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Executive Summary

LEAVING NO ONE BEHIND AND STRIVING FOR MORE:

FAIRNESS AND SOLIDARITY IN THE EUROPEAN SOCIAL MARKET ECONOMY

Before the COVID-19 outbreak put Europe and the world under unprecedented public health, economic and social stress, 2020 had started with continuing positive trends in the EU. Despite the deceleration of economic growth relative to 2018, throughout 2019, the EU had the highest employment in history and the lowest unemployment levels on record, while living standards continued to improve and public finances were consolidated. On a global scale, the EU has continued to be a champion of employment, climate action and social rights, affording its populations high levels of social fairness, reinforced by intra-societal solidarity provided by strong social welfare systems. Nonetheless, important weaknesses remained, such as still relatively high youth unemployment, gender gaps, as well as disparities in social welfare and protection systems. Though low by international standards, income inequality had been hardly reduced for years while in-work poverty had risen in a majority of Member States.

Starting as a worldwide health emergency, with a significant cost in human lives and impact on the health of the EU population, COVID-19 has developed into the biggest global socio-economic crisis since the Second World War. In the EU as elsewhere, the crisis exposed and exacerbated existing vulnerabilities while revealing the fragility of some of its greatest achievements, including the free movement of people, goods and services. The impact of the pandemic on both economic output and employment is expected to be more severe than that of the last recession. The rise in unemployment in 2020 resulting from the sharp contraction of economic output will likely be contained, thanks to the Short-Time Work schemes that over forty million people across the EU have benefitted from as well as by other support schemes to firms, workers and the self employed. Nevertheless, large parts of the population still fear that they may lose their jobs and livelihoods.

The employment and social impacts of the pandemic have been unequal. While the majority of the population was forced to cope with lockdowns and social distancing for weeks, workers in certain sectors (notably healthcare and personal care, transport, agriculture, food services, accommodation, leisure and culture) were subject to higher contagion risk and/or higher income losses. Those with non-standard employment status (especially trainees and platform and temporary workers, including migrants) or a low skill level (especially those working in client-facing services) have been more exposed to job loss. Young people in particular have been disproportionately affected by disruptions in their education and training (especially those who do not benefit from digital remote educational solutions) and by difficult school-to-work transitions in the new economic context, while young workers have been often over-represented in the sectors most adversely impacted. The uncoordinated closures of borders at the beginning of the crisis hurt the Single Market and hit the incomes of EU mobile – cross border and posted – workers as well as third-country immigrants particularly hard and prevented flows from and to third countries in key occupations. Without public support measures or alternative income sources, such workers could suffer much greater income losses than, for instance, workers who can work remotely. Non-standard workers also tend to have less comprehensive social protection coverage, having poorer access to healthcare services and lower chances of income replacement if they are sick. As the pandemic seems to hit disproportionally hard those who were already at higher social risk before the crisis, it is likely to amplify pre-existing inequalities and lead to an increase in relative poverty rates.

To take control of the health emergency and bearing in mind the impact of the previous severe recession on the economy and society, the Member States' response has been quick and resolute, involving massive fiscal stimulus measures, reaching up to 20% of GDP in some countries. Within just weeks of the outbreak, the European Commission put forward a series of initiatives to support national efforts to tackle the health and economic crisis. These include more flexibility in the EU budgetary and state aid rules and two packages of support (Coronavirus Response Investment Initiative, so-called CRII and CRII+) introducing extraordinary flexibility in the use of the European Structural and Investment Funds to fight the consequences of COVID-19. The EU also adopted Temporary Support to mitigate Unemployment Risks in an Emergency (SURE), a new instrument providing funding solidarity to Member States. On May 27, the European Commission put forward a EUR 2.4 trillion recovery plan. This includes a new recovery instrument, Next Generation EU, endowed with a financial capacity of EUR 750 billion. Next Generation EU is embedded within a revamped long-term EU budget of EUR 1.85 trillion, focused on promoting a job-rich and sustainable recovery. ([1]) To ensure that recovery support goes hand-in-hand with investment in the EU's long-term priorities, notably green, digital and social resilience, Next Generation EU will notably fund the Recovery and Resilience Facility. This consists of large-scale financial support (EUR 310 billion in grants and up to EUR 250 billion in loans) to both public investments and reforms that promote the green and digital transition as well as social fairness and resilience and thus help prepare Member States' economies for the future.

Against this background, this year's ESDE analyses the state of play of and challenges to social fairness and inclusivity of growth in the EU. It also explores specific policies and tools that can improve the prospects of greater social fairness and enhanced solidarity in the future. It provides evidence-based groundwork for the reflection on how policy can help achieve recovery and further normalisation while meeting Europeans' expectations regarding fairness and solidarity. The report is structured as follows:

Chapter 1: Main developments and key challenges in the European social market economy

Chapter 2: Fairness in the EU: perceptions, evidence and drivers

Chapter 3: Inclusive growth and solidarity in the EU: challenges, policy levers and the way forward

Chapter 4: The role of social dialogue for fairness and inclusion

1. MAIN DEVELOPMENTS AND KEY CHALLENGES IN THE EUROPEAN SOCIAL MARKET ECONOMY

COVID-19 put a sudden stop to the continuous improvements in EU labour markets and social situations, leading to a sharp fall in output…

The COVID-19 crisis halted the positive evolution of the EU economy and of employment in the EU. In 2019, EU GDP had increased by 1.5% (1.3% in the euro area), which is 0.6 percentage points (pps.) less than the previous year and the lowest growth since the recovery that followed the downturn of 2012-2013. However, the European Commission's Summer Forecast of July 2020 projects a fall of EU GDP of as much as -8.3% in 2020. Already in 2020 Q2, after a drop of -3.3% in Q1, it fell by -11.4%. This is the sharpest decline by far since time series started in 1995. Employment dropped by -0.2% in 2020 Q1 and it shrank by -2.7% in 2020 Q2, after rising for twenty-five consecutive quarters. The lockdowns imposed across Europe in spring 2020 to stem the spread of the virus are expected to lead to a significant decrease in employment in 2020 compared with 2019. The EU unemployment rate, which in 2019 fell to the lowest level ever recorded (6.7%), is expected to rise in 2020 to 9% in the EU and 9.6% in the euro area as a result of the COVID-19 outbreak, before declining again in 2021.

9%:

The forecast for the EU unemployment rate in 2020

Prior to the pandemic, the EU employment rate had risen to 73.1% of the population aged 20-64 (72.7% in the euro area). As employment rates increased for both men and for women between 2013 and 2019, the gender employment gap remained stable at around 12 pps. From 2014 to 2018, most Member States made some progress in reducing the gender differences in pay. However, for the EU as a whole in 2018, the average

([1]) For details on the many components of the European Commission's coronavirus response, see https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/recovery-plan-europe_en

gross hourly earnings of women were almost 15% lower than those of men. The employment rate of people aged 15-24 had reached 33.5% by 2019, but was still 1.5 pps. short of 2008 levels.

Productivity at EU level had continued to rise in 2019, albeit unevenly among Member States. Productivity per hour worked in the EU had increased by over 9% from 2010 to 2019 (about 8% in the euro area). The number of hours worked per employed person had continued its long-term decline.

…and possibly to an increasing risk of poverty and social exclusion, after many years of reduction in the numbers of Europeans at risk.

Standards of living had continued to improve until the COVID-19 outbreak. The risk of poverty and social exclusion (AROPE) in the EU had declined further to 21.6%. In 2018, 3.9 million more people had come out of poverty and social exclusion, mainly due to reductions in severe material deprivation and in the percentage of people living in very low work intensity households. However, 94.7 million Europeans were still at risk of poverty and exclusion in 2018, with poverty especially high in some rural areas. Inequality in the EU had hardly changed since 2014. People living below the poverty threshold and vulnerable (single-parent or large-family) households continued to face a higher risk of energy poverty (19%, compared with 5.3% for those above the poverty threshold) and inadequate housing conditions.

14 pps. higher risk

of energy poverty for people in households below the AROP threshold

The crisis hits vulnerable groups disproportionately hard …

The COVID-19 crisis is likely to have increased socio-economic risks for vulnerable groups, such as single parents, children and the elderly, the disabled, migrants, minorities precarious workers (including certain categories of self-employed, platform and informal workers) and people living in areas and households with limited or no digital connectivity. Low and middle-income groups have a higher risk of income loss, due to increasing unemployment and reduced telework possibilities. Service disruptions (especially in education) may also aggravate existing inequalities in educational outcomes and social mobility and increase difficulties young people tend to have to transition from school to work.

…potentially driving up income inequalities.

Before the pandemic, the financial situation of households was improving, with the disposable income of households (GDHI) confirming its rising trend in 2018, buoyed by higher income from work. However, GDHI per capita in five Member States was still below the levels reached it before the 2008-2009 recession.

The EU has progressed towards the Sustainable Development Goals with the exception of gender equality.

The EU's overall good performance up to the crisis was also reflected in its progress towards the UN Sustainable Development Goals (SDG). Most progress was registered under SDG 16, 'Peace, justice and strong institutions' while considerable progress was made towards SDG 1, 'No poverty' and SDG 3, 'Good health and well-being', SDG 2, 'Zero hunger' and SDG 8, 'Decent work and economic growth'. However, the EU was moving away from goal SDG 5, 'Gender equality', with a growing proportion of women who were economically inactive due to caring responsibilities. This is a reminder that a few inequalities had remained in the employment and social domain before the COVID-19 crisis, which could be exacerbated by it unless they are counter-acted by policy action.

The EU has to mount its recovery efforts in a context of unrelenting long-term challenges, such as demographic ageing.

Demographic trends are expected to lead to a substantially increased old age dependency ratio, from 31.4 in 2019 to 52 in 2050). This increase is being driven by rising life expectancy (78.2 years for men and 83.7 years for women in 2018) and a low fertility rate (1.56 live births per woman in 2018). In rural areas, outmigration of the young and active population is an additional driver of the increase in the old age dependency ratio. The

+16 percentage points

share of Europeans aged 25-34 with higher education in 2019 versus in 2002

working-age population is likely to shrink but to be better-educated (+16.3 pps. increase in highly educated people in 2002-2019 in the 25-34 age group).

2. FAIRNESS IN THE EU: PERCEPTIONS, EVIDENCE AND DRIVERS

Promoting fairness is a balancing act between the different notions of fairness people have.

Promoting fairness in the EU needs to balance the different principles Europeans espouse, notably rewarding merit, providing for basic needs, and promoting equality of opportunity or living standards. As fairness is so deeply anchored in the subjective individual experience, it is also driven by the way people perceive economy- and society-wide outcomes such as inequality (in earnings and opportunities), poverty and social mobility.

Even people below the poverty line may have very different living standards across different Member States.

In terms of the income levels needed for a decent life, people's experience may not match official definitions, such as the 60% of national median income defining the poverty line. In Member States with low income levels, less than 10% of the total population state that they could make ends meet with an income that corresponds to their 'objective' at-risk-of-poverty threshold (for their country and household size). Indeed, in some of the poorer Member States, an income at the national poverty threshold is hardly sufficient to buy food, let alone pay rent or cover other basic needs.

A different measure of relative poverty by EU-wide threshold would reveal a new picture of the geographical distribution of the European poor.

Employing a new metric of a common EU-wide poverty line (as opposed to the nationally defined AROP threshold currently used) would reveal more households in poverty in the EU. Those households are mainly located in Central and Eastern Member States and their share is especially high in some rural areas. However, in terms of *changes* in poverty one could observe a significant reduction over time of households in poverty under an EU threshold, as compared to a relatively constant number of households in poverty by national thresholds. This is primarily due to income convergence between EU countries as the lower and middle-income households by EU standards – broadly corresponding to the middle classes of Central and Eastern Member States - would be increasing faster than such an EU-wide poverty threshold.

Considering the time-dimension depicts a different picture of how extensive poverty is in the EU.

Nearly one quarter (24%) of the EU working-age population have found themselves below the at-risk-of-poverty threshold at some point during the last four years of relevant surveys, as opposed to 16% when measured in the last year only. Most of the poor (69%), experiences poverty for longer than a year and 26% of them are recurrently poor (alternating between periods of poverty and non-poverty). In countries with higher poverty rates, the proportion of people who move into poverty tends to be higher than that of those who move out.

¼ of EU working-age people

were below the poverty threshold at some point during the four years of poverty measurement

Transitions in employment status are associated with high social mobility based on income.

Social mobility – be it income and wage or employment status mobility – can strongly influence perceptions of fairness, as it affects the chances individuals have to improve their situation during their life course. Not everyone has the same chances of mobility. Most movements occur in the middle of the income distribution, while there is a lot of stability at the bottom and especially at the top. Naturally, wage mobility is more frequent among young people.

Minimum wages can improve social mobility. The chapter shows that earners of minimum wage – either set through collective agreements (also called 'collectively agreed wage floors') or legislative provisions ('statutory minimum wages') - seem to have higher chances of significantly improving their wage from one year to the next than other employees. Hence, a minimum wage serves as a stepping stone towards better-paid jobs, even in the very short run. In the long run, minimum wages could be an incentive to join the labour market. Therefore, it is timely to reflect on the role that minimum wages can play in energising labour supply and protecting workers from social risks, especially in the aftermath of severe recessions such as the current one.

Empirical analysis suggests that minimum wages and potentially minimum income can play a positive role in labour markets and/or improve social situations, including in the crisis context.

The chapter also explores the effect of minimum income on labour market participation. It concludes that benefitting from minimum income does not necessarily discourage the participation in the labour market. However, setting minimum income standards should be done in coordination with enhanced work incentives, to improve minimum income's impact on poverty reduction.

3. INCLUSIVE GROWTH AND SOLIDARITY IN THE EU: CHALLENGES, POLICY LEVERS AND THE WAY FORWARD

Chapter 3 looks at fairness from the macroeconomic perspective and considers the economy-wide investments that need to be made in order to strengthen it. Economic growth can be deemed fair when it is inclusive, benefiting all income groups, particularly the poorest. High income inequality is linked with inequality of opportunity, i.e. reduced social mobility. It dampens the incentives to invest in human capital, jeopardising potential growth and calling into question the fairness of the growth model.

Economic growth is fair when it is inclusive.

Achieving inclusive growth is a formidable challenge for any society, both during high or negative growth. The chapter's analysis provides insights in this respect, which has become highly topical in the context of the COVID-19 crisis. It reviews the distribution of growth from 2007 to 2017, covering the last severe recession to hit the EU and the recovery from it. From 2007 to 2012, the bottom (lowest earning) 40% suffered disproportionately from the reduction of incomes in several Member States. In the countries hit hardest by the previous recession this group saw significant reductions in their incomes, as opposed to the moderate income decline experienced by the top 10%. During the same period, upper income groups in Member States that did not go through a recession benefitted from the economic growth more than bottom groups. The top income group witnessed the most sustained relative income gains during the recovery years as well.

The top 10%

drew more income than the bottom 40% of the income distribution in the MS with the most sustained growth

Recent income growth across the EU has shown a converging trend but has not been particularly inclusive at Member State level.

Making future growth more inclusive could be more challenging than it was in the recent past. For instance, though rapid technological change increases productivity and has a net positive effect on job creation, it also enables the proliferation of new forms of work that are so far not fully or adequately covered by existing welfare systems, placing some workers in a precarious situation.

Targeted policies are required to make growth more inclusive in an environment of fast structural changes and unexpected shocks.

The European Green Deal is the new EU growth strategy that aims to transform the EU into a fair and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use. It is also an essential element of the EU's strategy to move to a resource-efficient, circular,

EUR 20 billion or more

in social investment until 2030 required by the green transition

A successful greening of the economy implies increased social investment and fair sharing of costs.

digitised, and climate-neutral and resilient economy, and the wide deployment of artificial intelligence are expected to create new jobs while other jobs will change or even disappear. In addition to the necessary investment in capital formation, this transition requires social investment (notably for re-skilling programmes) and/or unemployment benefits. The necessary social investment could amount to EUR 20 billion or more until 2030. Furthermore, additional investment in climate change adaptation and disaster risk reduction is needed to preserve jobs at risk of climate impacts, and protects citizens from the adverse consequences of disasters and climate change. However, a more ambitious transition towards climate neutrality and greater climate resilience, implying bigger shifts in the skill sets of the workforce, would require a multiple of this amount in investment. To achieve this transition in a socially fair way, requires helping the less competitive regions and Member States shoulder any initial investment cost of enabling climate neutrality and generating green jobs. The Just Transition Fund foresees investment of up to EUR 100 billion between 2021 and 2027 to help Member States achieve the objective of climate neutrality by 2050. The impact of the green transition will be felt at the level of household incomes as well. For instance, energy taxation tends to affect disproportionately poorer households, as it represents a bigger part of their disposable income, and rural inhabitants with long commutes to work and basic services. To boost the progressivity of the tax system, governments may wish to consider re-investing the energy taxation revenue, by transferring it back to poor households. Microsimulations for four Member States show that levying energy taxes while recycling their revenue to households could even lower inequality and poverty rates (in addition to contributing positively to the EU's energy and climate targets).

Policy could strengthen fairness through various levers, such as closing gender gaps…

In this environment of rapid change, public policies can contribute to strengthening fairness by improving people's chances of more and/or higher-paid employment. Using an actuarial model, the chapter quantifies the benefits of narrowing gender-related labour market gaps in an environment of rapid population ageing. This ageing could cause the EU's average level of pensions as a percentage of wages to decline from today's 43.3% to 26.7% by 2070. Narrowing three gender-related gaps (labour force participation, earnings, working hours) could cushion this decline significantly. In the EU, there are still 15.7 million fewer women than men participating in the labour market, with the gap between the employment rates of men and women being particularly high in some rural regions. On average, these women earn 14.8% less than men. Women also work almost 6 hours less per week than men. If these gaps can be narrowed across the EU to the levels found in Sweden today, pension levels will fall less steeply – to 29.9% of wages by 2070, 3.1 pps. higher than if today's gender gaps remain. In today's values, this is equivalent to almost EUR 400 billion a year. One could also regard this amount as the annual reduction in the cost of ageing (in the form of higher future pensions).

+EUR 400 billion

in pensions per year, by 2070, through narrowing gender gaps in the labour market

… extending working lives and investment in higher qualifications.

Inter-generational fairness could also benefit from longer real working lives. Postponing retirement by one additional year could increase employment by 2.2% and, in the long run, raise the value of pensions by more than 2%. By 2070, the pension-wage ratio would decline from today's 43% to 28.5%, instead of 26.7% as expected without changes, the difference corresponding to an amount of EUR 130 billion per year in today's values. Finally, the chapter demonstrates through simulations on Italy's labour market that increasing the levels of educational attainment could also contribute to lowering the cost of ageing,

+EUR 130 billion

in pensions per year, by 2070, through longer working lives

by raising participation rates through larger shares of people with higher education.

Short-Time Work schemes have proven their effectiveness in protecting jobs…

The analysis also shows the significant potential of Short-Time Work (STW) schemes to mitigate the economic damage of sudden cyclical shocks. In 2009, 32% of the massive (-4.3%) GDP decline was absorbed through reductions in working hours (-1.3%), as opposed to a decline in employment. STW schemes contributed significantly to this development. While EU GDP in 2020 is forecast to shrink more (-8.3%) due to the COVID-19 crisis, the absorption capacity of the reduction in working hours is likely to be greater than in 2009, as suggested already by the change in GDP and employment in 2020 Q2. In the recent past, unemployment increased by less when STW schemes expanded in parallel to a decline in output. This finding suggests that investing in STW has a positive immediate multiplier effect: subsidising one job during an economic downturn can save more than this one job. A simple estimate of the potential costs of STW schemes reveals that their cost in the EU27 in 2020 could amount to a maximum of around EUR 33 billion for every percentage point of GDP decline if every reduced working hour needs to be subsidised. This *maximum* amount is higher than the estimated cost of higher unemployment, i.e. the cost that would incur in 2020 with no STW schemes and no absorption of the decrease in output (EUR 29 billion). However, one should also take into account the evidence for a multiplier effect in STW: subsidising one worker enables firms to reduce working time for more workers, thus bringing the actual cost of STW much below EUR 33 billion. In the medium term, the cost advantage of STW schemes is likely to increase further because it spares workers from potentially long-term unemployment. However, to reap the maximum benefit of STW schemes, governments would simultaneously have to mitigate any false incentives that the subsidisation of working time reduction might induce.

Subsidising one job through STW during the COVID-19 crisis might actually save more than that one job

…making SURE a valuable tool in mitigating the employment impact of COVID-19.

These estimates underline both the importance and the advantages of extending the reach of STW schemes through EU-wide solidarity mechanisms such as SURE for exceptional situations in the future. Short-time work in the COVID-19 crisis can protect millions of employees and the self-employed from losing their jobs and livelihoods – often for good. Hence, SURE is a vital component of an adequate and balanced response to the crisis because not all Member States will be able to shoulder the high cost of STW schemes without support.

4. THE ROLE OF SOCIAL DIALOGUE FOR FAIRNESS AND INCLUSION

Social dialogue and collective wage bargaining more specifically influence fairness and its perception.

Social dialogue and collective wage bargaining contribute to higher levels of fairness in the world of work by influencing working conditions, including wages. Company-level bargaining allows for a better alignment of wages with productivity, i.e. with a merit-based criterion of fairness. Sector-level agreements tend to reduce wage dispersion among workers; they support the egalitarian criterion of fairness. Coordinated bargaining regimes can combine economy- wide goals with company-level goals, balancing better merit-based and egalitarian notions of fairness. Workers who are covered by a collective bargaining agreement earn as much as 10% more than workers in comparable jobs who are not covered.

10% higher wages

for workers under a collective bargaining agreement

Effective social dialogue increases fairness at the workplace between men and women and between generations, by promoting integration into the workforce and work-life balance, and by fighting gender and age discrimination, abuse, violence and harassment at work. Helping to narrow gender gaps in activity is of consequence. The total cost of women's inactivity in the workforce is estimated at around EUR 361.9 billion/year across the EU, including loss of tax revenues and payment of benefits. Also, workers employed in companies with workers' representation report up to 30% less verbal abuse, about 20% less bullying and 60% less sexual harassment. Collective wage agreements reduce the gender pay gap by up to 5%.

20% less bullying, 60% less sexual harassment

reported by workers in firms with workers' representation

The social partners' efforts promote fairness at the workplace in various ways.

+5% higher wages

for female workers covered vs. those not covered by collective bargaining agreements

The social partners have also been key contributors to responses to cyclical downturns. Whether discussing health risk mitigation for workers or macroeconomic support programmes (STW benefits and other state aids at national level and fiscal policy intervention at EU level), the social partners in most Member States have been pivotal advisers, co-designers, implementers and/or evaluators of the measures to respond to the COVID-19 crisis.

The social partners have keenly motivated and accompanied government responses to the COVID-19 crisis.

CONCLUSIONS

The COVID-19 pandemic is having profound health, economic, employment and social effects, threatening much of the social progress that the EU achieved up to the end of 2019. The EU is experiencing a greater economic shock than in 2008-2009. Output has contracted sharply and unemployment is set to rise. Inequalities and poverty are likely to intensify, underlining the need to build solidarity across socio-economic groups, generations, regions and Member States to achieve a fair, inclusive recovery that leaves nobody behind.

The pandemic has given new impetus to the EU's long-term goal of environmentally and socially sustainable growth through greening and digitalisation. To repair the damage done by COVID-19 and prepare Europe's economy and society for a future of faster structural changes, the EU and Member States will need to embrace fully the opportunities offered by the transition to a greener and more digitalised economy and build inclusiveness, solidarity and resilience into the design of all policies.

CHAPTER 1

Main developments and key challenges in the European social market economy

1. INTRODUCTION ([2])

Before the COVID-19 outbreak put Europe and the world under unprecedented public health, economic and social stress, 2020 had started with continuing positive trends in the EU. The EU labour market had continued to improve until the end of 2019, even though economic growth was relatively moderate. Employment had been growing for the sixth consecutive year since the low reached in 2013. Unemployment had fallen to historically low levels. Long-term unemployment had also declined, and the share of young people neither in employment nor in education and training (NEET) had fallen in almost all Member States. However, the EU and its Member States had not succeeded in reducing persistent gender gaps in pay and employment, and differences in the employment and social area among and within Member States remained high.

Labour market situation slowed down already in the second half of 2019. In early 2020, the outbreak of COVID-19 led to increases in temporary lay-offs and unemployment. The Commission's Summer economic forecast published on 7 July 2020 projected a major contraction in economic growth in the EU of more than 8% in 2020, in line with weakening global growth linked to the spread of COVID-19. This makes short-term prospects extremely uncertain, including with regard to labour market prospects.

However, employment is expected to contract much less than the overall economy in 2020. This is mainly the consequence of measures such as short-time work schemes, income protection for the self-employed and liquidity provision for firms**.** A full analysis of the important changes that the economy is experiencing at the time this review is published is not yet possible, as most information will only be available at a later stage only. The analysis therefore focusses on taking stock of the progress made by the end of 2019 against established policy objectives, notably the 'Europe 2020' targets.

Improving income conditions and labour market outcomes before the COVID-19 outbreak brought about a decline in the at-risk-of-poverty-and-social-exclusion rate in 2018. This pronounced decline was mainly due to the decrease in the severe material deprivation rate and in the proportion of people living in very low work intensity households. The risk of monetary poverty (at risk of poverty rate, AROP) had not declined in several Member States, as the income conditions of low-income households struggled to keep up with improvements in median income.

The living standards of low-income households and traditionally vulnerable groups – such as long-standing segregated and marginalised communities (e.g., the Roma) - are likely to be negatively affected by the COVID-19-triggered recession. Income inequalities, whose level and development crucially influence the perception of social fairness ([3]), have been relatively stable both within and between countries. The impact of tax-benefit systems on income inequality has been largely redistributive, albeit heterogeneously across Member States.

([2]) This chapter was written by Petrica Badea, Fabio De Franceschi, Stefano Filauro, Katarina Jaksic, Lorise Moreau and Luca Pappalardo.

([3]) See Chapter 2, Section 2.1 and 2.2

Apart from the crisis-related issues, the EU's population is facing significant and persistent long-term challenges that may worsen in the near future. Past trends and Eurostat's projections raise important questions about the implications for our societies of developments such as digitalisation and climate change, as well as ageing, low fertility rates and a shrinking working-age population – both in absolute and relative terms – and changes in the level of education of the population. Regions and countries are being and will be affected to varying degrees by these common trends.

This chapter reviews the latest socio-economic developments in the EU and its Member States. The analysis covers overall macro-economic and demographic developments and their implications for the labour market. It also assesses recent social and income trends, devoting particular attention to the indicators included in the scoreboard underpinning the European Pillar of Social Rights. Finally, this chapter addresses the multifaceted nature of poverty and social exclusion, households' financial situation, and the role of social transfers in mitigating income inequality in the EU and trends in social protection expenditure at EU level and by country. Sub-sections of this chapter focus on a selection of UN Sustainable Development Goal (SDG) ([4]) indicators. *Box 1.2* at the end of the chapter sets out these SDG indicators.

2. MACROECONOMIC ENVIRONMENT

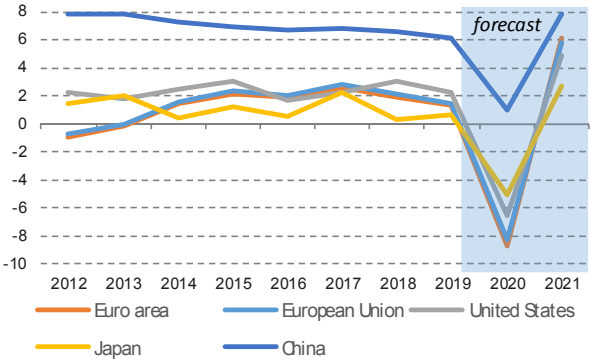
2.1. Moderate growth in 2019 supports a fragile economy

The global economy had continued to grow moderately until the end of 2019, although at lower rates since 2018. GDP growth in China (+6.1%) was robust though limited by domestic and external strains on the economy. The US economy slowed down compared to 2018, but GDP growth stayed above 2%. Japan recorded the weakest growth rates in the G7, in line with the sluggish trends of previous years.

However, at the beginning of 2020, the global economy was hit by the COVID-19 pandemic. This crisis - with the restrictive health policy measures that it brought about – has profoundly disrupted global demand, supply chains, labour supply and industrial output. This combination of factors pushed the global economy into a deep recession in the first half of 2020. Unprecedented policy efforts to limit the economic impact of the pandemic are expected to contain the downturn and contribute to the subsequent recovery, projected to begin in the second half of 2020 as restrictive measures are likely to be progressively phased out. Nonetheless, the restart of economic activity is expected to be gradual and uneven across countries and uncertainty may continue to influence consumption patterns adversely.

Against this scenario, the Commission Summer Economic Forecast expects EU GDP to contract by about 8.3% in 2020, far more than during the global financial crisis of 2009 (when it dropped by 4.3%), and to rebound by less than 6% in 2021. Already in 2020 Q2, after a drop of 3.3 in Q1, EU GDP fell by 11.4%. This is the sharpest decline by far since time series started in 1995. The fall was particularly severe in Spain (-18.5%), Croatia (-14.9%), Hungary (-14.5% and Greece (-14.0%).

Chart 1.1
Real GDP growth in selected large economies
Percentage change on previous year



Source: Eurostat, table [naida_10_gdp], OECD European Commission's Summer Forecast (EU and euro area for 2020 and 2021), Commission's Spring Forecast (United States, China and Japan for 2020 and 2021)

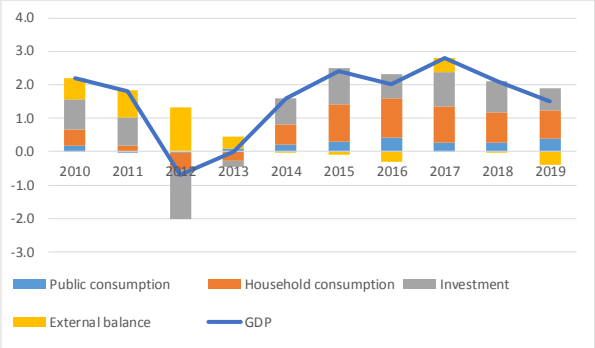
Click here to download chart.

In 2019, GDP grew by 1.5% in the European Union, which is 0.6 pps less than the previous year and the lowest growth since the recovery that followed the downturn of 2012-13. The euro area recorded a similar pattern, showing a 2019 growth rate of 1.3%. In general, economic activity in the EU was sustained by internal demand and investment but remained constrained by uncertainties linked to trade, including the unresolved issue of the long-term relationship between the EU and the UK and the possibility of significant disruption of value chains and trading relations at the end of the year.

The main contributions to EU growth in 2019 came from private consumption and investment, and to a lesser extent from the external sector and government expenditure. Private consumption accounted for more than 50% of growth, and investment for another 40%. The contribution of public consumption was less significant and that of the external balance was negative, as exports had continued to perform below expectations. The weak export performance of the EU overall was due mainly to a drop in exports of goods, while exports of services had remained robust.

([4]) A brief description of the SDG project and its link with the EU policies can be found in a dedicated box at the end of the chapter.

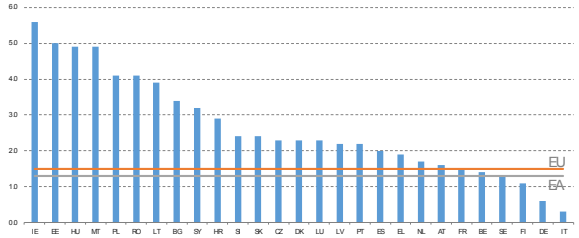
Chart 1.2
Contribution to GDP real growth - EU
Percentage change on previous year



Source: Eurostat, table [nama_10_gdp]
Click here to download chart.

GDP grew at different speeds across Member States. In more than three quarters of them, growth exceeded the EU average, especially in Ireland, Estonia, Hungary and Malta. By contrast, in large economies such as France, Germany and Italy, GDP did not grew more than the average; the same was true in Belgium, Finland and Sweden.

Chart 1.3
Real GDP growth in the EU (2019)
Percentage change on previous year

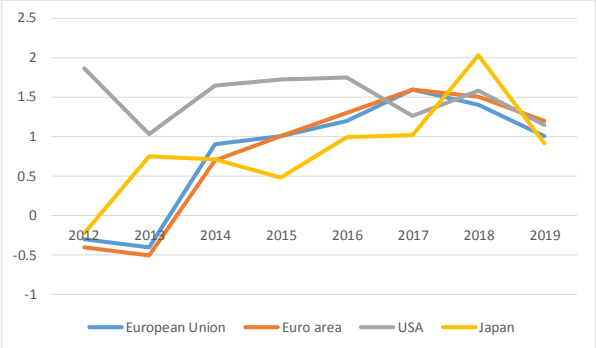


Source: Eurostat, table [nama_10_gdp]
Click here to download chart.

2.2. Labour market resilient despite uncertainty over the outlook

Employment in the EU had been growing for six consecutive years, reaching almost 209 million in 2019, 1.0% above the level recorded in the previous year. This was the highest level ever recorded. Employment in the euro area followed a similar pattern, growing by 1.2% to more than 160 million people. The EU labour market proved resilient to relatively moderate economic growth and continued to create jobs throughout 2019. However, the pace of growth of employment started showing signs of weakening in early 2020. In 2020 Q1, after 25 consecutive quarters of expansion, it turned negative and it shrank by 2.7% in 2020 Q2.This drop was particularly harsh in Spain (-7.5%), Ireland (-6.1%), Hungary (-5.3%) and Estonia (-5.1%). A more severe deterioration can be expected throughout 2020, when the impact of the lockdown measures required by the COVID-19 crisis will be fully apparent in data.

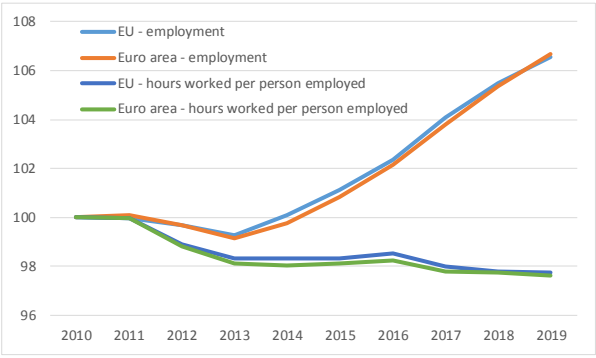
Chart 1.4
Employment growth in selected large economies
Percentage change on previous year



Source: Eurostat, table [nama_10_gdp], OECD]
Click here to download chart.

In 2018 and 2019, employment growth was in line with growth in the US slightly higher in the euro area yet somewhat weaker in the EU. US jobs growth reached 1.1% in 2019, 0.5 pps more than the previous year. In Japan, employment growth decelerated to 0.9% in 2019, after a spike of 2.0% employment growth in 2018.

Chart 1.5
Employment and total hours worked per person employed – EU and euro area
Index 2010 = 100



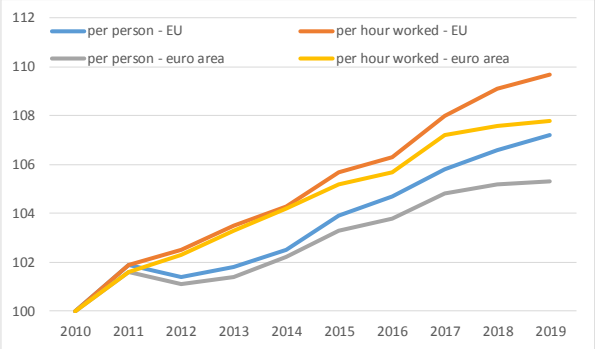
Source: Eurostat, table [nama_10_a10_e]
Click here to download chart.

In both the EU and the euro area, the number of people employed grew faster than the total hours worked. This led to a decline of hours worked per employed person, which, in 2019, continued the slow but steady decline observed since 2010.

2.3. Productivity

Productivity – both per hour worked and per person – has been increasing steadily in both the EU and the euro area. Over the last decade, productivity per person has risen more slowly than productivity per hour worked. From 2010 to 2019, productivity per hour worked grew by more than 9% in the EU and by almost 8% in the euro area. Over the same period productivity per person increased by about 7% in the EU and by more than 5% in the euro area.

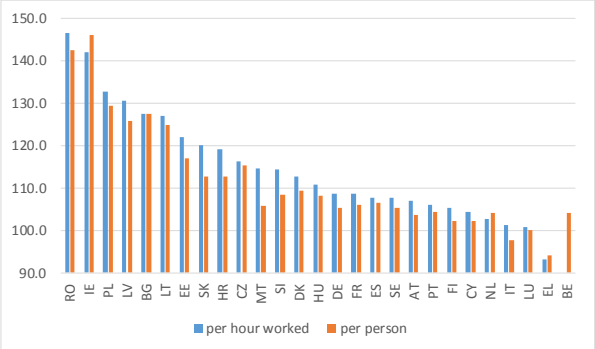
Chart 1.6
Productivity per person and per hour worked
EU and euro area
Index 2010 = 100



Source: Eurostat, table [nama_10_lp_ulc]
Click here to download chart.

This gain in productivity was unevenly spread across the Member States. Whereas in 8 countries productivity per hour rose by 20% or more compared to 2010, more than a third of Member States recorded increases of less than 10%. All the Member States for which data are available saw a greater gain in productivity per hours worked than productivity per person, with the exception of Ireland, the Netherlands and Greece.

Chart 1.7
Productivity per person and per hour worked
in the Member States – 2019
Index 2010 = 100



Note: No data on productivity per hour worked available for Belgium.
Source: Eurostat, table [nama_10_lp_ulc]
Click here to download chart.

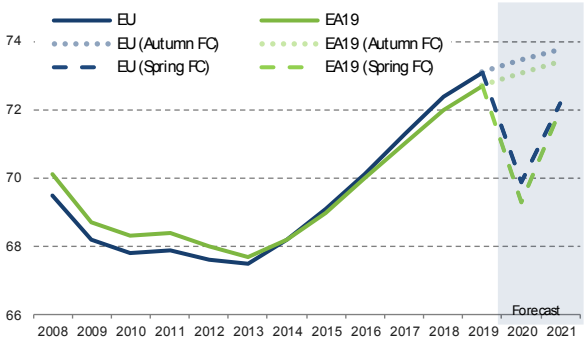
3. LABOUR MARKET DEVELOPMENTS

Delivering on a more social and fair Europe is a key priority for the European Commission. The European Pillar of Social Rights has been put forward to serve as a compass leading to renewed socio-economic convergence. The Pillar is supported by a scoreboard of key indicators to screen employment and social performances of the Member States. The scoreboard serves as a reference framework to monitor 'societal progress' and it detects timely the most significant employment and social challenges as well as progress achieved over time. In this section the main indicators of the social scoreboard illustrating labour market development are reviewed, with particular attention to those linked to *equal opportunities and access to labour market*, as well as to *dynamic labour market and fair working conditions*.

3.1. Employment rates

In 2019 the EU employment rate (headline indicator in the social scoreboard ([5]), and SDG 8) reached another record level, standing at 73.1% of the population aged 20-64, 0.7 pps higher than in 2018. In full-time equivalents (FTE) the employment rate was 67.1%. In the euro area the employment rate also grew by 0.7 pps to reach 72.7%.

Chart 1.8
The pace of growth of the employment rate was slowing down in 2019, before being hit by the crisis
Employment rate, % of population aged from 20 to 64 years



Note: The forecast is calculated with the estimation of employment growth and assuming a similar size of the workforce
Source: Eurostat, LFS [lfsi_emp_a], Commission Spring 2020 and Commission Autumn 2019 Economic Forecast, and EMPL calculations
Click here to download chart.

However, the rise in the employment rate slowed down in 2019, after three years in which the employment rate had increased by at least 1 pp. The Autumn 2019 Commission forecasts for 2020 and 2021 had expected this trend to continue, with employment growth of 0.5% and 0.4% respectively, but those forecasts were revised downward significantly in the Spring 2020 forecasts as a consequence of the coronavirus pandemic and its severe socio-economic impacts. Employment in the EU (euro area) is now expected to contract by 4.4% (respectively 4.7%) in 2020 before growing again by 3.3% (3.9%) in 2021.

Until the end of 2019, employment rates continued to improve in almost all Member States, though large differences persisted. By the end of 2019 seventeen countries had achieved their specific 'EU 2020' target but three of the largest EU economies still had some way to go. Although employment grew only slowly in some of the Member States with the lowest rates (e.g. Italy,

([5]) The social scoreboard provides a number of indicators (headline and secondary) to screen the employment and social performance of Member States on selected indicators in the context of the European Pillar of Social Rights (Joint Employment Report, 2020). Its 20 principles and rights are organised in chapter. The first two ones focus on "equal opportunities and access to the labour market" and on "fair working conditions".

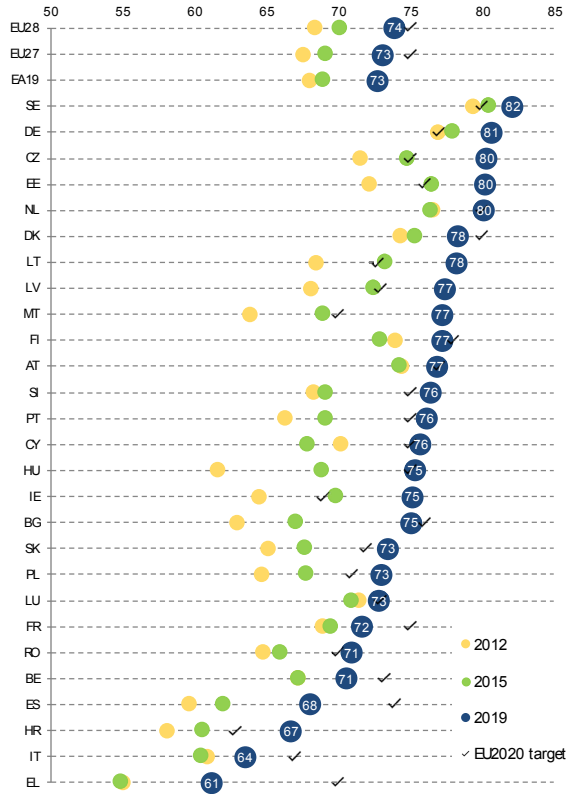
France), the distance between the lowest and highest rates (Greece's 61.2% and Sweden's 82.1%) was almost 5 pps less than in 2015.

Taking into account the labour market effects of the coronavirus crisis predicted by the 2020 Spring Commission forecasts, the employment rate should decline in the EU (euro area) to 69.9% (69.3%) in 2020, before increasing again to 72.2% (72.0%) in 2021, still almost a percentage point below the 2019 rate. If these predictions are confirmed, the EU will be unable to reach the EU2020 target of 75% for the employment rate in 2020.

Chart 1.9

Most Member States had already reached their 'EU2020' target by 2019

Employment rate, % of population aged 20-64



Note: The Europe 2020 target for France excludes the overseas departments. The employment rate in 2019 for France without the overseas departments was 72.6%

Source: Eurostat, LFS [lfsi_emp_a]

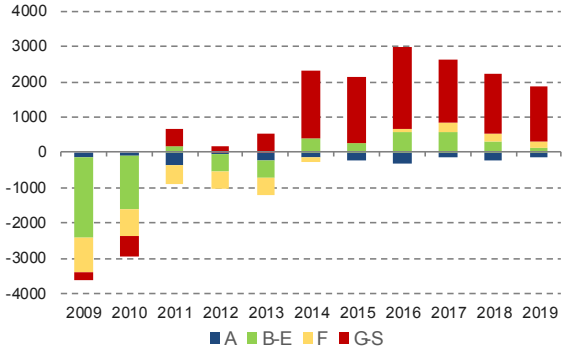
Click here to download chart.

The services sector contributed the most to employment growth in 2019. In 2019 the number of people employed grew by 1.6 million people in services (1.2%), by 193 000 people in construction (1.5%) and by 115 000 people in industry (0.3%), while employment shrank in agriculture by 155 000 (2%). The services sector grew especially in "human health and social work activities", "professional, scientific and technical activities" and "wholesale and retail trade". Construction saw the highest employment growth in relative terms.

Chart 1.10

Employment in 2019 grew most strongly in the service sector

Employment by NACE2 in the EU, thousands



Note: A: Agriculture; B-E: Industry (without construction); F: Construction; G-S: Services

Source: Eurostat, LFS [lfsa_egan2]

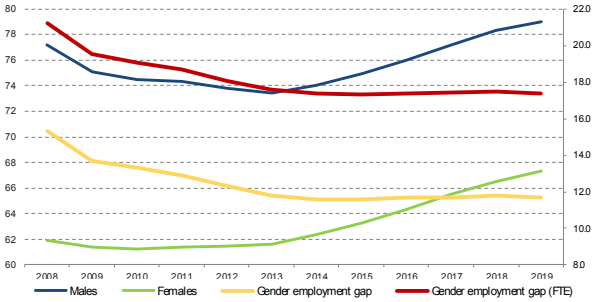
Click here to download chart.

The gender employment gap (headline indicator in the social scoreboard, and SDG 5) stood at 11.7 pps in 2019, broadly unchanged since 2013. The gender employment gap measured in full-time equivalents (FTE) is significantly higher (17.4 pps), and has also remained stable since 2013. According to a recent study by the European Commission's Joint Research Centre (JRC)([6]), the impact of COVID lockdowns could have a stronger impact on women than on men in some Member States, as some of the most vulnerable sectors have a higher number of female workers. However, this uneven impact can varies significantly, depending on the structure of the labour market and the strictness of confinement measures in individual Member States.

Chart 1.11

No progress in closing the gender employment gap

Employment rates by sex (% of population aged 20-64 years, lhs) and gender employment gap (pps, rhs)



Note: The gender employment gap is calculated as the difference in the employment rate of men and women aged 20 to 64

Source: Eurostat, LFS [lfsi_emp_a] [sdg_05_30] and EMPL calculations on Eurostat data

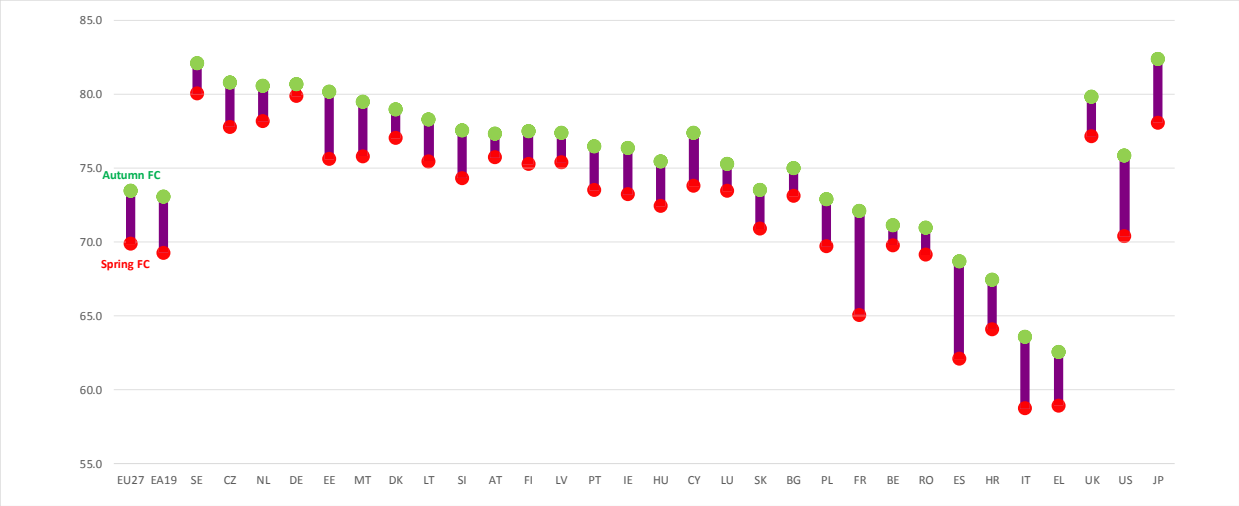
Click here to download chart.

([6]) Blaskó Z. et al.. (2020), 2020, p.16

Chart 1.12

Employment rates in 2020 according to the Spring forecast are generally much lower than those predicted by the Autumn forecast

Employment rate (forecasts) in 2020, % of population 20-64



Source: Eurostat, LFS [lfsi_emp_a], OECD, Commission Spring 2020 and Autumn 2019 Economic Forecast, and EMPL calculations

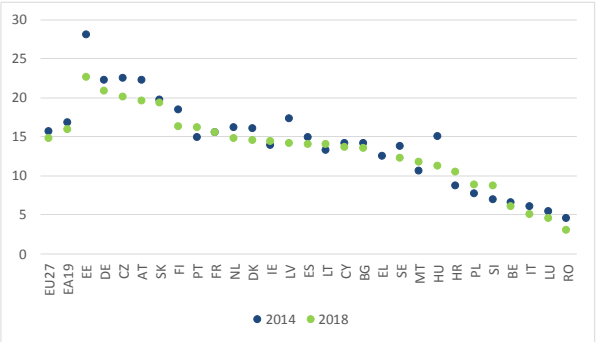
Click here to download chart.

The gender pay gap (supplementary indicator in the social scoreboard, and SDG 5) is showing some signs of narrowing, although not to the same extent in all countries. In 2018, the gap was 14.8% of average gross hourly earnings of men, 0.1 pps less than in 2017. In 18 Member States the gap was lower than in 2014, the last year for which figures are available for all Member States. The highest gaps were observed in Estonia (22.7%) and Germany (20.9%), while Romania (3.0%) and Luxembourg (4.6%) had the lowest gaps.

Chart 1.13

The gender pay gap is shrinking in most Member States

Gender pay gap in unadjusted form, % of average gross hourly earnings of men



Note: Note: 2017 for IE and IT. No 2018 data for EL

Source: Source: Eurostat, LFS [sdg_05_20]

Click here to download chart.

The proportion of employees aged 15-64 on temporary contracts decreased by 0.6 pps to reach 14.9% in 2019, the lowest rate since 2013. The proportion for women is 1.1 pps higher than for men (15.5% versus 14.4%). Differences among Member States remain very large, with several countries displaying percentages at or above 20% (Spain, Poland, Portugal and the Netherlands) although there has been a declining trend in almost all countries. Involuntary temporary work (employees with a temporary contract because they could not find a permanent job) in the EU in 2019 decreased to represent 52.1% of all temporary employees, the lowest rate since 2005.

Part-time employment remained stable in 2019 at 18.3% of total employment, and was much higher for women than for men (29.9% compared to 8.4%). However since 2012, part-time employment has risen by 0.2 pps as a proportion of total employment, having increased by 0.5 pps among male employed people and reduced by 0.3 pps among female employees. Involuntary part-time work continue to decrease (it was 25.8% of total part-time employment in 2019 compared to 27.2% in 2018 and a peak of 32.0% in 2014) and remained more prominent among men than women (33.0% versus 23.5% of part-time employment).

Employment of both young and older people grew in 2019. The employment rate for people aged 55-64 increased by 1.2 pps to 59.1%, while for people aged 15-24 it reached 33.5%, 0.6 pps more than in 2018 but 1.5 pps lower than in 2008. For all age groups, the employment rate for men was higher than for women, with the highest gaps in the 30-34 (14.7 pps) and 60-64 (14.1 pps) age brackets.

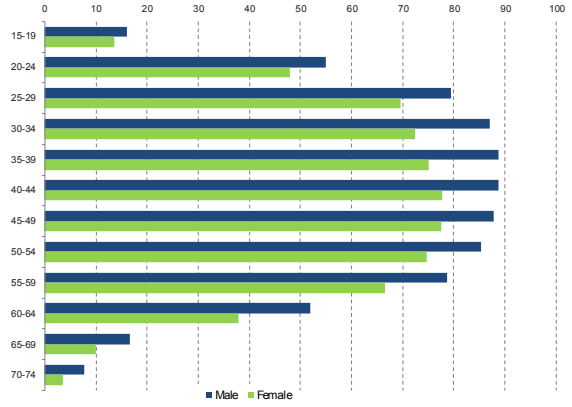
For recent graduates with at least upper secondary education (SDG 5), employment rates did not increase in 2019 as they had in the previous five years. The EU rate was 80.9% in 2019. Though he situation improved in almost all Member States, Greece and Italy had very low rates (below 60%), and 15 Member States had rates below those of 2008. This raises the question whether, in some Member States, recent graduates have sufficient employment opportunities in relation to to their skills to allow them to participate successfully in the labour market, in line with the first principle of the

European Pillar of Social Rights In 2019, the gap between men and women in the employment rate of recent graduates increased since the last year from 4.1 pps to 4.6 pps.

Chart 1.14

Employment rates are higher for men in all age groups

Employment rate in the EU by age groups, % of population, 2019



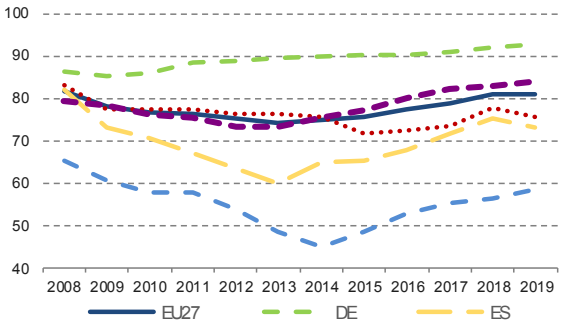
Source: Eurostat, LFS [lfsa_ergaed]

Click here to download chart.

Chart 1.15

Employment rates of recent graduates are improving but are still below 2008 levels for the EU and many MS

Employment rates of recent graduates, % of population aged 20 to 34 with at least upper secondary education



Note: See source table description for complete definition

Source: Eurostat [sdg_04_50]

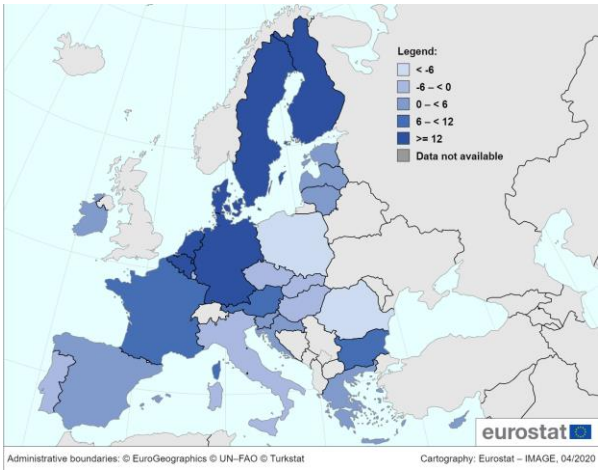
Click here to download chart.

In 2019 the employment rate of non-EU born people increased for the sixth consecutive year and reached 62.2%, 1.0 pp more than in 2018. It was 6.6 pps lower than the employment rate of the native population on average in the EU in 2019, a difference that had shrunk by almost 3 pps since 2016. Employment progress was more pronounced among migrant men than women and therefore the difference from the native population remained much wider for women than for men (10.7 pps versus 2.0 pps). The gap also varied across Member States. In the majority of them the employment rate of natives is higher than that of non-EU born people, and especially in Nordic countries, the Netherlands and Belgium. On the other hand, the employment rate of non-EU born is higher in 9 Member States, and especially in Malta, Portugal and Central-Eastern European countries such as Poland, Romania, Czechia and Hungary where there are proportionally fewer non-EU born people in the (working age) population is however relatively much smaller (*Chart 1.16*). Temporary employment is also higher for non-EU born people than for natives (22.4% and 14.2% respectively), a factor which increases their economic vulnerability in the current COVID-19 pandemic. , as showed in a recent study ([7]). For some countries (example of Germany) existing administrative data already points to much larger impact of the pandemic on foreigners' levels of employment and unemployment in the period March to June 2020.

Chart 1.16

The difference between employment rates of natives and non-EU born varies widely between Member States

Difference between employment rates of reporting country and non-EU born people aged 15-64, 2019



Source: Eurostat [lfsa_ergacob]

Click here to download chart.

3.2. Unemployment rates

The EU unemployment rate (headline indicator in the social scoreboard) fell in 2019 to 6.7% of the labour force, 0.5 pps less than in 2018. This was the lowest level ever recorded in the EU. Compared to 2018, unemployment rates fell in almost all Member States, with the biggest declines in Greece (2.0 pps), Croatia (1.9 pps), and Cyprus (1.3 pps), while increasing in Sweden (0.4 pps) and Lithuania (0.1 pps). This was in line with the general trend of declining unemployment rates in all Member States in recent years. This trend came to an abrupt halt with the outbreak of the coronavirus pandemic, and unemployment rates are forecast to increase in 2020 to 9.0% in the EU and 9.6% in the euro area, i.e. 5.2 million more unemployed people in the EU and 3.6 million more in the euro area. In March 2020, the unemployment rate was 6.5% in the EU and 7.2% in the euro area.

The difference in unemployment rates between men and women in the EU in 2019 increased by 0.1 pps to 0.6 pps (7.0% versus 6.4%). During the steady reduction in general unemployment in the EU in 2014-2019, this difference increased slightly, albeit with large differences between the Member States. As already pointed out in section 3.1, the confinement measures to limit the spread

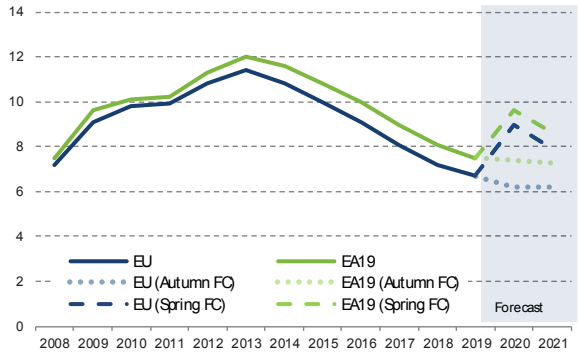
([7]) Fasani F., Mazza J. (2020)

of COVID-19 could have a higher impact on women than men, according to a study (Blaskó Z. et al.. (2020), p.16). However, this depends on the strictness of confinement measures and the structure of the labour market in each Member State.

Chart 1.17

Unemployment in the EU reached a historic low in 2019, but has increased strongly following the outbreak of the coronavirus pandemic

Unemployment rate, % of labour force from aged 15 to -74 years



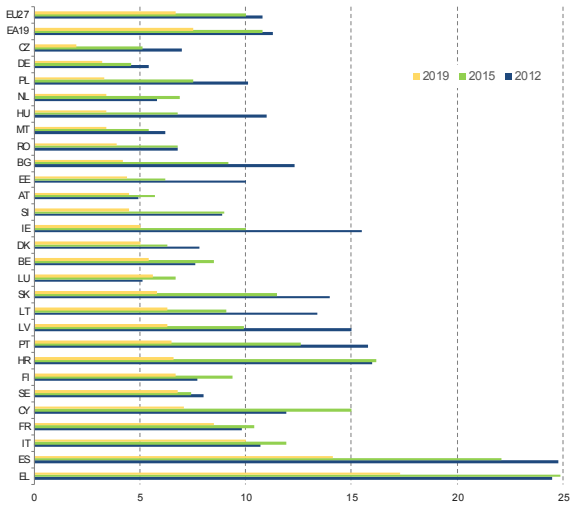
Source: Eurostat, Unemployment series [une_rt_a] and European Commission Spring 2020 and Autumn 2019 Forecast

Click here to download chart.

Chart 1.18

All EU Member States had lower unemployment rates in 2019 than in 2015

Unemployment rates by Member States, % of active population



Source: Eurostat, Unemployment series [une_rt_a]

Click here to download chart.

Youth unemployment in the EU fell to 15.0% in 2019, 1.0 pp less than in 2018. This is a somewhat lower reduction than in the previous year, suggesting that the decline in youth unemployment observed since 2014 has been slowing down. Compared to 2018, youth unemployment fell most steeply in Croatia (7.1 pps), Greece (4.7 pps) and Bulgaria (3.8 pps) but increased in nine Member States, most notably in Luxembourg (2.8 pps) and Sweden (2.7 pps). The difference in the youth unemployment rate between women (14.7%) and men (15.3%) was slightly lower than in previous years: 0.6 pps in 2019, compared to 0.9 pps in 2018.

Young workers are more likely than other age groups to work in sectors that have been or could be closed following the confinement measures to fight COVID-19, according to a recent study by European Commission's Joint Research Centre ([8]). Other evidence is showing that young people across the world are being particularly hit by the COVID-19 crisis (ILO, 2020). Young people aged 15-24 had already been severely affected by the 2008 crisis, when their unemployment rates and the use of non-standard contracts increased dramatically (ESDE 2017, Chapter 3).

The share of young people aged 15-29([9]) who are neither in employment nor in education and training (NEET) (SDG 8) decreased in 2019. As a percentage of the total population, it fell by 0.5 pps since 2018 to 12.6%. The strongest declines were observed in Estonia (1.9 pps) and Greece (1.8 pps) while the NEET rate increased in four Member States, most notably in Lithuania (1.6 pps). Since 2012 average NEET rates in the EU have decreased by 3.4 pps and only two Member States had higher NEET rates in 2019 than in 2012 (Denmark, by 0.6 pps and Austria, by 0.1 pps). However, in some Member States with high NEET rates, such as Italy and Romania, improvements were below EU average (*Chart 1.20*).

Long-term unemployment rates

Long-term unemployment (headline indicator in the social scoreboard, and SDG 8) continued to fall in 2019. It decreased by 0.4 pps since 2018 and reached 2.8% of active population aged 15-74. The rate was 2.9% for women and 2.6% for men. Very long-term unemployment ([10]) fell by 0.3 pps to 1.7%.

([8]) Fana, M. et al. (2020), pp.17-18

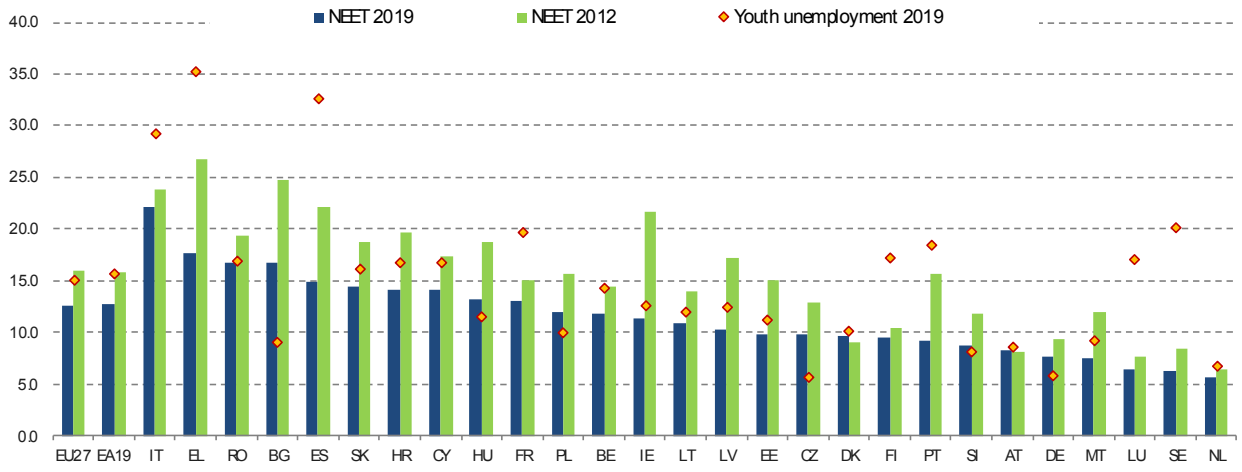
([9]) The age bracket 15-29 is the one used for the NEET indicator for SDGs. The headline indicator for the social scoreboard uses the age bracket 15-24.

([10]) Very long-term unemployment refers to people who have not had a job for 24 months or more.

Chart 1.20

The NEET rate declined in almost all Member States but remains persistently high in some

Unemployment rate (% of labour force, 15-24) and young people aged 15-29 neither in employment nor in education and training (NEET) (% of total population)



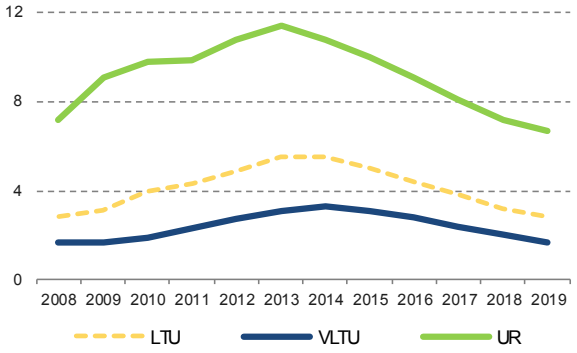
Source: Eurostat, LFS [une_rt_a; edat_lfse_20]

Click here to download chart.

Chart 1.19

Unemployment and long-term unemployment continued to fall in 2019, though more slowly

Long-term and very long-term unemployment rate, % of active population 15-74



Source: Eurostat, LFS [une_rt_a, une_ltu_a]

Click here to download chart.

All Member States saw reductions in long-term unemployment in 2019. The biggest falls were recorded in Greece (1.4 pps), Spain (1.1 pps) and Croatia (1.0 pp), reducing the difference between the highest rate (Greece, 12.2%) and the lowest (Czechia, 0.6%).

Long-term unemployment as a proportion of total unemployment also fell in 2019, to 41.4% (3.0 pps below 2018). Differences between Member States, however, remain very large. Very long-term unemployment as a proportion of total unemployment also decreased, by 2.3 pps to 25.5%.

3.3. Activity rates

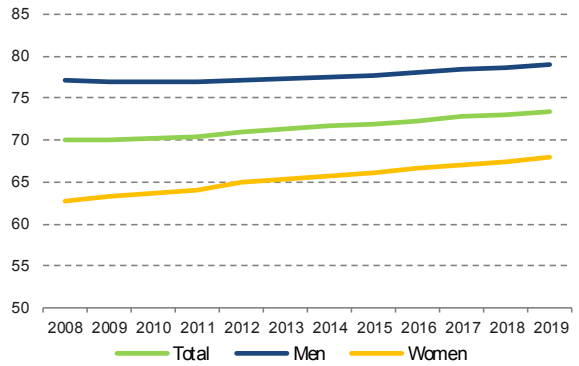
The EU activity rate ([11]) for people aged 15-64 continued to rise in 2019, reaching a record high rate of 73.4%. This is 0.3 pps more than in 2018. It rose slightly more for women (+0.4 pps to 67.9%) than for men (+0.3 pps to 79.0%), but the gap is still larger than 11 pps. The constant rise in activity rates observed in recent years was driven by increasing participation of women and older workers, as well as higher education rates.

The proportion of people aged 20-64 who are inactive in the labour market because of to caring responsibilities (SDG 5) continued to rise, especially among women. More than one fifth of those aged 20-64 are inactive due to caring responsibilities: almost one third of women in this age group, but only 4.5% of men. According to a survey conducted by Eurofound in April 2020, parents with young children are among the groups that have been particularly affected by the COVID-19 pandemic. The impact on their working conditions is higher than for other groups (e.g. households with no or older children). There is yet no evidence about differences by gender.

Chart 1.21

The gender activity rate gap is narrowing but remains large

Activity rate by sex, % of population 15-64



Source: Eurostat, LFS [lfsi_emp_a]

Click here to download chart.

Increases in EU activity rates in 2019 were again driven by the 1.1 pps rise in participation by older workers (aged 55-64). The proportion of the active population (aged 15-64) with tertiary

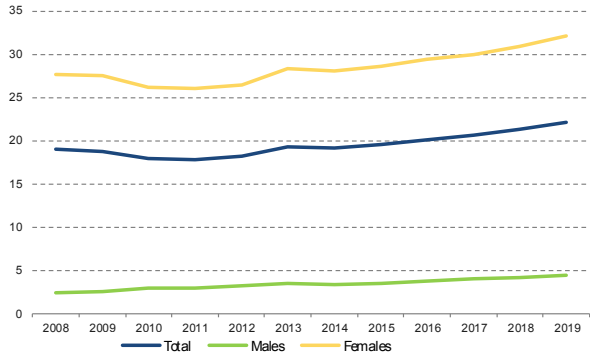
([11]) The activity rate is the measure of the participation of population, whether employed or unemployed, in the labour market.

education also continues to increase, and it is now more than one third. At the same time, the proportion of the active population with lower educational attainment levels keeps declining. Another group with low participation rates is migrant women (61.7% in 2019) who record lower participation rates than native women in many Member States. The gap is especially pronounced among those with a tertiary level of education, suggesting that there is a significant underutilisation of human capital in this group.

Chart 1.22

Inactivity due to caring responsibilities affects women disproportionately and continues to grow

Inactive population due to caring responsibilities by sex, % of inactive population



Note: The indicator measures the reasons why individuals are not actively seeking work, so they are neither employed nor unemployed and considered to be outside the labour force. "Inactivity due to caring responsibilities" refers to looking after children or incapacitated adults and other family or personal responsibilities

Source: Eurostat, LFS [lfsa_igar, sdg_05_40]

Click here to download chart.

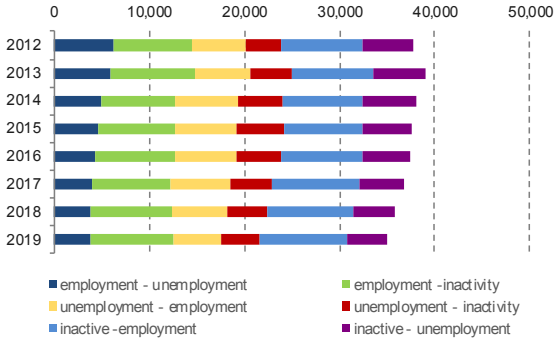
3.4. Labour market transitions

Labour transition figures confirm the positive labour market dynamics in the EU up to and including 2019. Transitions from employment to unemployment gradually decreased from 6.2 million in 2012 to 3.7 million in 2019. The number of people moving from inactivity into employment increased from 8.4 million in 2012 to 9.2 million in 2019. Less positive, however, was the fall in the number of people leaving unemployment for employment; whereas 6.7 million made this transition in 2014, 1.5 million fewer did so in 2019.

Chart 1.23

Transitions to unemployment have declined between 2012 and 2019

Labour market transitions for EU, thousands



Source: Eurostat, LFS [lfsi_long_a]

Click here to download chart.

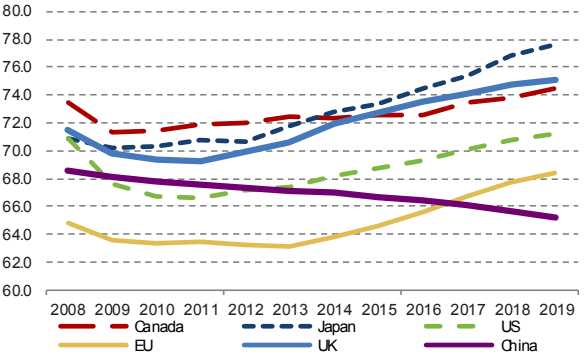
3.5. International comparison

In 2019, the EU still had a lower employment rate than other major world economies, although the gap decreased. Until 2019, the EU showed a faster growth in the employment rate than most other major economies. Only Japan had seen a consistently faster growth in its employment rate than the EU. The COVID-19 pandemic and necessary containment measures are expected to have deep effects in the next few years. According to the latest European Commission Spring forecast, employment is predicted to fall faster in the United States and Japan (-5.0% and -6.3% respectively) than in the EU (-4.4%) and the UK (-2.7%). In 2021, employment is also expected to grow faster in the EU (3.3%) than in both the United States and the United Kingdom (2.0% and 1.5% respectively), while in Japan it is predicted to fall again by 1.0%.

Chart 1.24

The employment rate in the EU is growing at a similar pace to the US and Canada, and faster than in the UK

Employment rate, % of population 15-64 years



Note: 15 years and over, and ILO modelled data, for China

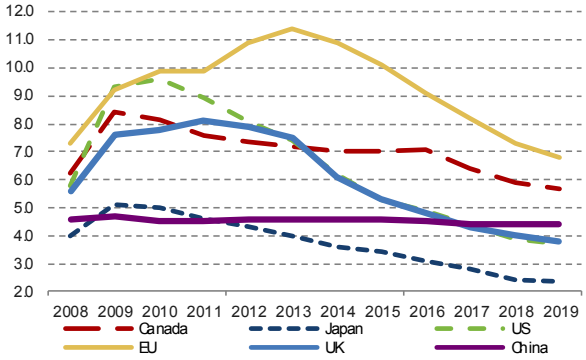
Source: Eurostat [lfsi_emp_a], OECD and World Bank

Click here to download chart.

Chart 1.25

Until 2019, the unemployment rate in the EU was falling faster than in other major economies, albeit at higher level

Unemployment rate (% of active population, 15+ years)



Note: ILO modelled data for China

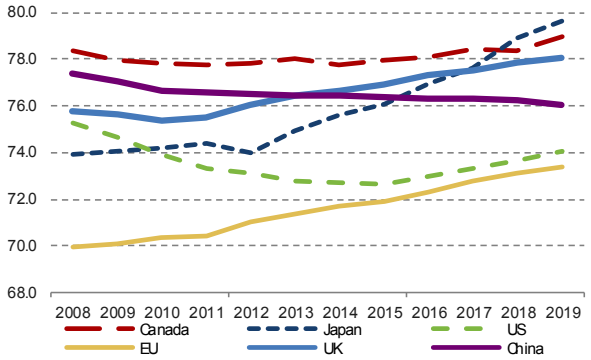
Source: Eurostat [une_rt_a], OECD and World Bank

Click here to download chart.

Chart 1.26

The EU's activity rate is close to the US's but still some way behind Japan, Canada and the UK

Labour force participation rate (15-64 years)



Note: ILO modelled data for China

Source: Eurostat [lfsi_emp_a], OECD and World Bank

Click here to download chart.

Unemployment in the EU in 2019 remained higher than in other major economies, but was falling faster. However, in all countries unemployment is expected to increase significantly in 2020, before declining again in 2021, albeit remaining at higher levels than before the outbreak of the coronavirus pandemic.

The gap between the EU's unemployment rate and those of other major economies is likely to decrease substantially, though this depends on different countries' various policy responses taken to mitigate the adverse effects of the coronavirus pandemic. In particular, variations may occur because of different measure taken to support employees and the self-employed, to stabilise incomes and to promote short-term work schemes in order to mitigate increase in unemployment. Unemployment rates are expected to increase in all major economies, with expected peaks in 2020 in the UK and the US at 9.2% and 6.7%, respectively, and in 2021 in Japan at 4.5%. Unemployment is expected to increase sharply in particular in the US and almost triple to reach a double-digit figure in the course of 2020. Because of the expected lower increase of the unemployment rate in the EU, the gap between the EU and, respectively, the UK and the US, is therefore expected to decrease or even reverse.

The activity rate in the EU also increased faster than in other major economies, but a large gap remains. This steady increase in participation in the labour market may explain why the EU unemployment rate remained relatively high until 2019 despite a good performance in employment creation.

4. SOCIAL SITUATION, POVERTY AND INCOME DEVELOPMENTS

Before the COVID-19 outbreak, the living standards and social conditions of EU households were, on average, improving steadily. In 2018, ([12]) 13.9 million fewer people in the EU ([13]) were living at risk of poverty or social exclusion (AROPE) than at the 2012 peak. The social situation continued to improve according to data available for 2019, driven by a reduction in the severe material deprivation rate. Median incomes have been increasing in real terms in most Member States and the number of people in severe material deprivation has been falling. However, the pandemic is having major social effects. Although income and living conditions' data to monitor its current impact will not be available before 2021, some effects may be expected on the basis of early simulations. In spite of unprecedented policy responses, at both national and EU levels, inspired by the European Pillar of Social Rights ([14]), there is a significant likelihood that the current crisis will exacerbate poverty risks for vulnerable populations in the very short term ([15]). The implementation of the principles of the European Pillar of Social Rights is a priority for the Commission ([16]) and the COVID-19 crisis sheds further light on its importance. Labour-related income losses, coupled with the difficulty for welfare transfers to reach all households promptly, may pose serious risks for the living conditions of low-income households. Preliminary estimates indicate that the impact of the COVID-19 crisis is likely to be regressive and lead to more severe income drops for low-middle income households. Moreover, it is likely that service disruption (especially to schooling) ([17]) and generally lower levels of wealth with which to weather a temporary income loss will exert a higher toll on more vulnerable households. However, the discretionary policy measures implemented by Member States in early 2020 to guarantee income support and extend social protection will be effective in cushioning to some extent the crisis-related income loss ([18]). Against this background, this section examines trends in income and living conditions before the pandemic and sketches the risks posed for some vulnerable population subgroups.

4.1. Household financial situation has improved

Disposable income per capita has been rising, even though it is still below the pre-2009-crisis level in five Member States. The disposable income of households ([19]) (GDHI) per capita (SDG 10) maintained its rising trend in 2018. However, some Member States have not yet returned to their 2008 level (*Chart 1.27*). In particular, GDHI per capita is about 28% less than in 2008 in Greece, 10% less in Cyprus, 8% less in Italy, 3% less in Spain and 2% less in Austria.

([12]) Note on the reference year: EU-SILC data, used in poverty and inequality indicators, reflect incomes of the previous year (except for Ireland where incomes refer to the interview period). However, in this document, the reference year is the survey year and not the income year. This choice is for consistency with indicators commonly used: Eurostat indicators and most of EMPL monitoring tools and reports use the survey year. Moreover, the at-risk-of-poverty-and-social-exclusion (AROPE) indicator combines the at-risk-of-poverty (AROP: previous year) rate, very low work intensity (VLWI: previous year) and severe material deprivation (SMD: survey year). The 2018 reference year is based on EU-SILC 2018, which reflects the 2017 income year and activity status in 2017.

([13]) Estimated AROPE rate in 2019: 94.8 million.

([14]) The European Pillar of Social Rights, approved in 2017, is composed of 20 principles organised in three chapters. The third on 'Social protection and inclusion' addresses 10 rights and principles such as childcare, social protection and benefits, minimum incomes, pensions, inclusion, health and long-term care, housing and access to services in general.
Delivering on these principles and rights is a joint responsibility of the European Union institutions, Member States, social partners and other stakeholders.
The social scoreboard was set up to assist monitoring of the implementation of the Pillar across EU countries.
https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en
https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en

([15]) For a discussion of the impact on fundamental rights of the virus and the measures to contain it especially for already vulnerable groups in society see European Union Agency for Fundamental Rights (FRA) (2020).

([16]) In January 2020, the Commission released a communication on the preparations for an Action Plan to implement the Pillar,
https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_20https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_20

([17]) Despite prompt adoption of distance learning, it is likely that the physical closure of schools will nonetheless determine a learning loss for students. Especially children in primary and lower secondary schools will suffer unevenly the disruption in learning. Some studies estimate that disparities in quality of digital resources, home learning environment and access to private online tuition will exacerbate educational inequalities. See Di Pietro et al. (2020).

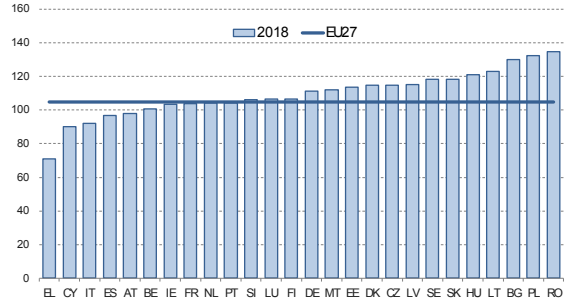
([18]) See Almeida et al. (2020)..

([19]) Gross disposable household income (GDHI) is the amount of money that all of the individuals in the household sector have available for spending or saving after income distribution measures (for example, taxes, social contributions and benefits) have taken effect. The household sector is combined with non-profit institutions serving households (NPISH) under a single heading. The NPISH sector is relatively small. Yearly gross disposable income of households and adjusted gross disposable income of households in real terms per capita can be found on the Eurostat non-financial transactions database: nasa_10_nf_tr. Quarterly unadjusted and seasonally adjusted, gross disposable income of households and adjusted gross disposable income of households in real terms per capita are available on the Eurostat non-financial transactions database: nasq_10_nf_tr. EU and EA19 quarterly seasonally adjusted, adjusted gross disposable income of households in real terms per capita (% change on previous period) are available under nasq_10_ki.

