuring sustainable wage increases. EU initiatives such as the Competitiveness Compass, the Union of Skills, the Quality Jobs Roadmap and the forthcoming Quality Jobs Act are instrumental in this regard. For low-wage earners, minimum wage increases, as promoted by Minimum Wage Directive, have contributed to improving the wages of low-earning workers in many Member States but can also lead to positive spillover effects on wages close to the minimum. Simulations suggest that further minimum wage increases would lead to a reduction of in-work poverty mostly among single households without children and with more limited effects for other groups. Tax-benefit systems further affect the adequacy of net earnings and in-work poverty rates and can shield low-income earners through tax credits, tax-free allowances or dedicated in-work benefits.

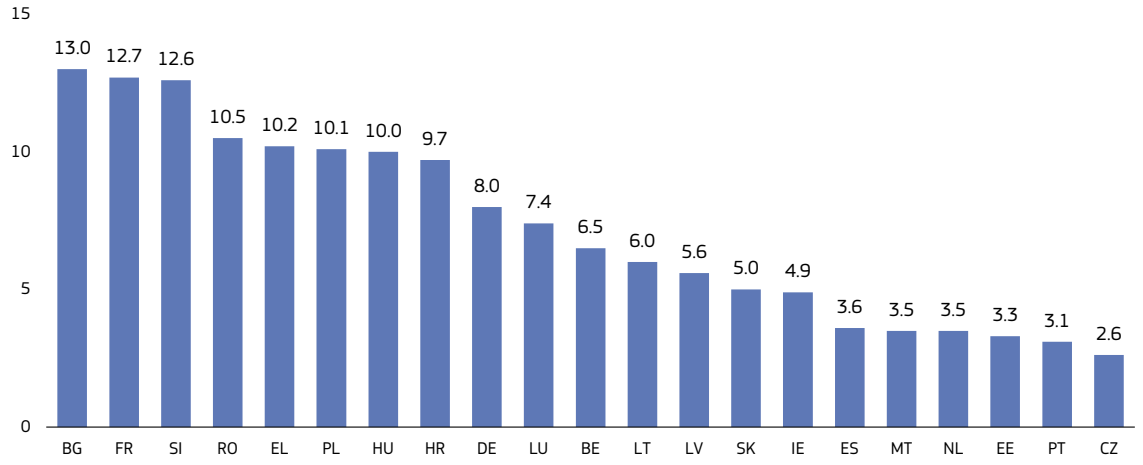
Full enforcement of employment protection legislation, stronger protection for non-standard workers, and targeted skills policies and ALMPs can further enhance job and career security and, in turn, job quality. As labour markets evolve, job and career security increasingly depend not only on adequate protection in employment, but also on workers' ability to move successfully between jobs and sectors. While employment protection for permanent workers remains relatively strong across the EU,

gaps in implementation continue to undermine job security in some Member States. At the same time, workers in non-standard forms of employment remain more exposed to insecurity, often facing weaker protection against job loss and more limited access to social protection. Recent national and EU initiatives, such as the Platform Work Directive and the Council Recommendation on access to social protection, aim at narrowing these gaps by extending rights and protections to workers in atypical forms of employment. However, protection gaps and enforcement challenges persist, especially related to bogus self-employment and other precarious forms of work. Finally, investments in skills, lifelong learning, career guidance and targeted ALMPs can strengthen career security by helping workers adapt to changing labour market demands and move more smoothly into new employment opportunities.

Well-designed working time policies can also improve job quality when they increase workers' control over schedules, enhance predictability and take into account sectoral differences. The rise of digitalisation, remote work and more flexible working arrangements has brought greater attention to the quality of working time and workers' ability to balance work and personal life. Recent policy developments have strengthened rules on working time recording, overtime compensation, predictable schedules and the right to disconnect in several Member States. Increasingly, these policies seek not only to compensate workers for long or atypical hours, but also to give them greater influence over when and how they work. However, their effectiveness depends on good management practices and adaptation to sector-specific circumstances. The latter is particularly important in sectors such as healthcare, retail, and hospitality, where operational requirements can make it more difficult to reconcile flexibility, predictability and workers' autonomy. Social partners can play an important role in this regard, as collective agreements often help tailor working time arrangements to sector-specific needs while balancing flexibility for employers with predictability for workers.

A4.1. ADEQUATE MINIMUM WAGE PROTECTION

Chart A4.1: **Share of employees earning less than 105% of the minimum wage, October 2022 (%)**



Note: Calculated based on data from the most recent available wave of the Structure of Earnings Survey (SES). For the purpose of the calculation, employees are considered to be "minimum wage earners" if they earn less than 105% of the minimum wage after conversion to full-time units.

Source: Eurostat, Structure of Earnings Survey 2022 and Minimum wages.

A4.2. ANALYSES OF IN-WORK POVERTY USING EUROMOD

Analyses in sections 4.2.1. and 4.2.3. use EUROMOD, the open-source tax-benefit microsimulation model for the EU. The model uses survey data on gross incomes, labour market status and other characteristics of the individuals and households, on which the tax and benefit rules in place are applied in order to simulate direct/indirect taxes, social insurance contributions and entitlements to cash benefits, and thereby obtain (equivalised) disposable incomes.

Simulation of minimum wage increases and their impact on in-work poverty

The analysis builds on the impact assessment report accompanying the Commission proposal for a Directive on adequate minimum wages ([484]) and the corresponding paper by (Grünberger et al., 2021). Simulating minimum wage increases and their impact on in-work poverty focuses on 2024. The input data used for this analysis are based on EU-SILC 2023 for 10 countries and 2022 for the rest, corresponding to 2022 and 2021 incomes respectively. The model's market incomes, as well as any non-simulated benefit components are uprated to mimic the 2024 distribution following a standard procedure. As EUROMOD is a static non-behavioural microsimulation model, second-round macroeconomic feedback is not modelled.

Calculating hourly wages and applying the hourly minimum wage poses three significant challenges when using EU-SILC data and EUROMOD. These challenges are related to: (1) the temporal mismatch between reported working time and earnings in EU-SILC data, (2) measurement errors in reported working hours, months of work, or earnings, and (3) the temporal discrepancy between the income reference period in the data (2021 for most countries) and the reference period for the minimum wages (2024 for all countries).

The wage correction was applied using hourly figures, to better account for diverse working patterns and varying working hours. A limitation of EU-SILC data is that earnings and working hours, both necessary for calculating hourly wages, refer to different time periods. The missing information on working hours is imputed based on information on months in employment. Following the approach by (Brandolini, Rosolia

([484]) (European Commission, 2020b)

and Torrini, 2011), working hours are imputed using gender-specific median hours for part-time and full-time workers, respectively.

To identify outliers, we rely on the interquartile range (IQR) of the logarithm of hourly wages. The IQR is calculated as the difference between the 75th percentile (Q3) and the 25th percentile (Q1) of the wage distribution. Outliers are defined as observations that fall below the median minus 1.5 times the IQR, indicating values that are significantly lower than the majority of the data. Individuals identified as outliers due to their low hourly wages are not subject to a wage increase to the new hourly minimum wage level

As noted earlier, the data used in this analysis cover earnings in 2021 for most countries (2020 and 2023 for others). However, the hypothetical minimum wages for the alternative scenarios are based on 2024 figures, which cannot be directly applied to earnings from earlier periods. To address this issue, employment incomes in the data are uprated using the uprating factors employed in EUROMOD simulations. This step ensures that the incomes are adjusted to reflect the correct time period before comparing to minimum wages. Then, after correcting the reported employment incomes by applying the new minimum wage to the workers earning less than that amount, incomes are de-uprated in the data in order to be used (and uprated again) in the EUROMOD simulations.

Policy effects tool

The EUROMOD model operates on a structure where different policy components can be activated or deactivated, making it particularly suitable for decomposing effects into different policy contributions. The analysis in section 4.2.3. combines two complementary methodological approaches: a static Shapley value decomposition for 2024 and a dynamic policy effect analysis comparing tax-benefit systems across 2019, and 2024.