Chart 1.27

The GDHI per capita in 2018 in eight Member States was not yet at 2008 levels

Gross disposable income of households in real terms per capita (2008=100)



Note: Year 2018: data not available for Croatia
BG and EE, year=2017

Source: Eurostat, National accounts [tepsr_wc310]

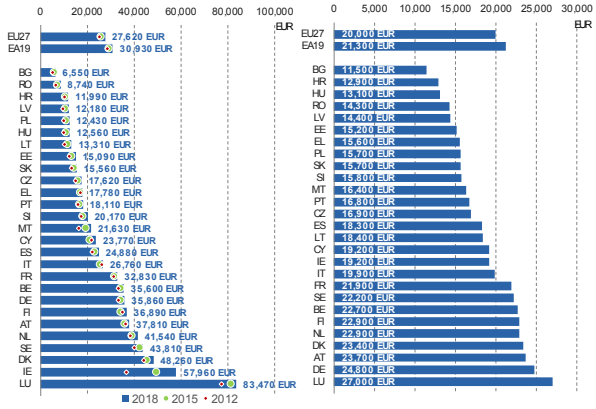
Click here to download chart.

From 2012 until the severe shock to GDP in early 2020, real GDP per capita (SDG 8) increased in all Member States without exception. Growth was particularly high in Ireland (+EUR 21,270 between 2012 and 2018) ([20]). Purchasing-power-adjusted GDP per capita (SDG 10) takes into account standards of living and indicates persisting inequalities among countries. In 2018, Bulgaria, Croatia, Hungary, Romania and Lithuania were below EUR 15,000 per capita, while Luxembourg reached EUR 27,000 (*Chart 1.28*).

Chart 1.28

Real GDP per capita increased in all Member States, however inequalities between them persist

Real GDP per capita (left) and purchasing power adjusted GDP per capita (right - 2018)



Source: Eurostat, dataset: nama_10_pc and SDG_10_10.

Click here to download chart.

The aggregate disposable income of households in the EU increased further in 2019. Gross disposable household income has been increasing in real terms since a low point in 2013. In particular, aggregate disposable household income has benefitted from higher income from work as a result of expansion in economic activity and improved labour market conditions (*Chart 1.27*)([21]). In 2018, GDHI annual growth in real terms was 1.8% in the EU and 1.5% in the euro area. Conversely, preliminary EUROMOD simulations estimate a reduction in household income by -3.6% in 2020 on average across the EU. ([22]) Rapid assessment surveys available for Romania and Poland indicate that over one third of respondents declared a reduction in income (34 and 39% respectively) already in May 2020. ([23])

In 2019, households continued to benefit from higher income from work, while social benefits have stabilised over recent years. The labour income of both employees and the self-employed began to grow again in 2014, mainly due to recovery in the labour market, and has continued to grow since. At aggregate level, households began to make higher social contributions as market incomes improved. After staying negative for several years, the EU aggregate balance of social benefits versus social contributions (2016-2018) returned to positive values in 2019.

([20]) However, GDP per capita does not reflect exactly the net domestic income distributed to the household sector (net national income). For a discussion of the difference in the two concepts see Chapter 3, Section 2 and Annex 3.1a.

([21]) See European Commission (2019a).

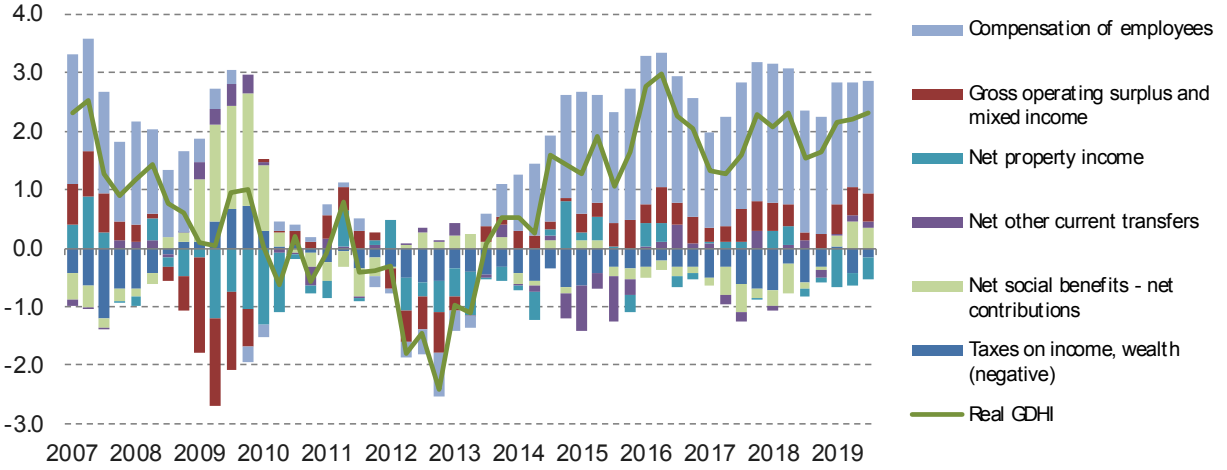
([22]) However large, this reduction in household income is estimated to be more contained than under a no policy-change scenario. Almeida et al. (2020) estimate via EUROMOD a drop in household income by -5,9% across the EU in the absence of the discretionary and unprecented policy intervention to reduce employment losses and cushion income drops.

([23]) Moreover, this Report (World Bank 2020) finds that at least one in five households is likely to suffer income losses due to reduction or loss of employment in the early phase of the lockdown.

Chart 1.29

Disposable household income supported primarily by higher income from work

GDP and GDHI growth (% change on previous year), and contribution of GDHI components (pps), EU



Note: The nominal GDHI is converted into real GDHI by deflating with the deflator (price index) of household final consumption expenditure.
The real GDHI growth for the EU is DG EMPL estimation, and it includes Member States for which quarterly data based on the ESA2010 are available (which account for 85% of EU GDHI).
It is a weighted average of real GDHI growth in Member States.

Source: DG EMPL calculations.

Click here to download chart.

More social protection expenditure went towards old-age pensions and health needs

By 2017 (the year of the latest available data), social protection expenditure in the EU shifted to structural expenses (old-age pensions and healthcare). The increases in social expenditure in the years 2012 to 2017 (*Chart 1.30*) were mainly due to further increases in spending on old age (driven partly by demographic factors) and on healthcare. By contrast, expenditure on unemployment stabilised after 2010 and has declined since 2014, as the economic environment improved. Expenditure on families, housing and combating social exclusion has increased slightly since 2013 ([24]).

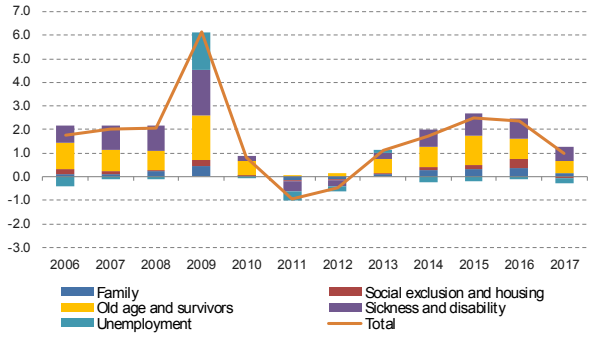
According to the latest available data, social protection expenditure continued to increase in nearly all Member States in 2017. Expenditure on old-age and survivors' benefits increased in all Member States (partly reflecting demographic change) except for Greece where expenditure on pensions declined between 2016 and 2017 (*Chart 1.31*, right column). Sickness and disability expenses contributed significantly to the overall expenditure growth in most Member States, except in Greece and Poland where expenditure on sickness and disability declined (*Chart 1.31*, right column).

([24]) This is in line with many country-specific recommendations of the European Commission to shift social spending towards working-age adults (European Commission 2019b).

Chart 1.30

Old-age pensions and health-related expenditure drive up social protection spending

Growth in social protection expenditure (% change on previous year, in real terms) and contribution by functions (pps), EU



Note: The nominal expenditure is converted into real expenditure by deflating with the Harmonised Index of Consumer Prices (HICP). Inflation reflects the differential in HICP growth from one year to the other. When inflation is constant it has no impact, when inflation is declining it contributes positively, when inflation increases it contributes negatively.

Source: Eurostat, ESSPROS [spr_exp_sum] and Price Statistics [prc_hicp_aind]; DG EMPL calculations

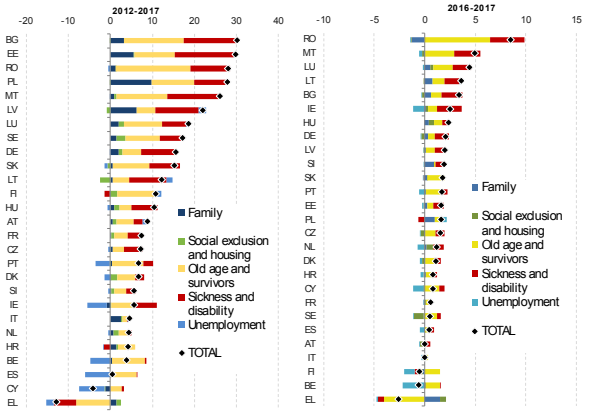
Click here to download chart.

Between 2012 and 2017, expenditure on pensions in countries with large crisis-related fiscal consolidation needs, such as Greece, decreased. Greece and Croatia spent less on sickness and disability; and Lithuania spent less on social exclusion (*Chart 1.31*, left column). Expenditure on unemployment benefits declined notably in some Member States, including Belgium, Cyprus, Greece, Ireland, Portugal and Spain, as labour markets improved (*Chart 1.31*, left column).

Chart 1.31

Old-age pensions and health-related expenditure drive up social protection spending

Growth in social protection expenditure 2012-2017 (% change, in real terms) and contribution (pps) by functions, EU Member States



Note: The nominal expenditure is converted into real expenditure by deflating with the Harmonised Index of Consumer Prices (HICP).

Source: Eurostat, ESSPROS [spr_exp_sum] and Price Statistics [prc_hicp_aind]; DG EMPL calculations

Click here to download chart.

Box 1.1: The EU middle classes on the eve of the COVID-19 pandemic

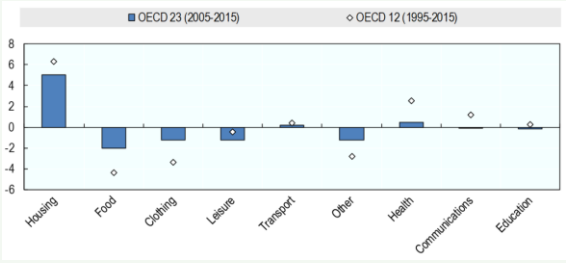
The EU middle classes are the bedrock of our societies in terms of their size and their contribution to economic growth. However, even before the pandemic materialised, there were signs of their economic and financial vulnerability.

The extent to which economic growth in the latest recovery period (2012-2017) trickled down to the middle classes varied significantly across EU countries. However in the countries whose economic growth was the most sustained, the benefits of income growth accrued primarily to high-income groups (see Chapter 3, Section 2).

Chart 1

Middle-income class spending on housing and health has increased

Percentage point changes in shares by item of household budgets , OECD average, 1995 2015 and 2005 2015



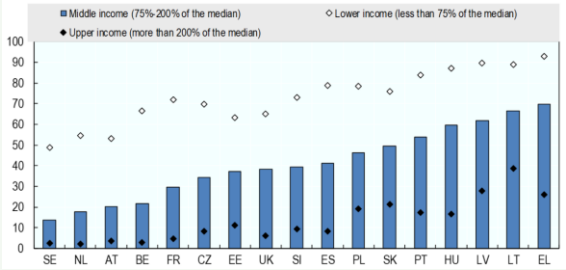
Note: OECD 23 unweighted average refers to the following countries: Austria, Belgium, Chile, Czech Republic, Germany, Finland, Greece, Hungary, Ireland, Lithuania, Luxembourg, Latvia, Mexico, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Turkey, the United Kingdom and the United States. OECD 12 unweighted average refers to the following countries: Austria, Belgium, Chile, Finland, Germany, Greece, Ireland, Luxembourg, the Netherlands, Portugal, Spain and the United States.

Source: OECD (2019) 'Under Pressure: the Squeezed Middle Class'.

Chart 2

Financial vulnerability affects four in ten middle-income households

Proportions of households that are financially vulnerable, 2017



Note: Households are financially vulnerable if they are in arrears on mortgages, rent, or utility bills, or cannot afford to heat their homes adequately, to spend one week of annual holiday away from home or to bear unexpected financial expenses.

Source: OECD (2019) 'Under Pressure: The Squeezed Middle Class'.

Over the last two decades, the EU middle classes, defined purely in income terms ([1]), have faced an increasingly expensive cost of living across almost all EU Member States. This higher cost of living and less secure prospects might have eroded middle-income households' ability to save, making them vulnerable in an emergency such as the recent lockdown measures.

As a recent OECD Report documents, the cost of the 'typical' middle-class lifestyle has increased faster than median income over the last 20 years (at least until 2017) ([2]). The rising costs have been driven in particular by prices for housing, health and education increasing faster than inflation, albeit with different patterns across EU countries. These areas are of paramount importance in our societies and are effectively recognised as rights granted to everyone in the European Pillar of Social Rights ([3]). It is not by chance that health concerns, housing quality and education continuity have come to the fore as key concerns of EU households during the lockdown measures recently experienced. Thus, it is likely that crucial expenses for middle-income households such as health, housing and education, which had already been rising for decades already before the crisis (see *Chart 1*), have been difficult to maintain in the current situation ([4]). As living costs rise and expenses increase faster than median incomes, financial vulnerability is a concern for middle-income households ([5]). Sustaining the expected lifestyle of the middle class in the face of higher costs for essential middle-class expenses is likely to trigger a reduced capacity to save and increasing debt levels.

Four in ten middle-class households are financially vulnerable and half struggle to make ends meet, i.e. they are in arrears or unable to cope with unexpected expenses or sudden falls in income. Their proportion varies widely from country to country, ranging from 12% in Sweden to 70% in Greece (see *Chart 2*). On average, the risk of middle-income households being financially vulnerable is closer to the risk run by the upper-income than the lower-income class. However, in Greece and Hungary, the proportion of middle-income households in financial vulnerability is much closer to the proportion among lower-income households.

([1]) In this box, individuals are considered to be in the middle class if their equivalised income is included in the range from 75% to 200% of the national median income.

([2]) OECD (2019).

([3]) Principles 1, 16, 19. https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en

([4]) The proportion of households, not necessarily middle-class households, in arrears on housing expenses and health bills has increased in the lockdown period (Eurofound 2020)

([5]) As it was evidenced also in a previous edition of 'Employment and Social Developments in Europe' (European Commission 2019c, Section 4.5).

(Continued on the next page)

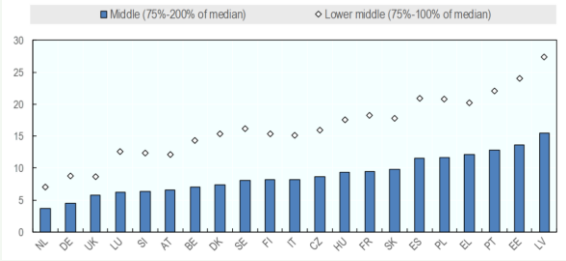
Box (continued)

After one year, middle-income households seldom fall into relative poverty. However, the probability for middle-income households of sliding into low-income territory over longer time spans has risen somewhat in the past two decades, albeit heterogeneously between EU countries. On average between 2007 and 2015, one in ten middle-income households and one in seven lower middle-income households slipped into the low-income class (below 75% of the national median income) over a four-year period (see *Chart 3*). This risk was the highest in Latvia, Estonia, Portugal, Spain and Greece where it affected more than 20% of middle-income households and was lowest in Germany, the United Kingdom and the Netherlands (all below 10%).

Chart 3

One out of ten middle-income households slides into low income after a period of four years

Probability of middle-income and lower middle-income individuals to fall into low income after a period of four years, average for the period 2007 2015, percent.



Note: "Middle income" defined as incomes between 75% and 200% of the national median. "Lower middle income" defined as 75% to 100% of the median. "Low income" defined as below 75% of the median.

Source: OECD (2019) 'Under Pressure: The Squeezed Middle Class'.

This recent evidence points to middle-income households struggling to cope with the rising costs of housing, education and health care. At the same time, these expenses are necessary for people's wellbeing, especially in unexpected circumstances such as the recent lockdowns. These trends call for targeted measures to secure middle-class living standards and promote inclusiveness in the recovery phase, as a healthy middle class is key to ensuring economic growth, political stability and social cohesion.

4.2. Social transfers have mitigated persistent income inequality in the EU

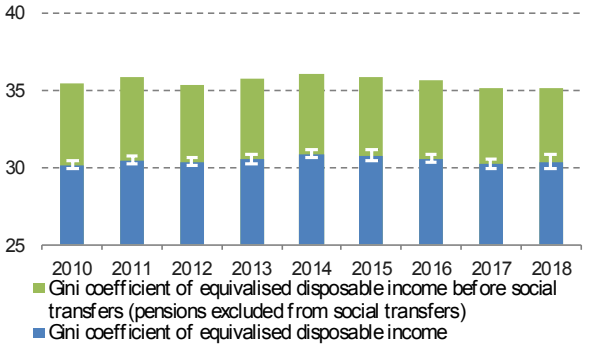
Disposable income inequality has been fairly stable on average in the EU, at least until 2018. Inequality at EU level, as measured by the GINI coefficient, ([25]) increased between 2012 and 2014 and then decreased for three consecutive years (*Chart 1.32*). In 2018 the Gini coefficient for the EU appeared to be close to the levels observed in 2017 (30.4 in 2018 vs 30.3 in 2017) and 2012. The quintile share ratio S80/S20 (inequality indicator in the Social Scoreboard accompanying the European Pillar of Social Rights and SDG 10) ([26]) indicated that the top quintile had an equivalised disposable income around five times higher than that of the lowest quintile in the EU. In Bulgaria, Romania and Lithuania however, the S80/S20 ratio exceeded 7.0 in 2018.

According to Eurostat's flash estimates, inequality remained stable in (income year) 2018. Flash estimates for the income year 2018, released as experimental data by Eurostat in autumn 2019, indicated that in most Member States no statistically significant change in inequality, as measured by S80/S20, could be observed between (income years) 2017 and 2018 ([27]),Inequality was estimated to have decreased significantly only in Italy and Slovenia. However, on average across the EU Member States there might have been a slight reduction.

Chart 1.32

Income inequality in the EU before and after social transfers was fairly stable from 2010-2018

Gini coefficient before social transfers and of disposable income, EU27



Note: The year refers to the EU-SILC survey year. Incomes of the previous year. Confidence intervals have been computed as in Zardo-Trinidade and Goedemé (2016). The confidence intervals suggest that the yearly changes in the Gini coefficient may not always be statistically significant.

Source: Eurostat, EU-SILC [ilc_di12, ilc_di12b]

Click here to download chart.

Income inequality has generally been lower in the EU than in other world regions. Compared to disposable income inequality among US households, for example, inequality among EU households was significantly lower in the recent past as illustrated in Chart 1.33. Moreover, it has been fairly stable since the crisis, with signs of a reduction in recent years. This is due to increasing

([25]) The Gini coefficient for the EU is the population-weighted average of national Gini coefficients of equivalised household incomes. The Gini coefficient is an indicator with a value between 0 and 1 (between 0 and 100 in this chart). Lower values indicate higher equality. In other words a value equal to 0 indicates everybody has the same income, a value equal to 1 indicates that one person has all the income.

([26]) The S80/S20 income quintile share ratio refers to the ratio of total equivalised disposable household income received by the 20% of the country's population with the highest equivalised disposable income (top quintile) to that received by the 20% of the country's population with the lowest equivalised disposable household income (lowest quintile).

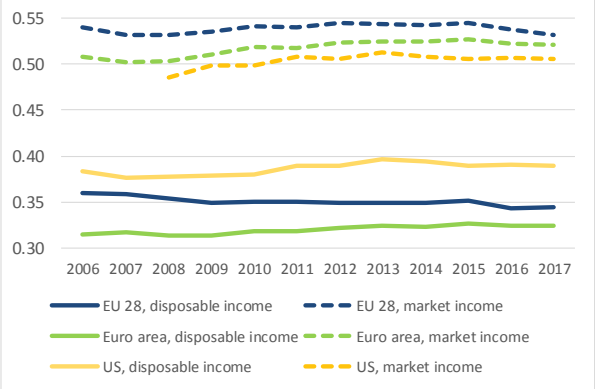
([27]) See report on Flash Estimates by Eurostat at http://ec.europa.eu/eurostat/web/experimental-statistics/income-inequality-and-poverty-indicators.

income levels in relatively poorer Member States, which reduced the overall income dispersion between EU households ([28]). The EU's national welfare states have collectively been very effective in reducing inequality in market incomes (capital and labour income), which would otherwise be higher than in the US.

Chart 1.33

Income inequality between all EU households is lower than inequality between US households

GINI coefficient in the EU-28, the euro area and the US. Market and disposable income



Note: Income distribution in the EU-28 (or euro area) is considered among the EU-wide (or euro-area-wide) population, after applying purchasing power parities. Market income is considered without taxes and transfers, including public pensions. Euro-area figure corresponds to current euro-area composition. Equivalence scale: modified-OECD scale for the EU and the euro area figure and square root of the household size for the US. Income years. Ireland, Slovakia and the United Kingdom data are not available for the 2017 figures.

Source: Own calculations. EU-SILC data. US data from the OECD Social and Welfare Statistics: https://doi.org/10.1787/socwel-data-en

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Progress in reducing inequality varies across Member States

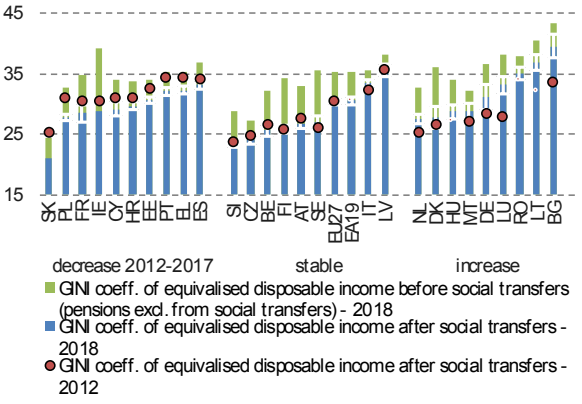
Income inequality levels are very different across Member States and their trends have varied over recent years. In some Member States (particularly Bulgaria, Lithuania and Luxembourg) disposable income inequality increased significantly between 2012 and 2018, while others (notably Slovakia and Poland) experienced a statistically significant inequality reduction (*Chart 1.34*).

The income share of the least well-off 40% of the population has been stable at around 21% in the EU since 2012. The trend has been similar in most Member States, but with some exceptions. The highest decreases took place in Lithuania, Bulgaria and Luxembourg where the bottom 40% received a smaller income share in 2018 than in 2012. On this basis, it is unlikely that a majority of EU countries will meet the SDG 10 indicator that implies income growth for the least well-off 40% at a rate higher than the national average. The income quintile share ratio (S80/S20), another indicator of income inequality, shows a variety of situations across the EU, ranging from 3.0 to 7.7. In Lithuania, Romania and Bulgaria the income share of the top quintile is seven times higher than that of the bottom quintile. (*Chart 1.35*

Chart 1.34

Income inequality trends have been very heterogeneous across EU countries

Gini coefficient before social transfers and of disposable income, Member States



Note: Countries sorted by Gini changes in the period 2012-2018. GINI 2012 is marked with smaller dots to indicate that comparison of 2012 to 2016 values should be avoided due to breaks in series. The year refers to the EU-SILC survey year. Incomes of the previous year. The green bars reflect redistributive effects of transfers, measured by differences between disposable income before social transfers (the top of green bars) and disposable income inequality (the top of dark-blue bars). The white bars represent the confidence interval for the GINI coefficient of disposable income. Confidence intervals have been computed as in Zardo-Trinidade and Goedemé (2016).

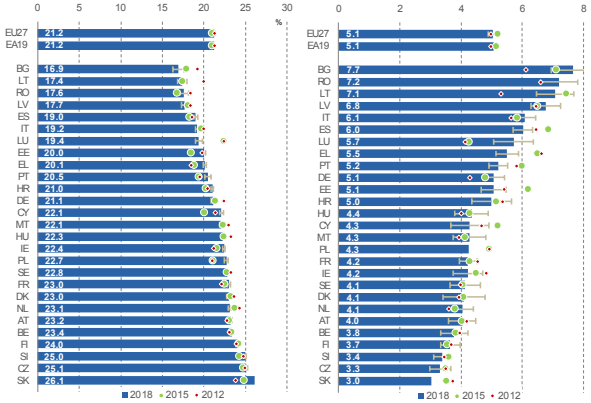
Source: Eurostat, EU-SILC [ilc_di12, ilc_di12c]

Click here to download chart.

Chart 1.35

Stable income quintile shares in the EU

Income share of the bottom 40 % of the population (left) and income quintile share ratio (S80/S20) (right)



Note: Standard errors to compute confidence intervals have been computed as in Zardo-Trinidade and Goedemé (2016).

Source: Eurostat, EU-SILC [ilc_di01 and ilc_di11].

Click here to download chart.

Income inequality would be much higher without the redistributive effects of transfers (*Chart 1.36*). These effects are measured by the difference between disposable income inequality and disposable income inequality before social transfers, as measured by the Gini coefficient ([29]). Since the 2009 crisis, increasing inequality in market incomes (labour income and capital) in many European countries might have required a

([28]) See European Commission (2019c), 'Employment and Social Developments in Europe', Chapter 1, Section 4.5.

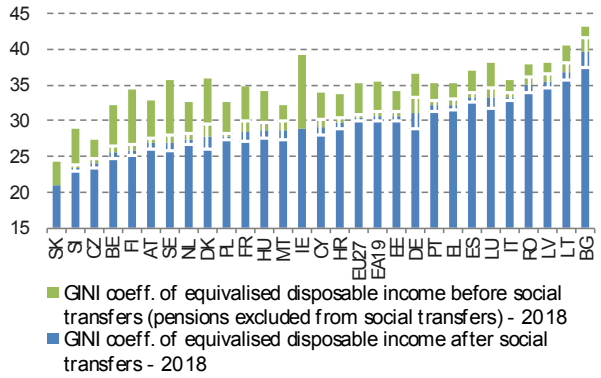
([29]) Disposable incomes before social transfers (including all kinds of pensions) are earned by individuals or households before any redistribution via transfers. Disposable incomes are final incomes taking into consideration the effects of redistributive policies (all social transfers without provision of in-kind benefits and services).

larger inequality-reducing effort of tax-benefit systems to keep disposable income inequality in check. In fact, automatic stabilisers and discretionary policy changes curbed the inequality increases in the labour and capital markets. In particular, the role of social transfers helped to offset market inequality, while fiscal policy changes had different effects on inequality across countries ([30]). The extent to which the redistribution had an effect on inequality, measured by the impact of social transfers other than pensions on income inequality (the green bars in *Chart 1.36*), differed across Member States. Social transfers reduced the income inequality by less than 10% in Italy, Latvia, Romania, Greece, Bulgaria, Portugal and Lithuania, but by more than 20% in Belgium, Denmark, Sweden, Finland and Ireland.

Chart 1.36

The impact of social transfers on inequality varies across Member States

GINI coefficient before social transfers and GINI coefficient of disposable income - 2018, EU Member States



Note: Green bars reflect redistributive effects of transfers, measured by differences between disposable income before social transfers (the top of green bars) and disposable income inequality (the top of dark-blue bars). The white bars represent the confidence interval for the GINI coefficient of disposable income. Confidence intervals have been computed as in Zardo-Trinidade and Goedemé (2016)..

Source: Eurostat, EU-SILC [ilc_di12, ilc_di12c]

Click here to download chart.

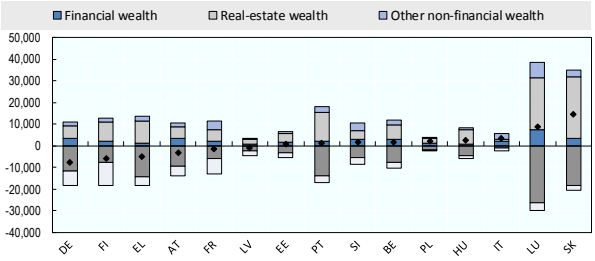
Disposable income inequality is likely to increase as a result of the pandemic. Disposable income inequality is the result of market income inequality, produced in the labour and capital markets, and of the subsequent mitigation effect of taxes and benefits. Market income inequality is expected to rise as employment-related income losses will be concentrated among self-employed workers, those on temporary contracts and informal sector workers who are more likely to be found in low-income households. However, the mitigation effect of automatic stabilisers (tax-benefit systems), coupled with prompt public action to avoid mass layoffs and extend income support to groups previously excluded, are expected to curb the increasing market income inequalities.

Current wealth levels on which disadvantaged households can draw in case of income shocks are low or negative. Households in the bottom 20% of the wealth distribution, who are also likely to be in the lower end of the income distribution ([31]), hold very little wealth. Moreover, real-estate wealth is by far the most important type of asset for these households (*Chart 1.37*). However, due to its illiquid nature, this form of wealth may not be in the immediate disposal of households as a cushion in case of income losses following unemployment or sickness.

Chart 1.37

Low-wealth households who do have assets hold virtually all of their wealth in the form of housing

Composition of household net wealth of the bottom wealth quintile



Note: Data refer to 2017, except for Austria, Italy, Latvia and Poland, for which they refer to 2016, and for Greece and Luxembourg, for which they refer to 2018. Wealth values are expressed in 2011 USD by, first expressing values in prices of the same year (2011) through consumer price indices and, second, by converting national values into a common currency through the use of purchasing power parities for household consumption.

Source: OECD estimates based on the Household Finance and Consumption Survey.

Click here to download chart.

4.3. Risk of poverty or social exclusion continues to decline as rates of quasi-joblessness and severe material deprivation reduce

The number of people at risk of poverty or social exclusion ([32]) (AROPE; SDG 1) in the EU continued to decrease until the COVID-19 crisis ([33]). In 2018 (referring to income in 2017), 13.9 million fewer people in the EU were at risk of poverty or social exclusion than at the peak in 2012. Those at risk decreased year-over-year by 5.1 million people in 2017 and by a further 3.9 million in 2018. This decline brought the AROPE rate down to 21.6%, 3.3 pps below the highest 2012 value (24.9%) (*Chart 1.38*). However, almost 94.7 million Europeans, including 72.1 million in the euro area, were still at risk of poverty or social exclusion (AROPE) in 2018. The AROPE decrease followed increases in incomes stemming from the recovery in economic activity and improvements in labour markets, including the reduction in long-

([30]) See European Commission (2019d); Callan et al. (2018); Paulus and Tasseva (2018).

([31]) A DG-EMPL co-funded OECD Report finds that households with very low incomes are likely to also hold low wealth: those in the bottom 10% of the income distribution are about twice as likely to find themselves in the bottom 20% (i.e. deciles 1 or 2) than if there were no systematic relationship between wealth and income (OECD, 2020 forthcoming).

([32]) The at-risk-of-poverty or social exclusion (AROPE) indicator corresponds to the number of people who are in at least one of the following situations: at risk-of-poverty (AROP) or severely materially deprived (SMD) or living in households with very low work intensity (VLWI).

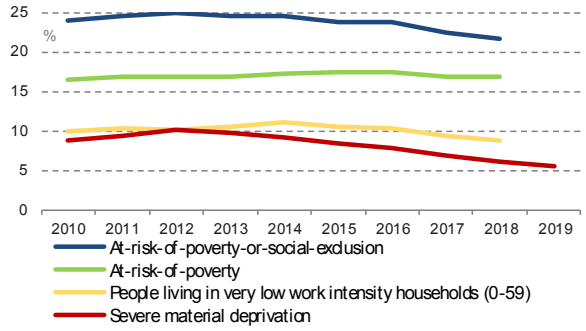
([33]) The year in this chapter refers to the EU-SILC survey year (2018), which measures income in the previous year (2017).

term unemployment and in youth exclusion as well as the increased participation of older workers and women in the labour market. The Social Scoreboard monitors the AROPE and its three components (At-risk-of-poverty rate (AROP), Severe material deprivation rate (SMD), Persons living in a household with very low work intensity (VLWI)) among other indicators. The Europe 2020 target of lifting 20 million people out of poverty by 2020 was set in 2008 before the financial and economic crisis ([34]). The onset of the crisis made this target far more challenging.

Chart 1.38

Risk of poverty and social exclusion continued to decline until 2018, mainly due to a decrease in severe material deprivation and very low work intensity

At risk of poverty or social exclusion rate (AROPE), at risk of poverty rate (AROP), severe material deprivation rate (SMD) (% of population), very low work intensity households (% of population aged 0-59), EU, 2010-2019



Note: The year refers to the EU-SILC survey year; income measured is from the previous year. AROPE, AROP: income from the previous year, SMD: current year. VLWI: status in the past year.

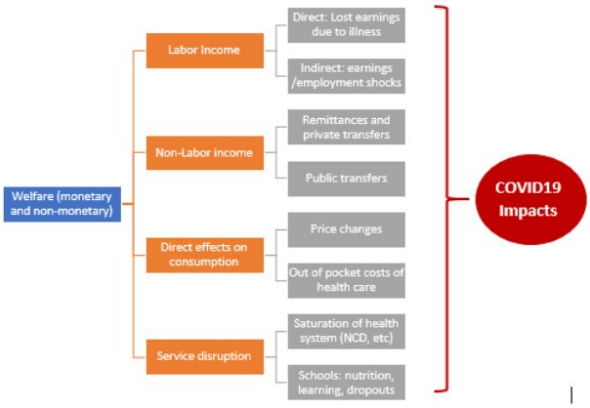
Source: Eurostat, EU SILC [ilc_peps01, ilc_li02, ilc_mddd11 and, ilc_lvhl11].

Click here to download chart.

Figure 1.1

The poorest and most vulnerable risk suffering income loss and service disruption during the COVID-19 crisis

Main channels for short-term impacts of COVID-19 on welfare



Source: World Bank, April 2019, Poverty and Distributional Impacts of COVID-19: Potential Channels of Impact and Mitigating Policies. http://pubdocs.worldbank.org/en/980491587133615932/Poverty-and-distributional-impacts-of-COVID-19-and-policy-options.pdf

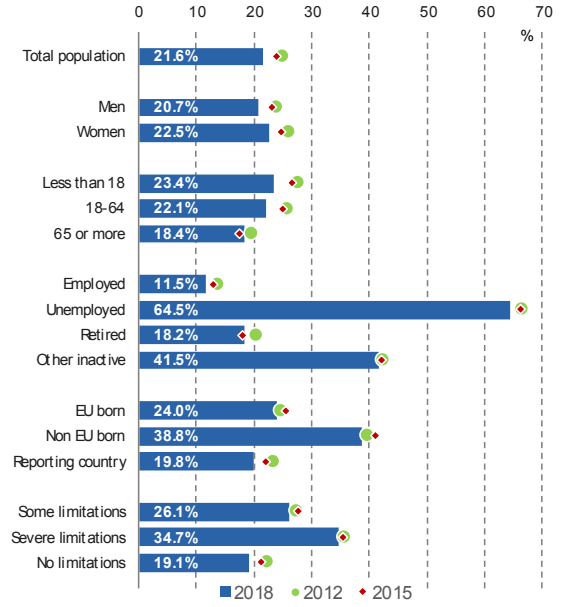
Click here to download figure.

The COVID-19 crisis seems likely to result in a deterioration of the social and economic situation of the poorest and the most vulnerable, despite public interventions. The virus may affect individuals and households through different channels: income loss (labour-related or not), consumption (prices rising, new expenses related to health, etc.) and service disruption (*Figure 1.1*). The living conditions of the poorest are also less comfortable: this may increase their difficulties during the lockdown and their risk of being infected, due to the higher probability of their living in inadequate housing (dark, small, overcrowded, etc.) and a polluted environment. These short-term impacts may have long-term consequences for the education of children, health, saving capacity, etc. and may increase inequalities in the long run. Children and the elderly, migrants, minorities (such as marginalised Roma ([35]) and other segregated communities), the self-employed, precarious, platform and informal workers and other vulnerable groups face larger risks of negative impacts. These disparities are however likely to differ according to place of residence, employment sector and ultimately the policy response.

Chart 1.39

The unemployed, the inactive, the non-EU- born and those people with severe activity limitations are at high risk of poverty or social exclusion

AROPE by gender, age, labour status, country of birth and activity limitations, 2012-2018



Note: By gender and age: total population.
By labour status and country of birth: population aged 18+.
By activity limitation: population aged 16+.

Source: Eurostat, datasets: ilc_peps01, ilc_peps02, ilc_peps06 and hlth_dpe010.

Click here to download chart.

The risk of poverty or exclusion does not affect the whole population equally and, although all groups have experienced an improvement since 2012, some remain more at risk than others. In 2018 the unemployed had an AROPE rate of 64.5% and inactive people other than pensioners had a rate of 41.5% (*Chart 1.39*). Work provided protection against poverty but not full protection: employed people had a rate of risk of poverty or social exclusion of 11.5% and 9.3% of

([34]) And included the UK population in the target.

([35]) See European Commission (2020c). At the Commission's request, an updated thematic report by the European Union Agency for Fundamental Rights (FRA) is coming out in September 2020.

workers being below the monetary at-risk-of-poverty line (*Chart 1.39* and *Chart 1.42*). Others at very high risk of poverty or social exclusion included people born outside the EU (38.8%), as well as people reporting limitations ([36]) in their daily life, especially severe limitations (34.7%) (*Chart 1.39*). For non-EU-born people, the gain recorded in employment was only partially translated into a reduction of their AROPE rate. Strong decreases have been seen in Member States where the rate was previously very high (Greece, Belgium, Italy, Lithuania) but the rate has further increased in France, Estonia and the Netherlands ([37]).

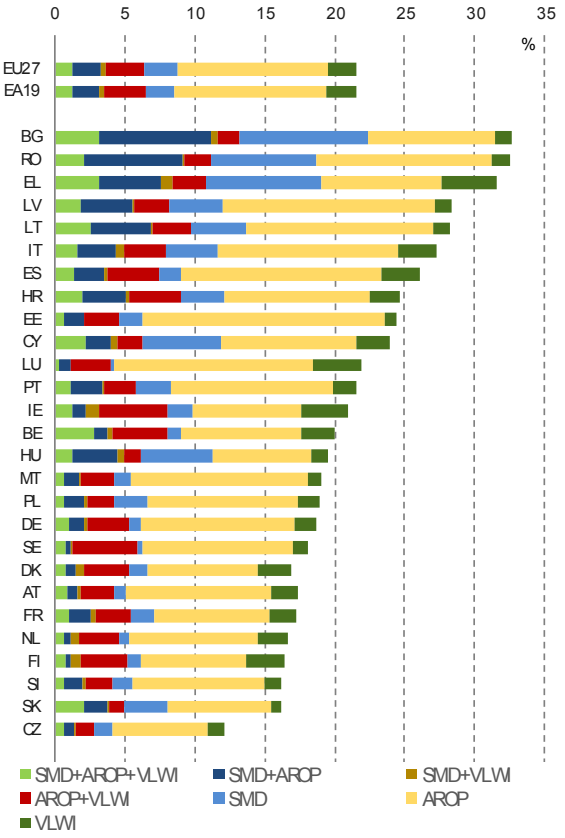
At the EU level, the severe material deprivation rate (SDG 1) and very low work intensity rate (SDG 1), two components of AROPE (SDG 1) out of three, followed a decreasing trend. The intersections between the three elements of AROPE ([32]) show a diversity of circumstances (*Chart 1.40*). At EU level, only 1.3% of the population combine all three situations (risk of income poverty, severe material deprivation and very low work intensity). The most common condition is to be at risk of income poverty (AROP), but not in severe material deprivation (SMD) or in a very low work intensity (VLWI) household. However, at the national level, the situations are highly diversified. Material deprivation, whether or not combined with another condition, accounts for a proportionately larger share in countries such as Bulgaria, Romania or Greece, while in Luxembourg or Estonia the risk of income poverty alone is the main category.

Severe material deprivation ([38]) declined continuously from 2012 to 2018, indicating improvements in living standards (*Chart 1.41*)**.** In 2018, 3.7 million fewer people were in severe material deprivation (SMD) than in 2017. The cumulative reduction from 2012 to 2018 was 17.9 million. This continuous and significant drop at EU level was driven mainly by strong decreases in a few Member States, i.e. Bulgaria, Greece, Hungary, Italy, Poland, Romania and, to a lesser extent, Germany. In 2018 the SMD rate stood at 6.1% (2.3 pps less than in 2015 and 4.1 pps less than in 2012). People with low income are more likely to be in SMD, especially in the first quintile of income (17.2%; 8.6 pps less than in 2012). The incidence of SMD for non-EU-born aged 18+ remains significantly higher than that of the EU-born or nationals (10.9% compared with 5.2% and 5.4%). The unemployed are another category at risk of being in SMD, with a rate of 21.5% compared with 3.7% for those in employment. Finally, people with severe activity limitations are at greater risk of being in SMD with a rate of 11.7% compared with 4.7% for those without limitations (population aged 16+). AROP rates may fail to take account of households which include a person with activity limitations and have an income level above the poverty line, but fall into SMD due to the higher expenses they face on account of the disabilities ([39]).

Chart 1.40

Intersections of the three components of AROPE show a variety of situations at national level

AROPE by components and their intersections (SMD, AROP, VLWI), 2018



Source: Eurostat, dataset: ilc_pees01.

Click here to download chart.

A recovery in the labour market led to a reduction in the number of people living in very low work intensity ([40]) households (*Chart 1.41* and *Chart 1.43*)**.** This VLWI rate decreased from

([36]) Activity limitation is a dimension of health/disability capturing long-standing limitations in performing usual activities (due to health problems). In EU-SILC, one question instrument – the Global Activity Limitation Instrument (GALI) - assesses the presence of long-standing activity limitations, asking 'For at least the past 6 months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been … severely limited / limited but not severely or / not limited at all?'

([37]) Only Member States where the non-EU-born represent a sizeable part of the population are mentioned (Eurostat, EU-SILC, [ilc_peps06]).

([38]) Severely materially deprived (SMD) people have living conditions severely constrained by a lack of resources, i.e. they experience at least 4 out of the following 9 deprivations: they cannot afford i) to pay rent or utility bills, ii) to keep their home warm enough, iii) to face unexpected expenses, iv) to eat meat, fish or a protein equivalent every second day, v) a week's holiday away from home, vi) a car, vii) a washing machine, viii) a colour TV or ix) a telephone.

([39]) ISTAT (2019).

([40]) People living in households with very low work intensity (VLWI) are those aged 0-59 living in households where the adults (aged 18-59, excluding students aged 18-24) worked not more than 20% of their total work potential during the past year.

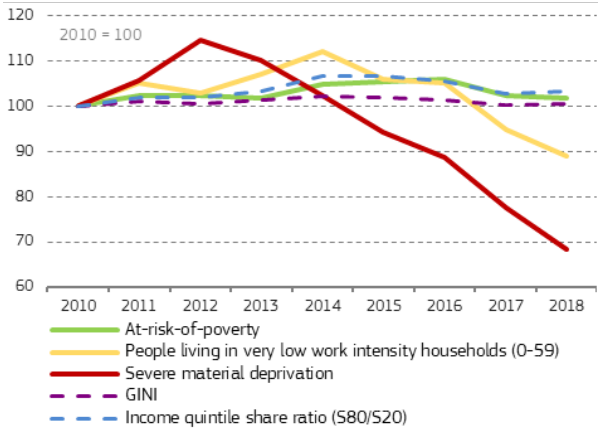
9.4% in 2017 to 8.8% in 2018, meaning that around 2.3 million fewer people aged 0-59 were in quasi-jobless households. Households composed of a single person with dependent children seem to be in a particularly vulnerable situation, with a 2018 rate of 22.0% (2.5 pps less than in 2012), while the non-EU-born rate was at 13.6% (aged 18+) and the rate for with severe activity limitations (aged 16+) was 38.5% (it was 17.4% for people with some limitations).

The at-risk-of-poverty rate ([41]) (AROP; SDG 1) remained stable in 2018, having decreased slightly the year before (*Chart 1.41* and *Chart 1.43*)**.** At EU level, the 2018 AROP rate was an unchanged 16.8%. Many Member States saw only minor changes, albeit Belgium, Estonia, Latvia, Lithuania, Luxembourg, Malta, the Netherlands and Sweden had increases of at least 1 pp. This component of AROPE has followed a different pattern, due to its dependency on median income. After a surge in 2014, the proportion of people at risk of poverty remained broadly unchanged until 2016 when it was 17.5%, before falling in 2017 to 16.9%. The number of people at risk of poverty stood at 73.8 million in 2018 (referring to incomes in 2017). Preliminary EUROMOD simulations estimate a likely increase in the at-risk-of-poverty rate in the EU in 2020, although the magnitude of the increase will depend very much on the drop in median incomes to which the at-risk-of-poverty lines are fixed ([42]).

Chart 1.41

Living standards have improved since 2012 despite persistent poverty and inequality

At-risk-of-poverty rate, severe material deprivation rate, people living in households with very low work intensity households(rate), Gini coefficient of equivalised disposable income and income quintile share ratio (S80/S20) (Index 2010=100), EU, 2010-2018



Note: The year refers to the EU-SILC survey year; reference year for income is the previous year.

Source: Eurostat, EU SILC [ilc_li02, ilc_mddd11, ilc_di12, ilc_di04]; DG EMPL calculations.

Click here to download chart.

Despite the protective effect of work, many workers are still below the AROP threshold (*Chart 1.42*)**.** The Social Scoreboard shows that this applied to 9.3% EU workers in 2018, a drop of 0.4 pps since 2015. However, several countries - Luxembourg, Bulgaria, Italy, Malta and the Netherlands - saw an increase in the proportion of workers at risk of monetary poverty (SDG 1) over the period 2015-2018. Conversely, Romania and Greece saw their proportions of workers at risk of

([41]) People at risk of poverty (AROP) 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).

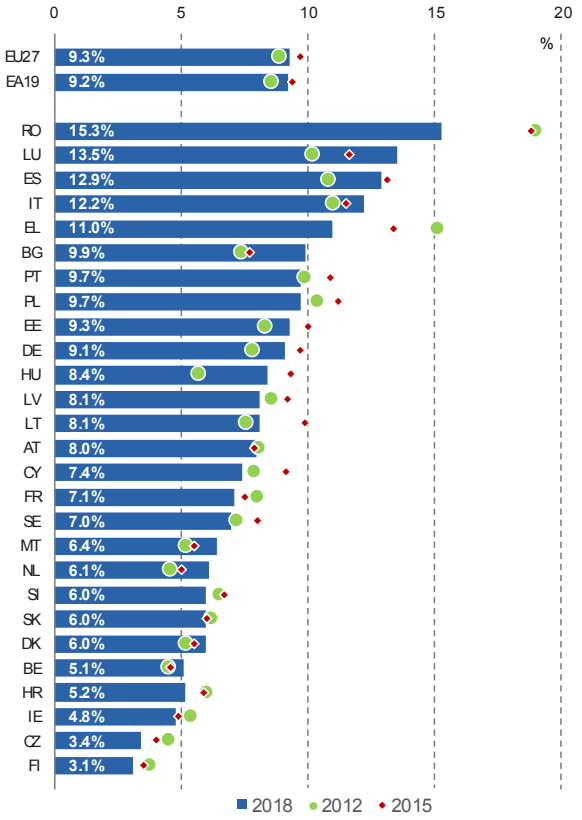
([42]) EUROMOD simulations estimate an increase in the at-risk-of-poverty rate by 1,7 pps when assessed against an anchored pre-crisis poverty line. The increase is estimated to be smaller taking into account also the fall in the poverty line as a result of the crisis (Almeyda et al. 2020).

monetary poverty reduce by 3.6 pps and 2.5 pps respectively, but still remained well above the European average. The in-work poverty rate is significantly higher for non-EU born than for natives, in particular in Spain, Luxembourg, Italy and Greece.

Chart 1.42

Despite the protective effect of work protects against poverty, but many workers remain at risk

In work at-risk-of-poverty rate, 2012-2018



Note: Workers are at risk of poverty if their equivalised disposable income is below the risk-of-poverty threshold, set at 60% of the national median equivalised disposable income (after social transfers).

Source: Eurostat, dataset: ilc_iw01 and table sdg_01_41.

Click here to download chart.

At EU level in 2018, the median income of people living below the AROP threshold was 24.5% lower than the threshold itself (*Chart 1.44*). The relative median at-risk-of-poverty gap (SDG 10) is a measure of the intensity of poverty, but does not provide information about the distribution of income below the AROP threshold. In Romania, the median income of people at risk of poverty was 35.2% below the AROP threshold. By contrast, the median income of people at risk of poverty was only 14.2% lower than the AROP threshold in Finland.

Progress in reducing poverty and social exclusion varies across Member States

The at risk of poverty or social exclusion rate (AROPE) decreased or stabilised between 2012 and 2018 in most Member States. Over the period 2012-2018, as shown in *Chart 1.43*, Bulgaria, Croatia, Hungary, Ireland, Latvia, Poland and Romania recorded declines close to 8 pps or more. Significant increases appear only in Luxembourg (3.5 pps) and the Netherlands (1.7 pps). Over the same six-year period the at-risk-of-poverty rate (AROP) increased significantly in eight Member States, but decreased significantly in six others ([43]).

The reduction in the severe material deprivation rate was the main factor contributing to the reduction in AROPE in the Member States. The second one was the decrease in very low work intensity in many EU countries between 2012 and 2018. *Chart 1.43* shows that the incidence of severe material deprivation declined in most Member States since 2012, while very low work intensity decreased in 16 Member States, remained stable in another eight and increased in three.

More positively, the number of people living in material and social deprivation ([44]) **declined between 2014** ([45]) **and 2018.** According to Eurostat's new measure of deprivation that includes a social dimension, 13.2% of Europeans experienced a lack of resources to cover material needs and ensure social participation in 2018, down from 14.2% in 2017. However, Denmark and Finland material and social deprivation rate increased by 0.5 pps or more (*Chart 1.45*).

([43]) In Greece, this reduction must be seen in the context of the 16.8% reduction in median income (leading to a decrease in the poverty threshold) over the same period. With an 'anchored' poverty line, AROP did not improve. See Commission (2019), *Employment and Social Developments in Europe*, Chapter 2.

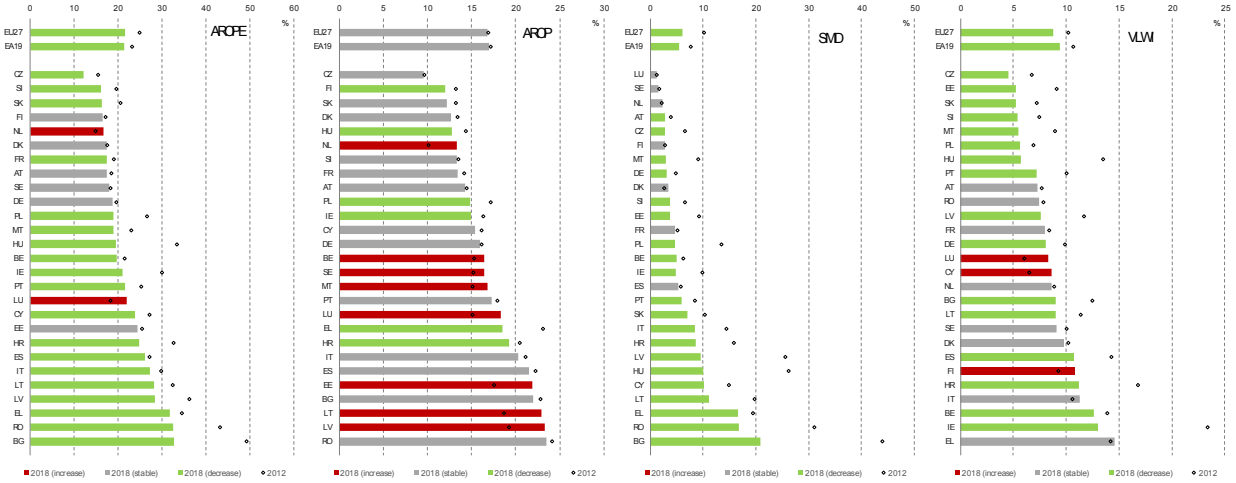
([44]) This is an alternative indicator for SDG 1.
It means that people could not afford at least 5 items out of the 13 following items:
i) face unexpected expenses, ii) one week annual holiday away from home, iii) avoid arrears (in mortgage, rent, utility bills and/or hire purchase instalments), iv) afford a meal with meat, chicken or fish or vegetarian equivalent every second day, v) keep their home adequately warm, vi) a car/van for personal use, vii) replace worn-out furniture, viii) replace worn-out clothes with some new ones, ix) have two pairs of properly fitting shoes, x) spend a small amount of money each week on him/herself ('pocket money'), xi) have regular leisure activities, xii) get together with friends/family for a drink/meal at least once a month, xiii) have an internet connection.

([45]) 2014 is the first year of measurement.

Chart 1.43

Risk of poverty or social exclusion declining in more than two-thirds of the Member States

At-risk-of-poverty-or-social-exclusion rate, at-risk-of-poverty rate, severe material deprivation rate (% of population), very low work intensity households (% of population aged 0-59), EU Member States, 2012-2018



Note: Green bars indicate a decrease between 2012 and 2018. Red bars indicate an increase between 2012 and 2018. Grey bars indicate little or no change. AROPE combines AROP, SMD and VLWI. The length of bars of components should not add to the length of AROPE bar, because components overlap in AROPE. The year refers to the EU-SILC survey year, referring to the previous income year. AROPE, AROP: income from the previous year, SMD: current survey year, VLWI: status in the past year, population 0-59.
Breaks in series: AROPE: BG EE 2014, SE 2015, LU NL 2016, AROP BG LU NL 2016, SMD SE 2015, BG LU NL 2016, VLWI EE 2014, SE 2015, BG LU NL 2016. These Member States are classified based on EMPL estimation. For these Member States the values for 2012 should not be compared to values in 2016.

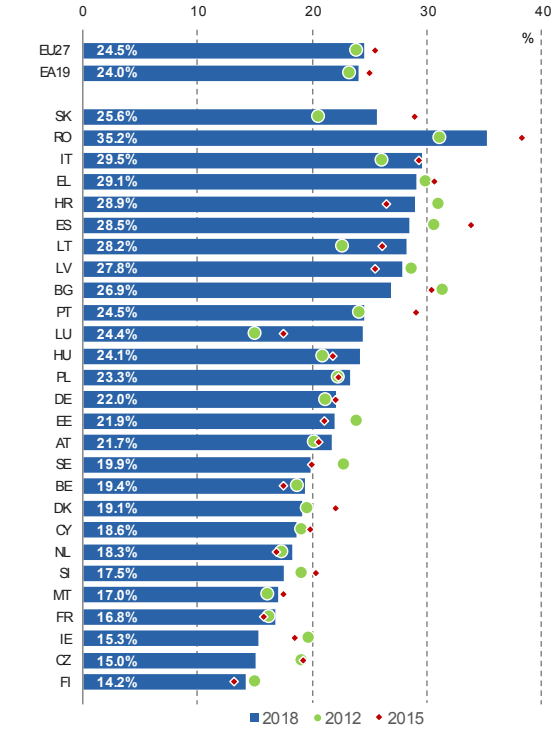
Source: Eurostat, EU SILC ilc_peps01, ilc_li02, ilc_mddd11, ilc_lvhl11.

Click here to download chart.

Chart 1.44

Relative median at-risk-of-poverty gap show large differences in intensity of poverty across EU

Relative median at-risk-of-poverty gap, 2012-2018



Note: The relative median at-risk-of-poverty gap is calculated as the difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold itself, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60% of national median equivalised disposable income).

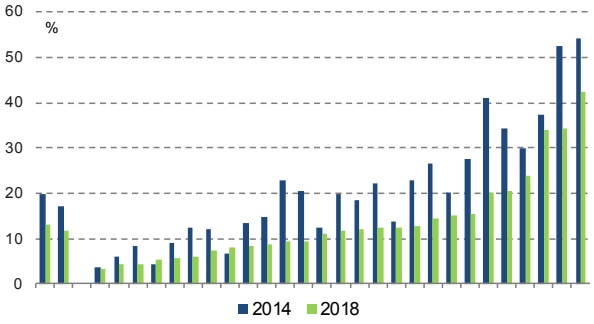
Source: Eurostat, dataset: ilc_li11 and table sdg_10_30.

Click here to download chart.

Chart 1.45

Material and social deprivation declined in most Member States between 2014 and 2018

Social and material deprivation rate (% of population), EU Member States, 2014-2018



Note: The year refers to the EU-SILC current survey year. Breaks in series: BG 2016, LU 2016, NL 2016, and SE 2015.

Source: Eurostat, EU SILC ilc_mdsd07.

Click here to download chart.

Increase in median income may be linked to a deceleration of the at-risk-of-poverty rate

The increase in the median income reflected an improvement in living standards during the period 2012-2018. However, it may also have contributed to slowing down the reduction in the at-risk-of-poverty rate in some countries by increasing the AROP line, set at 60% of national median income (*Chart 1.46*). The 2014-2015 surge in the number of people at risk of poverty reflected two different phenomena: first, the weak economic and labour market situation until mid-2013 and, secondly, the upward shift in the median income and therefore the poverty threshold ([46]) as

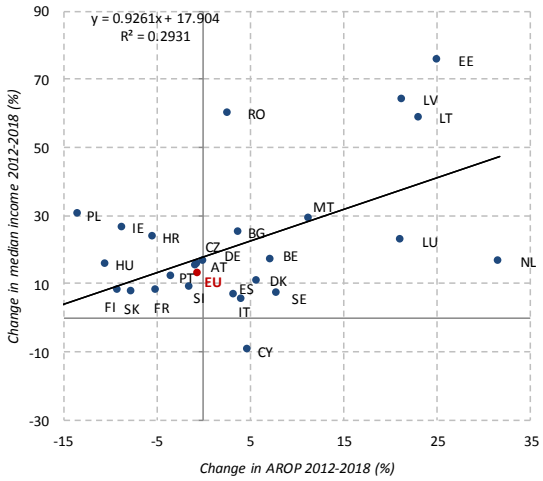
([46]) The 'at risk-of-poverty' threshold is set at 60% of the national median equivalised disposable income (after tax and other deductions and after social transfers). The total equivalised disposable household income, used in poverty

household incomes started to recover in mid-2013. However, after the surge in 2014, both AROP and inequality in the EU stabilised. The AROP rate could rise when the median income increases ([47]). This is what actually happened with the substantial rise of AROP rates in the Baltic States was accompanied by a significant increase in median incomes (*Chart 1.46*). For these countries, between 2012 and 2018, the median income rose by more than 50% while the AROP rate rose more than 15%.

Chart 1.46

Increase in risk of poverty may be linked with increase in the median income

Change in median income (in real terms) and change in at-risk-of-poverty rate (%), 2012-2018



Note: The year refers to the EU-SILC survey year, income measured is from the previous year.
Breaks in series: BG, LU, NL 2016. Changes in AROP for these Member States are indicative, based on EMPL estimation.

Source: Eurostat, EU SILC [ilc_li02, ilc_di04]; DG EMPL calculations.

Click here to download chart.

4.4. Energy poverty and housing conditions

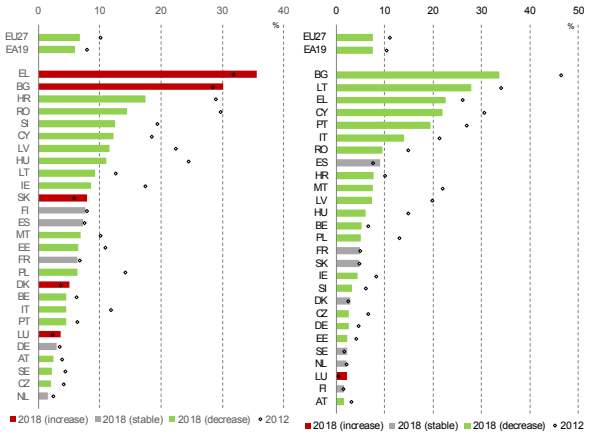
An important aspect of household poverty is the inability to keep one's home warm because of the expense involved (SDG 7). The latest SILC data show that countries differ in the evolution of indicators of energy poverty between 2012 and 2018 (*Chart 1.47*). The percentage of the population not able to satisfy heating needs ([48]) has been falling sharply (by 5 pps or more) in Malta, Bulgaria, Latvia, Hungary, Cyprus, Poland, Portugal, Italy, Lithuania and Romania, but increasing by 1.5 pps in Luxembourg (*Chart 1.47*). In the EU, 19.0% of people at risk of poverty were affected (compared to 5.3% for people living in households with 60% or more of the median equivalised income). Single people aged 65 or above (10.7%), or lone parents (11.2%) were more at risk than the average population.

Arrears in the payment of utility bills decreased by 1 pp or more in 17 countries, especially in Romania, Hungary, Croatia and Latvia since 2012, but slightly increased in five (Greece, Slovakia, Bulgaria, Denmark and Luxembourg) (*Chart 1.47*). This affected 16.3% of the people below the poverty line in the EU, compared to 4.9% for those above. Single-parent or large families (two adults with three or more dependent children) were also particularly hard hit by this phenomenon (12.9% and 11.3% respectively).

Chart 1.47

Indicators of energy poverty: positive evolution trends in a majority of most countries

Population unable to keep home adequately warm (right) and with arrears on utility bills (left), 2012-2018



Note: Green bars: decrease between 2012 and 2018. Red bars: increase between 2012 and 2018. Grey bars: little or no change.

Source: Eurostat, dataset: ilc_mdes01, ilc_mdes07 and table sdg_07_60.

Click here to download chart.

1 person out of 7 in the EU was living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor (SDG 1) in 2018. This situation affected 30.2% of the population in Cyprus, and had not improved since 2012. In the EU as a whole, the rate has fallen slightly since 2015, from 15.3% to 13.6% (*Chart 1.48*). Coupled with other measures of housing deprivation (no bath/shower and no indoor toilet, or a dwelling considered too dark), as well as overcrowding, it is estimated that 4.3% of Europeans were in a situation of severe housing

and inequality indicators, takes into account the impact of differences in household size and composition. Equivalised disposable income is the total income of a household that is available for spending or saving, divided by the number of household members converted into equivalised adults; household members are equivalised or made equivalent by the following so-called modified OECD equivalence scale: a/ the first household member aged 14 years or more counts as 1 person; b/ each other household member aged 14 years or more counts as 0.5 person; c/ each household member aged 13 years or less counts as 0.3 person.

([47]) A median income increase raises up the AROP threshold that is set at 60% of the median income. If the income of the bottom end of the distribution increases at a slower pace, this will result in a higher AROP rate.

([48]) On the other hand, households may face difficulties to keep their dwellings cool during heatwaves too if the building insulation is not efficient enough or their housing conditions not adequate to the local climate. The increasing number of heatwaves and the heat island effect in urban areas will have a higher impact in the future due to climate change. People confined in apartments during the COVID-19 crisis may have suffer of heat, especially the most vulnerable ones who have a higher probability to live in poor conditions.

deprivation ([49]). The rate was much higher than this in some countries, particularly in Central Europe (Romania, 16.1%; Bulgaria, 10.1%) and Latvia (14.9%), despite their national rates decreasing (*Chart 1.48*).

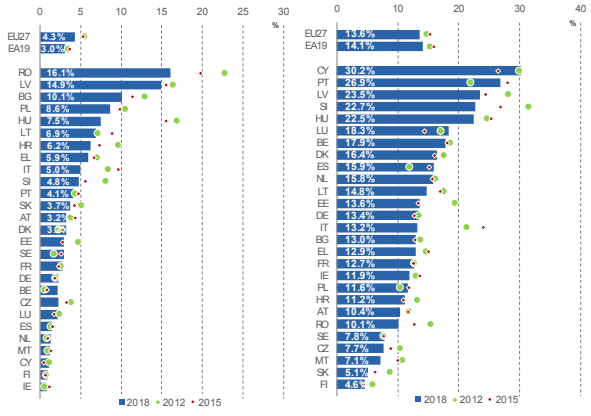
Despite a decrease of 3.0 pps since 2012, severe housing deprivation is still highest for people in the lowest income quintile, at 9.4% in 2018. Large families (2 adults with three or more dependent children) as well as single-parent families were also at higher risk; their rates were respectively 9.1% and 6.6%. Of children aged less than 18, 6.4% were in severe housing deprivation (down 1.8 pps since 2012). According to the Social Scoreboard, in the EU in 2018, the severe housing deprivation rate was higher on average for tenants renting at market price (5.4%) than for owner-occupiers.

Lockdowns during the COVID-19 crisis have worsened not only inequalities in quality of life, but also people's ability to cover housing-related expenses. The most vulnerable people are less likely to live in an adequate environment and may have suffered more from the obligation to stay at home. For those who have lost some income, having to pay bills and rents on time may have become a greater challenge, despite the implementation of public measures, such as temporary bans on eviction. However, there may be a larger wave of evictions when this respite period expires. Long-standing marginalised and segregated communities, such as ethnic Roma, were hit hard by the pandemic and their situation is expected to worsen ([50]).

Chart 1.48

Lower severe housing deprivation rates despite high levels of population living in a dwelling that is too damp

Severe housing deprivation rate (left) and population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor (right), 2012-2018



Note: Severe housing deprivation rate is defined as the percentage of the population living in a dwelling considered to be overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to those households with a leaking roof, no bath/shower and no indoor toilet, or a dwelling considered too dark.

Source: Eurostat, dataset: ilc_mdho06a, ilc_mdho01 and table sdg_01_60.

Click here to download chart.

([49]) Alternative indicator for SDG 1.

([50]) See Commission (2020c).

4.5. Population trends with social and economic impact

Intergenerational fairness, which has long characterised European societies, will be impacted by the major changes in action in the structure of population. The social contract, at least implicitly, envisages an idea of burden-sharing across generations as individuals at their prime age carry a responsibility both for the previous generation (the old who are in their retirement age) and for the next generation (who in turn will provide for their parents once they become older). This is facilited by the welfare state via intergenerational transfers to the old (mainly pensions) and to the young (e.g. for education) and has been traditionally financed mainly by taxing the working age population. However, population trends might affect this implicit social contract and the underlying intergenerational fairness in case of changing economic circumstances across cohorts.

Eurostat projections foresee relatively stable EU population numbers of 446.8 to 441.2 million in 2019-2050, but profound changes in population structure. Several long-term phenomena will impact social and economic policies. The most pronounced trends include population ageing, shrinking numbers of working-age adults, movements within and between Member States and rises in education levels.

The European population will continue to be affected by changes in its structure

Between now and 2050, the structure of the EU population will be impacted by a decline in absolute numbers of the working age population and by ageing. The latter will be the consequence on the one hand of a relatively high increase in the number of people over 80 years of age due to longer life expectancy, and on the other hand of the arrival of baby boomers in the 70+ age group ([51]). Another important underlying phenomenon is Europe's sustained low fertility ([52]). Several research studies have shown that, although it has a positive and smoothing effect on the number of people of working age, immigration alone will not be able to offset the decline in the European labour force ([53]). Profound changes at work (*Chart 1.49*) affecting EU society will have an impact on expenditure, and will lead to implementation of new social and economic policies in the Member States intended to counterbalance their potentially negative effects.

([51]) Baby boomer refers to a large demographic cohort – in comparison to the ones before and after – born after the Second World War. Their arrival in a specific age group is always a challenge as they automatically increase the number of people in it.

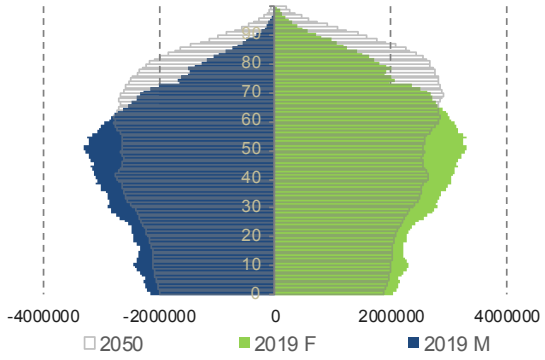
([52]) Fertility has been below the replacement level (2.1 children per woman) since the 60s or 70s in many European countries. At the same time, age at motherhood has been increasing.

([53]) Lutz, W., G. Amran, A. Belanger and al. (2019).

Chart 1.49

Major changes in the structure of the European population are foreseen

Population pyramid, 2019-2050



Note: 2019, observed population. 2050, projections, baseline scenario.

Source: Eurostat, dataset: proj_19np.

Click here to download chart.

Eurostat projects that between 2019 and 2050, the 15-64 age group will decrease from 64.6% to 56.8%, a decrease of 38 million people (*Chart 1.50*)**.** This group is expected to be affected by negative growth rates in the coming decades, as is the under-15 age group. Conversely, the population over 65 years, and more particularly over 80, is expected to experience largely positive growth rates. The over-80s are predicted to increase from 26.0 million in 2019 to 49.9 million in 2050, representing more than 11% of the population by that time. Other indicators show the structural changes and future challenges: the median age is forecasted to increase by 4.5 years, from 43.7 in 2019 to 48.2 in 2050, and the old age dependency ratio ([54]) is forecasted to rise from 31.4 to 52.0, meaning that for every 100 individuals aged 15-64 there may be around 50 people aged 65 or more in 2050.

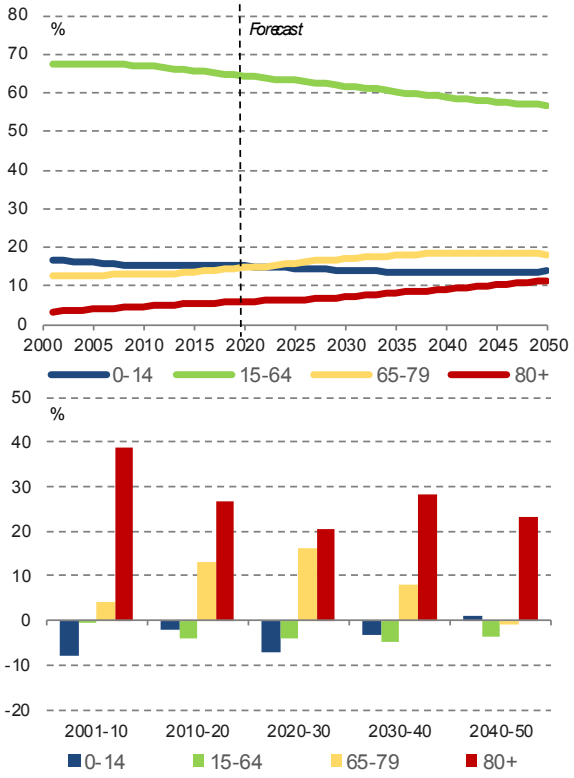
These trends are not new: over the last decade, many regions have already experienced increases or decreases in more than 10% of their 2009 total population (*Chart 1.51*). The vast majority of the regions in decline are located in Central and Eastern European countries, as well as in Southern Europe and the Baltic States. In other countries, some rural or deindustrialised areas are also being hit by population reduction. In this situation, planning public services and promoting an attractive and dynamic labour market can prove to be extremely complex challenges.

([54]) The old age dependency ratio is defined as the number of people aged 65 or more over the number of working-age people (aged 15-64 years).

Chart 1.50

The working age population will represent a lower share proportion of the population, while people aged 65+ and especially 80+ will increase

Share of broad age groups (topup) and 10-years growth rates (bottom), 2000-2050



Note: 2001-2019, observed population. 2020-2050, forecasts, baseline scenario.

Source: Eurostat, dataset: proj_19np. EMPL calculations.

Click here to download chart.

Over the period 2019-2030, the 15-64 age group will be heavily affected by these demographic changes, both in relative and absolute terms. Eurostat projections foresee that all EU countries will experience a decline in the proportion of the 15-64 group in their total population, thus automatically increasing the dependency ratio between this age group and the others (under 15 and over 64). Unfortunately, some countries will also face a second trend that reinforces the first: an overall decrease in their population. In particular, over the next 11 years, Croatia, Bulgaria, Romania, Latvia and Lithuania are expected to lose more than 10% of their working-age population (*Chart 1.52*), in addition to the decline already experienced over the last 15 years. As mentioned earlier, the main causes of these demographic developments are permanently low fertility, increased life expectancy and high mobility outflows between EU Member States. These three phenomena are at work in ageing, but in variable proportions in the different Member States. In general, ageing is due to an increase in absolute numbers of people aged 65+, but also to a rise in the ratio between elderly and younger people. In some countries, the effects of low fertility rates are reinforced by the departure of the working-age population (and their children) to another country, mainly in Europe.

From the middle of the previous decade to 2018, the total fertility rate in the EU increased. Over the period 2001-2018, the total fertility rate went from 1.43 live births per woman to 1.55 and the average age of women at childbirth continued to rise, from 29.0 to 30.8 years. According to Eurostat, this slight increase in the total fertility rate (TFR) is partly explained by a catching-up process due to a recovery after a rise in the average childbearing age ([55]).

The countries of Southern Europe are the most affected by this low fertility, with rates below 1.4 children per woman (*Chart 1.53*)**.** An OECD study shows that there is another phenomenon to be taken into account: childlessness. Figures for 2010-11 indicate that a significant number of European women aged 40-44 had no children, whether or not as a result of voluntary choice. For example, 21.5% of these women were in this situation in Austria (2010), 19.9% in Finland (2010), 19.0% in Ireland (2011) and 21.6% in Spain (2010) ([56]).

The increase in life expectancy at birth is the other major trend affecting the structure of the EU population. Life expectancy increased by 1.7 years over the last 10 years and reached 81.0 years in 2018 (*Chart 1.54*)**.** Over the longer period

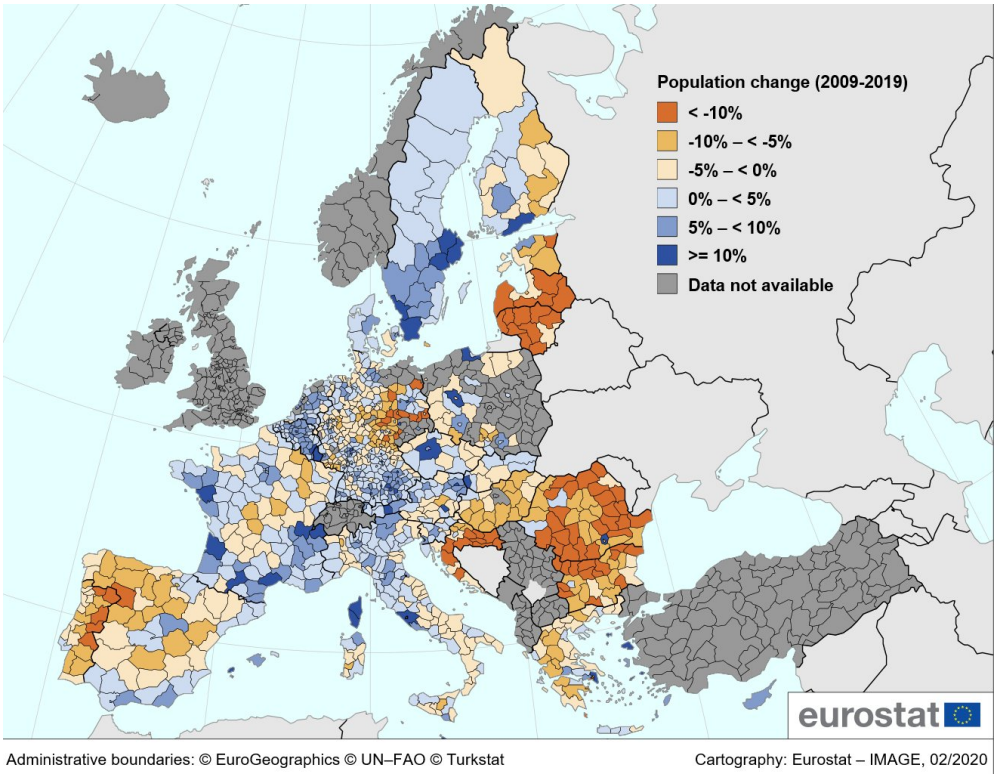
([55]) Eurostat (2019). When women were postponing their pregnancies, the total fertility rate was decreasing, but when this phenomenon slowed down live births that didn't occur earlier mechanically increased the number of births and the total fertility rate. This means that the increase in the total fertility rate may be linked to changes in the fertility calendar of women, who until recently had been postponing childbearing later and later. (The fertility calendar refers to the age at maternity.)

([56]) OECD (2018). It is the more recent estimate at the EU level.

Chart 1.51

Over the period 2009-2019 period NUTS3 regions faced significant changes in the size of their population

Population change, 2009-2019, NUTS3 regions.



Source: Eurostat, dataset: demo_r_pjangrp3. EMPL calculations.

Click here to download chart.

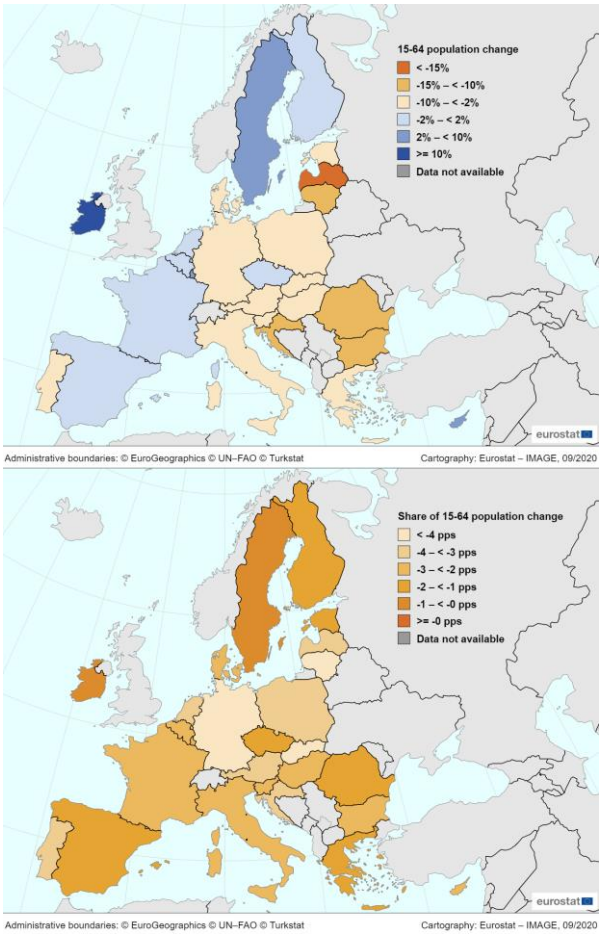
2002-2018 ([57]), this indicator grew by 3.4 years in the EU (3.9 years for men versus 2.8 years for women). Although the gender gap is narrowing, there are still wide disparities between men (78.2 years) and women (83.7 years). This difference decreased from 6.3 years in 2008 to 5.5 years in 2018, as a result of a slowdown in the rise of female life expectancy. Considering life expectancy at age 65, this indicator was at a level of 18.1 years for men and 21.6 years for women in 2018, a difference of 3.5 years.

Chart 1.52

Over the next decade all countries may face a decrease in the share proportion of their working-age population of working age, but some may also experience a decline in its size

15-64 population change, 2019-2030 (up) and share of 15-64 population change, 2019-2030 (bottom)

([57]) First year available in Eurostat database.



Note: 2019, observed population. 2030, forecasts, baseline scenario. EMPL calculations.

Source: Eurostat, dataset: proj_19np.

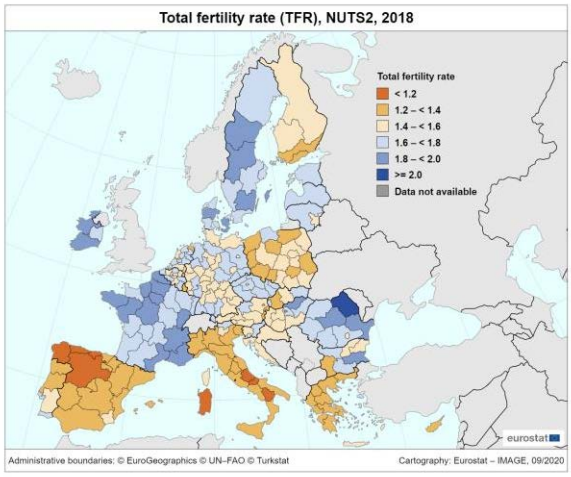
Click here to download chart.

Male life expectancy at birth still does not reach 72 years in some countries, well below the EU average of 78.2 years (*Chart 1.54*)**.** In 2018 it stood at 70.1 years in Latvia, 70.9 in Lithuania, 71.5 in Bulgaria and 71.7 in Romania. The vast majority of countries below the EU average are located in Central and Eastern Europe or in the Baltic region.

Chart 1.53

Countries of in southern Europe are particularly affected by low fertility rates and no Member State is above the replacement level

Total fertility rate (TFR), NUTS2 regions, 2018



Note: Expressed in children per woman.

Source: Eurostat, dataset: demo_r_frate2.

Click here to download chart.

The length of life expectancy at birth is not automatically linked to the number of healthy life years ([58]) (SDG 3; See *Chart 1.54*)**.** People living in Member States such as Austria, Finland, Denmark, Portugal, Luxembourg, etc. have a life expectancy roughly equivalent to the highest European levels, but have lower numbers of healthy life years than people in countries like Spain, Malta or Sweden. Healthy life years for men are below 60 in 11 Member States and at a particularly low level in Latvia (51.0 years) and Estonia (52.7 years), in contrast to other countries showing very high levels, such as Malta (71.9 years) and Sweden (73.7 years). The gender gap is smaller when looking at healthy life years than at life expectancy at birth, women and men having a comparable healthy lifespan in many Member States. Some countries even have a gender gap higher than one year, to the detriment of women, for example Finland (3.1 years), Portugal (2.3 years), Luxembourg (1.6 years) and the Netherlands (3.9 years).

Despite a decline in the proportion of Europeans reporting an unmet need for medical care (SDG 3), some countries were still showing high levels of medical precariousness in 2018. In the EU as a whole, the percentage of the population saying they were not able to meet their health care needs declined from 3.8% to 1.8% between 2012 and 2018. In Estonia, however, the percentage was 16.4%, a rate that has been increasing since 2012 when it was 8.3%. Conversely, several countries have seen a drop of 5 or more pps since 2012: Latvia (down 6.2 pps), Romania (down 6.6 pps), Poland (down 4.8 pps)

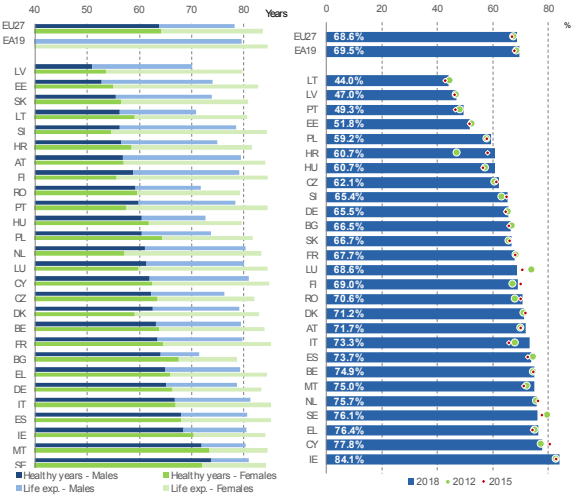
([58]) To be in a healthy state is a subjective evaluation made by the individuals themselves. See note below *Chart 1.17* for a description of the question on long-standing limitations in usual activities due to health problems.

and Bulgaria (down 6.4 pps) (*Chart 1.55*). Some groups are more affected by an unmet need for care. EU-SILC data confirm, when adjusting for age composition, that unmet medical needs were more likely among foreign-born (as opposed to native-born) people, especially in Estonia and Greece and to a smaller extent in Sweden, Italy and Denmark ([59]). In many Member States, there are (sometimes huge) disparities by income level.

Chart 1.54

Healthy life years are not automatically correlated to life expectancy at birth

Life expectancy and healthy life years at birth, by gender, 2018, (left) and share the proportion of people with good or very good perceived health,2012-2018 (right)



Note: Eurostat calculates information relating to healthy life years at birth using mortality statistics and data on self-perceived long-standing activity limitations. Mortality data come from Eurostat's demographic database, while self-perceived long-standing activity limitations data come from EU-SILC.
Information on self-perceived long-standing limitations in usual activities due to health problems is collected through the question 'For at least the past six months, to what extent have you been limited because of a health problem in activities people usually do? Would you say you have been: severely limited / limited but not severely / not limited at all?'
Life expectancy at birth not available for the Euro area.

Source: Eurostat, datasets: hlth_hlye and hlth_silc_10. Tables tps00150 and sdg_03_20.

Click here to download chart.

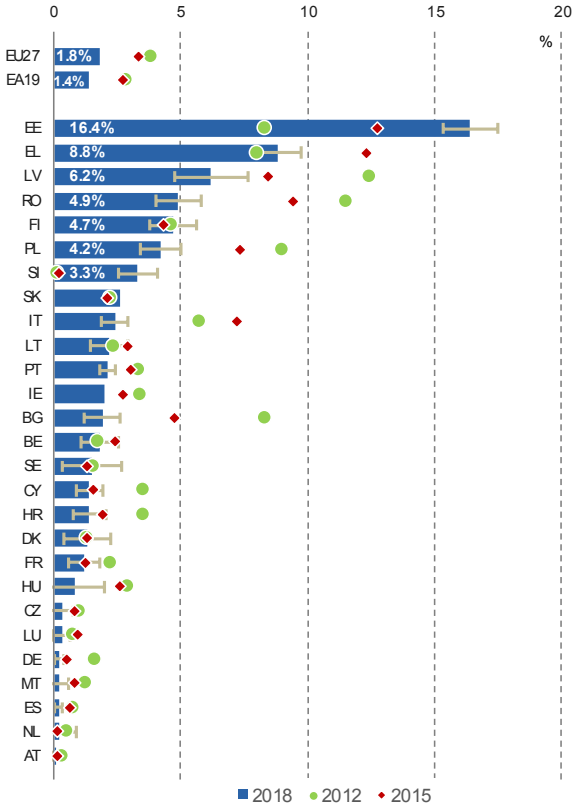
In countries with the highest levels of unmet need, costs are the main reason, while waiting lists are a key factor in the others. The Social Scoreboard sheds light not only on unmet needs but on the proportion of out-of-pocket (OOP) expenditure as a potential explanatory factor. This indicator fluctuates widely across Europe and is mainly driven by the pharmaceutical expenditure component in the majority of EU countries. Economic factors are one of the main barriers to accessibility. Living in a rural area or being an irregular resident are examples of other barriers. Finally, in some countries, many services are excluded from the regular statutory coverage and the balance of the health system may rely on private insurance ([60]).

Care capacities and availability of medical equipment are key elements in the resilience of health systems that have been put under pressure during the COVID-19 crisis. The situation sheds light on the availability of beds – and in particular curative beds – in hospitals, ranging from 204 curative beds per 100 000 inhabitants in Sweden to 617 in Bulgaria, with an EU average of 396 in 2017. The number of practising physicians per 100 000 inhabitants rose in all Member States ([61]) between 2012 and 2017, but did not overcome the regional disparities, with figures ranging between 238 in Poland to 518 in Austria. Inequalities in availability and accessibility of care and medical equipment were of primary importance in the management of the pandemic.

Chart 1.55

Despite a decrease in unmet need for medical care, some countries still show high levels of medical precariousness

Self-reported unmet need for medical care, 2012-2018



Note: Percentage of population aged 16 and over. The indicator measures the share of the population aged 16 and over reporting unmet needs for medical care due to one of the following reasons: 'Financial reasons', 'Waiting list' and 'Too far to travel' (all three categories are cumulated). Self-reported unmet needs concern a person's own assessment of whether he or she needed medical examination or treatment (dental care excluded), but did not have it or did not seek it.

Source: Eurostat, dataset: hlth_silc_08 and table sdg_03_60.

Click here to download chart.

A smaller but better-educated workforce

At the same time as a decline in the number of people of working age, there is also likely to be a further improvement in educational attainment. This is a key concern of European households who also believe that chances in education are fairer than in the labour market ([62]). The proportion of low-educated people in the EU aged 25-34 decreased by 8.5 pps over the period

([59]) EU-OECD (2019).

([60]) European Commission (2019f).

([61]) Data is available for 22 Member States.

([62]) See Chapter 2, Section 3 for an extensive discussion of the perceived fairness in educational systems and labour markets.

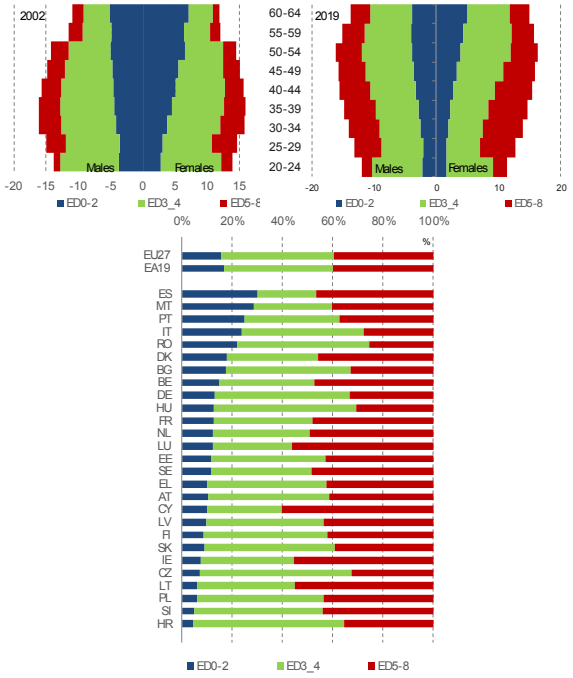
2002-2019, from 24.0% to 15.5%. This phenomenon has been particularly striking in Malta, where the proportion decreased by 42.8 pps to 28.4% in 2019, and in Portugal where it decreased by 40.1 pps to 24.8% in 2019. It also fell between 10 and 20 pps in Ireland, Greece, Croatia, Italy, Luxembourg, Spain and the Netherlands. However, there is still room for improvement in some countries where levels of low-educated people remain above 20%: Spain (30.2%), Italy (23.8%), Malta (28.4%), Portugal (24.8%) and Romania (22.0%) (*Chart 1.56*). Unequal access to education may have been reinforced by the lockdown during the COVID-19 crisis but long-term consequences for inequalities are likely.

Over the period 2002-2019, the EU has seen a sharp increase (16.3 pps) in the percentage of highly educated people aged 25-34. Member State increases were most remarkable in Czechia (20.5 pps), Latvia (26 pps), Lithuania (27.2 pps), Luxembourg (33.5 pps), Malta (28.3 pps), Poland (26.7 pps), Portugal (22.1 pps), Slovenia (24.4 pps), Slovakia (27.3 pps) and the Netherlands (20.8 pps). This evolution suggests that European labour markets have access to a higher level of skills now and that this trend is not showing signs of slowing down.

Chart 1.56

Younger generations are becoming less numerous but more educated

Highest educational attainment by age and gender in 2002 (left) and 2019 (right) and for the 25-34 age-group by country in 2019 (bottom)



Note: ISCED 0-2: from less than primary to lower secondary education; ISCED 3-4: from upper secondary education to post-secondary non-tertiary education; ISCED 5-8: tertiary education.

Source: Eurostat, dataset: edat_lfse_03 and lfsa_pgaed.

Click here to download chart.

5. CONCLUSIONS

The outbreak of 'COVID-19' has created massive new uncertainties about employment developments and socio-economic prospects in Europe and the rest of the world. By the end of 2019, economic activity was already slowing down in most advanced economies. Gross domestic product had grown by just 1.5% in the EU and 1.2% in the euro area. These results had been affected by several uncertainties, which have become more acute with the spread of the COVID-19 crisis. Accordingly, the latest Commission forecasts are for strong declines in economic activity in 2020, and a moderate, yet less job-intensive and more uncertain recovery in 2021.

Before to the pandemic, the EU employment rate had reached another record level in 2019, 73.1%. This was 0.7 pps higher than in 2018. However this growth had not been enough to reduce the gender employment gap or push the employment rate of young people back to 2008 levels. Furthermore, growth in the employment rate had slowed in the second half of the year and a sharp reduction in employment is expected in 2020. If the Commission's forecast of employment is confirmed, the EU2020 target of 75% will become almost impossible for the EU to reach.

In 2019, the EU unemployment rate had fallen to 6.7% of the labour force, 0.5 pps less than in 2018, the lowest level ever recorded in the EU. Youth unemployment and NEET rates had also been falling. However, the COVID-19 pandemic is now causing unemployment to surge- possibly up to 9.0% in 2020.

Gender gaps in employment and pay remain high, despite the improvements observed in EU averages. The COVID-19 crisis is envisaged to have an especially strong impact on women and young people in the labour market, as well as on other vulnerable groups, such as migrants, whose labour market situation had continuously improved before the crisis, though large gap remained.

Households' financial situation had improved before the COVID-19 outbreak, but disposable income per capita was still below 2008 levels in five Member States. In 2018 the disposable income of households per capita maintained the ascending trend. Aggregate disposable household income had benefitted from higher income from work.

By 2017, social protection expenditure in the EU had shifted to structural expenses (old-age pensions and healthcare). Social protection expenditure continued to increase in nearly all Member States in 2017. Between 2012 and 2017, expenditure on pensions in countries with large crisis-related fiscal consolidation needs, such as Greece, had fallen.

As standards of living improved in the EU, the risk of poverty and social exclusion continued to decline before the COVID-19 outbreak. This was mainly due to the reduction in severe material deprivation, although the drop in the proportion of people living in very low work intensity households also contributed. However, the risk of poverty or social exclusion remained more pronounced for vulnerable groups and the progress in reducing inequality and relative poverty has been modest. Without the redistributive effects of tax-benefit systems, inequality and poverty in the EU would have been much higher. Income from work remains the most secure source of income to protect against income poverty, although not all households with working members manage to get out of poverty through employment.

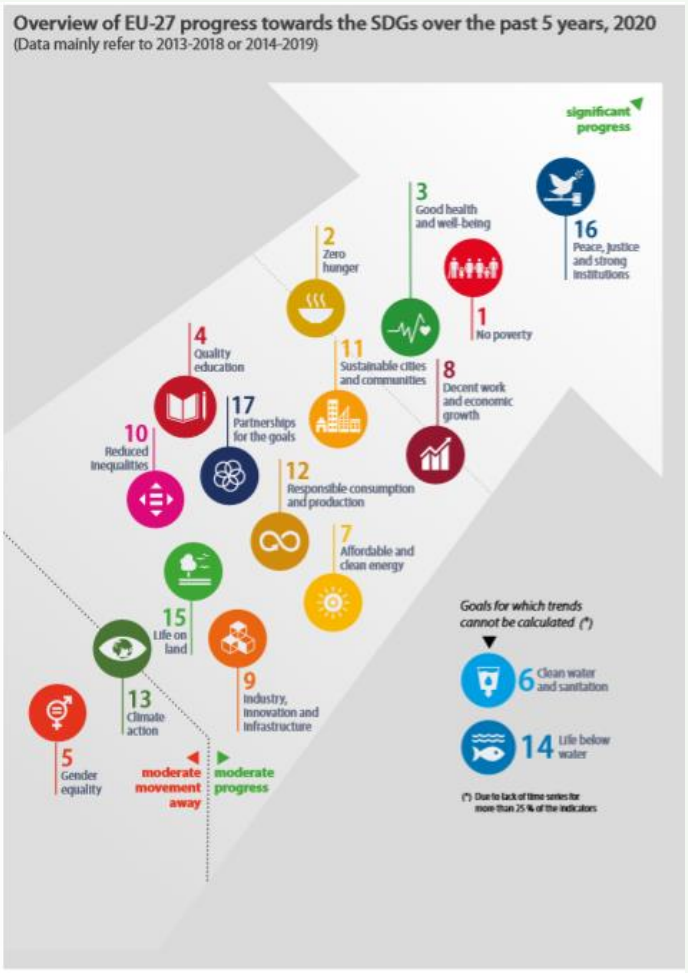
Despite improvements, energy poverty and inadequate housing conditions continue to represent a challenge for people living below the AROP threshold. People at risk of poverty, and vulnerable households such as single-parent or large families, face particular difficulties in keeping their homes adequately warm and paying their utility bills on time; and they are more likely than most to suffer severe housing deprivation and damp dwellings.

The changing population structure of Europe is also challenging our societies. Eurostat's projections predict a completely different population in 2050, with an increasing old-age dependency ratio and median age, a continuously low fertility rate and a proportionately smaller working-age population. However, though the 15-64 age group will be less numerous, it should be better educated. These are some of the many changes already evident which will drastically affect the labour market and social protection systems in the near future. In turn, the policy response to mitigate the impact of the changing population structure will determine the perceived fairness of Europeans in societies and economies that work for the people.

Box 1.2: Sustainable development goals

The European Pillar of Social Rights is a compass for a renewed process of upward convergence towards better working and living conditions in the European Union. It sets out twenty essential principles and rights in the areas of equal opportunities and access to the labour market; fair working conditions; and social protection and inclusion. The Social Scoreboard allows for proper monitoring of the Pillar, including the regional dimension.

The UN Sustainable Development Goals (SDGs) complement the principles of the European Pillar of Social Rights, helping to ensure that economic and social policies go hand in hand with Europe's 2050 climate-neutrality objective. The SDGs are a set of 17 goals in the social, economic, environmental and institutional areas. The most pertinent SDGs for the social area are SDG 1 (poverty eradication, social protection), SDG 3 (good health and wellbeing), SDG 4 (skills and lifelong learning), SDG 5 (gender equality), SDG 8 (inclusive growth, decent work, full and productive employment, labour rights) and SDG 10 (reducing inequality).



The two frameworks, the SDGs and the Pillar mutually reinforce each other. This is also demonstrated by a large overlap in the indicators used for measuring progress in the social SDGs and the Social Scoreboard.

In December 2019, the Commission adopted the **European Green Deal** ([1]), a new EU growth strategy to transform the EU into the world's first climate-neutral continent by 2050, while ensuring that the transition is just and socially fair. The Green Deal is an integral part of the Commission' strategy to implement the SDGs, refocusing the European Semester to integrate the SDGs, i.e. putting sustainability and the wellbeing of citizens at the centre of economic policy. In this context the Annual Growth Survey was transformed into the Annual Sustainable Growth Strategy covering environmental sustainability, fairness, productivity and macro-financial stability. The SDGs were also integrated in the Country Report analyses which underpin the Country Specific Recommendations.

The **fifth EU SDG monitoring report was published in June 2020**. It covers the period up to the end of 2019, and therefore does not take the impacts of the COVID-19 pandemic into account. The report finds that in the most recent five-year period, the EU has made most progress towards SDG 16, 'Peace, justice and strong institutions'.

([1]) https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf

(Continued on the next page)

Box (continued)

Considerable progress has also been made towards SDG 1, 'No poverty' and SDG 3, 'Good health and wellbeing', followed by SDG 2, 'Zero hunger' and SDG 8, 'Decent work and economic growth'. For eight goals, the EU has made moderate progress: SDG 11 'Sustainable cities and communities', SDG 4 'Quality education', SDG 17 'Partnership for the goals', SDG 12 'Responsible consumption and production', SDG 7 'Affordable and clean energy', SDG 10 'Reduced inequalities', SDG 15 'Life on land', and SDG 9 'Industry, innovation and infrastructure'. Although progress has been made on SDG 13, 'Climate change', in some areas there are still a number of challenges. On SDG 5, 'Gender equality' the EU has unfortunately moved away from the goal. Women are still less likely to be a part of the labour force than men, mainly due to caring responsibilities.

Source: https://ec.europa.eu/eurostat/web/sdi

References

Almeida V., Barrios S., Christl M., De Poli S., Tumino A. and van der Wielen W. (2020). Households´ income and the cushioning effect of fiscal policy measures during the Great Lockdown, *JRC Working Papers on Taxation and Structural Reforms* No 06/2020, European Commission, Joint Research Centre, Seville. https://ec.europa.eu/jrc/sites/jrcsh/files/jrc121598.pdf

Blasko, Z., Papadimitriou, E. and Manca, A. (2020). *How will the COVID-19 crisis affect existing gender divides in Europe,* EUR 30181 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-18170-5 (online), doi:10.2760/37511 (online), JRC120525.

Callan, T., Doorley, K. and Savage M. (2018). *Inequality in EU Crisis Countries: How Effective Were Automatic Stabilisers?* Euromod working paper series 10/18.

Di Pietro, G., Biagi, F., Costa, P., Karpiński Z. and Mazza, J. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and international datasets*, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-19937-3, doi:10.2760/126686, JRC121071.

EU-OECD (2019). *Settling In, Indicators of Immigrant Integration*.

Eurofound (2020). *Living, working and COVID-19: First findings – April 2020*, Dublin.

European Commission (2018). *Labour Market and Wage Developments in Europe 2018.* Publications Office of the European Union, Luxembourg.

European Commission (2019a). *Labour Market and Wage Developments in Europe 2018.* Publications Office of the European Union, Luxembourg.

European Commission (2019b). *Joint Employment Report.*

European Commission (2019c). *Employment and Social Developments in Europe. Annual Review 2018*. Chapter 1, pp.30-65. Publications Office of the European Union, Luxembourg.

European Commission (2019d). *Addressing Inequalities: a seminar of workshops.* Publications office of the European Union, 2019.

European Commission (2019e). European Economic Forecast, Autumn 2019, Institutional paper 115, November 2019

European Commission (2019f). *State of Health in the EU. Companion Report*. https://ec.europa.eu/health/sites/health/files/state/docs/2019_companion_en.pdf

European Commission (2020a). European Economic Forecast, Spring 2020, Institutional paper 125, May 2020.

European Commission (2020a). European Economic Forecast, Spring 2020, Institutional paper 125, May 2020.

European Commission (2020b). European Economic Forecast, Summer 2020 (interim), Institutional paper 132, July 2020.

European Commission (2020c). *Overview of the impact of coronavirus measures on the marginalised roma communities in the EU*. https://ec.europa.eu/info/sites/info/files/overview_of_covid19_and_roma_-_impact_-_measures_-_priorities_for_funding_-_23_04_2020.docx.pdf

European Union Agency for Fundamental Rights (FRA) (2020). *Coronavirus pandemic in the EU - Fundamental Rights Implications - Bulletin 4.*

Eurostat (2019). *Statistics explained, Fertility statistics*. https://ec.europa.eu/eurostat/statistics-explained/index.php/Fertility_statistics

Fana, M., Tolan, S., Torrejón, S., Urzi Brancati, C. and Fernández-Macías, E. (2020). *The COVID confinement measures and EU labour markets*, EUR 30190 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-79-18812-4 doi:10.2760/079230, JRC120578

Fasani F. and Mazza J. (2020), A Vulnerable Workforce: Migrant Workers in the COVID-19 Pandemic, JRC technical report.

ISTAT (2019). *'Conoscere il mondo della disabilità: persone, relazioni e istituzioni'*.

Lutz, W., G. Amran, A. Belanger and al. (2019). *Demographic Scenarios for the EU, Publications Office of the European Union*. Publications Office of the European Union, Luxembourg. https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/demographic-scenarios-eu

OECD (2018). *Family Database, 2018, SF2.5. Childlessness*. https://www.oecd.org/els/family/SF_2-5-Childlessness.pdf

OECD (2019). *Under Pressure: The Squeezed Middle Class*, OECD Publishing, Paris, https://doi.org/10.1787/689afed1-en.

OECD (2020, forthcoming). *Inequalities in household wealth, drivers and policy implications*, OECD Publishing, Paris.

Paulus, A. and Tasseva, I.-V. (2018). Europe Through the Crisis: Discretionary Policy Changes and Automatic Stabilizers, *Oxford Bulletin of Economics and Statistics*.

World Bank (2020). *Regular Economic Report 6*. Washington D.C.: The World Bank. http://pubdocs.worldbank.org/en/788061596141527649/EU-RER-No-6-final-version.pdf

Zardo Trindade, L. and Goedemé, T. (2016). Notes on updating the EU-SILC UDB sample design variables 2012-2014, *CSB Working Paper 16/02,* Antwerp: Herman Deleeck Centre for Social Policy, University of Antwerp.

CHAPTER 2

Fairness in the EU: perceptions, evidence and drivers

1. INTRODUCTION ([63])

In 2020, the coronavirus pandemic caused a deep and sudden recession, bringing major socio-economic challenges. From 2013 until the onset of the current crisis, many Europeans saw major improvements in their working and living conditions. In early 2020, the EU counted more people with a job than ever before, and unemployment stood at a historic low. However, the COVID-19 pandemic and the necessary lockdown measures triggered a deep economic contraction. While more than 40 million workers benefited from short-time working schemes, some businesses had to stop their activities altogether, with employees losing their jobs. Many households faced sudden drops in income. People who never thought this could happen to them had to turn to food banks. Entrepreneurs, firms and sectors unexpectedly came to rely on public aid to avoid bankruptcy. The GDP decline projected in 2020 is the sharpest in the EU's history.

In this context, the imperative of promoting a fair economy that works for the people has become even stronger. Europe has a social market economy with a solid track record of combining economic growth and social progress. By global standards, Europeans are affluent, with high levels of social protection and access to quality public services. Still, even during the economic recovery and expansion following the 2008-9 financial and economic crisis, unemployment remained very high in certain regions and Member States, and poverty among workers and families was often persistent. Against this background, the European Parliament, the Council and the Commission proclaimed the European Pillar of Social Rights in 2017 as a compass for renewed socio-economic convergence. In view of the current outlook, implementing the Pillar has become even more important and this is firmly on the agenda of the Commission.

The COVID-19 crisis has sparked renewed discussions on the fair distribution of risks, benefits and burdens. Certain sectors and jobs have been revalued as 'essential', as their continuation was key to the functioning of our societies during the pandemic. Workers in different sectors have been unevenly exposed to health risks. With schools closed, inequalities of opportunity among children increased, as they depended on the support and resources available at home to engage in distance learning. For young people, the economic downturn has created a very challenging environment in which to find a job and become economically independent. More generally, the crisis appears to have its strongest impact on vulnerable groups, including low-skilled and temporary workers and those from marginalized or segregated communities (such as the Roma). Some of the hardest-hit countries had limited capacity to support additional spending, which triggered new forms of solidarity within the EU. Promoting an inclusive and socially balanced recovery is key to avoiding long-lasting scarring effects on the labour market, strengthening the Single Market and rebuilding confidence among all actors.

([63]) This Chapter was written by Stefano Filauro, Alessia Fulvimari, Giuseppe Piroli, Simone Rosini and Tim Van Rie. The analysis on the minimum wage in Germany (*Box 2.4*) is provided by Gabor Katay (JRC.I.1).

Europe will need to make the most of digitalisation, accelerate the greening of the economy and continue to address the challenges of an ageing society. These trends bring opportunities not just to upgrade our production systems, reduce our environmental impacts and change our consumption behaviour ([64]), but also to strengthen our social welfare systems, strengthen European common goods and to increase the EU's social resilience ([65]). As in any transition, there will be winners and losers. Many will benefit from cleaner air, more resilient infrastructure, greener products, better health and a wealth of easily accessible information and training opportunities online. However, the EU's move to a resource-efficient, circular, digitised, climate neutral and resilient economy is expected to create new jobs, while other jobs will change or even disappear. These impacts and opportunities will need to be actively managed, as foreseen in the European Green Deal and the Communication on a Strong Social Europe for Just Transitions ([66]). The Recovery Plan ([67]) adopted in May 2020 recognised the need for unprecedented solidarity and support in this context, including stepping up financial support significantly to repair the damage from the crisis and prepare a better future for the next generation ([68]).

Unless everyone is on board for the recovery and green and digital transitions, the EU will find it hard to achieve its long-term priorities. An uneven economic recovery could lead to deteriorating labour markets and undermine social cohesion. Greening policies may not take root if the poorest cannot afford to adopt new standards or buy greener products or services. However, doing nothing is not an option, and the impacts of climate change are increasingly felt across Europe, impacting disproportionately certain regions and the poorest groups of society. The economic transition is already well underway across many sectors in the EU, and significant investments are needed to ensure firms and citizens can harness the opportunities brought by these transitions. An enduring digital divide could disadvantage whole regions or groups, including young people with inadequate access to learning opportunities and SMEs unable to access markets or innovations. The distributional impacts and costs of the recovery and transitions will have to be fair - and to be perceived as fair.

This chapter considers fairness from the individual's point of view. The next section considers different fairness principles, and presents evidence on the support for these principles among the population. Section 3 looks at the extent to which individuals consider their own lives and those of their compatriots to be fair, in terms of opportunities, income and wealth. Section 4 compares measures of poverty and exclusion, based on different poverty lines. Section 5 looks at mobility in terms of poverty and wage dynamics, including policy options that could foster upward movement for individuals on the labour market. Section 6 draws conclusions.

2. FAIRNESS PRINCIPLES

Fairness' is a broad normative concept, encompassing different ways of sharing resources or benefits ([69]). Whether somebody considers a given distribution of costs and benefits as fair or not depends on the – often implicit – normative criteria she or he applies. The following subsections consider fairness based on merit, basic needs and equality of opportunity or outcomes. Along with a description of these criteria and the main considerations for policy-makers, the section discusses support for these principles among the population.

2.1. Rewarding merit

Fairness may be assessed with reference to individual merit. This notion of fairness strongly emphasises the idea of reciprocity. Exchanges between people ought to be balanced in terms of what they contribute and what they gain, in education, on the labour market or in social protection. From this perspective, pay equality for men and women is assessed not in absolute terms, but relative to 'work of equal value'. Social protection systems take prior earnings or contributions into account when setting workers' benefit levels. And inheritances can at best be seen as merit related to family dynasties, not individuals. Conversely, welfare systems that provide insufficient work incentives for recipients

([64]) European Commission, ESDE Annual Reviews 2018 (on digitalisation and the future of work) and 2019a (on sustainable growth for all.

([65]) European Commission (2019b), *Delivering on European Common Goods: Strengthening Member States' Capacity to Act in the 21st Century*, EPSC, which highlighted the need to refocus EU priorities and identify and deliver European Common Goods to 'strengthen Europe's resilience in even the most adverse of circumstances and restore Europe's capacity to act in a fast-changing world'.

([66]) European Commission (2020a) Communication *A Strong Social Europe for Just Transitions*.

([67]) European Commission (2020b) Communication Europe's moment: Repair and Prepare for the Next Generation and (2020c) Communication The EU budget powering the recovery plan for Europe.

([68]) The Commission proposes an emergency Next Generation EU instrument of EUR 750 billion to boost the financial firepower of the EU budget temporarily with funds raised on the financial markets. Together with the three important safety nets for workers, businesses and sovereigns, amounting to a package worth EUR 540 billion, endorsed by the European Council on 23 April 2020, these exceptional measures taken at the EU level would reach EUR 1 290 billion of targeted and front-loaded support to Europe's recovery.

([69]) This section focuses on distributive aspects of fairness, i.e. competing criteria by which to allocate scarce resources. Procedural fairness (how to come to decisions, including on allocation, in a fair way) is beyond the scope of this chapter. Chapter 4 on the role of social dialogue addresses these issues.

who are able to work are seen as unfair to tax-payers. Hence, policy-makers may consider the aim of 'making work pay' when setting social benefit levels and social contributions. From a perspective focused on merit, being poor *despite having a job*, or being unemployed, or underemployed, despite good educational achievements or active job search, may also be considered as unfair.

Table 2.1

Rewarding hard work is the most widely accepted fairness principle in most countries, whereas equalising income and wealth is the least.

Support for different fairness principles, % of population by Member State, 2018

A society is fair when	**Hard-working people earn more than others** (strongly) agree	**Take care for poor and those in need, regardless of what they give back** (strongly) agree	**People from families with high social status enjoy privileges** (strongly) disagree	**Income and wealth is equally distributed** (strongly) agree
Austria	91	82	62	55
Belgium	82	75	68	60
Bulgaria	80	62	56	50
Coatia	81	79	73	70
Cyprus	83	83	67	65
Czechia	70	47	45	38
Germany	86	83	65	42
Estonia	88	73	48	24
Finland	75	75	83	37
France	83	81	80	70
Hungary	73	53	68	46
Ireland	79	78	49	59
Italy	82	79	79	76
Latvia	85	74	55	46
Lithuania	74	61	79	29
The Netherlands	78	75	86	29
Poland	81	60	64	48
Portugal	78	84	71	78
Slovakia	73	54	36	57
Slovenia	87	87	76	72
Spain	76	84	79	63
Sweden	79	83	81	28

Note: % combines those 'strongly agreeing' and those 'agreeing', as opposed to 'neither agreeing nor disagreeing', 'disagreeing' or 'strongly disagreeing'. Inverted for the principle on inherited privilege. Cells of the heat map shaded by country (row).

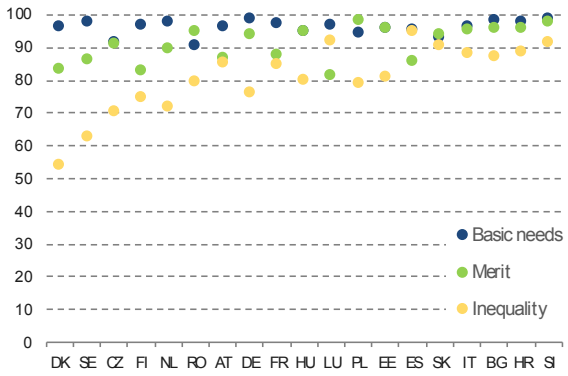
Source: European Social Survey 2018.

Click here to download table.

Chart 2.1

What should a society provide? Broad support for providing basic needs and recognising merit, mixed views on reducing inequality.

Support for different fairness principles, % population by Member State, 2017



Note: Questions: What should a society provide? Please tell me for each statement if it is important or unimportant to you: guaranteeing that basic needs are met for all in terms of food, housing, clothing, education, health; recognising people on their merits; eliminating big inequalities in income between citizens. % shown in the chart combines those considering these principles 'very important' or 'quite important' as opposed to 'not important' or 'not at all important'.

Source: European Values Study 2017.

Click here to download chart.

Among Europeans, there is a large measure of agreement that fairness implies rewarding efforts and contributions. More than 9 out of 10 consider it important to 'recognise people on their merits', according to data from the European Values Study 2017 ([70])(*Chart 2.1*). More than 8 out of 10 agree that 'a society is fair when hard-working people earn more than others' according to the European Social Survey 2018. While there are differences in the overall level of support for fairness principles between countries (*Table 2.1*), in the large majority of countries for which data are available, rewarding hard work gains most support.

Beyond a broad consensus, there are some differences in support for merit, based on individual traits ([71]). Men are slightly more in favour of earnings differentiation based on 'hard work' than women are (which may be linked to unpaid and low-paid work, see below). Support for rewarding work is particularly strong among the elderly. Compared to workers, the economically inactive other than pensioners are slightly less in favour of rewarding effort. Other than that, the support for this fairness principle is pretty well universal across different groups.

In practice, rewarding individual merit requires many normative decisions. This was very visible during the COVID-19 pandemic which exposed many low-paid, often under-valued occupations to increased workload and higher health and safety risks and hazards. Which activities should be taken

([70]) See Annex 2.1 for country coverage of both the European Values Study (EVS) and the European Social Survey (ESS).

([71]) See Annex 2.2 for logistic regression model predicting support for different fairness principles.

into account when assessing individual merit? How should care and other unpaid but productive work be valued within households? Should rewards be based on effort (including exposure to difficult working conditions) or on results? How far is it possible to identify the individual contributions of workers, when many rely on the work of colleagues and are helped by technology? Which other factors beyond the control of individuals should be taken into account, in terms of access to opportunities (quality education), rights (non-discrimination) or more generally, the ability to transform rights and opportunities into good and productive social outcomes ([72])? Over which time horizon should merit be assessed: current performance only, or should past achievements, seniority or even group or family achievements be included? People may hold different views on each of these questions, while agreeing in principle on the importance of rewarding merit.

([72]) See capabilities approach by Sen (1980; 1999).

2.2. Providing for basic needs

Fairness may also be seen in relation to basic needs, and promoting fairness may imply prioritising those in need and the most vulnerable, with the duty to establish a 'social floor'. These approaches to fairness tend to highlight basic needs, fundamental rights and an obligation to care for the needy. In most Member States, wages are subject to certain minimum standards, including 'living wages' in a few countries ([73]). Welfare systems tend to provide a last resort safety net, where benefits are conditional on having very limited income or wealth, established via a means test (in some cases including the resources of relatives). This fairness perspective may also prioritise certain groups that are seen as particularly vulnerable such as children and people with specific needs, including people with disabilities.

Nearly all Europeans consider it important to provide for a minimum living standard for everyone. More than 95% state that it is 'important to guarantee basic needs for all, in terms of food, housing, clothing, education, health' (EVS 2017). This support is near universal in all countries surveyed, as none report less than 90% (*Chart 2.1*). The principle continues to enjoy broad support even if it comes at the expense of certain merit-based considerations. On average, more than seven out of ten agree that 'a society is fair when it 'takes care of those who are poor and in need, regardless of what they give back to society' (ESS 2018). The support for this principle is somewhat lower in certain (but not all) Central and Eastern European countries, notably Bulgaria, Czechia, Hungary, Poland and Slovakia (*Table 2.1*).

Views on fairness related to basic needs differ mainly according to age. The oldest age groups are most in favour of taking care of the poor and needy (as they are for some other principles based on merit and equality of opportunity). Those who live comfortably on their income also support slightly more strongly the idea of taking care of those in need. There are no statistically significant differences between men and women, or by activity status.

In practice, establishing basic needs and poverty thresholds involves several normative choices. Should the minimum living standard include only the most basic subsistence (shelter and food) or also cover resources for social participation, such as meeting friends? How far should these needs be considered universal, or should they allow for national or regional living standards and customs ([74])? How should we account for differences in health, cognitive

([73]) Notably Ireland, Romania and Slovenia. See Eurofound (2020).

([74]) See discussion on poverty line in section 4.

ability ([75]) and, more generally, for heterogeneity in actual needs? Where exactly is the line between needs, social norms and individual preferences?

2.3. Promoting equality of opportunities and outcomes

Egalitarian notions of fairness seek to minimise differences among a given population. Beyond the focus on the most vulnerable, these perspectives pay particular attention to those who hold a large amount of resources, and their ability to shoulder larger burdens. Many national taxes and social benefits redistribute income and - to a lesser extent - wealth from the richest to the least well-off, thereby substantially reducing disparities.

In operational terms, promoting equality raises several questions. Do we aim to equalise outcomes (such as income or wealth), or rather life chances (opportunities)? Is there an optimum level of (in)equality? The aim is rarely to achieve equality of living standards, but often to reduce 'excessive inequalities', the level of which remains open to debate.

Most Europeans question the fairness of inherited privilege. Around seven out of ten do not agree that 'a society is fair when people from families with high social status enjoy privileges in their lives' (ESS2018). However, there are major country differences in this regard, from more than 80% in Finland, France, the Netherlands and Sweden opposing such privileges to less than half in Czechia, Estonia, Ireland or Slovakia. Beyond country differences, there are specific groups that are less tolerant of inherited privilege (those living comfortably on income) and others that are more tolerant (those inactive on the labour market, other than pensioners). Older people are generally more likely to question the fairness of inherited privilege than youth.

There are mixed views on whether inequalities in income or wealth are unfair per se. While four fifths of the population support 'eliminating big inequalities in income between citizens', this is lower than support for merit or basic needs from the same survey (EVS 2017, *Chart 2.1*). Crucially, the degree of inequality matters: just over half of those surveyed agree a society is fair 'when income and wealth are equally distributed among all people' (ESS 2018, *Table 2.1*). Support for distributing income and wealth equally is relatively low in several countries that are known to have low income disparities, including Scandinavian countries, the Netherlands and Czechia. Women tend to show more support for equalising income and wealth than men do. The young are also slightly more in favour of equalising income and wealth. The largest differences are between those living comfortably on their income (low support for equality) and those who struggle to make ends meet (strong support).

([75]) Penne et al. (2016).

Promoting fairness often means balancing different principles and objectives, rather than prioritising just one. The European model enshrined in the treaties refers to a 'highly competitive social market economy, aiming at full employment and social progress' ([76]). The European Pillar of Social Rights mirrors these multiple objectives. The Pillar contains chapters on equal opportunities and access to the labour market, fair working conditions and social protection.

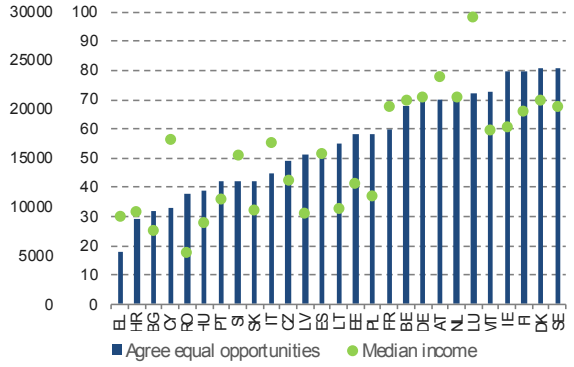
3. PERCEIVED FAIRNESS: EDUCATION, JOBS, INCOME AND WEALTH

Across countries, there are large differences in perceived fairness. When asked whether they have equal opportunities to get ahead in life, just like others in their country, four out of five Swedes, Danes, Finns and Irish people agree. By contrast, less than one in three in Cyprus, Bulgaria and Croatia, and less than one in five in Greece do so (*Chart 2.2*).

Chart 2.2

Major differences across EU Member States in terms of perceived fairness and opportunity

% of population agreeing or strongly agreeing to 'Nowadays in [our country], I have equal opportunities for getting ahead in life, like everyone else', 2017; median equivalised disposable household income in purchasing power parities, 2017



Source: Opportunities: Special Eurobarometer 471, December 2017; Median equivalised disposable household incomes: EU-SILC 2017 [ilc_di04]

Click here to download chart.

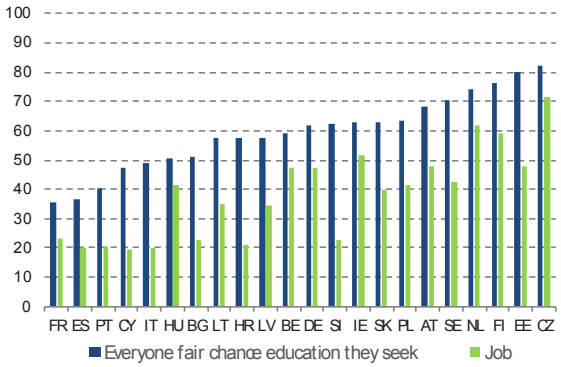
In countries with higher income levels, people tend to report more equality of opportunity. Differences in median incomes of countries can by themselves predict about half of the variation in perceived equal opportunities ([77]). In some European countries (Greece, Cyprus, Luxembourg), the population is far less positive about equal opportunities than one would expect based on income levels. The opposite holds in Ireland, Finland and Sweden.

Most people believe that there are fairer chances in education than in the labour market. When the notion of 'fair opportunities' is split by domains ([78]), educational systems are consistently seen as offering fairer chances than labour markets (*Chart 2.3*). This finding may be linked to accumulation of advantages or disadvantages over the individual life course, particularly from initial education. Fairness perceptions of the labour market may also reflect a range of factors, including high unemployment and segmentation between insiders and outsiders. It may also depend on actual or perceived levels of wage inequality (*Box 2.1*).

Chart 2.3

Overall, educational systems are seen as offering fairer opportunities than labour markets

% of population agreeing that everyone in their country has fair opportunities in education or the job market, 2018



Note: % represents those reporting 6 or higher on a scale from 0 (does not apply at all) to 10 (applies completely)' to the statements 'Everyone in our country has a fair chance to achieve the level of education they seek; get the job they seek'

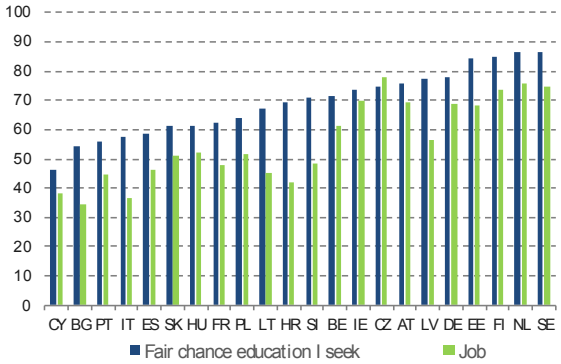
Source: Authors' calculations based on European Social Survey 2018.

Click here to download chart.

Chart 2.4

Most Europeans consider they themselves received fair chances compared to others, particularly in education

% of population agreeing that compared to others in their country, they have fair opportunities in education or to find a job, 2018



Note: % represents those reporting 6 or higher on a scale from 0 (does not apply at all) to 10 (applies completely)' to the statements 'Compared to other people in our country, I have a fair chance to achieve the level of education/job I seek'.

Source: Authors' calculations based on European Social Survey 2018.

Click here to download chart.

([76]) Article 3 paragraph 3 of the Treaty on European Union.

([77]) In a bivariate least squares linear regression, the R^2 is 57%.

([78]) In general the results based on the European Social Survey 2018 are fairly consistent with the Eurobarometer of *Chart 2.2*, but with a few notable exceptions, including Czechia and France.

Europeans generally assess their own situation more positively than that of others in their country. When asked about fair chances in education or – particularly - to find a job, most provide a more positive assessment for their personal situation than for others in their country (*Chart 2.4*) ([79]). The gaps between education and jobs are also less pronounced when the respondent's own situation is taken into account (compared to *Chart 2.3*).

Fewer women than men state that they have received fair opportunities in education, and particularly in getting the jobs they seek. Controlling for age, activity status, country and ability to get by on income, the average gender gaps in perceived fairness amount to 2.5 percentage points for education, and 5 percentage points for jobs (see Annex 2.2). There is ample evidence of widespread gender inequalities in the labour market, linked to unequal pay, career prospects or occupational segregation ([80]). For education, the situation is somewhat different: younger cohorts of women generally attain higher levels of education than men but this was not the case for older generations.

Younger Europeans see more fair opportunities for themselves in education and on the labour market. For education, the elderly in particular are less likely to consider that they received fair chances. This might be linked to the expansion of tertiary education that took place in many European countries also reflecting the EU-wide commitment in the Europe 2020 Strategy. The European Education Area actions will support the transformation of higher education to match new social and economic challenges, including its further expansion. The updated Skills Agenda ([81]) promotes collective action by all stakeholders, to ensure that skills are fit for jobs and to help people build skills throughout their lives. It promotes in particular those skills that are relevant to the green and digital transitions.

Perceptions of having fair opportunities differ according to activity status. Workers are most likely to consider themselves as having benefited from equal opportunities in education and – as could be expected – on the labour market. The unemployed in particular see themselves as being at a disadvantage, compared both to those who are inactive in the labour market and to pensioners.

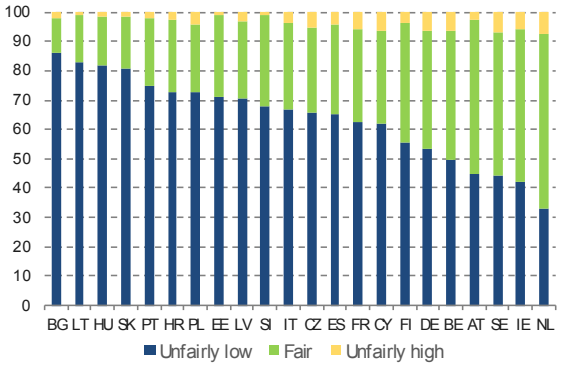
Perceptions of equal opportunities are closely linked to self-reported ability to make ends meet. Those who live comfortably on their income are much more likely to say they have fair opportunities than those who just manage to make ends meet. The difference is more than 15 pp, both for education and jobs. Conversely, those who report (great) difficulties in getting by on their income are less likely to report having fair chances, a gap of a similar magnitude (between 10 and 15 pp).

The extent to which Europeans consider their own net incomes as fair differs strongly across countries. In Austria, Ireland or the Netherlands, more than half of adults see their income as fair (*Chart 2.5*). However, this drops to less than one in five in Bulgaria, Lithuania, Hungary and Slovakia ([82]). Clearly, the absolute income levels and overall living standards of the country matter in this regard (see below).

Chart 2.5

Large gaps between countries as to how fair citizens perceive their own net incomes to be

% of population considering their own net income to be unfairly low, fair or unfairly high, 2018



Source: Authors' calculations based on European Social Survey 2018.

Click here to download chart.

Perceived fairness of net incomes is linked to several individual traits ([83]). Men are more likely than women to consider their incomes as fair (4 percentage points difference after controlling for other factors). Compared to workers, relatively more of the unemployed and inactive (other than pensioners) consider their incomes as fair. Those who struggle to get by on their incomes also tend to consider their level as unfair, while the opposite holds for those who get by comfortably.

For perceived fairness of income, individuals' absolute income levels matter more than income relative to others. The evidence suggests that both the income level in absolute terms and income as compared to peers ([84]) can influence individuals' assessments of how fair their income is. However, in terms of predictive power, the former clearly outperforms the latter ([85]).

([79]) European Commission (2019c) finds a similar pattern, comparing average scores for 'life fairness' and 'country fairness'.

([80]) European Commission (2019d) Annual report on equality between men and women.

([81]) European Commission (2020d).

([82]) People who consider their own income as unfairly high are a small minority in all countries.

([83]) See Annex 2.2.

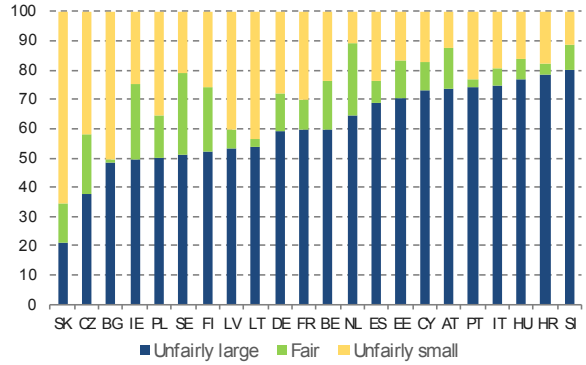
([84]) Based on sex, education, age and country, see Annex 2.2.

([85]) Clark and D'Ambrosio (2020, forthcoming).

Chart 2.6

Few consider that wealth is fairly distributed in their country

% of population considering wealth inequality in their country to be unfairly small, fair or unfairly large, 2018



Source: Authors' calculations based on European Social Survey 2018.

Click here to download chart.

Existing levels of wealth inequality within countries are generally seen as unfair. While most people consider wealth disparities in their countries to be too large, the opposite view has non-negligible support, particularly in several Central and Eastern European countries, France and Germany (*Chart 2.6*). Apart from the self-reported ability to get by on current income, individual traits such as sex, age or activity status do not have a significant predictive power in this regard.

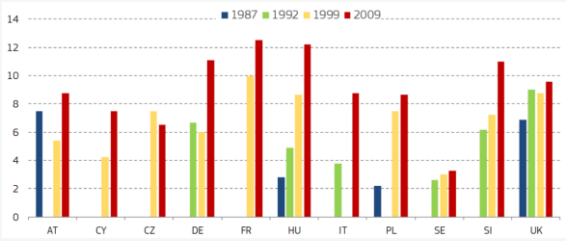
Box 2.1: Wage inequality: perception and fairness.

People's perception of how fair their societies are depends on distributive concerns. In the EU, the dissatisfaction with income inequality correlates well with the measured income inequality at the national and even regional level ([1]). Some research points to perceived inequality as an engine for individual dissatisfaction and a good predictor of preferences for redistribution. When individual perception of inequality is high (low) people tend to prefer higher (lower) levels of redistribution ([2]).

Chart 1

Perceived wage inequality has increased in almost all EU countries

Perceived top/bottom wage ratio. Median value



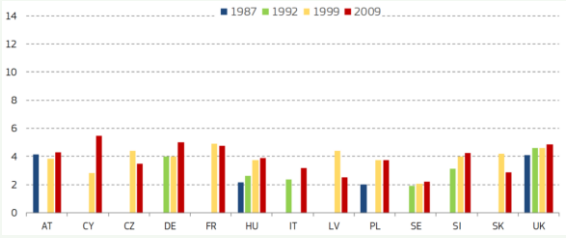
Note: Top wages are the average of a doctor's wages and the wages of a chairman of a national corporation; bottom wages are those of an unskilled worker. Respondents to the ISSP were explicitly asked about these wages.

Source: OECD ELS with International Social Survey Programme (ISSP) data

Chart 2

People do not seem to tolerate more wage inequality nowadays compared to 1990s

Fair top/bottom wage ratio. Median value



Note: Top wages are the average of a doctor's wages and the wages of a chairman of a national corporation; bottom wages are those of an unskilled worker. Respondents to the ISSP were explicitly asked about these wages.

Source: OECD ELS with International Social Survey Programme (ISSP) data.

Understanding if perceptions of inequality in society are based on past recollections rather than current trends of inequality is crucial. All the more so, given a general long-term increase in inequality over the last thirty years ([3]). Moreover, dissatisfaction with income disparities may be driven by a large deviation between the 'perceived' level of inequality and what is believed the 'fair' level of inequality.

The fraction of population that judges income differences in their country as too large has increased over the last 30 years. A recent study from the OECD examines what are the reasons behind dissatisfaction with income inequality over the long run ([4]). The study analyses how much the perceived wage between a top and a bottom earner has evolved over time and what their fair ratio should be, spanning from the late 80s until the late 2000s ([5]).

The level of perceived wage inequality has steeply increased in almost all EU countries compared to the 1990s ([6]). The perceived wage measured as a wage ratio between a top and a bottom worker has significantly increased over time in almost all EU countries except Czechia. In some Member States, such as Germany, France and Hungary, on average people believed in 2009 that the wage of a top worker was around 12 times higher than that of an unskilled worker in a factory (see *Chart 1*) ([7]).

([1]) A recent study by Colagrossi et al. (2019) show that people, on average, correctly assess whether inequality in their country is too high. *The Median Voter Takes it All. Preferences for Redistribution and Income Inequality in the EU-28.*

([2]) Much research has looked at individual preferences of redistribution and (perceived or estimates) inequality levels. Standard theory (Meltzer and Richard, 1981) contends that individual preferences for redistribution are mainly based the difference between the individual's own income and the average income. However, the debate has developed precisely in the light of the differences between perceived and current inequality levels. For recent empirical evidence see Colagrossi et al. (2019) and Bobzien (2020).

([3]) See OECD (2015) and Blanchet et al. (2019).

([4]) (Mis)perceptions of inequality and preferences for redistribution, OECD (2021, forthcoming).

([5]) Perceived and fair top/bottom wages are derived from the International Social Survey Programme (ISSP) data, unfortunately these questions were only available up to the 2009 wave. Top wages are considered as the average between the wages of a doctor in general practice and those of a chairman of a large national corporation. Bottom wages are considered as those of an unskilled factory worker. The perceived/fair wages of these particular professions are explicitly asked about in the ISSP questionnaire.

([6]) NB: the analysis of perceived and fair inequality refers to wage inequality.

([7]) It is not possible to estimate a comparable top/bottom wage ratio to compare it with the 'perceived' and the 'fair' wage ratio. This is due to high detail of the wage asked in ISSP (wage of chairman on a national corporation; unskilled worker in a factory of a general doctor) that cannot be correctly identified in cross-country comparable wage datasets (SES or EU-SILC).

(Continued on the next page)

Box (continued)

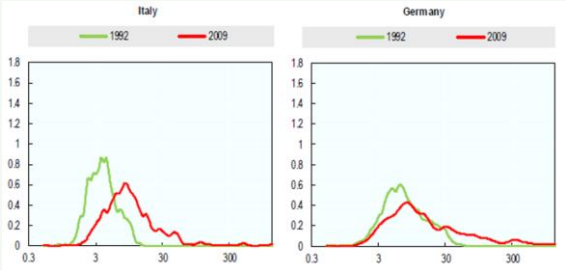
People think that the fair level of wage inequality should be much lower than what they currently perceive. As illustrated in *Chart 2*, people in the EU thought in 2009 that top wages should not be on average four times higher than the bottom wages ([8]). This is a much lower ratio than what people perceive as the real ratio (i.e. average perceived wage ratio around 8.5 in 2009, see *Chart 1*). Moreover, what people think the fair top/bottom wage ratio should be increased only slightly over time, by a much smaller factor than the perceived wage ratio.

The increasing dissatisfaction with income disparities seems to be driven by beliefs in rising wage disparities rather than changes in preferences for wage fairness. Indeed, the trend of what people think a "fair" top/bottom wage ratio should be has been rather stable over time. If anything, in Germany, Hungary and Cyprus (see *Chart 2*) the population seems to have become slightly more tolerant of wage inequality ([9]). This might reflect adaptive preferences in light of perceived higher inequalities.

Figure 1

People's beliefs about wage inequality were much more dispersed in 2009 than in 1992

Density distribution (y-axis) for perceived top-bottom wage ratio (x-axis) 1992 and 2009



Note: The mode of the density distribution has shifted in Germany from a perceived 6.4 top/bottom wage ratio in 1992 to 8.1 in 2009 and in Italy from 4.3 to 8.0 in 2009. Moreover, not only people perceived a higher top/bottom wage ratio in 2009, but the distributions of beliefs about the top/bottom wage ratio have become much more dispersed. Top wages are the average of a doctor's wages and the wages of a chairman of a national corporation; bottom wages are those of an unskilled worker. Respondents to the ISSP were explicitly asked about these wages.

Source: OECD ELS with International Social Survey Programme (ISSP) data.

Perceptions of wage inequality have become more dispersed. Not only did people in the EU perceive higher wage inequality in 2009 than in the 1990s, but these perceptions were much less defined and more dispersed across the population. In the case of Germany and Italy (see *Figure 1*), perceptions about the top/bottom wage ratio became more scattered and less concentrated. This might perhaps reflect societies less organised in social groups and around common beliefs, or much more stratified and complex types of profession.

Preferences about wage inequality have become more scattered over time. In 1992 preferences regarding the 'fair' level of top and bottom wages were relatively structured in most EU countries, with the majority of people convinced that top earners should either earn their current wage or half that level, while bottom earners should earn either their current level or around 20% more. Conversely, preferences regarding 'fair' levels of top and bottom wages had become significantly more dispersed by 2009 ([10]).

Increasing disagreement regarding the 'fair' level of wages might indicate societies where beliefs are less defined and less structured around common paradigms of the 'fair' wages for top and bottom earners. However, the mechanisms through which inequality perceptions are formed and can be influenced by academic debate or political discourse require further research and explanation.

([8]) This is an average for the EU countries available shown in *Chart 1* that are those available from the ISSP.

([9]) On average people in Germany thought a fair top wage should be 5 times higher than a bottom wage in 2009 compared to a ratio of 4 in 1999.

([10]) "(Mis)perceptions of inequality and preferences for redistribution", OECD (2021, forthcoming).

4. BASIC NEEDS: WHAT IS THE MINIMUM?

Beyond a broad agreement among Europeans on the importance of meeting citizens' basic needs, measuring poverty and social exclusion in practice requires several conceptual and methodological choices. These relate to the needs and resources to be covered. In a European context, an important question is the extent to which the poverty concept should allow for national differences in overall living standards.

This section explores the poverty levels under a theoretical EU-wide standard of relative income poverty. Such a poverty measurement stems from normative considerations on the society of reference, whether national or supranational where individuals compare their income levels and carry subsequent policy implications.

The concept of relative poverty adopted in the EU is essentially national. Poverty defined as 'inability to participate in the society due to lack of resources' ([86]) depends on which is the society of reference where individuals tend to compare their income. Income poverty is assessed at the national level primarily because tax-benefit systems, which are the primary policy tool to contrast income poverty, are in the remit of the nation state and their structure is influenced by national preferences. Moreover, for many individuals the society of reference where they evaluate their relative income conditions is the nation state. However, EU individuals increasingly inhabit interconnected spaces where traditional and social media cross national borders ([87]). In addition, as the EU mobile population has risen over the last decade, it is reasonable to assume that many people in the EU consider their income levels in comparison to those that might be achieved across the borders of neighbouring states. In this context, the perception of relative poverty may be affected by European considerations too. Likewise, in such an integrated economic space, it can be contended that we should aim, at least in the long run, for a cohesive Union where no one falls under a common EU-wide income threshold, regardless of their country of origin ([88]). The analysis that follows explores from this perspective where the EU stands today, as an interesting thought experiment.

If the society of reference for income comparisons were the EU, relative poverty could be assessed by counting the individuals whose income is below an EU-wide poverty threshold. Such a poverty threshold might be set at 60% of the EU median income and would be the same for all EU Member States ([89]). The resulting poverty rate would represent the individuals in the different Member States that are income poor under an EU-wide threshold ([90]).

Those who were poor relative to the EU-wide threshold would be concentrated mainly in Eastern Member States. As illustrated in *Chart 2.7* (blue bar), the ensuing EU-wide at-risk-of-poverty rate shows extreme cases such as Bulgaria and Romania where well over 70% of the population lives under the EU threshold of around EUR 10 000 in purchasing power parities per year. Conversely, the poverty rate in the richer Member States would decline drastically, with less than 5% of the national population under the EU-wide threshold (see Luxembourg, Finland and Austria for instance).

The poverty threshold might be also set as an average of the national and the EU wide threshold. This hybrid poverty threshold would take into account both the nation and the EU as societies of reference ([91]). The resulting poverty rate in the different EU countries is illustrated in *Chart 2.7* (the green bar) ([92]). Compared to the national at-risk-of-poverty (AROP) rate, under this hybrid poverty threshold there would be fewer households in North-western Member States, a similar number of households in Mediterranean Member States such as Italy, Spain and Cyprus and far more households in Eastern European Member States and Greece. These alternative measures of poverty demonstrate that the assessment of poverty levels depends crucially on

([86]) Council of the European Communities (1985).

([87]) Some studies point out that increasing European integration shapes the life chances, the social identities, the interests and values of individuals and social groups (Heidenreich, 2016).

([88]) For the sake of comparison between countries, income levels are expressed in purchasing power parities (ppp).

([89]) The EU poverty line is set at 60% of the annual median income of the EU-wide distribution, where incomes are corrected by Member State for their purchasing power parities [prc_ppp]. In 2017, the EU poverty line, expressed in ppp, was EUR 10037 per year. The choice of setting the poverty threshold at 60% of the EU median income follows the EU standard of setting the national poverty line at 60% of the national median income. Clearly it is an arbitrary choice.

([90]) Studies on the EU-wide income distribution have been recently carried out in Filauro (2018), European Commission (2019a), Chapter 1, section 4.5) and Chapter 1, Section 4.1.

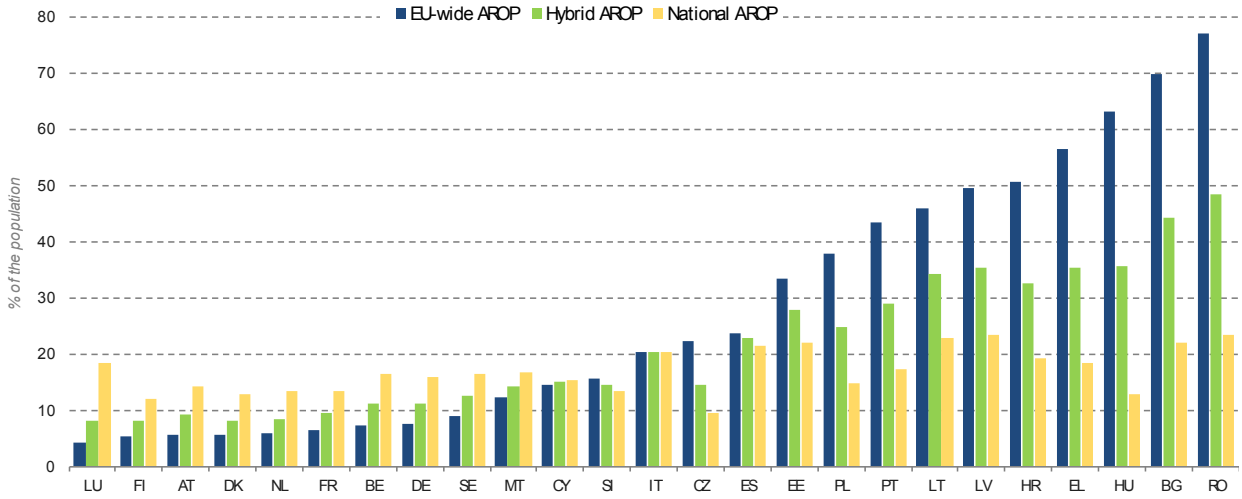
([91]) Other poverty thresholds could be envisaged to address the availability of (differently expensive) purchases in a neighbouring country or the economic integration of different countries/areas. For example it may be contended that households living in proximity of a border can afford goods less expensive in the neighbouring countries and so their income needs may be lower than for their fellow nationals. To address these concerns different weighting systems between the national poverty thresholds and the poverty thresholds of neighbouring areas may be more appropriate.

([92]) For example, the three poverty thresholds in 2017, expressed in ppp per adult equivalent, for the case of Sweden are: EU poverty line= EUR 10037; national poverty line= EUR 12095; the hybrid poverty line as average of the previous two= EUR 11066. Contrast this with Romania where the EU poverty line would be the same as for Sweden, but the national AROP line is EUR 3182 and the hybrid poverty line is EUR 6609.

Chart 2.7

The poverty rate under the EU-wide threshold in Eastern Member States is much higher than the national AROP rate

At-risk-of-poverty rate (%) under three poverty thresholds: the AROP line, the EU-wide poverty line and the average between the AROP and the EU-wide poverty line (hybrid), 2017



Source: Authors' calculations, based on EU-SILC 2017 users' database.

Click here to download chart.

the society of reference and the income poverty threshold that characterises it ([93]).

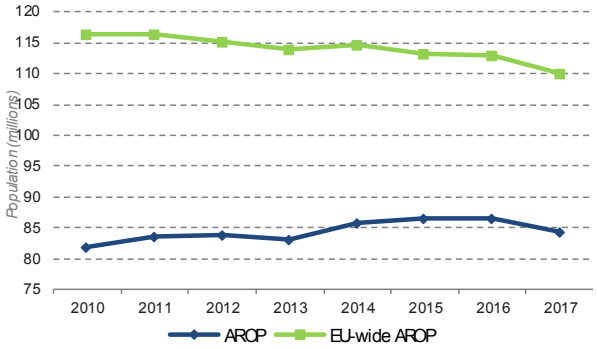
There are more households in poverty under the EU-wide threshold than using the at-risk-of-poverty (AROP) indicator (see *Chart 2.8*). This is mostly because in relatively poorer Member States much higher fractions of the population have income levels below the EU-wide poverty threshold than have income levels below the lower national (AROP) thresholds. However, although poverty levels are much higher under the EU-wide threshold, they have been reducing over time whereas the overall risk of poverty by national standards has been relatively stagnant or increasing ([94]).

Poverty reduction was more pronounced under the EU-wide threshold compared to the national at-risk-of-poverty (AROP) rate in the period 2010-2017. The EU population at risk of poverty as measured by the at-risk-of-poverty (AROP) indicator was just below 85 million in 2017, slightly higher than in 2010. Conversely, the EU population at risk of poverty below the EU-wide threshold has slowly but steadily declined (from over 116 million individuals in 2010 to 110 million individuals in 2017) as illustrated in *Chart 2.8*.

Chart 2.8

The poverty rate under an EU-wide threshold is much higher than under the AROP indicator, but has declined

AROP and EU-wide AROP (millions of people)



Source: Authors' calculations, based on EU-SILC 2017 users' database.

Click here to download chart.

The reduction in poverty under the EU threshold was mainly due to improving income levels in Eastern Member States ([95]). As the top panel of *Chart 2.9* shows, while more than 60% of poor households under the EU threshold were located in Eastern Member States in 2010, this proportion had declined to less than 50% by 2017 (see especially the reduction in Poland) ([96]). However, the relative proportion of households in poverty under national (AROP) thresholds has not particularly changed across the different Member States over the same period (bottom panel *Chart 2.9*).

([93]) Future analyses may investigate relative income poverty by regional standards. A consequential application would be the poverty rate under 60% of regional median income. Also this measure may be relevant in light of the tendency for many individuals to consider their income needs by local standards and judge their relative income condition primarily in comparison with local standards (Hauser and Norton 2017).

([94]) See Chapter 1 Section 4 for an assessment of the at-risk-of-poverty (AROP) trend in the EU.

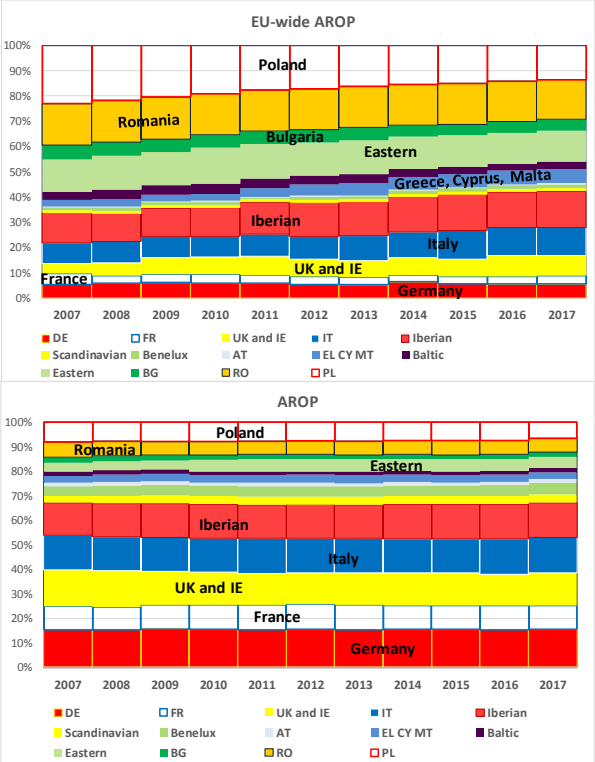
([95]) European Commission (2019a). Chapter 1. Section 4.5. EU-wide the poorest individuals are mainly located in the bottom-middle quintiles of their national income distributions in most Eastern Member States.

([96]) As highlighted in Goedemé, Zardo-Trinidade and Vandenbroucke (2018).

Chart 2.9

Poor households under the EU-wide threshold are mostly located in Central and Eastern Member States, although this is less the case after 2007

EU poor population by country, AROP and EU-wide AROP rate, 2007-2017



Note: Aggregate figure of individuals in poverty under the EU threshold and under national AROP thresholds respectively are in *Chart 2.8*.

Source: Authors' calculations, based on EU-SILC 2017 users' database

Click here to download chart.

This result was driven by increasing convergence in median incomes between EU countries, not always matched by relative increases in the income levels for the lower income groups. Previous studies indicate that the EU 'convergence machine' has been effective in stabilising and reducing differences in EU median incomes while inequality within countries has not reduced ([97]). This seems to be the case as middle-income groups of the relatively poorer EU countries are overrepresented among EU low-income households ([98]). Thus, while middle incomes in Eastern Member States have improved and crossed the EU poverty threshold, low incomes in these same Member States have not progressed fast enough to cross the national poverty lines.

All in all, analysing the poverty rate under an EU threshold provides useful information about income convergence between individuals across the EU and the dynamics of the income conditions of poor households in the EU, compared to EU median incomes.

([97]) Eurofound (2017); Filauro and Parolin (2019).

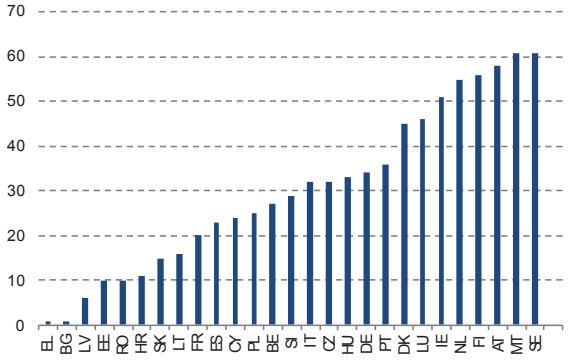
([98]) As d'Hombres et al. (2020, p. 39) put it: 'Developments in Central and Eastern Europe also explain the improving income levels of the poorest 18% across the EU. The vast majority of individuals among the poorest 18 % of the EU population live in Central and Eastern Europe, where even poor people enjoyed some increases in their income.'

However, people's perception of the income levels required to lead a decent life may differ from the 'official' 60% of national median income ([99]). In Bulgaria, Latvia and Greece, less than 10% of the total population state that they could make ends meet with an income that corresponds to the respective at-risk-of-poverty thresholds that apply to them, given their household size and country of residence. By contrast, more than half of the population can make ends meet with an income at the poverty threshold in Ireland, the Netherlands, Finland, Austria, Malta and Sweden.

Chart 2.10

The extent to which households can make ends meet with an income at the poverty threshold differs across countries

% of population where the self-reported income to make ends meet is equal to or below the respective at-risk-of-poverty threshold, 2017



Note: For each household the income needed to make ends meet as reported by reference person of each household (annualized, multiplied by 12) is compared to the at-risk-of-poverty threshold that applies to this household, given its composition and Member State of residence.

Source: Authors calculations, based on EU-SILC 2017 users' database.

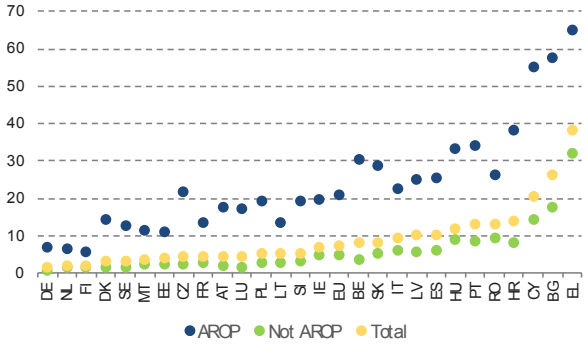
Click here to download chart.

In each Member State and across the EU, people at risk of poverty are more likely to report great difficulties in making ends meet than those who are not. However, the income-poor in the richest Member States are overall less likely to do so than even the non-income-poor in the least affluent Member States (*Chart 2.11*).

Chart 2.11

While income-poor households have more difficulties making ends meet in each Member State, country differences are large

% population reporting great difficulties in making ends meet by at-risk-of-poverty status, 2018



Source: Eurostat, based on EU-SILC [ilc_mdes09]

Click here to download chart.

([99]) Fabo and Guzi (2019)

Likewise, reference budgets suggest that the poverty thresholds do not suffice to cover basic needs in certain EU countries. A reference budget is defined as the value of a basket of goods and services that are considered necessary for people to reach an adequate living standard ([100]). When comparing the prices of these baskets to income-based national poverty lines, the latter are shown to be less adequate in the poorest Member States ([101]).

([100]) The composition of these baskets of goods and services has a major impact on results, and also reflects normative choices. Baskets can be established based on 'healthy living' guidelines (.e.g. adequate nutrition), on input from focus groups (in some cases targeting the most vulnerable), or a combination of both.

([101]) This is in line with Engel's Law, which states that as household income increases, food expenditure as a proportion of total expenditure decreases (even if absolute expenditure increases).

Crucially, in the least affluent Member States, income at the level of the poverty threshold may often not suffice to cover the cost of adequate food and housing, let alone other basic goods and services ([102]).

The choice of methods matters particularly when differences between countries are large. Upward convergence in living standards would not only benefit many Europeans greatly, in line with the EU's aims. It would also make the distinction between national and EU-wide poverty lines less pertinent. In view of the strong links between absolute income, living standards and fairness perceptions, promoting upward convergence in living standards is important.

([102]) Goedemé et al. (2015).

Box 2.2: Persistent risk of poverty and severe material deprivation

(Based on Karagiannaki, 2020, forthcoming)

For individuals and households, material deprivation and income poverty are distinct risks. While there is a degree of overlap, i.e. groups exposed to both risks, the intersections show a large variety of situations (see chapter 1, Chart 1.40).

A sizeable group of Europeans is at-risk-of-poverty without being materially deprived. This is particularly the case in countries with relatively high living standards and low material deprivation overall. Still, even in countries with high levels of material deprivation, there is a substantial mismatch between both risks, particularly among those at risk of poverty.

To some extent this may be linked to the dynamic nature of income poverty. Section 5 of this chapter shows that there are high rates of mobility into and out of poverty. A short spell of income poverty could be overcome using savings. Certain durables can be used regardless of income. Therefore, one could expect that among those in persistent income poverty ([1]) the overlap between material deprivation and income poverty would increase substantially. However, empirical analyses suggest that the time profile plays a rather limited role.

Comparisons of risks profiles show that the work intensity of the household has a larger impact on persistent poverty than on material deprivation. Inversely, household composition has a larger effect on material deprivation than persistent income poverty. This includes higher risks for material deprivation for single-person and single-parent households, as well as those headed by a woman. The presence of people with disabilities in the household also has a larger effect on material deprivation than on persistent poverty.

([1]) The persistent at-risk-of-poverty rate is defined as the share of people who are currently poor and were also poor 2 out of the 3 previous years.

5. SOCIAL MOBILITY AND POLICY ACTIONS AND THEIR IMPACT ON SOCIAL INCLUSION

5.1. Introduction

This section focuses on 'intra-generational mobility', one type of social mobility. The other important type of social mobility is 'intergenerational mobility'. Intra-generational mobility considers the extent to which socio-economic characteristics (most prominently income and labour market status) change - rather than remaining the same - over an individual's career or lifetime. Intergenerational mobility reflects the extent to which the socio-economic characteristics of children (particularly those related to education, occupation or income) are related to those of their parents ([103]). Most literature on social mobility has looked predominantly at intergenerational mobility, however intra-generational mobility is crucial because individual mobility in income and labour status over an individual's career may counteract trends in intergenerational mobility ([104]).

Intra-generational mobility of income and wages is strongly related to perceptions of fairness and willingness to 'tolerate inequality'. The higher the degree of mobility the more equality of opportunity exists. In line with the first principle mentioned in Section 1 according to which fairness may be assessed with reference to individual merit, high social mobility during the life course may trigger high degrees of tolerance for inequality as it indicates that skills and merit are well rewarded. In addition, income/wage mobility is crucial to whether the most vulnerable people in the society, can improve their situation over the very short or short term ([105]). This is in line with the second principle mentioned in Section 1 according to which fairness may be seen as prioritising those in need and the most vulnerable. Nevertheless, mobility may also be perceived as a negative phenomenon. Income and wage instability can be a sign of financial insecurity especially for those vulnerable people who may feel most exposed to risks and shocks ([106]).

The first part of this section analyses income and wage mobility, as well as labour market transitions. The analysis is based on longitudinal data from European Union Statistics on Income and Living Conditions (EU-SILC) ([107]) from 2017, which allows us to follow people's working careers and households' income conditions over four years. The focus of the analysis is on the most vulnerable workers and households in society and hence on upward mobility.

One important aspect of social mobility is the duration of poverty. The longer the individual stays in poverty, the greater is the likelihood of permanent social exclusion. It is necessary to take the time dimension into account in order to gain a more comprehensive picture of poverty and of the policies that can be effective in tackling it.

Incomes are clearly related to labour market transitions. Exiting poverty generally entails a transition from inactivity or unemployment to employment, while upward wage transitions for low-wage workers often take place when part-time workers get full-time jobs or when temporary workers find permanent occupations ([108]).