To understand the mechanisms behind the decrease in in-work poverty and the role of policies in these developments, EUROMOD can be used to separate changes in in-work poverty rates between two time periods into two distinct components: the market effect, which captures changes in in-work poverty rates due to shifts in population structure, employment patterns and market income distribution including minimum wage increases; and the policy effect, which captures any changes in the tax-benefit system which go beyond inflation indexation and affect in-work poverty rate.

The policy effects tool (PET) decomposition methodology allows to separate changes in in-work poverty rates between two time periods into two distinct components: the market effect, which captures changes due to shifts in population structure, employment patterns, and market income distribution (including the effects of minimum wage policies which affect market incomes directly), and the policy effect, which captures changes in the tax-benefit system which go beyond indexation. The method used follows the approach developed by (Bargain and Callan, 2010) and further developed in (Paulus and Tasseva, 2020).

For any two time periods (period 0 and period 1), four IWP rates are computed using the notation P(data, policy). First, $P(d_0,p_0)$ represents the observed (baseline) IWP rate with period 0 data and period 0 policy system. Second, $P(d_1,p_1)$ represents the observed (baseline) rate with period 1 data and period 1 policy system. The two counterfactual scenarios are $P(d_0,p_1)$, which applies the period 1 policy system to the period 0 data while keeping the population structure and characteristics constant at period 0 levels (with market incomes multiplied by α), and $P(d_1,p_0)$, which applies the period 0 policy system to the period 1 data while keeping the population structure and characteristics constant at period 1 levels (with market incomes divided by α). The indexation factor α accounts for developments in nominal levels (prices as reflected in HICP index, in our case) to compare values between two periods.

The total change in in-work poverty is then:

$$\Delta P_total = P(d_1, p_1) - P(d_0, p_0)$$

This total change can be decomposed into the contribution of market effects and policy effects. The decomposition is path-dependent, meaning that the order of decomposing the effects matters. Following Bargain and Callan (2010), we distinguish between two types of decomposition paths: Type I estimates the policy effect conditional on period 1 data and the market effect conditional on period 0 policies. Type II estimates the policy effect conditional on period 0 data and the market effect conditional on period 1 policies. As there is no obvious reason to prefer a particular decomposition path over the other, we average the marginal contribution across both paths:

$$Market\ effect\ =\ [P(d_1,p_0)\ -\ P(d_0,p_0)\ +\ P(d_1,p_1)\ -\ P(d_0,p_1)]\ /\ 2$$
$$Policy\ effect\ =\ [P(d_0,p_1)\ -\ P(d_0,p_0)\ +\ P(d_1,p_1)\ -\ P(d_1,p_0)]\ /\ 2$$

This averaging provides a symmetric decomposition that does not depend on the choice of base year. Thus, the PET identifies policy effects of discretionary policy changes beyond simple CPI indexation.

Shapley decomposition

The effect of policies on poverty reduction depends on the order in which those are considered, i.e. family benefits might have different impacts coming before or after taxes. Three different approaches are used in the literature to address this problem. One is to use a defined ordering of policies, also sometimes referred to as sequential accounting decomposition ([485]). Another approach evaluates each policy separately, deducting it from disposable income and measuring the effect policy-by-policy ([486]). With this approach individual marginal effects do not sum up to the total effect. A third approach, the Shapley decomposition, is to average the estimated impacts over all possible ordering combinations, a method often applied not only to policies, but to other factors as well ([487]). The analysis in this chapter uses the Shapley composition, as it is independent from the ordering choice and yet allows for the individual impacts to sum up exactly to the total effect.

The Shapley value decomposition decomposes the total in-work poverty reduction achieved by the tax-benefit system as a whole to individual policies. The method ensures that the sum of individual contributions made by each policy equals the total IWP reduction effect by the tax and benefit system. In addition, policies with identical marginal effects receive identical contributions, policies with no effect receive zero contribution, and the method remains additive across different outcomes.

The Shapley formula uses six policy groups explained in depth above: taxes, social contributions, family and education benefits, social assistance and housing benefits, pensions (including old age and disability pensions), and other replacement incomes (including unemployment and sickness benefits).