The analysis also tests whether there is an education effect in transitions, i.e. whether having a higher education level is linked to higher probability of making upward transitions. To do so, the section compares the performances of individuals at different education levels on two probabilities: the probability that unemployed people will become employed, and the probability that temporary workers will become permanent ([109]). In terms of educational outcomes, the inter-generational component of social mobility is also very important. Research shows that parental background has a significant impact on education and skills outcomes of their children ([110])

The second part of this section explores policy actions that could support the most vulnerable, by helping them to improve their financial and labour market situation. Two types of policies are analysed: (1) minimum income schemes and (2) minimum wage. The analysis focuses on the following questions: What is the impact of the minimum income and minimum wage on work incentives? Are minimum income and minimum wage stepping stones towards better wage and employment opportunities? If so, for whom and under which conditions?

5.2. Income and wage mobility

This section studies income and wage mobility, with a focus on the bottom of the distribution. It

([103]) Intergenerational mobility has been the focus of the 2017 edition of Employment and Social Development in Europe review (European Commission, 2017).

([104]) Jarvis and Song (2011).

([105]) Bachmann et al. (2016).

([106]) This was especially true for marginalised Roma living in segregated settlements when the coronavirus pandemic struck, and saw themselves cut from any source of income and formal or informal economic activity, leading to rising unemployment and poverty.

([107]) Longitudinal EU-SILC data are not available for Germany and Slovakia.

([108]) European Commission (2016a), Chapter 2 'Employment dynamics and social implications'.

([109]) This analysis complements European Commission (2019a), which delved into the probability of being employed by level of education and work experience during the highest educational level. In this year's contribution, the focus is on the transitions.

([110]) European Commission (2017), Chapter 3 'Working lives: the foundation of prosperity for all generations'.

looks at the persistence of poverty and at the degree of wage mobility.

5.2.1. Poverty dynamics

The share of the population which experiences poverty is higher when considering a multi-year time span than when looking at one year only. In general, when extending the scope of observation from the usual one year (as cross-sectional data do) to a four-year observation period (which is possible with EU-SILC longitudinal data), it becomes clear that many more people experience episodes of poverty. On average in the EU, 24% of the working age population were below the poverty threshold at some point during a four-year time span (2014-2017), compared to around 16% if only the last year of the survey, 2017, is considered. This shows that the extent of poverty is much wider than usually believed. Increasing further the observation period (beyond the four-year currently allowed by EU-SILC longitudinal data) would show that even more people have experienced poverty at some instance in their life.

Most people who are poor at a point in time have been poor before that point. Looking at the persistence of poverty shows that less than one fifth of the poor in the EU-SILC data were 'new poor' (i.e. poor for one year), meaning that they had not experienced poverty during the previous three years. On average, 69% of the poor had been poor also the previous year. Moreover, 26% were recurrently poor, they had escaped poverty the previous year, but fell into poverty again ([111]).

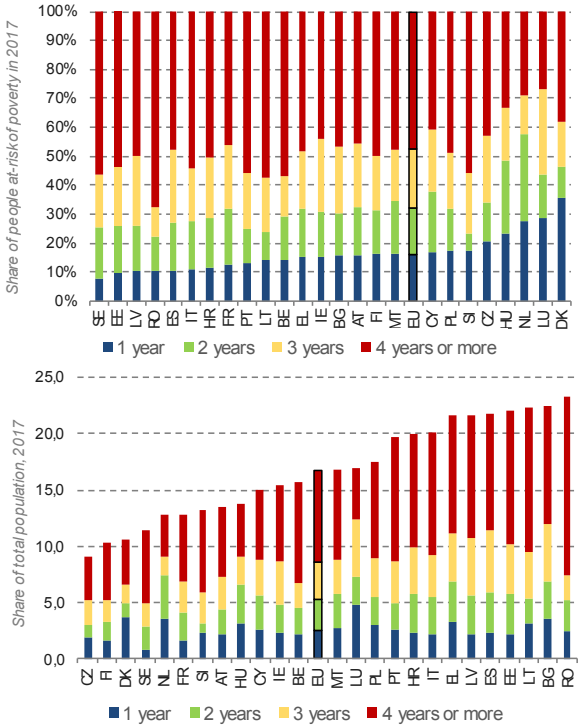
The persistent at-risk-of-poverty rate ([112]) allows the identification of people who live with low income for long periods of time. At EU level:

- 16% of those who were poor in 2017 (and present in the data for all four years) had not experienced episodes of poverty during the previous three years (i.e. were only poor in 2017);
- 16% were poor during two of the four years analysed;
- 20% were poor for three years; and
- and 48% of those poor in 2017 had been poor since 2014 (*Chart 2.12*, first panel).

Chart 2.12

Persistence of poverty differs a lot across the EU

Duration of poverty among individuals at-risk-of-poverty (first panel) and among the total population (second panel), 2014-2017



Note: The first panel is based on a sample that includes all individuals at-risk-of-poverty in 2017 who are present in the data in all four years (2014, 2015, 2016 and 2017). The second panel is based on a sample that includes the whole EU population in 2017. Therefore the height of each country-specific bar in the second panel is equal to the at-risk-of poverty rate in 2017 in that country (as based on the longitudinal data, which could slightly differ from the at-risk-of-poverty rate based on the cross-sectional data). EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

Poverty is a dynamic phenomenon that varies across countries. Entry and exit rates from poverty ([113]) are highly correlated with the poverty levels in one year (*Chart 2.13*). Unsurprisingly, in countries with higher poverty rates the risk of falling into poverty (entry rates, second panel in *Chart 2.13*) and remaining stuck in it (exit rates, first panel in *Chart 2.13*) are higher than in countries with lower poverty rates. Entry and exit rates from poverty are largely linked to economic events ([114]), and labour market outcomes play a major role. However, demographic events also play an important role in poverty transitions ([115]). For example, changes in the number of household members (due to the birth of a child, a new partner, separation or divorce, death, etc.) and falling ill are found to be strongly linked with entries and exits from poverty.

([111]) These shares reflect a period of long economic growth. The proportions might differ in 2020 and following years as a result of the COVID-19 crisis.

([112]) The persistent at-risk-of-poverty rate is defined as the share of people who are currently poor and were also poor 2 out of the 3 previous years.

([113]) Previous studies on poverty dynamics have also revealed high levels of mobility into and out of poverty (Vaalavuo, 2015).

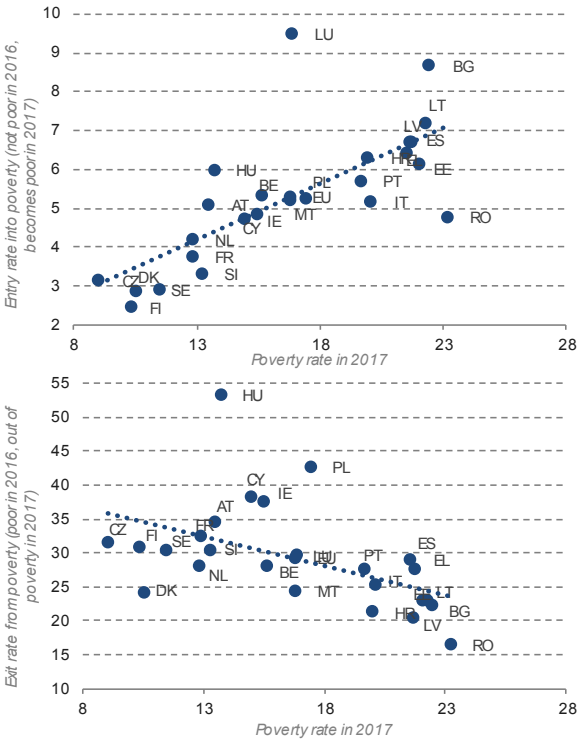
([114]) Layte and Whelan (2003).

([115]) Polin and Raitano (2014).

Chart 2.13

In countries with higher poverty rates the risk of falling into poverty and remaining stuck there are higher

Scatter plots of exit rate out of poverty and poverty rate (first panel) and entry rate into poverty and poverty rate (second panel), year-on-year transitions 2016-2017.



Note: EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

5.2.2. Income dynamics

Income mobility can be defined both in relative and in absolute terms and it can be both upward and downward ([116]). Relative income mobility is about reaching a better or worse position in the income distribution. Relative improvements and deteriorations in income do not necessarily imply a change in the absolute income level. Absolute income mobility refers to changes in the income level one started with. This section deals with both relative and absolute intra-generational income mobility. It starts with relative mobility across deciles of the income distribution, and then looks at absolute mobility in terms of significant increases or losses of income.

([116]) The concept of income used throughout the analysis is that of disposable income which include both market income sources and welfare state sources. Market income sources are: wages, self-employment income, capital income, public and private pensions. Welfare income sources include both household and individual benefits, as well as taxes on income and wealth. Wages are the main source of disposable income across all EU countries, though their weight ranges between 65% in Italy and Greece to above 90% in Denmark, Germany, Netherlands and Sweden (based on 2018 EU-SILC cross-sectional data).

Table 2.2

Relative income mobility is higher in the middle of the distribution and increases with the time-span

Two-year, three-year and four-year transition matrix by disposable income deciles, EU

		1	2	3	4	5	6	7	8	9	10
2016 deciles	1	62,2	18,5	7,2	4,1	3,0	2,3	1,5	0,8	0,8	0,9
	2	19,6	45,1	16,1	7,6	5,0	2,0	1,3	0,9	0,4	0,5
	3	6,9	20,3	39,5	15,6	7,8	3,7	2,4	1,3	1,1	0,5
	4	3,9	7,0	22,0	35,9	15,8	7,9	4,4	2,0	1,4	0,8
	5	2,5	4,0	6,8	20,7	36,1	15,5	7,7	3,8	2,0	1,0
	6	1,6	1,9	3,6	8,1	19,7	36,4	15,9	7,0	3,4	1,5
	7	1,1	1,2	2,2	4,3	6,5	20,9	38,2	17,7	6,2	2,9
	8	0,9	0,9	1,3	2,0	3,7	6,6	20,1	41,7	17,6	4,2
	9	0,7	0,7	1,0	1,1	1,6	3,2	6,3	20,3	50,1	15,6
	10	0,7	0,6	0,5	0,7	0,8	1,4	2,2	4,5	17,1	72,2
2015 deciles	1	53,3	18,7	9,9	5,5	4,0	2,9	2,1	1,5	1,1	0,9
	2	22,0	38,6	15,2	9,0	4,9	2,7	2,8	1,4	0,9	0,5
	3	9,2	22,9	32,7	16,3	9,3	5,6	2,8	1,4	1,5	0,6
	4	4,9	7,4	22,7	28,4	15,5	9,4	5,5	3,0	1,9	1,1
	5	3,8	4,8	8,4	20,6	28,6	15,8	8,9	4,7	2,9	0,9
	6	1,9	2,9	5,2	9,3	20,4	28,5	15,8	8,8	4,3	2,5
	7	1,7	1,8	2,8	5,4	9,5	20,3	29,9	17,9	8,1	3,2
	8	1,1	1,3	1,4	2,9	4,5	8,9	21,7	33,9	17,5	6,5
	9	1,1	1,0	1,0	1,7	2,3	4,0	7,7	21,1	42,3	17,5
	10	1,1	0,6	0,8	0,9	1,1	2,1	2,9	6,4	19,4	66,2
2014 deciles	1	51,4	22,3	14,3	10,5	7,8	7,1	5,9	5,2	5,1	5,5
	2	22,7	32,7	14,2	8,9	5,8	3,8	2,6	1,5	1,3	0,9
	3	8,9	21,2	27,2	13,3	8,6	6,8	3,5	2,0	1,7	1,0
	4	5,2	10,1	20,8	24,2	15,2	9,1	6,3	3,2	2,0	1,1
	5	3,3	4,8	9,3	19,6	23,7	14,1	9,8	4,7	4,3	1,0
	6	2,6	3,3	5,9	10,6	19,5	22,9	13,5	10,1	6,1	1,6
	7	2,2	2,0	3,6	6,9	9,1	19,8	25,6	14,8	9,7	4,2
	8	1,4	1,8	2,9	2,8	5,6	9,1	21,3	30,6	18,1	6,7
	9	1,3	0,9	1,3	2,3	2,7	4,9	8,5	20,6	33,5	18,8
	10	1,1	0,8	0,6	1,0	2,0	2,4	2,9	7,4	18,4	59,2

Note: All EU countries shown together. Figures refer to two-year transitions in the first panel (2016-2017), three-year transitions in the second panel (2015-2017) and four-year transitions in the third panel (2014-2017).

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download table.

The chances of relative income increasing over time – or the risks of it deteriorating – vary considerably across the different income deciles (segments of the income distribution) ([117]). Overall, relative income mobility is higher in the middle of the distribution (i.e. fourth, fifth and sixth deciles), while it is lower towards the extremes. In addition, relative income mobility increases significantly if the time span of observation is expanded from two years to four years (*Table 2.2*). This confirms that income mobility is a relatively slow phenomenon and the likelihood of improving the income position increases over time ([118]).

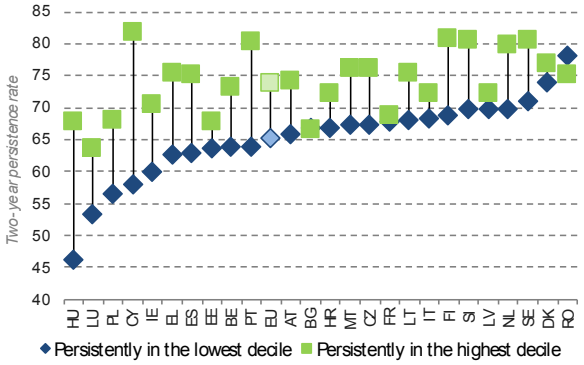
([117]) European Commission (2016a), Chapter 2 'Employment dynamics and social implications'.

([118]) Bachmann et al. (2016).

Chart 2.14

Low income mobility at the extremes of the distribution, and top incomes strongly persistent

Two-year persistence rates in the lowest and highest deciles (2016-2017)



Note: EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal microdata, 2017 UDB.

Click here to download chart.

The top and the bottom of the relative income distribution are highly persistent, with high income rankings even more persistent than low income rankings. Low mobility at the top of the distribution indicates that people in the top decile are well shielded against the risk of losing their top ranking position as they are less likely to move down in the income distribution than people in other income deciles ([119]). Low income mobility at the bottom is known as the 'sticky floor' effect, a pattern that persistently keeps people with low incomes at the bottom of the distribution. Overall, at EU level, 74% of people with very high incomes (those in the 10th decile) do not see their relative income position deteriorate from one year to the next, and are persistently high income-earners (*Chart 2.14*). High incomes are the most stable in Cyprus, Portugal, Slovenia, Finland, Sweden and the Netherlands. At the very bottom (individuals in the 1st decile), 65% of people do not see their relative income condition improve year-on-year. The main differences in patterns of income mobility across countries are at the bottom of the income distribution rather than at the top ([120]). This is important evidence also in light of the growing pessimism about people's chances of improving their income prospects and financial situation over the short term. These expectations, which are strongly interrelated with fairness perceptions, are likely to deteriorate in the context of the current COVID-19 crisis, as they deteriorated during the financial crisis ([121]).

([119]) Note that absolute income changes at the top are less likely to result in a change of decile, compared to absolute income changes at the bottom. This is due to the fact that bottom deciles are typically more 'compressed' than the top deciles.

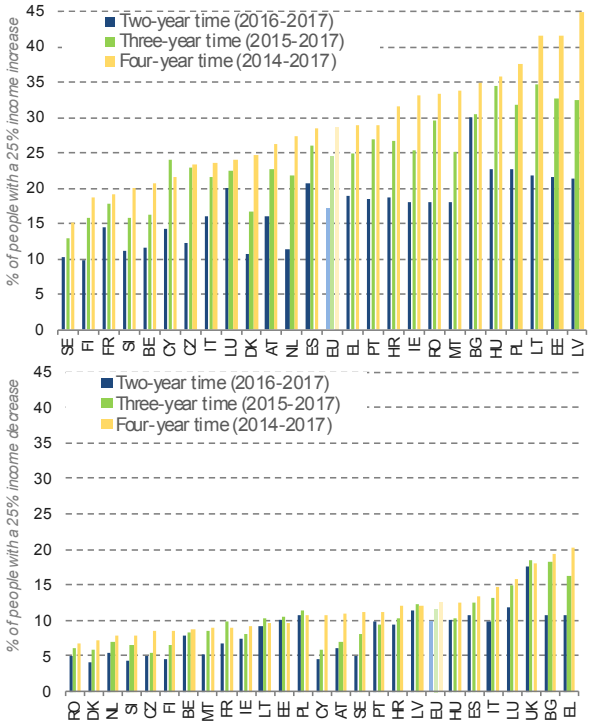
([120]) Jäntti and Jenkins (2013).

([121]) OECD (2018).

Chart 2.15

Significant improvements in incomes are more common than significant income deterioration in a stable growth period

Proportion of people who improve their disposable income by more than 25% (first panel) or decrease their disposable income by more than 25% (second panel), in two-year (2016-2017), three-year (2015-2017) and four-year (2014-2017) time spans



Note: EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal microdata, 2017 UDB.

Click here to download chart.

In absolute terms, upward income transitions of more than 25% are more common than downward income transitions of more than 25%. At the EU level:

- 17% of people have seen their income improve by more than 25% in two years;
- This 17% goes up to 25% if the time horizon is three years and 29% if it is four (*Chart 2.15*, first panel).

Baltic countries (Latvia, Estonia and Lithuania) have the highest proportion of people (above 40%) who saw their income increase significantly over a four-year period. Between 6 and 9% of individuals in the EU as whole lost more than 25% of income within two to four years (*Chart 2.15*, second panel). This is clearly linked to becoming unemployed Greece and Bulgaria saw the highest proportion of people experiencing significant income deteriorations. This evidence refers to a stable income growth period (2014-2017). Clearly, in a crisis period significant income deteriorations may well become more common.

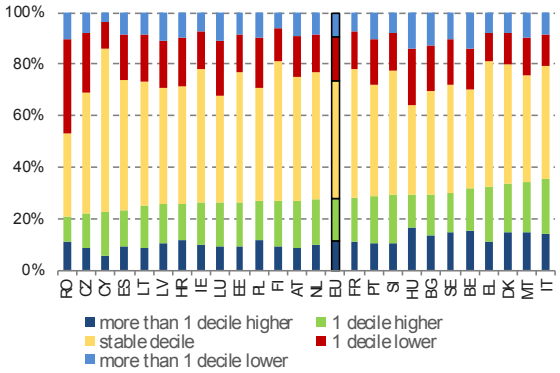
5.2.3. Wage dynamics

Whether and how individuals' wages change over time is important in terms of fairness perceptions. The extent and direction of relative wage mobility provide important insights into the possibilities of improving individuals' wage position over time (or the risks of their position deteriorating). However, the extent of upward and downward relative wage mobility may change over time and across the different segments (i.e. bottom, middle and top) of the wage distribution, as well as across different population groups.

Chart 2.16

The extent and direction of wage mobility differs significantly across EU countries

Hourly wage transitions within deciles over two years (2016-2017)



Note: Countries are ranked from left to right according to increasing upward wage transition (given by the sum of the dark blue and green bars). Hourly wages are defined in footnote 122. EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

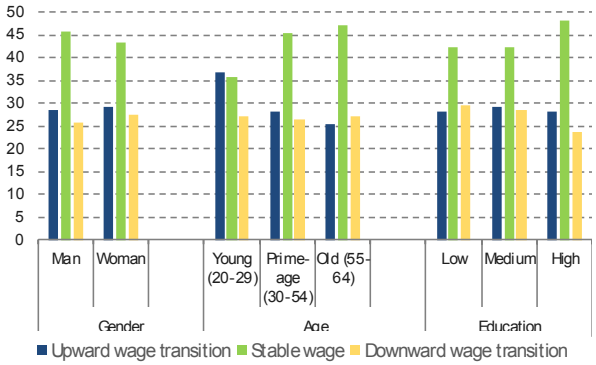
Countries differ a lot in the extent and direction of relative wage mobility. From one year to the next (2016-2017) around 46% of employees maintained their hourly wage decile ([122]), while 28% moved upward by at least one decile, and 26% moved downward (*Chart 2.16*). At country level, Romania showed the highest downward mobility (47%) and the lowest upward mobility (21%) ([123]) while Italy had the exact opposite situation (21% downward mobility and 36% upward mobility). Wage stability was highest in Cyprus (64% of employees did not change their wage decile). In general, mobility increases with the time span considered, especially at the bottom of the wage distribution.

Some individual characteristics influence wage mobility more than others. Empirical evidence shows that differences between women and men in relative hourly wage mobility are rather minimal across most Member States. By contrast, age seems to play an important role. Upward hourly wage transitions are more common among younger people (aged 20-29) while older workers (aged 55-64) have the lowest chances of improving their wage decile from one year to the next, given their seniority premium and generally higher wage level. In general, young workers experience the highest wage volatilities; they also have very high chances of moving down in the wage distribution. As concerns education, low and medium educated workers have the highest wage mobility (*Chart 2.17*). Highly educated people tend to maintain their (generally) high hourly wage level over time (i.e. 48% wage stability among highly educated employees based on year-on-year transitions). At the same time the risk of downward wage mobility is lowest (below 25%) among highly educated employees.

Chart 2.17

Upward wage mobility highest among younger people and downward wage mobility lowest among the most educated employees

Hourly wage transitions between deciles in two years (2016-2017), by individual characteristics, EU



Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

The dynamics of low-wage earners are of particular interest ([124]). How much persistence is there in low wages? What are the chances of low wage earners moving upward and what individual factors facilitate this transition? The likelihood of low-wage workers improving their financial situation is an important aspect of social mobility. While young people entering the labour market are expected to start at low wages (differentiated along

([122]) The wage information in EU-SILC is available at annual level. Hourly wages are calculated as annual wages divided by annual hours worked. Annual gross wages are available in the survey (variable PY010G), while annual hours worked are derived as total weeks worked per year (variables PL073 and PL074) multiplied by total hours worked per week (variable PL060). Given the discrepancy in EU-SILC between the income reference year (e.g. 2016 in EU-SILC 2017) and hours worked and employment status (2017 in EU-SILC 2017) and given that longitudinal data have been used in this analysis, the discrepancy is removed by using hours worked and employment status relative to the income reference year. Throughout the analysis nominal wages (i.e. not adjusted for consumer prices) are used.

([123]) Real wages in Romania have been growing at double-digit rates (year-on-year) since late 2015 (D'Adamo et al., 2019). Hence, a deterioration of wage decile may not necessarily imply an absolute wage deterioration as the median wage increased considerably over time.

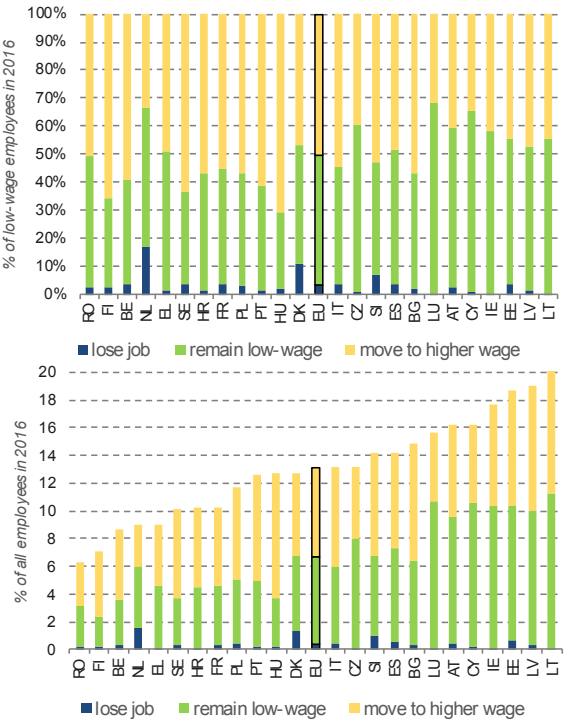
([124]) Low wages can be defined in many ways. The definition used in this chapter (low-wage earners are those with a wage below two-thirds of the country median hourly wage) is relative to the median wage in the country. The same definition is used in a Eurostat working paper (Ponthieux, 2010). Another relative definition of low-wage earners could for example include all employees in the bottom two (or three) deciles in the group of low-wage earners (see Lucifora and Salverda 2009 for a review of the topic).

a number of characteristics, including their skills and educational level), wage models based on a life-cycle perspective – such as the Mincer earning function ([125]) - predict that remuneration increases as experience is gained. Nevertheless, experiences of low remuneration increase the risk of future low-wage episodes. The phenomena of state dependence in low-wage situations may give rise to the so called 'low-wage careers'.

Chart 2.18

Around half of low-wage employees improved their wage level from one year to the next in the EU

Low-wage earners' transitions towards job loss, stable wage or higher wage level over two years (2016-2017), as a proportion of low-wage employees in t-1 (first panel) and all employees in t-1 (second panel)



Note: Low-wages defined in footnote 124. EU average is unweighted.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

Low wages seem to be a transitory phenomenon in most EU countries. Overall, at EU level 50.2% low-wage employees move to higher wages from one year to the next, while a lower proportion (46.5%) remain stuck with low wages (*Chart 2.18*, first panel). Only 3.3% of low-wage employees lose their job year-on-year, though this risk is considerably higher in some countries (such as the Netherlands ([126])) and is also likely to increase in the context of the COVID-19 crisis, given that vulnerable workers (such as young people with low wage levels) seem to be the most at risk of losing their jobs ([127]) as happened during the 2008 crisis ([128]).

5.2.4. Labour market transitions

The chances of escaping poverty and low wages, or of experiencing improvements in one's financial situation more generally, are strongly linked to labour market dynamics. The literature in the field shows that labour market transitions from and to employment are important for income transitions ([129]), and to build a fairer society.

Table 2.3

Temporary employees, especially part-time, are the most mobile individuals in the EU labour market

Two-year labour market transitions matrix (2016-2017), EU

2016 \ 2017	Permanent full-time employee	Permanent part-time employee	Temporary full-time employee	Temporary part-time employee	Self-employed	Inactive	Unemployed
Permanent full-time employee	90,8	2,2	1,5	0,2	0,8	2,7	1,8
Permanent part-time employee	13,6	73,8	0,7	1,9	0,9	5,3	3,8
Temporary full-time employee	22,7	1,3	56,4	3,4	1,8	3,4	11,2
Temporary part-time employee	6,2	11,1	9,9	47,6	1,8	7,3	16,2
Self-employed	3,3	0,8	1,2	0,3	89,0	3,3	2,3
Inactive	2,8	1,4	2,6	1,4	1,6	84,0	6,3
Unemployed	7,8	1,6	9,8	4,2	3,3	14,1	59,3

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download table.

Employees with temporary contracts and unemployed people are the most exposed to changes on the labour market, but the risk of downward transitions is high for those groups. In particular, more than half of temporary workers with part-time jobs change status the following year ([130]) (*Table 2.3*). The risk of becoming unemployed or inactive is high in this group (23.5%) and higher than the chances of getting a permanent job (17.3%). Temporary employees with full-time jobs have better prospects in the short term. Almost one quarter of them get a permanent position the next year (24%) while a lower proportion (14.6%) risk becoming unemployed or inactive. 59.3% of unemployed people in the EU remain unemployed and 14.1% move to inactivity. For inactive people the figures are worse. Indeed the vast majority of inactive (84%) remain inactive in the following year. For contrast, only 9.8% transit into some type of employment. Permanent full-time employees and self-employed are the most stable groups on the labour market in terms of status.

([125]) The Mincer (1958) earnings function is a single-equation model that explains wage as a function of schooling and experience, named after Jacob Mincer.

([126]) In the Netherlands the relatively low share of employees with low wages (below 9.0%, against an EU average of 12.4%) and the low proportion of low-wages employees who improve their wage level from one year to the next, make low-wage jobs a relatively uncommon, but also unattractive option in this country.

([127]) ILO (2020).

([128]) European Commission (2017).

([129]) See, among others, Bourreau-Dubois, Jeandidier and Berger (2003); Polin and Raitano (2014).

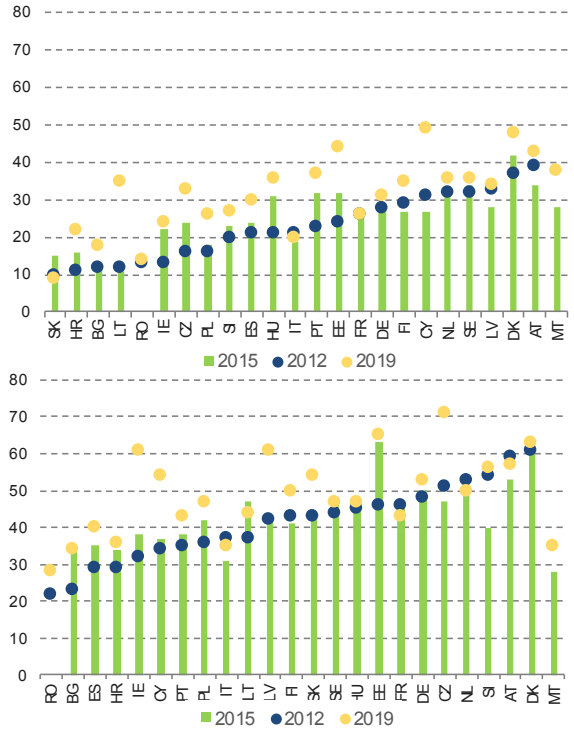
([130]) *Table 2.3* presents transitions across different labour market statuses from one year to the next. Seven different labour market statuses are reported. There are four employee profiles which combine contractual condition (temporary vs. permanent jobs) and working time arrangement (part-time vs. full-time jobs). In addition to these four types of employees there are self-employed, unemployed and inactive individuals.

Transitions from unemployment to employment are persistently higher among highly educated people ([131]). Focusing on the transitions from unemployment to employment, higher levels of education are linked to a higher probability of finding a job within 12 months. While this relationship has already been shown for the US ([132]) and the EU ([133]) labour markets in previous years, the evidence presented in this section confirms it, using the latest EU data. *Chart 2.19* displays the probabilities of low and highly educated people being in (or transitioning to) employment, obtained through logit regressions controlling for age and sex. On average, the probability of being employed increased for all levels of education between 2012 and 2019). This is probably linked to simultaneous improvements in the labour market (the employment rate in the EU increased from 67.6% to 73.1% in that time) ([134]). Sadly, these probabilities are likely to decrease following the Covid-19 crisis as it is expected that total employment will drop.

Chart 2.19

Higher levels of education raise the chance of finding a job within 12 months

Probability of unemployed with low (above) and high (below) education, to find a job within 12 months in 2012, 2015, and 2019 in EU.



Note: Data available for BE and LU only for 2019 and therefore excluded. Data missing for RO in 2012 and 2015, and for MT in 2012.

Source: Own calculations based on Eurostat experimental LFS flow statistics.

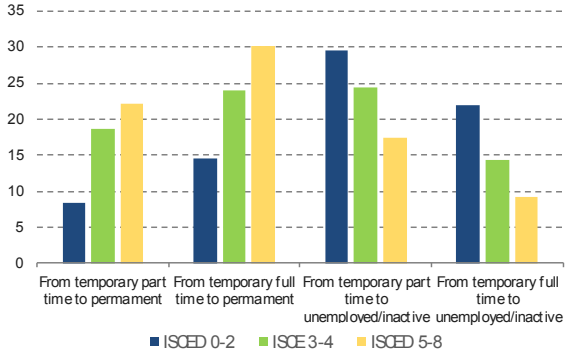
Click here to download chart.

Heterogeneity among Member States remains high, for institutional and historical reasons. While the transition rates from unemployment to employment improved almost universally (only in Italy did the probability of finding a job decrease for all groups), there remains a significant heterogeneity among countries. In 2019, unemployed people in the best-performing countries were more than three times as likely to find a job as unemployed people in the worst-performing countries. However, this is better than after the last (financial) crisis, when the probability of unemployed people finding a job ratio in the best-performing countries was more than six times as high as in the worst (notably Greece, the Member State most affected). Institutional factors, such as employment protection legislation and unemployment benefits, contribute to the heterogeneity ([135]). This heterogeneity may contribute to the different levels of fairness individuals perceive.

Chart 2.20

Higher levels of education raise the chance of finding a job within 12 months

Two-year labour market transitions (%) (2016-2017), EU



Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

In addition, education plays a role in transitions from temporary work to permanent work. The beneficial effects of a higher education level are also visible in other labour market transitions. For instance, *Chart 2.20* reports the aggregate rate for year–on-year labour market transitions of temporary workers, both part-time and full-time, based on EU-SILC data for 2016 and 2017. In 2016, tertiary-educated people with temporary contracts were twice as likely to obtain an open-ended contract within 12 months than those with only primary education ([136]). Conversely, those with only primary education were around twice as likely to be unemployed and inactive in the same time span. Results are similar at Member State level, although with differences across countries, in terms of both levels and the size of variations.

([131]) Note that overall around one quarter of unemployed become employed (including self-employment) within 12 months (*Table 2.3*).

([132]) Riddell and Song (2011).

([133]) European Commission (2016b).

([134]) Figures are based on Eurostat experimental LFS flow statistics. Descriptive statistics based on EU SILC confirm comparable patterns between unemployment to employment transitions and level of education. Inactivity to employment transitions display similar trends.

([135]) Ward-Warmedinger and Macchiarelli (2013).

([136]) In line with what was discovered by, among others, Högberg, Strandh, and Baranowska-Rataj (2019).

5.3. Minimum income and minimum wages: interactions and effects on individual mobility

Policies related to minimum standards are the core of a fair society, not least because of their positive impact on individual mobility. Minimum income and minimum wage policies are linked to the second principle of fairness presented earlier: fairness requires the most vulnerable to be prioritised and protected, by establishing a 'social floor'. Policies that not only provide income protection, but also create the right incentives to work, help individuals to improve their labour market situation: as a result they may have a positive influence on individuals' perceptions of how fair society is.

This section considers the interaction between minimum income and minimum wage schemes. It does so with a view to improving labour market transitions and achieving better matching, as well as preventing social exclusion. Due to the complexity of minimum income schemes, the analysis focuses on the working age population (20-64) who are not in employment and not eligible for social insurance benefits, or whose entitlement to such benefits has expired. Minimum income schemes are here considered as last resort schemes designed to ensure a life in dignity for individuals and their dependents, combined with access to services and activation measures. Benefits of last resort therefore include social assistance benefits as well as other means-tested assistance payments typically received by families with no other income sources. Minimum wages in the analysis include statutory minimum wages for the majority of Member States. For countries with collectively agreed wage floors, an average is used as proxy ([137]).

The distance between the net minimum income ([138]) and the net minimum wage as a share of the median disposable household income is a measure of financial incentives to get a job. These incentives depend on how much income is lost as someone moves from inactivity (at minimum income) to a job which pays the minimum wage (on which workers would pay a tax) ([139]). Therefore, minimum wage and minimum income should be set in a way in order to enhance work incentives, thus improving their impact on poverty reduction. There is an *'inextricable link between minimum wages, minimum income protection and work incentives for low productive workers'* and for this reason '*… a broad focus on minimum incomes should be taken'* ([140]) ([141]) In some countries (Malta, Luxembourg, Germany, the Netherlands and Ireland), minimum income and minimum wage levels are close to each other and therefore work incentives may be weak (*Chart 2.21*) ([142]). In some other countries (Romania, Greece and Portugal), the difference between minimum income and minimum wage is quite high, raising concerns that minimum income schemes may not provide adequate income replacement. In addition, across all Member States but Ireland and the Netherlands, single childless people receiving the minimum income are generally at-risk-of-poverty, meaning that minimum income schemes do not usually lift recipients out of poverty. By contrast, single childless minimum wage earners are at or above the poverty line in the majority of EU countries.

([137]) All Member States in the EU have minimum wages, set through collective agreements (also called 'collectively agreed wage floors') or legislative provisions ('statutory minimum wages'). The six countries in the EU with collectively agreed wage floors are Austria, Cyprus, Italy, Denmark, Finland and Sweden. For more details on how statutory minimum wages and collectively agreed wage floors relate to each other, see European Commission (2016c) and Eurofound (2020).

([138]) In line with indicators agreed by the EU Social Protection Committee (https://ec.europa.eu/social/main.jsp?catId=758) for minimum income benchmarking, minimum income levels are identified based on the OECD TaxBEN model (http://www.oecd.org/social/benefits-and-wages/). This model refers to minimum income benefits as cash benefits 'that aim at preventing extreme hardship and employ a low-income criterion as the central entitlement condition'.

([139]) Note that the comparison between minimum income schemes and minimum wages is not the only possible comparison relevant for the incentive effects of minimum wages. In particular, not everyone who might consider taking up a minimum wage job receives minimum income benefits. People in other circumstances include those on unemployment or disability benefits or those not eligible for the minimum income benefit (e.g. because their partner is working).

([140]) Cantillon et al. (2015).

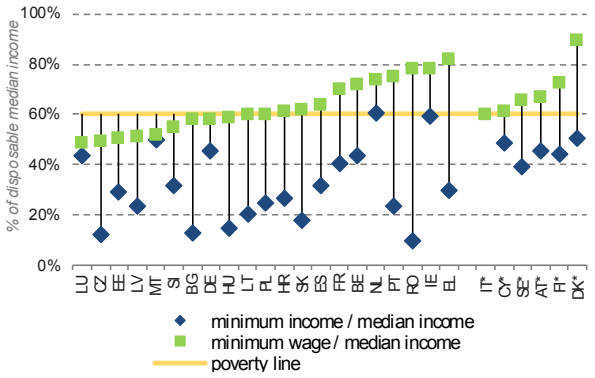
([141]) This approach is also in line with Principle 14 of the Pillar of Social Rights, which states that 'everyone lacking sufficient resources has the right to adequate minimum income benefits ensuring a life in dignity at all stages of life, and effective access to goods and services. For those who can work, minimum income benefits should be combined with incentives to (re)integrate into the labour market'.

([142]) *Chart 2.21* reflects the situation for single childless families. Clearly the variation with family size in minimum income benefits plays an important role in determining work incentives.

Chart 2.21

The distance between minimum income and minimum wage is a measure of financial incentives to get a job

Net household income of a single childless person receiving the minimum income or earning the minimum wage relative to the median disposable household income, 2018



Note: The single childless minimum income earner considered in the chart is entitled to housing benefits (if available) which top-up the social assistance benefits. The single minimum wage worker is not entitled to social assistance and housing benefits. * Figures for countries with collectively agreed wage floors.

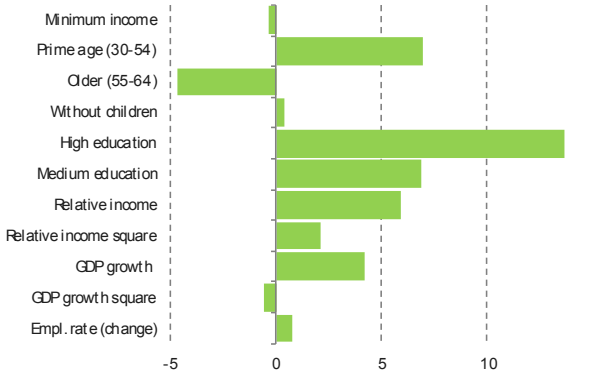
Source: Own calculations based on OECD TaxBen model. Median incomes are based on Eurostat flash estimates for BE, DE, ES, FR, IE, LT, LU, MT, PT, SK, UK, CY and IT. For all other countries official Eurostat median incomes have been used.

Click here to download chart.

Chart 2.22

Minimum income does not seem to be a major work disincentive

Factors connected to transitions from inactivity/unemployment to employment



Note: Average marginal effects of logit regression multiplied by 100 are shown in the Chart. The model also includes country fixed effects. Full model available upon request. The relative income is defined as the individual disposable income minus the poverty threshold as a share of the latter.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

A crucial question in this context is: are minimum income and minimum wage schemes stepping-stones towards better employment opportunities and higher incomes? Exploring longitudinal EU-SILC data helps to answer the following questions: are minimum income recipients likely to find a job, or are they more likely to remain benefit recipients? Do minimum wage earners have good prospects of finding better employment opportunities, at higher wages, or are they more likely to remain minimum wage earners? The section explores factors connected to chances of exiting minimum income and minimum wage.

The effect of having received minimum income benefits on the probability of being employed the following year has been analysed through a logit regression ([143]) (*Chart 2.22*). Minimum income benefits are here considered as all non-contributory and means-tested benefits available in EU-SILC (see Annex 2.3 for the identification of minimum income beneficiaries). Overall at EU level, the probability of getting a job the following year is around 1 pp lower for those who receive minimum income support compared to those who do not. Although this marginal effect is negative and statistically significant, the magnitude is very low suggesting that the minimum income does not have a major impact on the participation in the labour market. The neutrality of minimum income schemes with respect to access to the labour market is also confirmed by a counterfactual analysis (*Box 2.3*).

All other variables included in the regression report significant relationships. Being in the prime age (30-54) has a positive effect if compared to younger (20-29) and older (55-65) people, whereas being older has the highest negative marginal effect (-4.6 pps). Not surprisingly, education plays a key role in the probability of finding a job. Indeed, the highest level of education is associated with the highest positive effect (13.6 pps) and the general positive correlation between education and transition to employment is confirmed by the marginal effect of medium education (6.8 pps). The relative income ([144]) has a positive and relevant effect, as also shown by the coefficient of its square. This finding confirms that individuals with a very low income – far from the poverty threshold – are stuck outside the labour market and require several other forms of support to sustain their return to work.

Benefiting from a minimum income benefit does not necessarily reduce participation in the labour market. The empirical analysis presented above suggests that on average, minimum income benefit schemes currently in place do not have a significant adverse impact on work incentives. Other recent analyses have led to similar conclusions ([145]). These insights are important as the impact of work incentives is a key concern in policy decisions with regard to the level of minimum income benefits. Available evidence indeed shows that incentives to work play a role in labour market transitions ([146]), in particular as regards transitions from unemployment to work. It is therefore crucial to ensure that minimum income floors protect vulnerable people by representing

([143]) In order to ensure targeting only the population potentially eligible for the minimum, the observations in the right-hand tail of the distribution of the relative income are excluded from the regression. The distribution, taking in account only minimum income recipients, is trunked at the value=mean + standard deviation (0.68).

([144]) Relative income is calculated as ((income - poverty threshold)/ poverty threshold). By construction this variable is negative for people below the poverty line and positive for people above the poverty line. The higher the relative income is the higher the income of the person is.

([145]) De La Rica and Gorjón (2019).

([146]) OECD (2005 and 2020).

Box 2.3: Counterfactual analysis on the role of minimum income in getting a job

The neutrality of minimum income schemes in getting a job is confirmed by a counterfactual analysis (where the minimum income represents the treatment). Using the same variables as the logit regression in Chart 2.23, an inverse-probability-weighted regression adjustment model (IPWRA) ([1]) has been produced. The average treatment effect ([2]) for the people receiving the minimum income in 2016 (ATET) is reported (Table 1). Their probability of finding a job in 2017 is only slightly lower (-0.39 pps) than it would have been if they had not received the minimum income (16.41%) ([3]). The average treatment effect (ATE) is also shown in Table 1. It refers to what would have been observed if the entire population had been treated (i.e. if they had all received the minimum income), and it is -0.28 pps lower than the baseline probability (15.47%), the average probability of transition to employment in the population if no one had been treated. Such results confirm that the disincentive to work determined by the minimum income is low, and not large enough to outweigh the benefits deriving from its income support to the most vulnerable.

Table 1
Effect of receiving minimum income (1) on the probability of moving into employment, relative to people not receiving minimum income (0).

Transition to employment	Coeff.	Robust Std. Err.
ATET		
Minimum Income		
(1 vs 0)	-0.39 (pps)	0.0000
Potential Output mean		
Minimum Income		
0	16.41 (%)	0.0000
ATE		
Minimum Income		
(1 vs 0)	-0.28 (pps)	0.0001
Potential Output mean		
Minimum Income		
0	15.47 (%)	0.0000

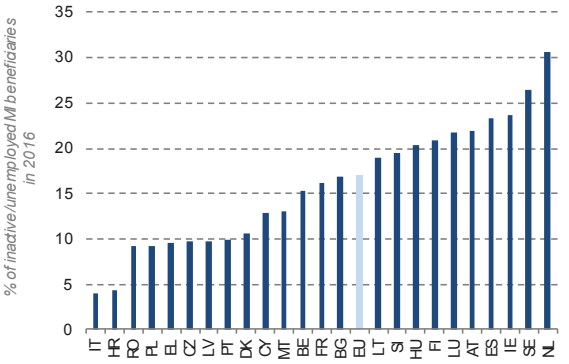
Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

([1]) In the implementation of the underlying logit model on the likelihood of being minimum income recipient in 2016, we only use non-monetary micro variables and country dummies, whereas the entire set of variables is used for the underlying logit model predicting the employment status in 2017.
([2]) The average treatment effect is the effect we would have observed had the entire population been treated.
([3]) In order to understand how this model constructs measurements of these unobserved potential outcomes (counterfactuals), see: https://blog.stata.com/2015/07/07/introduction-to-treatment-effects-in-stata-part-1/

the lower limit of the larger social protection systems, while avoiding disincentives to work. At the same time a combination of passive and active policies is key to avoid any potential work disincentives arising from cash transfers through minimum income support ([147]). Recent literature also shows that there is no significant trade-off between the adequacy of out-of-work benefits and public expenditure on active labour market policies ([148]).

Overall, slightly more than one sixth of minimum income beneficiaries without a job get one the following year *Chart 2.23*). This proportion is not significantly different from that of non-minimum income beneficiaries getting a job from one year to the next.

Chart 2.23
Around one-sixth of minimum income beneficiaries without a job get one the following year in the EU
Transition rates from inactivity/unemployment to employment within two years (2016-2017)



Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.
Click here to download chart.

([147]) Frazer and Marlier (2016); De La Rica and Gorjón (2019).
([148]) Iacono (2017).

In many cases minimum wage acts as a stepping stone towards higher wages ([149]) and reduces the risk of job separation (and wage deterioration), as well as the risk of having stagnant wages. This is what emerges from an ordered logistic regression (*Chart 2.24*). It analyses the factors that lead to:

- increasing the wage level by at least 25% (green bars),
- wage stability (yellow bars), and
- decreasing the wage level by at least 25% or the job separation (blue bars)

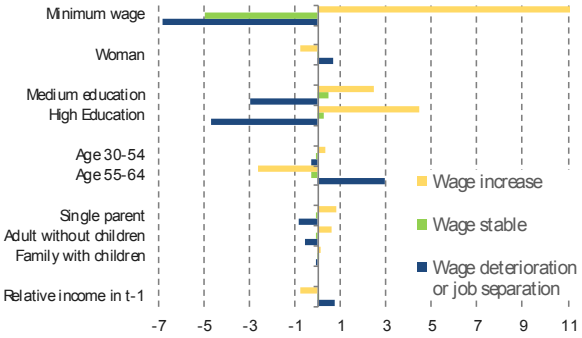
from one year to the next (2016-2017). ([150])

When considering wage progression of minimum wage earners vis-a-vis earners elsewhere in the wage distribution, our analysis finds that workers receiving minimum wages ([151]) stand a 11.8 pps higher chance of significantly improving their wage in the short term than others. This finding underscores that minimum wage jobs can be a stepping stone towards higher wage jobs and is in line with available evidence on single countries ([152]). Along the same lines, receiving a minimum wage decreases by -4.9 pps the risk of having stagnant wages from one year to the next. Most importantly, receiving a minimum wage decreases the risk of significant wage deterioration by -6.8 pps in the following year, including the risk of job separation. The regression models also control for socio-demographic characteristics, including education. The fact that better educated workers stand better chances of positive wage transitions (as shown in section 2.3) is therefore taken into account. However, it does not take into account second-round workforce composition effects which impact on average productivity. Overall a separate analysis of the German data (German Socio-Economic Panel, SOEP) over the period 2004-2017 supports the general findings of the positive impact of the minimum wage (*Box 2.4*).

Chart 2.24

In many cases minimum wage can act as a stepping stone towards higher wages

Average marginal effects (%) from an ordered logit regression – Dependent categorical variable: wage increase of at least 25% from one year to the next (yellow bars), wage broadly stable from one year to the next (green bars), wage decrease of at least 25% from one year to the next, which includes job separation (blue bars)



Note: All variables reported are statistically significant. The model also includes country fixed effects. Reference categories are: no minimum wage earner, man, age 20-29, single person Full model available upon request. The relative income is defined as the individual disposable income minus the poverty threshold as a share of the latter.

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

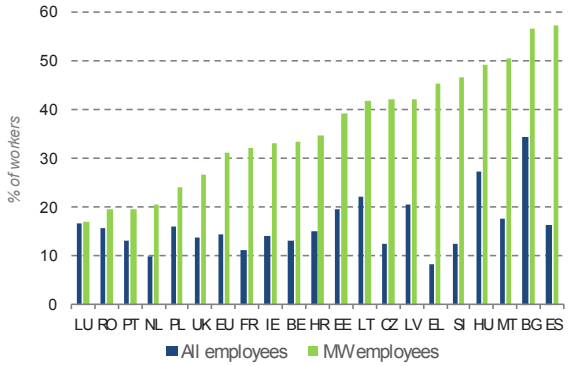
Click here to download chart.

The role of minimum wages as stepping stones towards significantly higher wages varies substantially across the EU. In some countries (e.g., Spain and Bulgaria) more than half of minimum wage earners saw their wage level improve by at least 25% above the statutory minimum wage between 2016 and 2017 (*Chart 2.25*). This improvement was below 20% in Luxembourg, where no significant differences from upward transitions for all employees were measured.

Chart 2.25

More than one in four minimum wage workers improve their wage level significantly year-on-year

Upward wage transition of at least 25% within two years (2016-2017), among all employees and minmum wage earners only



Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB. Only countries with statutory minimum wage are included in the Chart.

Click here to download chart.

The magnitude of the minimum wage's country-specific stepping stone effects is estimated through a logit model. Interactions between the minimum wage dummy variable and countries have been included and their marginal effects on the probability of increasing the wage by

([149]) Note that people at the bottom of the wage distribution have higher chances of moving upward than those who already have higher wages and this is true both in presence and in absence of a statutory minimum wage.

([150]) The three aspects constitute the three different categories of the dependent variable used in the ordered logit regression.

([151]) To identify minimum wage, the full-time equivalent gross monthly wage has been calculated by dividing the EU-SILC variable of annual cash gross earnings (PY010G) by the number of months worked in full-time jobs (PL073) plus the number of months worked in part-time jobs (PL074). However, the number of months worked in part-time jobs is scaled down by a country-sex specific factor equal to the ratio of median hours of work in part-time jobs to median hours of work in full-time jobs. This methodology has been used in other studies on minimum wages (Brandolini et al., 2010; Eurofound, 2019). By estimating the number of respondents who earn an income that is equivalent to the annualised national minimum wage, it is possible to approximate the percentage of workers in each country who earn the minimum wage. A minimum wage earner will be considered as an individual whose full-time equivalent gross monthly wage ranges between 80% and 105% of the monthly minimum wage for a full-time employee.

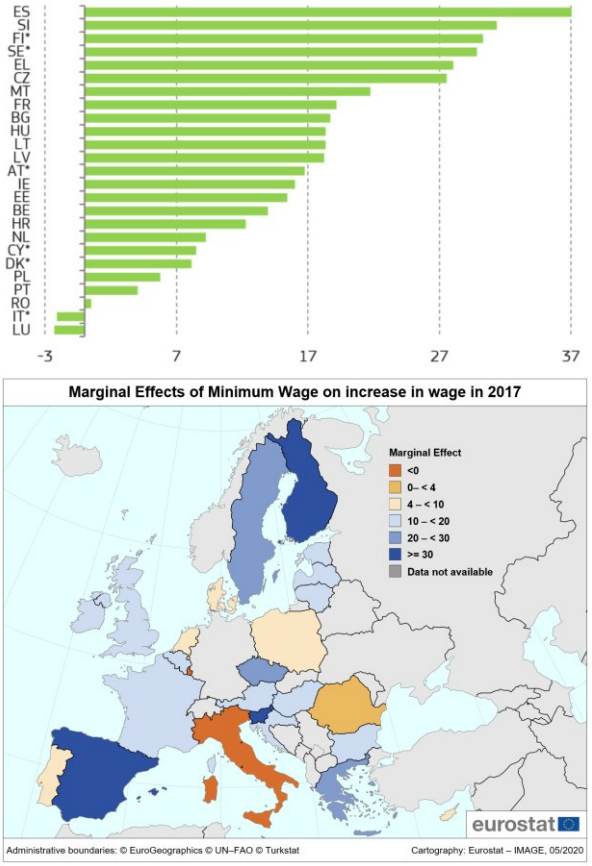
([152]) Jones et al. (2005).

at least 25% from one year to the next are calculated accordingly (*Chart 2.26*). The analysis shows that in the short run (year-on-year transitions) the minimum wage plays a role as a stepping stone to significant higher wage levels in all countries except Luxembourg (and Italy, which however is one of the six countries in the EU with collectively agreed wage floors).

Chart 2.26

The stepping stone role of minimum wages is generally high, but there are big differences across the EU

Country-specific effects of being a minimum wage worker on the probability of upward wage transition by at least 25% within two years (2016-2017)



Note: Average marginal effects of logit regression (%) are shown in the Chart and in the map. The model also includes the following variables: gender, educational level, age groups, household composition, relative income. Reference categories are: no minimum wage earner, man, age 20-29, single person Full model available upon request. The relative income is defined as the individual disposable income minus the poverty threshold as a share of the latter. *Member States with collectively agreed wage floors taken from Eurofound (2019).

Source: Own calculations based on EU-SILC longitudinal micro-data, 2017 UDB.

Click here to download chart.

Spain is the country in the EU where workers earning the minimum wage have the highest chance of a significant wage increase year-on-year. More precisely, the probability of significant upward transition between 2016 and 2017 was 37 pps higher for a minimum wage worker than for other workers in Spain. Other countries with a high effect include Slovenia, Greece, Czech Republic, and Malta (Finland and Sweden among the six countries with collectively agreed wage floors) ([153]).

([153]) In these countries minimum wage earners are at least 20 pp more likely than non-minimum wage earners to have managed upward wage transition between 2016 and 2017.

The effect is medium-high ([154]) in France, Bulgaria, Hungary, the three Baltic countries and Ireland (plus Austria among the six Member States with collectively agreed wage floors). A medium level ([155]) is found in Belgium and Croatia. The effect is medium-low ([156]) in the Netherlands and Poland (plus Cyprus and Denmark among the six countries with collectively agreed wage floors), low in Portugal and very low in Romania.

([154]) In these countries the likelihood of upward transition is above 15 pps but below 20 pps higher for minimum wage workers.

([155]) In these countries the likelihood of upward transition is above 10 pps but below 15 pps higher for minimum wage workers.

([156]) In these countries the likelihood of upward transition is above 5 pps but below 10 pps higher for minimum wage workers.

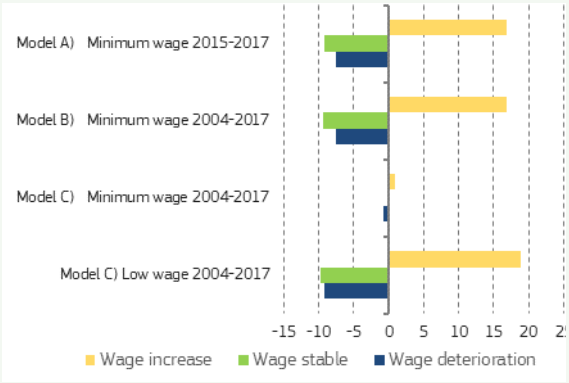
Box 2.4: The minimum wage in Germany.

The minimum wage, introduced in Germany in 2015, has not hindered the process of upward wage mobility and the improvement of the labour market conditions of the earners. The analysis of German data (1) over the period 2004-2017 supports the general findings of the section concerning the positive impact of the minimum wage (MW). Chart 1 presents the main results from a set of logit models, where the dependent variable is a categorical variable built on three different wage transitions from one year to the next: wage increase of at least 25% (yellow bars), wage broadly stable (green bars), or wage decrease of at least 25%, which includes job separation (blue bars).

Chart 1

Minimum wage does not prevent upward wage convergence

Average marginal effects (%) from an ordered logit regression – Dependent categorical variable: Wage increase of at least 25% from one year to the next (yellow bars), wage broadly stable from one year to the next (green bars), wage decrease of at least 25% from one year to the next, which includes job separation (blue bars)



Note: All reported coefficients are statistically signficant at 5%.
Source: JRC calculations based on SOEP micro-data.

The first specification (A) represents the baseline regression including the main variable of interest (MW) and additional control variables. This model, covering only the last 3 years (2015-2017), shows the positive impact of the minimum wage: -7.5% for the wage decreasing transition, -9.2% for stable wage and +16.7% for wage increasing transition.

The second specification (B) adds the years 2004-2014, when the statutory MW was not in place, as counterfactual observations. However, certain wage floors did already exist in Germany before 2015, particularly as an outcome of collective wage negotiations at industry or company level. Nevertheless, in this case, the sectoral wage floors are part of the wage setting process between unions and employers. The results show the impact of the statutory minimum wage on top of the existing labour market institutions and wage setting mechanisms. Model B also includes year dummies to control for aggregate shocks. The results confirm the baseline findings.

The third specification (C) includes an additional covariate capturing low wage earners (LW), which is a dummy variable equal to one for individuals earning less than 60% of the median FTE full-time equivalent income from work. The 60% threshold is broadly consistent with the level of the minimum wage in 2015 and 2016: the Kaitz index (2) calculated from the data is 56% for 2015 and 54.7% for 2016. Consequently, the upper threshold for the MW earner dummy (5% above the minimum wage) is just 1.2-2.6 pps below the low wage threshold of 60%.

This additional regressor significantly reduces the previously estimated impact of the minimum wage. There is no doubt that previous results were also driven by the fact that low wage income earners are, on average, more likely to experience large wage increases in the following period. Nevertheless, the impact estimated in the model C highlighs a positive effect of the minimum wage, although quite small. In other words, workers at the bottom of the wage distribution have higher chances of moving upward than those who already have higher wages and this is true both in presence and in absence of a statutory minimum wage floor. The results show that minimum wages (being these statutory or not) are most likely to be a transitory condition as even in the short run upward transitions are very frequent at the bottom of the wage distribution. This suggests that the adoption of the minimum wage does not seem to have significant adverse effect on employment and wage improvements. These results are broadly consistent with the recent literature finding negative employment elasticities (of a minimum wage increase), but small even four years after the introduction (3).

(1) This analysis makes use of the German Socio-Economic Panel (SOEP), which is a longitudinal survey of approximately 11000 private households in the Federal Republic of Germany from 1984 and the eastern German länder from 1990 produced by the Deutsches Institut für Wirtschaftsforschung (DIW).

(2) The Kaitz index is the ratio of the nominal legal minimum wage to median wage.

(3) Harasztosi and Lindner (2019).

6. CONCLUSION

Amid a deep economic crisis and in the face of major economic and societal shifts, the EU aims to promote social fairness. Building on a unique social model, the EU and its Member States aim to ensure a swift recovery and just transitions towards a greener and more digitalised economy. The aim is to find equitable measures for a population that is growing older and becoming more diverse. While the COVID-19 pandemic is a shock to all countries, its economic impact is asymmetric across Member States and the prospects of recovery are uneven. In this context, it is even more important to promote fairness and upward convergence, in line with the European Pillar of Social Rights.

When discussing fairness, it is important to consider alternative criteria to share burdens and benefits. Whether a given distribution is considered fair often depends on the perspective: rewarding merit, caring for the needy or promoting equality of outcomes or opportunities.

Across Member States, there is a broad consensus on what a fair society should aspire to. The overwhelming majority of Europeans agree that hard work needs to be rewarded. Most Europeans also agree that the basic needs of all - and particularly the poor - should be met. The need to ensure equal opportunities enjoys broad support. Views are more mixed on the (lack of) fairness of inequalities in wealth and income per se.

There are large differences in how fair Europeans consider their own lives, and those of others in their country, to be. In Member States with higher median incomes, the population tends to assess fairness more favourably. For individuals, their own ability to make ends meet has a large impact on their perceptions of fairness. The hardships households have reported in on-line surveys during the COVID-19 pandemic will probably make fairness issues more important in public debates.

Over the past 30 years, a growing number of people have come to consider inequalities in their country as too large. While views on fair levels of wage dispersion have remained relatively stable, perceived levels of wage inequality have increased significantly. This misalignment may trigger dissatisfaction in large segments of the population.

Relative income poverty is primarily measured by national standards. A theoretical EU-wide standard of poverty shows higher numbers of households in poverty (mainly located in Central and Eastern Member States) than national poverty standards show. Yet this EU-wide standard of poverty also shows a larger reduction in poverty between 2007 and 2017, as a result of income convergence between EU countries. People's experience of the income levels needed to avoid poverty and live a decent life may not match national poverty thresholds. In some of the more affluent Member States, more than half of the population state that they could make ends meet with an income at the poverty threshold. However, this drops to less than 10% in other countries, particularly those with lower average income levels.

The risk of poverty over several years is more widespread than annual rates suggest. The majority of people who are poor at a point in time were already poor before. Compared with the poverty rates in a given year, more people will have had at least one episode of poverty over 4 years. Countries with higher poverty rates also tend to have higher proportions of people falling into poverty, and lower proportions moving out.

Relative income mobility mainly concerns the middle of the distribution, with much more stability at the bottom and - in particular - at the top. Countries differ a lot in the extent and direction of relative wage mobility. And younger workers are most likely to experience major wage mobility from one year to the next.

Slightly more than one sixth of minimum income recipients without a job go on to work and minimum wage earners improve their wage significantly year-on-year. Experimental evidence and data on actual transitions shows that a minimum income would not have a substantial negative effect on the propensity to work. In addition, minimum wage workers are found to have higher chances of significantly improving their wage in the short term than other workers. This shows that it is possible to find policy solutions to satisfy Europeans' different conceptions of fairness.

ANNEX 2.1: DATA SOURCES ON FAIRNESS PRINCIPLES AND PERCEPTIONS

The **European Social Survey (ESS)** is an academically driven cross-national survey that has been conducted across Europe since its establishment in 2001. Every two years, face-to-face interviews are conducted with newly selected, cross-sectional samples. The 2018 dataset contains a specific module on fairness and justice.

Currently, data are available for 22 Member States. Additional data are expected for Denmark. No data have been collected in 2018 for Greece, Luxembourg, Malta or Romania.

The **European Values Study (EVS)** is a large-scale, cross-national, repeated cross-sectional survey research programme on basic human values. The European Values Study started in 1981 when a thousand citizens in the European Member States of that time were interviewed using standardised questionnaires. Every nine years, the survey is repeated in a variable number of countries.

The 2017 data collection covers Austria, Bulgaria, Croatia, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Poland, Romania, Slovakia, Slovenia, Spain and Sweden.

ANNEX 2.2: LOGISTIC REGRESSIONS ON FAIRNESS PRINCIPLES AND PERCEPTIONS

Table 2.4
Average marginal effects in a logistic regression predicting support for different fairness principles

		Work	Poor	Priv_inv	Equal
Sex	Woman (ref)	0	0	0	0
	Man	.023	-.008	-.004	-.019
Age	15-29	.022	.002	-.037	.002
	30-44 (ref)	0	0	0	0
	45-59	.018	.034	.026	.009
	60-74	.019	.049	.034	-.004
	75+	.034	.081	.024	.016
Income	Comfortable	.005	.016	.023	-.102
	Coping (ref)	0	0	0	0
	(Very) difficult	-.014	.009	.006	.057
Activity status	At work (ref)	0	0	0	0
	Unemployed	-.020	.030	-.024	.068
	Retired	-.008	-.003	-.022	.051
	Inact	-.020	.006	-.035	.042

Note: Cells marked in green (p<1%); orange (1%>p<5%); white (p>5%). Country dummies included in model, but not reported in table.

Source: Authors' calculations based on European Social Survey 2018.

Click here to download table.

Dependent variables are binary (0-1), where 1 combines 'strongly agree' and 'agree', to certain statements on a fair society. 0 includes 'neither agree nor disagree, disagreeing or strongly disagree).

- Work: A society is fair when hard-working people earn more than others.
- Poor: A society is fair when it takes care of those who are poor and in need, regardless of what they give back to society.
- Priv-Inv: A society is fair when people from families with high social status enjoy privileges in their lives. Inverted, 1 refers to those (strongly) disagreeing.
- Equal A society is fair when income and wealth are equally distributed among all people.

Table 2.5
Average marginal effects in a logistic regression predicting perceived fairness

		Education	Job	Income	Wealth
Sex	Woman (ref)	0	0	0	0
	Man	.024	.051	.042	.008
Age	15-29	.056	.070	.021	.005
	30-44 (ref)	0	0	0	0
	45-59	-.037	-.080	-.010	-.009
	60-74	-.096	-.148	-.003	-.019
	75+	-.197	-.221	.058	.010
Income	Comfortable	.142	.136	.180	.036
	Coping (ref)	0	0	0	0
	(Very) difficult	-.156	-.170	-.253	-.029
Activity status	At work (ref)	0	0	0	0
	Unemployed	-.069	-.158	.045	.021
	Retired	-.032	-.011	.017	-.002
	Inact	-.058	-.099	.096	.003

Note: Cells marked in green (p<1%); orange (1%>p<5%); white (p>5%). Country dummies included in model, but not reported in table.

Source: Authors' calculations based on European Social Survey 2018.

Click here to download table.

Dependent variables are binary (0-1):

- Education: Compared to other people in [country of residence], I have had a fair chance of achieving the level of education I was seeking. [1= agreeing or strongly agreeing]
- Job: Compared to other people in [country of residence], I would have a fair chance of getting the job I was seeking. [1= agreeing or strongly agreeing]
- Income: Would you say your net pay/pensions/social benefits is unfairly low, fair, or unfairly high? [1=fair]
- Wealth: In your opinion, are differences in wealth in [country] unfairly small, fair, or unfairly large? [1 = fair]

ANNEX 2.3: MINIMUM INCOME BENEFICIARIES: IDENTIFICATION STRATEGY IN EU-SILC

The identification of minimum income beneficiaries is not straightforward in EU-SILC and required some assumptions. Four variables have been used. These are:

- HY060: Social exclusion not elsewhere classified – contributory and non-contributory, means-tested and non-means-tested;
- HY063: Social exclusion not elsewhere classified – non-contributory and means-tested;
- PY090: Unemployment benefits – contributory and non-contributory, means-tested and non-means-tested;
- PY093: Unemployment benefits – non-contributory and means-tested.

Among those variables HY060 and HY063 are household benefits (i.e. each individual of the household is recorded as receiving the benefit when the household collectively receives it), while PY090 and PY093 are individual benefits.

An ideal way of identifying minimum income beneficiaries in EU-SILC would be to consider those individuals receiving PY093 or living in households receiving HY063. These two sub-variables are however not available before 2017 for many countries (i.e. Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Latvia, Romania and Sweden). In addition, given the discrepancy between income variables (which reference year is t-1) and all other variables in EU-SILC, the 2017 benefits' variables refer to 2016. For this reason the sample used in the regression analysis presented in Section 3 is made by all individuals who were receiving either PY093 or HY063 and were inactive or unemployed in 2016 and aged 20-64. The dependent variable is the transition from out of work (inactive/unemployed) to at work (employee/self-employed) between 2016 and 2017.

For some countries further choices were made. The variables PY093 and HY063 are not available for Estonia and Greece, hence the broader PY090 and HY060 were used instead for these two countries. Moreover, for Malta and Denmark an upper bound to PY093 and HY063 was applied, as in those countries the system is more universal (almost all observations in EU-SILC report a low amount of HY063 for example).

References

Bachmann, R., Bechara P., and S. Schaffner (2016), 'Wage inequality and wage mobility in Europe', *Review of Income and Wealth*, 62.1, 181-197.

Blanchet, T., Chancel, L. and A. Gethin (2019), 'How Unequal is Europe? Evidence from Distributional National Accounts, 1980-2017', *WID.world Working Paper,* 2019/06.

Bobzien, L. (2020), 'Polarized perceptions, polarized preferences. Understanding the relationship between inequality and preferences for redistribution', *Journal of European Social Policy*, 30(2), 206–224.

Bourreau-Dubois C., Jeandidier, B. and F. Berger (2003), 'Poverty Dynamics, Family Events, Labour Market Events in Europe: are there any differences between women and men?', *The 2003 Conference of the European Panel Users Network*, Available at: https://pdfs.semanticscholar.org/b428/de75f2b8dcf523c1065a6a9e806914b0f9cc.pdf

Brandolini, A., Rosolia, A. and R. Torrini (2010), 'The distribution of employees' labour earnings in the European Union: data, concepts and first results', in Atkinson, A. B. and Marlier, E. (eds.), *Income and living conditions in Europe*, Eurostat Statistical Books, Luxembourg, Publications Office of the European Union, 265–288.

Cantillon, B., Marchal S., and C. Luigjes (2015), 'Decent incomes for the poor: which role for Europe?', *ImPRoVE Working Paper*, No. 15/20.

Colagrossi, M., Karagiannis, S. and R. Raab (2019), 'The Median Voter Takes it All: Preferences for Redistribution and Income Inequality in the EU-28', *JRC Working Papers in Economics and Finance, 2019/6*, Luxembourg: Publications Office of the European Union.

Council of the European Communities (1985), *Council Decision of 19 December 1984 on specific Community action to combat poverty*, 85/8/EEC.

D'Adamo, G., Hesse, N., Hartley, J., and N. Bîea (2019), 'Wage Dynamics in Romania', *Economic Brief,* 044, Luxembourg: Publications Office of the European Union.

Clark, A. and C. D'Ambrosio (2020, forthcoming), 'Fairness, Status and Intergenerational Mobility in Europe', *Social Situation Monitor research notes*.

d'Hombres, B., and F. Neher (eds.), Colagrossi, M., Blaskó Cseres-Gergelyne, Z., Naszodi, A., Pontarollo, N., Schnepf, S., Agúndez García, A., Barrios, S., Bastianelli, E., Benczúr, P., Cassio, L. G., Cseres-Gergely, Zs., Cuccu, L., d'Andria, D., De Palo, C., Dessart, F. J., Dewandre, N., Ftergioti, S., Jara, H. X., Harasztosi, P., Karagiannis, S., Kvedaras, V., Langedijk, S., Maftei, A., Marandola, G., Martínez-Turégano, D., Mondello, S., Picos, F., Raab, R., Saisana, M., Serra, N., Teixeira Mendonça, F., Thiemann, A. and A. Tumino (2020), *Beyond averages - Fairness in an economy that works for people*, Luxembourg, Publications Office of the European Commission, doi:10.2760/20683.

De La Rica, S., Gorjón, L. (2019), 'Assessing the impact of a minimum income scheme: the Basque Country case', *SERIEs* 10, 251–280 (2019). https://doi.org/10.1007/s13209-019-00203-2

Eurofound (2017), *Income inequalities and employment patterns in Europe before and after the Great Recession*, Publications Office of the European Union, Luxembourg.

Eurofound (2019), *Minimum wages in 2019: Annual review*, Luxembourg, Publications Office of the European Union.

Eurofound (2020), *Minimum wages in 2020: Annual review*, Luxembourg, Publications Office of the European Union.

European Commission (2016a), *Employment and Social Developments in Europe Annual Review 2016*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

European Commission (2016b), *Analytical Web Note 1/2016 - Labour Market Transitions*. Available at: https://op.europa.eu/en/publication-detail/-/publication/2861a7f5-d22a-4e3c-b155-34825cda1212/language-en

European Commission (2016c), *Labour Market and Wage Developments in Europe Annual Review 2016*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

European Commission (2017), *Employment and Social Developments in Europe Annual Review 2017*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

European Commission (2018), *Employment and Social Developments in Europe Annual Review 2018*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

European Commission (2019a), *Employment and Social Developments in Europe Annual Review 2019*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

European Commission (2019b), *Delivering on European Common Goods: Strengthening Member*

States' Capacity to Act in the 21st Century, Brussels, European Political Strategy Centre.

European Commission (2019c), 'Europeans' perceptions of fairness' *JRC Science for Policy Briefs*, Joint Research Centre.

European Commission (2019d), *2019 Report on equality between women and men in the EU*, Luxembourg, Publications Office of the European Union.

European Commission (2020a), *A Strong Social Europe for Just Transitions*, COM/2020/14 final.

European Commission (2020b), *Europe's moment: Repair and Prepare for the Next Generation,* COM/2020/456 final.

European Commission (2020c), *The EU budget powering the recovery plan for Europe*, COM/2020/442 final.

European Commission (2020d), *European Skills Agenda for sustainable competitiveness, social fairness and resilience*, COM/2020/274 final.

Filauro, S. (2018), *The EU-wide income distribution: inequality levels and decompositions*, Brussels, Directorate-General for Employment, Social Affairs and Inclusion.

Filauro, S. and Z. Parolin (2019), 'Unequal unions? A comparative decomposition of income inequality in the European Union and United States', *Journal of European Social Policy*, *29*(4), 545-563.

Frazer, H., and E. Marlier (2016), 'Minimum Income Schemes in Europe: A study of national policies 2015', Brussels, *European Social Policy Network*.

Goedemé, T., Storms, B., Stockman, S., Penne, T., and K. Van den Bosch (2015), 'Towards cross-country comparable reference budgets in Europe: first results of a concerted effort', *European Journal of Social Security*, 17(1), 3-30.

Goedemé, T., Zardo Trindade, L., and F. Vandenbroucke (2018), 'A pan-European perspective on low-income dynamics in the EU' Chapter 3 in B. Cantillon, T. Goedemé, and J. Hills (eds), *Decent Incomes for All. Improving Policies in Europe*, Oxford, Oxford University Press..

Heidenreich, M. (2016), 'The Europeanization of income inequality before and during the eurozone crisis: inter-, supra- and transnational perspectives', In *Exploring Inequality in Europe*. Cheltenham, UK: Edward Elgar Publishing. doi: https://doi.org/10.4337/9781783476664.00006

Harasztosi, P., and A. Lindner (2019), 'Who Pays for the Minimum Wage?' *American Economic Review*, 109 (8): 2693-2727.

Hauser, O. P. and M. I. Norton (2017), '(Mis) perceptions of inequality', *Current Opinion in Psychology,* 18, 21-25.

Högberg, B., Strandh, M., and A. Baranowska-Rataj (2019), 'Transitions from temporary employment to permanent employment among young adults: The role of labour law and education systems', *Journal of Sociology*, 55(4), 689–707. https://doi.org/10.1177/1440783319876997

Iacono, R. (2017), 'Minimum income schemes in Europe: is there a trade-off with activation policies?', *IZA Journal of European Labor Studies*, (2017), 6:1.

ILO, (2020), 'ILO Monitor: COVID-19 and the world of work. Fourth edition Updated estimates and analysis', https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_745963.pdf

Jäntti, M., and S. Jenkins (2013), 'Income Mobility', *IZA Discussion Paper,* No. 7730.

Jarvis, B. F. and X. Song (2017), 'Rising Intragenerational Occupational Mobility in the United States, 1969 to 2011', *American Sociological Review*, 82(3), 568–599.

Jones, M. K., Jones R. J., Murphy P. D. and P.J. Sloane (2005), 'The Dynamics of the National Minimum Wage: Transitions between Different Labour Market States', *IZA Discussion Paper* No. 1690.

Karagiannaki, E. (2020, forthcoming). 'Persistent Risk of Poverty and Severe Material Deprivation*', Social Situation Monitor research notes*.

Layte, R., Whelan, C., (2003), 'Moving in and out of poverty: the impact of welfare regimes on poverty dynamics in the EU', *European Societies*, 5: 2, 167–91.

Lucifora, C., and W. Salverda (2009), 'Low pay', *Oxford Handbook of Economic Inequality*, Ch. 11.

Meltzer, A.H. and S.F. Richard (1981), 'A Rational Theory of the Size of Government', *The Journal of Political Economy,* 89(5), 914–27.

Mincer, J. (1958), 'Investment in Human Capital and Personal Income Distribution', *Journal of Political Economy*, 66 (4): 281–302.

OECD (2005), 'Increasing financial incentives to work: the role of in-work benefits', *Employment Outlook*, Chapter 3. Available at: https://www.oecd.org/els/emp/36780865.pdf

OECD (2015), *In It Together: Why Less Inequality Benefits All*, Paris, OECD Publishing, https://doi.org/10.1787/9789264235120-en.

OECD (2018), *A Broken Social Elevator? How to Promote Social Mobility*, Paris, OECD Publishing, http://dx.doi.org/10.1787/9789264301085-en

OECD (2019), *Under Pressure: The Squeezed Middle Class*, Paris, OECD Publishing, https://doi.org/10.1787/689afed1-en

OECD (2020), 'Designing fair and workoriented unemployment benefits: The case of Belgium', *OECD Social, Employment and Migration Working Papers* No. 237.

OECD (2021, forthcoming), *(Mis)perceptions of inequality and preferences for redistribution*.

Penne, T., Cussó Parcerisas, I., Mäkinen, L., Storms, B., and T. Goedemé (2016), 'Can reference budgets be used as a poverty line?', *ImPRovE Working Paper,* N°16/05.

Polin, V. and M. Raitano (2014), 'Poverty transitions and trigger events across EU groups of countries: Evidence from EU-SILC', *Journal of Social Policy*, 43(4), 745-772.

Ponthieux, S. (2010), 'In-work poverty in the EU'. *Eurostat: Methodologies and working papers*, Luxembourg, Publications Office of the European Union.

Riddell W.C. and X. Song (2011), 'The Impact of Education on Unemployment Incidence and Re-employment Success: Evidence from the U.S. Labour Market', *IZA Discussion Paper,* No. 5572. Available at: http://ftp.iza.org/dp5572.pdf

Sen, A. (1980), 'Equality of what?', *The Tanner lecture on human values*, 1, 197-220.

Sen, A. (1999), 'Commodities and capabilities', *OUP Catalogue.*

Vaalavuo, M. (2015), 'Poverty Dynamics in Europe: From What to Why', *Working Paper,* 03/2015, Luxembourg, Publications Office of the European Union.

Ward-Warmedinger, M. E., and C. Macchiarelli (2013), 'Transitions in Labour Market Status in the European Union', *LEQS Paper,* No. 69.

CHAPTER 3

Inclusive growth and solidarity in the EU: challenges, policy levers and the way forward

1. INTRODUCTION ([157])

Promoting people's well-being is a fundamental aim of the European Union and its social market economy ([158]). This implies delivering high living standards for all, an ambitious goal which can be attained by adopting a model of development grounded in inclusive and sustainable growth. Delivering inclusive growth relies on the twin pillars of high potential growth and fairness (a fair distribution of the fruits of growth) and is expected to reinforce social cohesion ([159]). The balancing of competitiveness, social objectives and care in the use of the planet's scarce resources is established in the Treaty as an indispensable basis of sustainable development. Based on these founding principles, the European model of a social market economy has largely succeeded in delivering on this promise for decades. Through its commitment to the UN Sustainable Development Goals, the Europe 2020 strategy and the Green Deal, the EU has explicitly put inclusive and sustainable growth at the top of its agenda.

([157]) This Chapter was written by Elizaveta Archanskaia, Stefano Filauro and Jörg Peschner. Petrica Badea, Thomas Blanchet, Anamaria Maftei, Maria Chiara Morandini, Giuseppe Piroli, Argyrios Pisiotis, Sara Riscado and Toon Vandyck provided contributions and analytical advice.

([158]) TEU, Articles 3 (1), 6 and 9 (consolidated version). The horizontal social clause in Article 9 requires in particular that the definition and implementation of all EU policies and actions must take into account social objectives, including the promotion of a high levels of employment, education, training and protection of human health as well as the guarantee of adequate social protection, the fight against social exclusion.

([159]) See OECD (2014).

Social fairness and solidarity have been a central focus of the Commission, including in response to the Covid-19 crisis. Since its adoption in November 2017, the 20 principles of the European Pillar of Social Rights have been the EU's compass in the pursuit of upward convergence in economic and social outcomes. The preoccupation with social fairness and solidarity also resonates strongly in the Commission's headline ambition of "An economy that works for people and the planet" for the period until 2027 ([160]). One of its primary concerns is to enhance economic prosperity by reinforcing social fairness. To be sustainable and inclusive, the development model must ensure that the fruits of economic growth and the costs and benefits of transitions are broadly shared ([161]). The Recovery Plan of 27 May has reinforced this focus, stressing that 'solidarity, cohesion and convergence must drive Europe's recovery. No person, no region, no Member State should be left behind' ([162]).

The EU aims to promote social fairness in the face of concurrent major structural shifts and the deepest recession in decades. What scale of resources does this effort require? This section seeks to explore both the macro-economic benefits and the costs of strengthening fairness and solidarity so as to leave nobody behind. These considerations become ever more pressing in the wake of deep structural changes such as those linked to the digital and climate transitions, and under the burden of fighting a crisis as pronounced as the Covid-19 pandemic, with its severe socio-economic impacts.

The chapter explores this broad question in three steps, treated in separate sections. Section 2 analyses growth dynamics in the EU and its Member States. It assesses how inclusive the distribution of growth has been among different income groups, to ascertain whether growth has reduced or reinforced pre-existing income inequality. Section 3 explores policies that could strengthen fairness in the face of population ageing. The analysis focuses on policy levers such as closing the gender gaps in the labour market, supporting longer working lives and new working time arrangements, and promoting higher educational attainment in order to enhance fairness in the domain of employment and pension entitlements. Section 4 estimates the investment needed to promote fairness and solidarity at times of fast structural change or recession. Estimates focus on unemployment benefits, re-training and tools that can effectively mitigate employment decline, such as Short-Time Work Schemes (STW).

([160]) See the President's Political guidelines for the European Commission (2019).

([161]) European Economic and Social Committee (2019).

([162]) European Commission (2020j).

2. LEAVING NO ONE BEHIND: WHO BENEFITS FROM GROWTH?

This section analyses the strength of growth and its variability over the cycle in the EU and its Member States over the period 2007-2017. It then evaluates whether different income groups benefited equally from growth. The growth process is seen as inclusive when, in accordance with the Sustainable Development Goal on inequality, income growth for the bottom 40% of the population has been at least as high as income growth per capita. This definition echoes one of the common criteria by which Europeans assess the fairness of outcomes.

The overarching goal of the European Union is to deliver high and sustainable living standards for all ([163]). The evolution of aggregate production (GDP) and of national income (GNI) ([164]) gives *prima facie* evidence on the ability of the economy to produce goods and services and to generate income from which people live. However, it is not possible to gain a full understanding of the evolution of living standards by tracking developments in these macro-economic aggregates. The inclusiveness of growth must be evaluated as well as its strength ([165]). Also, these measures have only limited value when it comes to assessing whether a certain model of development is sustainable. Yet the strength of the growth in national incomes is an important indication of the ability of the European economy to generate income and reinforce citizens' purchasing power. It also helps to evaluate whether upward convergence is being achieved by EU Member States.

Ensuring inclusive and sustainable growth matters not only for social cohesion but also for growth potential. The bulk of income inequality in the EU is attributable to differences between individuals *within* countries (as opposed to differences *between* countries) ([166]). High income inequality tends to become entrenched and to be associated with increasing inequality of opportunity, contrasting with the spirit of the principles enshrined in the European Pillar of Social Rights ([167]). As discussed in Chapter 2, low

([163]) This is both a political goal and a legal commitment of the EU to 'promote its peoples' well-being' and to 'work for the sustainable development of Europe based on balanced economic growth' (TEU, Article 3 (1) (consolidated version)).

([164]) Gross National Income (GNI) differs from GDP in that it takes into account the primary balance of income with the rest of the world. See **Annex 3.1a** for details.

([165]) Not least because per capita income growth does not inform on the distribution of growth in the population, but also because measured output does not suffice to track wellbeing. Outcomes in multiple areas of life contribute to determining living standards. See e.g. OECD (2018) as well as Boarini R., Murtin F. and Schreyer P. (2015).

([166]) See Filauro and Parolin (2019).

([167]) See the European Pillar of Social Rights, especially Chapter I

social mobility reduces incentives to invest in human capital and results in lower potential growth, while putting into question the fairness of the growth model ([168]). Keeping track of how income growth is shared among different income groups helps us assess whether the growth process is inclusive. It also indicates the extent to which economic growth today not only increases aggregate income but also improves the welfare of those worst off. The caveat to this approach is that it does not track the ability of individuals to move up the income distribution over time ([169]).

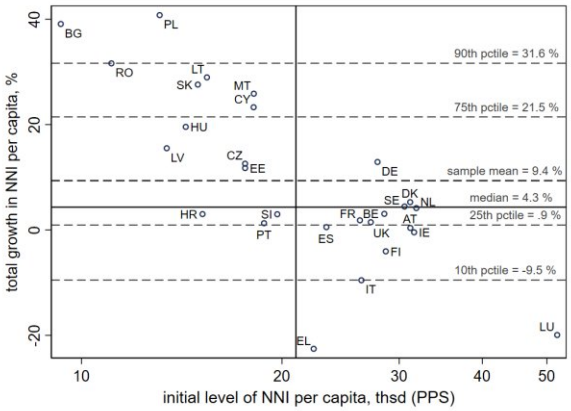
2.1 Income convergence within the EU

Recent growth trends in national income show some evidence of convergence among EU Member States. Net national income (NNI) is a measure of the aggregate income in the economy. This indicator tracks most closely the evolution of income that is effectively attributable to domestic households. For most EU countries net national income evolves very similarly to the productive capacity of the economy, i.e. its GDP, but there are also cases where the two diverge because some of the domestic income is attributed to foreign households and vice versa (see **Annex 3.1a** for details and for a comparison between NNI and GDP)**.** *Chart 3.1* plots total growth in NNI over the period 2007-2017 (vertical axis) against NNI level in 2007 (horizontal axis) ([170]). The chart shows that countries with initially lower levels of national income grew more strongly than countries with initially higher levels of national income. Average income growth in the EU countries amounted to 9.4%, but less than half of all countries achieved this level of income growth: the median country (Sweden) saw net national income grow by only 4.3% ([171]).

Chart 3.1

Countries with initially lower levels of net national income (NNI) tended to experience stronger growth

Total growth in net national income (NNI), 2007-2017, plotted against its initial level in 2007 (in thousand PPS)



Source: Authors' calculations based on AMECO data.

Click here to download chart.

But there are significant differences in the strength of growth among countries with a similar initial level of income. Countries with initially comparable levels of net national income saw differences of up to 30 percentage points in total income growth. Net national income growth was below 1% in seven countries (Greece, Luxembourg, Italy, Finland, Ireland, Spain, Austria), with some countries experiencing 10-20% losses in income, indicating stagnation or deterioration in living standards.

Income convergence in the EU is also evident if one looks at the evolution of household disposable income. Net household disposable income (HDI) is a complementary and useful indicator for tracking income developments, as it focuses on income that is effectively pocketed by households and thus available for consumption ([172]). For most EU countries, the evolution of primary income (NNI) and of disposable income (HDI) are closely aligned. Yet they may differ, because the former does not incorporate remittances while the latter disregards income that is not effectively distributed, such as imputed rents or retained earnings, thereby tending to underestimate total household income, in particular that of better-off households. On average, growth in household disposable income exceeded growth in net national income in the EU over the period 2007-2017 ([173]). *Chart 3.2* plots total growth in **net household disposable income** (HDI) over this period (vertical axis) against its initial level in 2007 (horizontal axis). The finding of

https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en

([168]) See Chapter 2 for a more extensive discussion of 'fairness'.

([169]) Therefore the distribution of growth across income groups needs to be complemented with the evaluation of intra-generational income mobility, i.e. how mobility across income groups changed over time.

([170]) NNI measures total income generated by all sectors of the economy in a year. It differs from GNI in that it subtracts the consumption of fixed capital from GNI. See **Annex 3.1a** for details.

([171]) See Eurofound (2018).

([172]) Net disposable income takes into account the redistribution of income that occurs in the national economy but also between countries (e.g. remittances). Net *household* disposable income focusses on the primary income that effectively arrives in the pockets of households. See **Annex 3.1a** for details.

([173]) European Commission (2016) investigated reasons behind divergence in NNI and HDI growth. See **Annex 3.1a** for details.

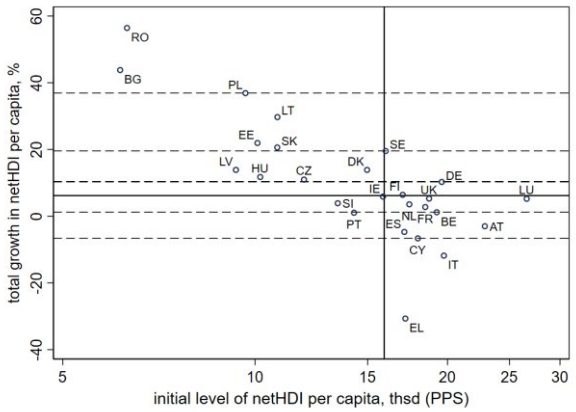
intra-European income convergence holds under this income concept as well.

In a number of countries, household purchasing power failed to improve between 2007 and 2017. Growth in net household disposable income has been low, nil or negative in a quarter of all EU countries. Hence, regardless of the income concept on which analysis of the growth process is based, income growth has been disappointing in several countries (e.g. Greece, Italy, Cyprus, Spain, Austria). In half of all EU countries, total growth over this 10-year period did not exceed 6.2%. In seven countries, total growth was at most 1.2%.

Chart 3.2

Net household disposable income (HDI) growth in a quarter of Member States has been nil or negative

Total growth in net household disposable income (HDI), 2007-2017, plotted against the initial level of net household disposable income in 2007 (in thousand PPS)



Source: Authors' calculations based on AMECO data.

Click here to download chart.

Most EU countries experienced either an abrupt or a prolonged negative growth period over the period 2007-2017. *Chart 3.3* groups EU Member States according to growth in national income during the low-growth period 2007-2012 (horizontal axis) and the subsequent recovery (2012-2017, vertical axis). Only seven countries (Bulgaria, Cyprus, Germany, Lithuania, Poland, Slovakia, Romania) have experienced positive income growth in both periods. All others have seen negative growth in at least one of the two five-year periods. These income fluctuations are likely to have affected the perceived inclusiveness of growth in the EU.

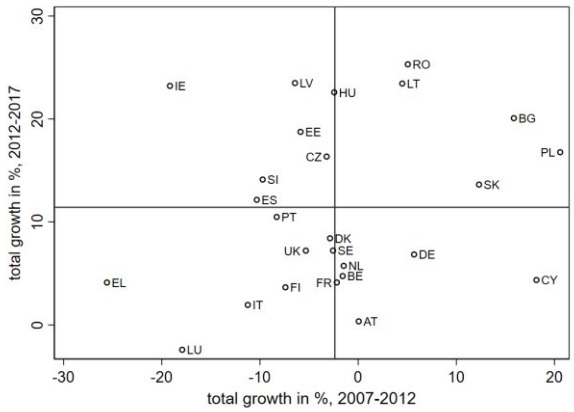
Strong fluctuations in income growth over the business cycle may reduce the effective and perceived inclusiveness of growth. First, low-income households suffer a stronger reduction in welfare from any given loss of income. This is because lower levels of income tend to be associated with higher values attached to income, in particular in terms of constrained consumption. Secondly, low-income earners may be relatively more exposed to negative income shocks over the cycle while also having lower savings to cushion such shocks. By contrast, low-income households tend to have low or negative levels of net wealth ([174]). Abrupt or protracted negative growth episodes tend to impact such households more strongly, because they cannot smooth their consumption by reducing savings.

During recessions, low-income households tend to experience negative income shocks that are only partially resorbed in the subsequent rebound ([175]). An increased sense of insecurity may reduce the willingness and ability of such households to invest - not only in durable goods but also in human capital - including because they are less able to get credit, or can get it only on unfavourable conditions. Such underinvestment may translate into a less favourable trajectory of future earnings and, in turn, higher exposure to negative income shocks.

Chart 3.3

Income growth in the recession and during recovery: only 7 Member States did not experience a negative growth episode

Total growth in net national income (NNI) 2012-2017, plotted against total growth in NNI 2007-2012 (in %)



Source: Authors' calculations based on AMECO data.

Click here to download chart.

2.2 The distribution of growth between income groups

Investigating whether low- and high-income households benefit from growth to the same extent helps to assess the inclusiveness of economic growth. An important data collection and harmonisation effort has been recently carried out by the World Inequality Lab to reconcile aggregate income figures available from National Accounts with information about the income distribution stemming from income surveys and income declarations to tax authorities ([176]). The resulting Distributional National Accounts (DINA)

([174]) OECD (2020, forthcoming).

([175]) See European Commission (2019a) for a discussion of the scarring effects of recessions on low-income households: they are hit hardest and recovery provides incomplete resorption.

([176]) This work has been carried out by the World Inequality Lab and is made available through the World Inequality Database (see Alvaredo et al. (2016) for an in-depth explanation of methods and concepts). Recent efforts to produce distributional national accounts have been conducted in parallel by the OECD and EUROSTAT.

allow analysts to assign economic growth to individuals as a function of their position in the income distribution ([177]). This is because the sum of the total income that goes to different income groups equals the total aggregate income of the economy. Thus it is possible to track whether the income growth of a particular income group has been higher or lower than income growth per capita. **Annex 3.1b** explains DINA in more detail.

This section analyses the distribution of total growth in the period 2007-2017 between different income groups. The analysis revolves around the proportion of total growth that goes to different income groups. The distribution of total growth depends on the income growth rates specific to each income group as well as on the initial distribution of income among income quintiles. *Chart 3.4* shows how total income growth in each country was distributed among income quintiles by computing the contribution of each income quintile to total growth. Summing the numbers of the five income groups gives total income growth in the country over the period 2007-2017. Total income growth is adjusted for population growth, so the numbers correspond to income growth *per capita* ([178]).

In Europe taken as a single entity ([179]), low-income groups received a larger share of total income growth over 2000-2017 than over 1980-2000. For each given percentage point of total income growth, the bottom 50% of the European income distribution absorbed a higher share of it over 2007-2017 than in 2000-2007, and a higher share of it in 2000-2007 than in the preceding decade (*Figure 3.1*). For example, 49% of aggregate post-tax income growth went to the bottom 50% over 2007-2017, as opposed to 23.4% over 2000-2007 and 13.3% over 1990-2000.

Figure 3.1

The bottom 50% in Europe have benefited more from growth than the top 10% in recent years

Share (%) of aggregate economic growth captured by different income groups

	Share of growth captured (%)				
	1980-2017	1980-1990	1990-2000	2000-2007	2007-2017
Pre-tax income					
Bottom 50 %	17.6 %	12.0 %	9.8 %	22.5 %	41.2 %
Middle 40 %	39.8 %	41.1 %	41.3 %	33.6 %	49.7 %
Top 10 %	42.7 %	46.9 %	48.9 %	43.9 %	9.1 %
incl. Top 1 %	16.1 %	17.0 %	20.0 %	18.5 %	-4.3 %
incl. Top 0.1 %	5.9 %	7.0 %	7.6 %	7.6 %	-6.5 %
incl. Top 0.01 %	2.2 %	3.0 %	2.7 %	3.2 %	-4.7 %
incl. Top 0.001 %	0.8 %	1.2 %	0.9 %	1.5 %	-2.9 %
Full population	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Post-tax income					
Bottom 50 %	20.9 %	15.9 %	13.3 %	23.4 %	49.5 %
Middle 40 %	41.9 %	45.7 %	44.9 %	31.2 %	53.6 %
Top 10 %	37.2 %	38.4 %	41.8 %	45.4 %	-3.1 %
incl. Top 1 %	13.6 %	11.4 %	15.4 %	23.4 %	-14.0 %
incl. Top 0.1 %	5.0 %	3.8 %	6.1 %	10.8 %	-11.4 %
incl. Top 0.01 %	1.8 %	1.5 %	2.5 %	4.6 %	-6.8 %
incl. Top 0.001 %	0.7 %	0.5 %	1.1 %	1.9 %	-3.8 %
Full population	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %

Note: Europe includes also non-EU countries (Albania, Bosnia-Herzegovina, Iceland, Kosovo, Macedonia, Montenegro, Norway, Serbia, Switzerland)

Source: Blanchet, Chancel and Gethin (2019)

Click here to download figure.

This finding echoes the results on income convergence in the EU discussed at the beginning of the section. Specifically, the increasing share of aggregate growth for the bottom 50% of the EU distribution is probably due to the country composition of the income distribution in Europe. Central and Eastern European households were disproportionately represented in the bottom 50% of the European income distribution over this period ([180]). Those households experienced the most marked improvements in their income conditions over the period 2000-2017 ([181]). The national distribution of growth in recent years shows high heterogeneity across EU Member States, as shown in *Chart 3.4*.

In Member States where income growth was sustained, upper income groups tended to absorb a relatively higher share of total growth. As illustrated in *Chart 3.4* (top panel), high-growth Member States, mainly Eastern and North-Western ones, saw increases in total income being mostly perceived by the upper income groups. Extreme cases are Bulgaria and Poland, where income growth accrued especially to the top 20% income group. However, this finding may hide differences in the distribution of actual income growth over this period to different income groups, because it is contingent on the income share of each group in 2007. Specifically, income inequality remained

([177]) The analysis in this section makes use of the World Inequality Database (WID) to explore how income growth is distributed between income quantiles and socio-economic groups in the EU Member States. It has been made possible with data generously provided from the World Inequality Lab for analytical purposes..

([178]) Sensitivity analyses carried out to smooth the effect of year-specific aggregate NNI and the income quintile shares (averaging them over three years: 2007-2009 and 2015-2017) show a very similar distribution of growth by income quintile as in *Chart 3.4*

([179]) Europe does not coincide with the European Union in Blanchet et al. (2019) as they also include non-EU European countries such as Albania, Bosnia-Herzegovina, Iceland, Kosovo, Macedonia, Montenegro, Norway, Serbia and Switzerland.

([180]) In countries such as Romania and Bulgaria, almost the entire population was in the bottom 50% of the European income distribution in 2007 as documented in European Commission (2019b, Chapter 1, Section 4.5). Thus, the high income growth recorded in those countries definitely contributed to the increasing shares of aggregate EU growth absorbed by the bottom 50%.

([181]) See Chapter 2, Section 4.1 for an assessment of the income improvements for low-income households in the Central and Eastern Member States.

relatively stable in Poland ([182]) over this period, meaning that the significant share of total growth accruing to the top 20% was due to a relatively unequal initial income distribution. Inequality increased in Bulgaria, meaning that the significant share of total growth accruing to the top 20% is due both to relatively high initial inequality and to a skewed distribution of the fruits of growth.

In Member States where economic growth was sluggish or negative, it tended to be distributed more equally across income groups. With the exception of Spain and Ireland, Member States that experienced a reduction in national income over 2007-2017 saw a relatively equal distribution of income losses among income groups. In Greece and in Luxembourg, the top quintile contributed most to the total loss of income ([183]). As regards Member States that experienced sluggish growth, middle income groups contributed more to total growth than the top income quintile, indicating that the fruits of growth were distributed relatively widely in these countries (Belgium, France, Croatia, Portugal, the UK and the Netherlands).

2.3 Relative income growth of the top 10% and bottom 40% over 2007-2017

The fruits of growth were not evenly distributed among income groups over 2007-2017. To evaluate the inclusiveness of growth, one needs to establish the extent to which individuals belonging to different income groups benefit from growth. The analysis achieves this quantification by comparing income growth of groups at the bottom and the top of the income distribution to per capita income growth in the economy.

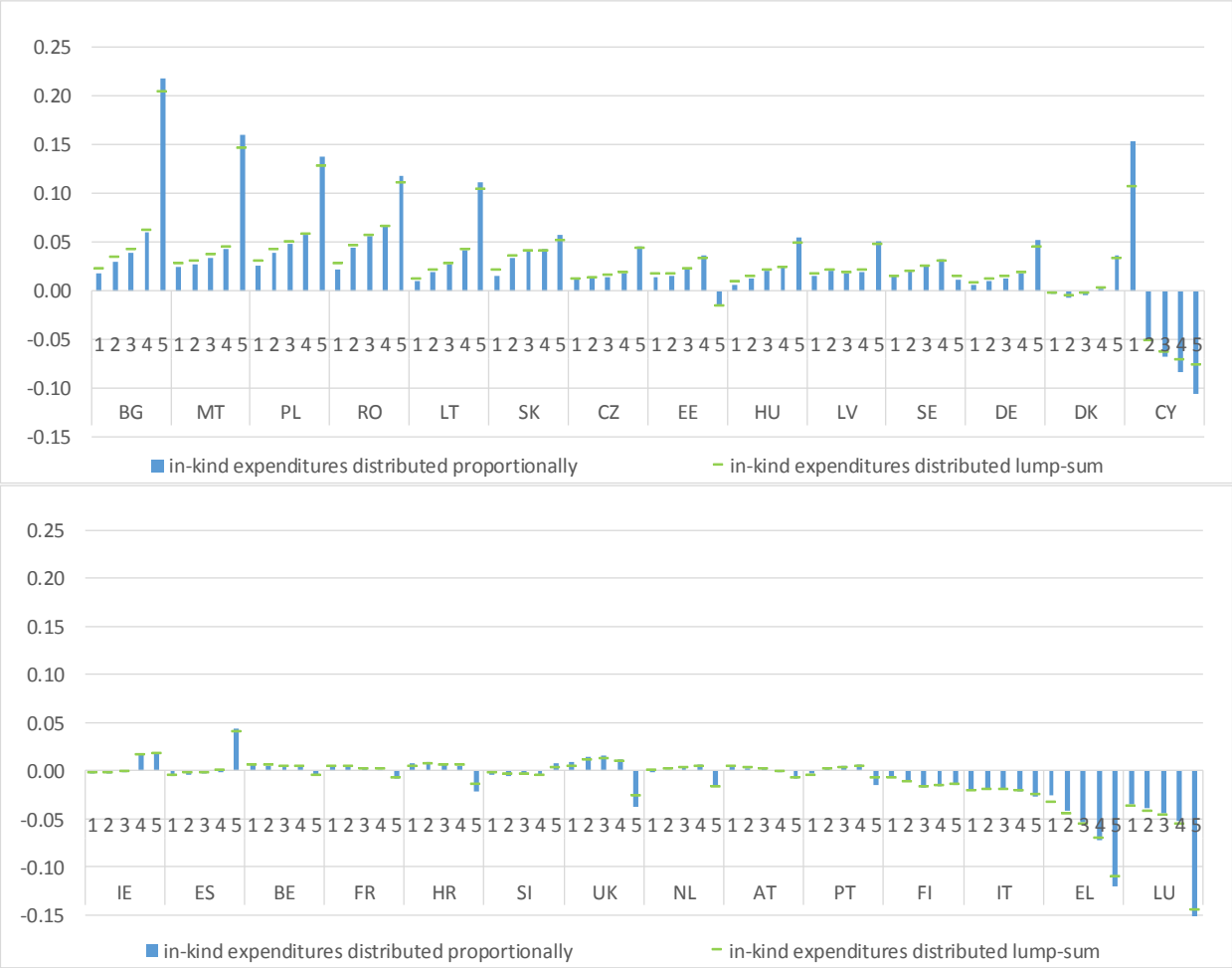
([182]) See Brzezinski et al. (2019) for a deeper analysis of income inequality in Poland with combined household surveys and tax return data.

([183]) The distribution of growth depends on the initial distribution of income as well as on income growth rates specific to each income quintile.

Chart 3.4

Upper income groups tend to absorb a relatively high share of total growth because they weigh more in the initial income distribution: they 'win' in high-growth countries (top panel), but 'lose' in countries where growth is sluggish or negative (bottom panel).

Aggregate national income growth (%) per capita by income quintile, 2007-2017



Note: Blue bar: in-kind transfers including collective expenditures are distributed proportionally to the adult population except health expenditure that is distributed lump-sum. Green bar: all in-kind transfers distributed lump-sum. Aggregate national income is split across all adult household members. Sensitivity analyses carried out to smooth the effect of year-specific NNI and the income shares (averaging them over three years) show a very similar distribution of national income growth by income quintile. Countries sorted by national income growth per capita.

Source: World Inequality Lab (WID) data. Kindly provided for analytical purposes.

Click here to download chart.

Only in a few countries has the income growth of the bottom 40% exceeded per capita income growth in the economy. A desirable economic outcome from the point of view of inequality reduction would be that the bottom 40% of the population see their income grow faster than that of the economy as a whole over the medium run ([184]). As illustrated in *Chart 3.5*, this was the case in a few Member States which are in the process of catching up after their accession to the EU (notably Estonia, Latvia, Romania and Croatia). In many other countries, growth for the bottom 40% was below average. National income growth in these countries thus favoured the upper income groups. And in several EU countries, the income of the top 10% grew more strongly or declined less (Greece) than the economy as a whole over the period 2007-2017.

During the crisis years from 2007 to 2012, the bottom 40% suffered disproportionately from the reduction of incomes in several countries. As shown in *Chart 3.6*, Spain, Italy, Slovenia and Hungary saw significant income reductions for the bottom 40% of the population, while the top 10% experienced moderate income decline (Spain). Conversely, some Eastern Member States such as Poland and Bulgaria did not experience a recession, but their growth benefited the upper income groups such as the top 10% relatively more ([185]). This evidence points to very different income dynamics for the different EU countries, not only in the strength of total income growth, but also in its distribution among income groups in the period 2007-2012. Moreover, it highlights the risk that lower income groups will be disproportionately affected by income loss in times of crisis, such as the current recession triggered by the Covid-19 pandemic.

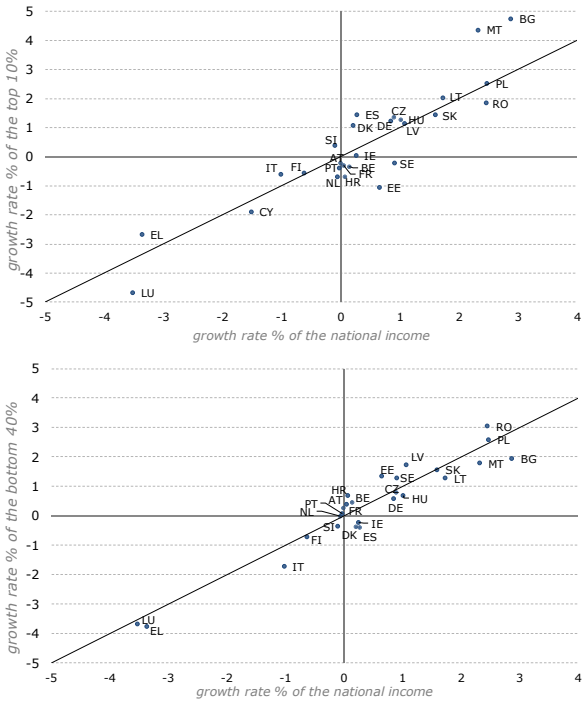
([184]) This is in line with the target of Sustainable Development Goal 10 'Reduce inequalities'. The target aims at achieving income growth for the bottom 40 per cent at a rate higher than the national average by 2030.

([185]) Malta is an outlier as the growth rate of the top 10% was relatively high while NNI stagnated.

Chart 3.5

In a few countries, the income of the bottom 40% grew more than average income, which would have favoured inequality reduction.

Compound annual growth of net national income (NNI), for the whole economy, the bottom 40% and the top 10% income group. 2007-2017



Note: Member States under the 45 degree line experienced higher growth in NNI (or a smaller reduction) in the economy as a whole than in the top 10% (bottom 40%). Member States above the 45 degree line experienced higher growth (or a smaller reduction) in the specific income group than in the economy as a whole. Net national income at market exchange rates.

Source: World Inequality Lab (WID) data. Kindly provided for analytical purposes.

Click here to download chart.

In the recovery years 2012-2017, Member States with the most sustained income growth witnessed the largest relative gains for the top income group. In four out of the five Member States with the highest national income growth (Malta, Romania, Bulgaria, and Ireland, see *Chart 3.7*), the income of the top 10% grew more than the economy as a whole.

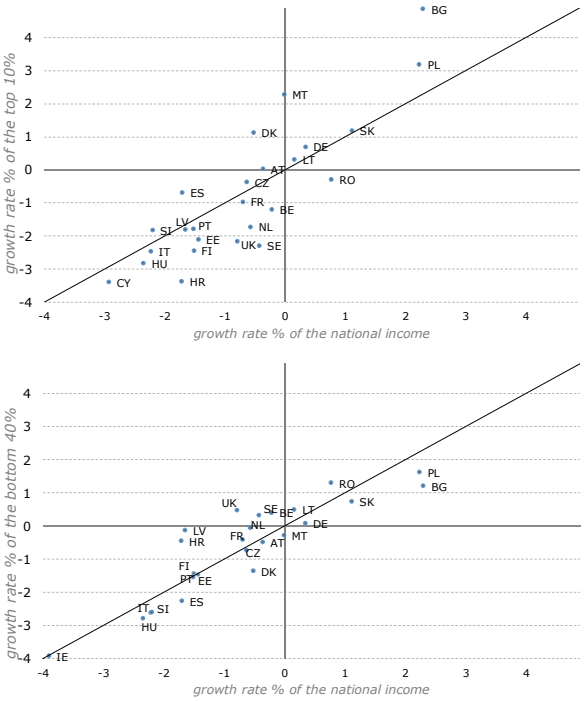
However, in some Member States, it was the bottom 40% that experienced a larger income growth than the top 10%. Several Member States that experienced relatively high income growth in 2012-2017 (Poland, Estonia, Slovakia and Portugal) saw a reduction in inequality ([186]) as the income growth of the bottom 40% exceeded income growth for the average person.

Overall, growth can be considered as inclusive when it benefits all income groups over the medium run. The sluggish growth observed in many Member States over the period 2007-2017 tended to benefit all income groups and inequality remained stable. Conversely, a number of countries experienced strong and sustained growth, mainly as a result of income convergence as their economies were in a process of catching up with the richer EU economies. However, income growth in those countries accrued relatively more to high income groups (although in some countries inequality, as estimated through income surveys, has reduced).

Chart 3.6

In the previous crisis, the bottom 40% suffered disproportionately from the reduction of incomes in several countries

Compound annual growth of net national income (NNI), for the whole economy, bottom 40% and top 10% income group. 2007-2012



Note: Member States under the 45 degree line experienced higher growth in NNI (or a smaller reduction) in the economy as a whole than in the top 10% (bottom 40%). Member States above the 45 degree line experienced higher growth (or a smaller reduction) in the specific income group than in the economy as a whole. Net national income at market exchange rates.

Source: World Inequality Lab (WID) data. Kindly provided for analytical purposes.

Click here to download chart.

2.4 Conclusion

This section highlights that in the period 2007 to 2017:

There was some cross-country convergence within the EU in terms of income growth, whether measured as Net National Income or Household Disposable Income. To a large extent this is due to Eastern European Member States catching up since accession to the EU.

However, high-income households have benefited the most from overall national income growth in countries where growth was above the EU average.

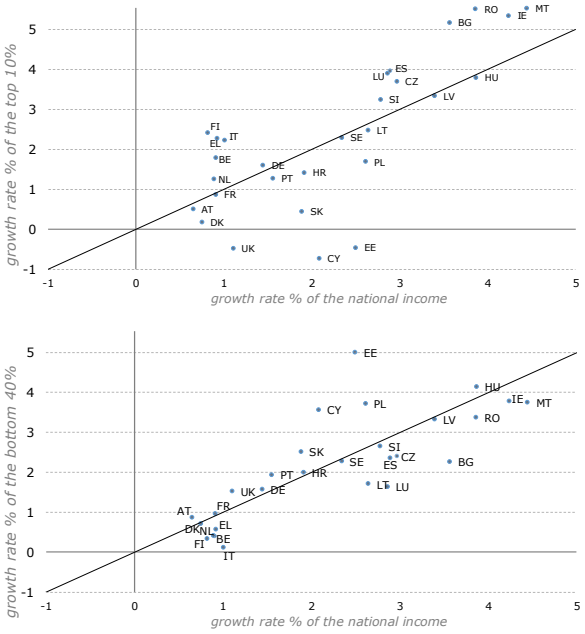
Conversely, in countries where national income growth was low or negative, it was at least more equally distributed between income groups over the decade.

([186]) See Chapter 1, Section 4.2, where income inequality is estimated through income surveys (EU-SILC).

Chart 3.7

During recovery, the top 10% grew more than the average in countries where growth was more sustained.

Compound annual growth of net national income (NNI), for the whole economy, bottom 40% and top 10% income group. 2013-2017



Note: Member States under the 45 degree line experienced higher growth in NNI (or a smaller reduction) in the economy as a whole than in the top 10% (bottom 40%). Member States above the 45 degree line experienced higher growth (or a smaller reduction) in the specific income group than in the economy as a whole. Net national income at market exchange rates.

Source: World Inequality Lab (WID) data. Kindly provided for analytical purposes.

Click here to download chart.

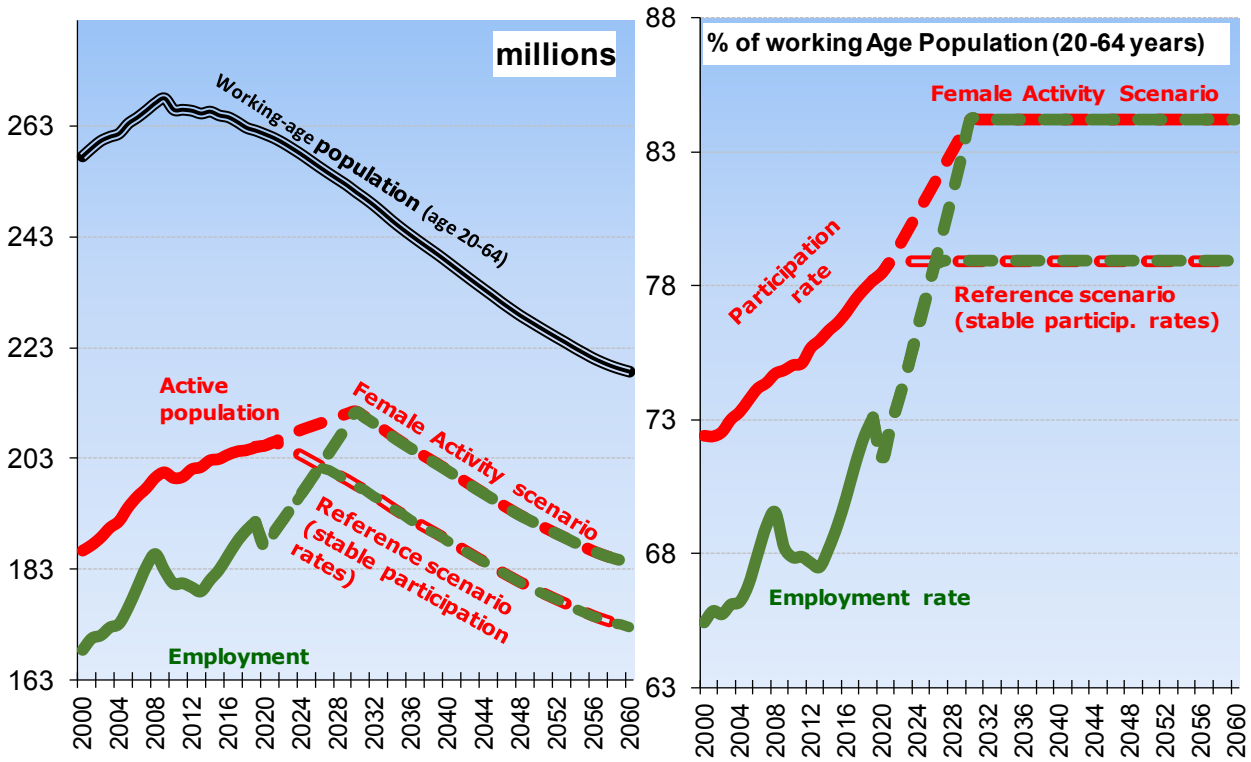
These findings have important implications for policy-making. The EU needs socio-economic policies that promote stronger and more inclusive growth. The European Pillar of Social Rights can be a compass in this respect. Principle 4 on active support to employment, as well as the entire chapter on social protection and inclusion (principles 11-20), provide relevant policy guidance. In line with these principles, higher labour market participation and a well-functioning welfare system are crucial to delivering inclusive growth. Higher labour market participation not only increases labour supply so that more people contribute to growth, it also allows more people to receive primary income from work, i.e. to take a direct share of growth rather than receiving it via transfers. Section 3 tries to quantify the benefits of policies that promote participation in the labour market and fairness across all population groups and generations.

In times of economic transition, people need to be able to rely on the effective functioning of the welfare state. Achieving inclusive growth is a challenge in both high-growth or low-growth periods. It is equally a challenge to ensure that low (or even negative) growth does not unduly affect the most vulnerable in the short run. It is also challenging in times of economic catching up as well as during structural transformations such as digitalisation or the transition towards carbon-free economies, when some groups are at risk of (temporarily) losing out. Finally, as the current Covid-19 crisis shows, sudden adverse economic shocks can affect people's lives suddenly and substantially. In all these cases, significant investments are needed in social security and a functioning welfare system. Section 4 estimates the EU-wide investment that would be necessary.

Chart 3.8

Employment growth depends on female activation (EU-27)

Working-age population, activity and employment in the EU



Source: Commission services, based on Eurostat Europop 2019 Population Projection (baseline), and Eurostat EU-LFS, and the European Commission's Spring 2020 Economic Forecast (for 2020 and 2021)

Click here to download chart.

3. INCLUSIVE GROWTH: ITS BENEFITS IN TIMES OF DEMOGRAPHIC CHANGE

Given projected demographic trends and irrespective of the Covid-19 crisis, over the next 20 years the EU will experience significant labour and skill shortages. Demographic ageing has already started, but its full impact on labour supply has yet to be felt. Likewise, economic megatrends such as digitalisation and the 'green transition' of our economy will increase skill requirements and render skilled workers an ever scarcer resource. Maintaining and increasing labour supply will therefore remain a major policy challenge during the coming decades.

Sustainable employment growth will depend on further labour market activation. *Chart 3.8* shows employment and the active population in the EU, both in absolute numbers (lhs) and in percentage of the population aged between 20 and 64. ([187]) The Commission's Spring Economic Forecast ([188]) notes that the Covid-19 crisis will drag down employment in 2020. However, labour scarcities already exist. Unless labour market participation rates increase further, the EU's long-term 1.2% employment growth path ([189]) will cease to be possible from 2024 as the working-age population will decline. ESDE 2017 concluded that as employment growth slows down, generating GDP growth will increasingly depend on higher labour productivity growth.

By reducing gender gaps, the EU social market economy can help ensure continued employment growth. Against this demographic background, the only major sources of future employment growth are (1) reducing gender-related gaps on the labour market, (2) longer working lives and possibly alternative working time arrangements, and (3) higher investment in workers' skills and qualifications (as better qualifications correlate with higher labour force participation). This section examines the impact these policies can have on labour force participation and wages, and looks at the benefits of higher labour market participation for future pension entitlements.

3.1. Closing gender-related gaps on the labour market

It is assumed that existing gender gaps in the labour market will narrow until 2030. This will be referred to as the **'Female Activity scenario'**,

([187]) The methodology used in the Chart was developed in Peschner and Fotakis (2013) and was also used in ESDE 2017, Chapter 2.

([188]) European Commission (2020b).

([189]) The EU's average annual employment growth between 1995 and 2019 was 1.2% if one excludes the crisis-period between 2008 and 2013.

where today's situation in Sweden is used as a benchmark. The gender-related gaps are ([190]):

- **the gender participation gap:** in 2019, the female participation rate for the 20-64 age group stood at 72% in the EU, still 12 percentage points below the rate for men. At around 84% in 2019, Sweden's female participation rate was the highest in the EU and equal to the average EU male participation rate. To close the gap, it is assumed that by 2030 women's participation rate will increase to 84% in the EU as a whole, matching Sweden's current rate. Under this assumption, overall employment could continue on its 1.2% annual growth path for longer (*Chart 3.8*) and start declining only after 2030, as a result of the projected fall in the working-age population. By 2030, employment would be 6.7% higher than if the gender participation gap was not closed (the reference scenario).

- **the working-time gap:** today, almost 30% of 20-64 year-old women in the EU work part-time (a quarter of them involuntarily), compared with just 7% of men. As a result, the average number of hours worked per week is much lower for women than for men (35.2 and 40.5 hours respectively). In Sweden, by contrast, women work 37 hours per week on average. ([191]) To close the gap, it is assumed that better family policy allows women across the EU to work 37 hours per week on average, thereby increasing overall working hours in the economy by 2.3% by 2030. In the reference scenario, the working-time gap remains unchanged.

- **the wage gap**: according to EU-SILC data, average hourly wages in 2018 were lower for women (EUR 14.20) than for men (EUR 16.60). This produces the well-known 14% gender pay gap in the EU. In Sweden, by contrast, the gap is lower (10.9%). We assume that the gap be reduced to 10.9% in the EU overall, equivalent to an average wage increase (for men and women) of 1.8% by 2030. In the reference scenario, wages remain constant.

All else being equal, reducing *all* gender-related gaps on the labour market would trigger a 11% rise in total labour compensation. Increasing total employment by 6.7%, working time by 2.3% and wages by 1.8% would in the long run raise total labour compensation by 11% ([192]). As pension rights are usually linked to labour compensation, this would also have direct repercussions for pension entitlements and the sustainability of the pension system ([193]). With government making an effort to keep contribution rates stable (see *Box 3.1* for details), by how much would pensions increase in the long run in the Female Activity scenario, compared with the reference scenario where activity rates, wages and working time remain as now?

Box 3.1

Funding higher pensions through additional contributions

The pension contribution rate is assumed stable in principle. As a result, the level of pensions reflect only demographic ageing and the effects of policy changes that narrow the gender gaps. This assumption is in line with policy developments and the pension reforms already adopted in EU Member States. The Commission's 2018 Ageing Report reckons that contributions to the public pension funds paid by workers and their employers remain largely stable as a share of the EU's GDP ([194]), despite demographic ageing. This analysis therefore assumes that governments try to keep contribution rates stable in order to contain labour costs and maintain competitiveness.

There is one important exception: as workers work more or receive higher wages, their future pension increases. These **work-history-related increases** of pensions (linked to individual biographies) are financed through higher contributions. This assumption is necessary in order to avoid the situation where work-history-related pension increases (for some pensioners) need to be financed by lowering the general pension level (for all pensioners). See further explanation in **Annex 3.2** where it is also shown that lifting this assumption had consequences for intergenerational fairness.

In the long term, demographic ageing will lower pension levels significantly. This is true for both scenarios, see *Chart 3.9 (lhs).* This is because there will be more pensioners, less contributors to the pension systems. In the scenario without a policy change the ratio of pension benefits and the average wage (in the following: the pensions-to-wage ratio) would be reduced to 26.7% by 2070, down from 43.3% today.

Narrowing gender-related gaps on the labour market would cushion the lowering of pension levels significantly. In the Female Activity scenario, more people would be in employment.

([190]) Data sources for the following: Eurostat EU-LFS (2019) and Eurostat EU-SILC (2018).

([191]) Eurostat EU-SILC.

([192]) (1+0.067)*(1+0.023)*(1+0.018) = 1+0.11. This assumes that the compensation of self-employed workers increases in parallel to the wages of employees.

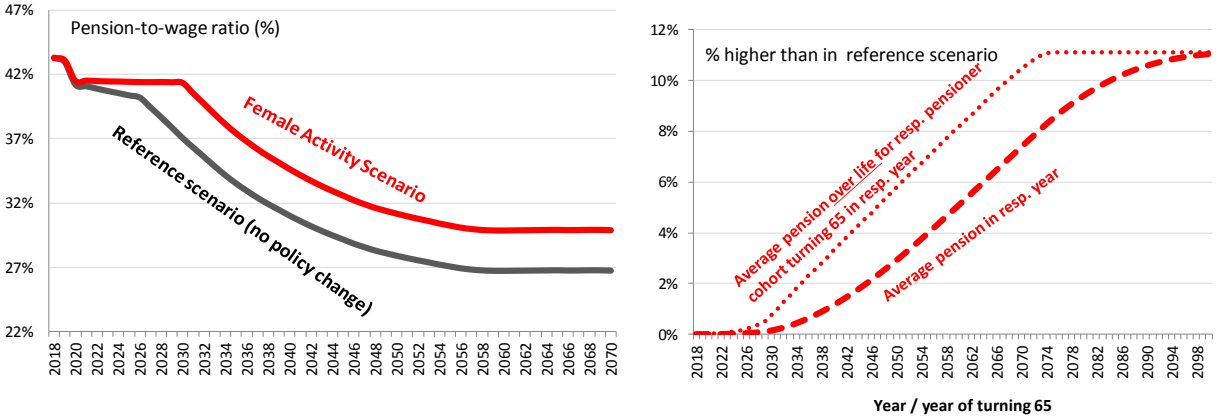
([193]) The compensation (wage) is the assessment base for pensions. The higher wages are, the higher will be the level of future pensions, everything else being equal.

([194]) European Commission (2018b), esp. p. 370.

Chart 3.9

Narrowing gender gaps on the labour market would increase pensions significantly. Future cohorts take the profit from higher pension entitlements

Pension-to-wage ratio (left) and pension increase (right) in the Female Activity scenario compared with a baseline with stable/constant participation rates, working time, and wages.



Source: Commission services based on Eurostat Europop 2019 Population Projection (baseline), Eurostat EU-LFS and the European Commission's Spring 2020 Economic Forecast

Click here to download chart.

Moreover, workers would receive higher wages and work longer hours than in the reference scenario without a policy change. As a result, more contributions would be paid into the pension systems which, in turn, were able to grant higher pensions. By narrowing these gender gaps on the labour market, the decline in the pension-to-wage ratio would thus be less pronounced: it would go down to 29.9% by 2070, as opposed to 26.7% in the reference scenario, as shown in *Chart 3.9* (*lhs)*. The 3.1 percentage point difference corresponds to almost EUR 400 billion every year in today's values ([195]). This amount could be interpreted as a reduction in the cost of ageing (in the form of higher pensions).

Through higher pension levels, narrowing gender gaps strengthens intergenerational fairness. *Chart 3.9 (rhs, dashed curve)* shows that, in absolute terms, average pensions in the long term will be higher by 11% in the Female Activity scenario, compared with the reference situation. The dotted curve in *Chart 3.9 (rhs)* shows the **generational account** of better female labour market performance, better wages and higher working time. It shows, for each cohort of pensioners, the increase in the average pension that workers would have **throughout their lives,** ([196]), starting with the cohort turning 65 years in 2018. Future pensioner cohorts are benefiting from reducing the cost of ageing. They will have, on average, a higher pension than they would if gender gaps were not narrowed.

3.2. Promoting longer working lives and new working-time arrangements.

To reap the benefits of ageing societies while promoting inter-generational fairness, 'active ageing' has long been an EU policy priority. It helps people to stay in charge of their own lives for as long as possible as they age, and to participate in and contribute to the economy and society. Correspondingly, the Commission's 2020 proposal for new Employment Guidelines for the Member States suggests that to ensure the adequacy and sustainability of pension systems, Member States should take 'measures that extend working lives, such as by raising the effective retirement age, and be framed within active ageing strategies' ([197]).

One core element of these strategies is to create good and healthy working conditions for workers of *all* ages to increase incentives for older people to participate in the labour market. It takes engagement of social partners and substantial investment to achieve higher labour market participation of older workers and help develop skills and working-time arrangements. This section shows that for society as a whole, such investment yields a high return. It helps increase the labour force and reduce the cost of ageing for workers and their employers.

Pension reforms have led to longer working lives. In the course of the last 20 years, almost all Member States have reformed their public pension schemes so as to increase statutory retirement ages, partly by linking them to the (increasing) life-expectancy ([198]). Those reforms have contributed

([195]) First, in the Female Activity Scenario wages would increase by 1.8% due to the reduction in the wage gap. This wage-increase lowers the pension-to-wage ratio (which relates average pension to average wage). Controlling for this effect, the 3.1 pp difference in the pension-to-wage ratio corresponds to 5% of labour compensation in the reference scenario. Secondly, the adjusted wage-share in GDP includes imputed wages for self-employed workers. In 2019 it stood at 55.4% for EU-27. This corresponds to total labour compensation of EUR 7.8 trillion – of which 5% is EUR 390 billion.

([196]) It is assumed that workers receive a pension for 20 years if they retire today. This corresponds to the life expectancy of 65- year-olds (average for men and women in EU-27).

([197]) European Commission (2020d), p. 5.

([198]) In eight Member States such reforms happened between 2014 and 2017 alone. See the Commission's 2018 Pension Adequacy Report (European Commission, 2018c), p. 100.

to significant increases in older workers' employment rates. The employment rate for the age group 55-64 stood at an all-time high of 60% in the EU in 2019. In the future, reforms already implemented are expected to increase labour supply. This is necessary for improving the financial base of pension funds and bringing them financial relief ([199]).

However, raising the official retirement age does not necessarily lead to longer working lives across the board. Postponing statutory retirement ages from, say, 65 to 66 years will not induce all workers to actually postpone retirement by one year. Many older workers today do not change their retirement plans but instead accept new actuarial deductions applied for retiring before reaching the statutory retirement age ([200]). The opportunity of prolonging one's working life depends on a number of factors, including the sector, occupation and job tasks, but also on flanking policies designed to raise incentives for older workers to stay in the labour market for longer.

Increasing the effective retirement age by one year by 2030 would increase employment by more than 2%. The simple framework presented in the previous section has also been used to estimate the benefits of actually working for one more year, i.e. of workers postponing their retirement by one year on average. The approach uses as a baseline scenario the above 'stable activity rate scenario' where working age was defined as 20 to 64 years, while people aged 65 and older were considered pensioners, provided they had a prior employment record. EU governments may decide to increase statutory retirement age so that average effective retirement shifts by one year, with possible support from firm- or sector-level working-time arrangements or other measures. The process of postponing would start today and be fully phased for those turning 65 years in 2030 (it would be unrealistic to perform such a significant reform step without a transition that allows people to adjust to the new situation). In the long run (by 2060), this would represent a potential additional employment pool of around 4 million people (+2.2%) as more older people remain in the labour market ([201]).

([199]) Ibid. The 2018 Adequacy Report makes the direct link between safeguarding labour supply and the sustainability of pension systems (p. 172).

([200]) On the other hand, such a shift of the official retirement age would not only affect people between 65 and 66. In many EU countries retirement is possible before the age of 65. Shifting the official retirement age from 65 to 66 would also make early retirement less attractive for workers younger than 65 who, in the case of early retirement, would have to accept higher actuarial deductions from their pensions. This is because the reference age for the calculation of the deduction increases.

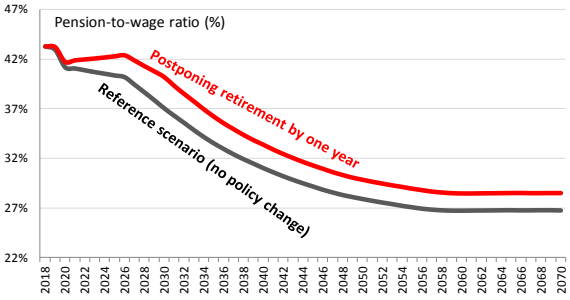
([201]) Considering a 45-year employment record (between 20 and 64 years), prolonging by 1 year would increase this record by 2.2% (=1/45).

Working longer increases pension levels. More workers would pay contributions. The financial position of the pension funds would thus improve so that higher pensions could be granted to pensioners. The pension level, expressed as the pension-to-wage ratio, would decline less pronouncedly than if effective retirement age were not increased: from 43.3% today to 28.5% in 2070 (instead of 26.7%), see *Chart 3.10* (red curve). In the long run, the cost of ageing is thus reduced by 1.7 pp of the assessment base (the sum over all wages), equivalent to more than EUR 130 billion every year in today's values ([202]). This relief could materialise for every further year by which workers prolong their working lives on average.

Chart 3.10

Increasing the effective retirement age increases the level of pensions in the long run.

Impact on total pension-to-wage ratio of staying in employment for one more year (% of average wage), EU-27



Source: Commission services based on Eurostat 2019 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

Click here to download chart.

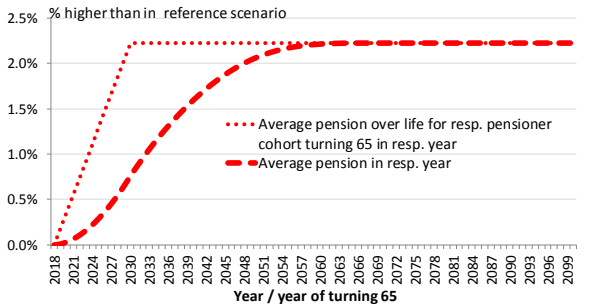
In the very long run, pension levels would be higher by 2.2% if workers postponed their retirement by one year on average. The increase would be stronger for future cohorts who otherwise would have to bear the cost of ageing in the form of lower pensions (*Chart 3.11*). Working longer and making all workers contribute to increasing the effective retirement age is an expression of intergenerational fairness. **Annex 3.2** reveals that the extent to which different cohorts will be able to profit of longer working lives through higher pensions depends on how these higher pensions are financed.

([202]) 1.7% of a wage sum of EUR 7.8 billion is equal to EUR 136 billion per year (see further explanation in footnote 195).

Chart 3.11

Future pensioner cohorts benefit from higher pension entitlements

Difference between total pensions when prolonging working live by one more year, and the reference scenario, EU-27



Source: Source: Commission services based on Eurostat 2019 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

Click here to download chart.

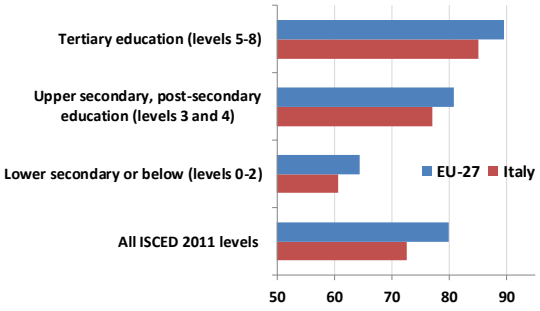
3.3. Raising the level of education

Labour market participation, wages and pension levels tend to increase with higher education. In the recent past, educational progress in the EU has contributed to increasing labour market participation and employment. Participation rates increased strongly as people attained higher education levels, as shown in *Chart 3.12*. Further upskilling of the population can contribute to maintaining labour supply in the future.

Chart 3.12

Higher education contributes to higher labour market participation

Participation (Activity) rate by educational attainment level, EU-27 and Italy



Source: Eurostat EU-LFS (2019, 3rd quarter)

Click here to download chart.

Higher education levels also support increasing labour productivity. This section seeks to quantify the impact of continuous educational progress on labour supply and pensions, using the same actuarial accounting method as above. As education levels also have important implications for labour productivity, a model simulation has been added to provide a more comprehensive picture of the expected long-term impact of better education on both the economy and the labour market. This simulation is based on the European Commission's labour market model (LMM). ([203]) LMM is a general equilibrium model with a particular focus on the labour market and its institutions. The current model version covers 15 EU countries. It is not possible to run simulations for the EU aggregate. To demonstrate the long-term impact of better education, the analysis focuses on one specific country, Italy.

Despite recent progress, education remains a major challenge for Italy. In the process of the European Semester, Italy has repeatedly received country-specific recommendations for the reform of its education system. The 2020 European Semester Country Report confirms that education remains a major challenge. ([204]) One in five people between 15 and 24 years are not in employment, education or training – the highest proportion in the EU. School dropouts remain high and the percentage of people aged 30-34 who have completed higher education remains low (27%), despite considerable progress in recent years.

3.3.1. *More workers with better education: the composition effect*

Further educational progress is likely in the future. In Italy, as in all EU countries, young people's educational performance has improved. The proportion of low-educated workers of working age (20-64) declined to 36% in 2018, down from above 50% at the turn of the century, while the proportion of highly-educated workers doubled during that period. The trend of educational progress amongst young people (25-34 years) can be extrapolated as done in earlier analyses ([205]), producing the results shown in *Chart 3.13* ([206]). The trend towards higher education would thus continue, albeit at lower speed.

([203]) The model is run by the European Commission (DG EMPL). It was developed by Berger et al (2009).

([204]) The report confirms that 'low average educational attainment [and] skill mismatches… limit employment growth.' (European Commission (2020a), p. 4).

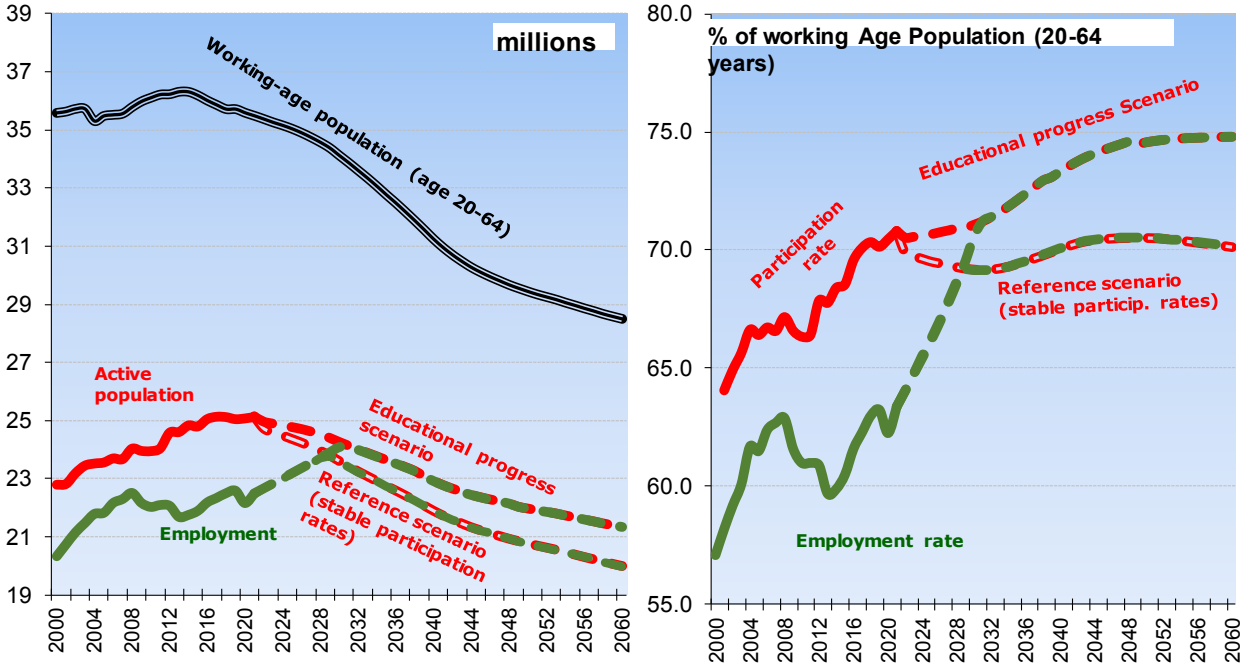
([205]) See ESDE 2017, esp. p. 59; Peschner and Fotakis (2013), esp. section 3. A log-linear trend-extrapolation is used. The procedure assumes that the recent 20-year trend will continue in the future, but slow sown.

([206]) It is assumed that people make progress in education only in the age-range between 25 and 34 years (no further progress after the age of 34). The trend of the percentage of low- and highly-educated workers is prolonged using log-linear trend-extrapolation, medium-educated being the residual. See Peschner and Fotakis (2013), esp. pp. 10, 11.

Chart 3.14

Employment growth depends on future educational progress (Italy)

Working-age population, activity and employment in Italy, 2000-2060



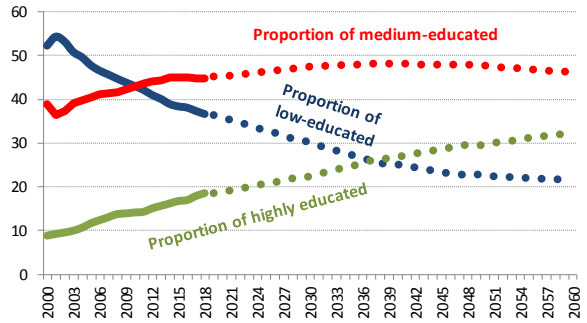
Source: Commission services based on Eurostat Europop 2019 Population Projection (baseline), Eurostat EU-LFS and the European Commission's Spring 2020 Economic Forecast (for 2020 and 2021)

Click here to download chart.

Chart 3.13

Education is projected to improve in Italy.

Projection of percentages of the active population (age 20-64) who have attained low, medium and high education in Italy, 2019-2060



Source: Commission services based on Eurostat EU-LFS; Note: Low: Less than primary, primary and lower secondary education (ISCED levels 0-2); medium: Upper secondary and post-secondary education (levels 3 and 4); high: tertiary education (levels 5-8).

Click here to download chart.

Composition effect of better qualification leads to higher labour market participation. What is the impact on employment and on growth if the workforce's educational composition changes as indicated in *Chart 3.13*? Assuming that labour market participation rates continue to increase as education improves, Italy's labour market participation rate would improve from today's 70% to almost 75% in the long run. By 2060, 1.3 million (+6.7%) more people would be participating in the labour market than would have been the case without educational progress (*Chart 3.14*).

The structural change towards better educated workers also generates wage increases. In the increased education scenario, the average wage would gradually increase due to the continuous improvement in the education levels of the workforce. The changing educational composition of the workforce as described in *Chart 3.13* leads to average wages to increase by 10.4% between now and 2060 because the proportion of better-educated workers (with their higher wages) will increase. ([207])

Higher labour market participation rates and higher wages support the future level of pensions. With pension contribution rates stable, ([208]) the average pension in 2100 would be 16% higher in the case of continued educational progress, compared with the reference scenario (stable participation rates, no wage-effect), see *Chart 3.15.* There is therefore a strong positive impact on intergenerational fairness, as future cohorts benefit from higher pensions through their better education. The chart shows that there will be a fast increase of lifetime average pension levels for those drawing on an old-age pension in the future.

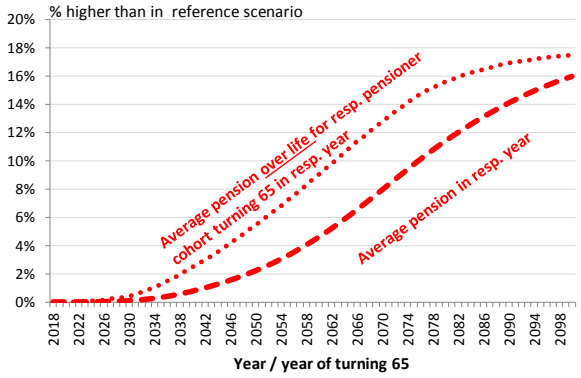
([207]) Low-educated workers have an average hourly wage of 11.7 EUR, some way below the wage of medium-educated workers (EUR 14.6) and just half the wage level of highly educated workers (EUR 21.2).

([208]) The government is assumed to keep the contribution rate stable in the future – with one exception, as explained in the previous sections: Pension increases related to increases in wages and participation rates are financed through lifting the pension contribution rate. See Box 3.1 above and Annex 3.2 for details.

Chart 3.15

As people get better educated, future cohorts of pensioners will have significantly higher pensions.

Impact of educational progress in Italy on the level of pensions



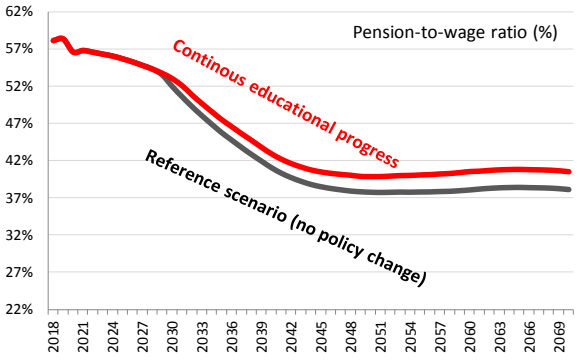
Source: Commission services based on Eurostat 2019 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

Click here to download chart.

Chart 3.16

As people are better educated the employment rate increases. This increases pension entitlements.

Impact of educational progress on the pension-to-wage ratio (expressed as percentage of average wage), 2020-2070, Italy



Source: Commission services based on Eurostat 2018 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

Click here to download chart.

The pensions-to-wage ratio increases. Today, at 58% of the average wage, the average pension-benefit ratio in Italy is much higher than the EU average (43%). Under the assumptions of a pay-as-you go pension system, contributors have to pay 36% from their wages in order to fund pension payments to those aged 65 and over. With the government making an effort to keep this contribution rate stable over time ([209]), this would imply a strong decline in the pension-to-wage ratio in Italy, down to 38% in the long run without any further improvement in activity rates or wages, see the black curve in *Chart 3.16*. However, with educational progress ongoing, labour market participation and wages will increase. As a consequence, more people will pay contributions to the pension system, allowing the level of pensions to increase. The pension-to-wage ratio in 2070 could thus be higher and reach 40.5% (*Chart 3.16*, red curve). This increase in the pension-to-wage ratio may look modest. However, this is due to the denominator effect of higher wages.

([209]) See the previous footnote. The 2070 contribution rate in the Educational Progress scenario for Italy would be 1.6 pp higher than in the reference scenario (with constant participation rates and constant wages).

3.3.2. *Macro-economic impact of educational progress*

The previous sections have modelled the structural effects of progress in female labour market participation, longer working lives and education progress by comparing the resulting activity rate scenarios with a stable activity rate baseline scenario, applying the usual 'everything-else-equal' assumption. This approach is usually taken when the aim of the analysis is to show the isolated, primary impact of structural changes within the workforce in terms of gender (section 3.1), age (3.2) or education (3.3.1). So far the analysis did not consider any macro-economic feedback to these structural changes. This section provides evidence taking feedback into account (and hence lifting the 'everything-else-equal' assumption) in relation to educational progress. It thus reflects the fact that structural changes in the educational composition of the workforce may have strong macro-economic implications for productivity and wages.

Higher productivity attracts investment, driving up employment and GDP. In the Labour Market Model (LMM), educational progress can be modelled as an exogenous policy shock in the form of a changed educational composition of the workforce (as projected in *Chart 3.13*) between now and 2030. ([210]) What impact will this change have on GDP, employment and wages in the long run? *Chart 3.17* shows that GDP will be 9% higher, triggered mainly by additional capital investment. Firms are motivated to invest more in physical capital because better-educated workers and more innovative capital complement each other. Both the new capital and the better-educated workers increase labour productivity. Employment increases as higher labour productivity induces

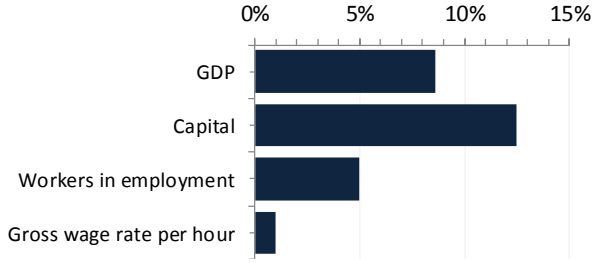
([210]) The share of low-educated workers (age 20-64 years) decreases from 37% in 2018 to 30% in 2030; medium-educated workers: from 45% up to 47%; highly educated workers: from 19% to 23%. See *Chart 3.9* above.

firms to hire more workers. The effect on wages is significantly more moderate than suggested by the structural effect shown in the previous section. This is because a higher supply of highly educated workers would exercise downward pressure on their wages, so that the structural increase in the average wage is neutralised to some extent.

Chart 3.17

Better-qualified workers trigger investment in innovative capital

Long-term impact of an exogenous change in workforce composition with respect to educational attainment, Italy



Source: Commission services based on LMM

Click here to download chart.

3.3.3. Conclusions

Increasing labour market participation can increase social and intergenerational fairness. Given the long-term demographic projections for the EU, removing gender-related gaps and allowing people to prolong their working lives brings a high economic return and can help address the economic costs of ageing. The same holds true for improving the educational composition of the workforce as better-educated workers tend to have higher activity rates and contribute to increasing productivity. All policies that empower people to become part of the workforce, accede to high quality jobs and develop their skills contribute directly to sustainable economic growth. In the longer run, they contribute to higher pension levels and fairer pension systems. Other policies not discussed in this section, such as working time and migration policies, could sustain these positive effects.

During the Covid-19 crisis, activation and investment has become more important to support long-term improvements in education and the labour market. Various programmes co-funded through EU cohesion policy are targeted at investing in workers' employability and further increasing labour market participation. However, the Covid-19 pandemic is putting long-term structural improvements in employment and education at risk and would - in the absence of determined policy action - undermine further structural improvements in the future ([211]).

In the shadow of the Covid-19 pandemic, the Commission has taken a series of measures to avoid a surge in unemployment and to protect incomes and livelihoods. In particular, it proposed a massive increase of investment in its 27 May Recovery Package ([212]), within a revamped and strengthened 2021-27 EU budget, with the aim of saving jobs today and paving the way for a sustainable, even, inclusive and fair recovery in the years to come. It further proposed setting up a new instrument for temporary Support to mitigate Unemployment Risks in an Emergency (SURE) ([213]), which will provide financial assistance of up to EUR 100 billion to Member States to enable them to finance national STW schemes and similar measures for the self-employed. Earlier in the process, the Commission had set up a dedicated Coronavirus Response Investment Initiative (CRII, CRII+) ([214]) to allow all unused support from the European Structural and Investment Funds to be mobilised to the fullest. Furthermore, as part of its annual work programme, the Commission is preparing a legislative initiative for a European framework for fair minimum wages.

Promoting educational attainment is key to avoiding longer-term scarring effects, notably for younger generations, while improving productivity and growth potential. Young people find themselves particularly exposed to immediate adverse effects of the pandemic such as disruptions to their education and training curricula, ([215]) higher risks of dismissal for workers on temporary contracts and with lower levels of education, and the generally lower coverage of young people in unemployment and STW schemes. Maintaining their schooling and improving their education levels and skills will be crucial to enabling them to whether the longer-term impacts of the crisis and enhance their future employment prospects. Higher education levels will increase wages, trigger physical investment and support employment and GDP in the longer run. This is why the Commission is stimulating investment in better skills and higher education through its various funds. For example, the Renewed Agenda for Higher Education supports better outcomes through different strands of the Erasmus+ and Horizon 2020 programmes. One core objective is to increase labour productivity by triggering innovation, promoting excellence and tackling future skills mismatches.

([211]) According to the Commission's Spring Forecast, unemployment in the EU is expected to increase sharply, to 9% in 2020, up from 6.7% in 2019.

([212]) European Commission (2020e).

([213]) Council Regulation (EU) 2020/672 of 19 May 2020 on the establishment of a European instrument for temporary support to mitigate unemployment risks in an emergency (SURE) following the COVID-19 outbreak.

([214]) Regulation (EU) 2020/460 of the European Parliament and of the Council of 30 March 2020 amending Regulations (EU) No 1301/2013, (EU) No 1303/2013 and (EU) No 508/2014, as regards specific measures to mobilise investment in healthcare and in other sectors in response to the COVID-19 outbreak (Coronavirus Response Investment Initiative).

([215]) Those disruptions affect disadvantage pupils disproportionately who cannot rely of family support.

4. LEAVING NO ONE BEHIND: WHAT INVESTMENT IS NECESSARY TO FINANCE FUTURE SOCIAL WELFARE AND JUST TRANSITIONS?

This section attempts to estimate the needs for social investment in a time of major changes in the economy and in the labour market. These changes are mainly structural, given the well-recognised need for deep transformations of the economy such as digitalisation (section 4.1) and the transition towards climate neutrality (section 4.2). Further structural changes may also be provoked by large-scale adverse economic shocks that hit the economy unexpectedly. The Financial Crisis of 2008-2009 has taught us that such downturns may disrupt the labour market severely. The Covid-19 pandemic is likely to put the EU to an even bigger test (section 4.3) and may have longer-lasting impacts, not least through structural changes in production patterns and consumption behaviour, but also caused by interruptions in schooling and training during the crisis. ([216]) Many of these changes put workers at higher risk of unemployment and temporary income loss. As a matter of both social fairness and economic efficiency, these workers must be able to rely on a functioning welfare state, protecting their incomes throughout the transition and investing in their employability through training.

4.1. Digitalisation: new challenges for social security

Over the last few decades, technology has changed the way people learn, work and live. Today, spurred by the Covid-19 crisis, change is happening faster than ever before. Communication systems are changing, from delivering messages and information to transmitting highly complex content. New technologies are making labour supply and demand more transparent, thereby facilitating matches on the labour market. Technological progress is leading to changes in wages, working conditions, the bargaining power of workers and firms and social protection. Since the outbreak of the Covid-19 pandemic, technologies have not only helped to support remote schooling and maintain productivity. They have also enabled social life and participation (at times with imposed social distancing), promoted digital skills and made it possible to use remote communication tools at unprecedented speed.

Telework has absorbed large parts of the adverse economic schock inflicted by Covid-19. Jobs may be saved as workers have the possibility to work from home at times when physical presence and meetings become difficult or impossible, as during the current Covid-19 crisis. Early evidence on the prevalence of telework during the crisis suggests that almost 40% of workers in the EU have started working from home during the pandemic ([217]), many times higher than before ([218]); and that more teleworking may save at least as many jobs as short-time work schemes, which reduce labour productivity as workers reduce working hours (see section 4.3 below).

Digitalisation, despite its evident benefits, may provoke major social challenges in the short run. The 2018 ESDE review ([219]) discussed in depth the challenges and opportunities that more digitalised economies entail. Evidence on whether new technologies create or destroy jobs is still mixed. There may be significant job destruction in the short term as new technologies become available and can replace low-skill or routine cognitive-manual tasks ([220]).

In the long run, both firms and workers adjust to new technologies, but digital transformation requires upskilling. As demonstrated in ESDE 2018, workers and their employers do not just watch as skills become outdated, accepting the negative consequences in the form of lower productivity, lower wages and worsening labour market prospects. They react by investing in workers' skills to make them complementary to the new technology. Better-skilled workers attract new, innovative capital. As a result, labour productivity increases and new jobs are created. ([221]) New technologies therefore require fast development of new skills: policy-makers need to ensure that everyone has access to this important resource ([222]). Jobs may become more complex as they require more skill-intensive tasks. As tasks become more skill-intensive and more complementary to physical capital, the risk of automation decreases.

Recent studies confirm that automation and telework can increase productivity growth. Econometric analyses, using data for nine manufacturing industries in 12 EU countries, provide evidence that industrial robots pushed labour productivity growth in the period from 1995 to 2015 ([223]). Increasing the density of industrial robots by one standard deviation increases labour productivity by more than 1% in four industries (see *Chart 3.18*).

([216]) Moreover, increasing disasters and climate change impacts may have severe and regressive consequences for economies and societies, if no additional action is taken to prepare and enhance ability to respond.

([217]) Sostero et al (forthcoming, draft p. 17).

([218]) Ibid., p. 5. Among employees, the 2019 share of workers who did telework at least sometimes was at 11%.

([219]) European Commission (2018a).

([220]) Routine tasks involve repetitive physical activities. They are not necessarily performed by low-skilled workers. Assemblers and machine operators, but also clerical and administrative occupations are often middle-skilled activities (ESDE 2016, Chapter 4).

([221]) See, in particular, Chapter 2 in ESDE 2018.

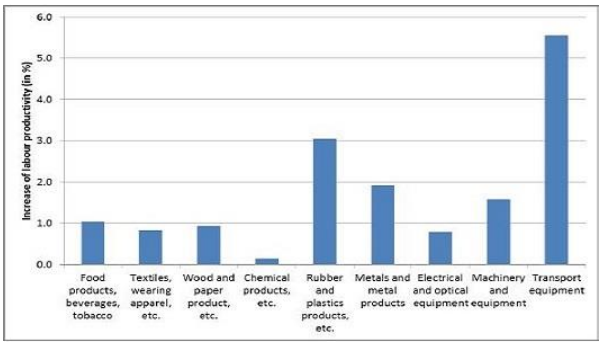
([222]) ESDE 2018, Chapter 3, finds a strong link between qualifications/skills and socio-economic background.

([223]) Jungmittag and Pesole (2019).

Chart 3.18

Robots tend to increase labour productivity

The impact of a one standard deviation increase in the density of industrial robots on labour productivity (% increase between 1995 and 2015)



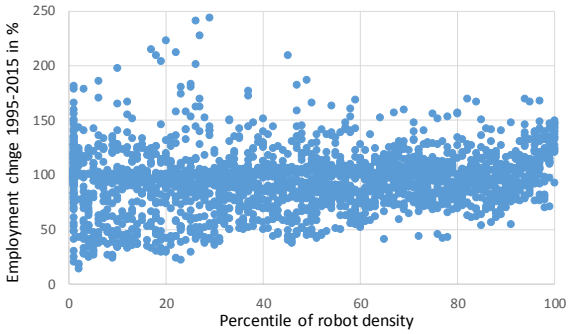
Source: Jungmittag and Pesole (2019), p. 15

Click here to download chart.

Chart 3.19

No clear evidence for robots being job destroyers

Robot density percentile and change in total employment in manufacturing (1995–2016)



Note: The analysis is based on the World Robotics database and Eurostat EU-LFS. Manufacturing sectors in 14 countries are included.

Source: Klenert et al. (2020), p. 20.

Click here to download chart.

New technologies can go hand in hand with job creation. A European Commission study ([224]) has found that the use of industrial robots is positively correlated with employment (*Chart 3.19*). More robots can lead to more jobs, but the positive correlation depends crucially on workers' (digital) skills and qualifications being complementary to new forms of innovative capital ([225]). In the service sector, another recent study found no sign of industrial robots having significant employment effects. One reason is that there are limits with respect to the tasks industrial robots can perform, especially when it comes to work autonomously. ([226])

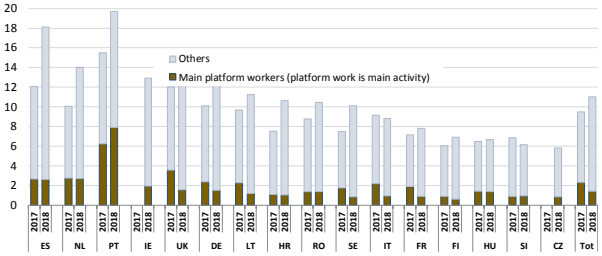
Yet the digital transformation is changing the way work is performed. An outcome of digitalisation is the increasing prevalence of work performed on collaborative, mostly digital, platforms. On these platforms, individuals 'match themselves with customers, in order to provide [a diverse range of services] in return for money.' ([227]) Workers on collaborative platforms often perform specialised tasks, and are often self-employed. Rather than a classical employer-employee relationship, there is a business relationship between an independent service provider and a purchaser of the service ([228]). Digital platforms are often used by firms for outsource tasks. The programming of IT-applications by skilled specialists or the delivery of restaurants by bikers are examples.

Only a few workers make a living from platform work, but the numbers are increasing. The latest Commission COLLEEM study (second wave) ([229]) has collected data on the prevalence of platform work through surveys in several Member States. It suggests that the quantity of tasks performed over platforms is still small. In 2018, platform work was considered workers' main activity ([230]) for only 1.4% of the adult population. Other sources confirm this finding. ([231]) However, adopting a wider definition, the proportion of workers who perform platform work more than sporadically is much higher and has also increased recently (*Chart 3.20*) ([232]).

Chart 3.20

A significant and increasing proportion of people have experience in working on platforms.

Platform workers by Member State in 2017 and 2018 (%) – estimates combining information on income and hours worked



Note: Based on COLLEEM data. The group 'others' contains workers classified as 'secondary', 'sporadic' and 'marginal' platform workers.

Source: Source: Urzì Brancati et al., (2020), p. 16.

Click here to download chart.

These findings put the policy focus on working conditions of platform workers and their access to social protection. Data suggest that,

([224]) Klenert et al (2020). The study was carried out by the Commission's Joint Research Centre (JRC). Manufacturing sectors are taken into account. The density of industrial robots is calculated by dividing the number of industrial robots in a given country-sector-cluster by employment in the same country-sector in 1995. Countries included in the analysis are 13 EU countries plus the United Kingdom.