For a set of N = 6 policy groups, the Shapley value for policy group *i* is computed as:

$$\varphi_{\mathrm{i}}\ =\ \Sigma_{S\subseteq N\setminus\{i\}}[\frac{|S|!\ \times\ (n-|S|-1)!}{n!}]\ \times\ [v(S\ \cup\ \{i\})\ -\ v(S)]$$

where the sum is over all coalitions S that do not contain policy group i. In this formula, S represents a coalition (subset) of policy groups excluding policy group i, and |*S*| denotes the size of coalition S. The total number of policy groups is represented by n (where n = 6). The function *v(S)* captures the IWP rate when only policy groups in coalition S are active in addition to baseline income, while *v(S ∪ {i})* represents the IWP rate when both the policy groups in S and policy group i are active. The Shapley value represents the average marginal contribution of policy group i across all possible orderings in which policies could be introduced.

([485]) see e.g. (Caminada et al., 2020).

([486]) see e.g. (Enami, Lustig and Arnada, 2018).

([487]) (Hernández, Cantó and Picos, 2025).

Appendix: Statistical annex

Most of the data used in this report originates from Eurostat, the Statistical Office of the European Union. The main data sources used are:

- European Union Labour Force Survey (EU-LFS):

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_labour_force_survey_statistics

- ESA2010 National Accounts:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=National_accounts_(incl._GDP)

- AMECO database:

AMECO database - Economy and Finance - European Commission

- EU-Statistics on Income and Living Conditions (EU-SILC):

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_statistics_on_income_and_living_conditions_(EU-SILC)_methodology

Definition and data sources of main indicators

Real GDP: Gross Domestic Product (GDP), volume, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_gdp]). Dataset available here.

Employment rate: number of people employed divided by the population in the 20-64 age bracket (Source: Eurostat, EU-LFS [lfsi_emp_a]). Dataset available here.

Labour market participation rate: labour force (employed and unemployed) as a share of total population in the 15-64 age group (Source: Eurostat, EU-LFS [lfsi_emp_a]). Dataset available here.

Unemployment and youth unemployment rate: unemployed as a share of the labour force in the (respectively) 15-74 and 15-24 age group (Source: Eurostat, EU-LFS [une_rt_a]). Dataset available here.

Long-term unemployment rate: persons in the 15-74 age group unemployed for a duration of 12 months or more as a share of the labour force (Source: Eurostat, EU-LFS [une_ltu_a]). Dataset available here.

Nominal wages: Nominal compensation per employee, annual change (Source: Ameco). Dataset available here.

Real wages: Wages per employee discounted by the harmonised consumer price index, annual change (Source: Ameco). Dataset available here.

Labour productivity: Real gross value added over total employment (labour productivity), annual change (Source: Ameco). Dataset available here.

Unit labour costs: nominal unit labour costs as ratio of nominal compensation per employee to real gross value added over total employment (labour productivity), annual change (Source: Ameco). Dataset available here.

At-risk-of-poverty or social exclusion rate: Percentage of a population representing the sum of persons who are: at risk of poverty, or severely materially and socially deprived, or living in households with very low work intensity (Eurostat, EU-SILC [ilc_peps01n]). Dataset available here.

At-risk-of-poverty rate: Share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers (Eurostat, EU-SILC [ilc_li02]). Dataset available here.

Severe material and social deprivation rate: Inability to afford a set of predefined material items that are considered by most people to be desirable or even necessary to experience an adequate quality of life (Eurostat, EU-SILC [ilc_mdsd11]). Dataset available here.

Share of persons living in households with very low work intensity: Share of persons living in a household where the members of working age worked a working time equal or less than 20% of their total work-time potential during the previous year. (Eurostat, EU-SILC [ilc_lvhl11n]). Dataset available here.

Income quintile share ratio S80/S20: Ratio of total income received by the 20% of the population with the highest income (the top quintile) to that received by the 20% of the population with the lowest income (the bottom quintile) (Eurostat, EU-SILC [ilc_di11]). Dataset available here.

NEET: Young people not in employment, education or training. Share of people aged 15 to 29 who are not employed (i.e. either unemployed or economically inactive) nor engaged in any kind of further (formal or non-formal) education or training (Eurostat, EU-LFS [lfsi_neet_a]). Dataset available here.

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