([225]) ESDE 2018, Chapter 2.

([226]) Sostero (forthcoming).

([227]) OECD (2019), p. 1.

([228]) ESDE 2018, Chapters 2 and 5.

([229]) 'Collaborative Economy and Employment'. See https://ec.europa.eu/jrc/en/colleem.

([230]) The COLLEEM study classifies platform workers into four categories according to working time and income earned through platforms: main, secondary, marginal and sporadic. See Urzì Brancati et al., (2020), for details (p. 15).

([231]) A 2018 Eurobarometer survey finds that while 6% of people in the EU have ever offered a service via collaborative platforms, only 1% have done this at least once per month (Flash EB 467).

([232]) Urzì Brancati et al. (2020).

despite the advantage of flexibility, platform workers often consider their work monotonous and stressful, not least because their activities are often constantly monitored. Studies highlight that very few platform workers benefit from collective agreements and their level of social protection is very low. ([233]) Many other problems are thought to be left unsolved by national legislation: these include the lower access to social security of the self-employed, conditions being non-transparent and disadvantageous, a lack of dispute resolution and problems related to non-payment. ([234])

Low access to social protection incurs a cost, not only for the workers themselves but also for social security systems. Earlier analysis has shown that if the percentage of self-employed people in the EU's workforce increased, social security systems will be put under stress. If these newly self-employed people fall out of statutory social security schemes, the schemes will become more expensive for those who remain statutorily insured: in the case of doubling the share of self-employed in total employment by 2030, the difference could amount to 5% of wages by 2060, equivalent to over EUR 300 billion per year EU-wide. ([235])

Social security system coverage needs to broaden. These concerns regarding platform workers are also recalled in the Commission Communication on Shaping Europe's Digital Future, which recognises that online platforms represent an economic opportunity for many people, but may also leave them vulnerable due to the lack of a clear work status with full legal and social protection. In 2021, the Commission will therefore propose an enhanced legal framework for platform workers in order to improve their working conditions ([236]).

In the long run, accelerating digitalisation is likely to trigger permanent changes in our lives, with important implications for social fairness. As highlighted in the Commission's Recovery Plan of 27 May, the pandemic and its socio-economic consequences have highlighted the importance of digitalisation across all areas of the EU economy and society. New technologies have kept businesses and public services running. They have helped people to stay connected, to work remotely and to support children's learning. In the long term, this is likely to trigger permanent and structural changes, including more teleworking, e-learning, e-commerce and e-government. From the social fairness viewpoint, this underlines the need for equitable access to digital tools and skills, to connectivity for all and to data access for SMEs.

([233]) See ESDE 2018, Chapter 5.

([234]) Kilhoffer, et al (2020).

([235]) This is demonstrated in a hypothetical thought-experiment laid out in ESDE 2018 (pp. 147-148), which developed a baseline scenario for the labour market and then assumed that the share of self-employed workers (15%) would double by 2060.

([236]) European Commission (2020f).

4.2. Future investment needs in times of major structural change: the Green transition

The EU has set itself ambitious environmental targets. As the EU's new growth strategy, the 'Green Deal' addresses the current environmental crisis by tackling climate change, loss of biodiversity, depletion of resources and pollution. With its transition towards a resource-efficient, climate neutral economy (green transition), the Green Deal has implications for workers who need support on the way (section 4.2.1). In addition, from the perspective of household disposable incomes, energy taxation and the impacts of climate change may affect low-income households disproportionately. For those households it is important to consider how to alleviate and/or compensate for such impacts (4.2.2).

4.2.1. The green transition: social security spending for helping those in need of support

Current global commitments under the Paris Agreement are not sufficient to meet the temperature goal of the Paris Agreement. More ambitious action is needed. In 2015 the leaders of 190 nations agreed in Paris on an ambitious set of objectives: the reduction of Greenhouse gas emissions (GHG) to contain global warming to well below 2°C until the end of the century while pursuing efforts to limit it to 1.5°C ([237]) and Nationally Determined Contributions (NDC) to achieve this goal. They also established, for the first time, a global goal on the adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change. Yet further research suggests that current NDCs are not sufficient to achieve the agreed aims. Collectively, they would lead to a temperature rise of around 3°C, thus not avoiding the most dangerous impacts of climate change ([238]).

The 'Green Deal' is the new roadmap for the EU to achieve climate neutrality by 2050. In the context of taking more ambitious action, the EU submitted its long-term climate strategy to the UN Framework Convention on Climate Change (UNFCCC) in March 2020, aiming for net zero greenhouse gas emissions by 2050. The Commission proposed to enshrine this EU climate neutrality objective in legislation. Moreover, in order to be more consistent with the objective for 2050, the Commission has scheduled, for

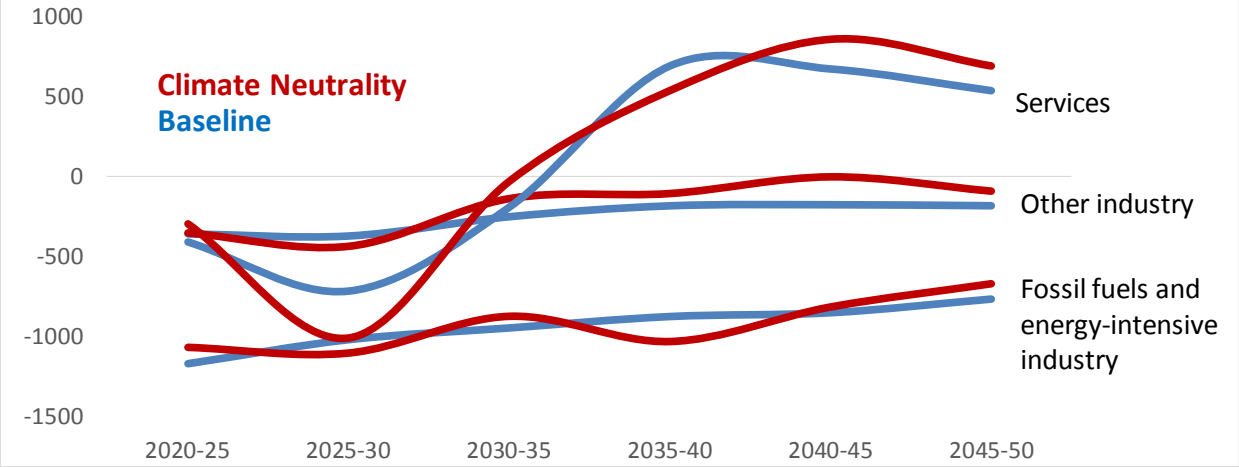
([237]) The increase should 'preferably' be limited to 1.5°C.

([238]) European Commission (2018d), p. 14.

Chart 3.21

Structural change will bring new jobs in services. Job losses will concentrate on 'non-green' industries.

Employment trends under NDC and Climate Neutrality, 1000 persons, EU-27 plus UK



Source: Based on JRC-GEM-E3 (European Commission).

Click here to download chart.

September 2020, more ambitious greenhouse gas reduction targets for 2030 ([239]).

The recovery from COVID-19 will reinforce the Green Deal. In the face of the COVID-19 pandemic, and in order to ensure that the EU remains on track towards its climate neutrality target, the European Green Deal proposed by the Commission in December 2019 has become the centrepiece of the new recovery package to address the current Covid-19 economic crisis and enable green growth. It foresees massive investment in renewable energy projects, climate adaptation, renovation of buildings, cleaner transport logistics and a Just Transition Fund to support re-skilling and create new economic opportunities. The Green Deal thus ensures that no worker, household, region or country is left behind in the transition to climate neutrality. Model simulations by the European Commission ([240]) have assessed the impact of achieving climate neutrality in the EU by 2050, whereby GHG emissions are gradually reduced and remaining emissions are balanced out by removals ([241]).

The green transition requires social investment. This section quantifies the need for social investment in the context of a structural change dominated by the greening of our economy, on two scenarios**.** The **baseline scenario** is designed to implement the legally binding policies the EU and its Member States had adopted by the end of 2014, assuming that those will be implemented until 2030. The more ambitious **climate neutrality scenario** is designed to achieve net zero greenhouse gas emissions by 2050. For both scenarios, the following analysis tries to identify the scope for necessary additional social investment in workers who lose their jobs in the course of major labour market transformations. This social investment includes (1) training of workers to re-skill them to take up tasks in new sectors; and (2) income-replacing benefits for workers who become unemployed.

The analysis uses the Commission's Joint Research Centre's (JRC) modelling results on the employment effects for both scenarios, looking at **sectors where employment is projected to decline**. Based on these employment effects, the new part of the analysis includes an estimation of public expenditure for social benefits that become necessary as jobs in traditional sectors change or even disappear.

Employment effects

Ambitious GHG reduction can bring positive labour market effects overall. By 2050, the Climate Neutrality scenario would lead to

([239]) In March 2020, the Commission adopted a proposal for a first European Climate Law (European Commission, 2020g) which would make the 2050 target of climate-neutrality legally binding for all actors - while also outlining the necessary steps to achieve the target. After an impact assessment scheduled for release in September 2020, the Commission will propose a new EU target for 2030 greenhouse gas emissions reductions. The Commission also proposes the adoption of a 2030-2050 EU-wide trajectory for GHG emission reductions, to measure progress and give predictability to public authorities, businesses and citizens.

([240]) The simulations were done by the Commission's Joint Research Centre (JRC). The GEM-E3 model is used. It is a General Equilibrium Model for Economy-Energy-Environment, see https://ec.europa.eu/jrc/en/gem-e3/model. For the labour market impact of low-carbon transition see European Commission (2018d), esp. pp. 226 to 230. For details on the Long Term Strategy scenarios see also Keramidas et al (2018).

([241]) Remaining greenhouse gas emissions would be balanced e.g. through the use of carbon sinks. This is consistent with the EU contribution to the Paris agreement objectives of 1.5°C. See ESDE 2019, p. 177.

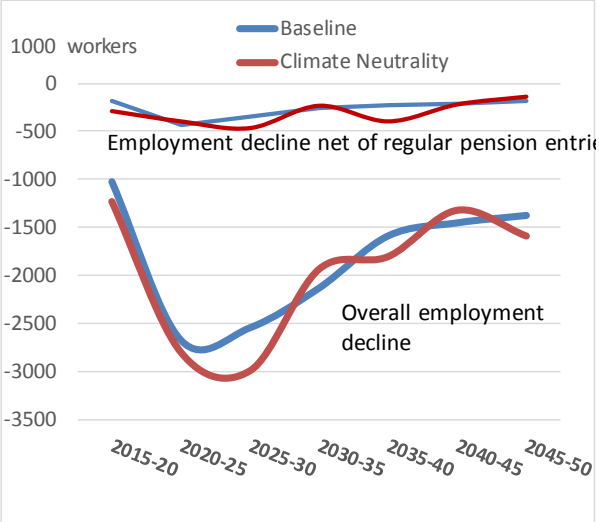
employment gains in the EU ([242]) of about 1.3 million, compared with the baseline. New jobs would be created in industrial sectors, mainly those involved in renewable energy and energy efficiency. There is also a policy component in the overall employment gains through the green transition: the tax revenue gained through the auctioning of EU Emission Trading System allowances is recycled. It means that it may be re-invested by governments in the reduction of labour costs, thus stimulating both labour demand (lower labour costs) and supply (higher take-home pay). The green transition would therefore produce a double dividend for the planet, the economy and the labour market.

GHG reduction could lead to job losses concentrated on energy-intensive and fossil fuel-related industries. Both the baseline and the Climate Neutrality scenario incorporate structural change in general. That is, not all of the job losses that happen in both scenarios are necessarily linked to GHG reduction. However, *Chart 3.21* shows that job losses in both scenarios concentrate on fossil fuels and energy-intensive sectors – the latter including metalworking and chemical industries. The difference in the employment effect between the two setups is relatively limited. One reason is that employment in fossil-based sectors (extraction, mining) and power generation will decline faster under Climate Neutrality policy as GHG reduction targets are more ambitious.

Chart 3.22

Sectoral shrinkage can take a considerable number of jobs

Employment changes (if negative), EU-27 plus UK



Source: DG EMPL calculation based JRC-GEM-E3 modes simulation (DG JRC)

Click here to download chart.

Future social investment needs

Among the workers who worked in sectors that were shrinking without the green transition, not all are expected to be unemployed. *Chart 3.22* shows, for five-year periods, the sum of projected changes in employment in shrinking sectors. Only negative changes over time are taken into account, as the aim of the analysis is to estimate the necessary social investment in the case of job losses. When leaving a given shrinking sector, where do workers go? The following assumptions are discussed in detail in **Annex 3.3**.

Structural change comes at an initial cost. The cost includes income-replacing benefits and expenses for (re-) skilling workers. Every year, around 1% of all workers are expected to reach regular pensionable age and therefore call for a pension (average across sectors). For the calculation of cost induced by the structural change, regular retirees are not taken into account. Of the remaining workers, some find a new job immediately, others move into early retirement. The remaining workers represent new unemployment. *Box 3.2* describes the key assumptions (for details, see Annex 3.3).

Box 3.2: modelling assumptions

- 20% of the remaining workers are able to find a new job in other sectors within three months and without any further training.
- 1.3% move into early retirement. Early retirees should be taken into account for the cost analysis as their decision to leave the labour market may be linked to the sectoral shrinkage. They receive an income-replacing benefit of EUR 10 700 per year, which is thus counted as a cost until they reach regular retirement age ([243]). Early retirees will not have any training cost.
- 78.7% will not, or not immediately, transit into a new job but become unemployed. They receive income-replacing benefits (EUR 10 700 per year) and re-training (cost: EUR 8 700 per year).

With these assumptions, the baseline and the Climate Neutrality scenario will incur the following cost to national social security schemes for income-replacing benefits and for training offered to unemployed people (*Chart 3.23*).

The EU-wide cost of the structural transition could amount to EUR 20 billion by 2030. Between 2015 - the start of the Climate Strategy - and 2030, the cumulative costs incurred in the baseline scenario would amount to EUR 18 billion

([242]) GEM-E3 model calculations for the EU still include the United Kingdom. Therefore, 'EU' in this section refers to EU-28.

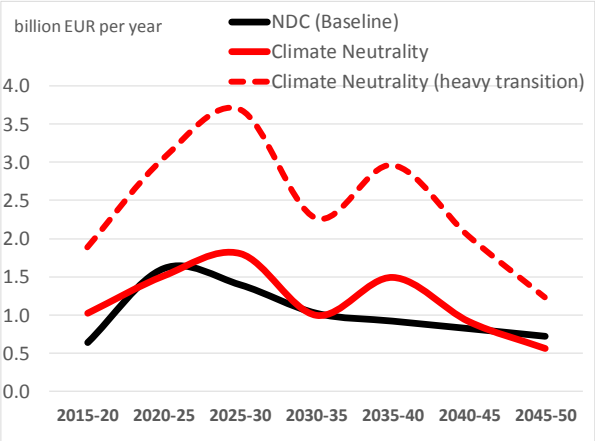
([243]) In the long run, actuarial deductions should level out the additional expenses for premature pensions. This effect is not taken into account here. In a number of Member States these deductions do not render early pensions actuarially neutral (they are too low).

(EUR 36 million by 2050). In the more ambitious Climate Neutrality scenario the cost would cumulate to EUR 22 billion by 2030 (EUR 41 billion by 2050) if one assumes no change in the main parameters concerning the risk and the duration of unemployment, retirement-behaviour and training intensity. In both scenarios, 86% of the cost falls on unemployment benefits, 11% on re-training and 3% on early retirement expenses.

Chart 3.23

A more ambitious green transition calls for higher social investment

Annual cost for income replacement and training, EU-27 plus UK



Source: EMPL calculation based JRC-GEM-E3 modes simulation (DG JRC)

Click here to download chart.

The initial social investment needed by the green transition may be much higher than these amounts. The transition towards greener sectors may become more challenging if people face more difficulties in finding new jobs in other sectors than assumed in the Climate Neutrality scenario. For example:

- more workers could become unemployed as other sectors are less able to absorb the employment decline in shrinking sectors immediately (10% immediate transition instead of 20%).
- as it may be more difficult to find new employment if dismissed, the duration of unemployment could be higher than in the NDC scenario (three instead of two years).
- a successful transition could require more training. Half of all unemployed people may participate in training (instead of 31%), and/or workers would enrol for training not just once after becoming unemployed, but several times during their unemployment (lasting three years on average).
- the proportion of discouraged early retirees in total employment could be twice that assumed in the reference scenario (2.5% instead of 1.3%).

Note the dashed line in *Chart 3.23* which depicts social investment needs under these (more difficult) circumstances. The expenses for social benefits, training and early pensions would almost double, relative to the Baseline Scenario. For the EU, the necessary cumulative social investment would reach EUR 43 billion between 2015 and 2030, of which almost EUR 30 billion (69%) would fall on unemployment benefits, EUR 1.3 billion (3%) on early retirement and EUR 12 billion (28%) on re-training. Thus a socially responsible transition towards a climate neutral economy would require substantial social investment if the green transition or the labour market in general becomes more challenging. This is why the Commission has proposed to strengthen the Just Transition Fund with up to EUR 40 billion. The aim is to assist Member States in accelerating the transition towards climate neutrality, with a particular focus on the re-skilling of workers ([244]).

4.2.2. The distributive impact of energy taxation

Polluting the environment needs to have a price – yet it may affect poorer households. The 'Green Deal' calls for broad-based tax reforms, removing subsidies for fossil fuels, shifting the tax burden from labour to pollution, and taking into account social considerations. The 'polluter-pays principle', enshrined in the EU Treaty, calls for assigning a price to be paid for negative externalities caused by the pollution of the environment. Environmental taxes thus help provide the right price signals and incentives to encourage less polluting production and consumption. ([245]) However, as indirect taxes, they may affect the poorer households relatively more, since these show a higher marginal propensity to consume relative to richer ones. This may raise equity issues, which should be weighed against efficiency considerations. It is thus crucial to mitigate the impact of energy taxes on low-income households. ([246])

Compensation measures are designed to restore progressivity. To this end, the distributional impact of increasing the tax rates on energy goods is assessed below. The introduction of a lump-sum benefit to compensate for certain households' additional expenses on energy taxes is evaluated ([247]). The analysis is based on the EUROMOD ([248]) microsimulation model and uses

([244]) European Commission (2020h).

([245]) European Commission (2020i), p. 2.

([246]) In this context, it needs to be kept in mind that the poorest households will benefit from lower energy costs expected from the transition, through cheaper energy and better insulation of homes. In line with the 'Green Deal', the energy taxation is therefore only one element to be considered in a context of much broader tax reforms, which are necessary for shifting from taxation from labour to pollution.

([247]) European Commission (Joint Research Centre).

([248]) Microsimulation exercises typically ask: What if certain taxes were different than they actually are? The analysis

data from the EU Survey on Income and Living Conditions (EU-SILC). The analysis also includes information about households' consumption expenditure estimated from the Household Budget Survey (HBS). Simulations refer to the 2016 tax and benefit systems.

VAT increases and excise duties are being simulated. Three energy tax increase scenarios (low, medium and high) are considered for the Czech Republic, Germany, Greece and France ([249]). These scenarios are purely hypothetical and do not relate to any current policy proposal. ([250]) The tax increases are two-fold:

- upscaling VAT on heating and transport fuels, from reduced to standard rates (where applicable)
- levying higher excise duties on these energy goods.

The new excise duties are set as a floor level that the selected countries would need to consider. This is in line with the definition of the energy tax rates of the current European Commission Energy Tax Directive (ETD). *Table 3.1* presents the excise duties applied in three purely theoretical reform scenarios for different types of fuels. The tax rates are distinguished according to each fuel's carbon and energy content. For heating fuels, the scenarios differ strongly as regards the tax burden on households.

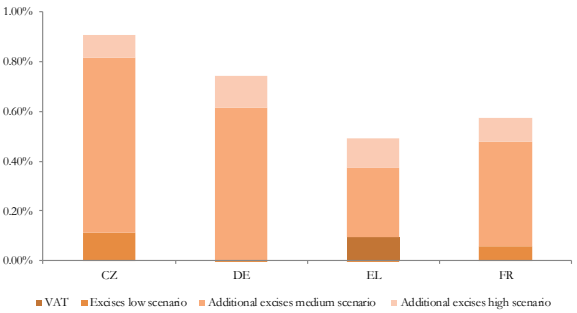
Table 3.1
Minimum tax rates – simulated scenarios

	Minimum tax rates (EUR)				
	Current	Low	Medium	High	*Unit*
Motor fuels					
Petrol	359	396.2	801.6	939.6	*1000 l*
Diesel	330	433.6	877.8	1037.4	*1000 l*
Heating fuels					
Gas oil	21	85.3	518.7	678.3	*1000 l*
LPG	0	97.6	652.3	831.1	*1000 kg*
Natural gas	0.3	2	13.6	17.2	*GJ*
Electricity	1	1.1	35.7	35.7	*MWh*

Source:: European Commission, Joint Research Centre
Click here to download table.

Lump-sum transfers compensate for costs related to energy taxes. The analysis includes a fourth scenario that addresses social fairness. A lump-sum benefit, which fully exhausts the extra tax revenues obtained in the medium scenario, was designed to mitigate the negative shocks to families' income ([251]). *Chart 3.24* shows the budgetary impact (in percent of GDP) for each of the selected countries ([252]). We observe that the impact of increasing energy taxes is non-negligible and that it is mainly driven by the energy component factored in the excise duty rates. The results differ significantly across the Member States analysed, depending on the tax systems in place.

Chart 3.24
Cost of the reform in % of GDP



*Source:*Joint research Centre, European Commission, based on EUROMOD.
Click here to download chart.

Chart 3.25 illustrates the distributional ([253]) impact of all four reform options on household income (net of direct and indirect taxes). It shows the example of Greece, but all countries considered show the strongly regressive impact of the energy taxation. Nevertheless, the fallout on inequality and poverty can be cushioned if a lump-sum benefit is granted. This benefit, albeit granted across-the-board, provides more support to poorer households than to rich ones. In all the selected countries, the additional tax revenues generate an increase in the disposable income of the lowest income decile.

has no time dimension in the sense that reactions of individuals to the changes are not taken into account. For further methodological details on the EUROMOD and the underlying assumptions see Sutherland and Figari (2013) and De Agostini et al (2017).

([249]) The countries have been selected based on the modelling restrictions encountered when the analysis was conducted.

([250]) Nor do they refer to the ongoing Energy Tax Directive impact assessment and revision.

([251]) The scenarios were implemented in EUROMOD under the assumption that households maintain constant the consumption shares of the different categories of goods. No further behavioral effects are considered. The distributional, equity and poverty impacts were then assessed.

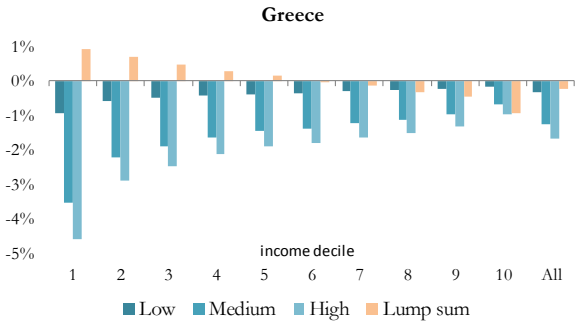
([252]) The low scenario does not apply to DE, since it already levies tax rates substantially above the existing minimum thresholds.

([253]) Households are ordered along deciles according to their equivalised disposable income, obtained by weighting total household income using the OECD scale for household composition (a weight of 1 is allocated to the head, 0.5 to other members above 14 years old and 0.3 to children younger than 14 years old).

Chart 3.25

The lump-sum tax cushions the regressive impact of energy taxation. It helps low-income households in particular.

Impact of the reform on disposable income, by decile



Source: Joint research Centre, European Commission, based on EUROMOD.

Click here to download chart.

Transferring the energy tax revenue back to households will decrease both inequality and poverty. *Table 3.2* shows an increase on the Gini index and on the at-risk-of-poverty rates when moving from the low to the high energy tax scenario, for all the selected countries. As expected, the increase in energy taxes has a negative impact in terms of both inequality and poverty. This negative impact may nevertheless be cushioned through transferring the tax revenue back to households (as opposed to keeping the tax revenue in the general government budget). This could happen through a number of schemes, for example: renovation and renewable energy subsidies targeting low-income families. ([254]) Here it is assumed that the transfer happens through the lump sum benefit granted to households across the board. In this compensation scenario, the Gini index and the poverty rates revert even slightly below their baseline values. The risk of energy poverty could thus be addressed for households that cannot afford key energy services to ensure a basic standard of living.

Table 3.2

Transferring the energy tax revenue back to households will decrease both inequality and poverty

Impact of the reform scenarios on the GINI coefficient and poverty rates

	Gini index				
	Baseline	Low	Medium	High	Lump sum
CZ	0.2562	0.2571	0.2626	0.2633	0.2555
DE	0.2843	n/a	0.2868	0.2873	0.2833
EL	0.3242	0.325	0.3272	0.3281	0.3215
FR	0.3084	0.3088	0.3112	0.3117	0.3073
	At-risk-of-poverty rates				
	Baseline	Low	Medium	High	Lump sum
CZ	10.4%	10.6%	12.5%	12.8%	10.4%
DE	15.7%	n/a	16.7%	16.9%	15.4%
EL	20.7%	20.9%	21.8%	22.1%	20.3%
FR	14.3%	14.3%	15.3%	15.5%	14.0%

Source: Joint research Centre, European Commission, based on EUROMOD.

Click here to download table.

([254]) Such policies are regularly used by local authorities in the EU, especially for renovation of social housing estates.

4.3. Social protection in the event of pronounced cyclical downturns

Beyond structural changes affecting the labour market and social security systems, severe downturns may also significantly challenge social security systems. The current Covid-19 pandemic is a serious threat to public health and human lives. It has also triggered economic shutdowns in all EU countries, albeit to a different extent. The resulting economic crisis has only just started to unfold its full impact on world and EU economies. Yet it is clear that this is the most severe global economic downturn since World War II, with the Commission's Spring Economic Forecast foreseeing a drop in the EU's GDP in 2020 of 7.4%. Even this projection was corrected downwards in the summer (-8.3%). ([255]) That is a much more pronounced drop than at the beginning of the Financial Crisis in 2009 (-4.3%).

Severe economic crises tend to lower GDP by more than they lower employment. For the EU-27, *Table 3.3* compares the GDP declines in 2009 and 2020 as projected in the Commission's Spring Forecast. ([256]) In 2009, employment declined by 1.8% (unemployment increased by 1.7 pp ([257])), making the shock to the labour market 2.5 pp milder than the GDP decline. In other words, part of the decline in GDP was absorbed at the intensive margin of the labour market, i.e. without reducing employment. In 2020, intensive absorption could be twice as significant (5 pp) as in 2009.

Table 3.3

Part of the adverse GDP shock is absorbed by cutting working time and lower productivity per hour worked.

Change in GDP and other magnitudes, EU-27, 2009 and 2020 (Commission Spring Forecast 2020)

	2009	2020*
1 GDP	-4.3%	-7.4%
2 - Hours worked per worker	-1.3%	-3.9%
3 - Labour Productivity per hour worked	-1.2%	-1.1%
4 Employment	-1.8%	-2.4%
-> Hours worked (volume, = 2+4)	-3.1%	-6.3%
-> Labour productivity per person employed (=1-4)	-2.5%	-3.2%

* European Commission Spring Forecast 2020

Source: EMPL calculations based on Eurostat and AMECO (National Accounts); * European Commission Spring Forecast 2020

Click here to download table.

People work fewer hours, capacities stay idle. Intensive absorption implies that workers remaining in employment in times of a GDP decline

– reduce working hours and

([255]) Summer 2020 interim Forecast by the European Commission (2020c).

([256]) The more detailed statistics of Chart 3.30 are not available for the Summer Interim Forecast.

([257]) This effect on the unemployment rate is calculated at given activity rate. This is necessary to isolate the effect of the dismissals due to the GDP decline.

– produce less per hour worked (i.e. labour productivity per hour worked declines). This is because the use of capital and other inputs into production are also reduced. In the Covid-19 crisis, social distancing also plays a role.

Cutting working time thus helps reduce the immediate pressure to dismiss workers resulting from the fall in production. However, there are differences across Member States as regards the capacity to absorb adverse economic shocks this way.

The EU labour market is more protected from the adverse effects of economic crises than the US. *Chart 3.26* shows how GDP collapsed in 2009, and what is currently forecast for 2020. The red part of the bars shows the decline of employment. The remaining green part is thus the GDP decline that is absorbed at the intensive margin, without cutting jobs. This part is substantially higher in the EU than it is in the US. Both in 2009 and in 2020 there were (are) massive job cuts in the US without any intensive absorption. ([258]) Within the EU, the situation differs from country to country.

Chart 3.26

Adverse economic shocks affect labour markets to a very different extent

GDP decline (%) and its components during the 2009 Financial Crisis and as forecast for 2020

Source: EMPL calculations based on Eurostat National Accounts and (*) European Commission's Spring Economic Forecast for 2020.

Click here to download chart.

Employment declines are milder in countries that rely strongly on publicly-subsidised short time work (STW) schemes in order to reduce the working hours of employees (and capital). They include Germany, France or Austria, where workers reduce their working time, fully or partly, while remaining employed and - despite the hours reduction - receiving a certain share of their wage through a public subsidy. These countries tend to be more successful in preserving employment during times of adverse economic shocks. For example, in Germany the decline in GDP in 2009 was as pronounced as -5.6%. Yet the country managed to emerge from the crisis with no employment decline at all. Current projections for 2020 also see these countries' labour markets better protected against job losses. In countries with a less prominent role for STW schemes, the impact of the 2009 economic downturn on the labour market was much less well-cushioned.

4.3.1. The use of STW schemes during the Covid-19 crisis

In the Covid-19 crisis, short-term work is saving millions of jobs. Administrative data for Germany suggest that short-term work will play an even more important role in saving workers from being dismissed than was the case in 2009. Monthly figures on firms which apply for *Kurzarbeit* indicate that applications peaked in April 2020 with more than 8 million workers, i.e., more than three times the number of registered unemployed (*Chart 3.27*). These figures have been declining since. ([259]) Current projections suggest that the number of people in *Kurzarbeit* (i.e., the stock) has been between 5 and 6 million between April and June 2020. ([260]) In 'normal' times, this figure is below 50 000. On the other hand, the number of registered unemployed increased by a relatively moderate 620 000 between March and August 2020 ([261]). Already these figures give an indication about the extent to which the Covid-19 crisis could push unemployment if the STW scheme was not in place.

([258]) In 2009, the decline in employment was even more pronounced than the fall in GDP, as labour productivity per hour worked increased. In other words, instead of absorbing part of the GDP decline, the intensive margin *added* to the fall in employment.

([259]) May: 1.1 million, June: 389 000 million, July: 257 000, August: 172 000 (Bundesagentur für Arbeit (2020e).

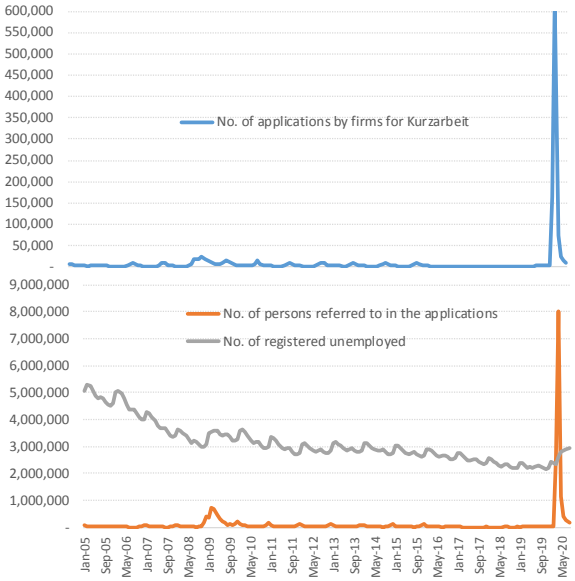
([260]) Statistics about 'realised' *Kurzarbeit* end in February 2020. From March on there is a projection. Source: Bundesagentur für Arbeit (2020f).

([261]) Bundesagentur für Arbeit (2020g).

Chart 3.27

Massive increase of STW in Germany during the Covid-19 crisis

Applications for Kurzarbeit and number of workers covered by these applications



Source: Bundesagentur für Arbeit (August 2020)

Click here to download chart.

EU-wide, Member States are making massive use of STW during the Covid-19 crisis. A number of other Member States show sharply increasing numbers of short-term workers. In the EU as a whole, around 42 million workers (more than one in five) had applied for STW or similar schemes at the end of April 2020 ([262]). This situation is clearly contributing to the significant intensive absorption of the massive GDP decline forecast for the EU in 2020 (shown earlier). The country-specific analysis to follow shows that STW is very efficient in cushioning increases in unemployment in times of adverse economic shocks.

4.3.2. The impact of STW schemes on the labour market: country-specific analysis

In times of declining production, a major part of the adverse effect on unemployment can be absorbed through STW. A regression analysis is carried out which uses monthly official labour market data from **Germany**. Data ([263]) covers the period between January 2005 and May 2020. The results for Germany show that in months when industrial production declined, the number of workers who enter into receipt of unemployment benefits ([264]) tended to go up by more than 31 000 (*Table 3.4*). However, if the production decline *coincides* with an increase in the number of workers covered by new applications for STW ([265]), the increase in the number of entries tends to be significantly lower: 9 000 ([266]). The biggest part of the negative shock on unemployment is hence absorbed by STW.

Table 3.4

Germany: Shrinking production pulls up calls for unemployment benefit by much less if take-up of STW increases.

Linear regression: coefficients. Dependent variable: monthly entries into unemployment benefits in Germany (Jan 2005-Oct 2019)

Constant	144,686 **
Dummy: Declining industrial production	31,348 **
Dummy: Declining industrial production **AND** increasing STW	-22,037 *
Entries, prev. month (lag)	0.231 **

Note: **: significant < 1%, *: significant at 5%; R2_ad=0.103; ANOVA: p<1%j, N=172

Source: EMPL calculations based on statistics of Bundesagentur für Arbeit and Eurostat series 'sts_inpr_m' (industrial production)

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Moderate increases in STW can cushion unemployment significantly. During the current Covid-19 crisis, STW in Germany has so far absorbed the major part of the adverse shock on the labour market (see *Chart 3.27*). However, by far the most of the period taken into account for the analysis was not characterized by major economic shocks but by 'normal' times in which the number of applications for the take-up of STW was lower than the fluctuation in unemployment. Still the regression finds that major parts of these fluctuations were cushioned by STW. In other words: there is evidence that on the labour market, relatively low increases STW can absorb more significant declines in economic activity.

A similar effect can be found for 'temporary unemployment' in Belgium. A similar regression is carried out for Belgium. The Belgian system of temporary unemployment (chômage temporaire) is comparable with *Kurzarbeit* in Germany. Temporarily unemployed are workers whose employment contract is totally or partially suspended and who may receive a compensation. ([267]) The number of temporarily unemployed in Belgium literally exploded during the Corona-crisis, to around one million workers between March and May 2020, an unprecedented situation. ([268]) The regression uses monthly regional statistics about temporary unemployment, issued by the Belgian National Employment Office (ONEM). ([269]) The dependent variable is the monthly change in the number of job-seekers (demandeurs d'emploi

([262]) Müller and Schulten (2020) have collected this data from national employment agencies and ministries. The proportion of workers participating in STW or similar schemes exceeds 20% in 11 Member States.

([263]) Sources: Bundesagentur für Arbeit (2020c), Bundesagentur für Arbeit (2020d).

([264]) The variable used here are the monthly entries into 'eligibility for receipt of unemployment benefits'. Those eligible (Anspruchsberechtigte) include people receiving unemployment benefits and those in a blocking period (see Bundesagentur für Arbeit, 2020b, p. 5)

([265]) Those workers are considered here who are covered by firms' application for STW which were sent and registered/processed in the respective month (Angezeigte Kurzarbeit), see Bundesagentur für Arbeit (2020h), p. 9.

([266]) Namely: 31 348 – 22 037.

([267]) See https://www.onem.be/fr/glossaire#anchor_c.

([268]) Office National de l'Emploi, see https://www.onem.be/fr/documentation/statistiques/chomage-temporaire-suite-au-coronavirus-covid-19/info

([269]) https://www.onem.be/fr/documentation/statistiques/chiffres

inoccupés) ([270]) registered at the ONEM. In *Table 3.5*, STW denotes the number of monthly payments made for people on temporary unemployment ([271]). The results are in line with those for Germany. As production declines, the number of job-seekers goes up. If STW increases in parallel to the declining production, two thirds of the increase in job-seekers gets neutralised.

Table 3.5

Similar picture in Belgium: STW helps cushion unemployment as production declines

Linear regression: coefficients. Dependent variable: monthly change in the number of job-seekers in Belgium (Jan 2011-Feb 2020)

Constant	-1,727 **
Dummy declining industrial production	6,263 **
Dummy declining industrial production **AND** increasing STW	-4,795 **
Previous month's change in the number of job-seekers (lag)	0.281 **

Note: **: significant < 1%, R2_ad=0.2; ANOVA: p<1%j, N=336; Controlled for Region (Flanders, Wallonia, Brussels)

Source: EMPL calculations based on statistics of Office National de l'Emploi, StatBel (Production dans l'industrie)

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For **Austria**, data is available about the monthly inflow of short-term workers from January 2007 to December 2019 ([272]). A similar regression model confirms that declines in industrial production increase unemployment and that STW tends to cushion the impact on unemployment, though the effect remains below statistical significance.

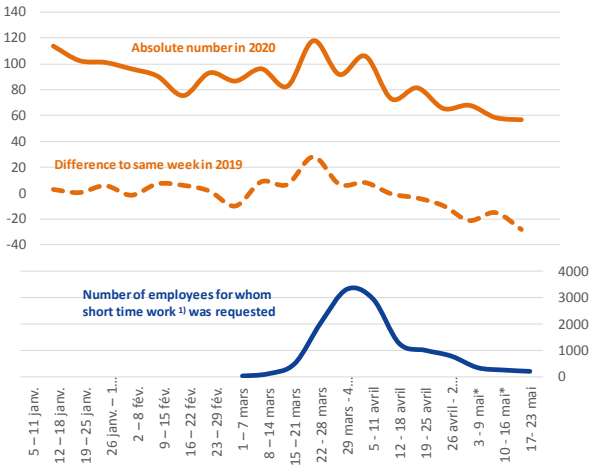
These findings confirm earlier EU-wide analysis. Arpaia et al (2010) ([273]) had analysed a panel of 27 EU Member States (quarterly data). It was found that in those countries where there were STW schemes in place the impact of the Financial Crisis 2008/09 on the variability of employment was significantly lower.

One job being subsidised by STW saves more than this one job. There is a multiplier effect. The strong cushioning impact of STW on unemployment both in 'normal' times and during shocks, has strong political implications. It suggests that there is a **multiplier effect** linked to STW. The opportunity to have one more job covered by a STW scheme could be decisive for an entire firm during an economic downturn. It could affect whether the firm remains optimistic enough not to dismiss staff. Data for countries other than those illustrated are (still) too limited to allow for in-depth econometric analyses, but do confirm the notion of STW as an absorber of adverse shocks and a job multiplier on the labour market.

Chart 3.28

France: With massive investment in STW, the number of new unemployment registrations actually declines during the Covid-19 crisis

Number of workers registering for unemployment and number of employees for whom STW was requested 1), 1000 persons, France



Note: 1) Demandes d'activité partielles

Source: Pôle emploi, France

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For example, with the Covid-19-related shutdown coming into effect, the number of *new* short-time workers in **France** increased from literally zero in the beginning of March to almost 3.3 million per week at the beginning of April, an all-time high. During this period of economic shutdown, the number of people who registered themselves unemployed with *Pôle emploi*, the French employment agency, actually declined - which would not have been possible without the massive take-up of STW (*Chart 3.28*).

4.3.3. The immediate budgetary cost of higher unemployment

These findings render the availability of STW in all Member States a political priority. The Commission has proposed a new instrument for temporary support to mitigate unemployment risks in an emergency (SURE). It allows for financial assistance of up to EUR 100 billion in the form of loans from the EU to affected Member States. Given that STW is a very efficient tool to reduce that risk, the purpose is to make sure that **all** Member States are in a position to invest in STW as an instrument to prevent massive job cuts in the course of pronounced economic crises. What is the EU-wide cost of such an instrument, and what would be the cost of not having it in place in times of crisis?

([270]) These are people without paid work registered with a public employment service as job seekers.

([271]) The Office National de l'Emploi (ONEM) reports on the 'physical units', i.e., number of payments made for people on temporary unemployment (chômage temporaire). Workers in temporary unemployment remain in employment, with payment of their remuneration being suspended. Those workers can claim benefits as temporarily unemployed. See https://www.onem.be/fr/documentation/feuille-info/t2

([272]) Data provided by AMS Arbeitsmarktdaten Österreich.

([273]) Arpaia et al (2010) p. 40.

Table 3.6

Each percentage point of unemployment costs EU countries a total of 31 billion EUR per year for unemployment benefits

Average net wages, unemployment benefits' net replacement rates and expenditure for unemployment benefits in the EU (2018)

1	2	3	4	5	6	7	8	9	10	
Country	Avg. wage (compensation per employee) 1)	Average tax wedge 2)	Computed net wages	Net replace- ment rate of unemployment benefits 3)	Computed benefit per worker	Unemployment rate 4)	No. of unemployed 4)	Unemployed per ppt of unemployment rate	Expenditure per ppt of unemployment rate	
	EUR per pers.	*% of compens.*	*EUR per pers.*	*% of net wages*	*EUR per pers.*	*% of lab. force*	*1000 persons*	*1000 persons*	*billion EUR*	*% of GDP*
			(=2-3)		(=4x5)			(=8/7)		(=6x9)
BE	56277	46%	30333	66%	19911	6%	301	50	1.00	0.22%
BG	9124	35%	5940	82%	4899	5%	173	33	0.16	0.29%
CZ	19135	41%	11213	31%	3452	2%	122	55	0.19	0.09%
DK	56001	33%	37409	71%	26481	5%	153	30	0.80	0.26%
DE	42962	45%	23457	71%	16690	3%	1468	432	7.21	0.22%
EE	21500	33%	14426	56%	8130	5%	38	7	0.06	0.22%
IE	49382	24%	37431	44%	16635	6%	138	24	0.39	0.12%
EL	21723	37%	13707	48%	6537	19%	915	47	0.31	0.17%
ES	35518	36%	22767	64%	14483	15%	3479	227	3.29	0.27%
FR	52185	43%	29693	73%	21563	9%	2702	297	6.40	0.27%
HR	16212	34%	10749	52%	5545	9%	152	18	0.10	0.19%
IT	41265	41%	24388	63%	15330	11%	2756	260	3.99	0.23%
CY	24249	17%	20054	42%	8376	8%	37	4	0.04	0.17%
LV	17561	39%	10765	28%	3016	7%	73	10	0.03	0.10%
LT	16690	37%	10498	39%	4080	6%	90	15	0.06	0.13%
LU	70046	30%	48752	89%	43367	6%	17	3	0.13	0.21%
HU	13714	45%	7543	25%	1912	4%	172	47	0.09	0.07%
MT	24112	20%	19290	41%	7958	4%	9	2	0.02	0.16%
NL	59348	31%	41069	73%	30110	4%	350	92	2.78	0.36%
AT	46664	43%	26458	55%	14638	5%	220	45	0.66	0.17%
PL	14861	35%	9645	47%	4521	4%	659	169	0.76	0.15%
PT	21380	37%	13576	76%	10275	7%	366	52	0.53	0.26%
RO	12288	37%	7766	50%	3852	4%	380	90	0.35	0.17%
SI	27625	40%	16575	47%	7848	5%	53	10	0.08	0.18%
SK	17675	40%	10694	29%	3111	7%	180	28	0.09	0.10%
FI	47133	36%	30118	63%	19105	7%	202	27	0.52	0.22%
SE	45261	41%	26704	55%	14614	6%	346	55	0.80	0.17%
EU-27				65%					30.82	0.23%

Source: EMPL calculation based 1) Eurostat National Accounts, 2) and 3) OECD-statistics, 4) Eurostat EU-LFS. Average replacement rates are given by family status (single with or without children, couple with or without children). The respective weights are taken into account when calculating the average replacement rate.

Click here to download table.

Each percentage point of unemployment costs EU social security schemes EUR 31 billion per year (0.23% of GDP). Obviously, the cost depends on the generosity of a country's unemployment benefit scheme, i.e. what percentage of a worker's (last) net wage is being replaced, on average, by unemployment benefits (net replacement rate) ([274]). Based on OECD data, column 5 of *Table 3.6* shows that the generosity of unemployment benefit schemes varies greatly across Member States (see *Box 3.3* for details). The EU-27 spends 0.23% of GDP for each percentage point of unemployment (EUR 31 billion) per year.

Box 3.3: The cost of unemployment

Each percentage point of unemployment imposes a certain cost on public budgets. *Table 3.1* uses information on the average level of compensation (wages) in the EU and the tax wedge to calculate average net wages for each country (columns 2 to 4). The OECD's net replacement rates of unemployment benefits are applied to these net wages in order to calculate the average unemployment benefit per (newly-unemployed) worker (columns 5 and 6). This amount is multiplied by the number of unemployed people per percentage point of the unemployment rate (columns 7 to 9). The last column then gives the resulting amount of unemployment benefits for each percentage point of unemployment.

This information will be used to calculate the financial investment public employment authorities will have to make in order to cover unemployment benefits if no hours reduction takes place. **Annex 3.4** shows the details. The additional expenses for unemployment benefits are estimated *per percentage point of a decline in GDP*.

With no reduction in hours, each percentage point of GDP decline could push the cost of unemployment benefits up to EUR 29 billion. The full GDP decline would hit the labour market. In that case, 1% lower GDP would engender 1% lower employment (almost 2 million jobs EU-wide). The unemployment rate would rise by 0.93%. Portugal and Latvia experienced situations like this in 2009. In Ireland and Spain the employment decline was even more pronounced than the fall in GDP. In the case of no absorption, the total costs for the EU-27 amounted to EUR 29 billion per year (i.e. 0.93 times EUR 31 billion) for every percentage point of GDP decline. **Annex 3.4** shows the details and breaks these costs down per Member State.

4.3.4. Perfect absorption of the adverse shock through STW

Every percentage point of GDP-reduction could trigger expenditure for STW of up to EUR 33 billion per year (upper ceiling). The other extreme would be to consider that all Member States make full use STW schemes. All EU governments subsidise STW, paying a certain percentage of workers' net wages, discharging firms from these labour costs during the crisis. Currently available information about STW net wage replacement rates EU Member States show that those tend to be higher than the unemployment benefit replacement rates shown in

([274]) Source: OECD statistics. (https://stats.oecd.org/Index.aspx?DataSetCode=NRR). These net replacement rates depend on the family context and are taken into account as weighted averages.

Table 3.6. Taking this difference into account, **Annex 3.5** demonstrates that the annual amount to be paid by Member States for STW schemes could be a **maximum** of EUR 33 billion per year **for every percentage point of GDP decline**.

Multiplier effects reduce the cost for STW. However, in order to absorb the decline in GDP without dismissals, the calculation implicitly assumes that each working hour reduced needed to be funded by the government through STW schemes. In reality, the findings above suggest that an STW subsidy paid for one worker may put firms in the position to reduce working hours of more colleagues, and to lower the usage of capital, without cutting jobs. In other words: not every working hour being reduced needs to be paid for through STW.

One percentage point of GDP decline may trigger EUR 16 billion per year for STW schemes. The cost for STW schemes per year and percentage point of a GDP decline would therefore be much lower than EUR 33 billion. For an estimation, take the experience of Germany during the 2009 crisis. In that year, GDP collapsed by -5.7%, but employment remained almost unchanged. In other words, the intensive margin on the labour market absorbed the full impact. The number of short-time workers went up from close to nil to 1.1 million (2009 annual average) ([275]). In other words, 3% of employment were sent into STW (*Kurzarbeit*). These 3% were thus sufficient to absorb a 5.7% GDP decline. This is equivalent to 0.5% of employment being sent to STW per percentage point of the 2009 GDP decline. This would be an equivalent of almost 1 million people for the EU-27. The EU's cost would amount to EUR 16 billion (0.12% of GDP) per year for every percentage of GDP decline. This amount is way below the potential cost of higher unemployment in the case of no absorption.

4.3.5. Summary

STW schemes help secure employment in times of pronounced adverse economic shocks. During the global 2009 Financial Crisis one third of the shock to GDP could be absorbed in the labour market through reduction of working hours to which STW schemes made a decisive contribution. According to recent estimates, the absorption rate during the current Covid-19 crisis could be higher than that. The immediate budgetary cost of STW schemes for all EU countries are way below the cost of the higher unemployment that would occur without any STW scheme in place or any intensive absorption of the GDP shock.

Investment in STW schemes would pay off in the short run. Regression analyses using official (national) labour market statistics in selected Member States confirm that STW schemes have effectively protected the labour market from the impact of an output decline in the past. In other words, unemployment (the take-up of unemployment benefits) increased less if STW increased in parallel to the output decline.

This finding implies that there is a positive immediate multiplier effect in investing in STW schemes. Subsidising one job can save more than this one job during the economic downturn. In the medium term, as the economy recovers, STW has further advantages which have not been taken into account in this short-term cost analysis. It reduces the risk that workers, once dismissed during a crisis, will be unable to find a job again. And it keeps firms from having to re-recruit workers that were dismissed.

The new SURE instrument could thus provide valuable financial assistance to Member States. It would make sure that **all** Member States could make full use of STW schemes. Moreover, current national STW schemes are usually designed to save the jobs of employees. As many Southern European countries have high percentages of self-employed workers ([276]), it is important to extend the scope of these schemes to embrace the self-employed. The new SURE instrument provides resources to all Member States to enable them to protect existing jobs from adverse economic shocks through STW, and to ensure that all workers are protected against the risk of unemployment and loss of income.

5. CONCLUSIONS

This chapter identifies three conditions for inclusive economic growth:

5.1. Everybody should be able to benefit from sustainable economic growth.

Growth can be considered as fair if it benefits all income groups. Over the period between 2007 and 2017, in Member States where total income grew above average, high-income households benefited more from growth. Therefore, positive growth does not seem to be fairly distributed. Conversely, high-income households benefited the least or lost the most in countries where overall income growth was low or negative. Thus low (or nil) income growth was more equally distributed in those countries. Extending the time horizon to the last 40 years, the trend has been positive. Bottom and middle-income groups, mainly located in poorer EU countries, have captured an increasing share of income growth in Europe.

These findings have far-reaching implications for the degree of inclusiveness of (positive or negative) economic growth in the future. The EU

([275]) Statistik der Bundesagentur für Arbeit zum Kurzarbeitergeld.

([276]) The EU average proportion of self-employed is 13%. This proportion is much higher in Greece (28%) and Italy (20%).

has to make sure that growth is equally shared, and that in the absence of growth households would be effectively protected by functioning social welfare systems.

5.2. Everyone should have the opportunity to contribute to growth.

In a time of skill shortages and shrinking labour supply, everyone able to join the labour market should have the opportunity to do so, contributing to personal wellbeing and future growth. Apart from higher economic growth, empowering people to be part of the workforce bears a high *social* return:

- **Closing gender-related gaps:** Women's labour market participation is lower than men's. In addition, they earn less and work fewer hours. These gender gaps have an impact not only on the labour market but also on future social security benefits, pensions in particular. In the very long run, reducing these gender-related gaps in the EU to the levels seen in Sweden today could increase the overall level of pensions EU-wide by 11%. As more women join the labour market, earn more and work more hours, their actuarial pension assessment base will increase.

- **Prolonging working lives**: Enabling workers in the EU to prolong their working lives by **one** year on average could, in the long term, bring another 4 million people into the labour market. The average EU pension level could be 2.2% higher.

- **Improving skills and qualifications**: Changing the structural composition of the workforce towards better qualifications would increase both average wages and average labour market participation, thus leading to higher employment. Model simulations for Italy show that better-qualified workers trigger higher labour productivity, thereby incentivising capital investment and leading to higher GDP growth.

5.3. Everyone should be able to rely on a functioning welfare state in times of structural change or economic shocks.

Digitalisation can go hand in hand with job creation and increased productivity. Yet it also brings about more non-standard work. There is evidence that digitalisation and robotisation are job creators in the long run. However, they are accompanied by changes in the way people work, the emergence of so-called platform work being a prominent example. While today platform worker numbers are still limited, but their numbers increase. The trend could lead to more non-standard forms of employment, self-employment in particular. If this is the case then there will be significant pressure on social insurance. As previously insured workers become self-employed, social insurance schemes may suffer significant losses of contribution revenue.

While nations make their commitments to the Paris Agreement, the EU wants more. Following the 2015 Paris Agreement, the EU and other parties to the convention have developed their Nationally Defined Contributions (NDC) by outlining their ambitions to reduce greenhouse gas emissions and, in some cases, to adapt to climate change. As of August 2020, 186 parties have submitted their first NDC, and four parties have already submitted a second, updated NDC. However, the EU has since committed to a more ambitious target of reaching Climate Neutrality by 2050.

The green transition requires social investment. Both baseline and Climate Neutrality scenario will create new jobs, mainly in the service sector, while other jobs will change or even disappear, especially in fossil fuels and energy-intensive manufacturing sectors. This transition needs to be coupled with measures that help people access such new jobs. For those leaving shrinking sectors, measures are needed to support those who become unemployed and stay unemployed for longer: social benefits need to replace foregone earnings, workers need to prepare for future tasks through (re-)training. Other workers may be discouraged about their future job prospects and decide to move into an early pension, if possible. The resulting costs for social security could cumulate to EUR 20 billion or more until 2030. They depend on how difficult transition becomes.

Transferring part of the revenue from energy taxes back to households can cushion the impact on poverty and inequality. To achieve GHG reduction, governments may consider increasing taxes on energy-intensive goods. In relative terms, these taxes affect poorer households more. To alleviate the impact of energy taxation on the regressivity of the tax system, governments may consider re-investing tax revenue through special schemes such as renovation and/or renewable energy subsidies to reduce energy poverty among vulnerable populations. The analysis explores the impact of another option: lump-sum transfers for households. Those transfers would help people who otherwise were affected disproportionally by higher energy taxes. Microsimulations show that such re-investment reduces both income inequality and poverty.

The world sees an unprecedented economic shock. In many parts of the world, economic activity was brought to a complete halt by the containment measures required by the Covid-19 pandemic. The expected result, according to the Summer Economic Forecast of the European Commission, is an unprecedented GDP decline of

8.3% in the EU in 2020 – almost double the fall seen in 2009 (-4.3%).

Investment in STW schemes pays off in times of adverse economic shocks. While there are still many uncertainties as to the length of the pandemic and its impact on output in 2020, the *immediate* impact on the labour market crucially depends on the extent to which the reduction of working hours can absorb the massive GDP shock. The analysis shows that in the past, STW schemes have effective in protecting the labour market from the impact of adverse economic shocks: Claims for unemployment benefits increase by much less if there is a parallel increase in STW. Firms are thus less likely to dismiss workers if they can rely on STW schemes. This finding suggests that supporting one job through STW may save more than this one job (the multiplier effect).

During the Covid-19 crisis the EU's priority is to protect the labour market from greater disruptions. The analysis demonstrates that STW schemes are costly, and several Member States will need support. Yet, even in the very short term such support costs less than allowing unemployment to increase. Each percentage point by which GDP falls may costs 2 million jobs across the EU if the decline is not cushioned by working-time reductions. It is therefore important to encourage all Member States to have STW schemes in place. In this context, the new SURE instrument is a political priority. Its financial assistance will support Member States in providing STW schemes. The support is especially necessary for countries which would either be unable to finance STW schemes themselves, or would have to borrow on the financial market under unfavourable conditions.

ANNEX 3.1A - THE CHOICE OF NET NATIONAL INCOME (NNI) TO ASSESS THE INCLUSIVENESS OF ECONOMIC GROWTH

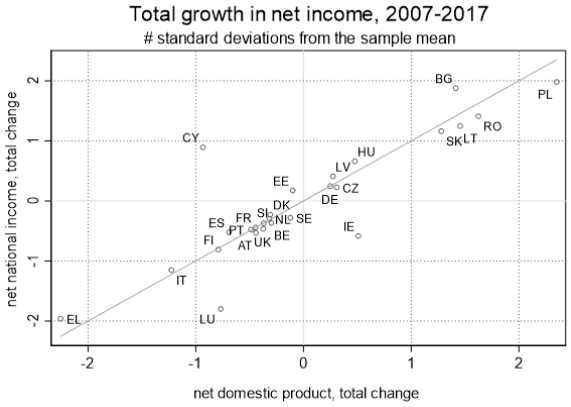
Economic growth is usually tracked through the evolution of the productive capacity of the economy, as captured by the Gross Domestic Product (GDP). AS is well known, GDP is the sum of gross value added produced in the domestic economy. However, the total income received by domestic residents generally does not coincide with the GDP. First, as the national economies are interlinked, some of the value added (VA) produced domestically may correspond to income attributed to foreign residents while domestic residents may receive part of their income from abroad. Second, part of the VA corresponds to the consumption of fixed capital, i.e. the decline in value of fixed assets as a result of normal wear and tear and obsolescence. This part of value added is not distributed as income. Net national income (NNI) is obtained by taking these two features into account: (1) GDP is adjusted for the consumption of fixed capital, resulting in the Net Domestic Product (NDP); (2) it is further adjusted for the primary balance of income with the rest of the world.

This chapter's objective is to assess the strength and the inclusiveness of growth over the period 2007-2017. The NNI is thus the indicator of choice as it tracks most closely the evolution of income that is effectively attributable to domestic households. For most EU countries, NNI evolves very similarly to the productive capacity of the economy, i.e. its GDP. However, there the countries in which the two diverge because some of the *domestic* income is attributed to *foreign* households and vice versa.

Chart 3.29 plots growth of NNI against growth in NDP. It looks at countries' growth between 2007 and 2017 in terms of both indicators, showing by how many standard deviations countries are away from the respective mean growth. On average, NDP increased by 7.8% over 2007-2017, with a standard deviation of 14.6%. Over the same period, NNI increased by 9% on average, with a standard deviation of 16.1%. Most countries perform similarly in both series. The biggest discrepancies are observed for Luxembourg, Cyprus, Ireland and Bulgaria.

In the chart, both series are expressed in real terms. To remove the effects of price changes, a price index for a basket of goods needs to be used. The question of which deflator to apply is important. For consistency, both NNI and NDP are deflated by the GDP deflator. Yet, it could be argued that for the purpose of evaluating the evolution of purchasing power, NNI series should be deflated with the consumer price index (CPI) instead.

Chart 3.29
Total growth in net national income vs net domestic product



Source: Commission service4s base on Eurostat data.
Click here to download chart.

NNI measures the primary distribution of income and may not coincide with net household disposable income (HDI), which measures income that households are able to spend (NNI does not take into account redistribution of income such as remittances). However, HDI disregards imputed rents as well as retained earnings (because households actually do not have this money to spend). By doing so, HDI underestimates the effective income of residential property owners and of households that invest in firms. Hence, the HDI measure may underestimate the extent of income inequality.

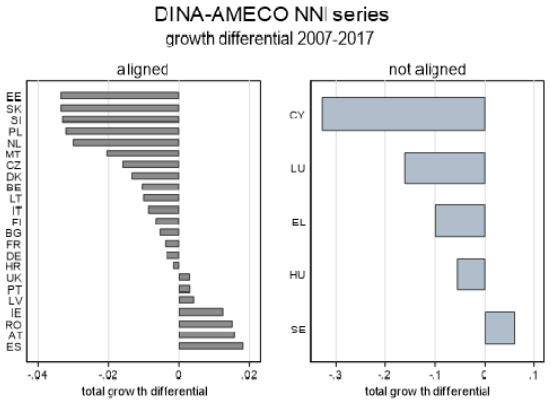
ANNEX 3.1B - NET NATIONAL INCOME SERIES IN DINA AND IN EUROSTAT

In the section 2.1, Eurostat data is used to characterise total growth in the net national income (NNI) over the period 2007-2017. Section 2.2 uses *distributional* national accounts (DINA) in each EU Member State. DINA has been made available by the World Inequality Lab (WIL) to better capture the process of growth and judge on whether growth has been broad-based. For consistency, in Section 2.2 we rely on DINA numbers for total growth when distributing it among individuals.

As explained in Blanchet et al (2019), DINA-information on total growth is expected to be in line with Eurostat's NNI data. However, there may still be discrepancies – either due to data vintages or due to data smoothing implemented by the DINA research team for data deemed implausible. Furthermore, the DINA approach of treating all

foreign ownership as portfolio investment may have an impact on the NNI series ([277]).

Chart 3.30
Total income growth in DINA and in Eurostat NNI series



Note: The growth differential is constructed as the log difference between total growth in DINA and in Eurostat over 2007-2017. Countries for which the differential is smaller than 5% are plotted on the left-hand side of the chart while those with the differential in excess of 5% are on the right-hand side.

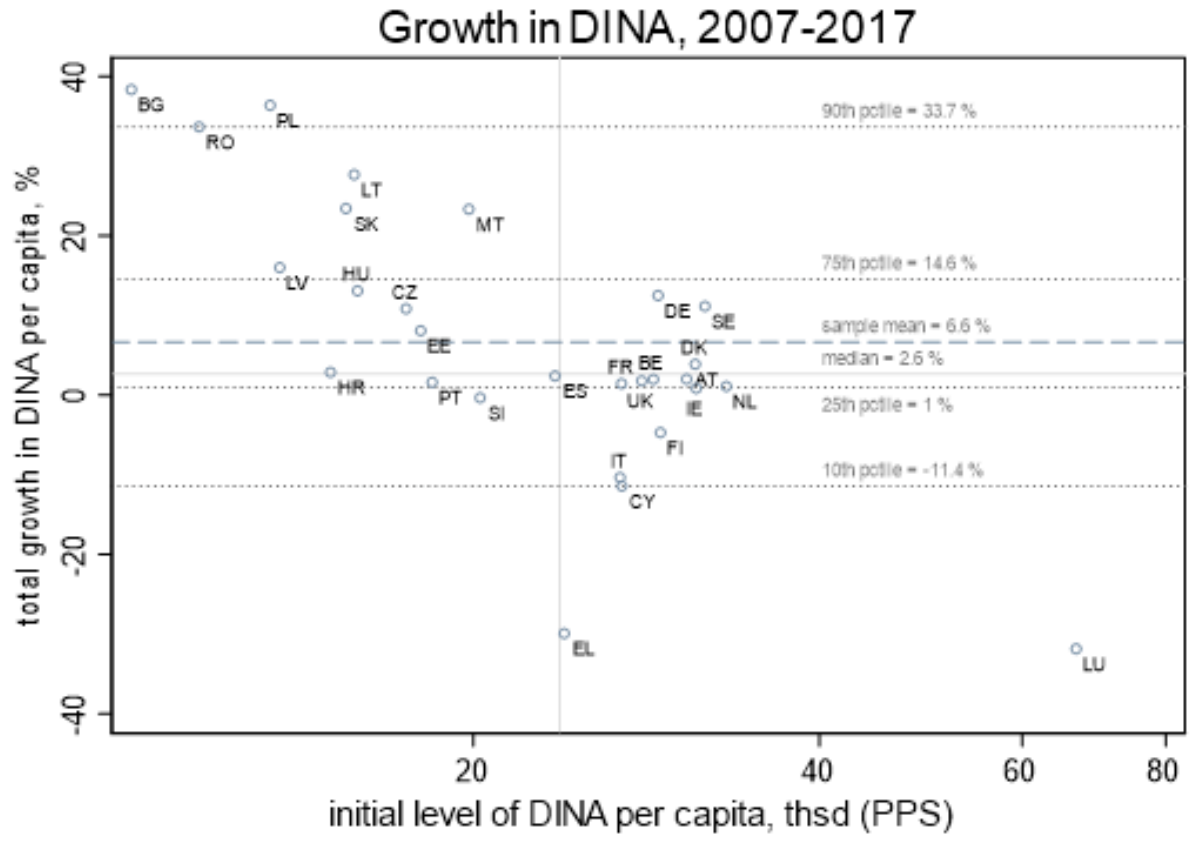
Source: Commission services based on DINA data

Click here to download chart.

Chart 3.31 plots total growth in DINA-based NNI over the period 2007-2017 (y-axis) against the initial level of DINA-based NNI in 2007 (x-axis). On average, DINA-based NNI growth is lower than the corresponding Eurostat NNI growth (6.6% against 9.4%). There is also more variability in the DINA-based series (10-90th percentiles between -11.4% and 33.7% in DINA vs. -9.5% and 31.6% in Eurostat).

Chart 3.30 plots the growth differential between the DINA-based and Eurostat NNI series. For most countries, DINA-based NNI series are largely in line with Eurostat NNI series. However, for a subset of EU Member States the discrepancies are more pronounced. In particular, for Cyprus and Luxembourg the difference exceeds 10%. The discrepancy is mainly due to the fact that the ratio of Eurostat's NNI to DINA NNI increases over 2007-9, i.e. the initial level of NNI is lower in Eurostat than in DINA. A somewhat similar pattern is observed for Greece over 2007-2012, where NNI growth reported in DINA is 10% lower.

Chart 3.31
DINA-based NNI series: total growth in NNI over 2007-2017 (in %) plotted against initial NNI in 2007 (in thousand PPS)



Source: Commission services based on DINA data

Click here to download chart.

([277]) By contrast, in the National Accounts, profits from

ANNEX 3.2 - FUNDING PENSIONS FROM THE PERSPECTIVE OF INTERGENERATIONAL FAIRNESS

Following the basic actuarial principle of pension systems in almost all Member States, the **total level** of a person's future pension is assumed to be the product of two components.

- **The number of *individual* pension points linked to a person's labour market history (biography).** A worker's future pension increases in parallel with their current assessment base. That is, the level of benefits increases as more workers become employed, earn higher wages or work longer hours.

- **The *general* pension value is the value of one pension point.** It is independent of a person's labour market record. It reflects the generosity of a pension system. Only the general pension value can be directly manipulated by policy.

Section 3 above looks at the total level of pensions. The actuarial model used in section 3 assumes, in principle, that contribution rates to the pension system are constant and remain at today's level. This is in order to demonstrate what demographic change and the policy measures discussed could imply for the (total) level of pensions if governments try to keep contribution rates stable to prevent labour costs from rising.

In order to be more realistic, there is one deviation from the principle of constant contribution rates. The policies discussed would all lead to higher individual pension rights (through working longer, higher wages and/or higher labour market participation). These **work-history-related** pension increases are funded through **higher contributions** which could be paid by workers and their employers.

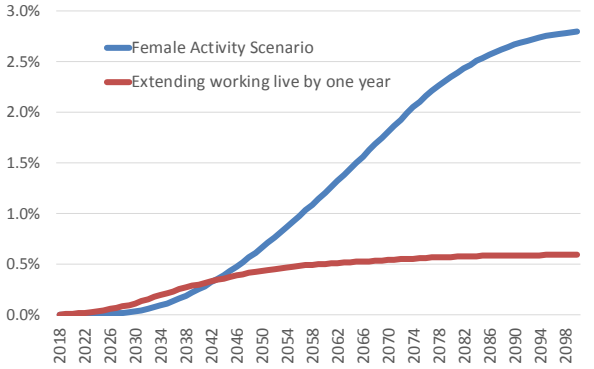
More realistically, these expenses would be paid by governments in order to prevent higher pension rights for some workers from causing a decline in the pensions for others. This is because in a pay-as-you-go pension system, without allowing for contributions to increase, the work-history-linked pension increases would need to be financed by lowering the **general** pension value (i.e. the generosity of the pension system which is not linked to individual work histories).

Chart 3.32 shows the increase necessary in the contribution rate (in % of wages) to cover the costs for higher pension entitlements that emerge from closing gender-related gaps on the labour market (section 3.1) and working for one year longer (section 3.2). These figures also tell us the extent of the resulting pension increase. In the case of reducing female labour market gaps it amounts to 2.8% of wages in the EU by the year 2100, equivalent to more than EUR 200 billion every year in today's values. In the case of working one more year, the higher pensions would lead to contribution rates to increase by 0.6% (equivalent to almost EUR 50 billion per year).

Chart 3.32

In the long run, closing gender-related gaps on the labour market is worth 3% of the wage sum

Increase in the pension contribution rate (pps of wages), relative to the (reference) situation with stable gender gaps, EU-27



Source: EMPL calculations based on Eurostat 2019 Population Projection and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast.

Click here to download chart.

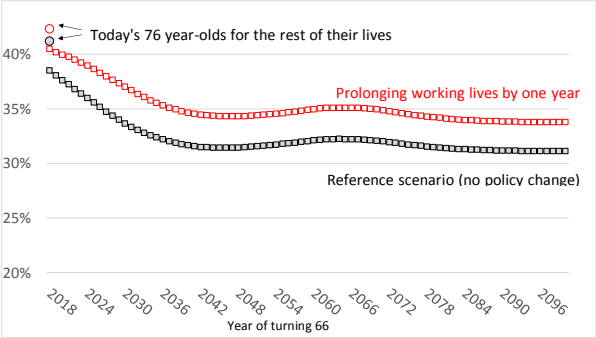
If one dropped the assumption of contribution-funded higher pension rights, this would imply that work-history-related pension increases were funded through lowering the **general** pension level, that is: making the pension scheme less generous. It would have consequences for intergenerational fairness.

One could demonstrate this on the above example of **prolonging working lives by one year**, a policy designed specifically for increasing intergenerational fairness. In section 3.2 above it was shown that pensions would increase by 2.2% in the long run as workers pay contributions for longer. *Chart 3.33* shows the pension-to-wage ratio for the above case where workers prolong working lives by one year, with the resulting higher pensions being paid through higher contributions. The difference to *Chart 3.10* above is that the pension-to-wage ratio is shown as a **lifetime average** for different cohorts, starting with workers turning 66 years today (who would receive a pension until the age of 84, on average).

Chart 3.33

Prolonging working lives by one year

Pension-to-wage ratio, average over life (age 66-84), by age (today), EU-27, assuming that biography-related pension increases be paid through higher contributions



Source: EMPL calculations based on Eurostat 2019 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

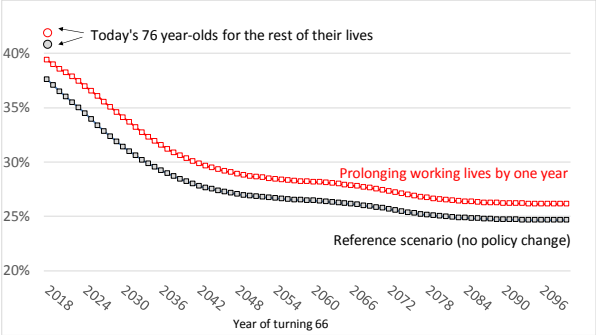
Click here to download chart.

The average pension-to-wage ratio for workers turning 66 in 2018 would be 40% today. The ratio would decline, down to 31%, for those who move into pension by the end of the century, see black curve. However, prolonging working lives by one year will add another 2.7 percentage points to the lifetime pension-to-wage ratio in the long run (red curve).

Chart 3.34

Prolonging working lives by one year

Pension-to-wage ratio, average over life (age 66-84), by age (today), EU-27, assuming that biography-related pension increases be paid through lowering the general pension value



Source: EMPL calculations based on Eurostat 2019 Population Projection (baseline) and Eurostat EU-LFS, European Commission Spring 2020 Economic Forecast

Click here to download chart.

Chart 3.34 drops the assumption of financing biography-related pension increases through higher contributions: **Contributions rates are thus held constant** at today's level. As a result, the **general** pension value will decline much more pronouncedly, compared with the situation where contributions could be increased. In the baseline scenario (without prolonging working lives) the pension-to-wage ratio would decline fast, down to 25% by the end of the century. This is because already the baseline scenario takes into account increasing employment rates: today's workers (future pensioners) have already higher employment rates than today's pensioners had when they were workers. The better employment record will increase their future pensions. However, without contribution rates increasing, these higher pensions would have to be financed through lowering the **general** pension value.

What is more: the increase of pensions 'gained' through working longer (the difference between the red and the black curves) becomes less significant: only 1.5 percentage points in the long run. In other words: **some** workers earn higher pensions by working longer. Their pension increases. **All** pensioners will have to finance this increase by accepting the general pension value to be lowered.

Not allowing for contribution rates to increase in the future would thus aggravate the **disadvantage of today's younger generations**, compared with **today's pensioners**, in terms of the level of their future pension. Their return from working longer or improving their employment record would be lower than is the return of today's pensioners. To avoid this situation, higher contributions would have to be paid **by future contributors**. In other words: Those not yet born today would pay higher pension contributions from their labour income in order to safeguard the return on pension contributions of today's young people (who will then be pensioners). In order not to run into new problems of intergenerational fairness, governments may therefore consider subsidising the pension system in order to finance future biography-linked pension increases, thereby **de-coupling those contributions from labour income**.

ANNEX 3.3 – EMPLOYMENT DECLINE IN SHRINKING SECTORS: WHERE DO WORKERS GO?

If, in a certain sector, employment declines over time, this can have several reasons.

- **Regular retirement:** Most of the gradual job decline in shrinking sectors happens as older people leave and are not replaced by young workers, who instead decide to enter growing sectors at the start of their careers. As a result, by far the biggest share of the employment decline in shrinking sectors is absorbed through retirement. Workers may have reached an age that allows them to retire without a deduction from their pension. Sector-specific retirement probabilities are taken into account. Overall, it is estimated that around 1% of all employed workers aged between 15 and 64 move into regular retirement every year, see ***Box 3.4*** below for details. Regular retirees will not impose any additional cost on unemployment benefit schemes. They are therefore not taken into account in the cost analysis below. The vast majority of the remaining job losses happen in fossil fuels and energy-intensive industries ([278]).

- **Immediate transition into a new job:** Some will be able to find a new job in other sectors within three months and without any further training. For those workers, the transition would not incur any cost. In 2018, the average probability of a quarterly transition from unemployment into employment is around 20% in the EU ([279]). It is thus assumed that 20% of the decline in shrinking sectors is absorbed immediately through higher labour demand in growing sectors. For a sensitivity analysis this parameter will be decreased in the course of the analysis.

- **Employment decline:** 80% of the workers represent a decline in employment. They will not immediately work in a new job. For the employment decline in a given sector, the following two groups are distinguished:

  - **Early retirement:** Today, around 19% of non-employed workers aged between 55 and 64 years have left the labour market for early retirement, i.e. before reaching official retirement age ([280]). Based on this information, it is estimated that around 1.3% of the EU's employed workers (aged 15-64) leave the labour market as early retirees every year (see *Box 3.4* below for details). It is assumed that these workers receive an income-replacing benefit from social security for five years ([281]). They will not undergo training.

  - **Unemployment:** Workers not moving into retirement are assumed to become unemployed, in the sense that they receive some income-replacing benefit from social security. This affects 78.7% of the EU's employed workers. The longer the duration of unemployment the higher would be the cost incurred to national social security schemes. In 2018, the average duration of unemployment for those workers who did not manage an immediate transition to a new job ([282]) was around two years. Workers in unemployment may be entitled to training courses to upgrade their skills. According to the Labour Force Survey, 31% of today's unemployed workers in the EU participate in such training. The training will also be funded by the social security system.

What are the costs per jobless worker for income-replacing benefits and for training?

- Workers losing their job because of the structural change towards low-carbon economies (structural job losses) are assumed to receive EUR 10 700 per year as a replacement for market income foregone.

- In parallel, these workers receive some kind of training as part of a social investment package aimed at facilitating re-integration in the labour market. Workers undergoing training incur a training cost of EUR 8 700 per person per year.

These amounts are estimated on the basis of the Commission's Labour Market Policy database (LMP). It holds information about the efforts Member States make in terms of passive ([283]) and active ([284]) LMP. The database contains both the expenditure and the number of beneficiaries in EU countries. This information is used to calculate the EU average amount paid per beneficiary of both income-replacing benefits and training. In 2017, this average amounted to EUR 10 700 per year in the case of 'income maintenance and support'.

([278]) This is the case for more than three quarters of total job losses until 2050 in both scenarios.

([279]) It is the weighted average over 25 EU countries, see Eurostat series [lfsi_long_e01].

([280]) Labour Force Survey (2018).

([281]) The average official retirement age in the EU is around 64 years. Together with LFS-information about early retirees and the age profile of older workers one can estimate the average time-span of early retirees until reaching official retirement age.

([282]) 'Immediate transition' in this context means a duration of unemployment of three months or less.

([283]) Passive LMPs include out-of-work income maintenance and early retirement (LMP categories 8 and 9). (https://ec.europa.eu/employment_social/employment_analysis/lmp/lmp_esms.htm)

([284]) Active LMPs consist of training and other measures to improve employability: employment incentives, sheltered and supported employment and rehabilitation, direct job creation and start-up incentives (LMP categories 2-7). See previous footnote.

This LMP category mainly includes unemployment benefits. In the case of training, an average amount of EUR 8 700 per year was paid.

_____Box 3.4 estimating regular/early retirement____

The table shows 2019 employment in the EU-27 plus the United Kingdom, by age. For example, it is assumed that 4.6% of total employment will leave the labour market during the next five years to draw on a pension if they are between 55 and 59 years in 2019. This is the difference between 11.1% of total employment (aged 55-59) and 6.4% (60-64). As these workers are below 60 in 2019, it is assumed that all of them retire early as most Member States have already increases statutory retirement ages to 65 or beyond. On the other hand, those aged 65 and older in 2019 are assumed to move into a regular pension (after reaching official retirement age). Those between 60 and 64 years are assumed to split into two groups: 60% will draw on a regular pension during the next five years, 40% will retire early. This information stems from the Labour Force Survey, see *Table 3.7* which describes the procedure at aggregate level. However, for the model used in section 4.2.3 above, the number of early and regular retirees is calculated *per sector*.

Table 3.7

1.3% of total employment may retire drawing on an early pension every year.

Rough estimation of the extent of early and regular retirement, EU-27 plus UK, 2019

	1	2	3	4	5
Age	All (15+)	50-54	55-59	60-64	65-74
Million workers in employment (million	232,650	29,893	25,718	14,907	5,699
Percent of total employment (15+)		12.8%	11.1%	6.4%	2.4%
		Age	55-59	60-64	65+
Estimated % of workers leaving during the next **5 years, of which**			-4.6%	-4.0%	-2.4%
… early retirement [1)]			100%	40%	0%
… regular retirement			0%	60%	100%
			per 5 years	per year	
Resulting proportion of early retirees			-6%	-1.3%	of total empl.
Resulting proportion of regular retirees			-5%	-1.0%	

Note: For age 60-64: Share of early retirees amongst old-age pensioners according to LFS 2012 (Eurostat series lfso_12earlyret), Assumption for age below 60: not eligible for regular pension; 65+: all regular pension

Source: EMPL calculations based on Eurostat EU-LFS

Click here to download table.

Table 3.8

During economic crises, each percentage point decline in GDP may cause additional unemployment benefit expenditure of up to 29 billion EUR per year in the EU, with no intensive absorption

Changing employment, unemployment; cost of unemployment benefits caused by a 1% decline in GDP during a crisis

	1	2	3	4		5	
	Change of employment	Change of hours worked per worker and/or hourly labour productivity	Change of unemployment rates	Cost of unemployment benefits per ppt of unemployment rate (see *Table 3.6*)		Total (=3 x 4)	
	%	%	ppts	bn EUR	% of GDP	bn EUR	% of GDP
EU-27	-1	0	+0.93	30.8	0.2	28.6	0.21
BE	-1	0	+0.94	1.0	0.2	0.9	0.20
BG	-1	0	+0.95	0.2	0.3	0.2	0.28
CZ	-1	0	+0.98	0.2	0.1	0.2	0.09
DK	-1	0	+0.95	0.8	0.3	0.8	0.25
DE	-1	0	+0.97	7.2	0.2	7.0	0.21
EE	-1	0	+0.95	0.1	0.2	0.1	0.21
IE	-1	0	+0.94	0.4	0.1	0.4	0.11
EL	-1	0	+0.81	0.3	0.2	0.3	0.14
ES	-1	0	+0.85	3.3	0.3	2.8	0.23
FR	-1	0	+0.91	6.4	0.3	5.8	0.25
HR	-1	0	+0.92	0.1	0.2	0.1	0.18
IT	-1	0	+0.89	4.0	0.2	3.6	0.20
CY	-1	0	+0.92	0.0	0.2	0.0	0.16
LV	-1	0	+0.93	0.0	0.1	0.0	0.09
LT	-1	0	+0.94	0.1	0.1	0.1	0.12
LU	-1	0	+0.94	0.1	0.2	0.1	0.20
HU	-1	0	+0.96	0.1	0.1	0.1	0.06
MT	-1	0	+0.96	0.0	0.2	0.0	0.15
NL	-1	0	+0.96	2.8	0.4	2.7	0.34
AT	-1	0	+0.95	0.7	0.2	0.6	0.16
PL	-1	0	+0.96	0.8	0.2	0.7	0.15
PT	-1	0	+0.93	0.5	0.3	0.5	0.24
RO	-1	0	+0.96	0.3	0.2	0.3	0.16
SI	-1	0	+0.95	0.1	0.2	0.1	0.17
SK	-1	0	+0.93	0.1	0.1	0.1	0.09
FI	-1	0	+0.93	0.5	0.2	0.5	0.21
SE	-1	0	+0.94	0.8	0.2	0.8	0.16

Source: EMPL calculation based on Eurostat National Accounts, Eurostat EU-LFS; OECD.

Click here to download table.

ANNEX 3.4 – POTENTIAL IMMEDIATE COST OF UNEMPLOYMENT BENEFITS

It is assumed here that there is no intensive absorption of the GDP decline on the labour market (see column 2 in *Table 3.8*). In this case, each percentage point of a GDP decline would reduce employment by one percent (see column 1). The corresponding impact on the unemployment rate is shown in column 3. ([285]) Column 4 shows the cost of unemployment per percentage point of the unemployment rate as calculated above in *Table 3.6*. By simple multiplication, column 5 finally calculates the cost of unemployment benefits caused by each percentage point of GDP decline.

([285]) In absolute terms, the impact on the unemployment rate is lower than the impact on employment because the unemployment rate is a percentage of the active population (employment plus unemployment).

ANNEX 3.5 – POTENTIAL COST OF STW – UPPER LIMIT

This section provides a rough estimate of the maximum cost of STW benefits induced by a decline of GDP by one percentage point. It is assumed that this decline in GDP is fully absorbed through the reduction of working time per worker by 1% (almost 2 million workers) so that employment stays constant, see columns in and 2 in *Table 3.9*. In addition, this hours-reduction is fully reflected in the accounts of state-subsidised STW. In other words, in order to estimate the **maximum** annual cost for STW schemes, **each reduced hour is assumed to be subsidised by governments**. Two million workers are thus protected from being dismissed (column 4). On average they are projected to receive **75%** of their last net compensation through STW schemes.

This replacement rate is based on two sources. First, Schulten and Müller (2020) have collected information about STW replacement rates in 13 EU Member States (and other countries) as a percentage of workers' gross or net salaries. *Table 3.9* gives this information in column 7, see also *Box 3.5*. The weighted average of STW net replacement rates across all 13 EU countries would be **77%**.

Box 3.5

Gross (as opposed to net) replacement rates are given for seven countries. ([286]) For these countries, the replacement rate was re-calculated to net replacement rates, using the tax wedges on wages as given in *Table 3.6* above. With STW benefits assumed tax-free, the level of these tax wedges imply that 100% of net wages would be replaced by STW benefits in these countries (by red figures in column 7 of *Table 3.9*).

A second set of data collected within the European Commission uses qualitative information from national sources. Using this data would yield an estimated STW replacement rate of **72%** for 20 countries. Therefore, the cost calculation assumes that for the EU as a whole, the average net replacement rate for STW (or equivalent) benefits is 75%. It is thus 10 percentage points higher than the average unemployment benefit replacement rate given in *Table 3.6* above. **This would be equivalent to an annual maximum cost of EUR 33 billion per year for STW schemes for each percentage point of GDP decline.** ([287])

([286]) Schulten and Müller (2020), p. 8.

([287]) The volume of net salaries of affected workers is given by multiplying columns 4 and 5 in *Table 3.9* : EUR 44 billion for the EU, of which 75% make EUR 33 billion.

Table 3.9

During economic crises, each percentage point decline in GDP may cause additional expenditure of up to 33 billion EUR per year in the EU, assuming full absorption of the shock through subsidies for hours reduction

Potential cost of STW schemes, upper bound

	1	2	3	4	5	6	7	8	9	
	Change of employment	Change of hours worked per worker, fully subsided through STW	No. of workers (employment 2018)	No. of workers not dismissed due to hours reduction = (-2 x 3)	Estimated average net wage [1]	Net replacement rate unemployment benefits [2]	Estimated STW replacement rates [3]	STWA-expenses per worker (= 5 x 7)	STWA-expenses (=4 x 5)	
	%	%	millions	millions	EUR/year	% of net wage	% of net wage	EUR/worker/year	bn EUR	% of GDP
EU-27	***0***	***-1***	***198.0***	***1.98***		***65%***	***75%***		***43.9***	***0.33***
BE	0	-1	4.8	0.05	30333	66%	100%	30333	1.44	0.31
BG	0	-1	3.2	0.03	5940	82%				
CZ	0	-1	5.3	0.05	11213	31%				
DK	0	-1	2.8	0.03	37409	71%	100%	37409	1.06	0.35
DE	0	-1	41.9	0.42	23457	71%	60%	14074	5.90	0.18
EE	0	-1	0.7	0.01	14426	56%				
IE	0	-1	2.3	0.02	37431	44%	100%	37431	0.85	0.26
EL	0	-1	3.8	0.04	13707	48%				
ES	0	-1	19.3	0.19	22767	64%	70%	15937	3.08	0.26
FR	0	-1	27.1	0.27	29693	73%	84%	24942	6.75	0.29
HR	0	-1	1.7	0.02	10749	52%				
IT	0	-1	23.2	0.23	24388	63%	100%	24388	5.66	0.32
CY	0	-1	0.4	0.00	20054	42%				
LV	0	-1	0.9	0.01	10765	28%				
LT	0	-1	1.4	0.01	10498	39%				
LU	0	-1	0.3	0.00	48752	89%				
HU	0	-1	4.5	0.04	7543	25%				
MT	0	-1	0.2	0.00	19290	41%				
NL	0	-1	8.8	0.09	41069	73%	100%	41069	3.61	0.47
AT	0	-1	4.3	0.04	26458	55%	90%	23812	1.03	0.27
PL	0	-1	16.5	0.16	9645	47%				
PT	0	-1	4.9	0.05	13576	76%	100%	13576	0.66	0.32
RO	0	-1	8.7	0.09	7766	50%				
SI	0	-1	1.0	0.01	16575	47%	100%	16575	0.16	0.36
SK	0	-1	2.6	0.03	10694	29%				
FI	0	-1	2.5	0.03	30118	63%				
SE	0	-1	5.1	0.05	26704	55%	100%	26704	1.36	0.29

Note: 1) Based on national accounts and OECD tax wedge, see Table 3.6 above; 2) Based on OECD net replacement rates, see Table 1 above; 3) Schulten and Müller (2020), partly recalculated; collection of national sources.

Source: EMPL calculations based on the sources indicated in the note.

Click here to download table.

References

Alvaredo, F., Atkinson, A., Chancel, L., Piketty, T., Saez, E. and Zucman, G. (2016), *Distributional National Accounts (DINA) guidelines: Concepts and methods used in WID. world.*

Arpaia, A., Curci, N., Meyermans, E., Peschner, J. and Pierini, F. (2010), Short time working arrangements as response to cyclical fluctuations, European Economy, Occasional Papers 64, June 2010.

Berger, J., Keuschnigg, C., Keuschnigg, M., Miess, M., Strohner, L. and Winter-Ebmer, R. (2009), Modelling of Labour Markets in the European Union - Final Report (Parts I to IV).

Blanchet, T., Chancel, L. and Gethin, A. (2019), How Unequal is Europe? Evidence from Distributional National Accounts, 1980-2017. WID.world Working Paper 2019/06.

Boarini, R., Murtin, F. and Schreyer, P. (2015), Inclusive growth: the OECD measurement framework. *Statistics Directorate Working Paper*, No. 64.

Brzezinski, M., Myck, M., and Najsztub, M. (2019), Reevaluating distributional consequences of the transition to market economy in Poland: new results from combined household survey and tax return data. *Available at SSRN 3497394* (2019).

Bundesagentur für Arbeit (2020), Auswirkungen der Corona-Krise auf den Arbeitsmarkt, Arbeitsmarkt kompakt, Mai 2020.

Bundesagentur für Arbeit (2020b), Glossar der Statistik der Bundesagentur für Arbeit (BA), Grundlagen: Definitionen, März 2020.

Bundesagentur für Arbeit (2020c), Saisonbereinigte Zeitreihen (Monatszahlen), Deutschland, West- und Ostdeutschland, Bundesländer, Juli 2020.

Bundesagentur für Arbeit (2020d), Angezeigte und realisierte Kurzarbeit (Zeitreihe Monats- und Jahreszahlen), Deutschland, West/Ost, Länder, Kreise und Agenturen für Arbeit, Juni 2020.

Bundesagentur für Arbeit (2020e), Angezeigte Kurzarbeit, August 2020.

Bundesagentur für Arbeit (2020f), Bundesagentur für Arbeit, Realisierte Kurzarbeit, hochgerechnet, September 2020.

Bundesagentur für Arbeit (2020g), Arbeitsmarkt in Zahlen, Deutschland, August 2020.

Bundesagentur für Arbeit (2020h), Statistik über Kurzarbeit, Grundlagen: Qualitätsbericht, Juli 2020, Version 3.5.

De Agostini, P., Capéau, B., Figari, F., Kneeshaw, J., Leventi, C., Manios, K., Paulus, A., Sutherland, H. and Vanheukelom, T. (2017), Euromod Technical Note Series, EUROMOD: Extension to Indirect Taxation: Final Report, April 2017.

Eurofound (2018). *Upward convergence in the EU: Concepts, measurements and indicators*, Publications Office of the European Union, Luxembourg.

European Commission (2016), Employment and Social Developments in Europe 2016 (ESDE 2016), Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL), Brussels.

European Commission (2017), Employment and Social Developments in Europe 2017 (ESDE 2017), Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL), Brussels.

European Commission (2018a), Employment and Social Developments in Europe 2018 (ESDE 2018), Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL), Brussels.

European Commission (2018b), The 2018 Ageing Report, Economic & Budgetary Projections for the 28 EU Member States (2016-2070), Institutional paper 079, May 2018.

European Commission (2018c), Pension Adequacy Report 2018, Volume 1, Directorate-General for Employement, Social Affairs and Inclusion.

European Commission (2018d), A Clean Planet for all, A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy. In-depth analysis in support of the Commission Communication COM (2018) 773.

European Commission (2019a), *Addressing Inequalities: a seminar of workshops.* Publications office of the European Union, 2019.

European Commission (2019b), Employment and Social Developments in Europe 2019 (ESDE 2019), Directorate-General for Employment, Social Affairs and Inclusion (DG EMPL), Brussels.

European Commission (2020a), SWD(2020) 511 final, Country Report Italy 2020

European Commission (2020b), European Economic Forecast, Spring 2020, Institutional paper 125, May 2020.

European Commission (2020c), European Economic Forecast, Summer 2020 (interim), Institutional paper 132, July 2020.

European Commission (2020d), Annex to the Proposal for a Council Decision on guidelines for

the employment policies of the Member States, COM (2020) 70 final.

European Commission (2020e), Europe's moment: Repair and Prepare for the Next Generation, COM(2020) 456 final.

European Commission (2020f), Shaping Europe's digital future, Communication COM(2020) 67 final of 19 February 2020.

European Commission (2020g), Proposal for a regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law). Communication COM(2020) 80 final of 4 March 2020.

European Commission (2020h), Proposal for a Regulation of the European Parliament and of the Council establishing the Just Transition Fund, 2020/0006 (COD), 14 January 2020.

European Commission (2020i), An Action Plan for Fair and Simple Taxation Supporting the Recovery Strategy, Communication COM(2020) 312 final.

European Commission (2020j), Europe's moment: Repair and Prepare for the Next Generation, SWD(2020) 98 final, COM(2020) 456 final of 27 May 2020.

Filauro, S. and Parolin, Z. (2019), Unequal unions? A comparative decomposition of income inequality in the European Union and United States. *Journal of European Social Policy*, *29*(4), 545–563. https://doi.org/10.1177/0958928718807332

Jungmittag, A. and Pesole, A. (2019), The impact of robots on labour productivity: A panel data approach covering 9 industries and 12 countries, JRC Working Paper Series on Labour, Education and Technology, 2019-08.

Keramidas, K., Tchung-Ming, S., Diaz-Vazquez, A. R., Weitzel, M., Vandyck, T., Després, J., Schmitz, A., Rey Los Santos, L., Wojtowicz, K., Schade, B., Saveyn, B., Soria-Ramirez, A. (2018), Global Energy and Climate Outlook 2018: Sectoral mitigation options towards a low-emissions economy – Global context to the EU strategy for long-term greenhouse gas emissions reduction, EUR 29462 EN, Publications Office of the European Union, Luxembourg, 2018.

Kilhoffer, Z., Lenaerts, K., Simits, I., Hauben, H., Waeyaert, W., Giacumacatos, E., Lhernould, J.-P., Robin-Olivier, S. (2020), Study fort the European Commission Study to gather evidence on the working conditions of platform workers (VT-2018/32), Final Report of CEPS, EFTHEIA, and HIVA-KU Leuven, 13 March 2020.

Klenert, D., Fernández-Macías, E., Antón, J.-I. (2020), Do robots really destroy jobs? Evidence from Europe, JRC Working Papers Series on Labour, Education and Technology, 2020/01.

Müller, T. and Schulten, T. (2020), Ensuring fair short-time work – a European overview, ETUI Policy Brief, European Economic, Employment and Social Policy, 7/2020.

OECD (2014), Report on the OECD Framework for Inclusive Growth, OECD Publishing, Paris, 2014, http://www.oecd.org/inclusive-growth/#beyond-gdp

OECD (2018), Beyond GDP: Measuring what counts for economic and social performance, OECD Publishing, Paris - https://doi.org/10.1787/9789264307292-en

OECD (2019), Measuring the Digital Transformation: A Roadmap for the Future, OECD Publishing,
Paris, https://doi.org/10.1787/9789264311992-en.

OECD (2020, forthcoming), *Inequalities in household wealth. Drivers and policy implications.*

OECD (2021, forthcoming), *(Mis)perceptions of inequality and preferences for redistribution.*

Peschner, J. and Fotakis, C. (2013), Growth potential of EU human resources and policy implications for future economic growth, European Commission, DG EMPL, Working Paper 3/2013.

Schulten, T. and Müller, T., Kurzarbeitergeld in der Corona-Krise, Aktuelle Regelungen in Deutschland und Europa, Wirtschafts- und Sozialwissenschaftliches Institut, WSI Policy Brief Nr. 38 (04/2020)

Sostero, M. (forthcoming), Service Robots, Review of data and applications.

Sutherland, H. and Figari, F. (2013), EUROMOD: The European Union tax-benefit microsimulation model. International Journal of Microsimulation. 6. 4-26. 10.34196/ijm.00075.

Urzì Brancati, M.C., Pesole, A., Férnandéz-Macías, E. (2020), New evidence on platform workers in Europe. Results from the second COLLEEM survey. JRC Science for Policy Report.

Von der Leyen (2019), U., A Union that strives for more - My agenda for Europe, Political Guidelines for the next European Commission 2019-2024.

CHAPTER 4

The role of social dialogue for fairness and inclusion

1. INTRODUCTION ([288])

Fairness relates to different aspects of the working life. Europeans agree that fairness combines merit and needs-based criteria to fairness. ([289]) In other words, a majority of the EU population considers a fair situation to be one where (i) hard work pays off and (ii) where everybody's basic needs are covered and there are similar opportunities for all. Merit-based criteria imply that investments into productivity, by both, workers and employers should be remunerated. Needs-based criteria imply that workers should be able to provide for themselves and their families and have equal opportunities at the workplace and in society. ([290]) The European social model, including the welfare state ([291]) and social partners participation in policy making contribute to reducing serious inequalities in society.

The social partners contributed to fairness. For instance, they are at the origin of most national social security systems and in many cases, are still involved in their management. ([292]) While the historic role of social partners in the development of the social security systems is undisputed (although often overlooked) the question arises whether and how social partners and social dialogue still contribute to a fair and inclusive society today, beyond their involvement in the management of national social security systems.

Wages are crucial for fairness. Key issues are the individual income in absolute terms, how one person's income compares to others and the opportunities for upward social mobility. Social partners have an impact on these issues through wage bargaining and by ensuring that promotions happen in a transparent and fair way. ([293])

Fairness helps to achieve compromises and to make difficult situations acceptable. Fairness requires constant improvements in working conditions and investment in the skills of the workforce, thus contributing to economic efficiency and productivity growth. Collective bargaining and social dialogue provide a voice to workers. It allows them to be participate in company decisions about the company and enables both workers and employers to be involved in policy decisions. Generally, people tend to feel they are treated more fairly, if they can express their views and can contribute to finding solutions. ([294]) This has been proved in restructuring processes, where the involvement of workers' representatives (works councils or trade unions) in the decision-making process - including decisions on who should be laid off, when and under which conditions - has helped to smoothen the process and contributed to

([288]) This chapter was written by Eva Dianišková, Argyrios Pisiotis and Joé Rieff.

([289]) According to the European Social Survey, which surveys individuals older than 15 years, living in EU households. See also analysis in chapter 2.

([290]) See chapter 2, in particular section 2 about the assessment of European citizens of what they perceive as fair.

([291]) For a discussion about the inequality reducing effects of the welfare state, see European Commission (2018), chapter 4.

([292]) A prominent example for this is the so-called Ghent system, which can be found in Denmark or Sweden, where the main responsibility for the welfare systems is delegated to trade unions.

([293]) Clark et al. (2017) and Clark and Ambrosio (forthcoming).

([294]) See Tyler (1997).

the company's longer-term performance. ([295]) Wage bargaining and its impact on income distribution will be analysed in the first part of this chapter, for which the focus is on collective bargaining. The second part of the chapter looks at social dialogue and ways in which social partners contribute to social fairness and inclusion in their bi-partite interaction and in discussions with public authorities. In particular, social dialogue has proved to be a useful forum for tackling the COVID-19 pandemic.

2. COLLECTIVE BARGAINING AND FAIRNESS OF WAGES

In a fair and inclusive society, every worker should benefit from economic growth. Chapter 2 has demonstrated that a majority of Europeans ([296]) considers a situation as fair if hard work is remunerated and merits are recognised. According to this view, workers should receive a fair share of an economy's gains. This relates for example to a companies' productivity gains, which are not only due to investments in technology, equipment or infrastructure. They are also due to investments in the skills of workers, which complement the physical capital, allowing it to render its full productive potential. Gains for companies and, more broadly, for the economy, also accrue from the workers' availability and willingness to work in sometimes difficult circumstances. For instance, during the outbreak of the COVID-19 crisis in Europe, in most Member States the retail sectors were shut down except for food retailing, considered an essential economic activity. Workers in that sector kept working, at a higher risk of infection, thus contributing to companies' volumes of sales and supporting the private consumption component of the economy. Risks and additional efforts should be remunerated as wages can motivate workers to increase their efforts at the workplace and also to invest in education and training. ([297])

Fairness and inclusiveness require workers to earn sufficient income to provide for themselves and their families. Chapter 2 highlights that citizens across EU Member States consider situations where people cannot afford to satisfy their basic needs as unfair. Inclusive societies provide opportunities for everybody. However, serious income inequalities inhibit opportunities and prospects for social mobility. ([298]) Individual incomes are formed of wages, income from other sources, such as property rental and public benefits, such as social transfers. ([299]) Hence, fairness requires a moderation of serious income inequality as well as wage inequality across and within sectors. ([300]) In the context of collective bargaining, the following section will focus on the impact of collective bargaining on wage inequality.

([295]) Pfeifer (2007).

([296]) According to the European Values Survey, asking individuals across the EU older than 16 years of age.

([297]) There are several approaches in economic theory explaining the relationship between wages and productivity. Some economists suggests that workers reciprocate the reward intentions of employers with higher efforts. Fehr et al. (1998).

([298]) Darvas, Z., and Wolff, G. B. (2016). An anatomy of inclusive growth in Europe. Bruegel Blueprint Series 26, October 2016.

([299]) Different incomes sources are taxed differently, by taxes such as property taxes or direct income taxes. Together, these taxes form the net disposable income.

([300]) This is not to say that inequality should be entirely eliminated. Some wage inequality can give incentives to individuals to invest in skills for example.

Collective bargaining provides a forum for workers and employers to balance their interests and achieve fair outcomes. Collective bargaining can give workers a voice and secure a fair share of the benefits of training, technology and productivity growth. ([301]) Collective bargaining can also contribute to better wages for workers. It brings individual workers together collectively, thus strengthens their bargaining power and gives individual workers a stronger voice.

In collective bargaining systems, there can be a trade-off between reducing wage inequalities and aligning wages with productivity. This will be discussed in more detail in the next section. More decentralised wage setting systems, with company level pay setting, tend to result in aligning wages more closely with changes in productivity. More centralised and coordinated systems tend to produce more wage equality. Some of the more centralised and coordinated (mainly sectoral bargaining) systems, have tended to moderate wage growth in an endeavour to promote international wage competitiveness and to reduce unemployment after the financial crisis. A possible answer to this trade-off lies in the coordination of collective bargaining, for example through a wide coverage of sectoral agreements, with additional room and incentives for company level bargaining. This could draw on the advantages of both systems.

Wage bargaining needs to be considered in the economic context. Collective bargaining does not happen in a vacuum and is not isolated from external influences and public interventions. Wage developments are affected by price stability, levels of employment and unemployment including labour shortages. Other reasons for low wage growth after the recession included the wage moderation policies, such as minimum wage freezes, agreed in many Member States. ([302]) Recent comparative research found that for comparable levels of unemployment nominal wage growth remained below pre-crisis levels. This could be related to a higher number of workers employed within low pay jobs. ([303]) In the Netherlands, for example, the reduced bargaining power of the increasing proportion of non-standard workers and self-employed has been linked to the lower responsiveness of real wages. ([304]) In the EU-27, the wages of six out of ten workers employed in private sector establishments are regulated by collective bargaining agreements. ([305]) Hence, collective bargaining continues to be important in the EU; although trade union membership and collective bargaining coverage have tended to decline across the EU.

([301]) Visser, (2016).

([302]) Eurofound (2014).

([303]) OECD (2018), p. 17.

([304]) See International Monetary Fund (2018), p. 12. See also the European Semester Country Reports 2018 and 2019 on the Netherlands.

([305]) According to the European Company Survey (2019). See also Eurofound and Cedefop (2020, forthcoming).

2.1. Collective bargaining systems and productivity

Several features of the bargaining system play an important role in wage productivity alignments and wage inequality. ([306]) The level at which collective bargaining takes places, i.e. company or sectoral level can affect socio-economic outcomes. Collective bargaining systems, where bargaining takes place at higher levels, are said to be more centralised. Systems in which collective bargaining takes places mostly at the company level are referred to as decentralised. ([307]) The reach and economic impact of collective bargaining agreements are determined by the collective bargaining coverage. ([308]) Another important factor is coordination of wage bargaining between different sectors. This can refer to coordination between various levels of bargaining (vertical coordination) or to coordination between different bargaining units at the same level (horizontal coordination). There are several coordination mechanisms, based on different aspects of the collective bargaining system. Higher-level agreements may have a regulatory capacity, for example, through norms set in these agreements. Higher-level organisations can also have the organisational capacity to exert control over lower level units. ([309]) The horizontal coordination between sectors can help to harmonise wage-setting and demands across the economy. It can bundle different demands and steer them towards macroeconomic goals.

Wage and productivity growth tend to be more aligned where collective bargaining systems are less coordinated. However, more coordinated systems have the advantage of lower wage fluctuations. ([310]) Examples of countries with less coordination between sectors are France, or Italy. In France for example, negotiated wage growth was mostly in line with productivity between 2000 and 2007, whereas actual wages lagged behind over that period. After the crisis, yearly growth rates of collectively agreed pay decreased, in line with productivity and actual wages. Taken together, over the period 2000 and 2017, actual wages and productivity were closely aligned. ([311])

In some countries, collective bargaining has contributed to wage restraint. In a number of countries, such as Austria, the Netherlands and Germany, wage restraint has been the trend over the years before the crisis. ([312]) These countries are characterised by intermediate degrees of centralisation and high degrees of coordination of collective bargaining. In Germany, the development of negotiated wages was found to be generally aligned with productivity. However, actual wages were mostly lower than productivity and collectively agreed wages. After the crisis of 2009, the growth rate of negotiated wages remained higher than that of productivity and actual wages. In the Netherlands, collectively agreed wages have been practically unchanged in real terms since the 1970s, but actual wages have grown in line with productivity over time.([313])

In coordinated collective bargaining regimes, alignment of wages with productivity is weaker. Wages and productivity tend to be more aligned in countries without wage coordination.([314]) In countries with high degrees of wage coordination, increases in pay, resulting from increases in productivity, tend to be lower than in countries where coordination across sectors is less strong. One potential explanation is that norms intended to limit differences in pay across sectors in a system of collective bargaining also reduce the adaptability of pay to productivity. The impact of coordination depends on the degree of vertical coordination between the different levels of wage bargaining entities. Sector level agreements may include clauses allowing companies to implement wage-setting policies deviating from the sector level agreement. Most have mechanisms such as opening clauses or opt-out clauses for parts or the whole of upper level collective agreement, or inability-to-pay clauses for crisis situations.([315]) Company-level wage bargaining allows different characteristics of the workers and the company, such as the applied technology, to be taken into account. This in turn adds to the alignment of wages with productivity across sectors. ([316]) Centralisation and coordination may affect how wages respond to individual company performance. Coordinated collective bargaining systems facilitate the implementation of deliberate policy choices, aimed at improving competitiveness for example. This explains why the misalignment of wages with productivity tends to be higher in countries with more centralised and coordinated wage bargaining regimes.

([306]) These features will be discussed in the following.

([307]) In some systems, the levels are interlinked (vertically) with each other. So the higher level usually starts and local level negotiations top up. This is referred to 'articulation' between the levels or a weaker form of it is vertical coordination.

([308]) The number of workers covered by an agreement.

([309]) Eurofound (2015a).

([310]) OECD (2018), p. 94. Sectoral coordination of collective bargaining aims to maintain the purchasing power of employees in the sector and to achieve a balanced participation in productivity increases.

([311]) Eurofound (2018).

([312]) Delahaie et al.(2015) p. 68. In most of its annual reports, both before and after the crisis, the German Council of Economic Experts (CEE) has emphasised the importance of wage moderation, i.e. that wages should grow below productivity increases in order to increase employment levels. Some researchers have argued that, in Germany's case, this trend is truly macro-historical and linked to monetary policy pursued by the Bundesbank; see Bibow (2017).

([313]) OECD (2018), Box 3.3 page 96. See also Eurofound (2018).

([314]) OECD (2019a), p.123.

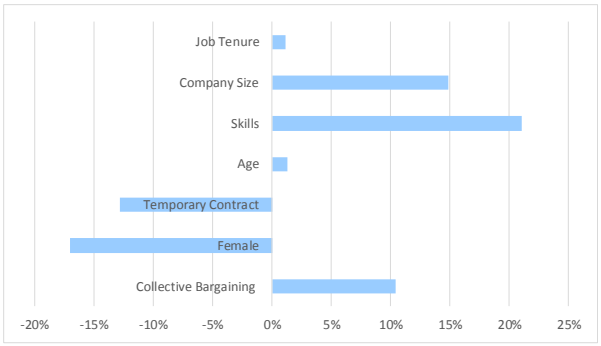
([315]) Eurofound (2015a).

([316]) As highlighted by the OECD (2019a).

2.2. Collective bargaining for fairness and inclusiveness of wages

The ability of collective bargaining to raise individual wages depends on the level of bargaining. Chart 4.1 suggests that collective bargaining can improve workers' earnings potential. The chart shows that in countries for which data is available, those workers covered by a collective bargaining agreement tend, on average, to earn up to 10% more than workers not covered by an agreement.([317]) This estimation takes into account individual characteristics of workers such as their gender, age, their level of education or the sector in which they are employed. However, it does not differentiate between different levels of collective bargaining, i.e. whether the workers are covered by a company or sector level agreement. Company-level bargaining results in higher collective bargaining wage premiums, i.e. higher wages due to a collective bargaining agreement as compared to sector level bargaining. ([318]) To allow for these higher wage premia, sector level agreements do not necessarily preclude the company level agreements. The application of the favourability principle allows companies to negotiate agreements, which make workers at least as well off as they would be under the relevant sectoral agreement. ([319])

Chart 4.1
Individual level factors impacting individual wages



Source: Own Calculations, based on the Structure of Earnings Survey 2014. Based on an OLS regression with hourly wage as explained variable. Regression corrects for age, job tenure, education, skills, NACE sectors, type of contract (temporary), company size, interaction between gender and bargaining.

Click here to download chart.

The level of collective bargaining affects the dispersion of wages. In Spain, the parts of the economy covered by company-level bargaining have higher wage dispersion than those covered by sectoral agreements. Over the time span 2007-2009 around the onset of the financial crisis, it is clear that sector level collective bargaining has led to wage compression. ([320]) In Italy for instance, a centralized system of collective bargaining entailed low flexibility to adapt wages at the company level. Between 1980 and 2000, the dispersion of wages earned in different sectors has increased. However, the dispersion of wages of similar jobholder in similar occupations has remained stable over this timespan. ([321]) In the Netherlands, for example, where coordination between different sectors is strong, overall wage inequality is lower. Accordingly, possibilities for collective bargaining to affect the dispersion of wages and thereby equality of opportunities depends on the way collective bargaining is organized.

More coordinated collective bargaining systems tend to reduce wage dispersion across sectors. ([322]) Coordination of wages means that wage negotiation tend to be coordinated between companies (and sectors), thus partly decoupling wages from productivity. ([323]) This is for example the case of vertical coordination, where sector level agreements sets the precedent for company level negotiations. Less coordinated and less centralized collective bargaining systems allow to take individual company characteristics into account, and this explains why the alignment of productivity with wages and their respective growth is higher in such systems. While the references for company level collective bargaining is the company's performance, the sector's performance and the macroeconomic environment are the reference for sector level bargaining. Sector level bargaining can therefore increase the difficulty of taking account of

([317]) The estimation is based on a linear regression, using data from the European Structure of Earnings Survey 2014. The regression compares individual hourly wages of workers employed in Member States, for which data is available: BG, CY, EE, ES, FI, FR, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, UK. The regression takes into account company size, skills (defined as the skills needed within a certain occupation), Furthermore, the regression includes a dummy variable to differentiate between workers covered and those not covered by a collective bargaining agreement, and it corrects for gender. Coefficients for female and collective bargaining have been interacted. Chart 4.1 shows the total effect for female, which includes the interaction with collective bargaining. Country dummies strongly correlate with the dummy for collective bargaining. Collinearity issues between collective bargaining and country fixed effects mean that collective bargaining captures much of the country-specific differences. Therefore, no country fixed effects were included.

([318]) Calmfors and Driffill (1988). Eurofound (2015b).

([319]) According to the favourability principle, standards concluded at higher level can only be improved on for employees but not worsened at lower level.

([320]) Domínguez and Rodríguez Gutiérrez (2016).

([321]) Devicienti et al. (2019).

([322]) Berlingieri, et al. (2017).

([323]) OECD (2019a) p.126.

individual company characteristics. By defining common criteria for all workers, it reduces wages dispersion within the sectors. ([324])

There does not have to be a trade-off between aligning wages with productivity and reducing wage inequality through collective bargaining. Company level bargaining allows for better adaptation to individual characteristics, which is one explanation for a better wage productivity alignment in less coordinated and less centralised bargaining systems. At the same time, centralisation and coordination reduce wage dispersion. The flexibility to adjust wages according to productivity and reducing wage dispersion and inequality through collective bargaining can therefore seem like a trade-off. Organized decentralization of collective bargaining ([325]) can balance both goals. Within organised decentralisation, sector level bargaining agreements set a framework in which company level bargaining takes place. In this framework, essential features of working conditions can be negotiated at the company level. Collective bargaining systems in Denmark, Norway or Germany allow for such an approach. ([326]) In Denmark for example, sector level agreement set a broad framework, such as minimum standards, which have to be respected by the company level agreement. In addition, sector level agreements set boundaries, i.e. maximum terms, within which the company level agreements are negotiated. In Germany, opening clauses, introduced in the sector level agreements, stipulate the conditions under which company level agreements can deviate from the sector level agreements. ([327])

Collective bargaining can achieve fair and inclusive wage growth. Wage dispersion tends to be smaller among workers who are covered by a sectoral agreement. At the same time, company level bargaining allows for a better alignment of wage growth with productivity growth. Hence, in coordinated bargaining, rules may be established to distribute competences to a lower level of bargaining, such as the company. Within such a framework of organised decentralisation, economy wide goals can be pursued, while taking into account companies' specificities. Such a bargaining structure makes it possible to balance inclusivity of wages with fair wage growth.

2.3. Strong social partner organisations – a condition for effective collective bargaining and social partnership

The quality of collective bargaining depends on the number of workers covered by collective agreements. It is important to highlight that while collective bargaining can induce lower wage dispersion, it does not affect income inequality resulting from higher unemployment. Accordingly, collective bargaining affects income inequality to the extent that it increases the incomes of those in employment. This depends on the number of workers covered by an agreement and its influence on non-covered workers. The representativeness of trade unions is determined by the total number of workers who are member of those trade unions. Trade union membership affects the capacity of trade unions to negotiate a collective bargaining outcome. Given that membership fees are a central source of income, membership also affects their financial capacity. Collective bargaining agreements can also cover workers who are not members of trade unions, or who work in companies, which are not party to the agreement. Collective bargaining coverage, the total number of workers covered by a collective bargaining agreement reflects the importance and strengths of collective bargaining within a country.

In many Member States, trade union membership is declining. In particular, the proportion of employed workers who are members of a trade union is decreasing. In all Central and Eastern European countries trade union membership has shrunk massively between 2000 and 2018 (or the latest available observation), as shown in chart 4.2. ([328]) In Hungary, trade union density decreased from 23.8% to 7.8% and in Lithuania from 16.8% to 7.13%. In other European countries, union density has also declined from 2000 to 2018. This decline has been less dramatic in Italy, for example, where collective bargaining is characterised by a high collective bargaining coverage, despite generally lower trade union density.

There are different reasons for declining trade union membership. Jobs which are the most likely to be unionized are industrial jobs – deindustrialisation is hence one explanation for declining membership. Changes in production technology and related reduction of routine task jobs are further reasons for these developments. Such jobs were often concentrated in larger companies and these were labour intensive and required similarly skilled workers. In occupations with routine tasks, such as manufacturing or clerical work, workers often have had a similar skill level. The tasks in these occupations have required a large number of workers. A similar skill level and bargaining ability of these workers provides for a common interest to support trade unions. With declining routine task jobs, the competition in low skill job market has increased. Therefore, together with a lower suitability of low skilled workers for high skilled jobs, the strong collective position of trade unions gets lost with

([324]) OECD (2019a); p.115.

([325]) This term has been coined by Traxler, F. (1995).

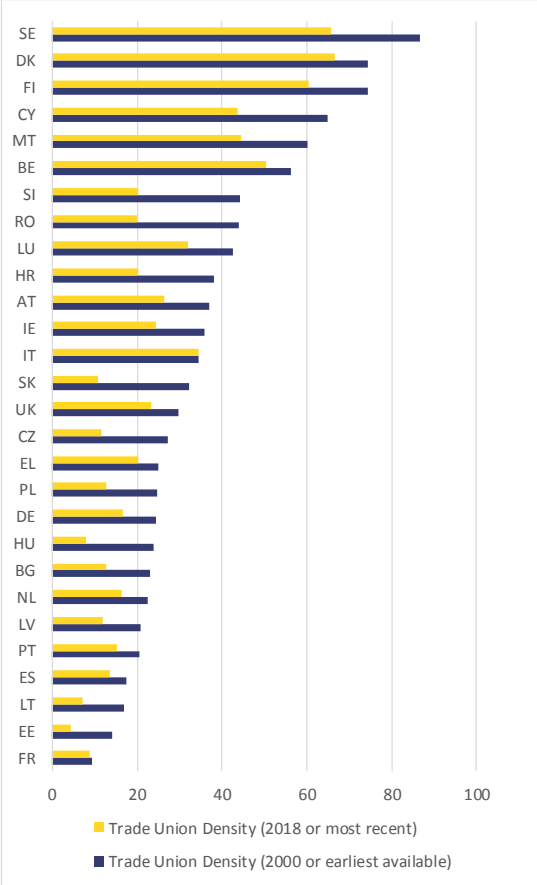
([326]) Ibsen and Keune (2018).

([327]) Schulten and Bispinck (2017).

([328]) For some countries, no observations on trade union density are available for 2018, so the observation of the closest available year was used.

declining routine task employment. ([329]) The changing world of work, with a more individualised way of living and working including the emergence of new forms of employment, makes it difficult for trade unions to recruit new members. They in particular lack young members. ([330]) In addition, migrant workers are less likely to be unionized. ([331])

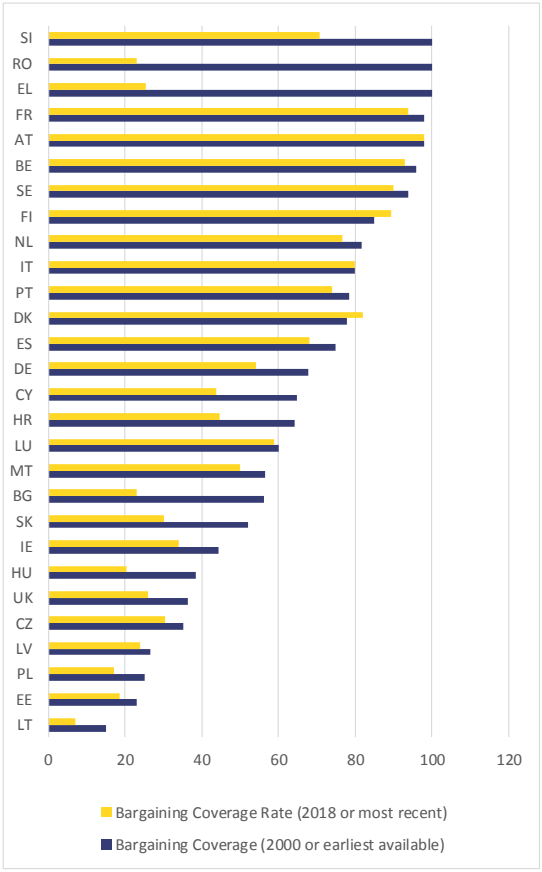
Chart 4.2
Trade Union Density - Comparison between 2000 and 2018



Note: Data for 2000 and 2018 or closest available year.
Source: ICTWSS Database (2019)
Click here to download chart.

In the period 2000 - 2018 collective bargaining coverage also decreased (chart 4.3), although to a lesser extent than trade union density. In Austria and Italy, collective bargaining coverage remained stable. In France, the Netherlands, Spain, and Sweden, bargaining coverage decreased only slightly. In Bulgaria and Greece, coverage decreased more substantially. Collective bargaining agreements may apply to entire sectors, using erga omnes clauses or administrative extensions, a collective bargaining agreement may apply to all workers within a company or within a sector, or to non-unionised workers or companies which are not members of an employer organization. ([332]) While many countries have a legal framework to apply extensions, the right to extend a collective agreement may be subject to specific requirements (relating to the minimum coverage rate of the agreement or the representativeness of the signatories) or to state authorities being involved. In contrast, there are also countries where collective agreements are automatically or almost automatically extended. ([333]) The agreements then also apply to workers who are not member of the trade unions, who can enjoy the benefits of the agreement. This lowers the incentives to join a trade union.

Chart 4.3
Collective bargaining coverage - Comparison between 2000 and 2018



Note: Data for 2000 and 2018 or closest available years.
Source: ICTWSS Database (2019)
Click here to download chart.

Trust in trade unions and trust between the social partners are a key component of good industrial relations and ensure well-functioning collective bargaining systems. Research suggest that trust in trade unions and the quality of labour relations go hand in hand with better labour market outcomes, i.e. lower unemployment. ([334]) In countries where unemployment and inequality are low, trust in trade unions tend to be higher. Cooperation and interaction among the social partners may enhance trust. Therefore, it is important that public authorities enhance and

([329]) Section 4.2 in Meyer (2019).
([330]) Vandaele, K. (2019). Bleak Prospects: Mapping Trade Union Membership in Europe Since 2000.
([331]) Meyer (2019), Gorodzeisky and Richards, (2013).
([332]) In legal parlance, erga omnes means a right or obligation extends to all.
([333]) Such as Austria, Belgium; France or Spain. Eurofound (2015a).
([334]) Blanchard and Philippon (2004).

enable possibilities for exchange among social partners.([335])

Trust in trade unions varies across Member States. Chart 4.4 shows the percentage of people who responded positively when asked whether they have confidence in trade unions. ([336]) In Hungary and Italy, trust in labour unions has remained relatively stable over the last decade. In some of the Member States, where trade union density fell strongly over the last two decades - Czechia, Slovak Republic, Poland or Germany - trust in trade unions increased. Similarly, in the Lithuania, trust has steadily increased. In Denmark and Sweden, both trade union density and trust in trade unions are high. In other Member States, trust in trade unions has decreased, for example in Spain after the recession of 2008/9 affected relations between the social partners. In some countries the decrease in trust resulted from prolonged and difficult negotiations about specific policy issues ([337]) However, other country-specific events may have contributed to the loss of public image of trade unions and, consequently, to membership decline. However, country-specific events may have contributed to trade unions' loss of public image and to membership decline. High trust in the trade unions shows that high collective bargaining coverage is still justified. In spite of low membership rates, young workers show a high level of trust in trade unions. However, trade unions need to increase membership, especially among younger workers to remain representative in the future.

Social solidarity entails representation beyond workers employed in traditional sectors. Even if trade union density is low, unions negotiate for a considerable proportion of the work force beyond their membership. A potential danger is therefore that trade unions represent solely the interests of those workers within the labour market employed in the sectors where trade unions are strong. This could come at the cost of social solidarity between these workers and other groups, such as unemployed workers or workers from the digital economy, who are not represented by trade unions. ([338]) However, in Italy for example, solidarity of trade unions goes beyond traditional limits. Since the great recession in 2008, Italian trade unions appear to have widened their representational focus beyond their traditional clientele by advocating of more universalistic social protection policies. ([339]) In some Member States, the social partners are also adapting to the platform economy. At least two types of approaches by national stakeholders have been observed to attract platform workers: (i) expansion of existing trade unions to include platform workers or (ii) creation of new organisations for them. ([340]) German trade unions, such as IG Metall or ver.di or the French Confédération Générale du Travail (CGT), have taken the first approach. In France a labour law from 2016 gives platform workers the right to constitute a trade union. ([341]) Delivery workers in Paris founded a new organization, the Collectif de Livreurs Autonomes de Paris. In Belgium a particular model excelled - SMart, a cooperative for self-employed. SMart acts as an intermediary between the self-employed worker and their customers, by employing the workers and ensuring that these are covered by social protection. In 2016, SMart had 424 riders on their books and negotiated hourly wages for these workers with delivery rider companies. ([342]) In other countries, such as Hungary or Slovakia, the development of the platform economy is closely followed by the government and social partners, although without much concrete action. ([343])

([335]) OECD (2017), p. 159.

([336]) European Values Study Longitudinal Data File 1981-2008 (EVS 1981-2008) – Variable E069_05: Confidence: Labour Unions

([337]) Eurofound (2020d).

([338]) Fleckenstein and SoohYun (2017).

([339]) Durazzi et al. (2018).

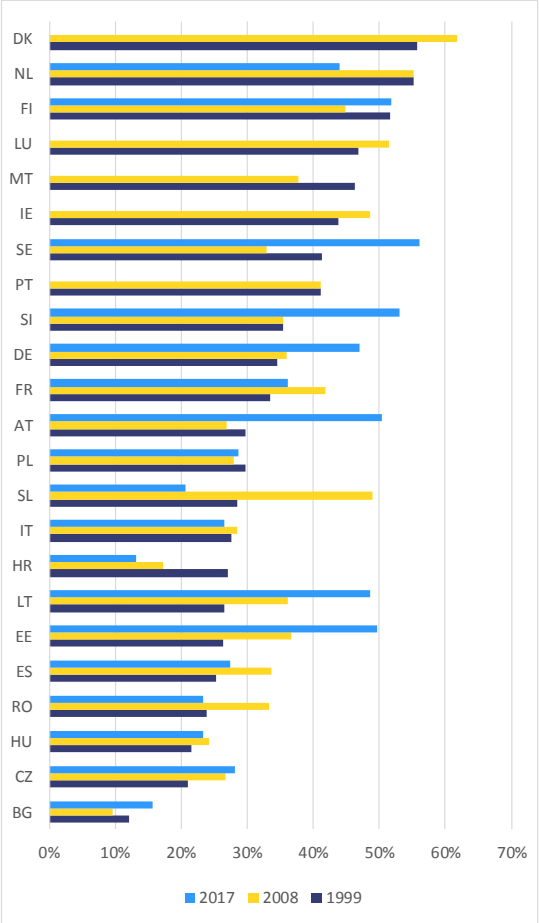
([340]) Akguc et al. (2018).

([341]) The so-called El Khomri law (or 'loi travail') of 8 August 2016, introducing several rights for platform workers beyond the right to form union, such as the right to strike or the right to social security. For more details, see Lambrecht, M. (2016). L'économie des plateformes collaboratives. Courrier hebdomadaire du CRISP, (26), 5-80.

([342]) Drahokoupil, J., & Piasna, A. (2019). Work in the platform economy: Deliveroo riders in Belgium and the SMart arrangement. ETUI Research Paper-Working Paper.

([343]) Akguc et al. (2018).

Chart 4.4
Confidence in trade unions at different points in time



Source: European Values Survey Longitudinal Data FIle 1981 - 2008 (EVS 1981 - 2008) and European Values Survey 2017: Variable E069-05 - Confidence in Labour Unions

Click here to download chart.

A large membership strengthens the representativeness and bargaining power of trade unions. Membership numbers strengthen the legitimacy of their mandate and their potential to act in solidarity with the entire workforce. In a changing world of work, trade unions need to adapt to remain attractive, particularly to the young generations just about to enter the labour market. Membership ensures that trade unions have sufficient resources to negotiate. It strengthens their capacity to negotiate with public authorities in times of crises. Trade union membership and collective bargaining coverage affect the potential of collective bargaining to limit wage dispersion. The more workers are represented, the higher the potential for fair outcomes.

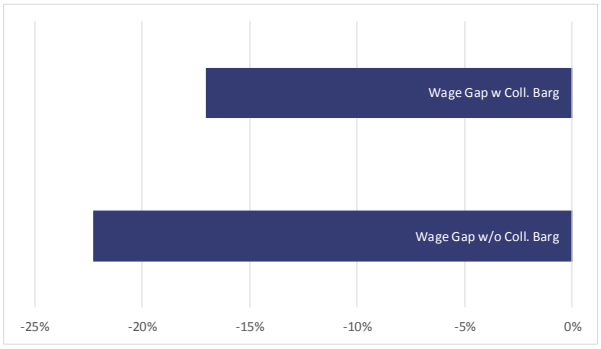
3. FAIRNESS OF WORKING CONDITIONS AND WORK-LIFE BALANCE

Fairness at the work relates to different aspects. It relates to non-discrimination, to being treated with dignity, and also to the possibility to reconcile work with private life. The reconciliation of family and work life thereby concerns men and women. It should give both the opportunity to share family responsibilities, while pursuing their career. The following sections give an overview over the contribution of social partners to this aim.

3.1. Social dialogue and the gender pay gap

Collective bargaining tends to reduce the wage gap between men and women. Across Member States, women earned on average 14.8% less than men do in 2018. ([344]) Chart 4.5 shows that for women covered by a collective bargaining agreement, the gender wages gap is about 5 percentage points smaller compared to women who are not covered by a collective bargaining agreement. ([345]) However, this is likely to vary across sectors. ([346]) Research indicates that for developed economies encompassing collective bargaining arrangements (using collective bargaining coverage, union density, centralization and/or coordination as indicators) are associated with less wage inequality, on average, across the population. ([347]) This results mainly from raising the wage floor, thereby reducing inequalities within sectors, although inequalities between sectors may widen. ([348])

Chart 4.5
Gender Wage gap – Collective bargaining agreements



Source: Own calculation based on the Structure of Earning Survey 2014. Based on the regression of chart 4.1.

Click here to download chart.

Social partners are active in tackling differences between the remuneration for men and women. Actions range from targeting overall gender discrimination, violence and harassment at work, enhancing women's representation in decision-making to introducing specific work-live balance measures. There are also specific gender pay equality measures where social partners play a crucial role. Examples are setting policies to raise pay in female-dominated occupations or sectors, establishing gender-sensitive job grading or implementation of action plans to remedy gender pay gaps revealed by company-level gender pay audits. Social partners are involved in

([344]) Eurostat statistics, variable earn_gr_gpgr2.

([345]) This result is based on the regression of chart 4.1 and has been calculated based on the interaction effect between gender and being covered by a collective bargaining agreement.

([346]) Elvira, and Saporta. (2001).

([347]) Blau and Kahn (2003).

([348]) Haiter and Weinberg (2011), p. 10.

monitoring standards to increase gender equality. In Sweden, sector level bargaining agreements contain rules on gender pay auditing. ([349]) Collective bargaining agreements aim to improve gender equality through work-life balance measures. For example, in 2017, France Télévision and Confédération générale du travail (CGT FTV) negotiated a comprehensive 'Collective agreement on gender equality covering multiple aspects of work-life balance including reduction of working time, paternity leave, access to childcare services, part-time work, time off for care' for the French media sector. The agreement includes provisions about the duration of paternity leave (minimum 12 consecutive days) and foresees a full pay for ten days. Furthermore, the agreement includes a right to 10 paid leave days to take care of a family member with a terminal disease; and a right to take 44 saved-up days to take care of a sick family member; and supports the uptake of teleworking for all workers. ([350])

3.2. Social Dialogue and work-life balance

Reconciling work and family life is increasingly important for both, men and women and it can contribute to raising individual productivity. While improved childcare facilities and better professional care offers for the elderly have unburdened the active population from some of their care responsibilities, the reconciliation of these different tasks is still a major challenge. ([351]) A large proportion of women traditionally has to cope with these multiple roles and obligations. If employers do not allow for this reconciliation, they might find it more difficult to recruit new employees or to keep their employees. In particular, women might drop out of the labour market for some time or permanently. The total cost of women's inactivity in the workforce is estimated at around €361.9 billion/year across the EU, including loss of tax revenues and payment of benefits. Therefore, setting work-life balance policies, e.g. flexible working arrangements, provisions of paternity leave and shared parental leave, ([352]) family related economic incentives, childcare arrangements and long-term care and parental leave is important.([353]) Such policies should enhance possibilities for both, men and women, to take leave time and to improve their work life balance. The Work Life Balance Directive introduced in 2019 to encourage a more equal sharing or caring responsibilities between men and women. ([354]) The Directive provides for more flexibility and ensure the right for paternity leave. The amended Directive provides that two out of four months of parental leave are non-transferable between men and women, to encourage fathers to take advantage of parental leave. Although work-life balance is often discussed in relation to care responsibilities, work-life balance is about balancing private and professional commitments, also beyond family related issues. In many Member States, working times are set by statutory law. However in some Member States, such as Denmark and Italy, sector level collective bargaining agreements play an important role for setting working times. ([355])

Work-life balance has become important for EU as well for national social partners. Collective bargaining agreements on work–life balance are more common in Member States with high collective bargaining coverage (80% and above), and less common or non-existent in countries with collective bargaining coverage below 80%. ([356]) Collective bargaining agreements tackle the issues from different angles**.** Some agreements aim to increase possibilities for fathers to take up caring responsibilities.

Collective bargaining agreements on work-life balance deal with caring responsibilities and with flexibility of working time arrangements. Employers and trade union from the Finish technology industries concluded a 'Collective agreement on paternity leave and temporary care leave' in 2017. According to the agreement, an employee whose employment has started at least six months before the beginning of paternity leave will be paid for his paternity leave. An employee is also entitled to receive a paid temporary leave (up to 4 times a year) to take care of a child under ten years of age, who is permanently residing in the same household. ([357]) The German IG Metall and Gesamtmetall signed a Collective agreement on flexible working arrangements and economic benefits 'Together for tomorrow-my life/my lifetime: Rethinking work' in 2017.

([349]) Rubery & Johnson (2019).

([350]) ETUC (2019).

([351]) Eurofound (2020c).

([352]) Eurofound (2019).

([353]) Eurofound (2016) Estimate updated by Eurofound for 2018..

([354]) 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.

([355]) See database on wages, working time and collective disputes: https://www.eurofound.europa.eu/data/database-of-wages-working-time-and-collective-disputes

([356]) ETUC (2019), p. 11.

([357]) The compensation for short temporary absences is paid from sickness pay.

Figure 4.1
Prevalence of work–life balance topics in collective agreements

Degree of prevalence	Countries
(relatively) widespread	**BE, DK, FI, FR, IT, NL,** *NO,* **SE,** *SI*
Existing in several (sectoral) agreements	**AT**, *DE, MT* (only public sector)
Existing, but prevalence limited	*CZ, EL*, **ES**, HU, LV, *PT*, RO, SK, UK
Existing, but prevalence unknown	BG, EE
No clauses	*CY, HR*, LT, *LU*, PL
No information	IE

Note: Countries in bold: high collective bargaining coverage (80% and higher); countries in italics: medium collective bargaining coverage (40-70%); countries underlined: low collective bargaining coverage (10-35%).

Source: ETUC (2019) and Eurofound (2017)

Click here to download figure.

The agreement foresees the possibility to trade part of the wage for free days to fulfil care responsibilities. This option is also available for employees doing shift work. In addition, the agreement also establishes the right to reduced full-time work, to no less than 28 hours per week, for a period of up to 2 years with reduced pay and a right to return. Italian social partners of the transport sector (FIT-CISL, FILT CGIL, UILTRASPORTI, UGL TAF and the National Railway Company) negotiated a 'Collective agreement on flexible working' in 2018. The social partners agreed that employees, supported by the trade unions, and the companies, could conclude individual agreements on working times (Smart Working scheme). These individual agreements enable flexibility in working hours and working place, while the employment contract stays the same. The European Public Service Union (EPSU), together with IndustriALL, negotiated a 'Transnational group agreement with SUEZ/ENGIE on gender equality in the workplace'. The agreement sets out key principles of gender equality such as prevention of harassment, non-discriminatory hiring practices, support for women's professional development, parity in career progression or equal pay. There are also provisions improving work-life balance of employees. ([358]) Companies also provide training to the employee before this working scheme starts, e.g. on health & safety and on ICT tools. ([359]) The respective agreements and discussion aim at accommodating family life, but should also be understood as improving the opportunities for any worker, independently of family status, for a better work life balance.

3.3. Discrimination and harassment at the workplace

Social partners at the national level and EU level are combatting discrimination, harassment and violence at work. Actions against discrimination and harassment at the workplace are taken at cross-industry, sectoral or company levels across member states. Initiatives against discrimination on the grounds of age and disability are most at cross-industry level. Other initiatives, to fight racial, religious or sexual orientation/gender identity discrimination are also on the agenda of social partners, albeit to a somewhat lower extent. ([360]) Discrimination and a lack of workplace diversity bring with them significant human and economic costs. Social

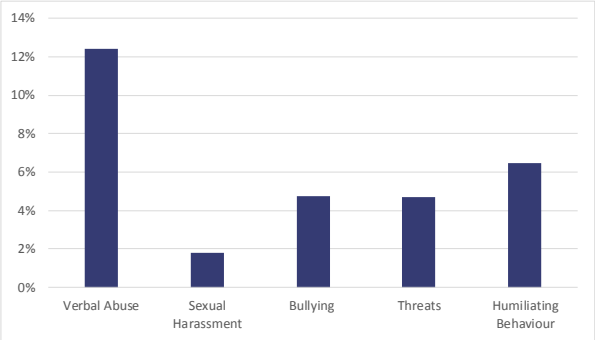
([358]) The provisions include a career follow-up for women during and after their maternity leave, training after maternity leave, a guarantee of being able to return to the same position/job after maternity, parental or adoptive leave and rights to enjoy any benefits and improvements in working conditions that may have been made during the women's leave of absence. https://www.epsu.org/article/epsu-signs-european-agreement-reinforcing-gender-equality-work-suez (last accessed 05.03.20)

([359]) ETUC (2019), p. 29, 34, 38, 44.

([360]) Eurofound (2020): Ad-hoc request on the role of social partners in tackling workplace discrimination.

partners have a key role to play in combatting discrimination at work (as well as in wider society). They can do so by helping to shape relevant legislation and policy, raising awareness of rights and obligations of workers and employers, monitoring workplace practices, concluding collective agreements and codes of conduct, undertaking research, supporting their members in litigation concerning equal treatment and/or engaging in strategic litigation. ([361])

Chart 4.6
Incidence of different forms of abuse at the workplace

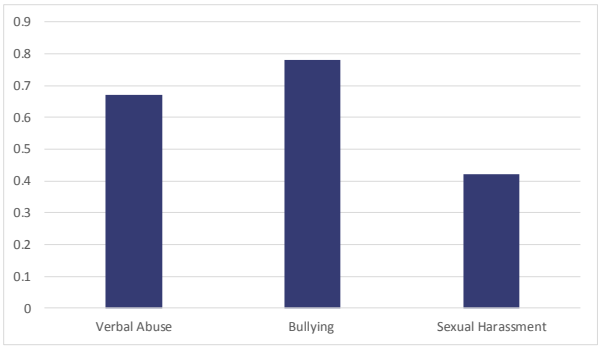


Source: Own Calculations, based on the European Working Conditions Survey.
Click here to download chart.

The incidence of different forms of abuse differ across workplaces. According to the European Working Conditions Survey, verbal abuse is one of the most common form of abuse, with 12% of workers reporting having been abused verbally. In addition, many workers have reported humiliating behaviour. Actual threats, bullying and any form of sexual abuse have been reported less often (Chart 4.6). The European trade union federation in the transport sector (ETF) surveyed women working in different transport sectors. ([362]) According to this survey, women working in the transport sector identified in almost 50% of the cases customers as perpetrator. In 22% of the cases a colleague and in about 17% of the cases a superior is identified as the culprit.

Social dialogue tends to reduce violence and harassment at the workplace. At company level, workers are less likely to have been subject to verbal abuse, sexual harassment or bullying, if there exists a workers' representation. ([363]) According to chart 4.7 the presence of a trade union is related to lower incidences of bullying and verbal abuse, and even more so to sexual harassment. The main reasons for women not to report acts of harassment are that similar cases were mishandled or that there is a lack of support. ([364]) Social partners lead various campaigns and initiatives within companies in order to reduce abuse at the work place.

Chart 4.7
Employee representation associated with less abuse



Note: The estimation are based on a logit regression, taking into account company size, contract type of the worker/ employee, education, age, occupation, and country fixed effects. The chart shows the likelihood of having been a victim of a harassment in companies with a workers' representation compared to companies without representation. Values below 1 indicated that in companies with a workers' representation, workers encounter harassment less frequently as compared to workers in companies without a representation.

Source: Own Calculations, based on the European Working Conditions Survey.
Click here to download chart.

Social partners at national level fight violence and harassment at work. An Agreement on sexual harassment in the woodworking sector in Italy was signed by three sectoral unions (FENEAL-UIL, FILCa-CISL, FILLEA-CGIL) and one employer (FEDERLEGNOARREDO) in 2015. The agreement considers any sexual harassment or mobbing unacceptable. The annex to the agreement - Code of Conduct on sexual harassment and mobbing - contains definitions and possible solutions, including the establishment of workplace committees consisting of union and employer representatives responsible for awareness-raising. ([365]) In Spain Vodafone and trade unions signed an agreement on a Workplace Equality plan in 2015. The plan sets out measures to address violence at work. It also suggests ways of reconciling work and family life, prevention of any form of discrimination and harassment. A part of the Equality plan is a Protocol on sexual harassment and harassment for sexual reasons, which sets out measures to be taken if harassment or discrimination at work occurs. The protocol also describes also disciplinary measures. ([366])

Social partners at the EU level provide a framework for national and company level initiatives. The European Community Ship Owners' Associations and European Transport Workers' Federation issued Guidelines to shipping companies on eliminating workplace harassment and bullying in 2014 (an update of the original Guidelines from 2004). The authors showed that the possible results of harassment and bullying such as stress, lack of motivation, reduced work performance and absenteeism had high costs. The guidelines aim to help companies to recognise examples of harassment or bullying, to identify

([361]) Eurofound (2020): Ad-hoc request on the role of social partners in tackling workplace discrimination
([362]) Such as maritime, road or railway transportation.
([363]) The estimation are based on a logit regression, taking into account company size, contract type of the worker/ employee, education, age, occupation, and country fixed effects.
([364]) ETF (2017).
([365]) ETUC (2017), p.30.
([366]) ETUC (2017), p.34.

incidents through the use of effective complaint procedures and to eliminate harassment and bullying. ([367]) In 2020 ETF and UITP, the EU social partners for urban public transport renewed their recommendations on *'Combating Violence and Insecurity on Urban Public Transport'*. Uni global, representing workers from service sectors in more than 150 countries launched a campaign in March 2020 to fight against harassment and violence at work. This campaign aims to negotiate better regulation in the Global Framework Agreements, support UNI global commerce affiliates to run national campaigns and identify and share best practices. ([368])

Social partners also focus on third-party violence and harassment. This is violence and harassment emanating from people not working for the company, such as customers, clients, or patients. Third party violence appears to be more prevalent in some sectors than in others. Workers in the transport sector and sectors with predominantly female employees appear to be particularly exposed to third-party violence. ([369]) The EU level social partners from the commerce, private security, local and regional government administration as well as central governments, health and education sectors (EPSU, UNI Europa, ETUCE, HOSPEEM, CEMR, EFEE, EuroCommerce, CoESS) agreed 'Multi-sectoral guidelines to tackle third-party violence and harassment related to work' in 2010. The guidelines aimed to address concerns about the impact of third-party violence on workers' health and dignity and reduce related absenteeism and staff turnover. They have led to further projects, and awareness-raising campaigns. For example, the local and municipal government in Denmark signed an agreement on third-party violence.

Trade union have launched campaigns against workplace violence and harassment. Danish trade unions established a task force on fighting sexual harassment in 2016. ([370]) The aim of this task force is to create a common trade union strategy to raise awareness about sexual harassment at work, including improving litigation and representation of the victims in court. The Bulgarian trade union for the transport sector (FTTUB) and the municipal authorities in Sofia, Varna, Burgas and Gabrovo signed agreements on the prevention of violence against women at work. After the agreement was signed, a related survey revealed a high level of risk of physical and psychological violence, mostly from third parties. FTTUB also produced a brochure 'No to violence against women at work!' recommending prevention and subsequent mechanisms related to violence against women at work. A public awareness-rising campaign in urban transport was launched in all four Bulgarian cities in 2015. ([371])

Domestic violence is also becoming one of the social partners' points of interest. In Northern Ireland, for example, unions were very active in negotiating workplace policies on domestic violence at work. National guidance from the Northern Ireland Office and the Department of Health, Social Services and Public Safety on 'developing a Workplace Policy on Domestic Violence and Abuse: Guidance for employers' (2008) is built on social partners' cooperation to prevent violence and abuse in the workplace. The Catalonian trade union (CCOO) guide on violence against women is another example. It provides practical information on the legal framework on violence against women and shares best practices for trade union action and collective bargaining. The guide builds on CCOO's work to eliminate direct or indirect discrimination against women at work, including the fight against sexual harassment and gender-based violence. The guide considers trainings, awareness raising for union representatives, internal discussions and proposals for collective bargaining, brochures, specific campaigns to sensitize workers and union representatives about gender-based violence, to be important tools for addressing the issue. ([372]) The aim of the agreement is to increase employers' and workers' awareness and understanding of employers and workers in this area.

European cross-industry social partners signed a framework agreement on harassment and violence at work in 2007. BUSINESSEUROPE, UEAPME, CEEP, ETUC and the liaison committee EUROCADRES/CEC agreed to cooperate on identification, prevention and management of harassment and violence at the workplace, irrespective of the size of the company, field of activity, or form of employment contract. The social partners agreed to implement this agreement autonomously.

The EU framework agreements was also implemented through national legislation. In Slovenia, for example, the social partners have worked with the government to implement the 2007 agreement by amending national legislation. The Safety and Health at Work Act and the Employment Relationships Act were amended in 2007 and in 2013 to include provisions on harassment and violence in accordance with the autonomous agreement. In Cyprus, the social partners and the government signed a tripartite

([367]) ECSA, ETF, 2014, Guidelines to shipping companies- Eliminating workplace Harassment and Bullying

([368]) https://www.uniglobalunion.org/news/no-store-violence-and-harassment-commerce (last access: 21.02.2020).

([369]) The transport sector comprises, among others, bus drivers, ticket collectors, air stewards. On third party violence see also EU-OSHA: infographic, third party violence in the workplace (https://osha.europa.eu/en/tools-and-publications/infographics/third-party-violence-workplace (last accessed 06.02.20).

([370]) The Danish trade unions are: 3F, HK, Serviceforbunded, Teknisk Landsforbund and Faengselsforbunded

([371]) ETUC (2017), p.38-39

([372]) ETUC (2017), p.49, 57, 63.

framework agreement on stress at work in 2008. In Luxemburg, the main implementation instrument of the 2007 European autonomous agreement is the Joint Agreement on Harassment and Violence at Work signed by the cross industry the social partners in 2009. Upon the request of the social partners, the government implemented the agreement into national legislation. ([373])

The cross-industry framework agreement had an impact in some Member States. In Cyprus, Spain and France for example enterprises introduced new company-level measures to prevent violence and harassment at the workplace. In some companies, health and safety representatives reported improvements. In some Member States, the implementation of the Framework Agreement was considered to have had a positive impact on awareness raising. ([374]) In Germany on the other hand, existing national legislation and guidance was considered to be sufficient, so there was no need to change legislation or adopt national collective agreement, but different actions have been taken at sectoral and company level. ([375])

Trade unions can improve the work environments of workers and ensure that everyone is treated fairly and with dignity. The social partners' initiatives contribute to awareness-raising about harassment and violence as well as to a better understanding of the incidence of harassment at the workplace. These activities support workers who are treated unfairly at the workplace by customers, colleagues or superiors. Moreover, trade unions are in a position to improve the work environment of all the workers and by negotiating the necessary means with employers to do so. However, in the transport sector, trade unions report that women are most likely to report incidences of harassment to employers, to colleagues and family and only then to trade unions. Hence, it is important for trade unions and workers' representatives to build trust among their members and take harassment cases seriously.

3.4. Social dialogue and generational fairness at the workplace

One of the main current EU demographic challenges is aging of population. Older workers often face discrimination and negative stereotypes. Perceptions of discrimination due to age are very common. 47% of respondents to a 2019 Eurobarometer survey thought that an older age is a factor that puts job applicants at a disadvantage.([376]) Directive 2000/78/EC prohibits discrimination on the grounds of age in employment and occupation. Despite this, direct and indirect discrimination against older workers and negative stereotypes portraying them as less productive, less adaptable and more prone to sickness remain a concern in many Member States, even in those with a relatively high level of employment of older workers. ([377])

European cross-industry social partners (BusinessEurope, ETUC, UEAPME, CEEP and the liaison committee EUROCADRES/CEC) joined efforts to adopt an 'Autonomous framework agreement on active ageing and inter-generational approach' in 2017. ([378]) They agreed on a need for measures to facilitate participation of older workers in the labour market and to enable them to stay in the labour market until the legal retirement age. The agreement aims to accommodate different national contexts in EU Member States. It provides definitions of active ageing as well as an inter-generational approach. ([379]) The main aim of the agreement is to create a general framework, for increasing the awareness and understanding of employers, workers and their representatives of the challenges and opportunities deriving from demographic change and to provide them with practical measures to promote and manage active ageing in an effective manner. It aims to ensure a healthy, safe and productive working environment; foster innovative life-cycle approaches with high quality jobs and to promote concrete actions to transfer knowledge and experience between generations at the workplace. ([380])

European employers consider flexible work practices crucial for facilitating active ageing. In the EU, access to gradual transition to retirement is still limited and an 'early retirement culture' still prevails. ([381]) Flexible work practices can be of geographical, temporal or functional nature. The implementation of such measures can be particularly helpful in achieving a flexible transition from work to retirement. For instance,

([373]) Grand Ducal regulation of 15th December 2009, published in the Official Gazette in January 2010.

([374]) European Commission (2016), p. 4 to 5. The study covers 50 companies of different sizes and in different sectors each in ES, FR, HU, IT, NL, PL, SE and the UK Within the framework of this study, company health and safety representatives have been interviewed.

([375]) For example, after the translation of the Agreement into German, in 2008 German social partner Zentralverband des Deutschen Handwerks (ZDH) drew its partners attention to the agreement's recommendations and guidelines to ensure that all handicraft organizations at federal, provincial and local level were aware.

([376]) Eurobarometer survey 2019, Discrimination in the EU

([377]) Eurofound (2013), p. 36.

([378]) See also chapter 5 in European Commission (2017).

([379]) 'Active ageing is about optimizing opportunities for workers of all ages to work in good quality, productive and healthy conditions until legal retirement age, based on the mutual commitment and motivation of employers and workers.' An 'inter-generational approach means building on the strengths and the objective situation of all generations, improving mutual understanding and supporting cooperation and solidarity between generations at the workplace.'

([380]) European social partners' autonomous framework agreement on active ageing and inter-generational approach.

([381]) Eurofound, ad hoc request on the role of social partners in tackling workplace discrimination.

ŠKODA, a vehicle manufacturer in the Czechia, ensures that every worker, who has been with the company for more than 30 years, can stay within the company. To this end, the company guarantees either that their workplace will be adapted to meet their needs or (wherever possible) they will be moved to another job inside the company. If an employee is no longer able to perform their job due to health restrictions, the employee will be moved to another job inside the company. Furthermore, 'protected workplaces' have been created, which offer an adjusted working environment to meet the special needs of older workers. These measures are designed to allow employees to extend their working lives up to retirement. ([382])

Social partners in the EU have developed different measures to fight age discrimination. Their role and involvement differs considerably across countries. Trade unions often oppose an automatic increase in the statutory retirement age and they stress importance of individual, sectoral and occupational factors, particularly for professions which make heavy physical and psychological demands. Employers are more concerned with measures, which remove barriers to the participation of older workers in the labour market. Most initiatives are taken by national governments following consultation with the social partners. ([383])

Countries with well-established tripartite structures at national level are more likely to have developed joint national strategies to deal with demographic change. In these countries sectoral bargaining at national level is crucial these countries, where only limited strategies exist in relation to active ageing. Germany, for example, is one of the countries, where sectoral collective agreements respond to demographic changes. The employers' association of the German steel industry (Arbeitgeberverband Stahl) and German Metalworkers' Union (Industriegewerkschaft Metall, IG Metall) adopted a collective agreement on 'demographic change' in 2006. This agreement deals with a number of issues, such as occupational health and safety, training, changing workloads due to job rotation, establishment of mixed-age teams, adjustment of working time schedules, and the use of long-term working time accounts for earlier retirement. Another German collective agreement on working life and demography (Tarifvertrag Lebensarbeitszeit und Demografie, 2008) was concluded between the Mining, Chemicals and Energy Industrial Union

An integral component of the social partners' response to population ageing is promoting the health and safety of older workers and improving their working conditions. In France, a law came into force in 2012, based on a national collective agreement, introducing compulsory company bargaining on health and safety for companies with at least 50 employees and where most of workers are exposed to difficult working conditions, such as hard physical work or atypical working hours. This law aims at creating work environment for longer careers, in the context of debate about pension reforms. The social partners are also active in preparing related non-binding measures. The bipartite Foundation of Labour in the Netherlands or the tripartite Centre for Senior Policy in Norway created guidance to improve working environment of older workers. ([384])

Constructive and informed social dialogue has a key role to play in improving recruitment practices. Its importance lies in ensuring that within organisations employers as well as workers can represent workers'' interests. Only through social dialogue and cooperation between both parties in workplaces recruitment issues such as age discrimination can these issues be highlighted and resolved. ([385]) Discrimination against older candidates in the hiring process can arise from a perceived or actual gap between the cost of employing older workers and their productivity. It would be helpful if negotiations between the social partners on pay and working conditions placed more emphasis on actual skills and productivity then age or length of service. For instance, in Hungary, even though the principle of seniority continues to exist in the public sector, newly established career schemes emphasise personal competencies and efficiency rather than age, time served or wage progression. ([386]) An agreement between IG BCE and the German Federation of Chemicals Employers' Associations (BAVC) includes measures, such as long-term working time accounts, partial retirement or pension schemes, pension plans based on the corresponding collective agreements or additional disability insurance for example. Most of the measures are intended to extend the working lives of older employees. ([387])

([382]) BusinessEurope, UEAPME, CEEP, 2012, *Employers' practices for Active Ageing'* - final synthesis paper of the European Employers' organisations project on age management policies in enterprises in Europe, p.ii, 12

([383]) Eurofound (2013), p. 42.

([384]) Eurofound (2013), p. 29, 31.

([385]) Arenas et al. (2017)., p. 98.

([386]) OECD(2019b), p. 55.

([387]) Eurofound (2013).

4. Social Dialogue and Managing Crises

The involvement of Social Partners in managing crisis has had positive socio-economic outcomes. This was the case during the economic crisis in 2008 and the resulting recession especially in those countries where social partners are strong at the sectoral level. The cooperation between social partners and the government was most fruitful in those countries, with a strong social dialogue tradition and well-established consultation practices. The extent and quality of social partners involvement in public policy has differed across Member States. Their involvement depends on the existing social dialogue structures in the Member States. In countries with a well-established social dialogue, i.e. with established practices and a legal framework promoting social dialogue, social partners are frequently involved in policy-making. In other Member States, social dialogue structures exist, but social partners are not entirely satisfied with their involvement in initiatives they consider relevant to them. ([388]) A strong social dialogue improves the cooperation between the state, the employers and the employees. The intervention of social partners ensures that the impact of economic shocks is cushioned. ([389]) In many Member States, social dialogue has also proven to be a useful tool in managing the COVID-19 pandemic.

Social partners at various levels took action to mitigate the negative consequences of COVID-19. During the initial phase of the epidemic, governments locked down large parts of the economy. Many workers were prevented from working, and demand for certain goods and services collapsed. Social partners at both, EU and the national level launched reflections and took actions on how to reduce the negative economic impact of the pandemic and to identify ways towards a recovery. The involvement of the social partners goes from developing best practices to ensure health and safety at work to advising national authorities in the designing of macroeconomic stabilisation measures, such as short-time work benefits and other state aids. Figure 4.2 shows that out of a total of 413 legislative policy responses contained in Eurofound's COVID-19 EU Policy Watch database which covers the period up to May 2020, social partners have been consulted in 30% of the cases. ([390]) In about 15% of the cases the social partners have been informed about the initiatives and in about 5% of the cases, they actively negotiated and agreed on specific measures with the public authorities. In more than half of the cases where new or amended legislation was drafted, the social partners were neither involved nor consulted. Social partners have been more frequently involved in countries with traditionally high levels of social partner involvement and in political areas where their inputs tends to be greater, such as employment protection and the evolution of short-time working schemes. ([391])

Figure 4.1
Types of social partner Involvement in COVID-19 policy responses.

Source: Eurofound EU Policy Watch database, N = 413 legislations and other statutory regulations Data

Click here to download figure.

EU social partners called for policies to stabilize the economy. The EU cross industry social partners highlighted the need for fiscal policy intervention at the EU level, including a flexible application of the stability and growth pact. ([392])

([388]) Eurofound (2020a).
([389]) Eurofound (2012).
([390]) The chart is based on Eurofound's COVID-19 EU Policy Watch database.
([391]) Eurofound (2020b).
([392]) The Stability and Growth Pact limits the amount of existing and new public debt. However, the pandemic imposes the need for public interventions, burdening the public budgets and increasing then need for new debt.

They urged Member States to introduce measures, such as short-time work schemes, to support businesses. The social partners from the financial sector signalled that they have a shared responsibility to support the economy, together with the governments and regulators. To remain operational, the work of the banks has had to be restructured, European social partners from the financial service industry campaigned for appropriate safety measures at the work place, and that for everyone in the financial industry to follow the recommendation by national public authorities. ([393]) The EU social partners from the transport sector called the EU institutions to safeguard essential transportation channels across the EU, by ensuring smooth border crossings for freight for example.

In some Member States, social partners and governments reached tripartite agreements on measures to protect jobs and safeguard incomes. In Denmark, for example, a tripartite agreement ensured that the employees are paid during times of low demand related to the COVID-19 pandemic. Companies, which would have to dismiss more than 30% of their employees, or more than 50 employees can, apply for wage compensation. From 75% to 90% of the value of the wages are reimbursed, up to a threshold of the wages, which depends on the situation of the worker. ([394]) On March 20, the Finnish government adopted a package of measures, negotiated by the social partners, to safeguard incomes of people and liquidity of businesses. The Finnish Prime Minister's Office appointed a working group, in which the social partners participated in order to develop an exit strategy from the COVID-19 crisis and to deal with its economic impacts.

Social partners were consulted on labour market measures in several Member States. In Belgium the 'Conseil national du travail' representing workers and employers, advised the Minister for employment, economy and consumers on temporary measures to ensure that all workers at risk of becoming unemployed received sufficiently high unemployment benefits. The Maltese government took note of social partners' criticisms of its proposed measures for economic recovery, avoiding redundancies and helping companies to cover their wage bills, and presented a revised, more ambitious social pact for Malta including additional support for salaries and for the industries hardest hit. On 11 May, the Spanish Government, the main trade unions (UGT and CCOO) and the main employers' associations (CCOO and CEPYME) signed a tripartite agreement to extend the short-time work agreements (ERTEs) by force majeure from the state of emergency and extend the former at least until 30 June. The agreement also envisages the creation of a follow-up tripartite commission to analyse the situation in each economic sector and decide possible sectoral extensions beyond this date. On 17 March, the Romanian government initiated consultations with representatives of trade unions and employers' with the National Tripartite Social Dialogue Council on the economic and social measures necessary to reduce the effects of the COVID-19 outbreak and consultations continued, resulting in a package of measures to support jobs, increase social protection and ensure access to liquidities for companies. ([395]) In Luxembourg on March 18, trade unions and employer organisation on the 'Comité de Conjoncture' decided on short-time work measures to accommodate the drop in economic activity.

Social partners actively supported governments in evaluating and implementing policies. In Austria, the government and the social partners (WKÖ, ÖGB, AK and IV) negotiated a new short-time work scheme to adapt to the economic situation triggered by the pandemic. The social partners help to monitor applications for short-time work. Employers and work councils (or in the absence of these, individual workers) have to sign the social partners agreements, specifying the specific arrangements on the short-time work, including on working times and payment of social security contributions. ([396]) The Belgian Federal Government put in place an 'Economic Risk Management Group, composed of representatives from the Central Bank and leading organisations representing employers and employees. This group is tasked with monitoring the impact of the COVID-19 pandemic on businesses, to makes sure that essential businesses and infrastructures can continue to operate and to propose and coordinated further measures to combat the economic impacts. ([397])

Social partners provide information to public authorities, workers and companies on workers' well-being and raise awareness of potential dangers at the workplace. The Dutch trade union FNV provided information about health and safety at work, and about the measure taken by the government on working times and part time work arrangements. ([398]) In France, the CFDT union calls for the negotiation of sector or company protocols in preparation for the partial lifting of the lockdown on 11 May. In the public sector, unions

([393]) http://www.uni-europa.org/2020/03/30/covid-19-uni-europa-finance-signs-joint-statement-with-our-european-social-partners-in-the-banking-and-insurance-sectors/. (last accessed: 07.04.20)

([394]) https://fho.dk/blog/2020/03/25/fact-sheet-tripartite-agreement-aims-to-help-employees/ (last accessed: 07.04.20).

([395]) https://gov.ro/ro/stiri/premierul-orban-in-edinta-de-maine-vom-adopta-un-prim-set-de-masuri-pentru-reducerea-efectelor-covid-19 (last access: 14.05.20).

([396]) https://www.wko.at/service/aenderungen-corona-kurzarbeit-ab-1-6-2020.html (last access: 16.09.20)

([397]) https://www.nbb.be/en/combating-economic-consequences-work-economic-risk-management-group#who-are-members-of-the-economic-risk-management-group

([398]) https://www.fnv.nl/corona (last access: 20.04.20).

are not only seeking organisational health and safety protocols, but also want more social dialogue. In France, the social partners and the Minister for Labour and the minister for the economy and finance, had a meeting in the first half of March to discuss part-time work and initiative to support working parents caring for their children during the school shut down. ([399]) In Belgium, the 'Group of Ten', which regroups the 10 major trade unions in Belgium, has developed a guide for companies, proposing measures to halt the contagion of the COVID-19 infection while reopening economic activities after lockdown.([400])

4.1. Sectoral social partner's reactions to the crisis

The EU sectoral social partners have called for measures to ensure the health and safety of workers. During the earlier stages of the pandemic in March and April 2020, EU social partners were particularly concerned about the health and safety of workers in sectors which were not closed down, and which required workers' physical presence. The social partners from the food and drink industry, for example, called for support of the workers, to recognize their essential roles and provide for their health and safety. The EU social partners from that industry, FoodDrinkEurope and EFFAT, published joint guidelines for the protection of food workers. These guidelines cover the introduction of new hygiene practices, the review of work procedures to ensure the health and safety of workers in light of the threats posed by the epidemic. The employers of the industrial cleaning industry asked the public authorities for the recognition of their industry as an essential sector, in particular the part of the sector providing disinfection and sanitizing services. ([401])

The national social partners from different sectors informed the workers about health and safety at work and public initiatives. The Portuguese Commerce and Service Federation, CCP, has published a best practice guide on dealing with COVID-19 in the sectors. ([402]) The Confederation of Portuguese Farmers, CAP, advises workers on how to reduce the spread of the disease and on adapting the European Common Agricultural policies to accommodate the circumstances of the pandemic. The Confederation of Portuguese Businesses (CIP) provided information for businesses on official recommendations and legislation related to the COVID-19 pandemic. With schools closed and switching to distance teaching and learning, Romanian trade union are offering psychological support and free counselling to teachers, students and parents. ([403]) In Luxembourg, trade unions demanded protective equipment for workers in essential sectors and exemptions from working for those at high risk of severe health damage from COVID-19. ([404])

Social partners have provided information and support for workers whose work takes them across EU borders, from both, within and outside the EU. ([405]) Due to the closing of borders, migrant workers in agriculture during harvesting periods, had difficulties reaching their destination countries and problems with their permits to stay. Romanian trade union organisations provided consultancy and information services to seasonal migrant workers in difficulty. ([406]) In Italy trade unions supported a decree adopted in May 2020, to regularise undocumented migrant workers employed in, among others, the agriculture sector. ([407]) The DGB, a German trade union association, published information on migrant workers' rights in different languages and set up a multi-lingual hotline. ([408]) The French trade union, CGT, advocated for greater rights for migrant workers in France without a regular visa and demanded access to health services for migrant workers in need. ([409]) The French CFDT demanded compensation for people infected by the coronavirus while working or during their commute to work. They asked for a Fund to be created to provide cover for potential pathological longer-term health issues. The European social partners from the agricultural sector published a common

([399]) https://travail-emploi.gouv.fr/actualites/presse/communiques-de-presse/article/declaration-presse-reunion-avec-les-partenaires-sociaux-sur-le-coronavirus (last access: 10.04.20).

([400]) https://emploi.belgique.be/fr/actualites/guide-generique-pour-lutter-contre-la-propagation-du-covid-19-au-travail (last access: 20.04.20)

([401]) https://www.efci.eu/wp-content/uploads/2020/03/2020_03_17-EFCI-Statement-Coronavirus-Safety-and-Free-Movement.pdf (last access: 22.04.20)

([402]) https://www.dropbox.com/s/xf9m3e3dq62mccp/Guia%20de%20Boas%20Pr%C3%A1ticas%20Com%C3%A9rcio%20e%20Servi%C3%A7os.docx?dl=0%3E%3Cb%3E%3Cspan%20style= (last access: 12.05.20)

([403]) https://www.csee-etuce.org/en/policy-issues/covid-19/294-latest-updates/3654-romania-s-fsli-offers-psychological-support-to-teachers (last access: 14.04.20)

([404]) http://www.ogbl.lu/de/blog/pour-proteger-les-salariees-il-faut-agir-maintenant/

([405]) See in particular support organised by ETUC under the framework Union Migrant Net since 2015 https://www.etuc.org/en/publication/unionmigrantnet-brochure.

([406]) https://bns.ro/info-bns/550-comunicat-de-presa-bns-lucratorii-romani-aflati-la-munca-pe-teritoriul-germaniei-pot-solicita-sprijin-in-caz-de-dificultate-folosind-reteaua-de-cooperare-sindicala-romano-germana (last access: 14.05.20) See also statement from ETUC about overlooked migrants workers during COVID 19 crisis: https://www.etuc.org/en/document/overlooked-migrant-workers-covid-19-crisis

([407]) https://effat.org/in-the-spotlight/italys-amnesty-for-undocumented-migrants-an-important-step-forward-achieved-thanks-to-effat-affiliates-tireless-fight/

([408]) https://www.faire-mobilitaet.de/informationen/++co++5d213068-69a7-11ea-93e9-52540088cada (last access: 14.05.20).

([409]) https://www.cgt.fr/comm-de-presse/coronavirus-travailleurs-et-travailleuses-migrants-en-premiere-ligne (last accessed: 27.04.20).

position paper in which they advocate for minimum standards of protection for seasonal workers. ([410])

The social partners also helped to implement teleworking measures to avoid the risks of infection during the Covid-19 pandemic. Over a third (37%) of those working in the EU began to telework as a result of the pandemic. ([411]) Social partner helped to ease the adoption of these measures. In Austria, the chamber of labour of the region of Styria (AK Steiermark) with the government of the region of Styria launched a promotion campaign to promote teleworking. This initiative supports investments in information and communication technology for small and medium enterprises. The costs covered investments into software as well as down payments for the rent or lease of the equipment up to €50.000 per company or €5.000 per worker. ([412]) The Maltese social partners were consulted on a government financial support package to help employer to invest in technology teleworking requires.

For teleworking to be sustainable, the challenges of telework must be addressed. While pandemic-related restrictions were in place, it was commonly thought that telework would soon become the 'new normal' for most workers. However, for it to be sustainable, various challenges must be addressed – such as what to do about overtime, when ICT enables work to be done 'anytime, anywhere'? Social partners are aware of such issues and dealt with them in common guidelines and agreements. The European social partners from the telecom sector, UNI Europa, ICTS (EU trade unions of the ICT sector) and ETNO (the European employer organisation of incumbent telecom operators) investigated the impact of digitalisation and related new challenges for the health and safety of workers in the sectors. They published guidelines to improve the mental health of workers in the sector. These guidelines provide for advice in the event of stress caused by being expected to be available for work at any time. The social partners from the banking sector signed a joint declaration on telework in November 2017, agreeing on some minimum standards and best practices to ensure a healthy work environment for the employee.

A strong social dialogue helps in times of crisis. ([413]) National and European social partners took various actions in areas such as health and safety at work and developing and implementing short-term work schemes. At the national level, social partners were particularly involved in measures related to employment retention, employment protection and supporting workers' income beyond short-time work schemes. ([414]) The social partners were particularly involved in developing the first emergency measures in high-income countries with well-developed social dialogue structures. In previous economic downturns, social dialogue has been an effective tool for managing crises and shows to continue to be an effective tool for policy-makers, employers and workers to overcome difficult economic times.

The effectiveness of social partners in managing the crisis, and more generally in improving policies, depends on how they get involved. Some Member States, such as Belgium and France, have well-functioning social dialogue structures in place, which ensure an effective involvement of social partners. While there is no single model that serves as a reference, in some Member States there is clearly room for social dialogue to function better and for social partners to be more involved in policy design and implementation. In Member States, such as Bulgaria and Spain, social dialogue structures exist, but social partners expressed dissatisfaction about their involvement in policy making in 2019. ([415]) Hungary and Poland, in particular, received Country Specific Recommendations, urging both countries to improve consultations and involvement of social partners. ([416]) Only when a transparent involvement and sufficient time to react to consultations are given, social partners can support governments and make a meaningful contribution to policies.

([410]) https://effat.org/in-the-spotlight/european-social-partners-in-agriculture-sign-joint-declaration-on-the-protection-of-seasonal-workers/ (last accessed: 02.06.20)

([411]) Eurofound (2020b).

([412]) Eurofound (2020), SME subsidy for teleworking - region of Styrian and Chamber of Labour, case AT-2020-10/790 (measures in Austria), COVID-19 EU PolicyWatch, Dublin, http://eurofound.link/covid19eupolicywatch (last access: 22.05.20)

([413]) OECD (2012) finds that coordinated collective bargaining arrangements contributed to resilience during the great recession

([414]) http://eurofound.link/covid19db (last access: 16.06.20) and Eurofound (2020b).

([415]) Eurofound (2020a).

([416]) See Recommendation for a Council Recommendation on the 2020 National Reform Programme of Hungary and delivering a Council opinion on the 2020 Convergence Programme of Hungary and Recommendation for a Council Recommendation on the 2020 National Reform Programme of Hungary and delivering a Council opinion on the 2020 Convergence Programme of Poland.

5. CONCLUSION

Collective bargaining can contribute to a fair and inclusive wages. In countries with high collective bargaining coverage, collective agreements contribute to lower wage inequality. At the same time, collective bargaining promotes a fair wage growth, in line with the growth of the productivity of workers. It can improve wages of workers and reduce wage differentiation due to gender.

Achieving fair outcomes depends on the institutional structure of collective bargaining systems. Wage bargaining, which is coordinated within and between sectors reduces unfair wage dispersion. Wage bargaining at the company-level leads to more accurate compensation of the efforts of workers. To enable collective bargaining systems to achieve a fair wage growth, while moderating wage inequality to socially desirable levels, collective bargaining needs to exploit coordination of bargaining, while conceding some freedom to take company-level characteristics into account. Agreements should cover a large number of workers and companies.

Social partners need to ensure that the social dialogue remains inclusive. Overall, trust in trade unions remains high among Europeans. The potential of social partners to contribute to fair outcomes depends on the number of workers and companies represented by the social partners. To remain representative in future, trade unions need to attract also younger workers, which are currently underrepresented within the unions. In some Member States, social dialogue has adapted to the changing world of work, including new technologies and new labour market realities. Flexibility to adapt to new realities will remain an important requirement also in the future.

Social dialogue limits discrimination and harassment and improves fairness at the workplace. Social dialogue and collective bargaining provide a forum for workers and employers to exchange views. It gives workers a voice to express their concerns about their working conditions. Having a voice and a structure allows workers to be heard if they are treated unfairly and contributes to protection of workers in distress. This can reduce harassment at work in particular. To be effective in the fight against harassment, employers and trade unions need to gain and keep the trust of the workers by treating each individual case of harassment with care. To support workers who have been harassed, social partners need to provide a trusted contact point having the right structures in place and providing information to workers. Social partners' initiatives contribute to a better work-life balance for men and women and promotes fair opportunities at the workplace for all. By their initiatives, social partners support older workers and promote their inclusion into the labour market. Social dialogue promotes a fair work environment for both, men and women and increase fairness of opportunity.

Social dialogue is a valuable tool for managing crises fairly. During the Covid-19 crisis, the social partners have contributed their expertise to the development of initiatives to tackle the economic and social consequences of the pandemic. In many Member States, they are advising governments and highlighting, where public support is most urgently needed. In some Member States, the social partners have been actively involved in implementing the measures put in place to safeguard employment. They developed guidelines to ensure the health and safety of workers and helped to protect them from the virus. Trade unions in different Member States have advocated the provision of protective equipment for workers. Social partners have also provided information to workers about the current measures put in place by government. Trade unions at the national as well as EU level have supported migrant workers and spoken out for their protection.

Social partners can have a meaningful impact in times of crisis only if public authorities allow them to be involved. Strong social dialogue structures are pre-condition for a meaningful involvement of social partners in crisis management. The economic recession of 2008 demonstrated that social partners can be an important source of support in times of crisis. Member States where a strong social dialogue prevails have shown to overcome economic shocks more easily, compared to Member States with a weaker social dialogue. During the Covid-19 pandemic, the involvement of the social partners has been most meaningful in Member States with well-established social dialogue structures. Having in place tripartite social dialogue committees, and a framework for social partner consultations enabled social partners to make a meaningful contribution. To exploit the benefits of social dialogue – and enable it to help cushion economic shocks, frameworks still need to be established in some Member States, while in others they need to be reinforced and maintained.

References

Akguc, M., Beblavy, M., and Cirule, E. (2018). *Industrial Relations and Social Dialogue in the Age of Collaborative Economy (IRSDACE): comparative report.*

Arenas A., Di Marco D., Munduate L. and Euwema M.C. (2017), *Shaping Inclusive Workplaces through Social Dialogue*, Springer

Blanchard, O. and Philippon, T. (2004), *The quality of labor relations and unemployment* (No. w10590), National Bureau of Economic Research.

Berlingieri, G., P. Blanchenay and C. Criscuolo (2017), *The great divergence(s)*, OECD Science, Technology and Industry Policy Papers, No. 39, OECD Publishing, Paris.

Bibow, J. (2017), *How Germany's Anti-Keynesianism Has Brought Europe to Its Knees,* Working Paper No. 886, Levy Economic Institute, Bard College, Annandale-on-Hudson.

Blau, F. D., and Kahn, L. M. (2003), *Understanding international differences in the gender pay gap*, Journal of Labor economics, 21(1), 106-144.

Calmfors, L. and Driffill, J. (1988), *Bargaining structure, corporatism and macroeconomic performance*, Economic policy, 3(6), 13-61.

Clark, A., Flèche, S., Layard, R., Powdthavee, N. and Ward, G. (2017), 'The key determinants of happiness and misery' in J. Helliwell, R. Layard, and J. Sachs (Eds.), *World Happiness Report*, New York: Columbia Earth Institute.

Clark, A., D'Ambrosio, C. (forthcoming), 'Economic Inequality and Subjective Well-being across the World', (with Conchita D'Ambrosio), in C. Gradín, M. Leibbrandt and F. Tarp (Eds.), *Inequality in the Developing World*, New York, Oxford University Press.

Darvas, Z., and Wolff, G. B. (2016), *An anatomy of inclusive growth in Europe*, Bruegel Blueprint Series 26, October 2016.

Delahaie, N., S. Vandekerckhove and C. Vincent (2015), 'Wages and collective bargaining systems in Europe during the crisis', in Van Gyes, G. and T. Schulten (eds.), *Wage bargaining under the new European Economic Governance*, ETUI, Brussels.

Devicienti, F., Fanfani, B., and Maida, A. (2019), *Collective bargaining and the evolution of wage inequality in Italy*, British Journal of Industrial Relations, 57(2), 377-407.

Domínguez, J. F. C., & Rodríguez Gutiérrez, C. (2016), *Collective bargaining, wage dispersion and the economic cycle: Spanish evidence*, The Economic and Labour Relations Review, 27(4), 471-489.

Durazzi, N., Fleckenstein, T., and Lee, S. C. (2018), *Social solidarity for all? Trade union strategies, labor market dualization, and the welfare state in Italy and South Korea*, Politics & Society, 46(2), 205-233.

Elvira, M. M. and Saporta, I. (2001), *How does collective bargaining affect the gender pay gap?* Work and Occupations, 28(4), 469-490.

ETUC (2017), *Safe at home, safe at work-Trade union strategies to prevent, manage and eliminate work-place harassments and violence against women*. More details?

ETUC (2019), *REBALANCE, trade unions' strategies and good practices to promote work-life balance*. More details?

European Commission (2016), S*tudy on the implementation of the autonomous framework agreement on harassment and violence at work*, Publications Office of the European Union, Luxembourg.

European Commission (2017), *Employment and Social Developments in Europe Report*, Publications Office of the European Union, Luxembourg.

European Commission (2018), *Employment and Social Developments in Europe*, Publications Office of the European Union, Luxembourg.

European Commission (2019), *Labour Marker and Wage Developments in Europe*, Publications Office of the European Union, Luxembourg.

Eurofound (2012), *Social dialogue in times of global economic crisis*, Publications Office of the European Union, Luxembourg.

Eurofound (2013), *Role of governments and social partners in keeping older workers in the labour market*, Publications Office of the European Union, Luxembourg.

Eurofound (2014), *Changes to wage-setting mechanisms in the context of the crisis and the EU's new economic governance regime*, Publications Office of the European Union, Luxembourg.

Eurofound (2015a), *Collective bargaining in Europe in the 21st century*, Publications Office of the European Union, Luxembourg.

Eurofound (2015b), *Pay in Europe in different wage-bargaining regimes*, Publications Office of the European Union, Luxembourg.

Eurofound (2016), *The gender employment gap: Challenges and solutions*, Publications Office of the European Union, Luxembourg.

Eurofound (2018), *Developments in collectively agreed pay 2000–2017*, Publications Office of the European Union, Luxembourg.

Eurofound (2019), *Parental and paternity leave – Uptake by fathers*, Publications Office of the European Union, Luxembourg.

Eurofound (2020a), *The involvement of national social partners in policymaking – 2019*, Publications Office of the European Union, Luxembourg.

Eurofound (2020b), *COVID-19: Policy responses across Europe*, Publications Office of the European Union, Luxembourg.

Eurofound (2020c), *Out-of-school care: Provision and public policy*, Publications Office of the European Union, Luxembourg.

Eurofound (2020d), (Forthcoming) *Capacity building for effective social dialogue in the European Union*, Publications Office of the European Union, Luxembourg.

Eurofound and Cedefop (2020, forthcoming), *European Company Survey 2019: Overview Report*, Publications Office of the European Union, Luxembourg.

Eurofound (2020), *Ad-hoc request on the role of social partners in tackling workplace discrimination*, Publications Office of the European Union, Luxembourg.

European Transport Workers' Federation (2017), *Violence against women at work in transport. Summary Report of Findings from a Survey by ETF*. https://www.etf-europe.org/

Fehr, E., Kirchler, E., Weichbold, A., & Gächter, S. (1998), *When social norms overpower competition: Gift exchange in experimental labor markets*, Journal of Labor economics, 16(2), 324-351.

Fleckenstein, Timo, and SoohYun Christine Lee (2017), *The politics of labor market reform in coordinated welfare capitalism: comparing Sweden, Germany, and South Korea*, World Politics 69.1: 144-183.

Gorodzeisky, A.. and Richards, A. (2013), *Trade unions and migrant workers in Western Europe*, European Journal of Industrial Relations, 19(3), 239-254.

Haiter, S.and Weinberg, B. (2011), 'Mind the gap: collective bargaining and wage inequality', in ILO 2019, *Closing the Gender Pay Gap: What Role for Trade Unions?*

Ibsen, C. and Keune, M. (2018), *Organised Decentralisation of Collective Bargaining: Case studies of Germany, Netherlands and Denmark*, OECD Social, Employment and Migration Working Papers, OECD Publishing, Paris.

International Monetary Fund (2018), *Kingdom of the Netherlands: Netherlands Selected Issues*, IMF Country Report, No. 18/131

Lübker, M. and Schulten, T. (2018), *WSI Minimum Wage Report 2018; Price Inflation Suppresses real minimum wage growth*, WSI institute of Economic and Social research, no. 39a.

Meyer, B. (2019), *Financialization, technological change, and trade union decline*, Socio-Economic Review 17.3. 477-502.

OECD (2017), *OECD Employment Outlook 2017*, OECD Publishing, Paris.

OECD (2018), *OECD Employment Outlook 2018*, OECD Publishing, Paris.

OECD (2019a), *Negotiating our way up: collective bargaining in a changing world of work*, OECD Publishing, Paris.

OECD (2019b), *Working Better with Age*, OECD Publishing, Paris.

Pfeifer, C. (2007), *The perceived fairness of layoffs in Germany: Participation, compensation, or avoidance?* Journal of business ethics, 74(1), 25-36.

Rubery, J. & Johnson, M. (2019), *Closing the Gender Pay Gap: What Role for Trade Unions?* ILO ACTRAV Working Paper.

Schulten, T. and Bispinck, R. (2017), *Varieties of decentralisation in German collective bargaining: Experiences from metal industry and retail trade*, CSDLE Massimo D'Antona Working Paper, No. 137/2017.

Traxler, F. (1995), 'Farewell to labour market associations? Organized versus disorganized decentralization as a map for industrial relations', in Crouch, C. and F. Traxler (eds.), *Organized industrial relations in Europe: What future*? Aldershot, Avebury

Tyler, T. R. (1997), *Procedural fairness and compliance with the law*, Revue Suisse D Economie Politique et de Statistique, 133, 219-240.

Vandaele, K. (2019), *Bleak Prospects: Mapping Trade Union Membership in Europe Since 2000*. More details?

Visser, J. (2016), *What happened to collective bargaining during the great recession?* IZA Journal of Labor Policy, 2016, vol. 5, no 1, p. 9.

Statistical annex

1. SELECTED INDICATORS

Real GDP (yearly growth)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020		0.6	-4.3	2.2	1.8	-0.7	0.0	1.6	2.3	2.0	2.8	2.1	1.5
Euro Area 19		0.4	-4.5	2.1	1.7	-0.9	-0.2	1.4	2.0	1.9	2.6	1.8	1.3
Belgium		0.4	-2.0	2.9	1.7	0.7	0.5	1.6	2.0	1.5	1.9	1.5	1.4
Bulgaria		6.1	-3.4	0.6	2.4	0.4	0.3	1.9	4.0	3.8	3.5	3.1	3.4 p
Czech Republic		2.7	-4.7	2.4	1.8	-0.8	0.0	2.3	5.4	2.5	5.2	3.2	2.3
Denmark		-0.5	-4.9	1.9	1.3	0.2	0.9	1.6	2.3	3.2	2.0	2.4	2.3
Germany		1.0	-5.7	4.2	3.9	0.4	0.4	2.2	1.5	2.2	2.6	1.5	0.6
Estonia		-5.1	-14.4	2.7	7.4	3.1	1.3	3.0	1.8	3.2	5.5	4.4	5.0
Ireland		-4.4	-5.1	1.8	0.6	0.1	1.2	8.6	25.2	2.0	9.1	8.5	5.6
Greece		-0.3	-4.3	-5.5	-9.1 p	-7.3 p	-3.2 p	0.7 p	-0.4 p	-0.2 p	1.5 p	1.9 p	1.9 p
Spain		0.9	-3.8	0.2	-0.8	-3.0	-1.4	1.4	3.8	3.0	2.9 p	2.4 p	2.0 p
France		0.3	-2.9	1.9	2.2	0.3	0.6	1.0	1.1	1.1	2.3	1.8 p	1.5 p
Croatia		1.8	-7.4	-1.5	-0.3	-2.2	-0.5	-0.1	2.4	3.5	3.1	2.7 p	2.9 p
Italy		-1.0	-5.3	1.7	0.7	-3.0	-1.8	0.0	0.8	1.3	1.7	0.8	0.3
Cyprus		3.6	-2.0	2.0	0.4	-3.4	-6.6	-1.9	3.4	6.7	4.4	4.1 p	3.2 p
Latvia		-3.3	-14.2	-4.5	6.3	4.1	2.3	1.9	3.3	1.8	3.8	4.3	2.2
Lithuania		2.6	-14.8	1.5 b	6.0	3.8	3.6	3.5	2.0	2.6	4.2	3.6	3.9
Luxembourg		-1.3	-4.4	4.9	2.5	-0.4	3.7	4.3	4.3	4.6	1.8	3.1	2.3
Hungary		1.1	-6.7	0.7	1.8	-1.5	2.0	4.2	3.8	2.2	4.3	5.1	4.9 p
Malta		3.8	-1.1	5.5	0.5	4.1	5.5	7.6	9.6	3.9	8.0	5.2	4.9
Netherlands		2.2	-3.7	1.3	1.6	-1.0	-0.1	1.4	2.0	2.2	2.9	2.4	1.7 p
Austria		1.5	-3.8	1.8	2.9	0.7	0.0	0.7	1.0	2.1	2.5	2.4	1.6
Poland		4.2	2.8	3.6	5.0	1.6	1.4	3.3	3.8	3.1	4.9	5.3	4.1
Portugal		0.3	-3.1	1.7	-1.7	-4.1	-0.9	0.8	1.8	2.0	3.5	2.6 p	2.2 e
Romania		9.3	-5.5	-3.9	2.0	2.1	3.5	3.4	3.9	4.8	7.1	4.4 p	4.1 p
Slovenia		3.5	-7.5	1.3	0.9	-2.6	-1.0	2.8	2.2	3.1	4.8	4.1	2.4
Slovakia		5.6	-5.5	5.7	2.9	1.9	0.7	2.8	4.8	2.1	3.0	3.9	2.4
Finland		0.8	-8.1	3.2	2.5	-1.4	-0.9	-0.4	0.5	2.8	3.3	1.5	1.1
Sweden		-0.5	-4.3	6.0	3.2	-0.6	1.2	2.7	4.5	2.1	2.6	2.0	1.3

Source: Eurostat, National Accounts [tec00115]

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Employment rate (% population aged 20-64)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	69.0	69.5	68.2	67.8	67.9	67.6	67.5	68.2	69.1	70.1	71.3	72.4	73.1
Euro Area 19	69.8	70.1	68.7	68.3	68.4	68.0	67.7	68.2	69.0	70.0	71.0	72.0	72.7
Belgium	67.7	68.0	67.1	67.6	67.3	67.2	67.2	67.3	67.2	67.7	68.5 b	69.7	70.5
Bulgaria	68.4	70.7	68.8	64.7 b	62.9 b	63.0	63.5	65.1	67.1	67.7	71.3	72.4	75.0
Czech Republic	72.0	72.4	70.9	70.4	70.9 b	71.5	72.5	73.5	74.8	76.7	78.5	79.9	80.3
Denmark	79.0	78.7 b	76.1	74.9	74.8	74.3	74.3	74.7	75.4	76.0 b	76.6 b	77.5	78.3
Germany	72.9	74.0	74.2	75.0 b	76.5 b	76.9	77.3	77.7	78.0	78.6	79.2	79.9	80.6
Estonia	76.9	77.1	70.0	66.8	70.6	72.2	73.3	74.3	76.5	76.6	78.7	79.5	80.2
Ireland	75.1 b	73.5	68.0	65.5	64.6	64.5	66.5	68.1	69.9	71.4	73.0	74.1	75.1
Greece	65.8	66.3	65.6 b	63.8	59.6	55.0	52.9	53.3	54.9	56.2	57.8	59.5	61.2
Spain	69.7	68.5	64.0	62.8	62.0	59.6	58.6	59.9	62.0	63.9	65.5	67.0	68.0
France	69.4 e	69.9 e	69.0 e	68.9 e	68.8 e	68.9 e	69.0 e	69.2	69.5	70.0	70.6	71.3	71.6
Croatia	63.9	64.9	64.2	62.1	59.8	58.1	57.2	59.2	60.6	61.4	63.6	65.2	66.7
Italy	62.7	62.9	61.6	61.0	61.0	60.9	59.7	59.9	60.5	61.6	62.3	63.0	63.5
Cyprus	76.8	76.5	75.3 b	75.0	73.4	70.2	67.2	67.6	67.9	68.7	70.8	73.9	75.7
Latvia	75.2	75.4	66.6	64.3	66.3	68.1	69.7	70.7	72.5	73.2	74.8	76.8	77.4
Lithuania	72.7	72.0	67.0	64.3	66.9	68.5	69.9	71.8	73.3	75.2	76.0	77.8	78.2
Luxembourg	69.6 b	68.8	70.4 b	70.7	70.1	71.4	71.1	72.1	70.9 b	70.7	71.5	72.1	72.8
Hungary	62.3	61.5	60.1	59.9	60.4	61.6	63.0	66.7	68.9	71.5	73.3	74.4	75.3
Malta	58.6	59.2	59.0	60.1	61.6	63.9	66.2	67.9	69.0	71.1	73.0	75.5	77.2
Netherlands	75.5	76.9	76.8	76.2	76.4	76.6	75.9	75.4	76.4	77.1	78.0	79.2	80.1
Austria	72.8 b	73.8	73.4	73.9	74.2	74.4	74.6	74.2	74.3	74.8	75.4	76.2	76.8
Poland	62.7	65.0	64.9	64.3 b	64.5	64.7	64.9	66.5	67.8	69.3	70.9	72.2	73.0
Portugal	72.5	73.1	71.1	70.3	68.8 b	66.3	65.4	67.6	69.1	70.6	73.4	75.4	76.1
Romania	64.4	64.4	63.5	64.8 b	63.8	64.8	64.7	65.7	66.0	66.3	68.8	69.9	70.9
Slovenia	72.4	73.0	71.9	70.3	68.4	68.3	67.2	67.7	69.1	70.1	73.4	75.4	76.4
Slovakia	67.2	68.8	66.4	64.6	65.0 b	65.1	65.0	65.9	67.7	69.8	71.1	72.4	73.4
Finland	74.8	75.8	73.5	73.0	73.8	74.0	73.3	73.1	72.9	73.4	74.2	76.3	77.2
Sweden	80.1	80.4	78.3	78.1	79.4	79.4	79.8	80.0	80.5	81.2	81.8	82.4 b	82.1

Source: Eurostat, LFS [lfsi_emp_a]

Click here to download table.

Activity rate (% population aged 15-64)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	69.6	70.0	70.1	70.3	70.5	71.0	71.3	71.7	71.9	72.3	72.8	73.1	73.4
Euro Area 19	70.7	71.2	71.2	71.3	71.5	72.0	72.2	72.4	72.5	72.9	73.1	73.4	73.7
Belgium	67.1	67.1	66.9	67.7	66.7	66.9	67.5	67.7	67.6	67.6	68.0 b	68.6	69.0
Bulgaria	66.3	67.8	67.2	66.7 b	65.9 b	67.1	68.4	69.0	69.3	68.7	71.3	71.5	73.2
Czech Republic	69.9	69.7	70.1	70.2	70.5 b	71.6	72.9	73.5	74.0	75.0	75.9	76.6	76.7
Denmark	80.1	79.3 b	78.7	78.0	77.8	77.2	76.6	76.6	76.9	77.5 b	77.9 b	78.2	79.1
Germany	75.6	75.9	76.3	76.7 b	77.3 b	77.2	77.6	77.7	77.6	77.9	78.2	78.6	79.2
Estonia	73.2	74.2	74.0	73.9	74.7	74.8	75.1	75.2	76.7	77.5	78.8	79.1	78.9
Ireland	75.6 b	74.8	73.0	71.6	71.2	71.1	71.8	71.8	72.1	72.7	72.7	72.9	73.3
Greece	66.5	66.7	67.4 b	67.8	67.3	67.5	67.5	67.4	67.8	68.2	68.3	68.2	68.4
Spain	71.8	72.7	73.1	73.5	73.9	74.3	74.3	74.2	74.3	74.2	73.9	73.7	73.8
France	69.4 e	69.5 e	69.9 e	70.0 e	69.9 e	70.4 e	70.9 e	71.0	71.3	71.4	71.5	71.9	71.7
Croatia	65.7	65.8	65.6	65.1	64.1	63.9	63.7	66.1	66.9	65.6	66.4	66.3	66.5
Italy	62.4	62.9	62.3	62.0	62.1	63.5	63.4	63.9	64.0	64.9	65.4	65.6	65.7
Cyprus	73.9	73.6	73.0 b	73.6	73.5	73.5	73.6	74.3	73.9	73.4	73.9	75.0	76.0
Latvia	72.6	74.2	73.5	73.0	72.8	74.4	74.0	74.6	75.7	76.3	77.0	77.7	77.3
Lithuania	67.9	68.4	69.6	70.2	71.4	71.8	72.4	73.7	74.1	75.5	75.9	77.3	78.0
Luxembourg	66.9 b	66.8	68.7 b	68.2	67.9	69.4	69.9	70.8	70.9 b	70.0	70.2	71.1	72.0
Hungary	61.6	61.2	61.2	61.9	62.4	63.7	64.7	67.0	68.6	70.1	71.2	71.9	72.6
Malta	58.8	59.1	59.4	60.4	61.8	63.9	66.3	67.8	68.8	70.6	72.2	74.7	76.0
Netherlands	76.7	77.8	78.1	77.9	78.1	79.0	79.4	79.0	79.6	79.7	79.7	80.3	80.9
Austria	73.5 b	73.9	74.3	74.4	74.6	75.1	75.5	75.4	75.5	76.2	76.4	76.8	77.1
Poland	63.2	63.8	64.7	65.3 b	65.7	66.5	67.0	67.9	68.1	68.8	69.6	70.1	70.6
Portugal	73.9	73.9	73.4	73.7	73.6 b	73.4	73.0	73.2	73.4	73.7	74.7	75.1	75.5
Romania	63.0	62.9	63.1	64.9 b	64.1	64.8	64.9	65.7	66.1	65.6	67.3	67.8	68.6
Slovenia	71.3	71.8	71.8	71.5	70.3	70.4	70.5	70.9	71.8	71.6	74.2	75.0	75.2
Slovakia	68.3	68.8	68.4	68.7	68.7 b	69.4	69.9	70.3	70.9	71.9	72.1	72.4	72.7
Finland	75.6	76.0	75.0	74.5	74.9	75.2	75.2	75.4	75.8	75.9	76.7	77.9	78.3
Sweden	79.1	79.3	78.9	79.1	79.9	80.3	81.1	81.5	81.7	82.1	82.5	82.7 b	82.9

Source: Eurostat, LFS [lfsi_emp_a]

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Unemployment rate (% labour force)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	7.5	7.2	9.1	9.8	9.9	10.8	11.4	10.8	10.0	9.1	8.1	7.2	6.7
Euro Area 19	7.5	7.5	9.6	10.1	10.2	11.3	12.0	11.6	10.8	10.0	9.0	8.1	7.5
Belgium	7.5	7.0	7.9	8.3	7.2	7.6	8.4	8.5	8.5	7.8	7.1 b	6.0	5.4
Bulgaria	6.9	5.6	6.8	10.3 b	11.3 b	12.3	13.0	11.4	9.2	7.6	6.2	5.2	4.2
Czech Republic	5.3	4.4	6.7	7.3	6.7 b	7.0	7.0	6.1	5.1	4.0	2.9	2.2	2.0
Denmark	3.8	3.7 b	6.4	7.7	7.8	7.8	7.4	6.9	6.3	6.0 b	5.8 b	5.1	5.0
Germany	8.7	7.5	7.8	7.0 b	5.8 b	5.4	5.2	5.0	4.6	4.1	3.8	3.4	3.2
Estonia	4.6	5.5	13.5	16.7	12.3	10.0	8.6	7.4	6.2	6.8	5.8	5.4	4.4
Ireland	5.0 b	6.8	12.6	14.6	15.4	15.5	13.8	11.9	10.0	8.4	6.7	5.8	5.0
Greece	8.4	7.8	9.6 b	12.7	17.9	24.5	27.5	26.5	24.9	23.6	21.5	19.3	17.3
Spain	8.2	11.3	17.9	19.9	21.4	24.8	26.1	24.5	22.1	19.6	17.2	15.3	14.1
France	8.0 e	7.4 e	9.1 e	9.3 e	9.2 e	9.8 e	10.3 e	10.3	10.4	10.0	9.4	9.0	8.5
Croatia	9.9	8.6	9.2	11.7	13.7	16.0	17.3	17.3	16.2	13.1	11.2	8.5	6.6
Italy	6.1	6.7	7.8	8.4	8.4	10.7	12.2	12.7	11.9	11.7	11.2	10.6	10.0
Cyprus	3.9	3.7	5.4 b	6.3	7.9	11.9	15.9	16.1	15.0	13.0	11.1	8.4	7.1
Latvia	6.1	7.7	17.5	19.5	16.2	15.0	11.9	10.8	9.9	9.6	8.7	7.4	6.3
Lithuania	4.3	5.8	13.8	17.8	15.4	13.4	11.8	10.7	9.1	7.9	7.1	6.2	6.3
Luxembourg	4.1 b	5.1	5.1 b	4.4	4.9	5.1	5.9	5.9	6.7 b	6.3	5.5	5.6	5.6
Hungary	7.4	7.8	10.0	11.2	11.0	11.0	10.2	7.7	6.8	5.1	4.2	3.7	3.4
Malta	6.5	6.0	6.9	6.9	6.4	6.2	6.1	5.7	5.4	4.7	4.0	3.7	3.4
Netherlands	4.2	3.7	4.4	5.0	5.0	5.8	7.3	7.4	6.9	6.0	4.9	3.8	3.4
Austria	4.9 b	4.1	5.3	4.8	4.6	4.9	5.4	5.6	5.7	6.0	5.5	4.9	4.5
Poland	9.6	7.1	8.2	9.7 b	9.7	10.1	10.3	9.0	7.5	6.2	4.9	3.9	3.3
Portugal	8.1	7.7	9.6	11.0	12.9 b	15.8	16.4	14.1	12.6	11.2	9.0	7.1	6.5
Romania	6.4	5.8	6.9	7.0 b	7.2	6.8	7.1	6.8	6.8	5.9	4.9	4.2	3.9
Slovenia	4.9	4.4	5.9	7.3	8.2	8.9	10.1	9.7	9.0	8.0	6.6	5.1	4.5
Slovakia	11.1	9.5	12.0	14.4	13.6 b	14.0	14.2	13.2	11.5	9.7	8.1	6.5	5.8
Finland	6.9	6.4	8.2	8.4	7.8	7.7	8.2	8.7	9.4	8.8	8.6	7.4	6.7
Sweden	6.2	6.2	8.4	8.6	7.8	8.0	8.1	8.0	7.4	7.0	6.7	6.4 b	6.8

Source: Eurostat, LFS [une_rt_a]

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Youth unemployment rate (% labour force 15-24)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	16.0	16.0	20.4	21.5	21.8	23.7	24.4	23.4	21.7	20.0	17.9	16.0	15.0
Euro Area 19	15.3	15.8	20.4	21.2	21.2	23.5	24.2	23.6	22.2	20.8	18.6	16.8	15.6
Belgium	18.8	18.0	21.9	22.4	18.7	19.8	23.7	23.2	22.1	20.1	19.3 b	15.8	14.2
Bulgaria	15.1	12.7	16.2	21.9 b	25.0 b	28.1	28.4	23.8	21.6	17.2	12.9	12.7	8.9
Czech Republic	10.7	9.9	16.6	18.3	18.1 b	19.5	19.0	15.9	12.6	10.5	7.9	6.7	5.6
Denmark	7.5	9.5 b	13.5	15.6	16.4	15.8	14.8	14.2	12.2	12.2 b	12.4 b	10.5	10.1
Germany	11.9	10.6	11.2	9.8 b	8.5 b	8.0	7.8	7.7	7.2	7.1	6.8	6.2	5.8
Estonia	10.1	12.0	27.4	32.9	22.4	20.9	18.7	15.0	13.1	13.4	12.1	11.8	11.1
Ireland	9.2 b	13.5	24.5	28.1	29.6	30.8	26.7	23.4	20.2	16.8	14.4	13.8	12.5
Greece	22.7	21.9	25.7 b	33.0	44.7	55.3	58.3	52.4	49.8	47.3	43.6	39.9	35.2
Spain	18.1	24.5	37.7	41.5	46.2	52.9	55.5	53.2	48.3	44.4	38.6	34.3	32.5
France	19.4 e	19.0 e	23.6 e	23.3 e	22.7 e	24.4 e	24.9 e	24.2	24.7	24.5	22.1	20.8	19.6
Croatia	25.2	23.7	25.2	32.4	36.7	42.1	50.0	45.5	42.3	31.3	27.4	23.7	16.6
Italy	20.4	21.2	25.3	27.9	29.2	35.3	40.0	42.7	40.3	37.8	34.7	32.2	29.2
Cyprus	10.2	9.0	13.8 b	16.6	22.4	27.7	38.9	36.0	32.8	29.1	24.7	20.2	16.6
Latvia	10.6	13.6	33.3	36.2	31.0	28.5	23.2	19.6	16.3	17.3	17.0	12.2	12.4
Lithuania	8.4 u	13.3 u	29.6	35.7	32.6	26.7	21.9	19.3	16.3	14.5	13.3	11.1	11.9
Luxembourg	15.2 b	17.9	17.2 b	14.2	16.8	18.8	15.5	22.6	17.3 b	18.9	15.4	14.2	17.0
Hungary	18.0	19.5	26.4	26.4	26.0	28.2	26.6	20.4	17.3	12.9	10.7	10.2	11.4
Malta	13.5	11.7	14.5	13.2	13.3	13.8	12.7	11.7	11.6	10.7	10.6	9.1	9.2
Netherlands	9.4	8.6	10.2	11.1	10.0	11.7	13.2	12.7	11.3	10.8	8.9	7.2	6.7
Austria	9.4 b	8.5	10.7	9.5	8.9	9.4	9.7	10.3	10.6	11.2	9.8	9.4	8.5
Poland	21.7	17.3	20.6	23.7 b	25.8	26.5	27.3	23.9	20.8	17.7	14.8	11.7	9.9
Portugal	16.7	16.7	20.3	22.8	30.3 b	37.9	38.1	34.8	32.0	28.0	23.9	20.3	18.3
Romania	20.1	18.6	20.8	22.1 b	23.9	22.6	23.7	24.0	21.7	20.6	18.3	16.2	16.8
Slovenia	10.1	10.4	13.6	14.7	15.7	20.6	21.6	20.2	16.3	15.2	11.2	8.8	8.1
Slovakia	20.3	19.0	27.3	33.6	33.4 b	34.0	33.7	29.7	26.5	22.2	18.9	14.9	16.1
Finland	16.5	16.5	21.5	21.4	20.1	19.0	19.9	20.5	22.4	20.1	20.1	17.0	17.2
Sweden	19.3	20.2	25.0	24.8	22.8	23.6	23.5	22.9	20.4	18.9	17.9	17.4 b	20.1

Source: Eurostat, LFS [une_rt_a]

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Long term unemployment rate (% labour force)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	3.3	2.8	3.1	4.0	4.3	4.9	5.5	5.5	5.0	4.4	3.8	3.2	2.8
Euro Area 19	3.2	2.9	3.4	4.3	4.6	5.2	5.9	6.0	5.5	5.0	4.4	3.8	3.3
Belgium	3.8	3.3	3.5	4.0	3.5	3.4	3.9	4.3	4.4	4.0	3.5 b	2.9	2.3
Bulgaria	4.1	2.9	3.0	4.7 b	6.3 b	6.8	7.4	6.9	5.6	4.5	3.4	3.0	2.4
Czech Republic	2.8	2.2	2.0	3.0	2.7 b	3.0	3.0	2.7	2.4	1.7	1.0	0.7	0.6
Denmark	0.6	0.5 b	0.6	1.4	1.8	2.1	1.8	1.7	1.6	1.2 b	1.2 b	1.0	0.8
Germany	4.9	3.9	3.5	3.3 b	2.8 b	2.4	2.3	2.2	2.0	1.7	1.6	1.4	1.2
Estonia	2.3	1.7	3.7	7.6	7.1	5.5	3.8	3.3	2.4	2.1	1.9	1.3	0.9
Ireland	1.4 b	1.7	3.5	6.9	8.8	9.2	8.0	6.6	5.3	4.2	3.0	2.1	1.6
Greece	4.2	3.7	3.9 b	5.7	8.8	14.5	18.5	19.5	18.2	17.0	15.6	13.6	12.2
Spain	1.7	2.0	4.3	7.3	8.9	11.0	13.0	12.9	11.4	9.5	7.7	6.4	5.3
France	3.1 e	2.9 e	3.3 e	3.9 e	3.9 e	4.2 e	4.5 e	4.5	4.6	4.6	4.2	3.8	3.4
Croatia	6.0	5.3	5.1	6.6	8.4	10.2	11.0	10.1	10.2	6.6	4.6	3.4	2.4
Italy	2.9	3.0	3.4	4.0	4.3	5.6	6.9	7.7	6.9	6.7	6.5	6.2	5.6
Cyprus	0.7	0.5	0.6 b	1.3	1.6	3.6	6.1	7.7	6.8	5.8	4.5	2.7	2.1
Latvia	1.6	1.9	4.5	8.8	8.8	7.8	5.7	4.6	4.5	4.0	3.3	3.1	2.4
Lithuania	1.4 u	1.3 u	3.3	7.4	8.0	6.6	5.1	4.8	3.9	3.0	2.7	2.0	1.9
Luxembourg	1.2 b	1.6	1.2 b	1.3	1.4	1.6	1.8	1.6	1.9 b	2.2	2.1	1.4	1.3
Hungary	3.5	3.6	4.2	5.5	5.2	5.0	4.9	3.7	3.1	2.4	1.7	1.4	1.1
Malta	2.7	2.6	2.9	4.1	3.9	3.8	3.5	2.9	2.7	2.4	2.0	1.8	1.1
Netherlands	1.5	1.2	1.1	1.3	1.6	1.9	2.5	2.9	3.0	2.5	1.9	1.4	1.0
Austria	1.3 b	1.0	1.2	1.2	1.2	1.2	1.3	1.5	1.7	1.9	1.8	1.4	1.1
Poland	4.9	2.4	2.5	3.0 b	3.6	4.1	4.4	3.8	3.0	2.2	1.5	1.0	0.7
Portugal	3.8	3.6	4.2	5.7	6.2 b	7.7	9.3	8.4	7.2	6.2	4.5	3.1	2.8
Romania	3.2	2.4	2.2	2.4 b	2.9	3.0	3.2	2.8	3.0	3.0	2.0	1.8	1.7
Slovenia	2.2	1.9	1.8	3.2	3.6	4.3	5.2	5.3	4.7	4.3	3.1	2.2	1.9
Slovakia	8.3	6.6	6.5	9.2	9.2 b	9.4	10.0	9.3	7.6	5.8	5.1	4.0	3.4
Finland	1.5	1.2	1.4	2.0	1.7	1.6	1.7	1.9	2.3	2.3	2.1	1.6	1.2
Sweden	0.8	0.8	1.1	1.6	1.5	1.5	1.4	1.4	1.5	1.3	1.2	1.1 b	0.9

Source: Eurostat, LFS [une_ltu_a]

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At-risk-of-poverty or social exclusion (% of total population)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020				23.9 e	24.5 e	24.9 e	24.6 e	24.5 e	23.8 e	23.7 e	22.5 e	21.6 e	
Euro Area 19	21.9	21.7	21.6	22.0	22.9	23.3	23.1	23.5	23.1	23.1	22.1	21.6	
Belgium	21.6	20.8	20.2	20.8	21.0	21.6	20.8	21.2	21.1	20.9	20.6	20.0	
Bulgaria	60.7	44.8 b	46.2	49.2	49.1	49.3	48.0	40.1 b	41.3	40.4 b	38.9	32.8	32.5
Czech Republic	15.8	15.3	14.0	14.4	15.3	15.4	14.6	14.8	14.0	13.3	12.2	12.2	12.5
Denmark	16.8	16.3	17.6	18.3	17.6 b	17.5	18.3	17.9	17.7	16.8	17.2	17.0	16.3
Germany	20.6	20.1	20.0	19.7	19.9	19.6	20.3	20.6	20.0	19.7	19.0	18.7	
Estonia	22.0	21.8	23.4	21.7	23.1	23.4	23.5	26.0 b	24.2	24.4	23.4	24.4	
Ireland	23.1	23.7	25.7	27.3	29.4	30.1	29.9	27.7	26.2	24.4	22.7	21.1	
Greece	28.3	28.1	27.6	27.7	31.0	34.6	35.7	36.0	35.7	35.6	34.8	31.8	30.0
Spain	23.3	23.8 b	24.7	26.1	26.7	27.2	27.3	29.2	28.6	27.9	26.6	26.1	
France	19.0	18.5 b	18.5	19.2	19.3	19.1	18.1	18.5	17.7	18.2	17.0	17.4	
Croatia				31.1	32.6	32.6	29.9	29.3	29.1	27.9	26.4	24.8	
Italy	26.0	25.5	24.9	25.0	28.1	29.9	28.5	28.3	28.7	30.0	28.9	27.3	
Cyprus	25.2	23.3 b	23.5	24.6	24.6	27.1	27.8	27.4	28.9	27.7	25.2	23.9	
Latvia	35.1	34.2 b	37.9	38.2	40.1	36.2	35.1	32.7	30.9	28.5	28.2	28.4	27.3
Lithuania	28.7	28.3	29.6	34.0	33.1	32.5	30.8	27.3	29.3	30.1	29.6	28.3	
Luxembourg	15.9	15.5	17.8	17.1	16.8	18.4	19.0	19.0	18.5	19.8 b	21.5	21.9	
Hungary	29.4	28.2	29.6	29.9	31.5	33.5	34.8	31.8	28.2	26.3	25.6	19.6	18.9
Malta	19.7	20.1	20.3	21.2	22.1	23.1	24.6	23.9	23.0	20.3	19.3	19.0	20.2
Netherlands	15.7	14.9	15.1	15.1	15.7	15.0	15.9	16.5	16.4	16.7 b	17.0	16.7	
Austria	16.7	20.6 b	19.1	18.9	19.2	18.5	18.8	19.2	18.3	18.0	18.1	17.5	16.9
Poland	34.4	30.5 b	27.8	27.8	27.2	26.7	25.8	24.7	23.4	21.9	19.5	18.9	18.2
Portugal	25.0	26.0	24.9	25.3	24.4	25.3	27.5	27.5	26.6	25.1	23.3	21.6	
Romania	47.0	44.2	43.0	41.5	40.9	43.2	41.9	40.3	37.4	38.8	35.7	32.5	31.2
Slovenia	17.1	18.5	17.1	18.3	19.3	19.6	20.4	20.4	19.2	18.4	17.1	16.2	14.4
Slovakia	21.4	20.6	19.6	20.6	20.6	20.5	19.8	18.4	18.4	18.1	16.3	16.3	
Finland	17.4	17.4	16.9	16.9	17.9	17.2	16.0	17.3	16.8	16.6	15.7	16.5	15.6
Sweden	13.9	16.7 b	17.8	17.7	18.5	17.7	18.3	18.2	18.6	18.3	17.7	18.0	18.8

Source: Eurostat, EU-SILC [ilc_peps01]

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At-risk-of-poverty (% of total population)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020				16.5 e	16.9 e	16.9 e	16.8 e	17.3 e	17.4 e	17.5 e	16.9 e	16.8 e	
Euro Area 19	16.1	16.1	16.2	16.3	16.8	16.9	16.7	17.1	17.2	17.4	17.0	17.0	
Belgium	15.2	14.7	14.6	14.6	15.3	15.3	15.1	15.5	14.9	15.5	15.9	16.4	
Bulgaria	22.0	21.4	21.8	20.7	22.2	21.2	21.0	21.8	22.0	22.9 b	23.4	22.0	22.6
Czech Republic	9.6	9.0	8.6	9.0	9.8	9.6	8.6	9.7	9.7	9.7	9.1	9.6	10.1
Denmark	11.7	11.8	13.1	13.3	12.1	12.0	11.9	12.1	12.2	11.9	12.4	12.7	12.5
Germany	15.2	15.2	15.5	15.6	15.8	16.1	16.1	16.7	16.7	16.5	16.1	16.0	
Estonia	19.4	19.5	19.7	15.8	17.5	17.5	18.6	21.8	21.6	21.7	21.0	21.9	
Ireland	17.2	15.5	15.0	15.2	15.2	16.3	15.7	16.4	16.2	16.8	15.6	14.9	
Greece	20.3	20.1	19.7	20.1	21.4	23.1	23.1	22.1	21.4	21.2	20.2	18.5	17.9
Spain	19.7	19.8	20.4	20.7	20.6	20.8	20.4	22.2	22.1	22.3	21.6	21.5	
France	13.1	12.5	12.9	13.3	14.0	14.1	13.7	13.3	13.6	13.6	13.2	13.4	
Croatia				20.6	20.9	20.4	19.5	19.4	20.0	19.5	20.0	19.3	
Italy	19.5	18.9	18.4	18.7	19.8	19.5	19.3	19.4	19.9	20.6	20.3	20.3	
Cyprus	15.5	15.9	15.8	15.6	14.8	14.7	15.3	14.4	16.2	16.1	15.7	15.4	
Latvia	21.2	25.9	26.4	20.9	19.0	19.2	19.4	21.2	22.5	21.8	22.1	23.3	22.9
Lithuania	19.1	20.9	20.3	20.5	19.2	18.6	20.6	19.1	22.2	21.9	22.9	22.9	
Luxembourg	13.5	13.4	14.9	14.5	13.6	15.1	15.9	16.4	15.3	16.5 b	18.7	18.3	
Hungary	12.3	12.4	12.4	12.3	14.1	14.3	15.0	15.0	14.9	14.5	13.4	12.8	12.3
Malta	15.1	15.3	14.9	15.5	15.6	15.1	15.8	15.8	16.6	16.5	16.7	16.8	17.1
Netherlands	10.2	10.5	11.1	10.3	11.0	10.1	10.4	11.6	11.6	12.7 b	13.2	13.3	
Austria	12.0	15.2	14.5	14.7	14.5	14.4	14.4	14.1	13.9	14.1	14.4	14.3	13.3
Poland	17.3	16.9	17.1	17.6	17.7	17.1	17.3	17.0	17.6	17.3	15.0	14.8	15.4
Portugal	18.1	18.5	17.9	17.9	18.0	17.9	18.7	19.5	19.5	19.0	18.3	17.3	
Romania	24.6 b	23.6	22.1	21.6	22.3	22.9	23.0	25.1	25.4	25.3	23.6	23.5	23.8
Slovenia	11.5	12.3	11.3	12.7	13.6	13.5	14.5	14.5	14.3	13.9	13.3	13.3	12.0
Slovakia	10.6	10.9	11.0	12.0	13.0	13.2	12.8	12.6	12.3	12.7	12.4	12.2	
Finland	13.0	13.6	13.8	13.1	13.7	13.2	11.8	12.8	12.4	11.6	11.5	12.0	11.6
Sweden	10.5	13.5 b	14.4	14.8	15.4	15.2	16.0	15.6	16.3	16.2	15.8	16.4	17.1

Source: Eurostat, EU-SILC [ilc_li02]

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Severe Material Deprivation (% of total population)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020				8.9 e	9.4 e	10.2 e	9.8 e	9.1 e	8.4 e	7.9 e	6.9 e	6.1 e	5.7 e
Euro Area 19	5.6	5.9	6.0	6.1	6.9	7.8	7.5	7.4	7.0	6.6	5.9	5.5	
Belgium	5.7	5.6	5.2	5.9	5.7	6.3	5.1	5.9	5.8	5.5	5.2	5.0	4.3 bp
Bulgaria	57.6	41.2	41.9	45.7	43.6	44.1	43.0	33.1	34.2	31.9 b	30.0	20.9	19.9
Czech Republic	7.4	6.8	6.1	6.2	6.1	6.6	6.6	6.7	5.6	4.8	3.7	2.8	2.7
Denmark	3.3	2.0	2.3	2.7	2.3	2.7	3.6	3.2	3.7	2.6	3.1	3.4	2.6
Germany	4.8	5.5	5.4	4.5	5.3	4.9	5.4	5.0	4.4	3.7	3.4	3.1	2.7 p
Estonia	5.6	4.9	6.2	9.0	8.7	9.4	7.6	6.2	4.5	4.7	4.1	3.8	3.3 p
Ireland	4.5	5.5	6.1	5.7	7.8	9.9	9.9	8.4	8.5	6.7	5.2	4.9	
Greece	11.5	11.2	11.0	11.6	15.2	19.5	20.3	21.5	22.2	22.4	21.1	16.7	16.2
Spain	3.5	3.6	4.5	4.9	4.5	5.8	6.2	7.1	6.4	5.8	5.1	5.4	
France	4.7	5.4	5.6	5.8	5.2	5.3	4.9	4.8	4.5	4.4	4.1	4.7	4.7 p
Croatia				14.3	15.2	15.9	14.7	13.9	13.7	12.5	10.3	8.6	7.3 p
Italy	7.0	7.5	7.3	7.4	11.1	14.5	12.3	11.6	11.5	12.1	10.1	8.5	
Cyprus	13.3	9.1	9.5	11.2	11.7	15.0	16.1	15.3	15.4	13.6	11.5	10.2	9.4 p
Latvia	24.0	19.3	22.1	27.6	31.0	25.6	24.0	19.2	16.4	12.8	11.3	9.5	7.8
Lithuania	16.6	12.5	15.6	19.9	19.0	19.8	16.0	13.6	13.9	13.5	12.4	11.1	9.4 p
Luxembourg	0.8	0.7	1.1	0.5	1.2	1.3	1.8	1.4	2.0	1.6 b	1.2	1.3	
Hungary	19.9	17.9	20.3	21.6	23.4	26.3	27.8	24.0	19.4	16.2	14.5	10.1	8.7
Malta	4.4	4.3	5.0	6.5	6.6	9.2	10.2	10.3	8.5	4.4	3.3	3.0	3.7
Netherlands	1.7	1.5	1.4	2.2	2.5	2.3	2.5	3.2	2.6	2.6 b	2.6	2.4	2.4 p
Austria	3.3	5.9	4.6	4.3	4.0	4.0	4.2	4.0	3.6	3.0	3.7	2.8	2.6
Poland	22.3	17.7 b	15.0	14.2	13.0	13.5	11.9	10.4	8.1	6.7	5.9	4.7	3.6
Portugal	9.6	9.7	9.1	9.0	8.3	8.6	10.9	10.6	9.6	8.4	6.9	6.0	5.6 p
Romania	38.0	32.7	32.1	30.5	29.5	31.1	29.8	25.9	22.7	23.8	19.7	16.8	14.5
Slovenia	5.1	6.7	6.1	5.9	6.1	6.6	6.7	6.6	5.8	5.4	4.6	3.7	2.6
Slovakia	13.7	11.8	11.1	11.4	10.6	10.5	10.2	9.9	9.0	8.2	7.0	7.0	7.9 p
Finland	3.6	3.5	2.8	2.8	3.2	2.9	2.5	2.8	2.2	2.2	2.1	2.8	2.4
Sweden	2.2	1.8 b	2.0	1.9	1.7	1.8	1.9	1.0	1.1	0.8	1.1	1.6	1.8

Source: Eurostat, EU-SILC [ilc_mddd11]

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Share of people living in low work intensity households (% of people aged 0-59)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020				9.9 e	10.4 e	10.2 e	10.6 e	11.1 e	10.5 e	10.4 e	9.4 e	8.8 e	
Euro Area 19	9.7	9.3	9.1	10.4	11.0	10.7	11.2	11.9	11.2	11.1	10.2	9.4	
Belgium	13.8	11.7	12.3	12.7	13.8	13.9	14.0	14.6	14.9	14.9	13.9	12.6	
Bulgaria	16.0	8.1 b	6.9	8.0	11.0	12.5	13.0	12.1	11.6	11.9 b	11.1	9.0	9.3
Czech Republic	8.6	7.2	6.0	6.4	6.6	6.8	6.9	7.6	6.8	6.7	5.5	4.5	4.2
Denmark	10.1	8.5	8.8	10.6	10.5	10.2	11.9	12.2	11.6	10.7	10.0	9.8	9.3
Germany	11.5	11.7	10.9	11.2	11.2	9.9	9.9	10.0	9.8	9.6	8.7	8.1	
Estonia	6.2	5.3	5.6	9.0	10.0	9.1	8.4	7.6 b	6.6	5.8	5.8	5.2	
Ireland	14.3	13.7	20.0	22.9	24.2	23.4	23.9	21.0	18.7	17.8	16.2	13.0	
Greece	8.1	7.5	6.6	7.6	12.0	14.2	18.2	17.2	16.8	17.2	15.6	14.6	13.8
Spain	6.8	6.6	7.6	10.8	13.4	14.3	15.7	17.1	15.4	14.9	12.8	10.7	
France	9.6	8.8	8.4	9.9	9.4	8.4	8.1	9.6	8.6	8.4	8.1	8.0	
Croatia				13.9	15.9	16.8	14.8	14.7	14.4	13.0	12.2	11.2	
Italy	10.2	10.4	9.2	10.6	10.5	10.6	11.3	12.1	11.7	12.8	11.8	11.3	
Cyprus	3.7	4.5 b	4.0	4.9	4.9	6.5	7.9	9.7	10.9	10.6	9.4	8.6	
Latvia	6.2	5.4	7.4	12.6	12.6	11.7	10.0	9.6	7.8	7.2	7.8	7.6	7.6
Lithuania	6.4	6.1	7.2	9.5	12.7	11.4	11.0	8.8	9.2	10.2	9.7	9.0	
Luxembourg	5.0	4.7	6.3	5.5	5.8	6.1	6.6	6.1	5.7	6.6 b	6.9	8.3	
Hungary	11.3	12.0	11.3	11.9	12.8	13.5	13.6	12.8	9.4	8.2	6.6	5.7	5.0
Malta	9.6	8.6	9.2	9.2	8.9	9.0	9.1	9.9	9.2	7.3	7.1	5.5	4.9
Netherlands	9.7	8.2	8.5	8.4	8.9	8.9	9.3	10.2	10.2	9.7 b	9.5	8.6	
Austria	8.2	7.4 b	7.1	7.8	8.6	7.7	7.8	9.1	8.2	8.1	8.3	7.3	7.8
Poland	10.1	8.0	6.9	7.3	6.9	6.9	7.2	7.3	6.9	6.4	5.7	5.6	4.7
Portugal	7.2	6.3	7.0	8.6	8.3	10.1	12.2	12.2	10.9	9.1	8.0	7.2	
Romania	9.9	8.5	8.1	7.7	7.3	7.9	7.6	7.2	7.9	8.2	6.9	7.4	6.0
Slovenia	7.3	6.7	5.6	7.0	7.6	7.5	8.0	8.7	7.4	7.4	6.2	5.4	5.2
Slovakia	6.4	5.2	5.6	7.9	7.7	7.2	7.6	7.1	7.1	6.5	5.4	5.2	
Finland	8.8	7.5	8.4	9.3	10.0	9.3	9.0	10.0	10.8	11.4	10.7	10.8	9.7
Sweden	6.0	7.0 b	8.5	8.5	9.4	8.1	9.4	9.0	8.7	8.5	8.8	9.1	8.6

Source: Eurostat, EU-SILC [ilc_lvhl11]

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Income quintile share ratio S80/S20

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020				4.9	5.0	5.0	5.1	5.2	5.2	5.2 e	5.0 e	5.1 e	
Euro Area 19	4.8	4.9	4.9	4.9	5.0	5.0	5.1	5.2	5.2	5.2	5.1	5.1	
Belgium	3.9	4.1	3.9	3.9	3.9	4.0	3.8	3.8	3.8	3.9	3.8	3.8	
Bulgaria	7.0	6.5	5.9	5.9	6.5	6.1	6.6	6.8	7.1	7.7 b	8.2	7.7	8.1
Czech Republic	3.5	3.4	3.5	3.5	3.5	3.5	3.4	3.5	3.5	3.5	3.4	3.3	3.3
Denmark	3.7	3.6	4.6	4.4 b	4.0 b	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1
Germany	4.9	4.8	4.5	4.5	4.5	4.3	4.6	5.1	4.8	4.6	4.5	5.1	
Estonia	5.5	5.0	5.0	5.0	5.4	5.4	5.5	6.5 b	6.2	5.6	5.4	5.1	
Ireland	4.8	4.4	4.2	4.7	4.6	4.8	4.7	4.9	4.5	4.5	4.6	4.2	
Greece	6.0	5.9	5.8	5.6	6.0	6.6	6.6	6.5	6.5	6.6	6.1	5.5	5.1
Spain	5.5	5.6 b	5.9	6.2	6.3	6.5	6.3	6.8	6.9	6.6	6.6	6.0	
France	3.9	4.4 b	4.4	4.4	4.6	4.5	4.5	4.3	4.3	4.3	4.3	4.2	
Croatia				5.5	5.6	5.4	5.3	5.1	5.2	5.0	5.0	5.0	
Italy	5.4	5.2	5.3	5.4	5.7	5.6	5.9	5.8	5.8	6.3	5.9	6.1	
Cyprus	4.4	4.3 b	4.4	4.5	4.3	4.7	4.9	5.4	5.2	4.9	4.6	4.3	
Latvia	6.4	7.3	7.4	6.8	6.5	6.5	6.3	6.5	6.5	6.2	6.3	6.8	
Lithuania	5.9	6.1	6.4	7.4	5.8	5.3	6.1	6.1	7.5	7.1	7.3	7.1	
Luxembourg	4.0	4.1	4.3	4.1	4.0	4.1	4.6	4.4	4.3	5.0 b	5.0	5.7	
Hungary	3.7	3.6	3.5	3.4	3.9	4.0	4.3	4.3	4.3	4.3	4.3	4.4	4.2
Malta	3.9	4.3	4.0	4.3	4.0	3.9	4.1	4.1	4.2	4.2	4.2	4.3	4.2
Netherlands	4.0	4.0	4.0	3.7	3.8	3.6	3.6	3.8	3.8	3.9 b	4.0	4.1	
Austria	3.8	4.2 b	4.2	4.3	4.1	4.2	4.1	4.1	4.1	4.1	4.3	4.0	4.2
Poland	5.3	5.1	5.0	5.0	5.0	4.9	4.9	4.9	4.9	4.8	4.6	4.3	4.4
Portugal	6.5	6.1	6.0	5.6	5.7	5.8	6.0	6.2	6.0	5.9	5.8	5.2	
Romania	8.1 b	7.0	6.5	6.1	6.2	6.6	6.8	7.2	8.3	7.2	6.5	7.2	7.1
Slovenia	3.3	3.4	3.2	3.4	3.5	3.4	3.6	3.7	3.6	3.6	3.4	3.4	3.4
Slovakia	3.5	3.4	3.6	3.8	3.8	3.7	3.6	3.9	3.5	3.6	3.5	3.0	
Finland	3.7	3.8	3.7	3.6	3.7	3.7	3.6	3.6	3.6	3.6	3.5	3.7	3.7
Sweden	3.4	3.7 b	4.0	3.9	4.0	4.0	4.0	4.2	4.1	4.3	4.3	4.1	4.3

Source: Eurostat, EU-SILC [ilc_di11]

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NEET: Young people neither in employment nor in education and training (% of total population aged 15-24)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union 27 (2020	10.9	10.7	12.3	12.6	12.7	13.1	13.0	12.5	12.1	11.6	10.9	10.4	10.0
Euro Area 19	10.9	11.0	12.6	12.8	12.7	13.1	12.9	12.5	12.1	11.6	11.1	10.5	10.1
Belgium	11.2	10.1	11.1	10.9	11.8	12.3	12.7	12.0	12.2	9.9	9.3 b	9.2	9.3
Bulgaria	19.1	17.4	19.5	21.0 b	21.8 b	21.5	21.6	20.2	19.3	18.2	15.3	15.0	13.7
Czech Republic	6.9	6.7	8.5	8.8	8.3 b	8.9	9.1	8.1	7.5	7.0	6.3	5.6	5.7
Denmark	4.3	5.2 b	6.5	6.9	7.2	7.3	6.6	6.4	7.0	6.7 b	7.6 b	7.7	7.7
Germany	9.3	8.4	8.8	8.3 b	7.5 b	7.1	6.3	6.4	6.2	6.7	6.3	5.9	5.7
Estonia	9.4	9.1	14.5	14.0	11.6	12.2	11.3	11.7	10.8	9.1	9.4	9.8	6.9
Ireland	10.1 b	12.5	18.3	19.4	19.1	19.2	16.4	15.2	14.2	12.6	10.9	10.1	10.1
Greece	11.3	11.4	12.4 b	14.8	17.4	20.2	20.4	19.1	17.2	15.8	15.3	14.1	12.5
Spain	12.0	14.3	18.1	17.8	18.2	18.6	18.6	17.1	15.6	14.6	13.3	12.4	12.1
France								11.2	11.9	11.8	11.4	11.0	10.6
Croatia	12.9	11.6	13.4	15.7	16.2	16.6	19.6	19.3	18.1	16.9	15.4	13.6	11.8
Italy	16.1	16.6	17.5	19.0	19.6	20.9	22.1	22.0	21.3	19.8	20.0	19.2	18.0
Cyprus	9.0	9.7	9.9 b	11.7	14.6	16.0	18.7	17.0	15.3	16.0	16.1	13.2	13.7
Latvia	11.9	11.8	17.5	17.8	16.0	14.9	13.0	12.0	10.5	11.2	10.3	7.8	7.9
Lithuania	7.1	8.8	12.1	13.2	11.8	11.2	11.1	9.9	9.2	9.4	9.1	8.0	8.6
Luxembourg	5.7 b	6.2	5.8 b	5.1	4.7	5.9	5.0	6.3	6.2 b	5.4	5.9	5.3	5.6
Hungary	11.5	11.5	13.6	12.6	13.2	14.8	15.5	13.6	11.6	11.0	11.0	10.7	11.0
Malta	11.5	8.3	9.9	9.5	10.2	10.8	9.9	10.3	10.5	8.8	8.6	7.3	8.0
Netherlands	4.3	3.9	5.0	4.8	4.3	4.9	5.6	5.5	4.7	4.6	4.0	4.2	4.3
Austria	7.4 b	7.4	8.2	7.4	7.3	6.8	7.3	7.7	7.5	7.7	6.5	6.8	7.1
Poland	10.6	9.0	10.1	10.8 b	11.5	11.8	12.2	12.0	11.0	10.5	9.5	8.7	8.1
Portugal	11.2	10.2	11.2	11.4	12.6 b	13.9	14.1	12.3	11.3	10.6	9.3	8.4	8.0
Romania	13.3	11.6	13.9	16.6 b	17.5	16.8	17.0	17.0	18.1	17.4	15.2	14.5	14.7
Slovenia	6.7	6.5	7.5	7.1	7.1	9.3	9.2	9.4	9.5	8.0	6.5	6.6	7.0
Slovakia	12.5	11.1	12.5	14.1	13.8 b	13.8	13.7	12.8	13.7	12.3	12.1	10.2	10.3
Finland	7.1	7.9	9.8	9.0	8.4	8.6	9.3	10.2	10.6	9.9	9.4	8.5	8.2
Sweden	7.5	7.8	9.6	7.7	7.5	7.8	7.4	7.2	6.7	6.5	6.1	6.0 b	5.5

Source: Eurostat, LFS [lfsi_neet_a]

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2. DATA SOURCES AND DEFINITIONS

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)
- 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
- European System of Social integrated protection Statistics (ESSPROS):
  - https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Social_protection_statistics_-_background

3.1 Definitions and data sources of macro-economic indicators

1. Real GDP: Gross Domestic Product (GDP), volume, annual change (Source: Eurostat, ESA2010 National Accounts [tec00115]).
2. Total employment: Employment, total economy, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_a10_e]).
3. Labour productivity: GDP volume per person employed, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_lp_ulc]).
4. Annual average hours worked per person employed, annual change (Source: Eurostat, ESA2010 National Accounts and DG EMPL calculations).
5. Productivity per hour worked: GDP volume per hour worked, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_lp_ulc]).
6. Harmonised CPI: harmonised consumer price index, annual change (Source: Eurostat, HCIP [prc_hicp_aind]).
7. Price deflator GDP: Implicit price deflator of GDP, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_gdp]).
8. Nominal compensation per employee, total economy, annual change (Source: Eurostat, ESA2010 National Accounts and DG EMPL calculations).
9. Real compensation per employee (GDP deflator): nominal compensation deflated with the implicit deflator of GDP, per employee, annual change (Source: Eurostat, ESA2010 National Accounts and DG EMPL calculations).
10. Real compensation per employee (private consumption deflator): nominal compensation deflated with the implicit deflator of private consumption expenditure, per employee, annual change (Source: Eurostat, ESA2010 National Accounts and DG EMPL calculations).
11. Nominal unit labour costs: Nominal compensation per employee divided by labour productivity, annual change (Source: Eurostat, ESA2010 National Accounts [nama_10_lp_ulc]).
12. Real unit labour costs: Real compensation per employee divided by labour productivity, annual change (Source: Eurostat, ESA2010 National Accounts and DG EMPL calculations).

3.2 Definitions and data sources of key employment indicators

1. Total population in 1000s, excluding population living in institutional households (Source: Eurostat, demographics [demo_pjanbroad]).

2. Total population aged 15-64 (the 'working age population') in 1 000s (Source: Eurostat, Demographics [demo_pjanbroad]).

3. Total employment in 000s (Source: Eurostat, LFS [lfsa_egan]).

4. Population in employment aged 15-64 in 1 000s (Source: Eurostat, EU-LFS [lfsa_egan]).

5-9. Employment rates: calculated by the number of employed divided by the population in the corresponding age bracket (Source: Eurostat, EU-LFS [lfsi_emp_a]).

10. Full-time equivalent employment rate: calculated by dividing the full-time equivalent employment by the total population in the 20-64 age group. Full-time equivalent employment is defined as total hours worked on both main and second job divided by the average annual number of hours worked in full-time jobs (Source: Eurostat, EU-LFS and DG EMPL calculations).

11. Self-employed in total employment: number of self-employed as a share of total employment (Source: Eurostat, EU-LFS and DG EMPL calculations).

12. Part-time employment in total employment: number of part-time employed as a share of total employment (Source: Eurostat, EU-LFS [lfsi_pt_a]).

13. Fixed-term contracts in total employees: number of employees with contracts of limited duration as a share of total employees (Source: Eurostat, EU-LFS [lfsi_pt_a]).

14. Employment in services: employed in services (NACE Rev. 2 sections G-U) as a share of total employment (Source: Eurostat, EU-LFS and DG EMPL calculations).

15. Employment in industry: employed in industry, including construction (NACE Rev. 2 sections B-F) as a share of total employment (Source: Eurostat, EU-LFS and DG EMPL calculations).

16. Employment in agriculture: employed in agriculture, forestry and fishing (NACE Rev. 2 section A) as a share of total employment (Source: Eurostat, EU-LFS and DG EMPL calculations).

17-20.Activity rates: labour force (employed and unemployed) as a share of total population in the corresponding age group (Source: Eurostat, EU-LFS [lfsi_emp_a]).

21. Total unemployment in 1 000s (Source: Eurostat, EU-LFS [une_rt_a]).

22-23. Unemployment rates: unemployed as a share of the labour force (employed and unemployed persons) in the corresponding age group (Source: Eurostat, EU-LFS [une_rt_a]).

24. Long-term unemployment rate: persons unemployed for duration of 12 months or more as a share of the labour force (Source: Eurostat, EU-LFS [une_ltu_a]).

25. Share of long-term unemployment: persons unemployed for duration of 12 months or more as a share of the total unemployed force (Source: Eurostat, EU-LFS [une_ltu_a])

26. Youth unemployment ratio: young unemployed (aged 15-24) as a share of the total population in the same age group (Source: Eurostat, EU-LFS [yth_empl_140]).

27-35. Employment rates: calculated by the number of employed divided by the population in the corresponding age bracket, by education attainment (based in the ISCED classification), nationality and country of birth (Source: Eurostat, EU-LFS [lfsa_ergaed]).

36. Underemployment, persons in part-time jobs that would like to work more hours (Source: Eurostat, EU-LFS [lfsi_sup_a]).

37. Seeking but not available, persons seeking a job but not available to work immediately (Source: Eurostat, EU-LFS [lfsi_sup_a]).

38. Discouraged, available but not seeking persons available to work but not seeking job at the moment (Source: Eurostat, EU-LFS [lfsi_sup_a]).

3.3 Definitions and data sources of key social indicators

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 deprived or living in households with very low work intensity (Eurostat, EU-SILC [ilc_peps01])

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])

At-risk-of-poverty threshold. 60 % of the national median equivalised disposable income after social transfers (Eurostat, EU-SILC [ilc_li01])

Poverty gap. Difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60 % of national median equivalised disposable income) (Eurostat, EU-SILC [ilc_li11])

Persistent at-risk-of-poverty rate. Percentage of the population living in households where the equivalised disposable income was below the at-risk-of-poverty threshold for the current year and at least two out of the preceding three years (Eurostat, EU-SILC [ilc_li21])

At-risk-of-poverty rate before social transfers excl. pensions. Share of people having a median equivalised disposable income before social transfers that is below the at-risk-of-poverty threshold (60% of median equivalised income after social transfers) (Eurostat, EU-SILC [ilc_li10])

Impact of social transfers. Computed indicator (Eurostat, EU-SILC), formula: 100*(B-A)/B, where:

- B: At-risk-of-poverty rate before social transfers excl. pensions
- A: At-risk-of-poverty rate

Severe Material Deprivation rate. Inability to afford some items (at least 4 on a list of 9) considered by most people to be desirable or even necessary to lead an adequate life (Eurostat, EU-SILC [ilc_mddd11])

Share of people living in low work intensity households. Share of persons living in a household having a work intensity below a threshold set at 0.20. The work intensity of a household is the ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period (Eurostat, EU-SILC [ilc_lvhl11])

Real Gross Household Disposable Income growth. The amount of money available for spending or saving. This is money left after expenditure associated with income, e.g. taxes and social contributions, property ownership and provision for future pension income (Eurostat, National Accounts and DG EMPL calculations)

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])

GINI coefficient. The relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them (Eurostat, EU-SILC [ilc_di12])

Life expectancy at birth. The mean number of years a newborn child can expect to live if subjected throughout his or her life to the current mortality conditions, the probabilities of dying at each age (Eurostat [hlth_hlye])

Healthy life years at birth. Number of years that a person is expected to continue to live in a healthy condition (Eurostat [hlth_hlye])

Early leavers from education and training. Early leaver from education and training generally refers to a person aged 18 to 24 who has finished no more than a lower secondary education and is not involved in further (formal or non-formal) education or training; their number is expressed as a percentage of the total population aged 18 to 24 (Eurostat, EU-LFS [edat_lfse_14])

NEET: Young people not in employment, education or training. Share of people aged 15 to 24 who have left formal education with at most lower secondary education and 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])

Risk of poverty of children in households at work (Working Intensity > 0.2). Share of children at-risk-of-poverty living in households with work intensity bigger than very low (Eurostat, EU-SILC [ilc_li06])

In-work at-risk-of-poverty rate. The share of persons who are at work 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) (Eurostat, EU-SILC [ilc_iw01])

Relative median income of elderly. Ratio of the median equivalised disposable income of people aged above 65 to the median equivalised disposable income of those aged below 65 (Eurostat, EU-SILC [ilc_pnp2])

Aggregate replacement ratio. Ratio of the median individual gross pensions of 65-74 age category relative to median individual gross earnings of 50-59 age category, excluding other social benefits (Eurostat, EU-SILC [ilc_pnp3])

Social indicators expenditure. Percentage of expenditure in different social protection areas in relation with the GDP (Eurostat, ESSPROSS [spr_exp_sum, spr_exp_gdp])